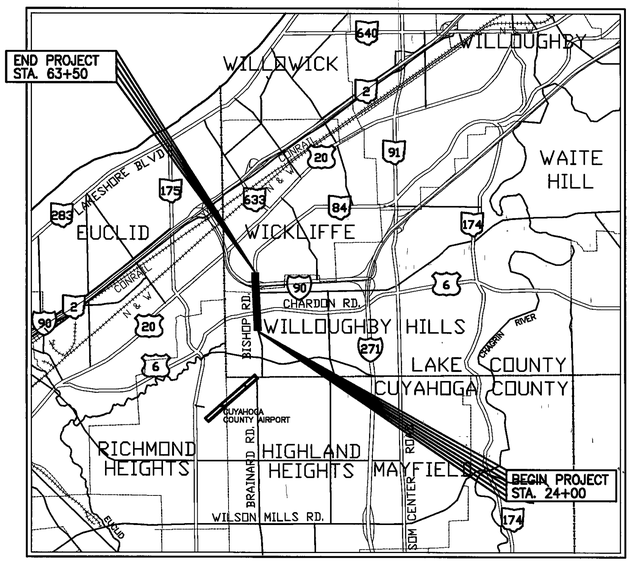

LOCATION MAP

LATITUDE: N. 41°35'00" LONGITUDE: W. 81°29'00"

NO SCALE

Portion to be improved

State & Federal Routes

Other Roads

DESIGN DESIGNATION

Current Year 2003 A.D.T.	23,140
Design Year 2026 A.D.T.	26,891
D.H.V. (2026)	2,689
D	56%
T	3%
DESIGN SPEED	40 MPH
LEGAL SPEED	35 MPH
FUNCTIONAL CLASSIFICATION –	ARTERIAL (URBAN)

DESIGN EXCEPTIONS

DESIGN FEATURE

NONE

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LAK – 90/84 – 0.54/0.43

CITY OF WILLOUGHBY HILLS
CITY OF WICKLIFFE
LAKE COUNTY

INDEX OF SHEETS

* INCLUDES AESTHETIC BARRIER WALLS ON SHEETS, 360, 361 AND 362.

PROJECT DESCRIPTION

IMPROVEMENT OF 0.73 MILES OF STATE ROUTE 84 IN THE CITY OF WILLOUGHBY AND THE CITY OF WICKLIFFE, LAKE COUNTY BY WIDENING AND RECONSTRUCTION. INCLUDES SEWER IMPROVEMENTS, CURB, SIDEWALK, TRAFFIC CONTROL AND PAVEMENT MARKINGS.

2005 SPECIFICATIONS

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

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

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

EARTH DISTURBED AREA

PROJECT EARTH DISTURBED AREA	18.7 AC.
ESTIMATED CONTRACTOR PROJECT EARTH DISTURBED AREA	1.25 AC.
NOTICE OF INTENT EARTH DISTURBED AREA	20.0 AC.

FEDERAL PROJECT NO.	EO41(082)
PID NO.	9247
STATE PROJECT NO.	
CONSTRUCTION PROJECT NO	
RAILROAD INVOLVEMENT	NONE

LAK – 90/84 – 0.54/0.43

1 / 369

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

PLAN PREPARED BY:

CT Consultants
engineers | architects | planners
35000 Kaiser Court Willoughby, Ohio 44094
440.951.9000 www.ctconsultants.com

WILLIAM D. BAKER, JR., P.E.
REGISTERED ENGINEER No. 59412

STATE OF OHIO · WILLIAM D. BAKER, JR. 59412 · REGISTERED PROFESSIONAL ENGINEER

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP–2.1	7/16/04	CB–1.1	7/19/02	MT–35.10	4/20/01	TC–52.20	4/20/01	AS–1–81	7/19/02			SUPPLEMENTAL SPECIFICATIONS							
BP–2.2	7/16/04	CB–2.1	7/19/02	MT–98.19	10/18/02	TC–71.10	1/21/05	BR–2–98	7/19/02			800	10/21/05						
BP–2.3	7/16/04	CB–2.2	7/19/02	MT–99.50	10/18/02	TC–72.20	1/21/05	BS–1–93	7/19/02			802	4/15/05						
BP–3.1	7/16/04	CB–2.3	7/19/02	MT–101.70	10/18/02	TC–73.10	1/19/01	GSD–1–96	7/19/02			832	4/17/04						
BP–4.1	7/16/04	CB–4.2	7/19/02	MT–105.10	10/18/02	TC–81.20	1/16/04	PCB–91	7/19/02			833	2/13/03						
BP–5.1	7/28/00			MT–105.11	10/18/02	TC–82.10	4/19/02	SICD–1–96	7/19/02										
BP–6.1	7/28/00	MH–1.2	7/19/02	MT–110.20	10/18/02			VPF–1–90	7/19/02										
GR–1.1	7/16/04	DM–1.1	1/21/05	TC–12.30	1/19/01	TC–83.20	1/16/04												
GR–2.1	1/16/04	DM–1.2	7/19/02	TC–16.20	1/19/01	TC–85.10	4/19/02												
GR–3.1	4/18/03	DM–1.3	7/20/01	TC–21.10	1/19/01	TC–85.20	5/01/00												
GR–3.2	4/18/03	DM–4.1	7/19/02	TC–41.10	1/19/01														
GR–4.2	4/15/05	DM–4.3	7/19/02	TC–41.20	1/19/01														
GR–6.1	4/18/03	DM–4.4	7/19/02	TC–41.50	7/16/04														
				TC–42.10	1/19/01														
RM–1.1	4/18/03	HL–30.22	1/21/05	TC–42.20	7/16/04														
RM–4.2	4/18/03			TC–51.11	4/20/01														
				TC–52.10	4/20/01														

APPROVED _____
DIRECTOR,
OHIO DEPARTMENT OF TRANSPORTATION

DATE 11/2/05

APPROVED _____
DISTRICT DEPUTY DIRECTOR,
OHIO DEPARTMENT OF TRANSPORTATION

DATE 23 SEP 2005

LAK - 90/84 - 0.54/0.43
060038 PID - 9247
DIST 12 2/15/2006

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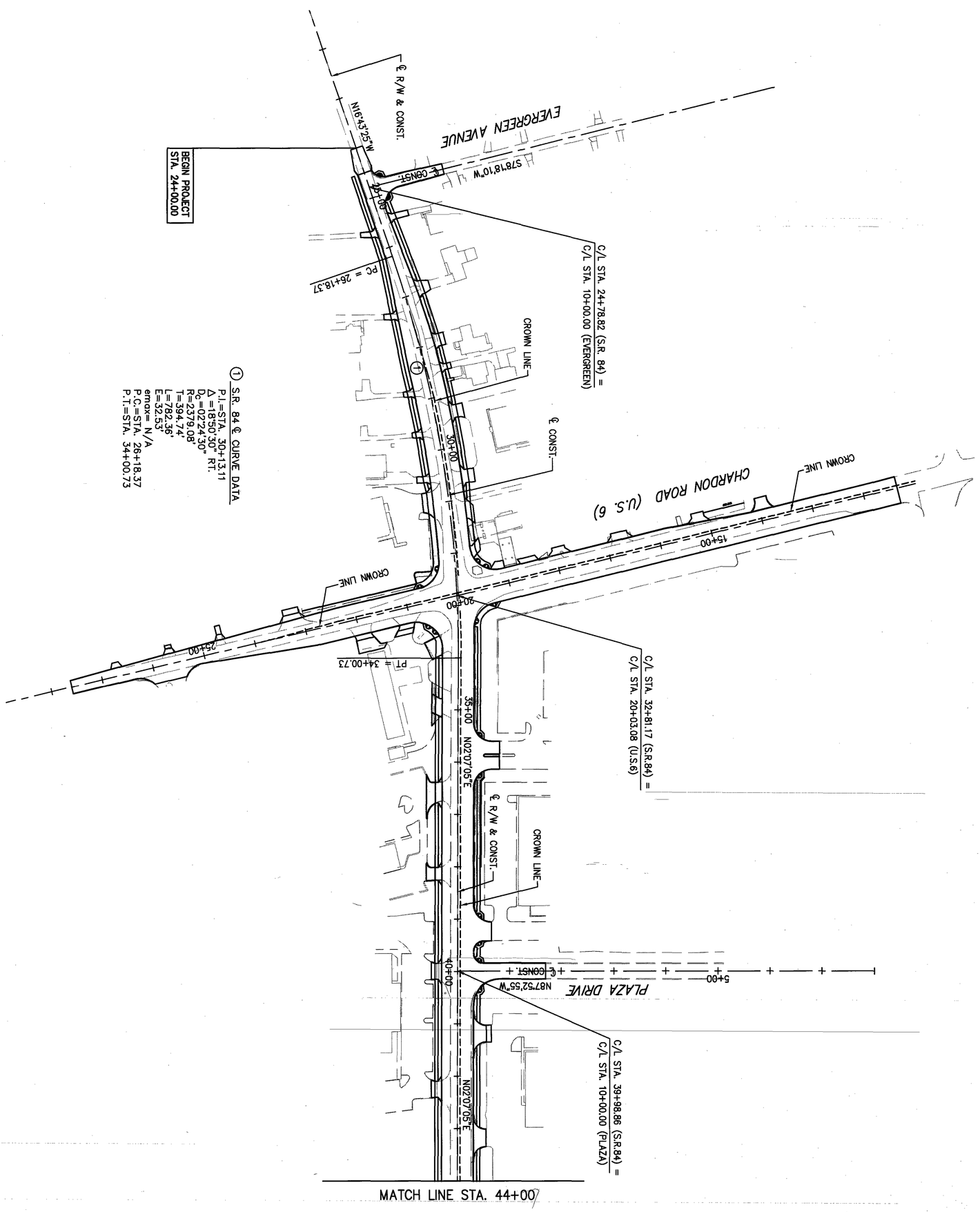
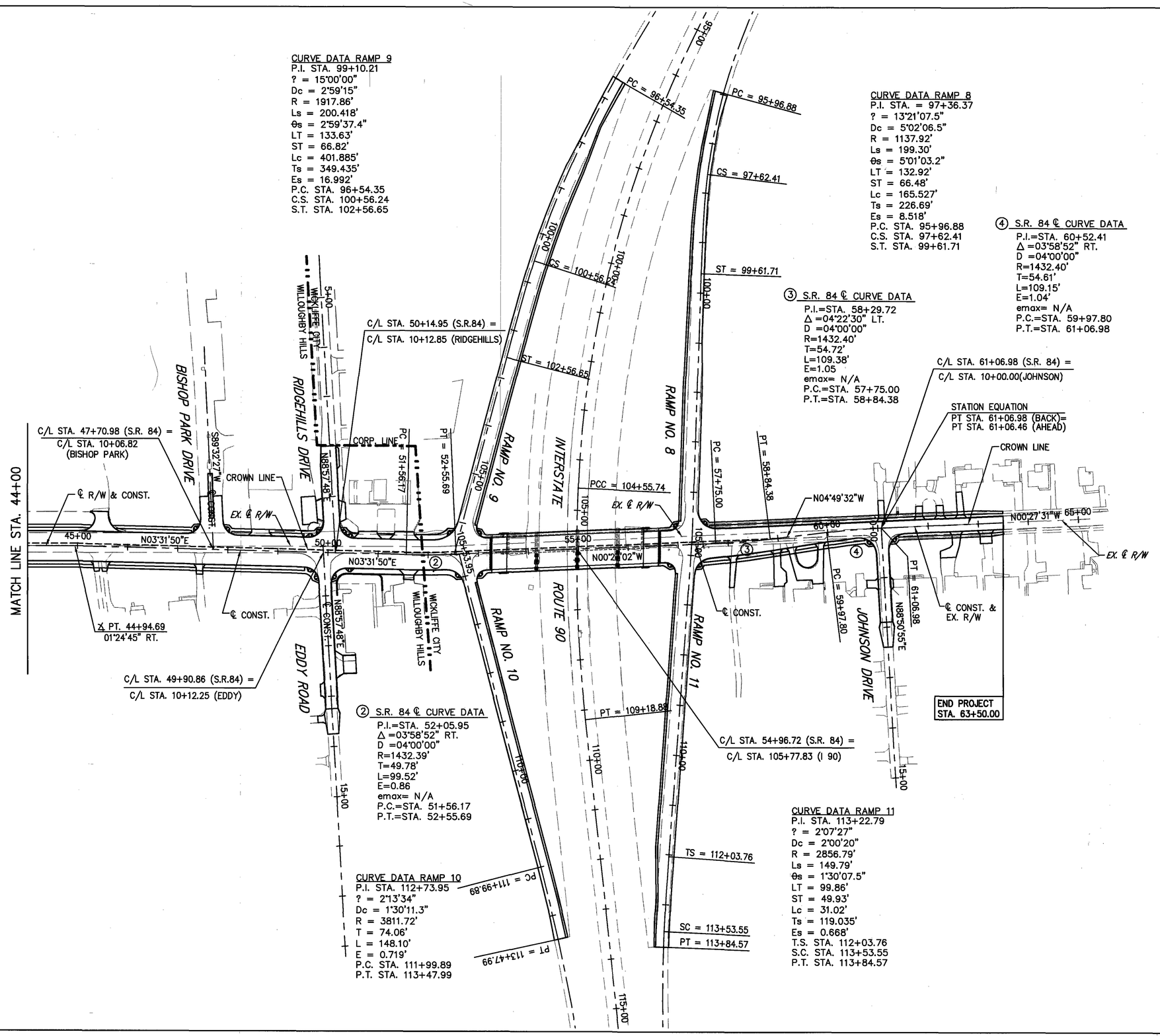


2/369	LAK – 90/84 – 0.54/0.43	BISHOP ROAD – SCHEMATIC PLAN STA. 24+00 TO STA. 44+00	CALCULATED CHECKED	100 50 0 100 SCALE IN FEET



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SCALE IN FEET
100 50 0 100

CALCULATED
CHECKED

BISHOP ROAD – SCHEMATIC PLAN
STA. 44+00 TO STA. 63+50

LAK – 90/84 – 0.54/0.43

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369

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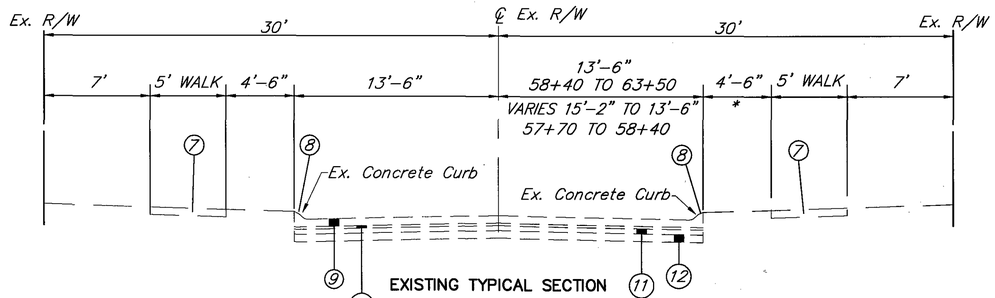
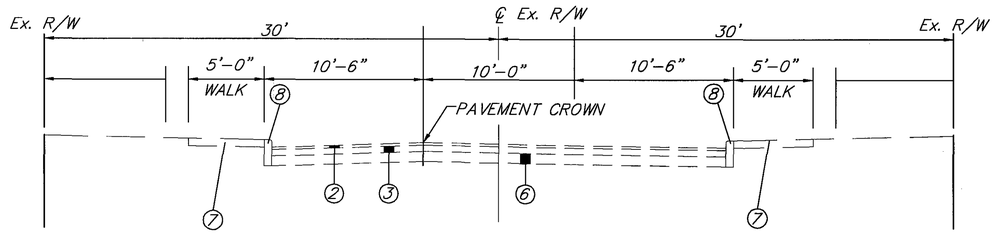


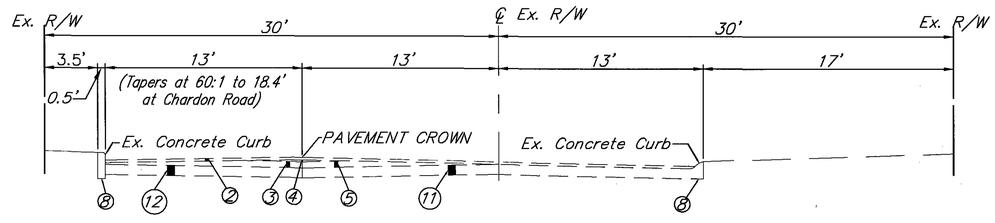
EXISTING TYPICAL SECTION

BISHOP ROAD
STA. 57+00 TO STA. 63+50
SCALE = 1:5

* VARIES 2'-2" TO 5'-0"
57+70 TO 58+40



BISHOP ROAD
STA. 56+30 TO STA. 57+00
SCALE = 1:5

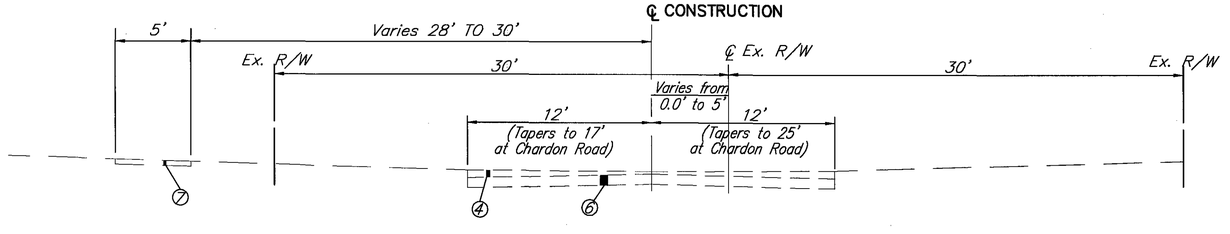


EXISTING TYPICAL SECTION

BISHOP ROAD
STA. 32+80.83 TO STA. 53+60
SCALE = 1:5

LEGEND

1. EXISTING 9" SLAG BASE
2. EXISTING 2" ASPHALT CONCRETE
3. EXISTING 5" ASPHALT CONCRETE
4. EXISTING ASPHALT CONCRETE, VARIABLE THICKNESS
5. EXISTING ASPHALT CONCRETE OVERLAY
6. EXISTING GRANLAR BASE, VARIABLE THICKNESS
7. EXISTING 4" CONCRETE SIDEWALK
8. EXISTING CONCRETE CURB
9. EXISTING 6" ASPHALT CONCRETE
10. EXISTING 2" GRANULAR BASE
11. EXISTING 4" BRICK PAVEMENT
12. EXISTING 6" GRANULAR BASE



EXISTING TYPICAL SECTION

BISHOP ROAD
STA. 24+00 TO STA. 32+80.83
SCALE = 1:5

SCALE IN FEET
5 2.5 0 5

EXISTING TYPICAL SECTION – S.R 84 BISHOP RD.

LAK – 90/84 – 0.54/0.43

4
369

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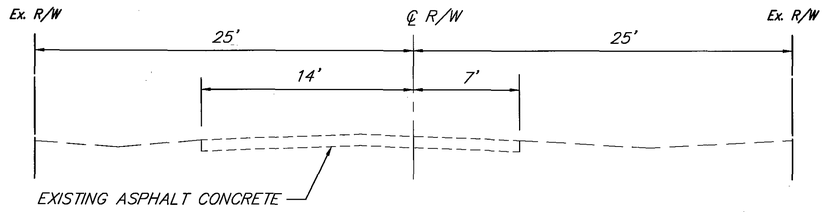
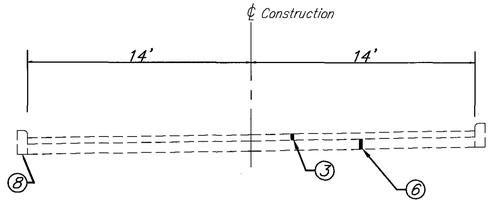


EXISTING TYPICAL SECTION
EVERGREEN ROAD

STA. 8+90 TO STA. 10+00

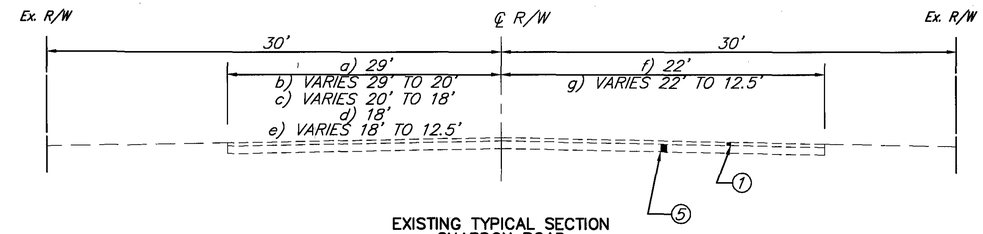
LEGEND

1. EXISTING 9" ASPHALT
2. EXISTING 12" ASPHALT
3. EXISTING 4" ASPHALT
4. EXISTING 8" ASPHALT
5. EXISTING 6" BASE (POSSIBLE SLAG)
6. EXISTING 20" BASE (POSSIBLE SLAG)
7. EXISTING 9" CONCRETE
8. EXISTING CONCRETE CURB



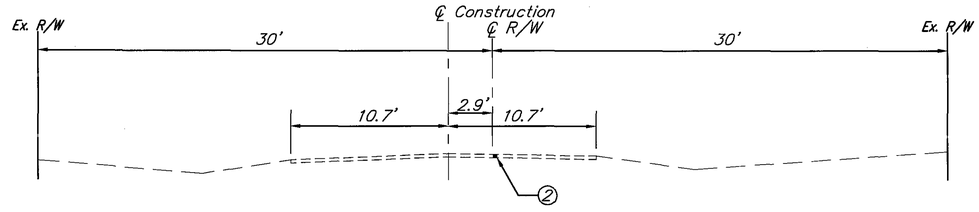
EXISTING TYPICAL SECTION
PLAZA DRIVE

STA. 7+37 TO STA. 10+00



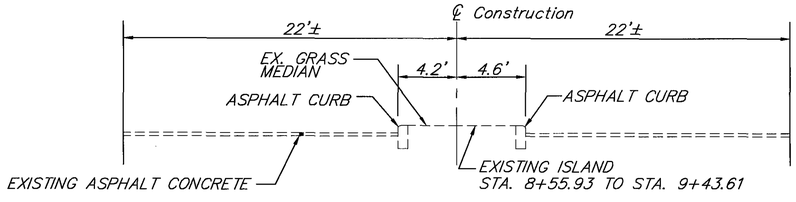
EXISTING TYPICAL SECTION
CHARDON ROAD

a) STA. 11+35 TO STA. 12+27.57
b) STA. 12+27.57 TO STA. 12+39.88
c) STA. 12+39.88 TO STA. 16+70
d) STA. 16+70 TO STA. 20+50
e) STA. 20+50 TO STA. 25+08.90
f) STA. 11+35 TO STA. 20+50
g) STA. 20+50 TO STA. 22+51.32



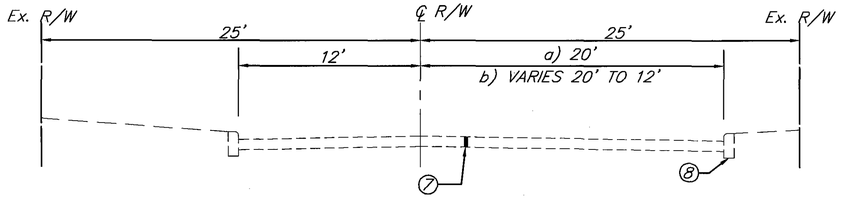
EXISTING TYPICAL SECTION
EDDY ROAD

STA. 10+00 TO STA. 14+00
SCALE: 1"=5'



EXISTING TYPICAL SECTION
BISHOP PARK DRIVE

STA. 8+50 TO STA. 10+00



EXISTING TYPICAL SECTION
RIDGEHILLS DRIVE

a) STA. 10+00 TO STA. 8+37.46
b) STA. 7+37.95 TO STA. 8+37.46

SCALE IN FEET
5 2.5 0 5

EXISTING TYPICAL SECTION – SIDESTREETS

LAK – 90/84 – 0.54/0.43

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369

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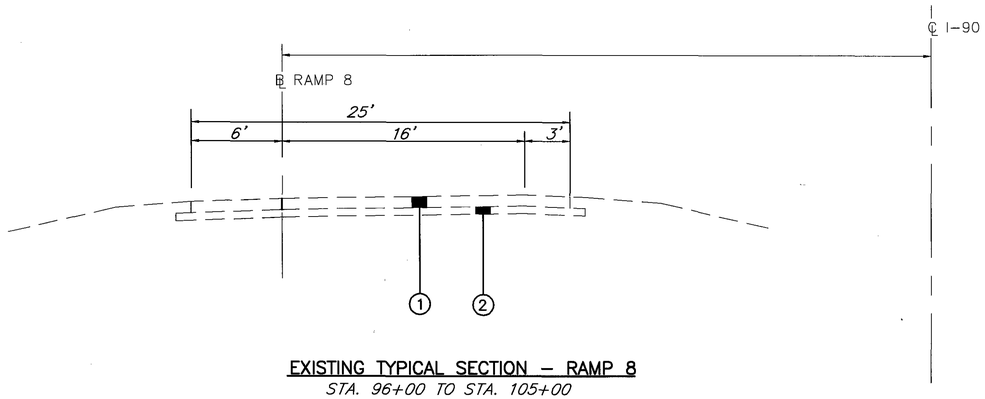
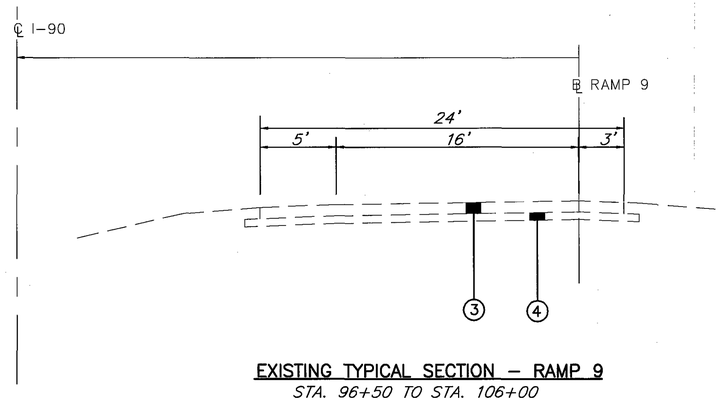


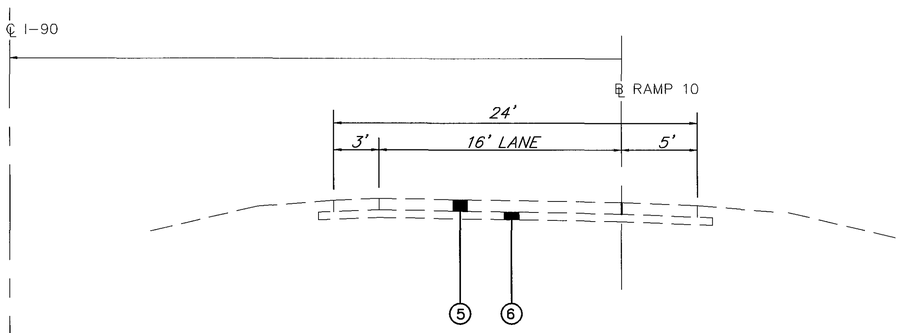
EXISTING TYPICAL SECTION – RAMP 8

STA. 96+00 TO STA. 105+00



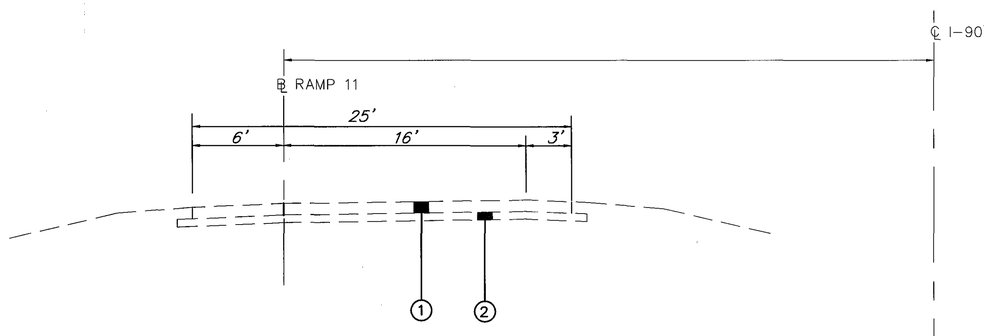
EXISTING TYPICAL SECTION – RAMP 9

STA. 96+50 TO STA. 106+00



EXISTING TYPICAL SECITON – RAMP 10

STA. 106+00 TO STA. 113+50



EXISTING TYPICAL SECTION – RAMP 11

STA. 106+00 TO STA. 113+85

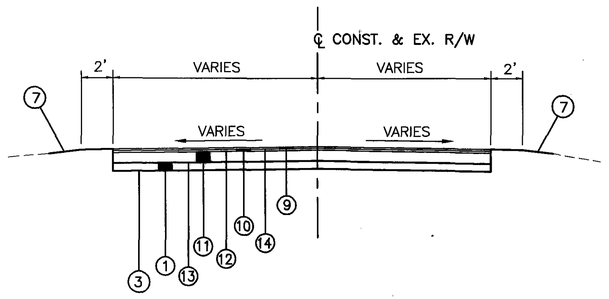
LEGEND

1. *EXISTING 8" ASPHALT*
2. *EXISTING 5" BASE (POSSIBLE SLAG)*
3. *EXISTING 6" ASPHALT*
4. *EXISTING 12" BASE (POSSIBLE SLAG)*
5. *EXISTING 9" ASPHALT*
6. *EXISTING 6" BASE (POSSIBLE SLAG)*

5 2.5 0 5 SCALE IN FEET

EXISTING TYPICAL SECTION – RAMPS

LAK – 90/84 – 0.54/0.43

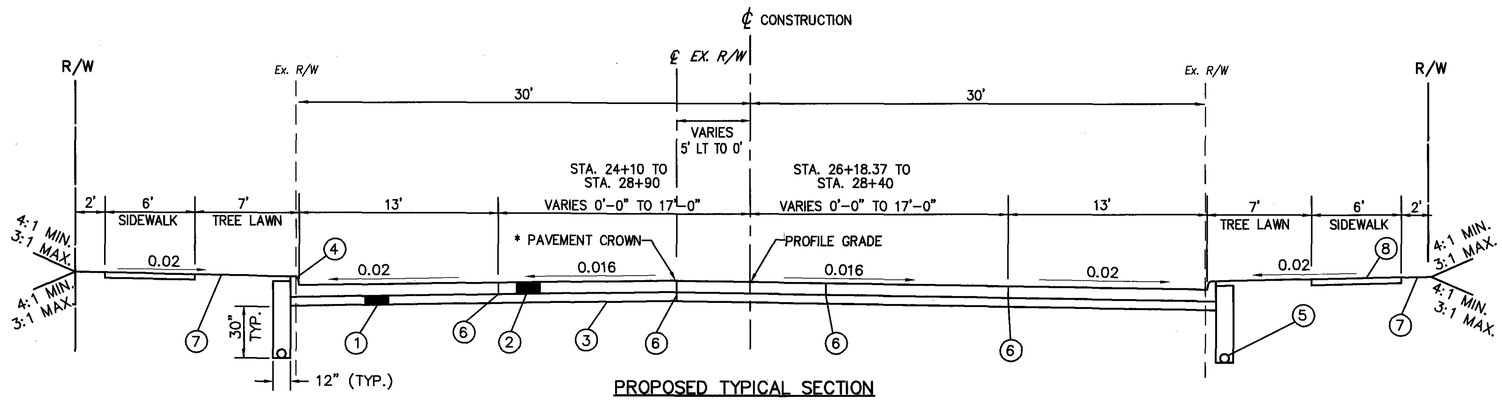


ASPHALT TRANSITION SECTION

STA. 24+00.00 TO STA. 24+50.00 = 50.00 LIN. FT.

LEGEND

1. ITEM 304 – 6" AGGREGATE BASE (AS PER PLAN)
2. ITEM 452 – 9" NON–REINFORCED CONCRETE PAVEMENT
3. ITEM 204 – SUBGRADE COMPACTION
4. ITEM 609 – CURB. TYPE 2A
5. ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP
6. LONGITUDINAL JOINTS W/ TIE BARS
7. ITEM 659 – SEEDING AND MULCHING
8. ITEM 608 – 4" CONCRETE WALK
9. ITEM 448 – 1–1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 70–22M
10. ITEM 448 – 1–3/4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG 70–22M
11. ITEM 301 – 8" ASPHALT CONCRETE BASE, PG 64–22
12. ITEM 407 – TACK COAT
13. ITEM 408 – PRIME COAT
14. ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE

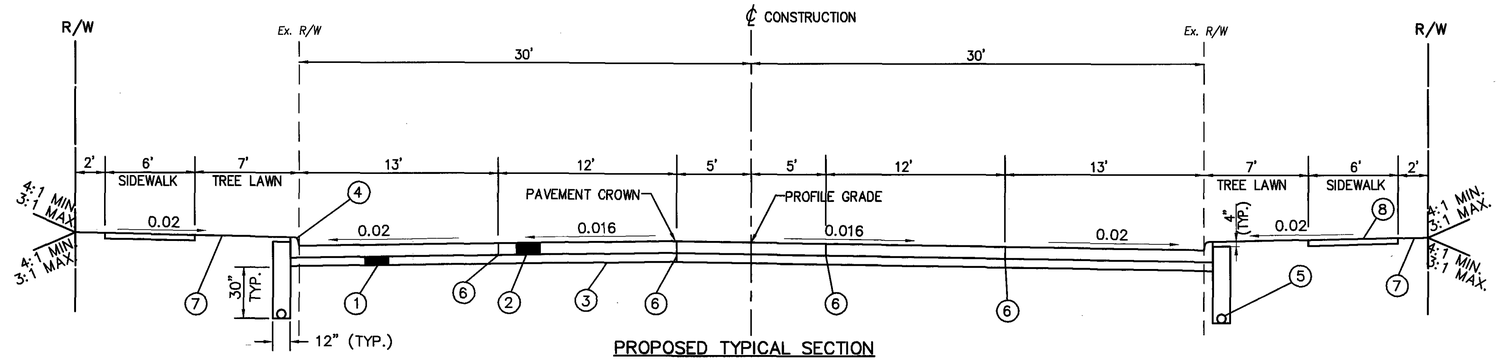


PROPOSED TYPICAL SECTION

S.R. 84 – BISHOP ROAD

STA. 24+50 TO STA. 28+90 = 480 L.F.

* CROWN TRANSITION
STA. 27+50 TO STA. 28+90



PROPOSED TYPICAL SECTION

S.R. 84 – BISHOP ROAD

STA. 28+90 TO STA. 44+94.69 = 1,604.69 L.F.

SCALE IN FEET 20 10 0 20

PROPOSED TYPICAL SECTION – S.R 84 BISHOP RD.

LAK – 90/84 – 0.54/0.43

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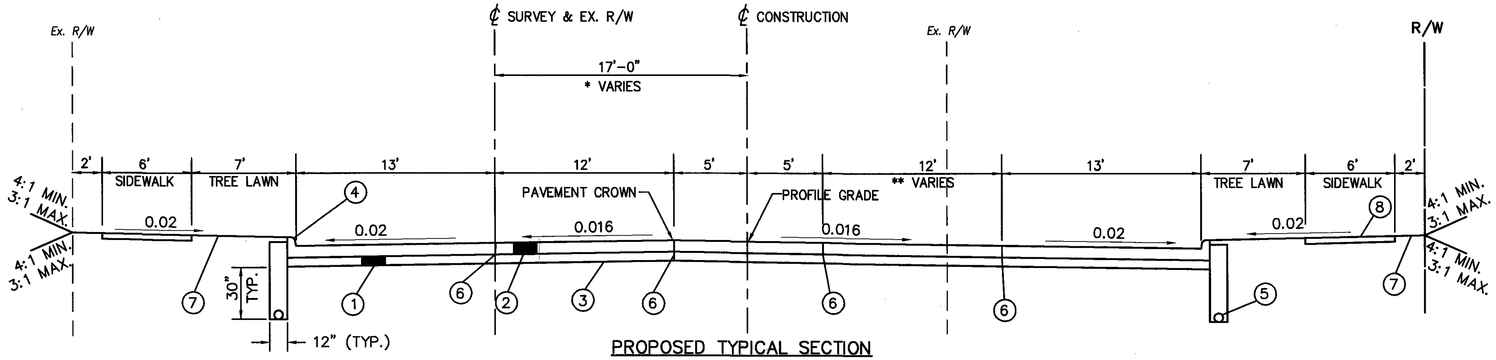
369

DATE: 10–19–04 – TIME: 15:53 – H:\2002\02117\dwg\Typpr02.dwg



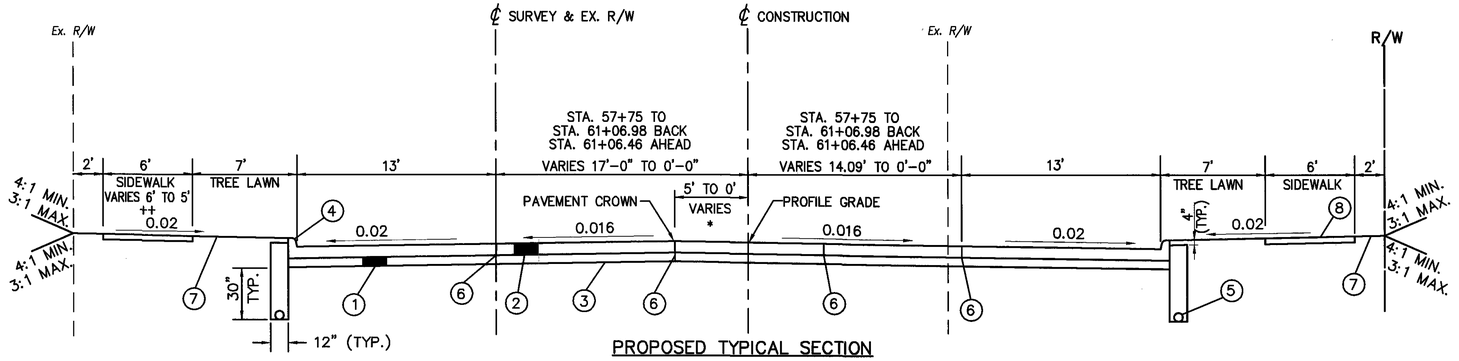
PROPOSED TYPICAL SECTION

S.R. 84 – BISHOP ROAD

STA. 44+94.69 TO STA. 57+75 = 1,280.31 L.F.

* VARIES: 0' TO 17' STA. 44+94.69 TO STA. 52+55.69

** VARIES: 12' TO 9.09' STA. 57+00 TO STA. 57+75



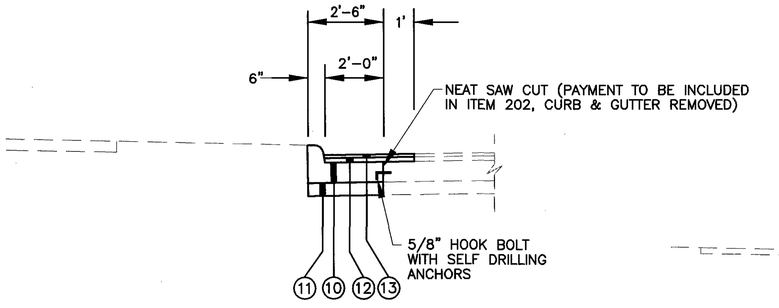
PROPOSED TYPICAL SECTION

S.R. 84 – BISHOP ROAD

STA. 57+75 TO STA. 63+50 = 575 L.F.

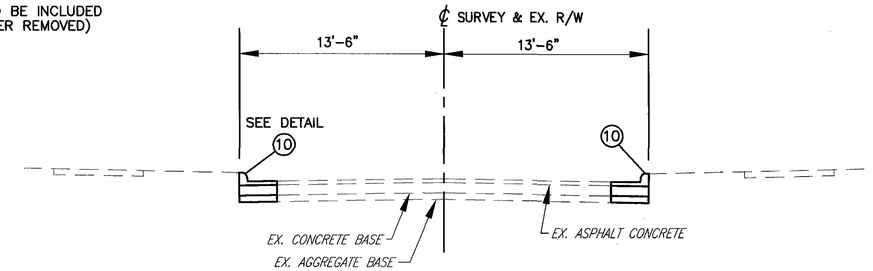
* STA. 57+75 TO STA. 58+96.34

++ STA. 63+00 TO STA. 63+50



COMBINATION CURB & GUTTER, TYPE 2

THE PROPOSED WORK BETWEEN 63+50 AND 65+40 (LT. & RT.) WILL REQUIRE PLACEMENT OF CURB & GUTTER AFTER THE TEMPORARY PAVEMENT IS REMOVED.



PROPOSED TYPICAL SECTION

S.R. 84 – BISHOP ROAD

STA. 63+50 TO STA. 65+40 = 190 L.F.

LEGEND

① ITEM 304 – 6" AGGREGATE BASE (AS PER PLAN)
② ITEM 452 – 9" NON–REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB. TYPE 2A
⑤ ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 608 – 4" CONCRETE WALK
⑨ ITEM 209 – LINEAR GRADING
⑩ ITEM 609 – COMBINATION CURB & GUTTER, TYPE 2
⑪ ITEM 304 – 4" AGGREGATE BASE
⑫ ITEM 448 – 1 3/4" ASHPALT CONCRETE INTERMEDIATE COURSE, TYPE 2
⑬ ITEM 448 – 1 1/4" ASHPALT CONCRETE SURFACE COURSE, TYPE 1

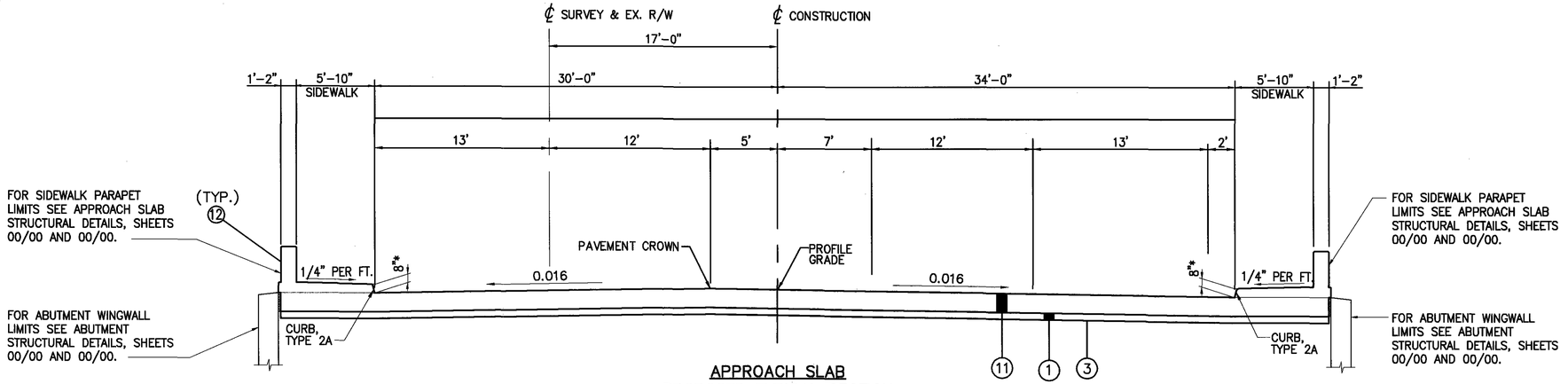
SCALE IN FEET 20 10 0 20

PROPOSED TYPICAL SECTION – S.R 84 BISHOP RD.

LAK – 90/84 – 0.54/0.43

8
369

DATE: 10-19-04 – TIME: 15:53 – H:\2002\02117\dwg\Typpr02.dwg



APPROACH SLAB
PROPOSED TYPICAL SECTION
SCALE = 1"=5'

S.R. 84 – BISHOP ROAD

STA. 53+27.25 TO STA. 53+57.25	=	30.00 L.F.
STA. 56+30.75 TO STA. 56+60.75	=	30.00 L.F.
		60.00 L.F.

* VARIES FROM 6" TO 8"
FOR LIMITS SEE APPROACH SLAB STRUCTURAL DETAILS, SHEETS 00/00 AND 00/00.

LEGEND
① ITEM 304 – 6" AGGREGATE BASE (AS PER PLAN)
② ITEM 452 – 9" NON–REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB. TYPE 2A
⑤ ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑧ ITEM 659 – SEEDING AND MULCHING
⑨ ITEM 608 – 4" CONCRETE WALK
⑩ ITEM 209 – LINEAR GRADING
⑪ ITEM 526 – REINFORCED CONCRETE APPROACH SLAB, (T=17") AS PER PLAN
⑫ ITEM 864 – SEALING OF CONCRETE SURFACES (EPOXY–URETHANE)

SCALE IN FEET 5 2.5 0 5

PROPOSED APPROACH SLAB TYPICAL SECTION – S.R 84 BISHOP RD.

LAK – 90/84 – 0.54/0.43

9
369

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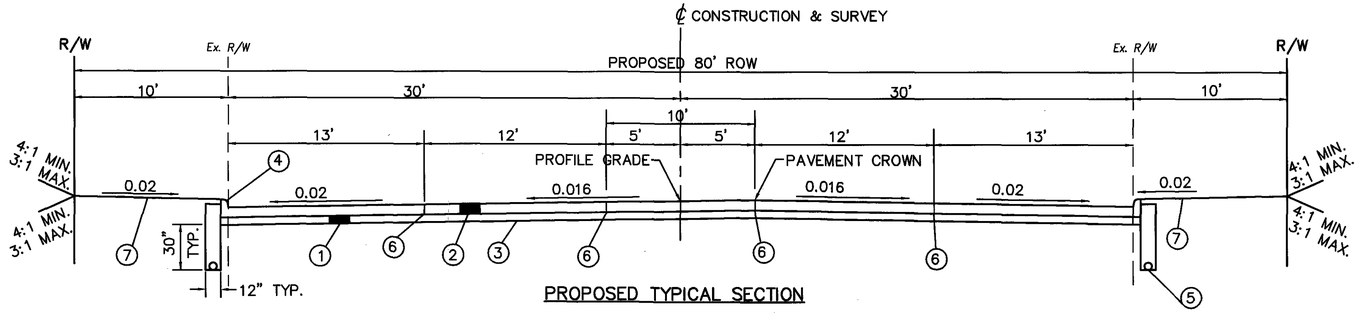
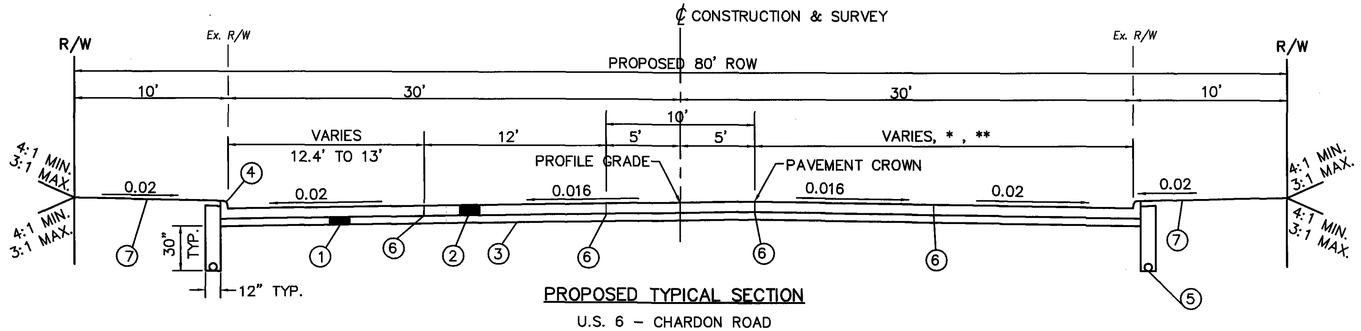


PROPOSED TYPICAL SECTION

U.S. 6 – CHARDON ROAD

STA. 12+00 TO STA. 22+85, LT.

STA. 15+85 TO STA. 23+25, RT.



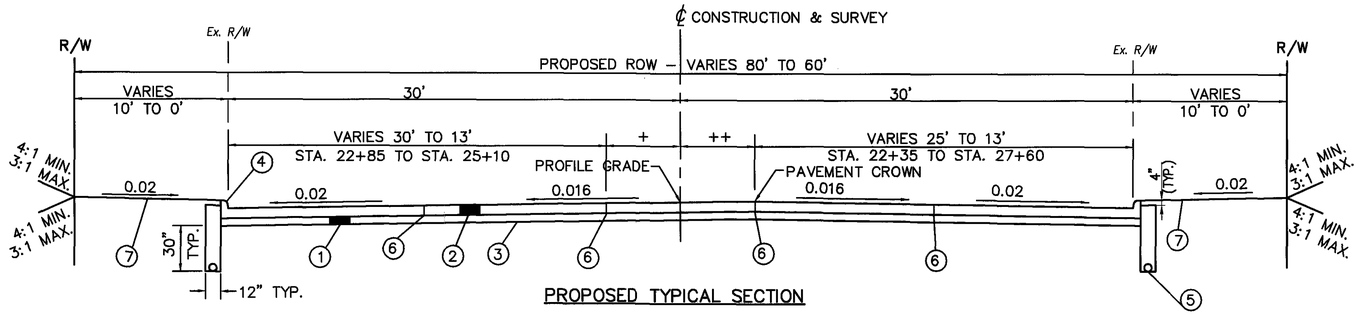
PROPOSED TYPICAL SECTION

U.S. 6 – CHARDON ROAD

VARIES = STA. 11+35 TO STA. 12+00, LT.

* = VARIES 17' TO 16' STA. 11+35 TO STA. 14+20, RT.

** = VARIES 16' TO 25' STA. 14+20 TO STA. 15+85, RT.



PROPOSED TYPICAL SECTION

U.S. 6 – CHARDON ROAD

+ = VARIES 5' TO 2' STA. 22+85 TO STA. 23+28, LT.

++ = VARIES 5' TO 2' STA. 22+35 TO STA. 23+28, RT.

LEGEND

① ITEM 304 – 6" AGGREGATE BASE, AS PER PLAN
② ITEM 452 – 9" NON–REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB, TYPE 2A
⑤ ITEM 605 – SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 659 – TOPSOIL

SCALE IN FEET 5 2.5 0 5

PROPOSED TYPICAL SECTION – CHARDON RD. (U.S. 6)

LAK – 90/84 – 0.54/0.43

10
369

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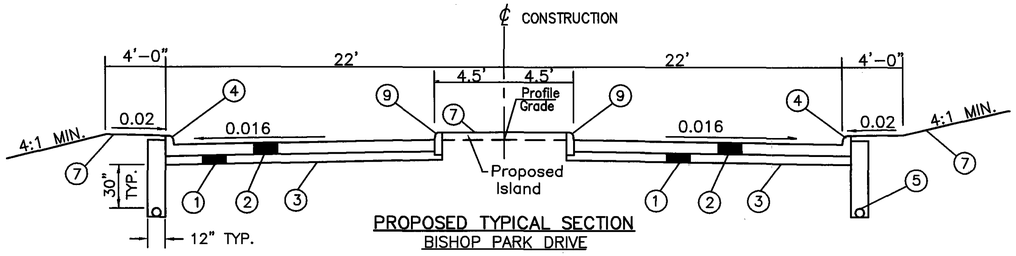
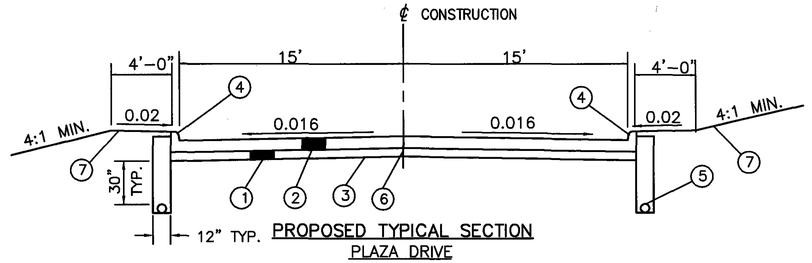


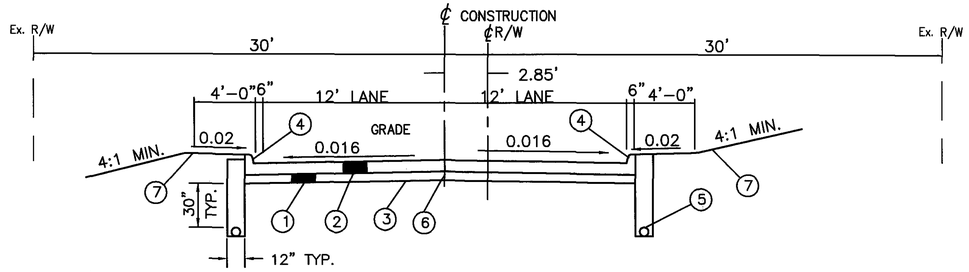
PROPOSED TYPICAL SECTION
BISHOP PARK DRIVE

STA. 9+00 TO STA. 10+00
ISLAND RECONSTRUCTION STA. 8+55 TO STA. 9+58



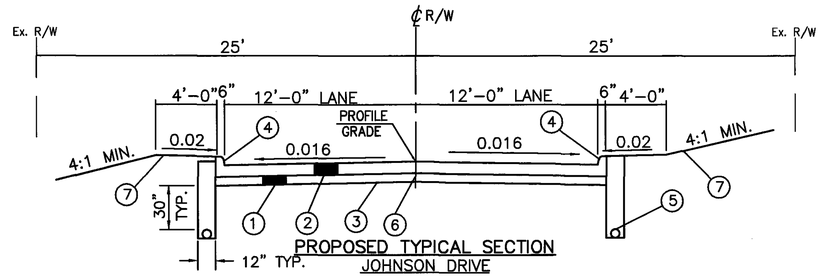
PROPOSED TYPICAL SECTION
PLAZA DRIVE

STA. 8+30.22 TO STA. 10+00



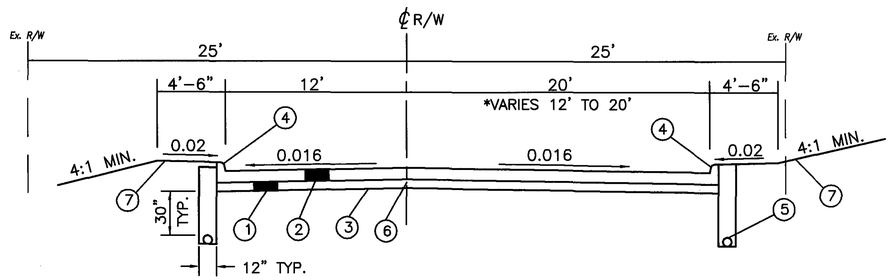
PROPOSED TYPICAL SECTION
EDDY ROAD

STA. 10+00 TO STA. 13+25



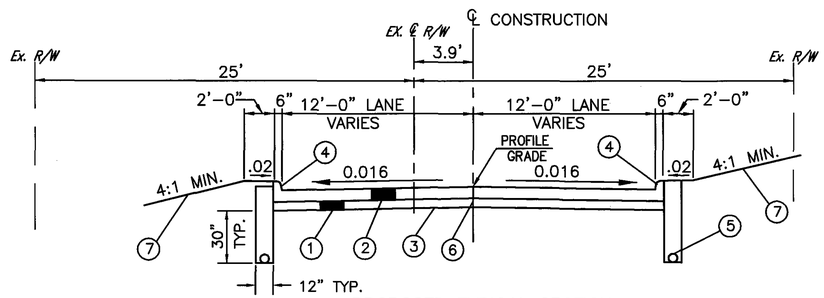
PROPOSED TYPICAL SECTION
JOHNSON DRIVE

STA. 10+00 TO STA. 11+90



PROPOSED TYPICAL SECTION
RIDGEHILLS DRIVE

* 12' – STA. 8+00
VARIES 12' TO 20' STA. 8+00 TO STA. 8+50
20' – STA. 8+50 TO STA. 10+00



PROPOSED TYPICAL SECTION
EVERGREEN DRIVE

STA. 8+55 TO STA. 10+00

LEGEND

① ITEM 304 – 6" AGGREGATE BASE (AS PER PLAN)
② ITEM 452 – 9" NON–REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB. TYPE 2A
⑤ ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 608 – 4" CONCRETE WALK
⑨ ITEM 609 – CURB, TYPE 6

SCALE IN FEET 5 2.5 0 5

PROPOSED TYPICAL SECTION – SIDESTREETS

LAK – 90/84 – 0.54/0.43

11
369

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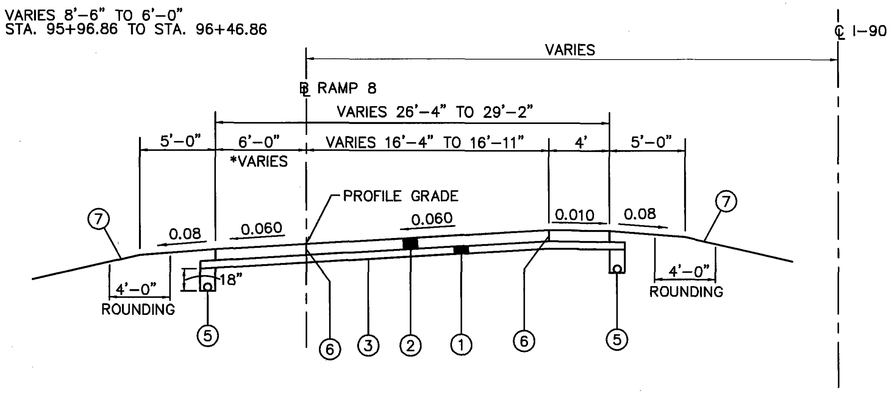
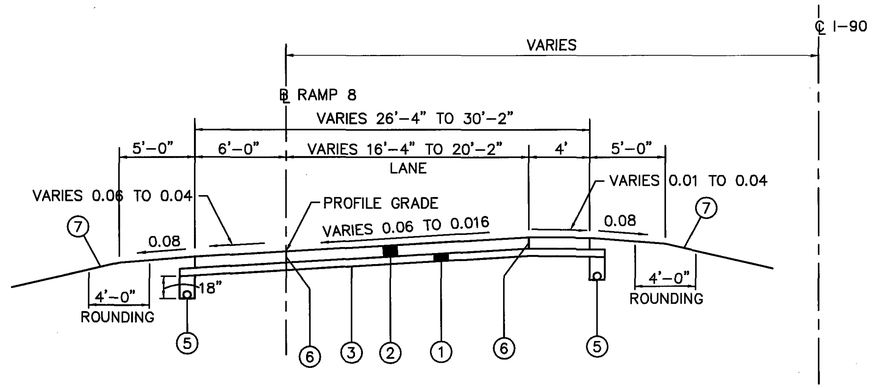


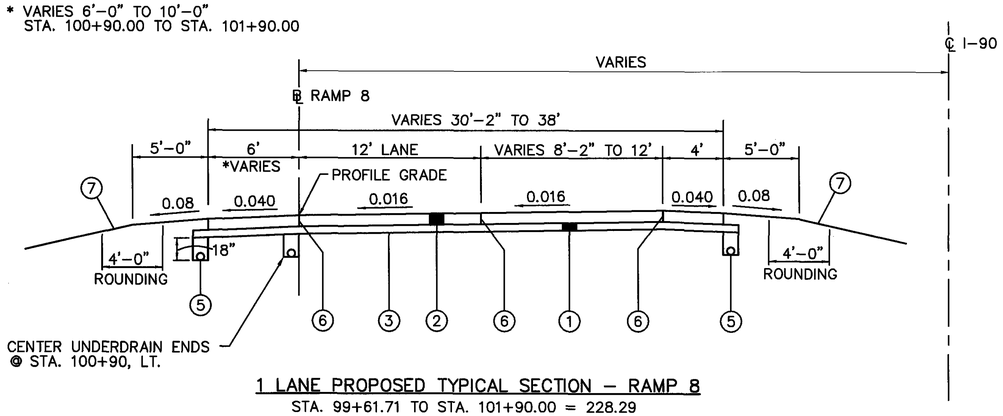
1 LANE FULL SUPERELEVATED SECTION – RAMP 8

STA. 95+96.88 TO STA. 97+62.41 = 165.53



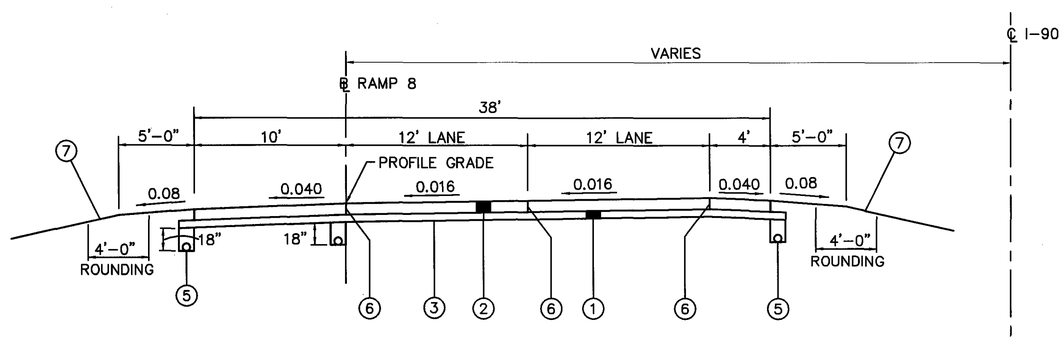
1 LANE SUPERELEVATED TRANSITION SECTION – RAMP 8

STA. 97+62.41 TO STA. 99+61.71 = 199.30



1 LANE PROPOSED TYPICAL SECTION – RAMP 8

STA. 99+61.71 TO STA. 101+90.00 = 228.29



2 LANE PROPOSED TYPICAL SECTION – RAMP 8

STA. 101+90.00 TO STA. 104+35.98 = 245.98

LEGEND

① ITEM 304 – 6" AGGREGATE BASE, AS PER PLAN
② ITEM 452 – 9" NON-REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB, TYPE 2A
⑤ ITEM 605 – BASE PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 659 – TOPSOIL

PROPOSED TYPICAL SECTIONS – RAMP 8

LAK – 90/84 – 0.54/0.43

12
369

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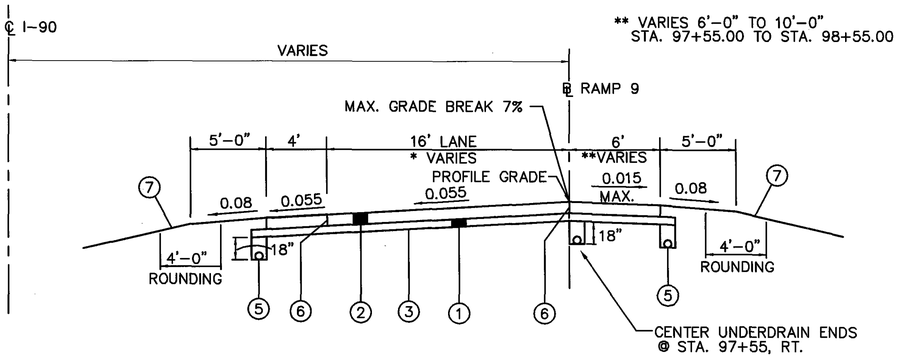
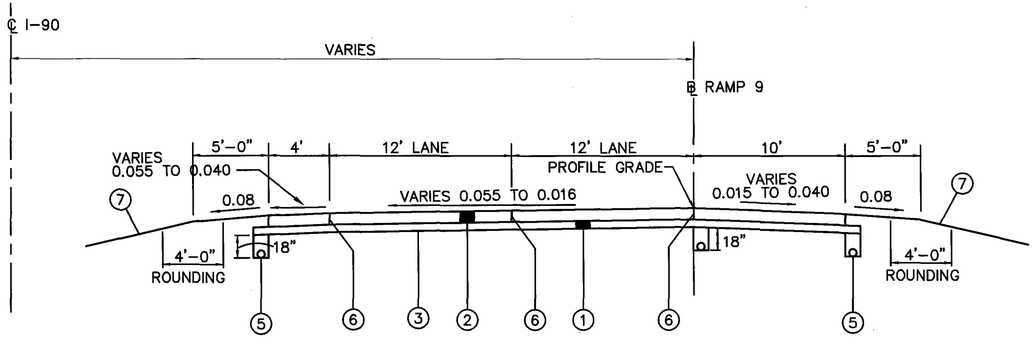


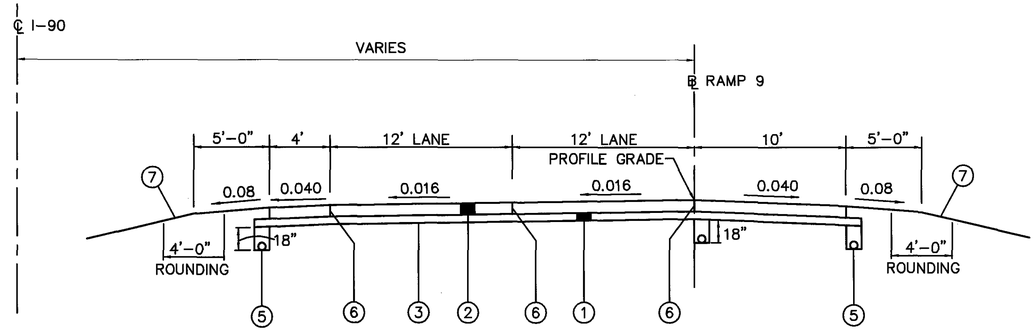
RAMP 9 – SUPERELEVATED SECTION

* VARIES – 16' STA. 96+54.35 TO STA. 97+55.00 = 100.65'
16' TO 24' STA. 97+55.00 TO STA. 98+55.00 = 100.00'
24' STA. 98+55.00 TO STA. 100+56.24 = 201.24'



2 LANE PROPOSED TYPICAL SECTION – RAMP 9

SUPERELEVATION TRANSITION STA. 100+56.24 TO STA. 102+56.65 = 200.41'



2 LANE PROPOSED TYPICAL SECTION – RAMP 9

STA. 102+56.65 TO STA. 106+65.46 = 408.81'

LEGEND

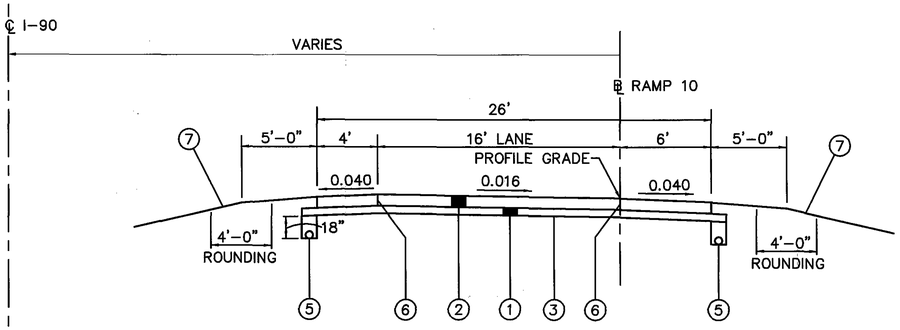
① ITEM 304 – 6" AGGREGATE BASE, AS PER PLAN
② ITEM 452 – 9" NON-REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB, TYPE 2A
⑤ ITEM 605 – BASE PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 659 – TOPSOIL

PROPOSED TYPICAL SECTIONS – RAMP 9

LAK – 90/84 – 0.54/0.43

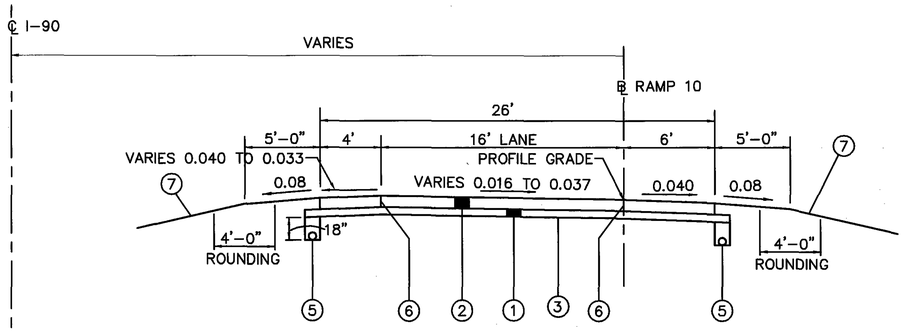
13
369

DATE: 10-25-04 – TIME: 07:53 – H:\2002\02117\dwg\Typpr05.dwg



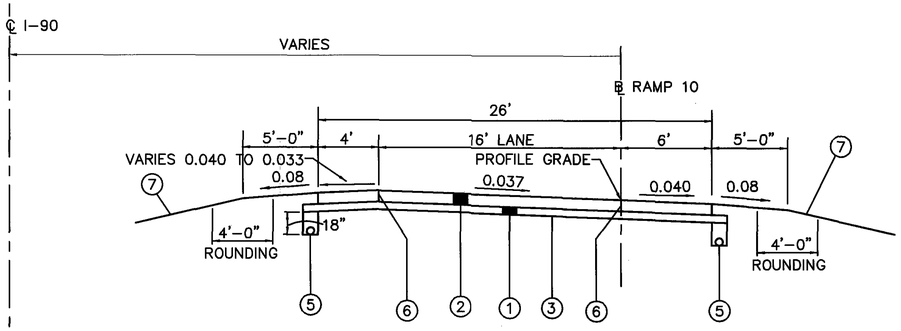
1 LANE PROPOSED TYPICAL SECTION – RAMP 10

STA. 106+32.15 TO STA. 110+50 = 417.85



1 LANE SUPERELEVATED TRANSITION SECTION – RAMP 10

STA. 110+50 TO STA. 112+45 = 195.00



1 LANE FULL SUPERELEVATED SECTION – RAMP 10

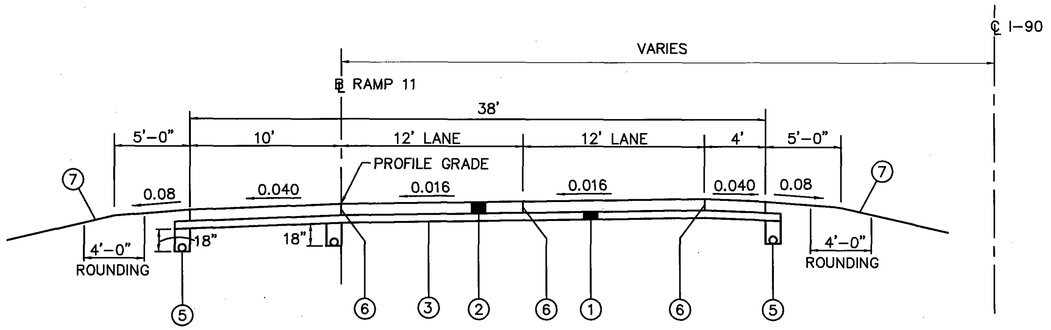
STA. 112+45 TO STA. 113+47.99 = 102.99

LEGEND

① ITEM 304 – 6" AGGREGATE BASE, AS PER PLAN
② ITEM 452 – 9" NON-REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB, TYPE 2A
⑤ ITEM 605 – BASE PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 659 – TOPSOIL

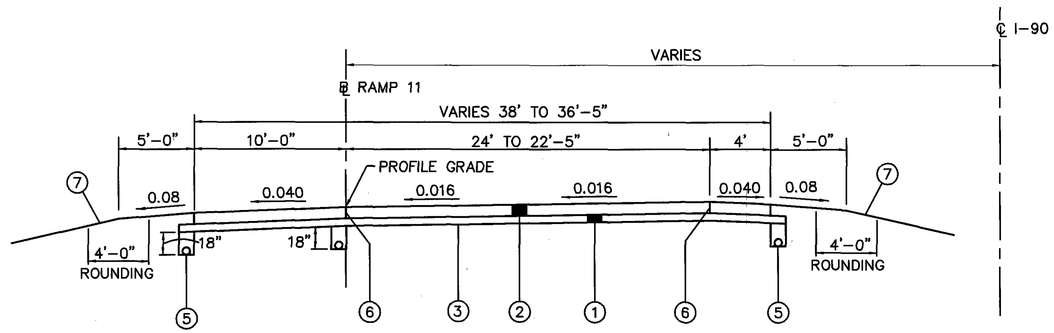
PROPOSED TYPICAL SECTIONS – RAMP 10

LAK – 90/84 – 0.54/0.43



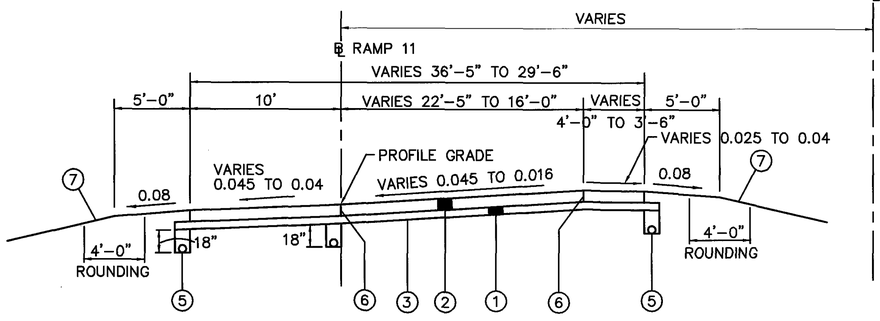
2 LANE PROPOSED TYPICAL SECTION – RAMP 11

STA. 106+50.80 TO STA. 111+85.00 = 534.2'



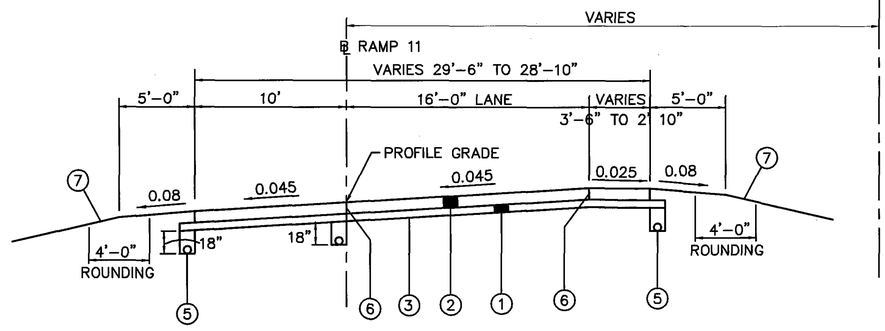
1 LANE PROPOSED TYPICAL SECTION – RAMP 11

STA. 111+85.00 TO STA. 112+03.76 = 18.76



1 LANE SUPERELEVATED TRANSITION SECTION – RAMP 11

STA. 112+03.76 TO STA. 113+53.55 = 149.79



1 LANE FULL SUPERELEVATED SECTION – RAMP 11

STA. 113+53.55 TO STA. 113+84.57 = 31.02

LEGEND

① ITEM 304 – 6" AGGREGATE BASE, AS PER PLAN
② ITEM 452 – 9" NON-REINFORCED CONCRETE PAVEMENT
③ ITEM 204 – SUBGRADE COMPACTION
④ ITEM 609 – CURB, TYPE 2A
⑤ ITEM 605 – BASE PIPE UNDERDRAIN WITH FABRIC WRAP
⑥ LONGITUDINAL JOINTS W/ TIE BARS
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 659 – TOPSOIL

PROPOSED TYPICAL SECTIONS – RAMP 11

LAK – 90/84 – 0.54/0.43

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369

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GENERAL NOTES

CALCULATED B.L.B. CHECKED W.D.B.

GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

SBC COMMUNICATIONS
13630 LORAIN AVE. – 4TH FLOOR
CLEVELAND, OHIO 44111
ATTN: ERIC JOHNSTON
PHONE: (216) 476-6141

AMERICAN TELEPHONE & TELEGRAPH
229 WEST 7TH STREET – 10TH FLOOR
CINCINNATI, OHIO 45202
ATTN: JEFF BALLINGER
PHONE: (513) 784-3238

COMCAST
7820 DIVISION DRIVE
MENTOR, OHIO 44060
ATTN: MIKE JONES
PHONE: (440) 974-3401 X122

THE ILLUMINATING CO.
6896 MILLER ROAD
BRECKSVILLE, OHIO 44141
ATTN: FRANK DIBBS
PHONE: (440) 546-8748

DOMINION EAST OHIO
1201 EAST 55TH STREET
CLEVELAND, OHIO 44103
ATTN: MIKE ANTONIUS
PHONE: (216) 736-6675

LAKE COUNTY DEPARTMENT OF UTILITIES
ADMINISTRATION BUILDING
105 MAIN STREET
PAINESVILLE, OHIO 44077
ATTN: ALBERT SAARI
PHONE: (440) 664-3247

LAKE COUNTY ENGINEER
550 BLACKBROOK ROAD
PAINESVILLE, OHIO 44077
ATTN: ALAN EXLEY
PHONE: (440) 350-2770

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON (NAVD 1988) NATIONAL GEODETIC VERTICAL DATUM 1988.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

TEMPORARY SUPPORT (TELSHE-YESHIVA COMMUNITY)

DURING CONSTRUCTION THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF WICKLIFFE A TEMPORARY SUPPORT OF THE ERIUV (HOLY WIRE) THAT ENCIRCLES THE TELSHE-YESHIVA COMMUNITY FROM SUB-LOT 41 TO SUB-LOT 52. THE CITY OF WICKLIFFE WILL BE RESPONSIBLE FOR THE MATERIALS FOR THE TEMPORARY SUPPORT AND LABOR TO INSTALL THESE SUPPORTS. THE CONTRACTOR SHALL NOTIFY THE CITY OF WICKLIFFE 30 DAYS PRIOR TO COMMENCING WORK IN THIS AREA.

ITEM 619 – FIELD OFFICE, TYPE C, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS AS DESCRIBED IN ITEM 619, THE FIELD OFFICE SHALL INCLUDE BROADBAND (DSL OR CABLE) INTERNET ACCESS.

USE OF PRIVATE PROPERTY

THE CONTRACTOR CAN USE PRIVATE PROPERTY FOR THE STORAGE OF EQUIPMENT AND MATERIALS ONLY WITH A WRITTEN AGREEMENT WITH THE PROPERTY OWNER. THE CONTRACTOR SHALL PROVIDE THIS AGREEMENT TO THE ENGINEER PRIOR TO ANY USE OF PRIVATE PROPERTY.

CONTRACTORS RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

AT POINTS WHERE THE CONTRACTOR'S OPERATIONS ARE ADJACENT TO PROPERTIES OF TELEGRAPH, TELEPHONE AND POWER COMPANIES, OR ARE ADJACENT TO OTHER PROPERTY, DAMAGE TO WHICH MIGHT RESULT IN CONSIDERABLE EXPENSE, LOSS, OR INCONVENIENCE, WORK SHALL NOT BE COMMENCED UNTIL ALL ARRANGEMENTS NECESSARY FOR THE PROTECTION THEREOF HAVE BEEN MADE.

THE CONTRACTOR SHALL COOPERATE WITH THE OWNERS OF ANY UNDER-GROUND OR OVERHEAD UTILITY LINES IN THEIR REMOVAL AND REARRANGE-MENT OPERATIONS IN ORDER THAT THESE OPERATIONS MAY PROGRESS IN A REASONABLE MANNER, THAT DUPLICATION OF REARRANGEMENT WORK MAY BE REDUCED TO A MINIMUM, AND THAT SERVICES RENDERED BY THOSE PARTIES WILL NOT BE UNNECESSARILY INTERRUPTED.

NOTIFICATION

THE LAW ENFORCEMENT AGENCIES, FIRE DEPARTMENTS, ENGINEERS AND SCHOOL DISTRICTS SHALL BE NOTIFIED AT LEAST ONE (1) WEEK PRIOR TO THE ACTUAL START OF CONSTRUCTION.

WICKLIFFE CITY POLICE DEPT. JAMES FOX, CHIEF OF POLICE	(440) 943-1234
WICKLIFFE CITY FIRE DEPT. PHILLIP KOUWE, FIRE CHIEF-ACTING	(440) 953-1212
WICKLIFFE CITY ENGINEER DAVE WILES, CITY ENGINEER	(440) 951-9000
WICKLIFFE CITY LOCAL SCHOOL DIST. ROBERT SMITH, SUPT.	(440) 943-6900
WILLOUGHBY HILLS POLICE DEPT. CHRIS COLLINS, CHIEF OF POLICE	(440) 942-9111
WILLOUGHBY HILLS FIRE DEPT. RICHARD HARMON, FIRE CHIEF	(440) 942-7207
WILLOUGHBY HILLS CITY ENGINEER RICHARD IAFELICE, CITY ENGINEER	(440) 951-9000
WILLOUGHBY-EASTLAKE PUBLIC SCHOOLS KEITH MILLER, SUPT.	(440) 946-5000
LAKE COUNTY ENGINEER'S OFFICE ALAN EXLEY, P.E., CHIEF DESIGN ENGINEER	(440) 350-2770
O.D.O.T. PUBLIC INFORMATION OFFICE	FAX (216) 584-3524

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM THE RECORDS AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENT CONDITIONS, BUT THE STATE OF OHIO WILL NOT GUARANTEE THE ACCURACY OF THE SAME.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COOPERATE AND COORDINATE HIS OPERATIONS WITH THE CONTRACTORS ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THE CONTRACT. NO WAIVER OF ANY PROVISIONS OF 105.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS IS INTENDED.

SUBSURFACE INVESTIGATIONS

SUBSURFACE SOIL INVESTIGATIONS WERE PERFORMED FOR THIS PROJECT AND ARE AVAILABLE UPON WRITTEN REQUEST FROM THE ODOT, DISTRICT 12 OFFICE.

ROADWAY

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON THE APPROPRIATE PLAN SHEETS.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	36	0	36
30"	10	0	10
48"	4	0	4

PLAN REMOVAL ITEMS

THE PLANS WERE DEVELOPED TO INCLUDE REMOVAL QUANTITIES FOR ITEMS WITHIN THE PROJECT'S RIGHT OF WAY TAKES. SOME OF THESE ITEMS HAVE ALREADY BEEN REMOVED, EITHER BY THE CITY OF WICKLIFFE, THE CITY OF WILLOUGHBY HILLS, THE PROPERTY OWNER, THE UTILITY CONTRACTORS, OR THROUGH A CITY ADVANCE CLEARING PROJECT. NO COMPENSATION WILL BE DUE THE CONTRACTOR FOR THE NON-PERFORMANCE OF THESE WORK ITEMS.

ITEM 204, PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 804 – CEMENT STABILIZED SUBGRADE

CEMENT STABILIZATION SHALL BE USED TO STABILIZE THE SUBGRADE FOR THE ENTIRE LENGTH OF S.R. 84 (BISHOP ROAD) AND U.S. 6 (CHARDON ROAD). THE STABILIZED SUBGRADE SHALL CONSIST OF 6% CEMENT TO A DEPTH OF SIXTEEN INCHES.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 206 – CURING COAT	11,719 S.Y.
ITEM 206 – CEMENT STABILIZED SUBGRADE, 16 INCHES DEEP	11,719 S.Y.
ITEM 206 – CEMENT	1,274 TON
ITEM 206 – TEST ROLLING	8 HR.
ITEM 206 – CONTRACTOR DESIGNED CHEMICALLY STABILIZED EMBANKMENT	LUMP

ITEM SPECIAL – MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4" BY 4" [100 mm BY 100 mm] SQUARE OR 4 ½" [115 mm] DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D. [60.3 mm] O.D. , AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL..

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

GENERAL NOTES

LAK – 90/84 – 0.54/0.43

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GENERAL NOTES

ROADWAY (CONTINUED)

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, (SINGLE) (DOUBLE).

ITEM 203 – EMBANKMENT, AS PER PLAN

PLACE AND COMPACT GRANULAR EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN S.R. 84 STA. 53+00 AND STA. 53+55 AND BETWEEN STA. 56+33 AND 57+00.

ITEM 606 – ANCHOR ASSEMBLY, TYPE E–98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET–2000 (1997) MANUFACTURED BY SYRO, INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330–545–4373).

THE LENGTH OF THE ET–2000 (1997) SYSTEM IS CONSIDERED TO BE 50'–0", INCLUSIVE OF TWO 25'–0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE–APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS265M	ET–2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'–0", PLAN, ELEVATION & SECTION, 25'–0" RAIL, SLEEVE W/PL POSTS 1–4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'–0" RAIL, HBA POSTS 1–4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'–0" WITH 12'–6" PANELS & HBA POSTS 1–4 PLAN, ELEVATION & SECTION	2/22/00	7/31/00

2) THE SKT–350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224 (TELEPHONE: 330–346–0721)

THE LENGTH OF THE SKT–350 SYSTEM IS CONSIDERED TO BE 50'–0" INCLUSIVE OF FOUR 12'–6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE–APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SKT–4M	SEQUENTIAL KINKING TERMINAL ELEVATION & SECTIONS	12/11/97	3/6/98

THE FACE OF THE TYPE E–98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18".

REFER TO THE MANUFACTURES INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27–3/4 INCHES FROM THE EDGE OF THE SHOULDER.

ON SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E–98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG 64–22, AS PER PLAN.

ITEM 209, LINEAR GRADING, SHALL CONSIST OF EXCAVATING TOPSOIL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE RE–MOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE EPA APPROVED FOR PAVING UNDER GUARD–RAIL. IT SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY.

HERBICIDE LABEL, MATERIAL SAFETY DATA SHEET AND COPY OF APPLICATORS LICENSES SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION PRIOR TO COMMENCING WORK.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A: 1) SET GUARDRAIL POSTS

2) PLACE ITEM 448

METHOD B: 1) PLACE ITEM 448

2) BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)

3) SET GUARDRAIL POSTS

4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE A BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG 64–22, UNDER GUARDRAIL, AS PER PLAN.

ITEM SPECIAL – MISCELLANEOUS: RETAINING WALL

METHOD OF MEASUREMENT

THE QUANTITY TO BE PAID SHALL BE THE NUMBER OF SQUARE FEET INSTALLED PER THE PLANS AND SPECIFICATIONS MEASURED AT THE FACE OF THE WALL FROM THE TOP OF THE LEVELING PAD TO THE TOP OF THE FINISHED WALL.

BASIS OF PAYMENT

THE UNIT PRICE SHALL INCLUDE EXCAVATION AND PLACEMENT OF THE LEVELING PAD TO THE PROPOSED LINE AND GRADE; FURNISHING AND AND INSTALLING OF THE BLOCK UNITS; EXCAVATION FOR DRAINAGE FILL; DISPOSING ALL EXCESS MATERIALS; FURNISHING AND PLACING FILTER FABRIC AND UNDERDRAIN PIPE IN ACCORDANCE WITH ODOT ITEM 605; FURNISHING AND COMPACTING DRAINAGE FILL MATERIAL; REGRADING ALL DISTURBED AREAS (SEEDING PAID FOR SEPARATELY); AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THE WORK IN REASONABLE CLOSE CONFORMITY WITH THE LINE AND GRADE SHOWN ON THE PLANS OR AS SPECIFIED. ALL EXCAVATION SHALL BE CONSIDERED AS UNCLASSIFIED EXCAVATION.

FOR DETAILS AND SPECIFICATIONS, SEE SHEETS 222 THRU 225.

CALCULATED B.L.B. CHECKED W.D.B.

GENERAL NOTES

LAK – 90/84 – 0.54/0.43

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GENERAL NOTES

EROSION

ITEM 659, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. THE CONTRACTOR SHALL ESTABLISH A GOOD STRAND OF GRASS WITH UNIFORM COLOR AND DENSITY, TO THE SATISFACTION OF THE ENGINEER. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

SEEDING AND MULCHING OF LAWNS

IN ADDITION TO "AREAS IN FRONT OF RESIDENCES" REFERRED TO IN 659.09, THE SPECIAL PREPARATION SHALL BE EXTENDED TO ENCOMPASS ALL LAWNS AND/OR LAWN-LIKE AREAS AS DETERMINED BY THE ENGINEER.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	3244 CU. YDS.
659, REPAIR SEEDING AND MULCHING	1461 SQ. YDS.
659, INTER-SEEDING	1461 SQ. YDS.
659, COMMERCIAL FERTILIZER	4 TON
659, LIME	6 ACRE
659, WATER	79 M. GAL.
659, MOWING	66 M. SQ. FT.

DRAINAGE

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, SIZE, AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 PS46 MIN.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

603, 6" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	100 LIN FT.
603, 6" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	100 LIN. FT.
603, 4" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	100 LIN. FT.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

MASONRY COLLAR

A MASONRY COLLAR AS PER STANDARD DRAWING DM-1.1 SHALL BE PROVIDED WHERE THE PLANS REQUIRE A PIPE EXTENSION TO BE CONNECTED TO AN EXISTING PIPE. COST SHALL BE INCIDENTAL TO THE 603 CONDUIT ITEM.

UNRECORDED SANITARY CONNECTIONS

ANY UNRECORDED SANITARY CONNECTION TO A SANITARY SEWER ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED TO THE EXISTING SANITARY SEWER TO THE SATISFACTION OF THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.42, 707.43, 707.44, 707.45, OR 706.08 WITH JOINTS AS PER 706.12.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

603, 6" CONDUIT, TYPE B, FOR SANITARY	100 LIN FT.
603 6" CONDUIT, TYPE C, FOR SANITARY	100 LIN. FT.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT-OF-WAY FOR SALVAGE BY CITY FORCES. PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

ITEM SPECIAL, MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIALS SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 10,000 LBS.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

ITEM 604 - CATCH BASIN, NO. 2-2B AND INLET SIDE DITCH

INLETS SHALL BE CONSTRUCTED AS REQUIRED BY FIELD CONDITIONS AND CONNECTED TO THE PROPOSED TRUNK SEWER, MANHOLE OR TO THE NEAREST CATCH BASINS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

603, 8" CONDUIT, TYPE B	100 FOOT
603, 8" CONDUIT, TYPE C	100 FOOT
603, 12" CONDUIT, TYPE B	100 FOOT
603, 12" CONDUIT, TYPE C	100 FOOT
604, CATCH BASIN, NO. 2-2B	5 EACH
604, INLET, SIDE DITCH	5 EACH

THE CONTRACTOR SHALL BE CAREFUL DURING THE INSTALLATION OF THE PIPES TO AVOID EXISTING UTILITY CONFLICTS. THE PROPOSED 12" DRAIN PIPES SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 12" FROM THE NEAREST EXISTING UTILITY LINE.

CALCULATED B.L.B. CHECKED W.D.B.

GENERAL NOTES

LAK - 90/84 - 0.54/0.43

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GENERAL NOTES

DRAINAGE (continued)

ITEM 603 – SLOTTED DRAIN: 6" ,TYPE 1

THIS ITEM SHALL CONSIST OF 6 INCH DIAMETER SLOTTED DRAIN BITUMINOUS COATED STEEL CONDUIT 707.05 (14 GAUGE) WITH 6 INCH BY 3/16 INCH GALVANIZED SOLID BAR GRATE AS APPROVED BY THE ENGINEER. ALL COSTS FOR LABOR AND MATERIALS, INCLUDING TYPE 2 BEDDING, AND BACKFILLING AS DETAILED ON STANDARD CONSTRUCTION DRAWING DM–1.3 SHALL BE INCLUDED IN THE PRICE BID PER FOOT FOR ITEM 603 – SLOTTED DRAIN: 6 INCH, TYPE 1.

ITEM 202 – MANHOLE REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL OF THE TOP PORTION OF THE EXISTING MANHOLE TO THE LIMITS REFLECTED IN THE PLANS. THE CONTRACTOR SHALL FILL THE REMAINING PORTION OF THE EXISTING MANHOLE WITH LEAN GROUT, ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

THE UNIT PRICE BID PER EACH FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS AND OTHER INCIDENTIALS REQUIRED TO PERFORM THE WORK OUTLINED ABOVE.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 202 – MANHOLE REMOVED, AS PER PLAN.

PAVEMENT

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL, IN ALL CASES, BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP–2.2 AND THE SPECIFICATIONS.

ITEM 407 – TACK COAT
ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF:

407, TACK COAT	0.10 GAL. PER SQ. YARD
407, TACK COAT FOR INTERMEDIATE COURSE	0.05 GAL. PER SQ. YARD

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE SO AS TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP–2.2, IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN THE CONCRETE AT APPROXIMATELY THE MAXIMUM SPACING.

MEDIAN AND/OR CURBING ON APPROACH SLABS

THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS SHALL BE TRANSITIONED, FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE, WITHIN THE LIMITS OF THE APPROACH SLAB.

ITEM 304 – AGGREGATE BASE, AS PER PLAN

THE ONLY SLAG MATERIALS PERMITTED FOR THIS ITEM SHALL BE CRUSHED AIR–COOLED BLAST FURNACE SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAGS, OR OPEN HEARTH SLAG FROM APPROVED SOURCES ON FILE AT THE LABORATORY.

ALL MATERIAL OR BLENDED MATERIALS SHALL MEET THE GRADATION REQUIREMENTS OF 304.02.

ANY GRANULATED SLAG MATERIAL USED SHALL MEET THESE GRADATION REQUIREMENTS IN LIEU OF 703.08.

ITEM 609 – CURB, TYPE 6, AS PER PLAN

THIS ITEM SHALL CONFORM TO ITEM 609 – CURB, TYPE 6 EXCEPT THAT IT SHALL BE CONSTRUCTED TO THE HEIGHT SHOWN ON THE CROSS SECTIONS.

CONSTRUCTION ADJACENT TO EXISTING PARKING LOTS

THE FOLLOWING QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO HANDLE ELEVATION DIFFERENCES BETWEEN THE PROPOSED SIDEWALK AND EXISTING PARKING LOTS.

ITEM 609 – CURB, TYPE 6	500 L.F.

LIGHTING

ITEM 625– CONDUIT AND TRENCH

CONTINGENCY ITEMS FOR CONDUIT AND TRENCHING HAVE BEEN PROVIDED FOR FUTURE LIGHTING ALONG BISHOP ROAD FOR THE CITY OF WILLOUGHBY HILLS. SEE STANDARD CONSTRUCTION DRAWING HL–30.22, "T" TRENCH IN PAVED AREA, FOR INSTALLATION DETAIL.

ITEM 625, CONDUIT, 2", 725.05 SHALL BE PLACED TO 2 FEET BEYOND THE EDGE OF DRIVE APRONS, SIDE STREETS AND SIDEWALKS. THE CONDUIT SHALL BE LOCATED 3 FEET OFF THE BACK OF CURB. LIMITS OF THIS WORK ARE FROM STA. 33+00 TO STA. 49+50 RIGHT AND LEFT.

ITEM 625, CONDUIT, 4", 725.05 IS FOR THE CROSSING OF BISHOP ROAD AT STA. 34+00± AND AT STA. 49+50±, 33 FEET RIGHT TO 33 FEET LEFT.

IF PERFORMED, THE WORK SHALL BE PAID FOR BY THE CITY OF WILLOUGHBY HILLS AS A 100% LOCAL COST.

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

ITEM 625–CONDUIT, 2", 725.05	860 FT.
ITEM 625–CONDUIT, 4", 725.05	132 FT.
ITEM 625–TRENCH IN PAVED AREA	992 FT.

ENVIRONMENTAL

ITEM SPECIAL–NOTIFICATION OF DEMOLITION AND RENOVATION

AN ASBESTOS SURVEY WAS CONDUCTED ON THE LAK–84–0.43 BRIDGE OVER IR–90, AND WAS COMPLETED IN JULY OF 2005 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST FROM HZW ENVIRONMENTAL CONSULTANTS, INC. THE SURVEY DID NOT IDENTIFY ANY ASBESTOS CONTAINING MATERIALS ON THE BRIDGE.

IF UNIDENTIFIED ASBESTOS CONTAINING MATERIAL (ACM) IS ENCOUNTERED DURING CONSTRUCTION OF THE BRIDGE, REMOVAL AND DISPOSAL OF ACM MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I–VII AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS VIII–XIII OF THE SIGNED FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE BRIDGE. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

BERT MECHENBIER
LAKE COUNTY
AIR POLLUTION CONTROL
33 MILL STREET
PAINESVILLE, OHIO 44077

ITEM SPECIAL – WORK INVOLVING SOLID WASTE

ENVIRONMENTAL STUDIES HAVE SHOWN THERE IS A POSSIBILITY OF ENCOUNTERING PETROLEUM–CONTAMINATED MATERIALS DURING EXCAVATIONS AT THE FOLLOWING LOCATIONS:

28580 CHARDON ROAD (SHELL/TRUE NORTH ENERGY)
28601 CHARDON ROAD (BP EXPLORATION & OIL INC.)

IN THE EVENT THESE MATERIALS ARE ENCOUNTERED WITHIN THE AFOREMENTIONED SITES, THE CONTRACTOR SHALL MANAGE THIS MATERIAL ACCORDING TO THE FOLLOWING NOTES. THE ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

ALL MATERIAL EXCAVATED BY THE CONTRACTOR BETWEEN THESE LIMITS MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLL–OFF BOX.

THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECTED SOILS FROM COMING IN CONTACT WITH THE ORIGINAL SOILS. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUNOFF.

THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED CONTAMINATED MATERIAL INTO TRUCKS.

THE CONTRACTOR SHALL PROPERLY TRANSPORT AND DISPOSE OF THE EXCAVATED CONTAMINATED MATERIAL IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. IF REQUIRED BY THE SOLID WASTE FACILITY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING SAMPLING AND ANALYSIS OF THE EXCAVATED MATERIAL.

ALL TRANSPORT VEHICLES USED FOR THE MOVEMENT OF REGULATED SOILS OR WATER SHALL MEET APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE CONTRACTOR SHALL MAINTAIN RECORDS (SUCH AS MANIFESTS, LANDFILL TICKETS, DAILY LOGS, ETC.) TO DOCUMENT THE SOURCE, MOVEMENT, AND DESTINATION OF EACH TRUCKLOAD OF CONTAMINATED SOIL. ONE COPY OF EACH OF THESE RECORDS SHALL BE SUBMITTED TO THE ENGINEER.

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE, TEST, TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON OF EACH. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM SPECIAL – (69065010) – WORK INVOLVING SOLID WASTE
100 TONS

INDIANA BAT

THE PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS). THE PROJECT MAY IMPACT SUMMER AND BROOD REARING HABITATS FOR THIS SPECIES (I.E., TREES OVER NINE INCHES IN DIAMETER BREAST HEIGHT WITH LOOSE OR PEALING BARK AND/OR CAVITIES GREATER THAN 3–4 INCHES IN SIZE). TO PREVENT PREVENT HARM TO THESE BATS, THE REMOVAL OF ANY POTENTIAL ROOST TREES MUST BE COMPLETED BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALL BAT TREE CUTTING MUST BE COMPLETED BEFORE THE APRIL 15TH DEADLINE.

CALCULATED B.L.B. CHECKED W.D.B.

GENERAL NOTES

LAK – 90/84 – 0.54/0.43

19
369

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ITEM 614 – MAINTAINING TRAFFIC

A MINIMUM OF ONE 11' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND 615 PAVEMENT FOR MAINTAINING TRAFFIC.

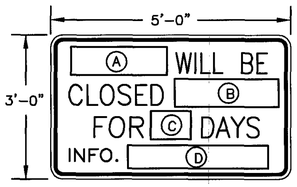
THE CONTRACTOR SHALL NOTIFY THE DISTRICT OFFICE (216–584–2007) EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK AND PRIOR TO CHANGING OF MAINTENANCE OF TRAFFIC PHASES.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY–WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA–WIDE.

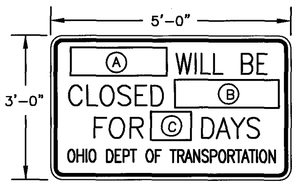
SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIRE–MENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF $1,250.00 PER DAY (IN ACCORDANCE WITH 108.07).

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.



OC–60A



OC–60B

Ⓐ RAMP, BRIDGE, ROAD

Ⓑ 3 LETTER MONTH – DOUBLE NUMBER, JUN 23

Ⓒ DOUBLE NUMBER, 60

Ⓓ TELEPHONE NUMBER, 614–000–0000

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

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	1700 CU.YD.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	200 CU.YD.
ITEM 616, WATER	50 M GAL.

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

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

ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC WITH THE CONCURRENCE OF THE PROJECT ENGINEER FOR THE FOLLOWING TASKS:

FOR LANE AND RAMP CLOSURES: DURING INITIAL SET–UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE

LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH :

WICKLIFFE CITY POLICE DEPT.
JAMES FOX, CHIEF OF POLICE
28730 RIDGE ROAD
WICKLIFFE, OHIO 44092
(440) 943–1234

WILLOUGHBY HILLS POLICE DEPT.
CHRIS COLLINS, CHIEF OF POLICE
35405 CHARDON ROAD
WILLOUGHBY HILLS, OHIO 44094
(440) 942–9111

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON AN HOURLY BASIS UNDER ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER 500 HOURS
ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 500 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW–UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

PLACEMENT OF ASPHALT CONCRETE (SIDE STREETS)

TWO–WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE–WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSE.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 4 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

ITEM SPECIAL – WORK ZONE TRAFFIC SIGNALS

THE CONTRACTOR SHALL CONSTRUCT WORK ZONE TRAFFIC SIGNALS AS SHOWN IN THE PLANS FOR THE FOLLOWING INTERSECTIONS:

BISHOP ROAD & CHARDON ROAD
* BISHOP ROAD & BISHOP PARK DRIVE
* BISHOP ROAD & RIDGEHILLS DRIVE/EDDY ROAD
* BISHOP ROAD & I–90 RAMPS 9& 10
* BISHOP ROAD & I–90 RAMPS 8 & 11

* TIME BASED INTERCONNECT.

CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY TIME BASED CONTROLLERS AND PROGRAM INTERCONNECT INTO EACH CONTOLLER USING 0 OFFSET AS MEASURED TO THE BEGINNING OF MAIN STREET YELLOW.

THE LOCATION OF THE SPAN WIRE MOUNTED SIGNAL HEADS SHALL BE ADJUSTED AS REQUIRED FOR EACH CONSTRUCTION PHASE TO PROVIDE PROPER ALIGNMENT WITH THE APPROACH TRAFFIC LANES. CONTROLLER TIMING SETTINGS SHALL BE ADJUSTED AS NECESSARY TO OPTIMIZE TRAFFIC FLOW FOR EACH CONSTRUCTION PHASE. (TIMING MODIFICATIONS CONSIDERED INCIDENTAL TO THIS ITEM).

WORK ZONE SIGNAL SYSTEMS SHALL CONSIST OF 35 FEET MINIMUM LENGTH, WOOD POLES CLASS 1, GUYED OR CONCRETE EMBEDDED STRAIN POLES, MESSENGER WIRE AND ALL OTHER EQUIPMENT NECESSARY TO INSTALL AND OPERATE THE SIGNAL SYSTEMS IN ACCORDANCE WITH ODOT SPECIFICATION 614.03 (F) AND THE PLANS.

SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE OHIO MANUAL OF UNIFORM TRAFFIC DEVICES.

SIGNAL WIRING OTHER THAN OVERHEAD AND UNDERGROUND MUST BE APPROVED BY THE ENGINEER. ALL WIRING ATTACHED TO A POLE SHALL BE PROTECTED BY THE APPROPRIATE SIZE CONDUIT. ALL SPLICES SHALL BE MADE BY APPROVED SPLICE KITS INSTALLED IN PULL BOXES OR APPROVED ENCLOSURES.

THE CONTROLLER TO BE USED SHALL BE AN ACTUATED SOLID STATE DIGITAL MICROPROCESSOR WITH POLE MOUNTED CABINET IN CONFORMANCE WITH THE C & M SPECIFICATIONS. THE CONTROLLER SHALL BE CAPABLE OF HANDLING THE OPERATION SHOWN ON THE PHASING AND TIMING DIAGRAM.

THE WORK ZONE DETECTOR UNIT SHALL BE: (1) A MAGNETIC SENSOR ATTACHED TO A LIGHT WOOD POST AT ROADSIDE, (2) LOOPS OR MAGNETOMETERS FASTENED TO THE DRIVE SURFACE OR MICROWAVE DETECTORS, MOUNTED ON A SUITABLE SUPPORT BESIDE OR OVER THE ROAD. THE DETECTOR UNIT LOCATION SHALL BE APPROVED BY THE ENGINEER.

ALL SIGNAL EQUIPMENT SHALL CONFORM TO ITEM 632 EXCEPT USED EQUIPMENT MAY BE USED AND THE 10 DAY PERFORMANCE TEST IS WAIVED.

PAYMENT FOR THE WORK ZONE SIGNALS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM SPECIAL – WORK ZONE TRAFFIC SIGNAL AND SHALL INCLUDE ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED TO CONSTRUCT, MAINTAIN, AND SUSEQUENTLY REMOVE THE WORK ZONE SIGNALS FROM SERVICE.

DRIVEWAY AND PUBLIC TRANSPORTATION ACCESS

THE CONTRACTOR SHALL MAINTAIN ACCESS AT ALL TIMES TO ALL DRIVEWAYS WITHIN THE PROJECT WORK LIMITS. PART WIDTH CONSTRUCTION SHALL BE UTILIZED FOR DRIVE REPLACEMENTS FOR PROPERTIES WITH SINGLE POINT ACCESS TO BISHOP ROAD AND CHARDON ROAD. FULL WIDTH DRIVE REPLACEMENT CAN BE USED FOR PROPERTIES WHICH HAVE TWO OR MORE POINTS OF ACCESS. THE CONTRACTOR SHALL ALSO MAINTAIN ACCESS TO ALL PUBLIC TRANSPORTATION BUS STOPS WITHIN THE PROJECT LIMITS.

DUST CONTROL

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

616, WATER 75 M. GAL.

ITEM 614 – REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCOR–DANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL TO THE CONTRACTOR SHALL BE

REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. RE–PLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE FEET FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 100 SQUARE FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

WORK ZONE SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR REPLACEMENT OF WORK ZONE SIGNS DAMAGED DURING CONSTRUCTION.

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

ITEM 614, WORK ZONE MARKING SIGN 20 EACH

ITEM 614 – REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PRO–POSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BE–YOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACE–MENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 50 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 – BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE IN–STALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO ITEM 626 EXCEPT THAT THE SPACING SHALL BE 25 FEET. AN ESTIMATED QUANTITY OF 25 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B, AND 25 EACH OF ITEM 614 OBJECT MARKER HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

ITEM 615 ROADS FOR MAINTAINING TRAFFIC

ALTHOUGH ESTIMATES FOR TEMPORARY EXCAVATION, AND EMBANKMENT BUT NO TEMPORARY DRAINAGE FACILITIES HAVE BEEN SHOWN ON THE PLAN DETAILS, THESE ITEMS SHALL REMAIN IN PLACE AND BE ADEQUATELY FUNCTIONING. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH PAYMENT FOR ITEM 615 TEMPORARY ROAD.

ITEM 615 ROADS FOR MAINTAINING TRAFFIC EARTHWORK

EARTHWORK QUANTITIES HAVE BEEN INCLUDED ON THE CROSS SECTION SHEETS (FOR INFORMATION ONLY).

METHOD OF PAYMENT

PAYMENT FOR THE MAINTENANCE OF TRAFFIC ITEMS, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DETAILED IN THE PLANS.

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

LAK – 90/84 – 0.54/0.43

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CONTRACTOR'S EQUIPMENT – OPERATION AND STORAGE

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY: OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

ITEM 614 – WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS (R2–1) (25 SPEED LIMIT) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 DAYS, OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1 MILE FOR 55 MPH ZONES AND EVERY 1/2 MILE FOR 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. R2–1 SIGNS (SPEED LIMIT) SHALL BE USED ON UNDIVIDED ROADWAY. R2–1 (SPEED LIMIT) AND R2–H2A SIGNS (SPEED LIMIT) SHALL BE USED ON DIVIDED ROADWAYS. WHEN USED THE R2–1 AND R2–H2A SIGNS SHALL BE MOUNTED SIDE–BY–SIDE ON SEPARATE SUPPORTS. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III–C SHEETING, FP–85.

WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO (2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 3 POSTS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS.

ITEM 614, WORK ZONE SPEED LIMIT SIGN 20 EACH

DOUBLE FINES IN WORK ZONES SIGN

R11–H5 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS SHALL BE COVERED OR REMOVED WHEN THE CONSTRUCTION ZONE IS DISCONTINUED FOR 30 DAYS OR MORE.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III–C SHEETING, FP–85.

DOUBLE FINES IN WORK ZONES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

THE SIGNS WILL BE PLACED AS DIRECTED BY THE ENGINEER.

DROPOFFS IN WORK ZONES

ALL VERTICAL DROPOFFS WITHIN THE CONSTRUCTION ZONES SHALL BE ADDRESSED AS PER THE DROPOFFS IN WORK ZONES PLAN INSERT SHEET 546. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED UNDER ITEM 614 – MAINTAINING TRAFFIC.

WINTER TRAFFIC LIMITATIONS (INTERSTATE 90)

TWO LANES IN EACH DIRECTION SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 01. NOVEMBER 15 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES OF $1,500 PER DAY SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

NO PORTABLE CONCRETE BARRIER SHALL BE STORED WITHIN THE RIGHT OF WAY DURING WINTER TRAFFIC LIMITATIONS.

SUSPENSION OF WORK

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR MAINTENANCE OF TRAFFIC AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE MANUAL, THE ENGINEER MAY SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS. NO COMPENSATION WILL BE PAID FOR SUSPENSION OF WORK.

ALTERNATE MAINENANCE OF TRAFFIC PLANS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELLING PUBLIC RESULTS THEREFROM. NO ALTERNATIVE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE ENGIEER.

TIME OF COMPLETION

WHEN THE PLAZA DRIVE, EDDY ROAD AND JOHNSON DRIVE INTERSECTIONS ARE CONSTRUCTED, THE CONTRACTOR SHALL BE ALLOWED TO CLOSE EACH ROAD FOR A PERIOD NOT TO EXCEED THIRTY (30) CONSECUTIVE CALENDER DAYS.
WHEN THE RAMPS TO INTERSTATE 90 ARE CONSTRUCTED, THE CONTRACTOR SHALL BE ALLOWED TO CLOSE EACH RAMP FOR A PERIOD NOT TO EXCEED SIXTY (60) CONSECUTIVE CALENDER DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN THE AMOUNT OF $1000 PER DAY FOR EACH CALENDER DAY THE ROADWAY AND RAMPS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMITS.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE, ALL LOCAL LAW ENFORCEMENT AGENCIES, FIRE DEPARTMENTS, ENGINEERS AND SCHOOL DISTRICTS EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT THE TRAFFIC ENGINEER SHALL THEN PROVIDE AND INSTALL ALL DEVICES NECESSARY TO DEFINE THE ROUTE OF THE DETOUR AND SHALL MAINTAIN THE SAME THROUGHOUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, OTHER THAN FOR THE DETOUR, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE". THIS ROUTE IS SHOWN ON SHEET NO. 23 AND 24. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTYED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE:

ITEM 301, ASPHALT CONCRETE BASE, PG 64–22	350 CU. YD.
ITEM 304, AGGREGATE BASE	250 CU. YD.
ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64–22	55 CU. YD.
ITEM 407, TACK COAT	35 GAL.
ITEM 408, PRIME COAT	100 GAL.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	50 CU. YD.
ITEM 616, WATER	1 M. GAL.
ITEM 617, COMPACTED AGGREGATE, TYPE A	50 CU. YD.
ITEM 617, WATER	1 M. GAL.
ITEM 642, CENTER LINE	.1 MILE

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.

2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSBILE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8–HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF WILLOUGHBY HILLS FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 8 HOURS AND SHALL NOT INCLUDE THE HOURS OF 4:00 PM TO 7:00 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF–DUTY CITY OF WILLOUGHBY HILLS/ CITY OF WICKLIFFE POLICE, HIRED BY THE CONTRACTOR.

1. BISHOP RD. & CHARDON RD.

2. BISHOP RD. & I–90 RAMPS 9 & 10

3. BISHOP RD. & I–90 RAMPS 8 & 11

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.24.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

LAK – 90/84 – 0.54/0.43

21
369

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SEQUENCE OF CONSTRUCTION

PHASE 1 – BISHOP ROAD (S.R. 84) & CHARDON ROAD (U.S ROUTE 6)

BEGIN CONSTRUCTION OF THE EASTERLY PORTION OF THE PROPOSED BRIDGE STRUCTURE OVER INTERSTATE 90. (THE EXISTING BRIDGE IS NOT TO BE DISTURBED DURING THIS PHASE OF CONSTRUCTION).

CONSTRUCT PAVEMENT FOR MAINTAINING TRAFFIC ALONG THE WESTERLY SIDE OF BISHOP ROAD AND THE NORTHERLY SIDE OF CHARDON ROAD TO THE LIMITS SHOWN ON THE PHASE 1 DETAIL SHEETS WHILE UTILIZING FLAGGERS AS REQUIRED TO MAINTAIN TRAFFIC.

INSTALL WORK ZONE TRAFFIC SIGNALS AS REQUIRED.

SHIFT TRAFFIC TO THE WEST SIDE OF BISHOP ROAD AND THE SOUTH SIDE OF CHARDON ROAD, UTILIZING EXISTING PAVEMENT AND PAVEMENT FOR MAINTAINING TRAFFIC. MAINTAIN TWO (2) LANES OF TRAFFIC (ONE LANE IN EACH DIRECTION) THROUGHOUT THE LENGTH OF THE PROJECT (MAINTAIN THREE LANES ON THE EXISTING BRIDGE OVER INTERSTATE 90).

CONSTRUCT NEW DRAINAGE, PAVEMENT, SIDEWALKS AND DRIVES ALONG THE EASTERLY SIDE OF BISHOP ROAD AND THE SOUTHERLY SIDE OF CHARDON ROAD TO THE LIMITS SHOWN ON THE PHASE 1 DETAIL SHEETS.

CONSTRUCT NEW DRAINAGE, GUARDRAIL AND PAVEMENT FOR THE EASTBOUND ENTRANCE RAMP TO INTERSTATE 90 AND WESTBOUND EXIT RAMP TO BISHOP ROAD (S.R. 84). WHEN THE RAMPS TO INTERSTATE 90 ARE CONSTRUCTED, THE CONTRACTOR SHALL BE ALLOWED TO CLOSE EACH RAMP FOR A PERIOD NOT TO EXCEED SIXTY (60) CONSECUTIVE CALENDAR DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN THE AMOUNT OF $1000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY AND RAMPS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMITS.

CONSTRUCT PAVEMENT FOR MAINTAINING TRAFFIC ALONG THE EASTERLY SIDE OF BISHOP ROAD AND THE SOUTHERLY SIDE OF CHARDON ROAD TO THE LIMITS SHOWN ON THE PHASE 2B DETAIL SHEETS WHILE UTILIZING FLAGGERS AS REQUIRED TO MAINTAIN TRAFFIC.

PHASE 2A – BISHOP ROAD (S.R. 84) & CHARDON ROAD (U.S. ROUTE 6)

ADJUST WORK ZONE TRAFFIC SIGNALS AS REQUIRED.

SHIFT TRAFFIC TO THE EAST SIDE OF BISHOP ROAD UTILIZING THE NEW PERMANENT PAVEMENT AND PAVEMENT FOR MAINTAINING TRAFFIC. MAINTAIN TWO (2) LANES OF TRAFFIC (ONE LANE IN EACH DIRECTION) THROUGHOUT THE LENGTH OF THE PROJECT, MAINTAIN THREE LANES ON THE EASTERLY PORTION OF THE PROPOSED PERMANENT BRIDGE OVER INTERSTATE 90 (SEE PHASE 2 FOR WORK ZONE PAVEMENT MARKINGS).

REMOVE PAVEMENT FOR MAINTAINING TRAFFIC ALONG THE WESTERLY SIDE OF BISHOP ROAD AND THE NORTHERLY SIDE OF CHARDON ROAD CONSTRUCTED IN PHASE 1, WHILE UTILIZING FLAGGERS AS REQUIRED TO MAINTAIN TRAFFIC.

CONSTRUCT SOUTHEASTERN QUANDRANT OF BISHOP ROAD/CHARDON ROAD INTERSECTION AS SHOWN ON THE PHASE 2A DETAIL SHEETS.

PHASE 2B – BISHOP ROAD (S.R. 84) & CHARDON ROAD (U.S. ROUTE 6)

ADJUST WORK ZONE TRAFFIC SIGNALS AS REQUIRED.

SHIFT TRAFFIC TO THE SOUTH SIDE OF CHARDON ROAD UTILIZING THE NEW PERMANENT PAVEMENT AND PAVEMENT FOR MAINTAINING TRAFFIC. MAINTAIN TWO (2) LANES OF TRAFFIC (ONE LANE IN EACH DIRECTION) THROUGHOUT THE LENGTH OF THE PROJECT ON CHARDON ROAD AND KEEP IN PLACE THE TRAFFIC PATTERN SET IN PHASE 2A FOR BISHOP ROAD.

CONSTRUCT THE WESTERLY PORTION OF THE NEW BRIDGE STRUCTURE OVER INTERSTATE 90, AND THE NEW DRAINAGE, PAVEMENT, SIDEWALKS AND DRIVES ALONG THE WESTERLY SIDE OF BISHOP ROAD, THE NORTHERLY SIDE OF CHARDON ROAD, EVERGREEN AVENUE, RIDGEHILLS DRIVE AND BISHOP PARK DRIVE TO THE LIMITS SHOWN ON THE PHASE 2B DETAIL SHEETS.

CONSTRUCT NEW DRAINAGE, GUARDRAIL AND PAVEMENT FOR THE WESTBOUND ENTRANCE RAMP TO INTERSTATE 90 AND EASTBOUND EXIT RAMP TO BISHOP ROAD (S.R. 84). WHEN THE RAMPS TO INTERSTATE 90 ARE CONSTRUCTED, THE CONTRACTOR SHALL BE ALLOWED TO CLOSE EACH RAMP FOR A PERIOD NOT TO EXCEED SIXTY (60) CONSECUTIVE CALENDAR DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN THE AMOUNT OF $1000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY AND RAMPS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMITS.

REMOVE PAVEMENT FOR MAINTAINING TRAFFIC ALONG THE EASTERLY SIDE OF BISHOP ROAD AND THE SOUTHERLY SIDE OF CHARDON ROAD CONSTRUCTED IN PHASE 1, WHILE UTILIZING FLAGGERS AS REQUIRED TO MAINTAIN TRAFFIC.

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

LAK – 90/84 – 0.54/0.43

22
369

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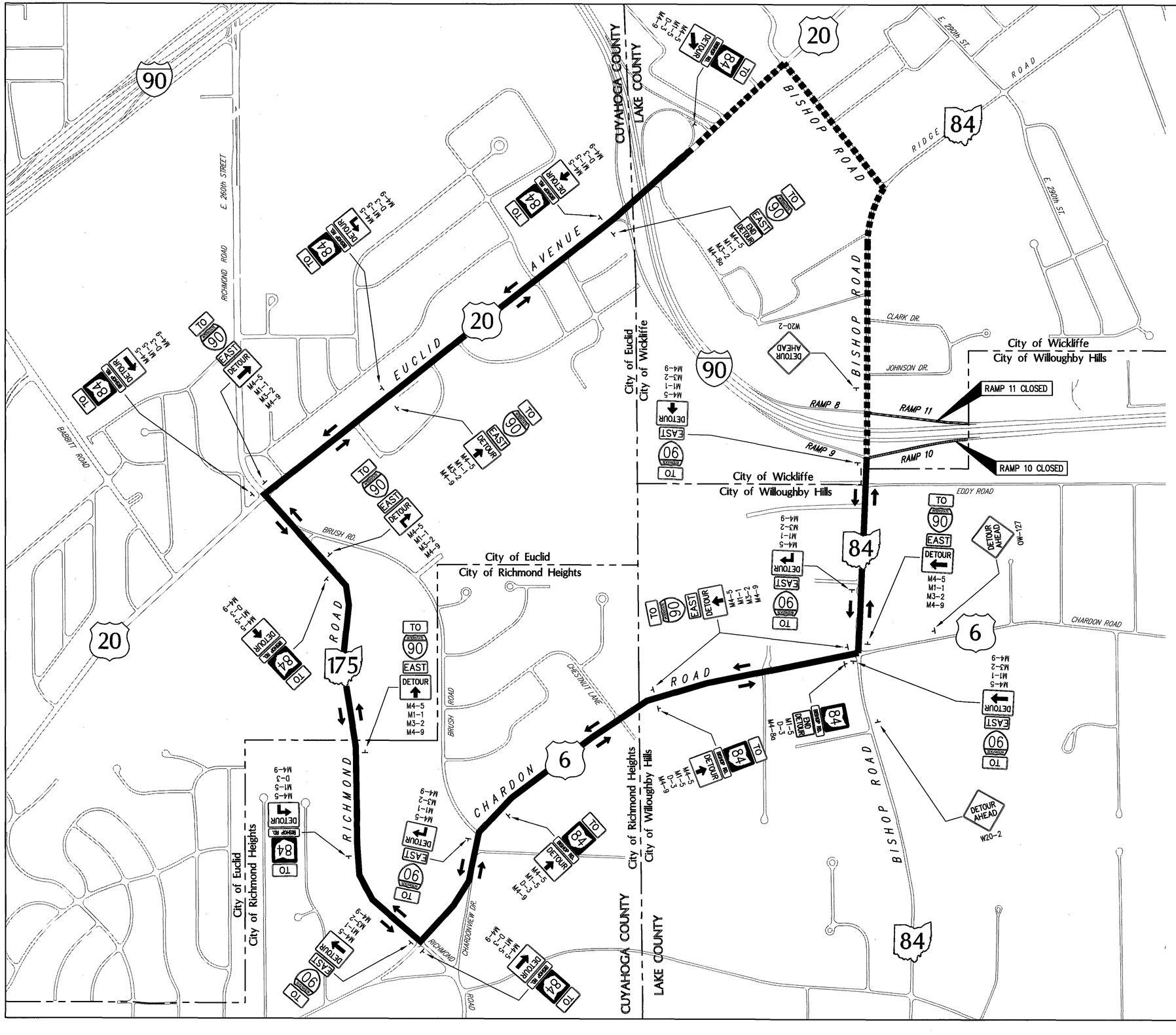


PHASE 1 – RAMPS 10 & 11 CLOSURE

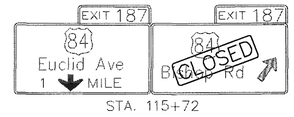
RAMP 10 – EASTBOUND ENTRANCE RAMP TO INTERSTATE 90:

THE DETOUR ROUTE WILL BE SOUTH ON BISHOP ROAD (S.R. 84), WEST ON CHARDON ROAD (U.S. ROUTE 6), NORTH ON RICHMOND ROAD (S.R. 175), AND EAST ON EUCLID AVENUE (U.S. ROUTE 20) TO THE EASTBOUND INTERSTATE 90 ENTRANCE RAMP.

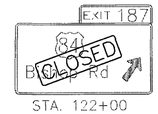
RAMP 11 – WESTBOUND EXIT RAMP FROM INTERSTATE 90:

THE DETOUR ROUTE WILL BE WEST ON INTERSTATE 90 TO THE EXIT RAMP AT EUCLID AVENUE (U.S. ROUTE 20), WEST ON EUCLID AVENUE (U.S. ROUTE 20), SOUTH ON RICHMOND ROAD (S.R. 175), AND EAST ON CHARDON ROAD (U.S. ROUTE 6) TO BISHOP ROAD (S.R. 84).

I–90 WESTBOUND



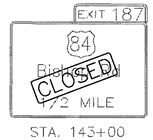
STA. 115+72



STA. 122+00

INSTALL BLANK GREEN OVERLAY, 9'X1'–6", TO BLOCK OUT "NEXT RIGHT"

STA. 130+00



STA. 143+00

INSTALL "CLOSED PLAQUE, 10'X2' BLACK ON ORANGE TYPE G OVERLAY WITH 12" SERIES C CAPITAL LETTERS

OFFICIAL DETOUR ROUTE

UNSIGNED LOCAL DETOUR

N

SCALE IN FEET
500 250 0 500

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – DETOUR PLAN
PHASE 1

LAK – 90/84 – 0.54/0.43

23
369

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PHASE 2 – RAMPS 8 & 9 CLOSURE

RAMP 8 – WESTBOUND ENTRANCE RAMP TO INTERSTATE 90:
THE DETOUR ROUTE WILL BE SOUTH ON BISHOP ROAD (S.R. 84), WEST ON CHARDON ROAD (U.S. ROUTE 6), NORTH ON RICHMOND ROAD (S.R. 175), AND EAST ON EUCLID AVENUE (U.S. ROUTE 20) TO THE EASTBOUND INTERSTATE 90 ENTRANCE RAMP.

RAMP 9 – EASTBOUND EXIT RAMP FROM INTERSTATE 90:
THE DETOUR ROUTE WILL BE TO EXIT INTERSTATE 90 AT EUCLID AVENUE (U.S. ROUTE 20), WEST ON EUCLID AVENUE (U.S. ROUTE 20), SOUTH ON RICHMOND ROAD (S.R. 175), AND EAST ON CHARDON ROAD (U.S. ROUTE 6) TO BISHOP ROAD (S.R. 84).

I–90 EASTBOUND

STA. 93+70

INSTALL BLANK GREEN OVERLAY, 9"X1'–6", TO BLOCK OUT "NEXT RIGHT"

STA. 86+30

STA. 78+50

STA. 71+40

INSTALL "CLOSED PLAQUE, 10'X2' BLACK ON ORANGE TYPE G OVERLAY WITH 12" SERIES C CAPITAL LETTERS

OFFICIAL DETOUR ROUTE

UNSIGNED LOCAL DETOUR

N

SCALE IN FEET: 500 0 500 250

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – DETOUR PLAN PHASE 2

LAK – 90/84 – 0.54/0.43

24
369

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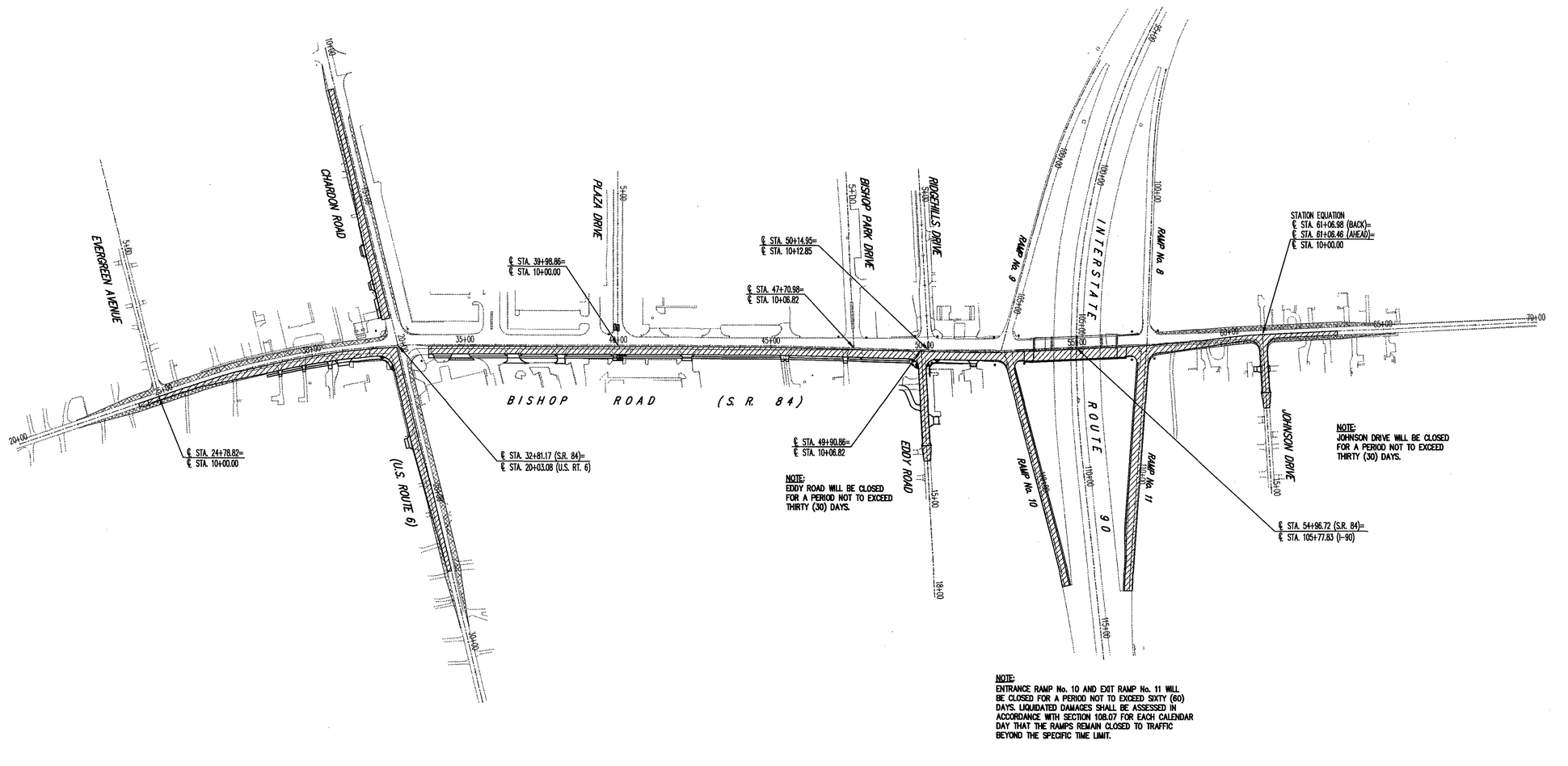
MAINTENANCE OF TRAFFIC
PHASE CONSTRUCTION SCHEMATIC PLAN
PHASE 1



NOTE:
EDDY ROAD WILL BE CLOSED FOR A PERIOD NOT TO EXCEED THIRTY (30) DAYS.

NOTE:
JOHNSON DRIVE WILL BE CLOSED FOR A PERIOD NOT TO EXCEED THIRTY (30) DAYS.

NOTE:
ENTRANCE RAMP No. 10 AND EXIT RAMP No. 11 WILL BE CLOSED FOR A PERIOD NOT TO EXCEED SIXTY (60) DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 FOR EACH CALENDAR DAY THAT THE RAMPS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIC TIME LIMIT.

LEGEND

PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED THIS PHASE

N

SCALE IN FEET
200 100 0 200

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
SCHEMATIC – PHASE 1

LAK – 90/84 – 0.54/0.43

25
369

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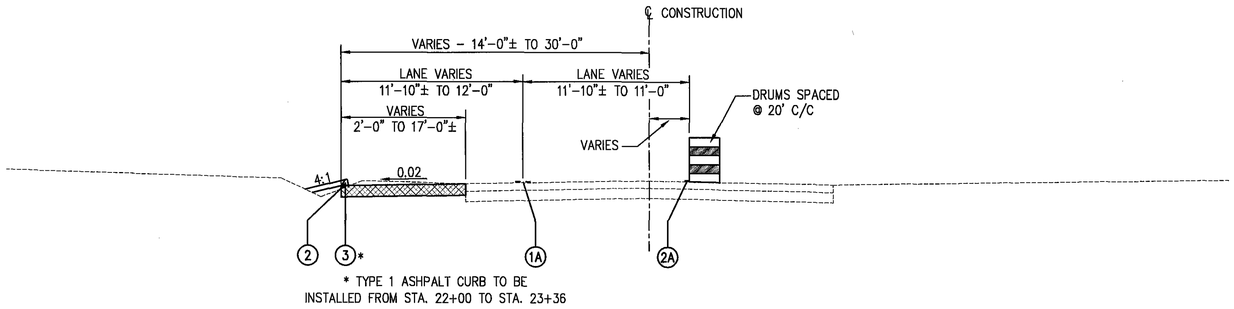
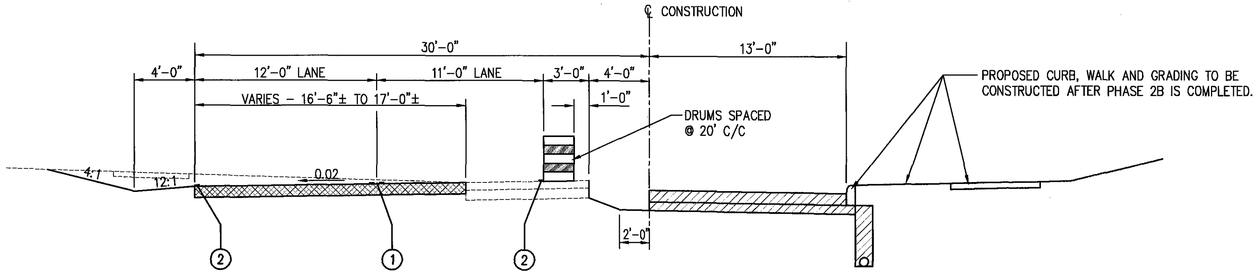
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 1 – S.R. 84 CONSTRUCTION



* TYPE 1 ASHPALT CURB TO BE INSTALLED FROM STA. 22+00 TO STA. 23+36

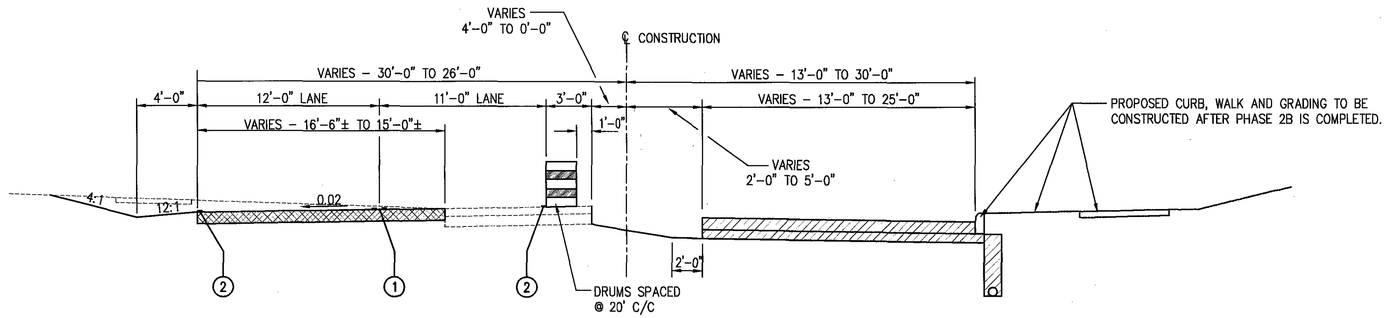
S.R. 84 BISHOP ROAD – PHASE 1

STA. 22+00.00 TO STA. 24+10.00 = 210.00 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 1

STA. 24+10.00 TO STA. 26+18.38 = 208.38 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 1

STA. 26+18.38 TO STA. 28+40.00 = 221.62 LIN. FT.

PAVEMENT MARKING LEGEND

1. WORK ZONE CENTER LINE, CLASS I, 642 PAINT
1A. WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
2. WORK ZONE EDGE LINE, CLASS I, 642 PAINT
2A. WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
3. CURB, TYPE 1

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED THIS PHASE

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
S.R. 84 BISHOP ROAD – PHASE 1

LAK – 90/84 – 0.54/0.43

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PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT

(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1

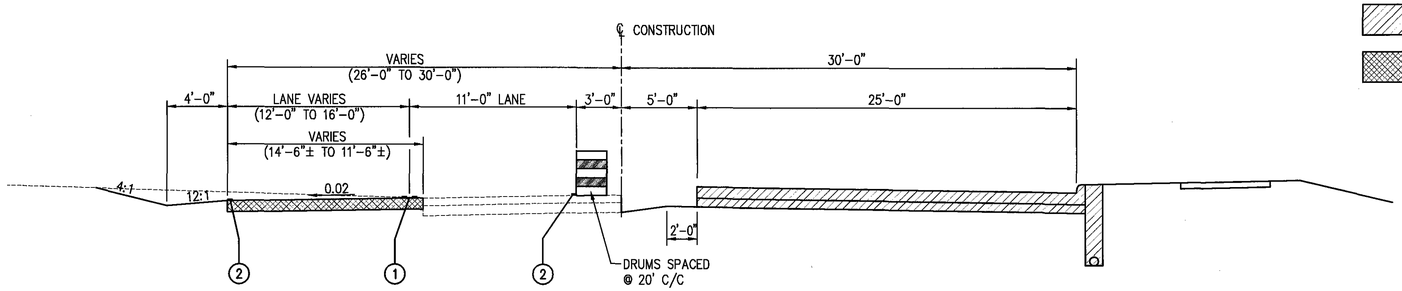
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT

(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 1 – S.R. 84 CONSTRUCTION

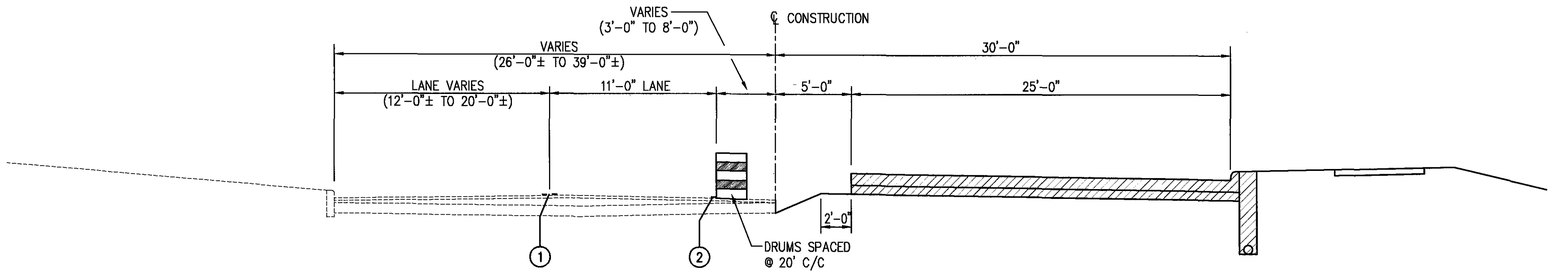
PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED THIS PHASE



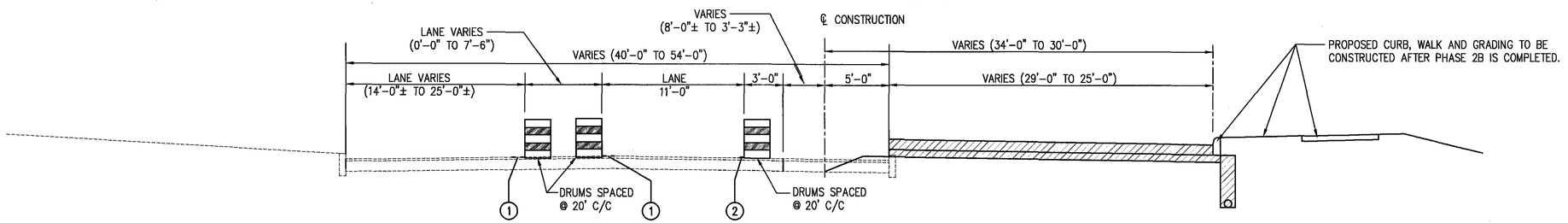
S.R. 84 BISHOP ROAD – PHASE 1

STA. 28+40.00 TO STA. 32+80.00 = 440.00 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 1

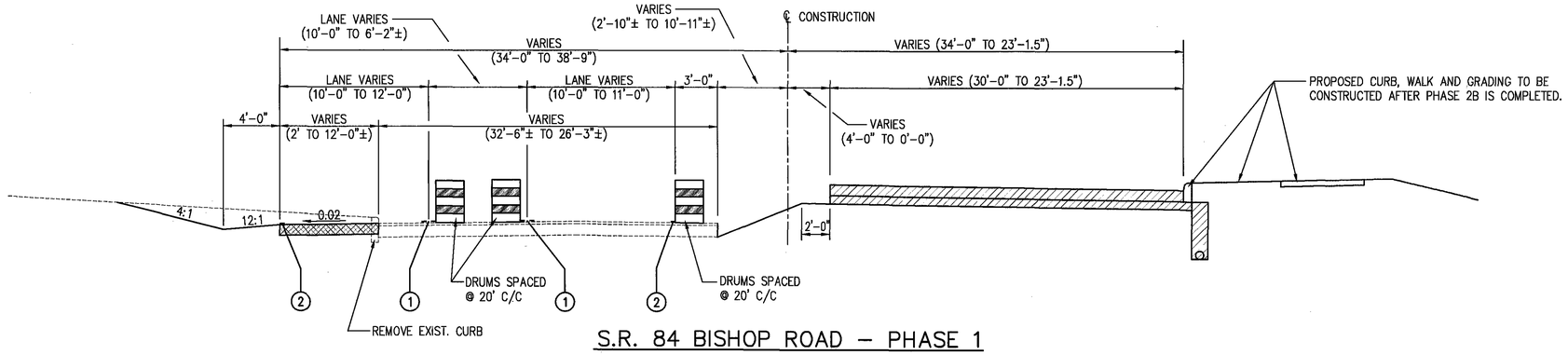
STA. 32+80.00 TO STA. 50+50 = 1770 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 1

STA. 50+50 TO STA. 53+27.40 = 277.40 LIN. FT.

SEE STRUCTURE PLAN SHEETS 332 & 333 FOR PHASE CONSTRUCTION DETAILS FOR STA. 52+55 TO STA. 57+50



S.R. 84 BISHOP ROAD – PHASE 1

STA. 57+50.00 TO STA. 58+84.38 = 134.38 LIN. FT.

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
S.R. 84 BISHOP ROAD – PHASE 1

LAK – 90/84 – 0.54/0.43

27
369

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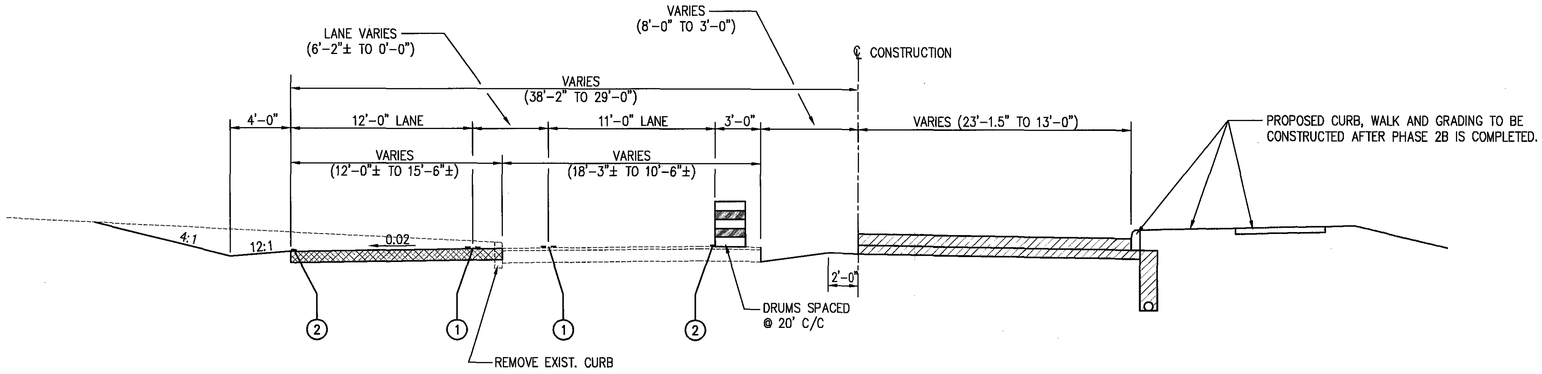
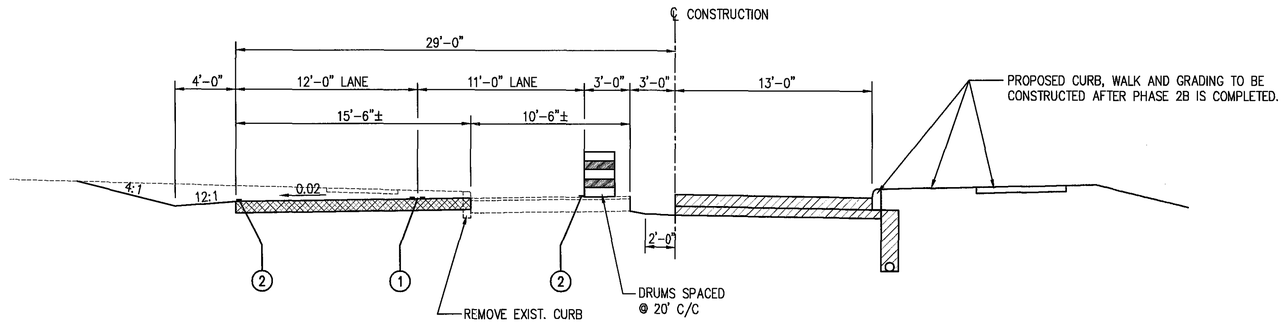
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 1 – S.R. 84 CONSTRUCTION



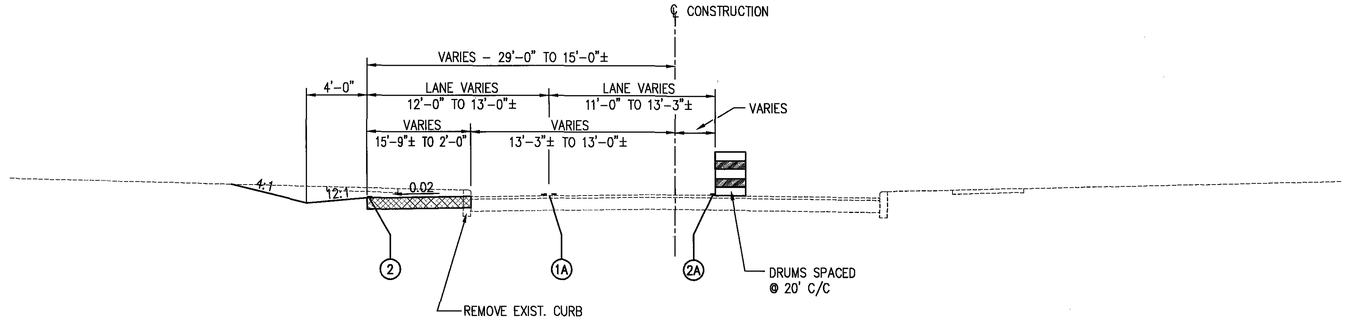
S.R. 84 BISHOP ROAD – PHASE 1

STA. 58+84.38 TO STA. 61+06.98(BACK) = 222.60 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 1

STA. 61+06.46(AHEAD) TO STA. 63+50.00 = 243.54 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 1

STA. 63+50.00 TO STA. 65+40.00 = 190.00 LIN. FT.

PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED THIS PHASE

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
S.R. 84 BISHOP ROAD – PHASE 1

LAK – 90/84 – 0.54/0.43

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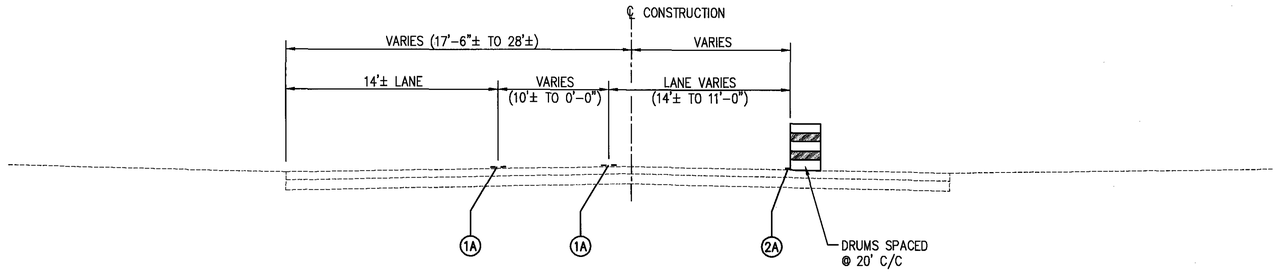
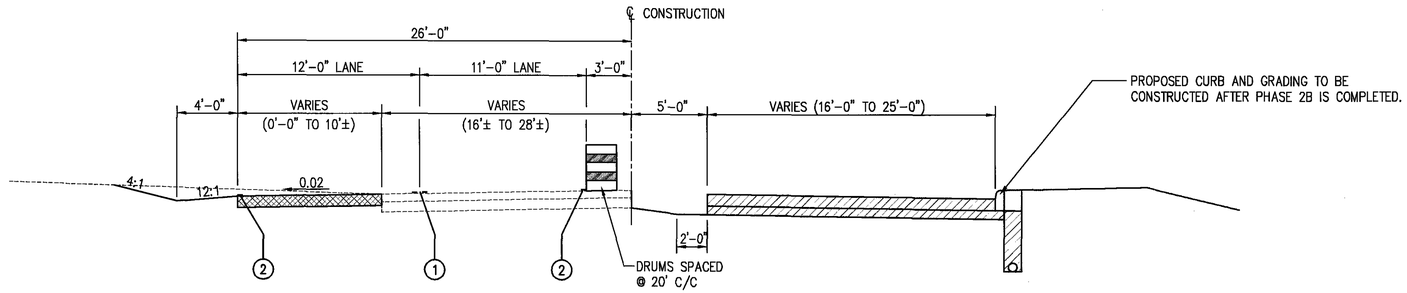
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 1 – U.S. ROUTE 6 CONSTRUCTION



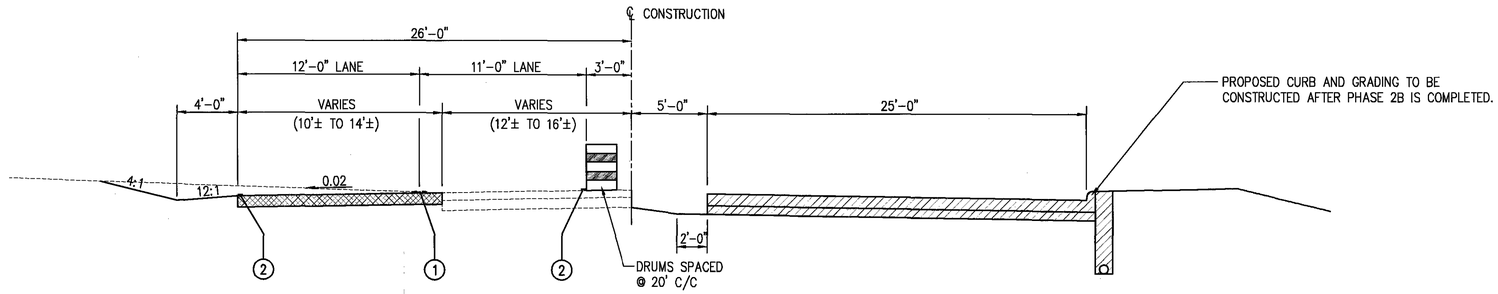
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

STA. 9+25.00 TO STA. 11+35.00 = 210.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

STA. 11+35.00 TO STA. 15+85.00 = 450.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

STA. 15+85.00 TO STA. 22+85.00 = 700.00 LIN. FT.

PAVEMENT MARKING LEGEND

- (1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- (1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
- (2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
- (2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED THIS PHASE

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

LAK – 90/84 – 0.54/0.43

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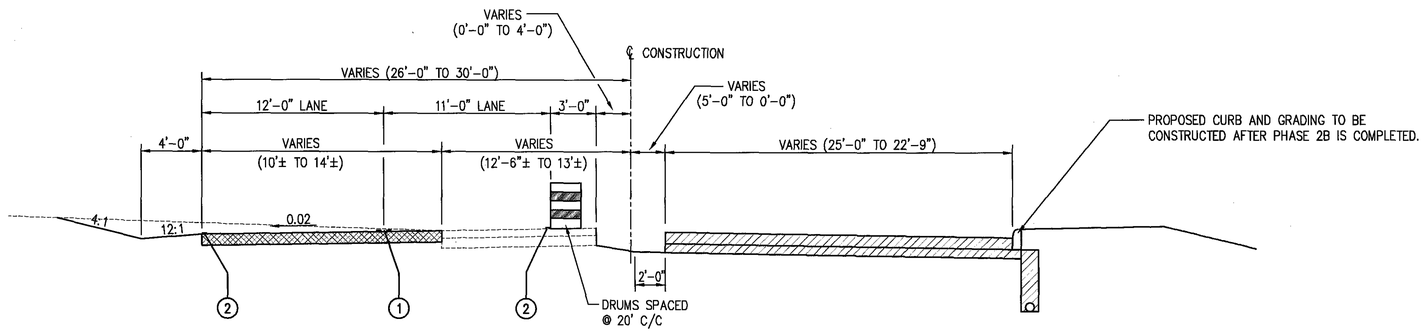
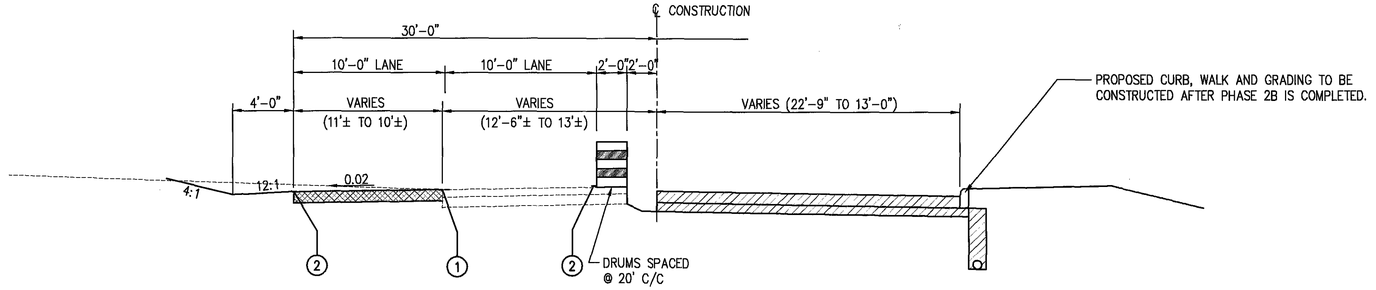
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 1 – U.S. ROUTE 6 CONSTRUCTION



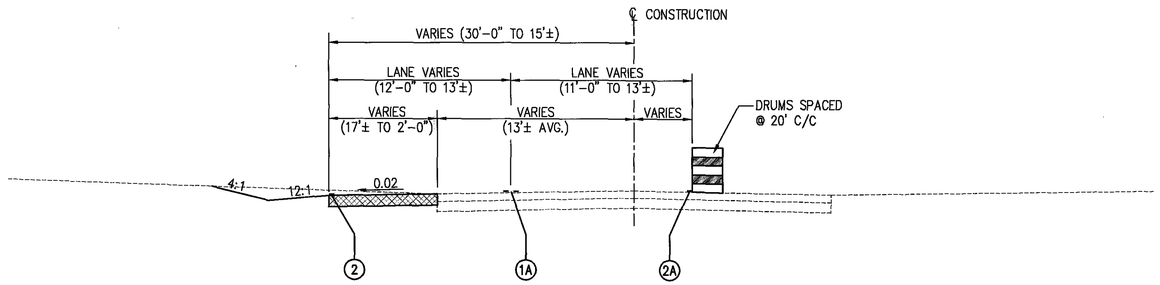
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

STA. 22+85.00 TO STA. 25+10.00 = 225.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

STA. 25+10.00 TO STA. 27+60.00 = 250.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

STA. 27+60.00 TO STA. 29+50.00 = 190.00 LIN. FT.

PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED THIS PHASE

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 1

LAK – 90/84 – 0.54/0.43

30
369

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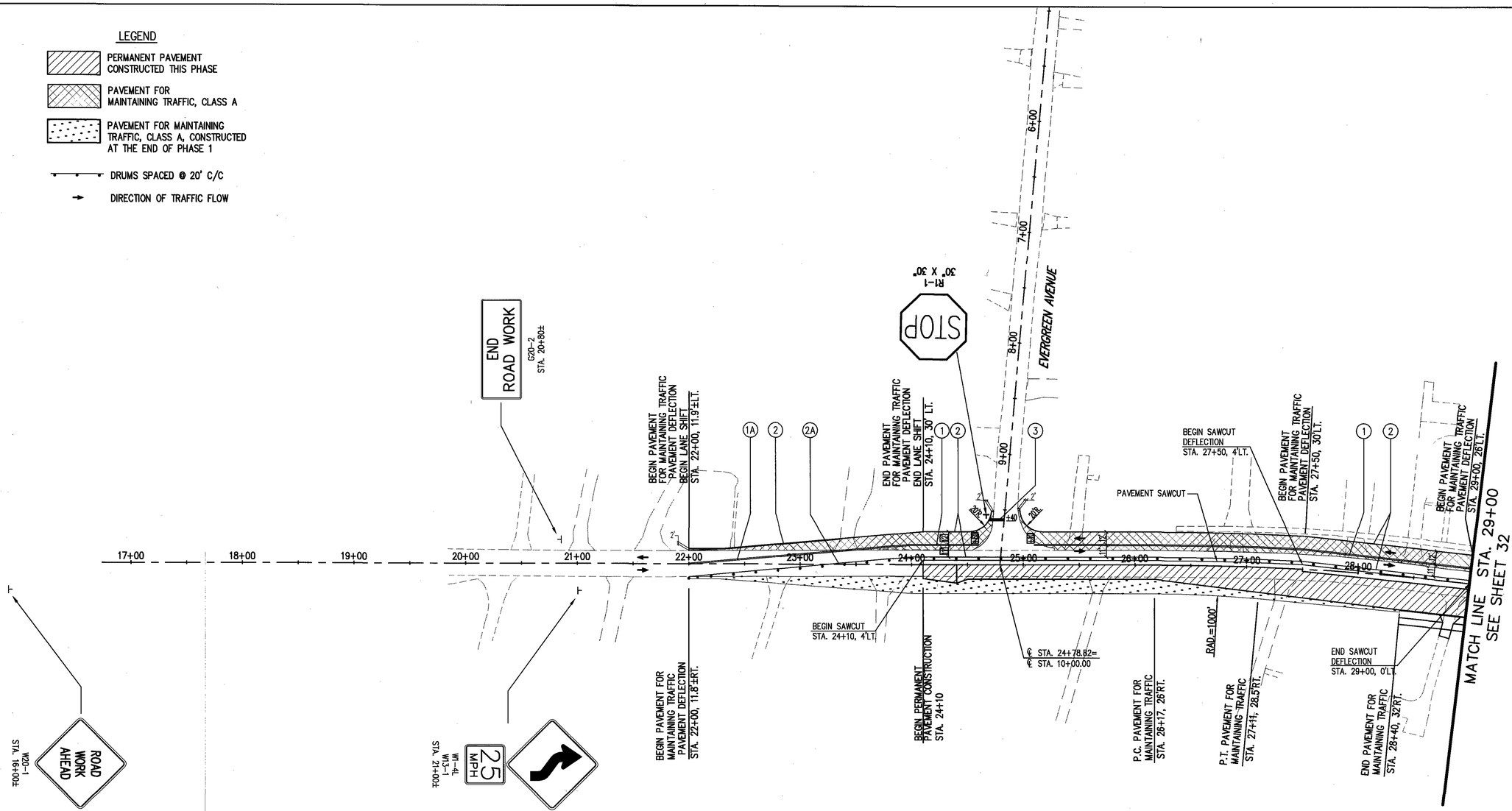
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED AT THE END OF PHASE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW



PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3) WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A) WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A) WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

CALCULATED
CHECKED
SCALE IN FEET 50 25 0 50

MAINTENANCE OF TRAFFIC – STA. 17+00 TO STA. 29+00
PHASE 1

LAK – 90/84 – 0.54/0.43

31
369

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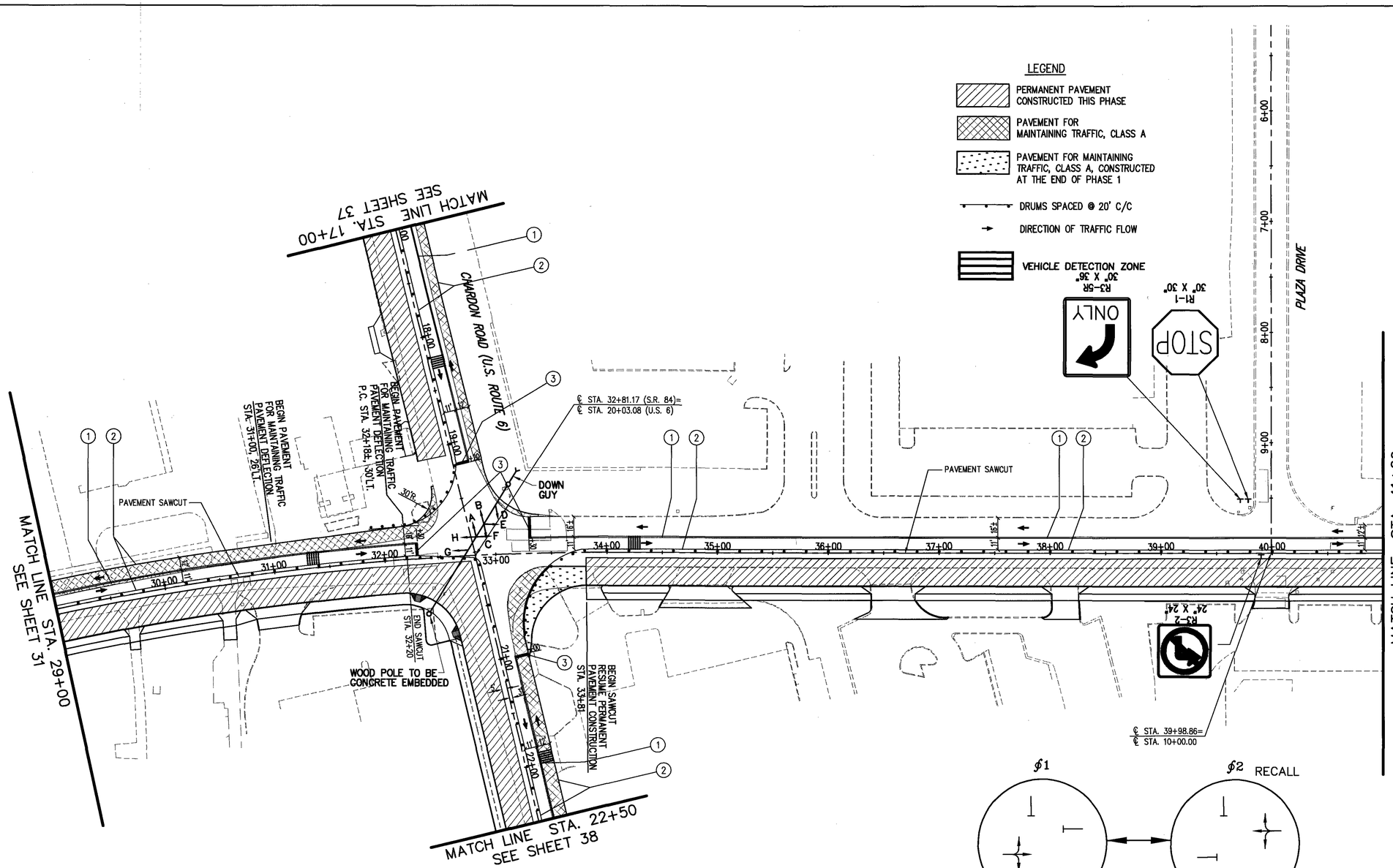
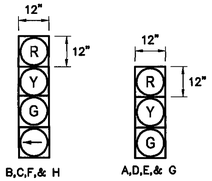
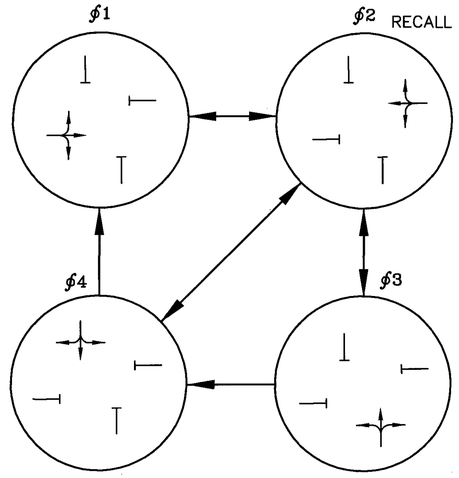


FUNCTION	ϕ1	ϕ2	ϕ3	ϕ4
MINIMUM GREEN	15	15	15	15
VEHICLE EXTENSION	3	3	3	3
MAXIMUM GREEN	25	25	25	25
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0	1.0
RECALL	OFF	MIN	OFF	OFF
MEMORY	ON	ON	ON	ON

SIGNAL TIMING CHART



POLYCARBONATE SIGNAL HEADS



PHASING DIAGRAM

CALCULATED
CHECKED
SCALE IN FEET 50 25 0 50

MAINTENANCE OF TRAFFIC – STA. 29+00 TO STA. 41+00
PHASE 1

LAK – 90/84 – 0.54/0.43

32
369

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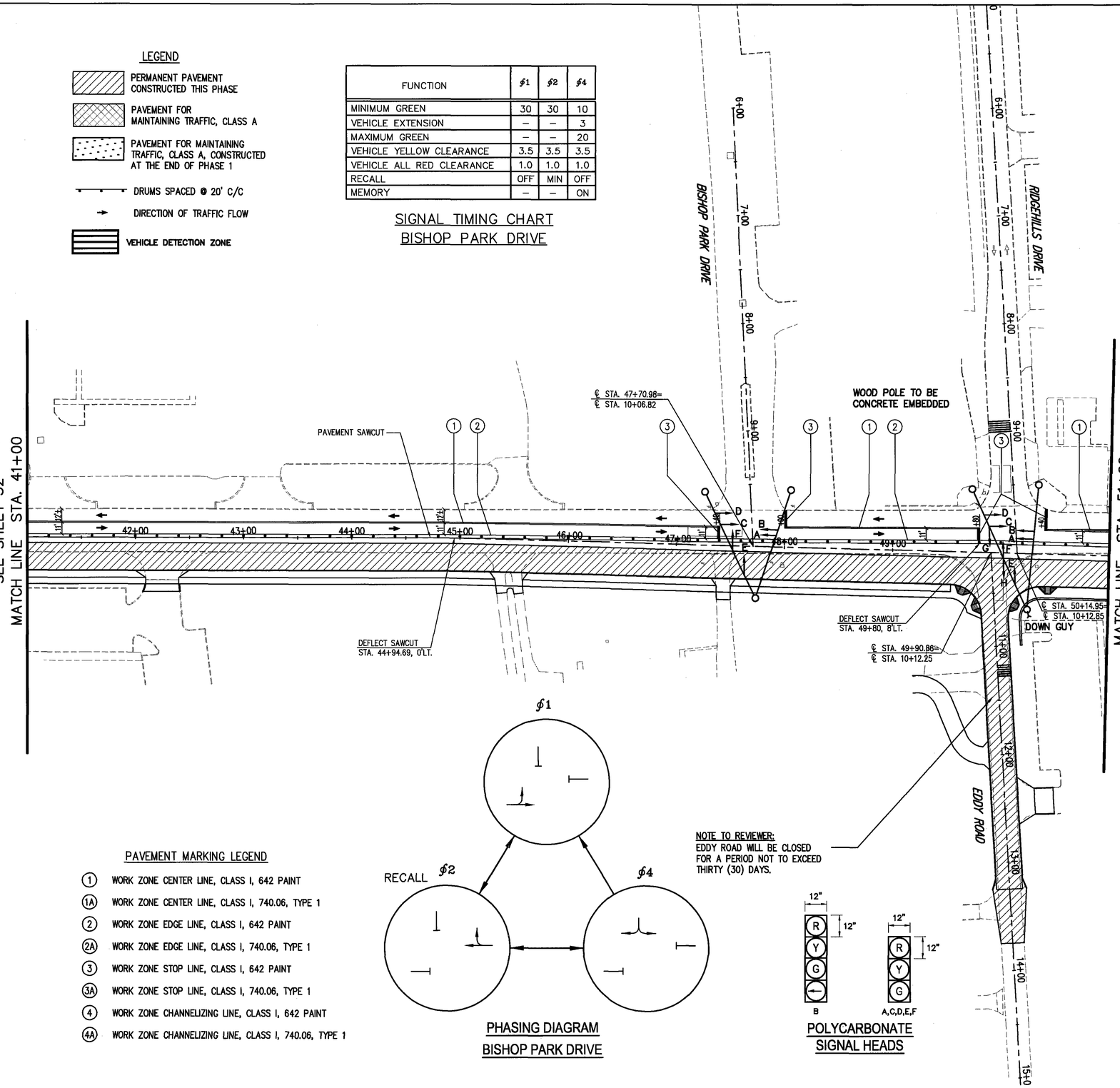
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED AT THE END OF PHASE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE

FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	30	10
VEHICLE EXTENSION	–	–	3
MAXIMUM GREEN	–	–	20
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	MIN	OFF
MEMORY	–	–	ON

SIGNAL TIMING CHART
BISHOP PARK DRIVE



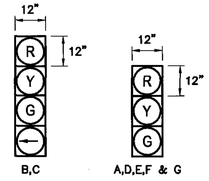
NOTE TO REVIEWER:
EDDY ROAD WILL BE CLOSED FOR A PERIOD NOT TO EXCEED THIRTY (30) DAYS.

PAVEMENT MARKING LEGEND

1. WORK ZONE CENTER LINE, CLASS I, 642 PAINT
1A. WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
2. WORK ZONE EDGE LINE, CLASS I, 642 PAINT
2A. WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
3. WORK ZONE STOP LINE, CLASS I, 642 PAINT
3A. WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
4. WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
4A. WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

PHASING DIAGRAM
BISHOP PARK DRIVE

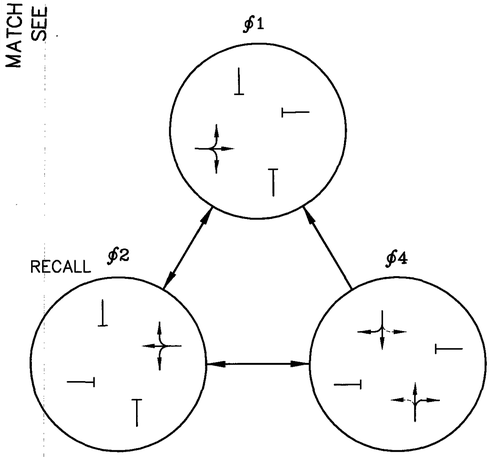
POLYCARBONATE
SIGNAL HEADS



POLYCARBONATE
SIGNAL HEADS

FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	30	10
VEHICLE EXTENSION	–	–	3
MAXIMUM GREEN	–	–	20
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	MIN	OFF
MEMORY	–	–	ON

SIGNAL TIMING CHART
RIDGEHILLS DRIVE



PHASING DIAGRAM
RIDGEHILLS DRIVE

N

SCALE IN FEET
50 25 0 50

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC – STA. 41+00 TO STA. 51+00
PHASE 1

LAK – 90/84 – 0.54/0.43

33
369

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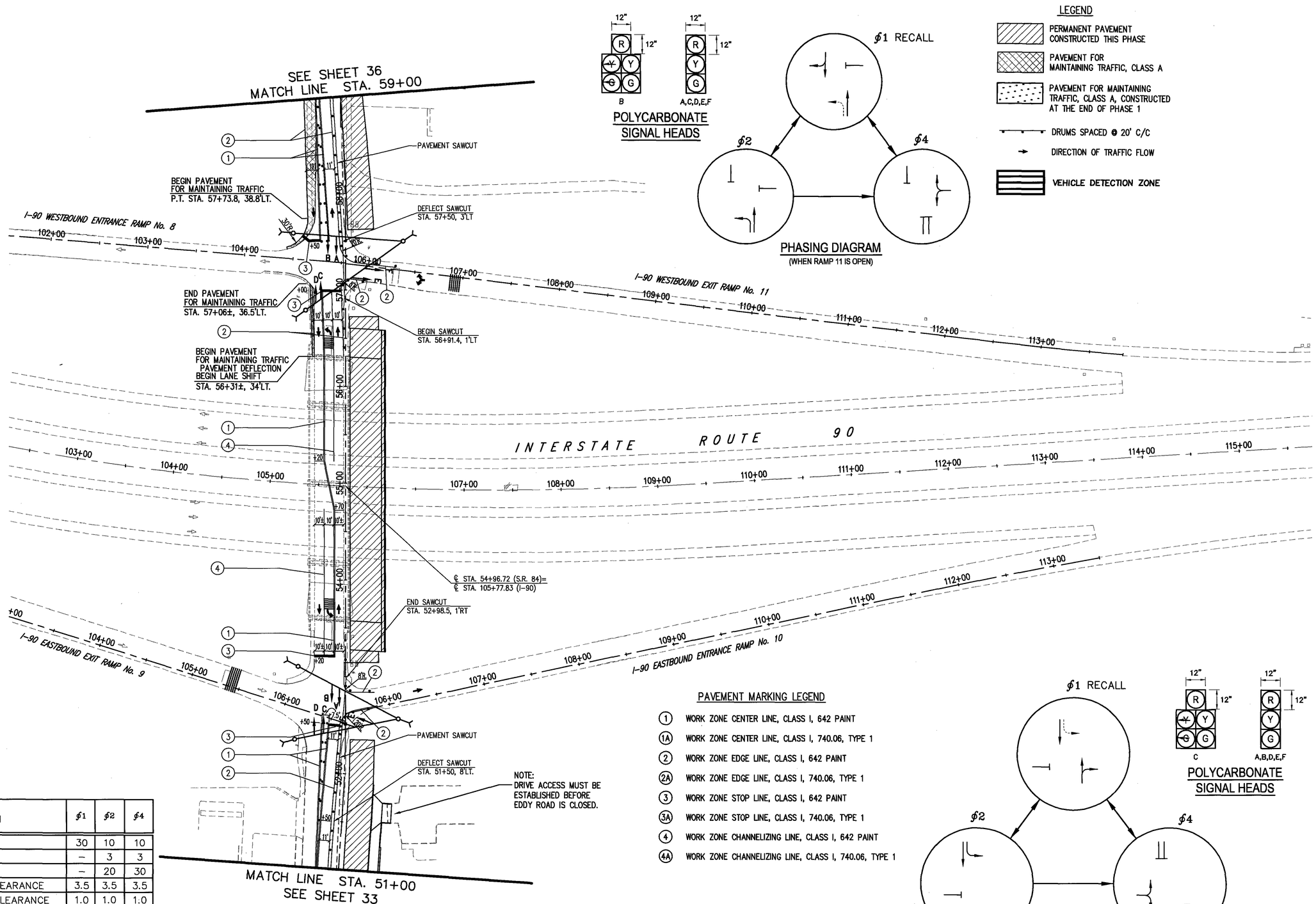

FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	10	10
VEHICLE EXTENSION	–	3	3
MAXIMUM GREEN	–	20	30
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	ON	OFF	OFF
MEMORY	–	ON	ON

SIGNAL TIMING CHART

MAINTENANCE OF TRAFFIC – STA. 51+00 TO STA. 59+00
PHASE 1

SCALE IN FEET 50 25 0 50

CALCULATED

CHECKED

LAK – 90/84 – 0.54/0.43

34
369

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SEE SHEET 36
MATCH LINE STA. 59+00

PAVEMENT SAWCUT

BEGIN PAVEMENT
FOR MAINTAINING TRAFFIC
P.T. STA. 57+73.8, 38.8'LT.

DEFLECT SAWCUT
STA. 57+50, 3'LT

I-90 WESTBOUND ENTRANCE RAMP No. 8

END PAVEMENT
FOR MAINTAINING TRAFFIC
STA. 57+06±, 36.5'LT.

BEGIN SAWCUT
STA. 56+91.4, 1'LT

BEGIN PAVEMENT FOR
MAINTAINING TRAFFIC
STA. 56+58.6, 37'RT.

BEGIN PAVEMENT
FOR MAINTAINING TRAFFIC
PAVEMENT DEFLECTION
BEGIN LANE SHIFT
STA. 56+31±, 34'LT.

I-90 WESTBOUND EXIT RAMP No. 11

EXIT RAMP CLOSURE PER STANDARD
CONSTRUCTION DRAWING MT-98.19.

INTERSTATE ROUTE 90

NOTE:
LEFT TURN LANE CLOSED

℄ STA. 54+96.72 (S.R. 84)=
℄ STA. 105+77.83 (I-90)

END PAVEMENT FOR
MAINTAINING TRAFFIC
STA. 53+25.6, 37'RT.

END SAWCUT
STA. 52+98.5, 1'RT

I-90 EASTBOUND EXIT RAMP No. 9

I-90 EASTBOUND ENTRANCE RAMP No. 10

PAVEMENT SAWCUT

DEFLECT SAWCUT
STA. 51+50, 8'LT.

NOTE:
DRIVE ACCESS MUST BE
ESTABLISHED BEFORE
EDDY ROAD IS CLOSED.

BEGIN PAVEMENT FOR
MAINTAINING TRAFFIC
STA. 51+90, 32'RT.

MATCH LINE STA. 51+00
SEE SHEET 33

FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	10	10
VEHICLE EXTENSION	–	3	3
MAXIMUM GREEN	–	20	30
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	ON	OFF	OFF
MEMORY	–	ON	ON

SIGNAL TIMING CHART

ϕ1 RECALL

PHASING DIAGRAM
(WHEN RAMP 11 IS CLOSED)

ϕ2

12" R 12" Y G — B

12" R 12" Y G — A,C,D,E,F

POLYCARBONATE
SIGNAL HEADS

LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED AT THE END OF PHASE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE

NOTE:
ENTRANCE RAMP No. 10 AND EXIT RAMP No. 11 WILL BE CLOSED FOR A PERIOD NOT TO EXCEED SIXTY (60) DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 FOR EACH CALENDAR DAY THAT THE RAMPS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIC TIME LIMIT.

PAVEMENT MARKING LEGEND

1. WORK ZONE CENTER LINE, CLASS I, 642 PAINT
1A. WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
2. WORK ZONE EDGE LINE, CLASS I, 642 PAINT
2A. WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
3. WORK ZONE STOP LINE, CLASS I, 642 PAINT
3A. WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
4. WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
4A. WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

ϕ1 RECALL

PHASING DIAGRAM
(WHEN RAMP 10 IS CLOSED)

ϕ4

12" R 12" Y G — C

12" R 12" Y G — A,B,D,E,F

POLYCARBONATE
SIGNAL HEADS

SCALE IN FEET 50 25 0 50

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – STA. 51+00 TO STA. 59+00
PHASE 1

LAK – 90/84 – 0.54/0.43

35
369

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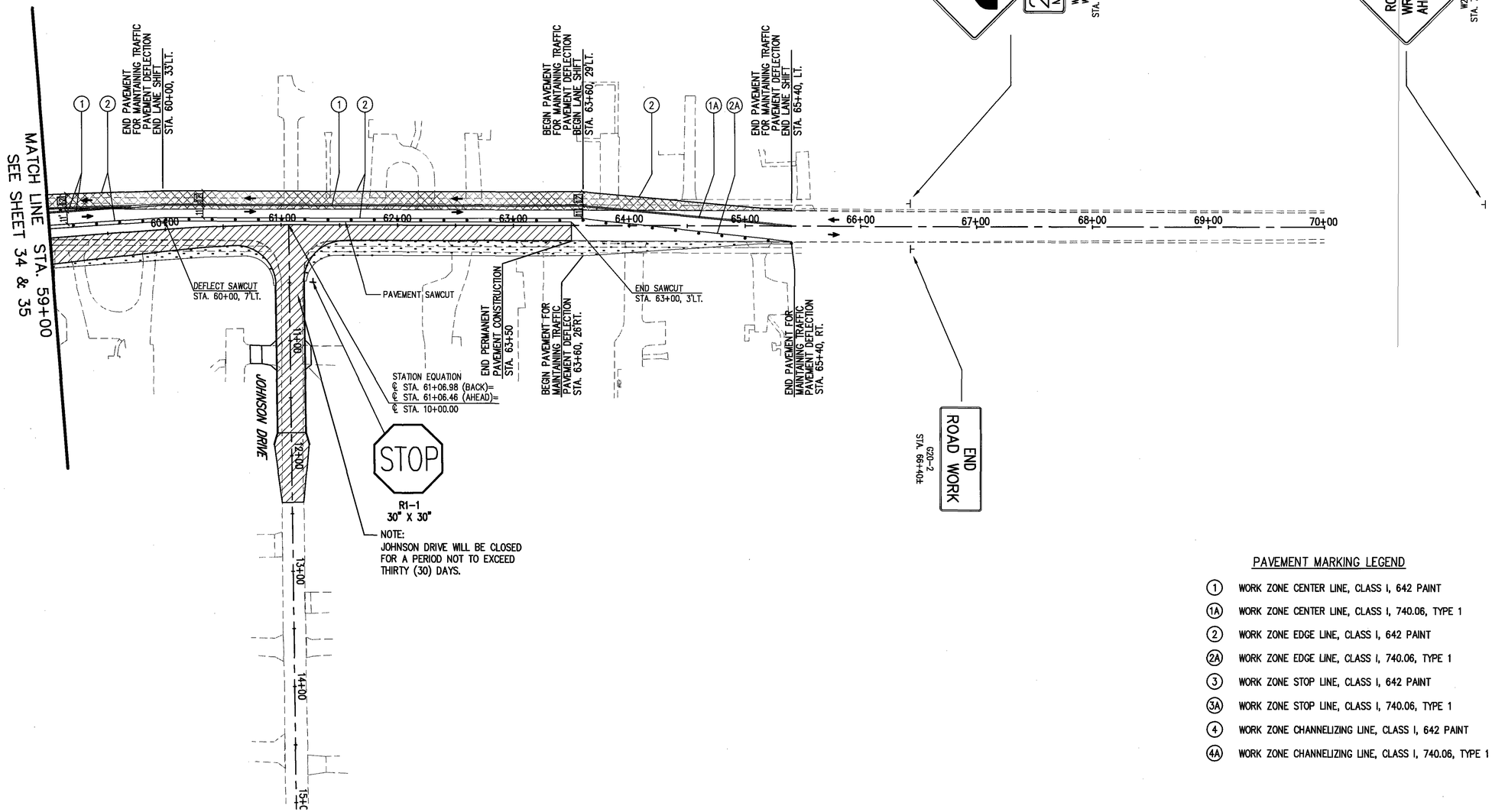
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED AT THE END OF PHASE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW



PAVEMENT MARKING LEGEND

(1)	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A)	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2)	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3)	WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A)	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4)	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A)	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

N

50 0 25 50 SCALE IN FEET

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – STA. 59+00 TO STA. 70+00
PHASE 1

LAK – 90/84 – 0.54/0.43

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LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED AT THE END OF PHASE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW

PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3) WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A) WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A) WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

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CALCULATED | CHECKED

SCALE IN FEET: 50 0 25 50

MAINTENANCE OF TRAFFIC – U.S. 6 STA. 6+00 TO STA. 17+00
PHASE 1

LAK – 90/84 – 0.54/0.43

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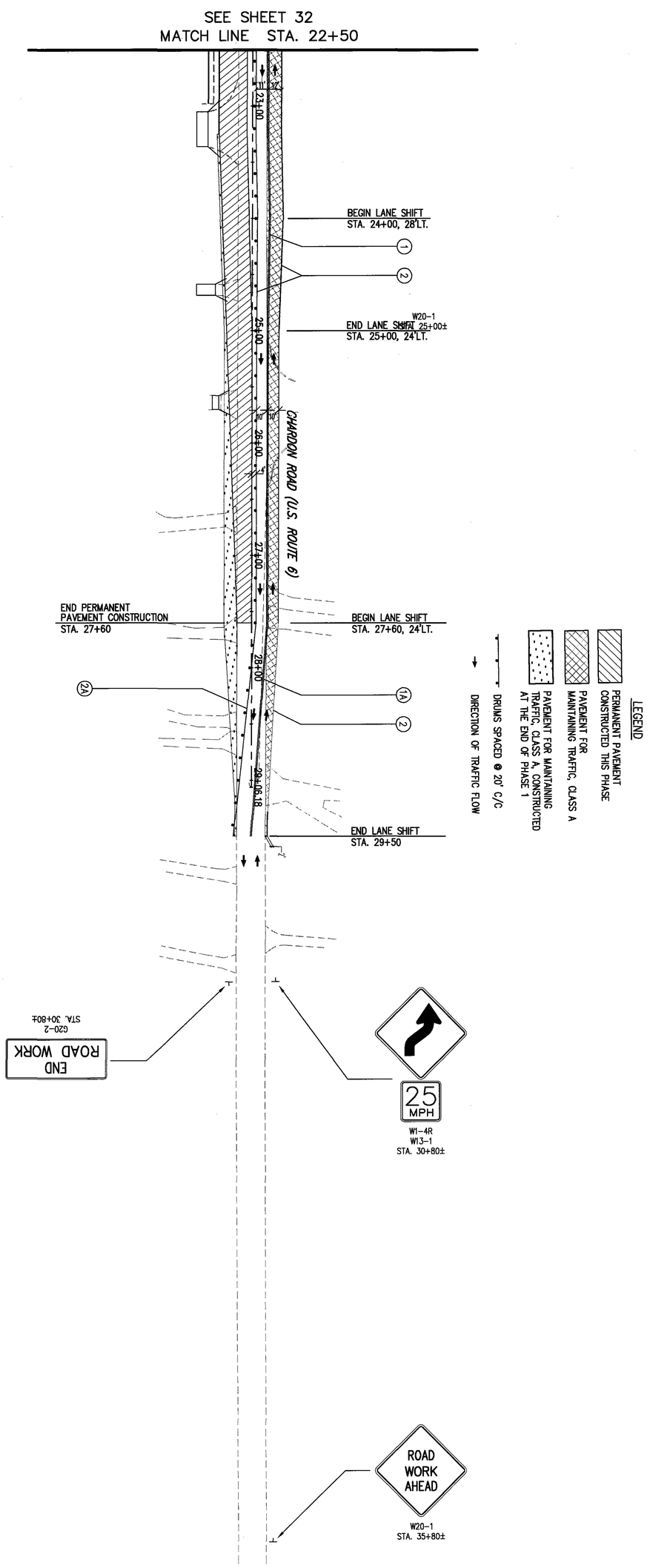


PAVEMENT MARKING LEGEND

① WORK ZONE CENTER LINE, CLASS I, 642 PAINT
①A WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
② WORK ZONE EDGE LINE, CLASS I, 642 PAINT
②A WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
③ WORK ZONE STOP LINE, CLASS I, 642 PAINT
③A WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
④ WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
④A WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

LAK – 90/84 – 0.54/0.43

MAINTENANCE OF TRAFFIC – U.S. 6 STA. 22+50 TO STA. 32+00
PHASE 1

CALCULATED
CHECKED

50 25 0 50
SCALE IN FEET

N

ROADWAY

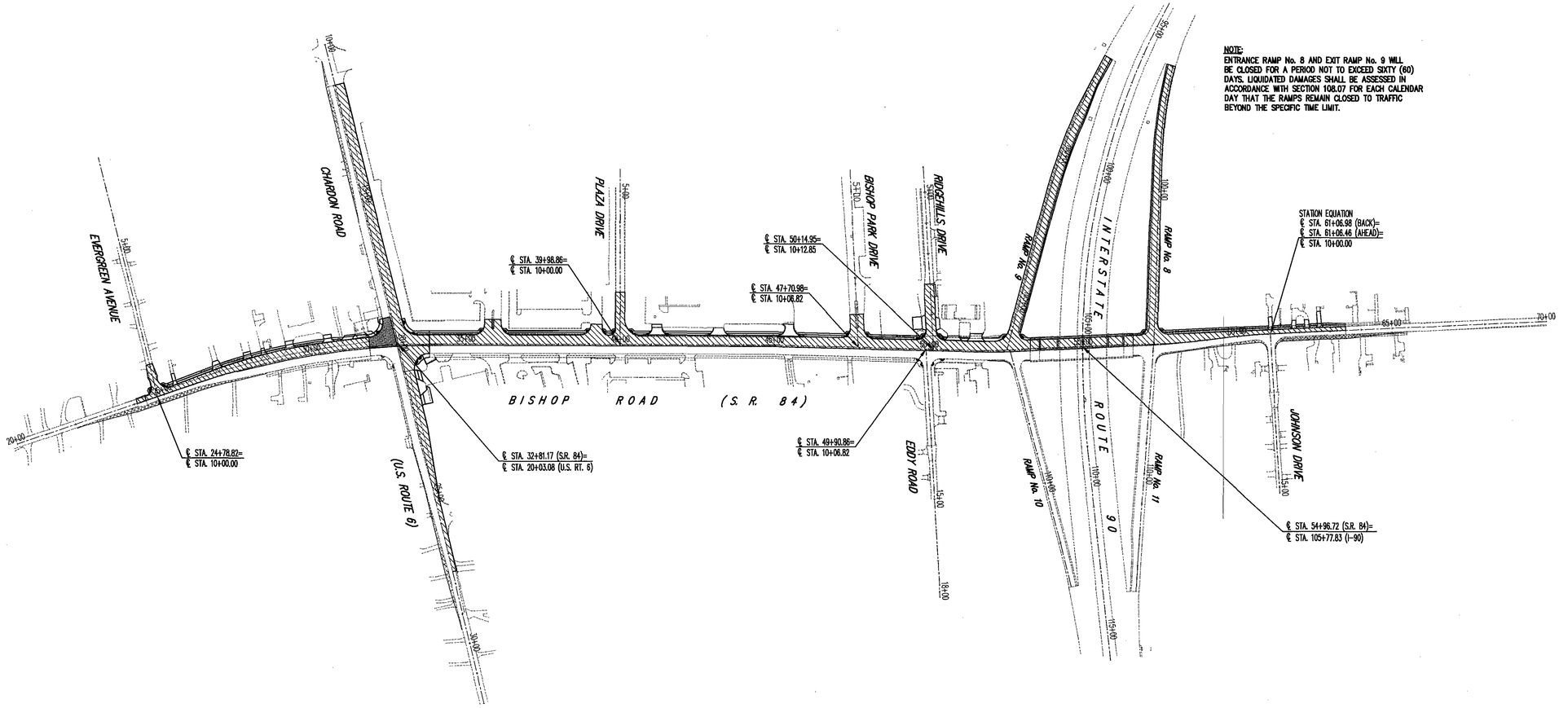
REF. NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT (MILE)	614 WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE I (MILE)	614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (MILE)	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE I (MILE)	614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT (FT.)	614 WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE I (FT.)	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT (FT.)	614 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (S.Y.)		630 SIGN FLATSHEET, TYPE G (S.F.)	630 GROUND MOUNTED SUPPORT NO. 3 POST (FT.)	630 SIGN, TEMPORARY OVERLAY (S.F.)
	BISHOP ROAD														
	22+00	29+00	LT	.09	.04	.17	.04	14							
	29+00	41+00	LT	.18		.28		62							
	41+00	51+00	LT	.17		.19		58							
	51+00	59+00	LT	.19		.13		72		331					
	59+00	65+40	LT	.11	.03	.21	.03								
	22+00	24+73	LT								322.7				
	24+95	32+47	LT								703.6				
	56+31	57+06	LT								24.5				
	57+42	65+40	LT								1102.3				
	22+00	28+40	RT								631.6				
	51+90	52+68	RT								33.9				
	53+3.81	53+25.60	RT								6.2				
	56+58	56+83	RT								7.0				
	57+30	60+95	RT								214.2				
	61+20	65+40	RT								469.7				
	CHARDON ROAD														
	9+25	17+00		.11	.02	.21	.01	16	15						
	17+00	22+50		.07		.14		24							
	22+50	29+50		.10	.04	.17	.04								
	12+30	17+00	LT								455.3				
	20+28	29+50	LT								1484.6				
	10+50	15+85	RT								408.7				
	23+25	29+50	RT								368.6				
	EVERGREEN AVENUE												6.25	13	
	PLAZA DRIVE												17.75	38.5	
	JOHNSON DRIVE												6.25	13	
	INTERSTATE 90														147
TOTALS CARRIED TO GENERAL SUMMARY				1.02	0.13	1.50	0.12	246.0	15.0	331.0	6233.0		30.25	64.5	147

CALCULATED J.S.Z. CHECKED W.D.B.

MAINTENANCE OF TRAFFIC
PHASE 1

LAK - 90/84 - 0.54/0.43

MAINTENANCE OF TRAFFIC
PHASE CONSTRUCTION SCHEMATIC PLAN
PHASE 2



NOTE:
ENTRANCE RAMP No. 8 AND EXIT RAMP No. 9 WILL BE CLOSED FOR A PERIOD NOT TO EXCEED SIXTY (60) DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 FOR EACH CALENDAR DAY THAT THE RAMPS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIC TIME LIMIT.

LEGEND

- PERMANENT PAVEMENT CONSTRUCTED PHASE 2A
- PERMANENT PAVEMENT CONSTRUCTED PHASE 2B
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1

N

200 100 0 200
SCALE IN FEET

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC
SCHEMATIC – PHASE 2

LAK – 90/84 – 0.54/0.43

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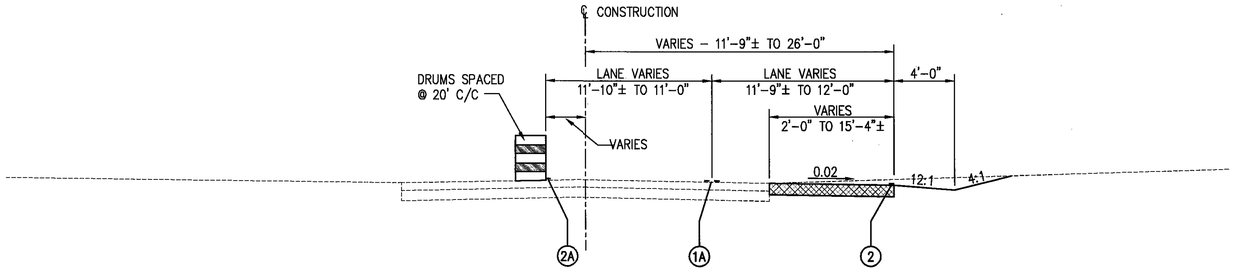
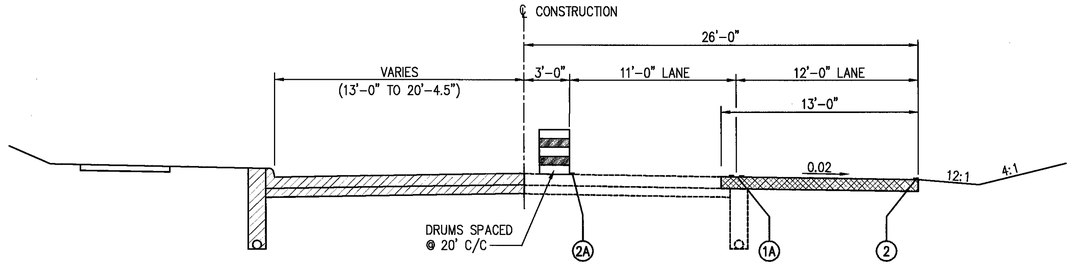
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 2B – S.R. 84 CONSTRUCTION



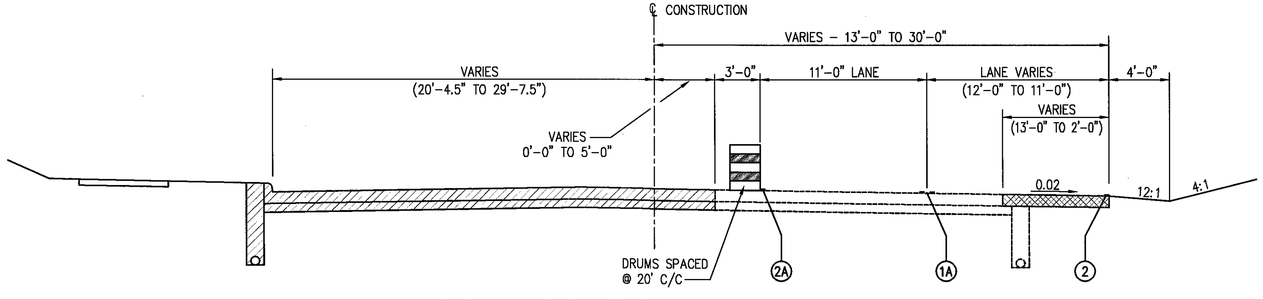
S.R. 84 BISHOP ROAD – PHASE 2B

STA. 22+00 TO STA. 24+10 = 210.00 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 2B

STA. 24+10.00 TO STA. 26+18.38 = 208.38 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 2B

STA. 26+18.38 TO STA. 28+40.00 = 221.62 LIN. FT.

PAVEMENT MARKING LEGEND

- (1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- (1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
- (2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
- (2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

- PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE
- PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
S.R. 84 BISHOP ROAD – PHASE 2B

LAK – 90/84 – 0.54/0.43

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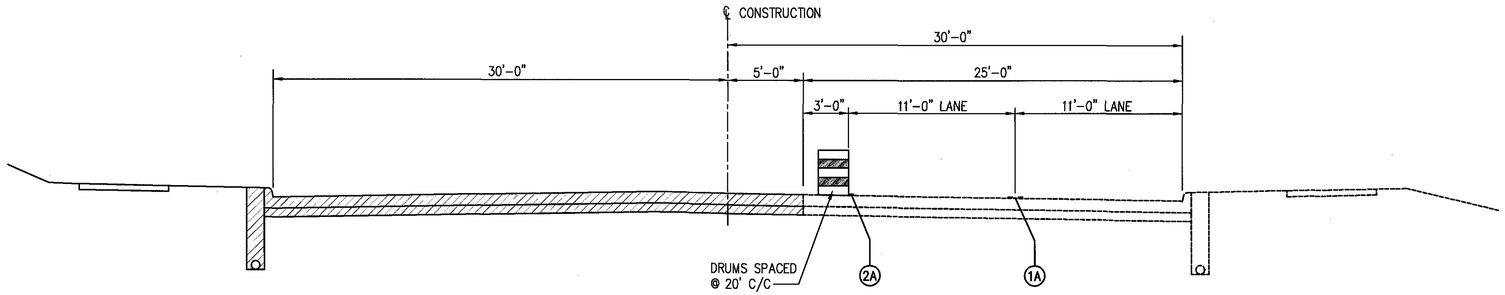
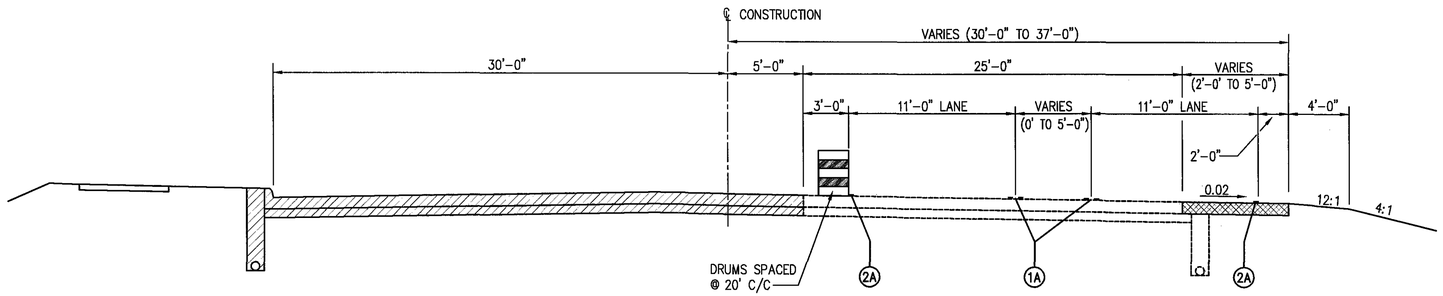
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 2B – S.R. 84 CONSTRUCTION



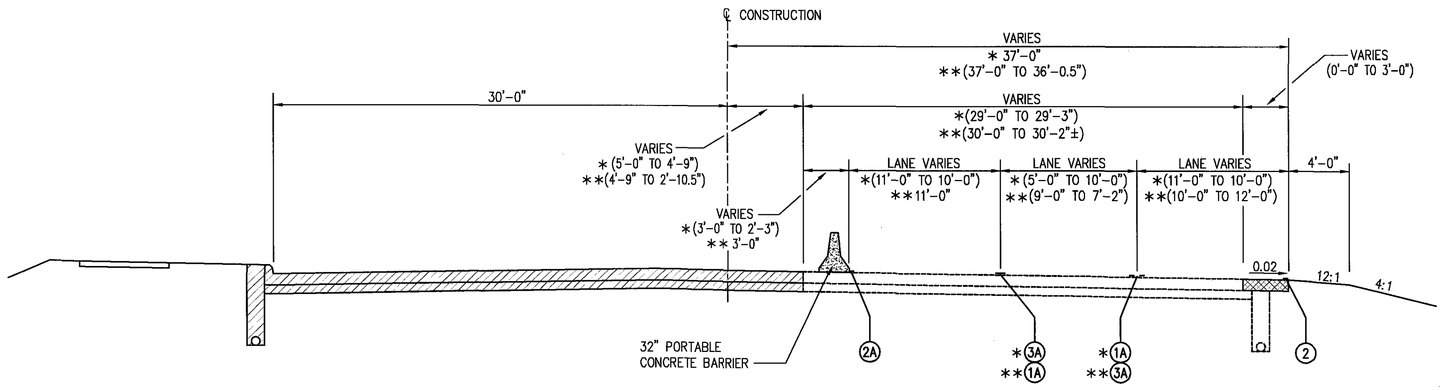
S.R. 84 BISHOP ROAD – PHASE 2B

STA. 28+40.00 TO STA. 51+90.00 = 2350.00 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 2B

STA. 51+90.00 TO STA. 52+50.00 = 60.00 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 2B

* STA. 52+50.00 TO STA. 53+27.40 = 77.40 LIN. FT.
** STA. 56+60.38 TO STA. 57+50.00 = 89.62 LIN. FT.
167.02 LIN. FT.

SEE STRUCTURE PLAN SHEETS 332 & 333 FOR PHASE CONSTRUCTION DETAILS FOR STA. 52+55 TO STA. 57+50

PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE1

PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3A) WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
S.R. 84 BISHOP ROAD – PHASE 2B

LAK – 90/84 – 0.54/0.43

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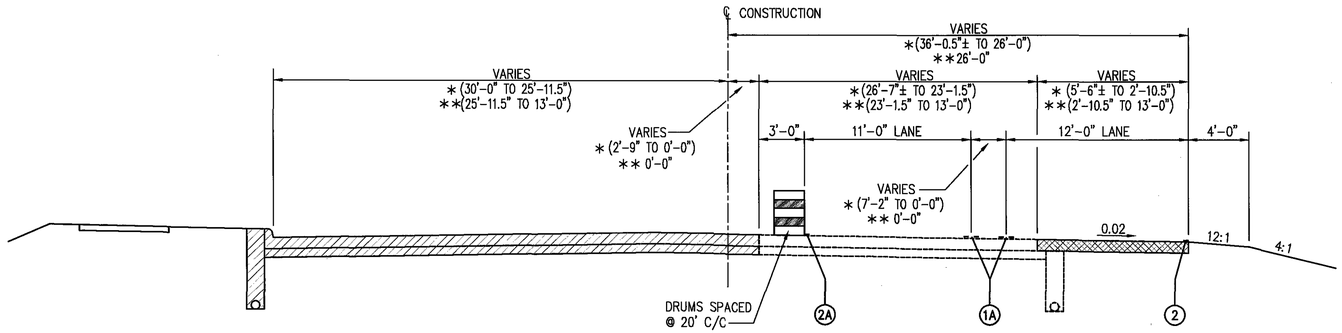
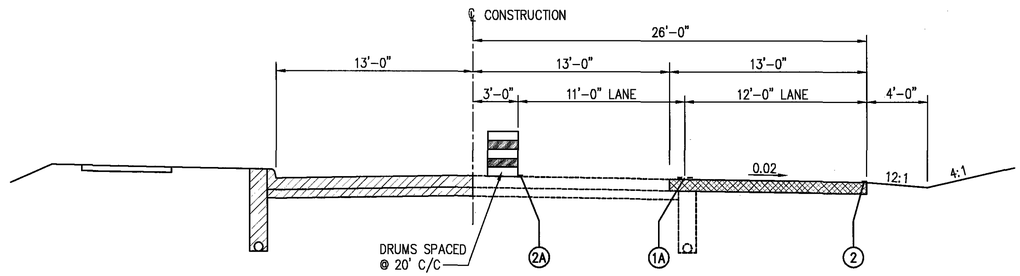
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 2B – S.R. 84 CONSTRUCTION



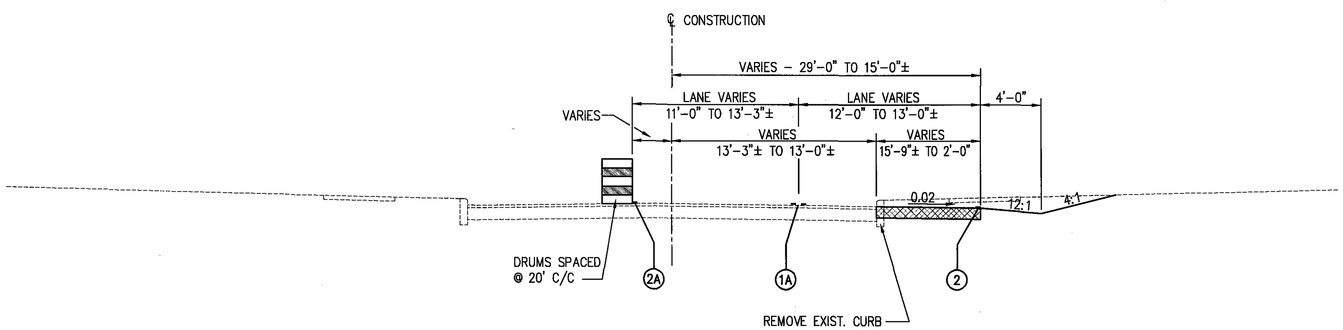
S.R. 84 BISHOP ROAD – PHASE 2B

* STA. 57+50.00 TO STA. 58+84.40 = 134.40 LIN. FT.
** STA. 58+84.40 TO STA. 61+06.98(BACK) = 222.58 LIN. FT.
356.98 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 2B

STA. 61+06.46(AHEAD) TO STA. 63+50.00 = 243.54 LIN. FT.



S.R. 84 BISHOP ROAD – PHASE 2B

STA. 63+50.00 TO STA. 65+40.00 = 190.00 LIN. FT.

PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
S.R. 84 BISHOP ROAD – PHASE 2B

LAK – 90/84 – 0.54/0.43

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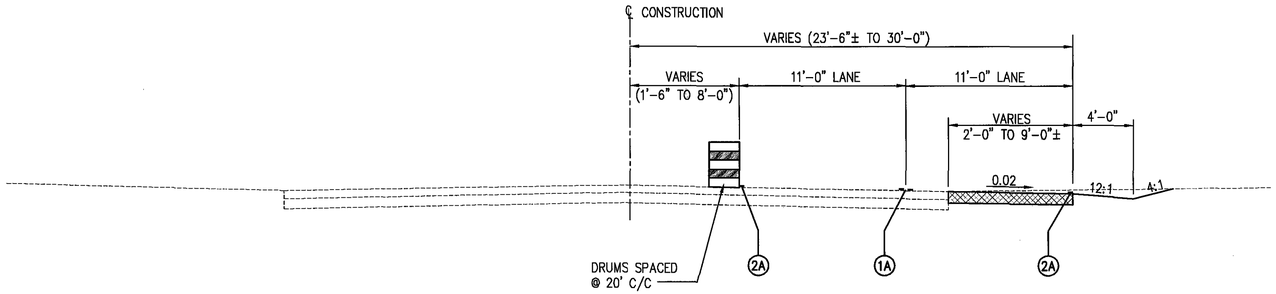
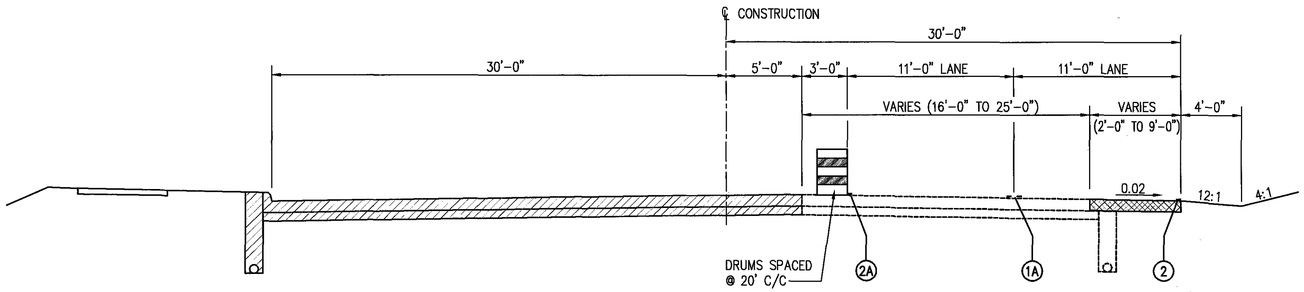
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 2B – U.S. ROUTE 6 CONSTRUCTION



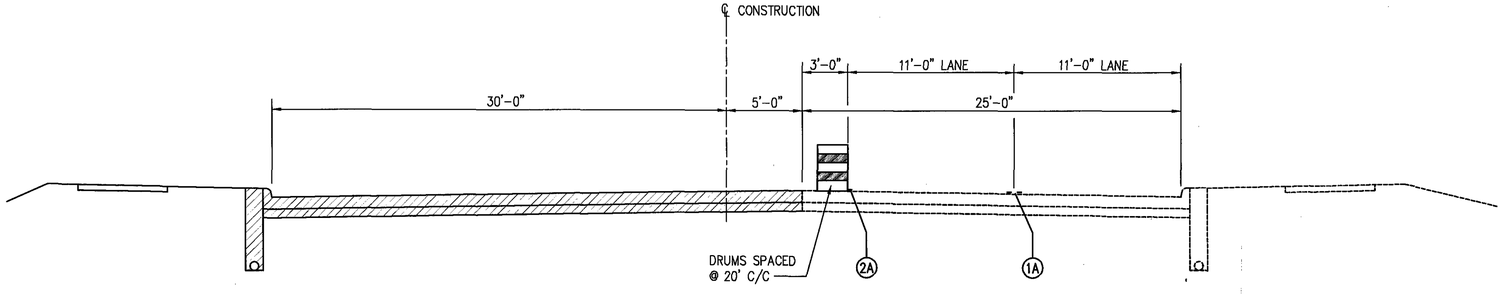
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

STA. 10+50.00 TO STA. 11+35.00 = 85.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

STA. 11+35.00 TO STA. 15+85.00 = 450.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

STA. 15+85.00 TO STA. 23+25.00 = 740.00 LIN. FT.

PAVEMENT MARKING LEGEND

- (1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- (1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
- (2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
- (2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

- PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE
- PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

LAK – 90/84 – 0.54/0.43

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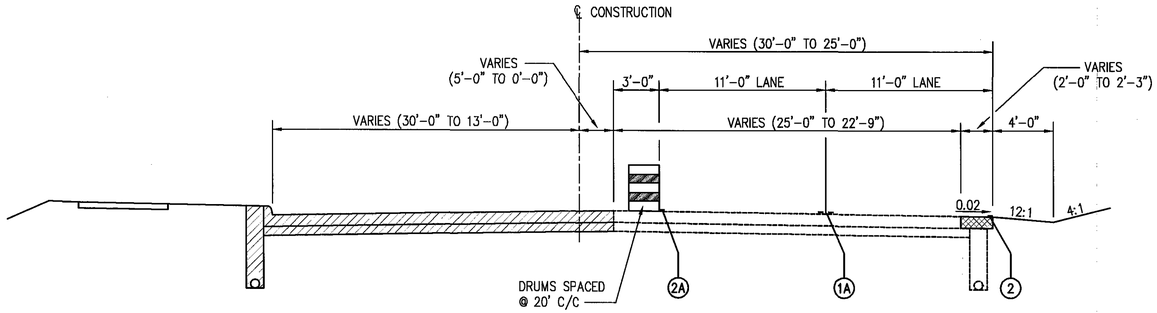
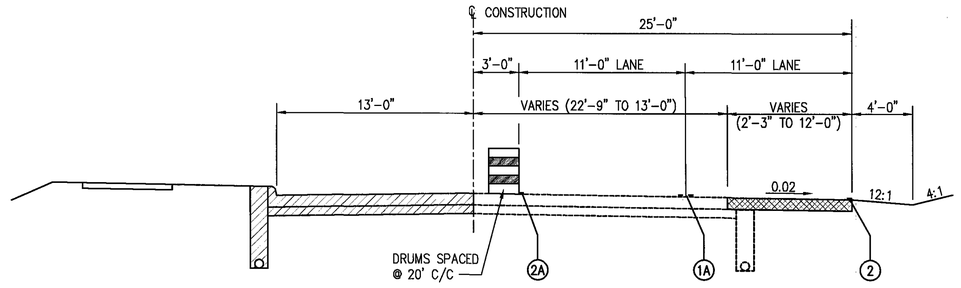
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 2B – U.S. ROUTE 6 CONSTRUCTION



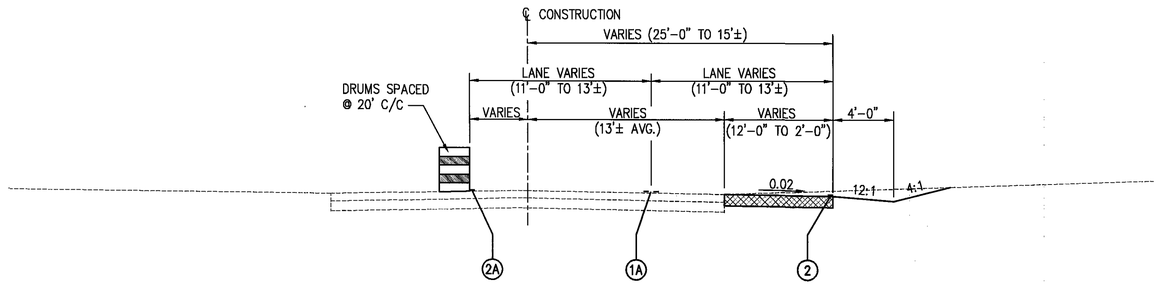
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

STA. 23+25.00 TO STA. 25+10.00 = 185.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

STA. 25+10.00 TO STA. 27+60.00 = 250.00 LIN. FT.



U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

STA. 27+60.00 TO STA. 29+50.00 = 190.00 LIN. FT.

PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
U.S. ROUTE 6 EUCLID–CHARDON ROAD – PHASE 2B

LAK – 90/84 – 0.54/0.43

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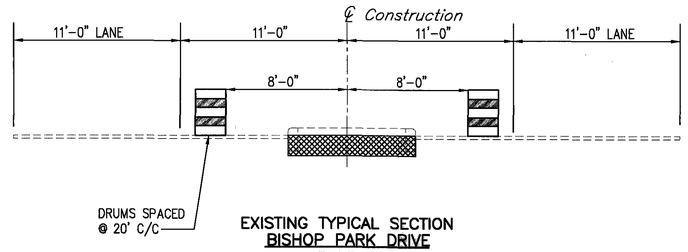
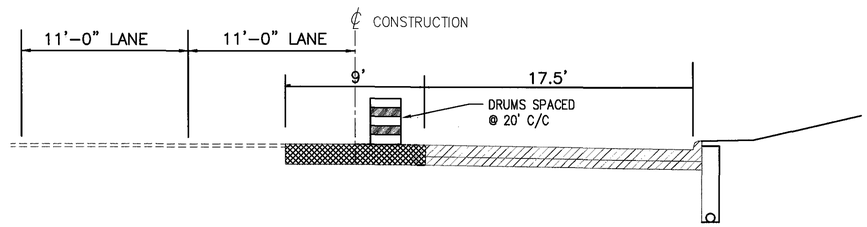
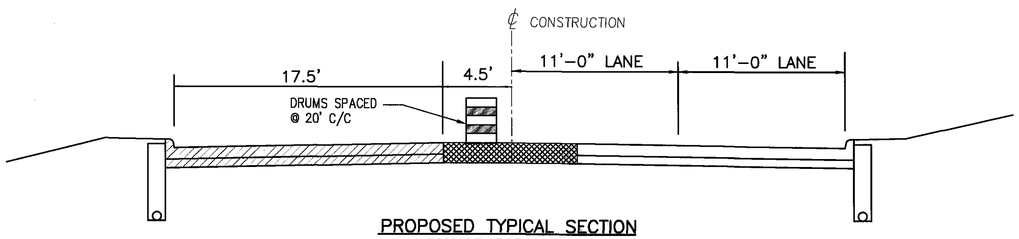
TYPICAL WORK ZONE LANE CONFIGURATION
PHASE 2B – BISHOP PARK DRIVE



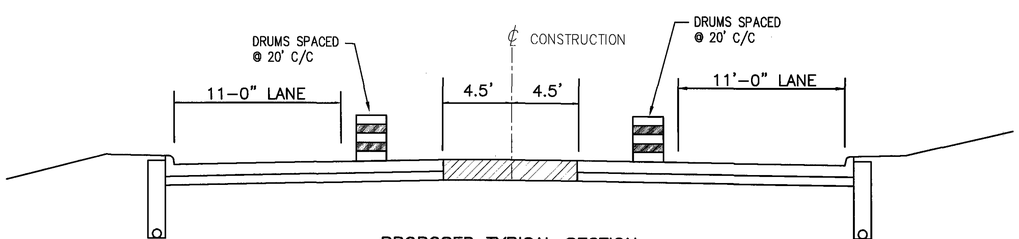
EXISTING TYPICAL SECTION
BISHOP PARK DRIVE
PART A
STA. 8+50 TO STA. 10+00



PROPOSED TYPICAL SECTION
BISHOP PARK DRIVE
PART B



PROPOSED TYPICAL SECTION
BISHOP PARK DRIVE
PART C



PROPOSED TYPICAL SECTION
BISHOP PARK DRIVE
PART D

PAVEMENT MARKING LEGEND

1. WORK ZONE CENTER LINE, CLASS I, 642 PAINT
1A. WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
2. WORK ZONE EDGE LINE, CLASS I, 642 PAINT
2A. WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PART A

MAINTENANCE OF TRAFFIC – TYPICAL SECTIONS
BISHOP PARK DRIVE – PHASE 2B

LAK – 90/84 – 0.54/0.43

46
369

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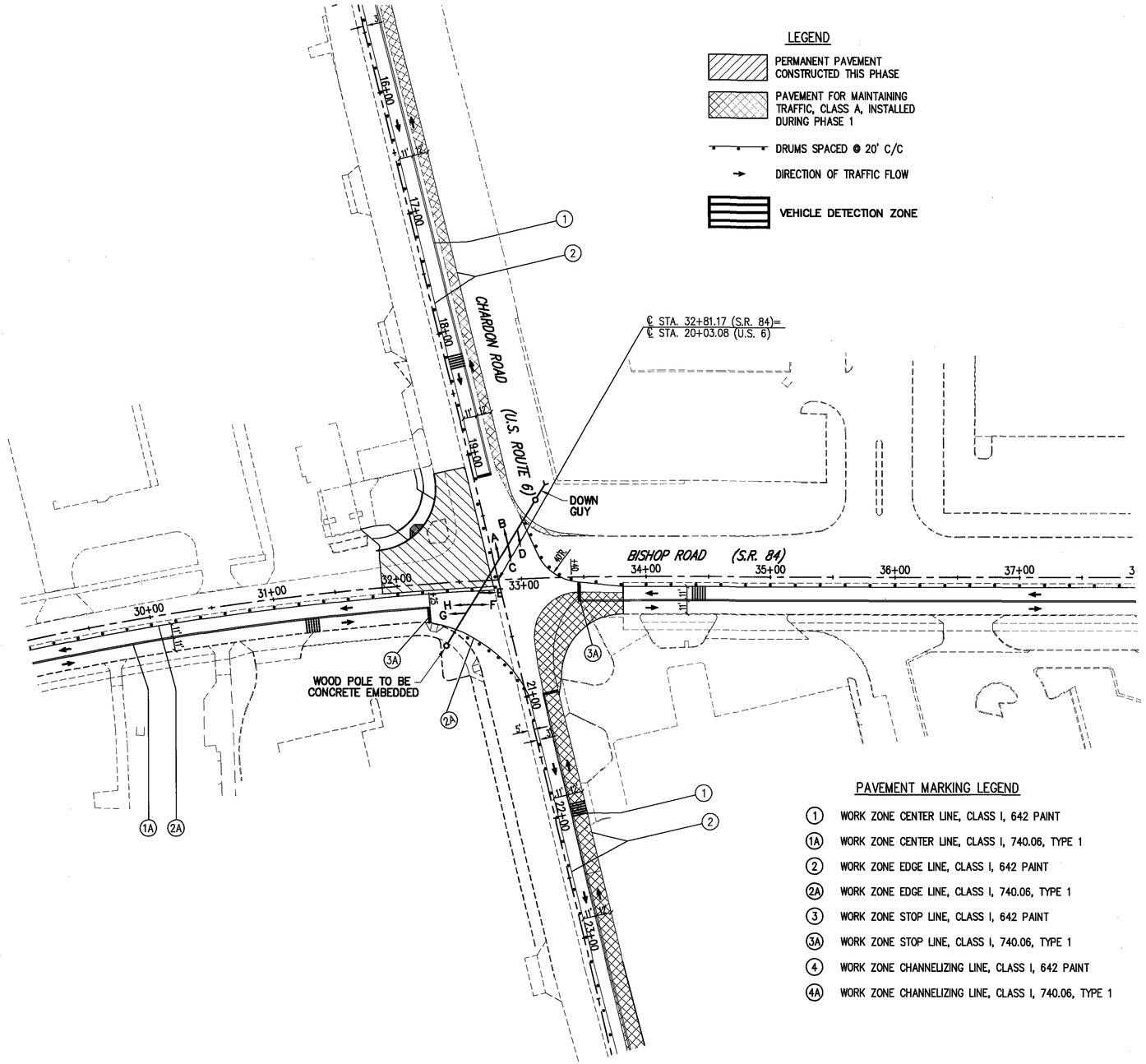
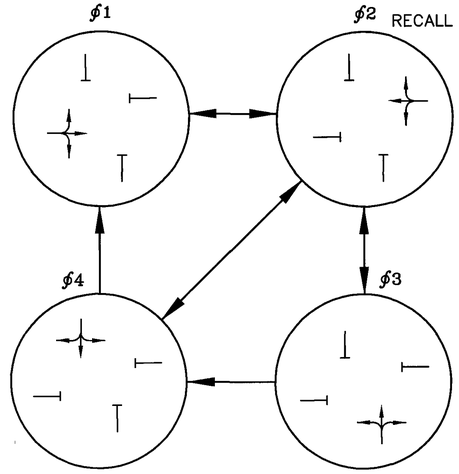


NOTE:
SEE PHASE 2B FOR BISHOP ROAD WORK ZONE PAVEMENT MARKINGS.



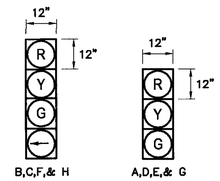
PHASING DIAGRAM

FUNCTION	φ1	φ2	φ3	φ4
MINIMUM GREEN	15	15	15	15
VEHICLE EXTENSION	3	3	3	3
MAXIMUM GREEN	25	25	25	25
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0	1.0
RECALL	OFF	MIN	OFF	OFF
MEMORY	ON	ON	ON	ON

SIGNAL TIMING CHART

PAVEMENT MARKING LEGEND

1. WORK ZONE CENTER LINE, CLASS I, 642 PAINT
1A. WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
2. WORK ZONE EDGE LINE, CLASS I, 642 PAINT
2A. WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
3. WORK ZONE STOP LINE, CLASS I, 642 PAINT
3A. WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
4. WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
4A. WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1



POLYCARBONATE SIGNAL HEADS

SCALE IN FEET 50 25 0 50

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – STA. 29+00 TO STA. 41+00
PHASE 2A

LAK – 90/84 – 0.54/0.43

47
369

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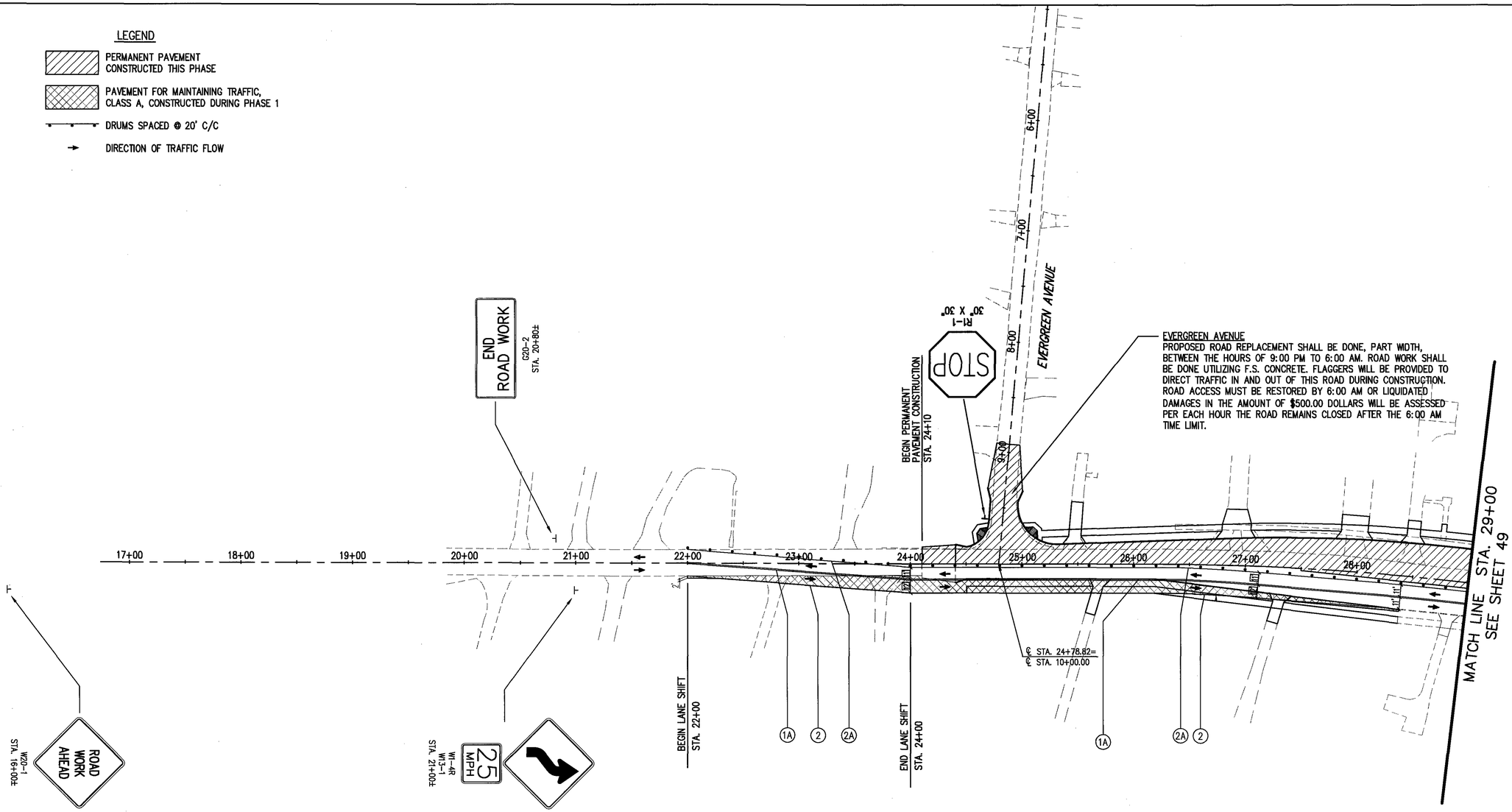
LEGEND

PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1

DRUMS SPACED @ 20' C/C

DIRECTION OF TRAFFIC FLOW



PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT

(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1

(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT

(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

(3) WORK ZONE STOP LINE, CLASS I, 642 PAINT

(3A) WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1

(4) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT

(4A) WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

N

SCALE IN FEET 50 25 0 50

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – STA. 17+00 TO STA. 29+00
PHASE 2B

LAK – 90/84 – 0.54/0.43

48
369

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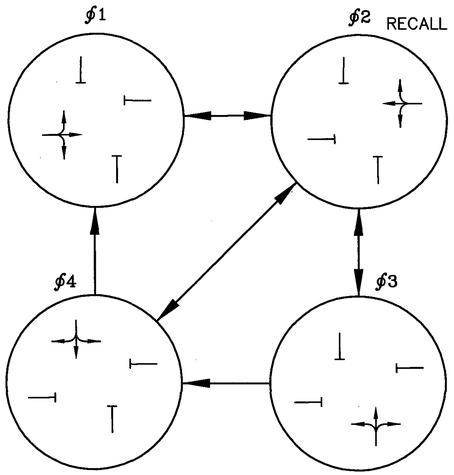


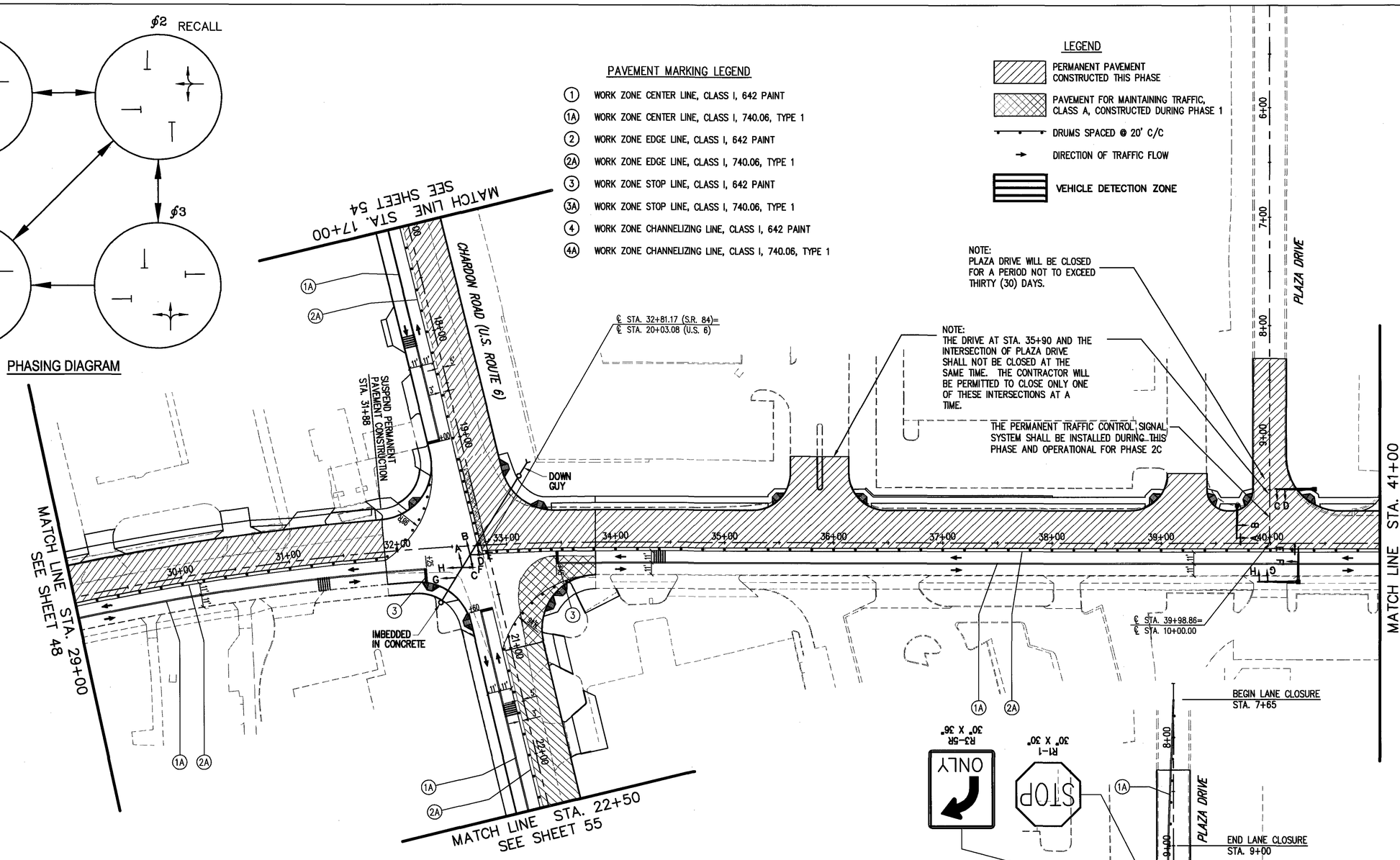
PHASING DIAGRAM

PAVEMENT MARKING LEGEND

(1)	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A)	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2)	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3)	WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A)	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4)	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A)	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

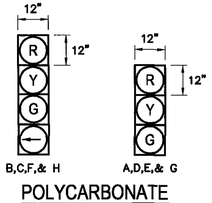
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE



FUNCTION	ϕ1	ϕ2	ϕ3	ϕ4
MINIMUM GREEN	15	15	15	15
VEHICLE EXTENSION	3	3	3	3
MAXIMUM GREEN	25	25	25	25
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0	1.0
RECALL	OFF	MIN	OFF	OFF
MEMORY	ON	ON	ON	ON

SIGNAL TIMING CHART



POLYCARBONATE SIGNAL HEADS

CALCULATED
CHECKED

SCALE IN FEET 50 0 25 50

MAINTENANCE OF TRAFFIC – STA. 29+00 TO STA. 41+00
PHASE 2B

LAK – 90/84 – 0.54/0.43

49
369

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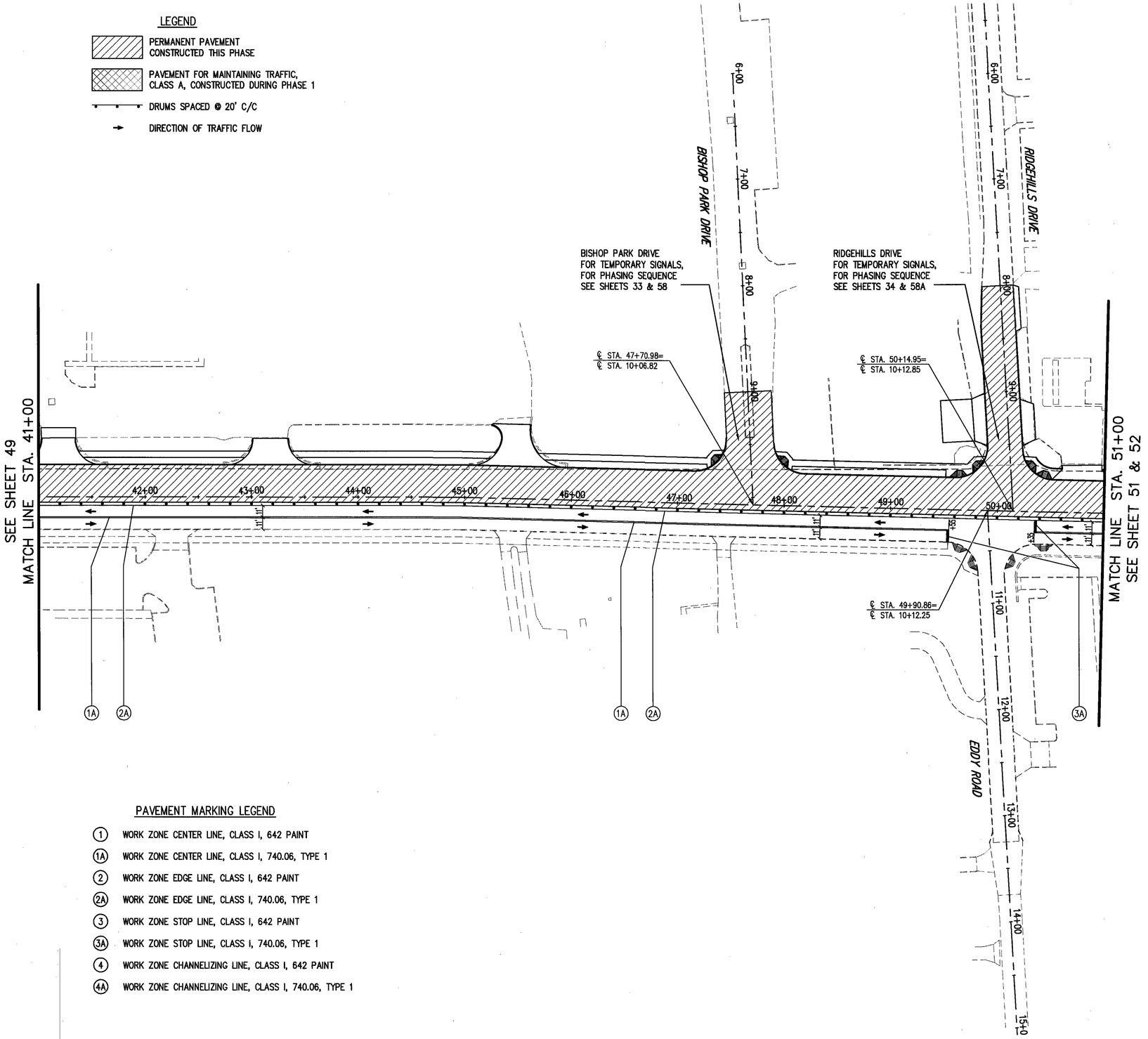
LEGEND

PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1

DRUMS SPACED @ 20' C/C

DIRECTION OF TRAFFIC FLOW



PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT

(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1

(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT

(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

(3) WORK ZONE STOP LINE, CLASS I, 642 PAINT

(3A) WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1

(4) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT

(4A) WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

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N

SCALE IN FEET 50 0 25 50

CALCULATED

CHECKED

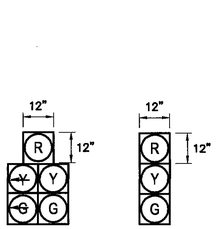
MAINTENANCE OF TRAFFIC – STA. 41+00 TO STA. 51+00
PHASE 2B

LAK – 90/84 – 0.54/0.43

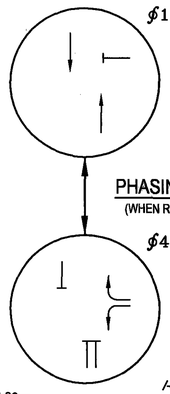
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PAHSE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE

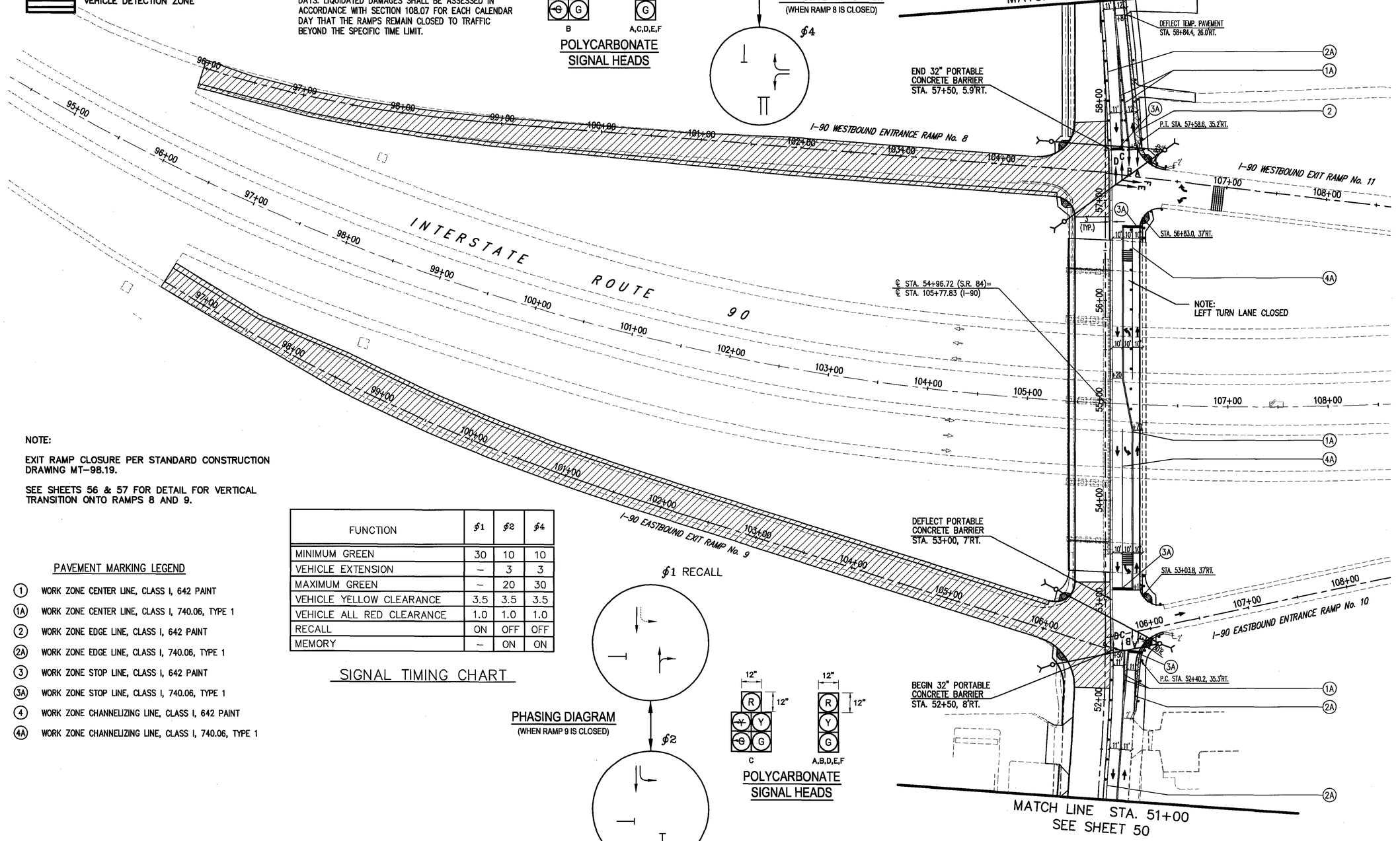
NOTE:
ENTRANCE RAMP No. 8 AND EXIT RAMP No. 9 WILL BE CLOSED FOR A PERIOD NOT TO EXCEED SIXTY (60) DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 FOR EACH CALENDAR DAY THAT THE RAMPS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIC TIME LIMIT.



POLYCARBONATE SIGNAL HEADS



PHASING DIAGRAM
(WHEN RAMP 8 IS CLOSED)



NOTE:

EXIT RAMP CLOSURE PER STANDARD CONSTRUCTION DRAWING MT-98.19.

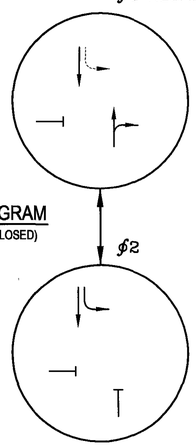
SEE SHEETS 56 & 57 FOR DETAIL FOR VERTICAL TRANSITION ONTO RAMPS 8 AND 9.

FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	10	10
VEHICLE EXTENSION	–	3	3
MAXIMUM GREEN	–	20	30
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	ON	OFF	OFF
MEMORY	–	ON	ON

SIGNAL TIMING CHART

PAVEMENT MARKING LEGEND

1. WORK ZONE CENTER LINE, CLASS I, 642 PAINT
1A. WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
2. WORK ZONE EDGE LINE, CLASS I, 642 PAINT
2A. WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
3. WORK ZONE STOP LINE, CLASS I, 642 PAINT
3A. WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
4. WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
4A. WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1



PHASING DIAGRAM
(WHEN RAMP 9 IS CLOSED)

POLYCARBONATE SIGNAL HEADS

N

SCALE IN FEET
50 25 0 50

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC – STA. 51+00 TO STA. 59+00
PHASE 2B

LAK – 90/84 – 0.54/0.43

51
369

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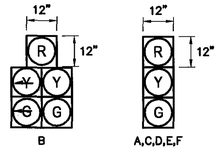
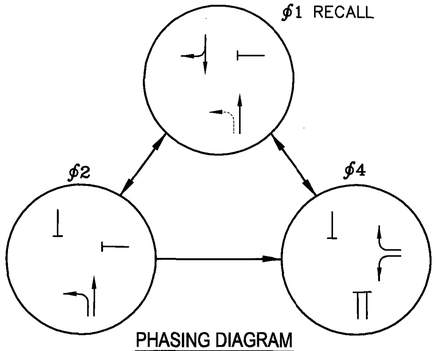
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PAHSE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE



POLYCARBONATE SIGNAL HEADS



PHASING DIAGRAM
(WHEN RAMP 8 IS OPEN)

SEE SHEET 53
MATCH LINE STA. 59+00

DEFLECT TEMP. PAVEMENT STA. 58+84.4, 26.0'RT.

DEFLECT PORTABLE CONCRETE BARRIER STA. 57+04.5, 10.5'LT.

P.T. STA. 57+58.6, 35.2'RT.

DEFLECT PORTABLE CONCRETE BARRIER STA. 56+90, 5.9'RT.

STA. 56+83.0, 37'RT.

℄ STA. 54+96.72 (S.R. 84)=
℄ STA. 105+77.83 (I-90)

DEFLECT PORTABLE CONCRETE BARRIER STA. 53+10, 7'RT.

DEFLECT PORTABLE CONCRETE BARRIER STA. 53+95, 10.2'LT.

STA. 53+03.8, 37'RT.

P.C. STA. 52+40.2, 35.3'RT.

MATCH LINE STA. 51+00
SEE SHEET 50

I-90 WESTBOUND ENTRANCE RAMP No. 8

I-90 WESTBOUND EXIT RAMP No. 11

I-90 EASTBOUND EXIT RAMP No. 9

I-90 EASTBOUND ENTRANCE RAMP No. 10

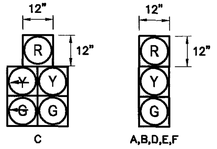
INTERSTATE ROUTE 90

R3-1Bd 30" x 30" STA. 98+55 ONLY ONLY

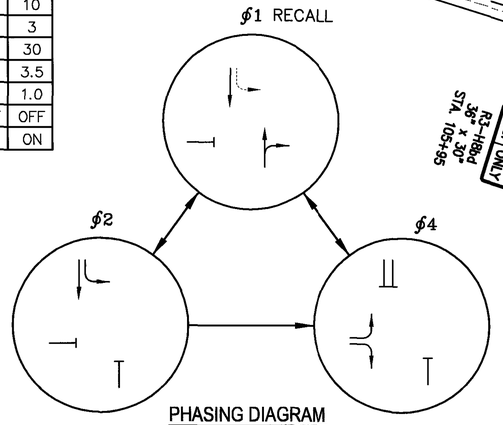
R3-1Bd 30" x 30" STA. 105+95 ONLY ONLY

FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	10	10
VEHICLE EXTENSION	–	3	3
MAXIMUM GREEN	–	20	30
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	ON	OFF	OFF
MEMORY	–	ON	ON

SIGNAL TIMING CHART



POLYCARBONATE SIGNAL HEADS



PHASING DIAGRAM
(WHEN RAMP 9 IS OPEN)

PAVEMENT MARKING LEGEND

(1)	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A)	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2)	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3)	WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A)	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4)	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A)	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

SCALE IN FEET 50 25 0 50

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – STA. 51+00 TO STA. 59+00
PHASE 2B

LAK – 90/84 – 0.54/0.43

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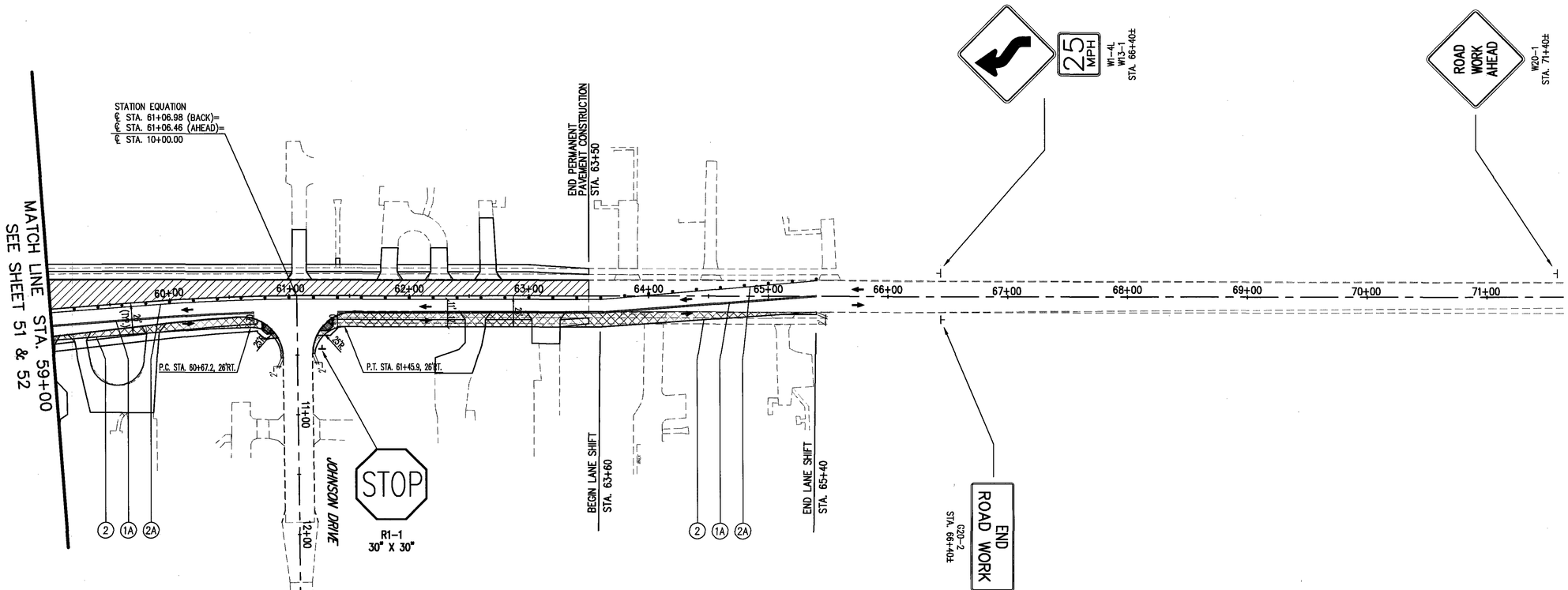
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE 1
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW



PAVEMENT MARKING LEGEND

(1)	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A)	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2)	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3)	WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A)	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4)	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A)	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

N

SCALE IN FEET
50 0 25 50

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC – STA. 59+00 TO STA. 70+00
PHASE 2B

LAK – 90/84 – 0.54/0.43

53
369

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LEGEND

PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, MAINTAINING TRAFFIC

DRUMS SPACED @ 20' C/C

DIRECTION OF TRAFFIC FLOW

PAVEMENT MARKING LEGEND

(1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT

(1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1

(2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT

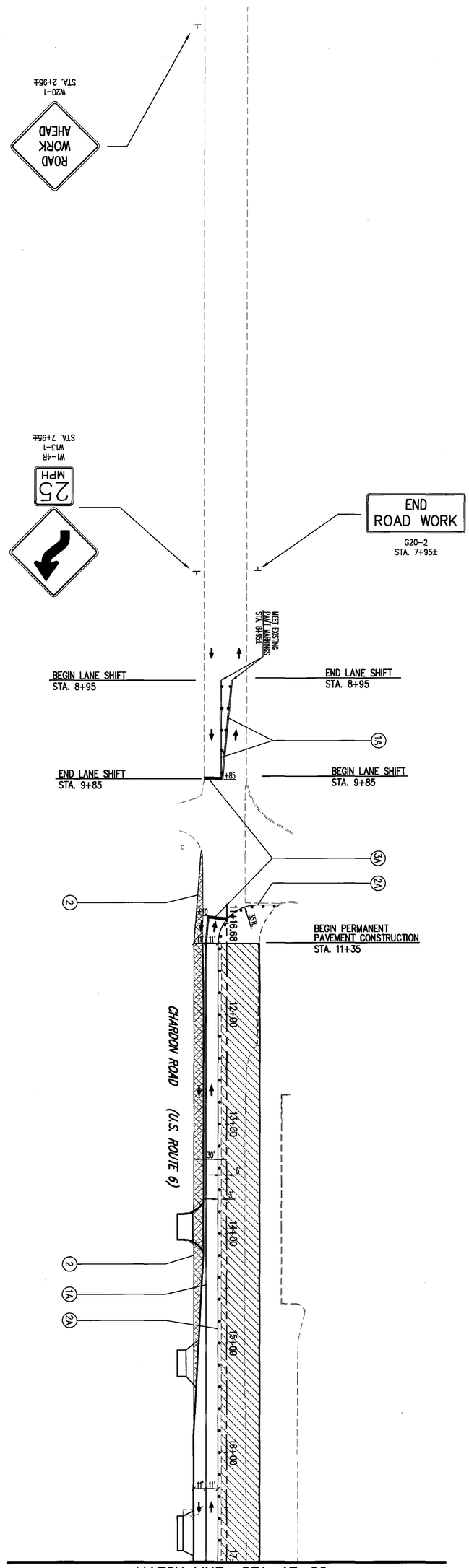
(2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1

(3) WORK ZONE STOP LINE, CLASS I, 642 PAINT

(3A) WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1

(4) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT

(4A) WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1



LAK – 90/84 – 0.54/0.43

MAINTENANCE OF TRAFFIC – U.S. 6 STA. 6+00 TO STA. 17+00
PHASE 2B

CALCULATED

CHECKED

50 25 0 50
SCALE IN FEET

N

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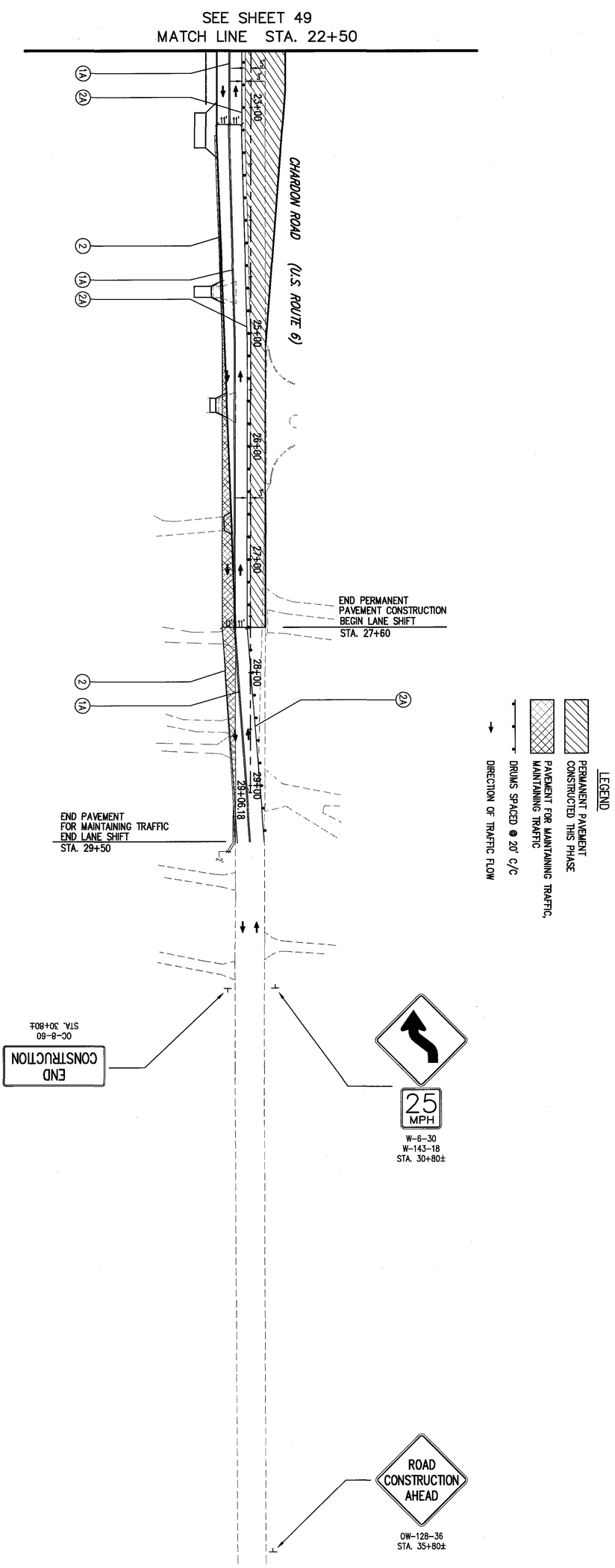
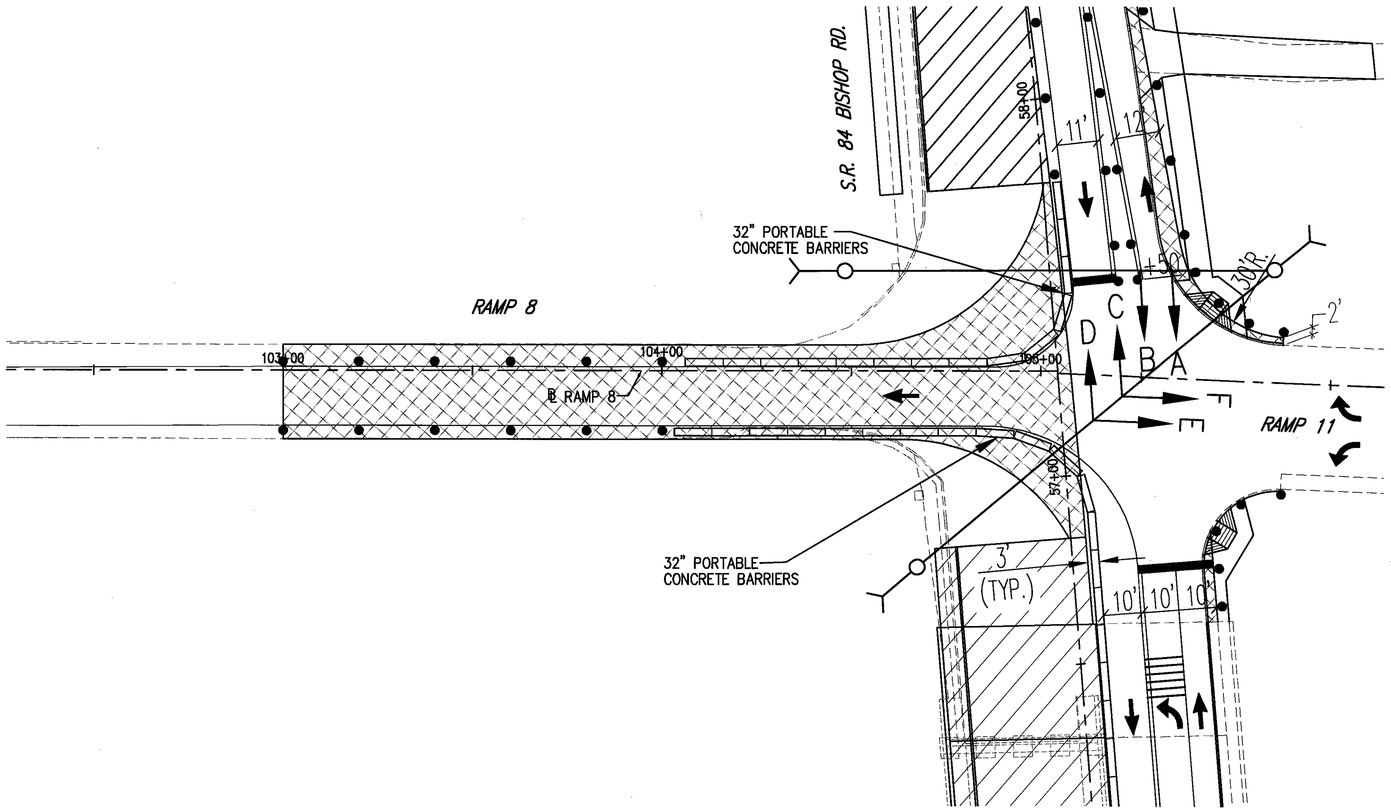
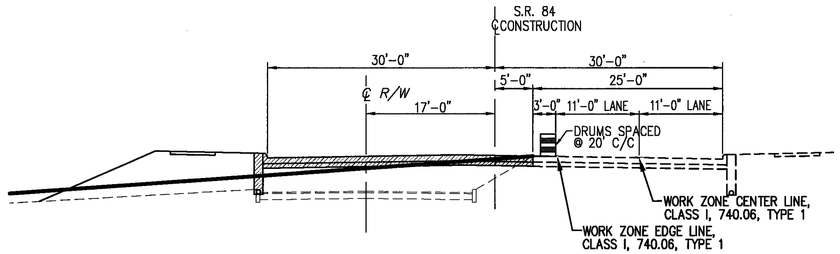


55 / 369	LAK – 90/84 – 0.54/0.43	MAINTENANCE OF TRAFFIC – U.S. 6 STA. 22+50 TO STA. 32+00 PHASE 2B	CALCULATED CHECKED 50 25 0 50 SCALE IN FEET





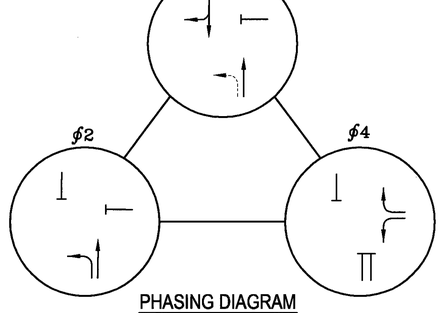
S.R. 84 BISHOP ROAD – PHASE 2B

STA. 57+50± – RAMP 8 AND 11 INTERSECTION

PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE

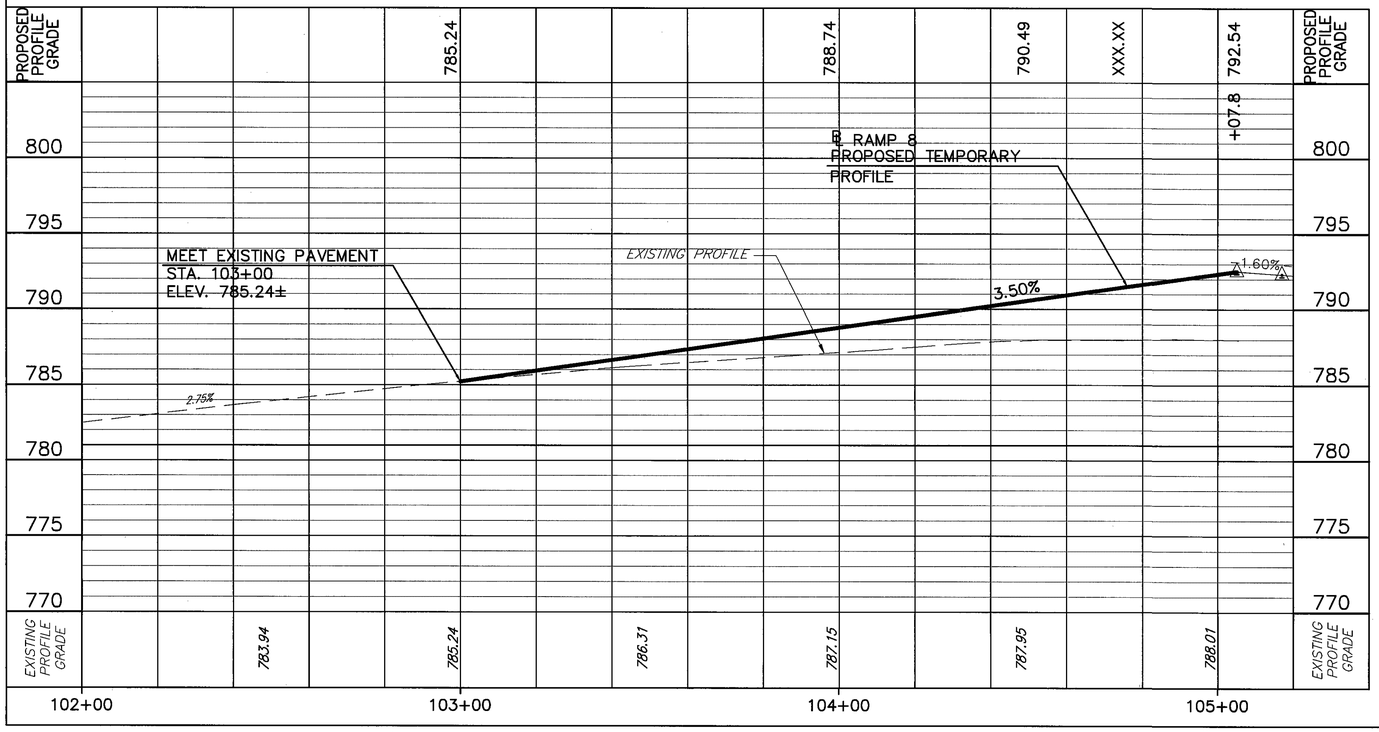
PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE1



PHASING DIAGRAM

(WHEN RAMP 8 IS OPEN)



SCALE IN FEET 20 0 10 20

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – RAMP 8 DETAIL PHASE 2B

LAK – 90/84 – 0.54/0.43

56
369

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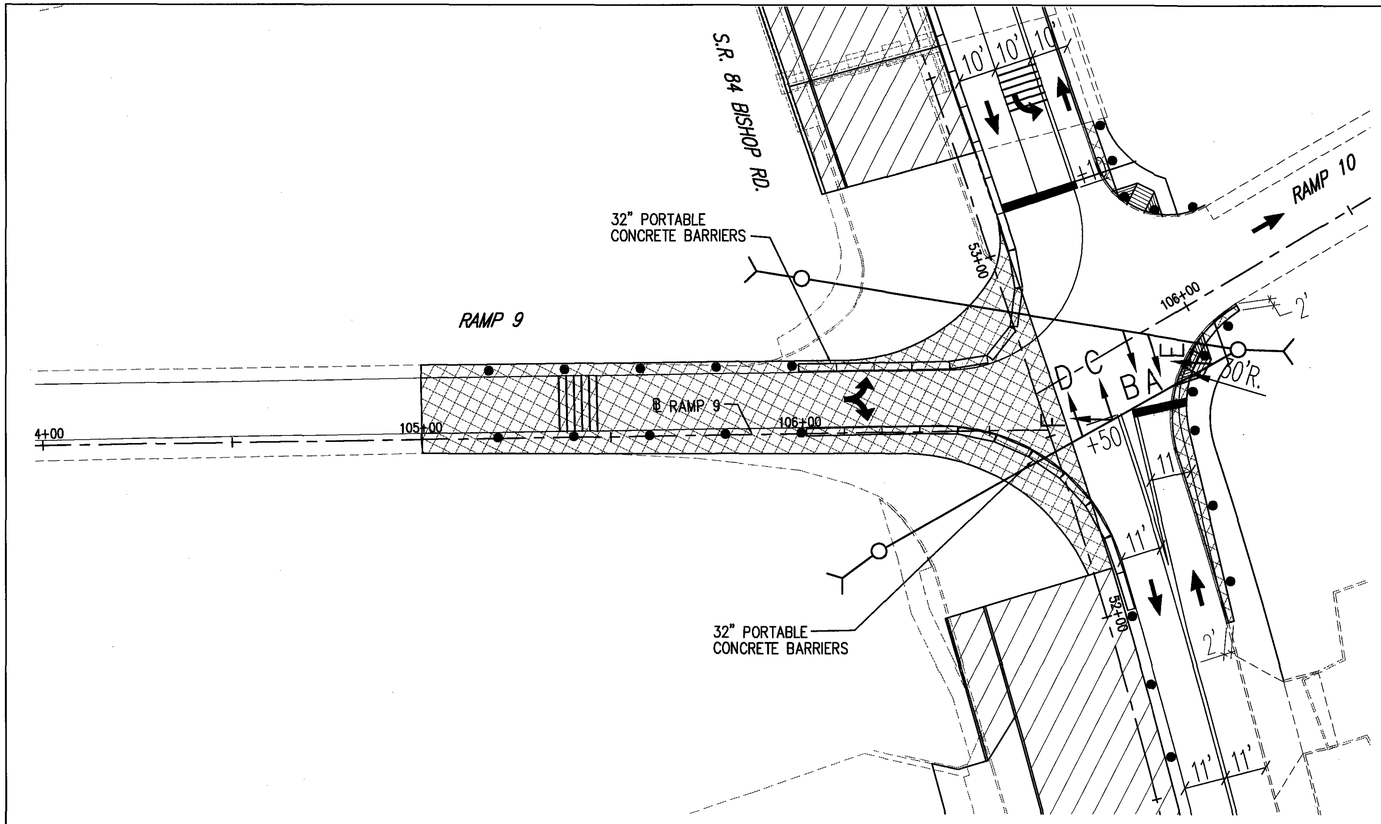
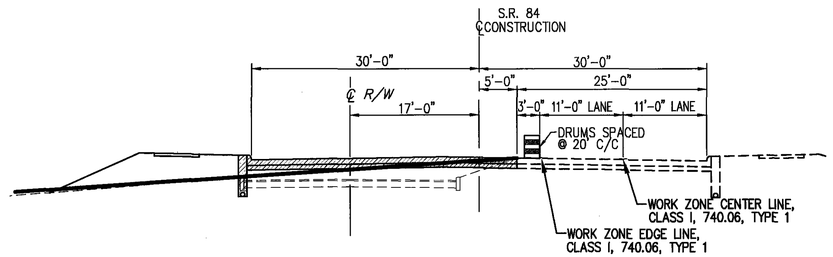




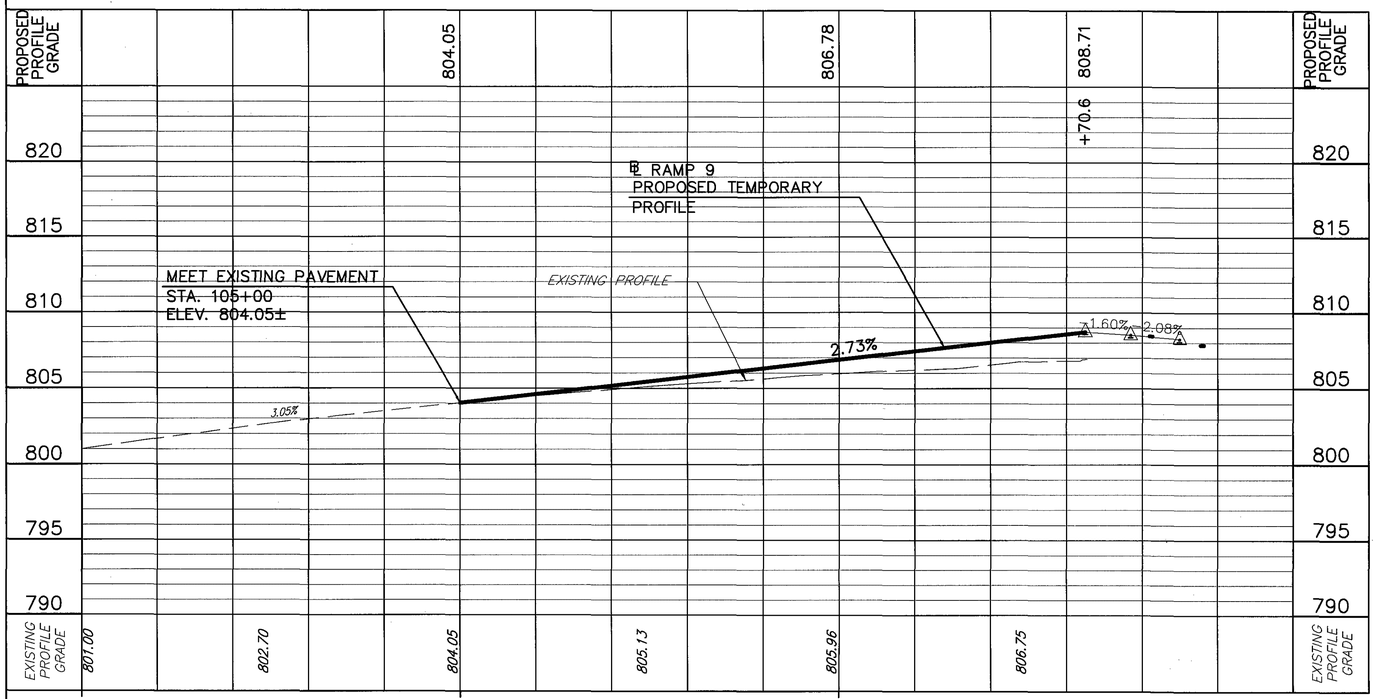
S.R. 84 BISHOP ROAD – PHASE 2B

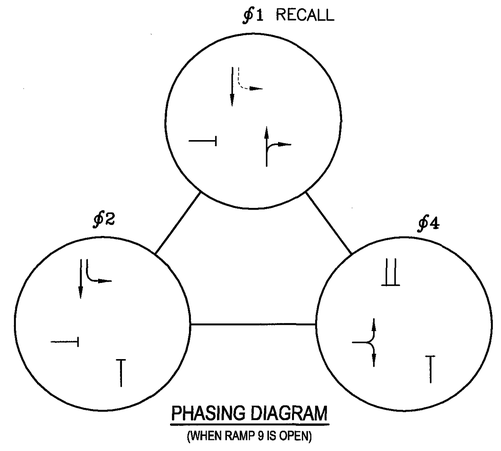
STA. 52+50± RAMP 9 AND 10 INTERSECTION

PROPOSED PERMANENT PAVEMENT CONSTRUCTED IN PREVIOUS PHASE

PROPOSED PERMANENT PAVEMENT CONSTRUCTED THIS PHASE

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONSTRUCTED DURING PHASE1





PHASING DIAGRAM

(WHEN RAMP 9 IS OPEN)

SCALE IN FEET 20 10 0 10 20

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – RAMP 9 DETAIL PHASE 2B

LAK – 90/84 – 0.54/0.43

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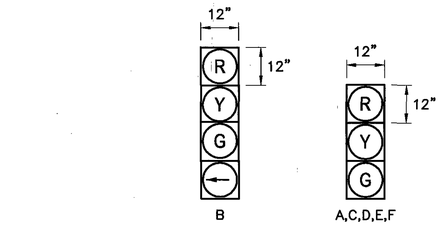
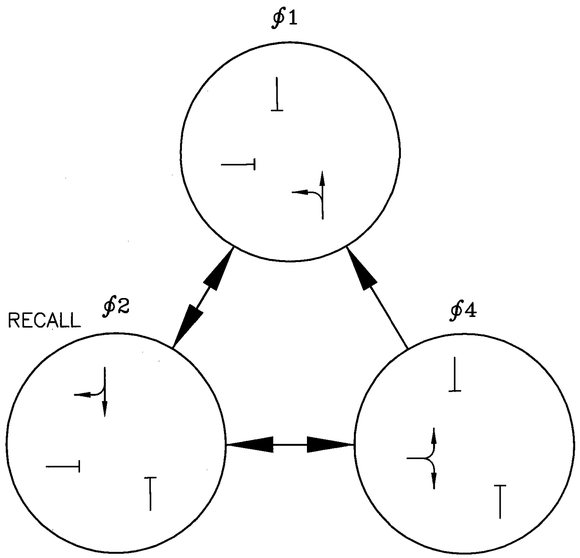
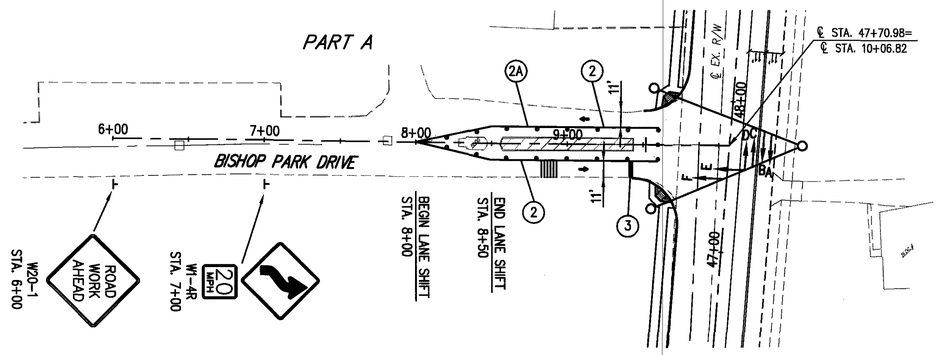
LEGEND

- PAVEMENT FOR MAINTAINING TRAFFIC, PART A
- PERMANENT PAVEMENT CONSTRUCTED PART B
- PERMANENT PAVEMENT CONSTRUCTED PART C
- ISLAND/PAVEMENT REPLACEMENT CONSTRUCTED PART D
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE

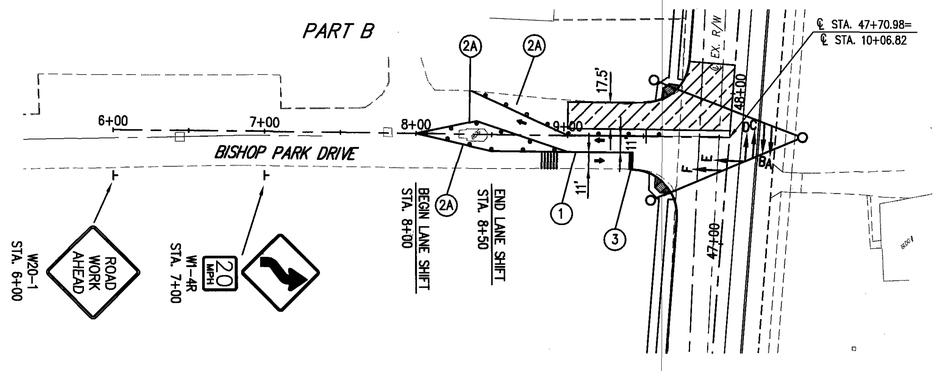




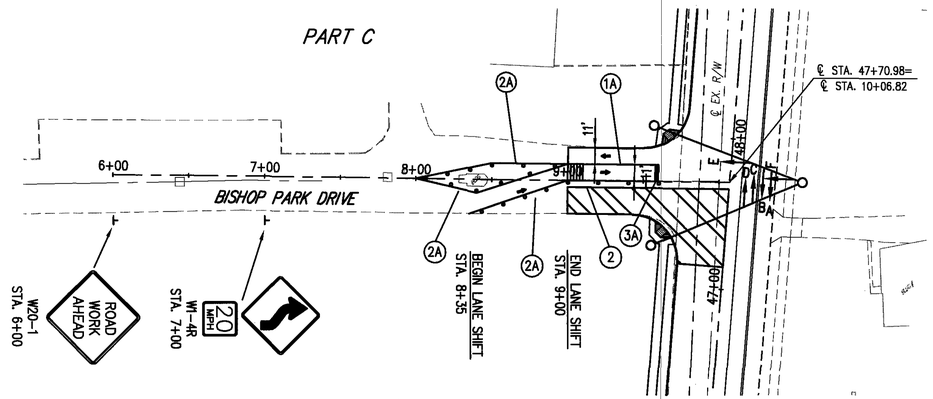
PART A



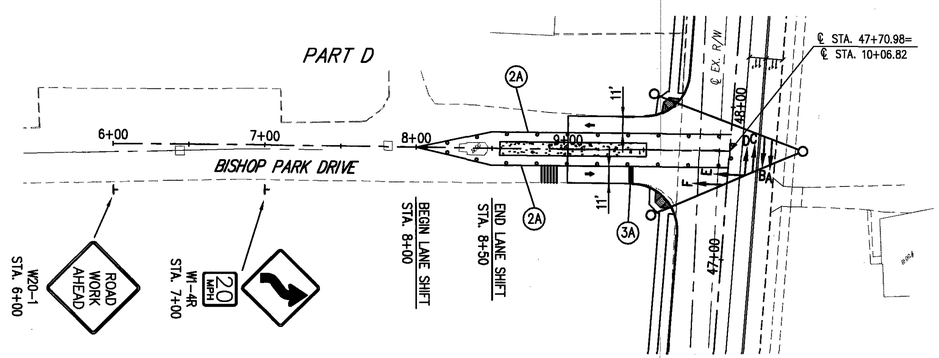
PART B



PART C



PART D



FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	30	10
VEHICLE EXTENSION	–	–	3
MAXIMUM GREEN	–	–	20
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	MIN	OFF
MEMORY	–	–	ON

SIGNAL TIMING CHART

PAVEMENT MARKING LEGEND

- (1) WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- (1A) WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
- (2) WORK ZONE EDGE LINE, CLASS I, 642 PAINT
- (2A) WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
- (3) WORK ZONE STOP LINE, CLASS I, 642 PAINT
- (3A) WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
- (4) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- (4A) WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

SCALE IN FEET 50 25 0 50

CALCULATED

CHECKED

BISHOP PARK DRIVE – MAINTENANCE OF TRAFFIC PHASE 2B

LAK – 90/84 – 0.54/0.43

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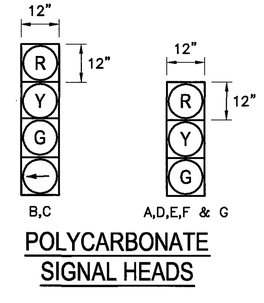
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED PART A
- PERMANENT PAVEMENT CONSTRUCTED PART B
- PERMANENT PAVEMENT CONSTRUCTED PART C
- PAVEMENT FOR MAINTAINING TRAFFIC
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE

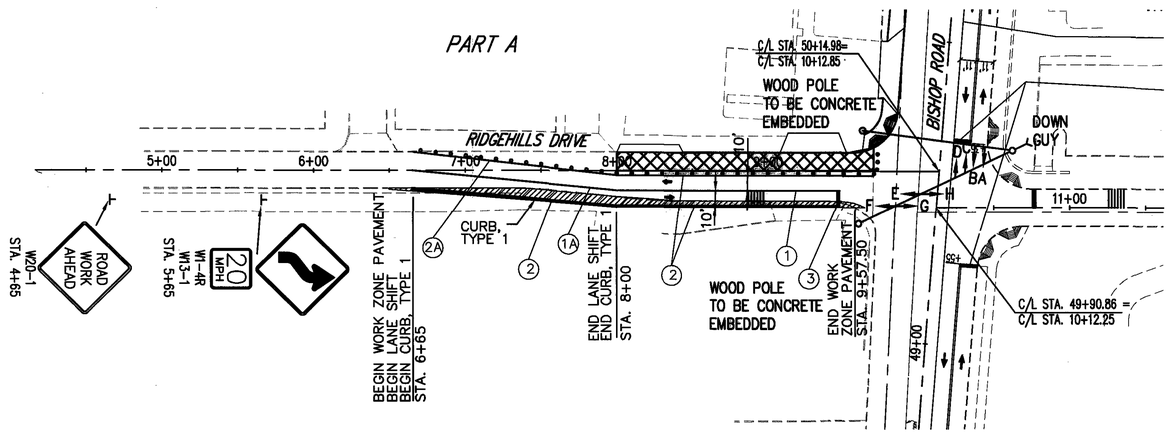
FUNCTION	ϕ1	ϕ2	ϕ4
MINIMUM GREEN	30	30	10
VEHICLE EXTENSION	–	–	3
MAXIMUM GREEN	–	–	20
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	MIN	OFF
MEMORY	–	–	ON

SIGNAL TIMING CHART

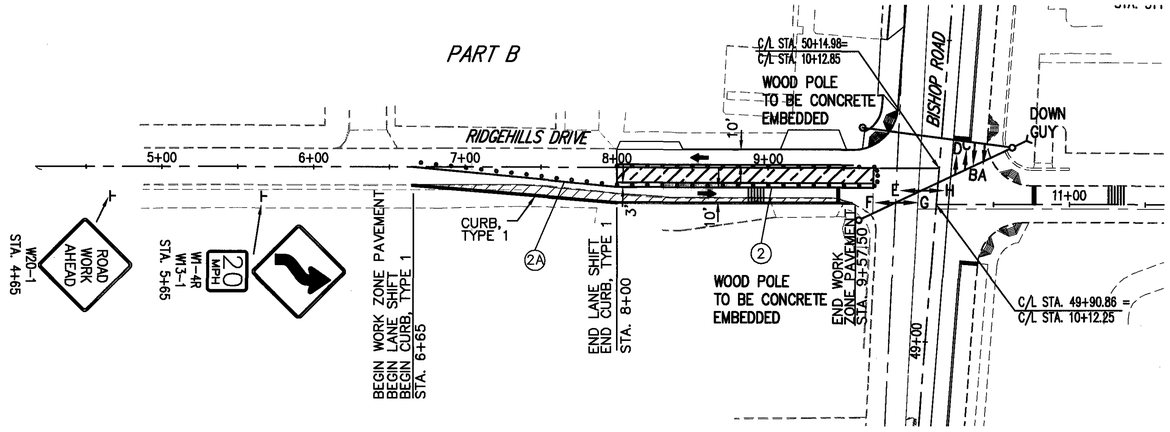


POLYCARBONATE SIGNAL HEADS

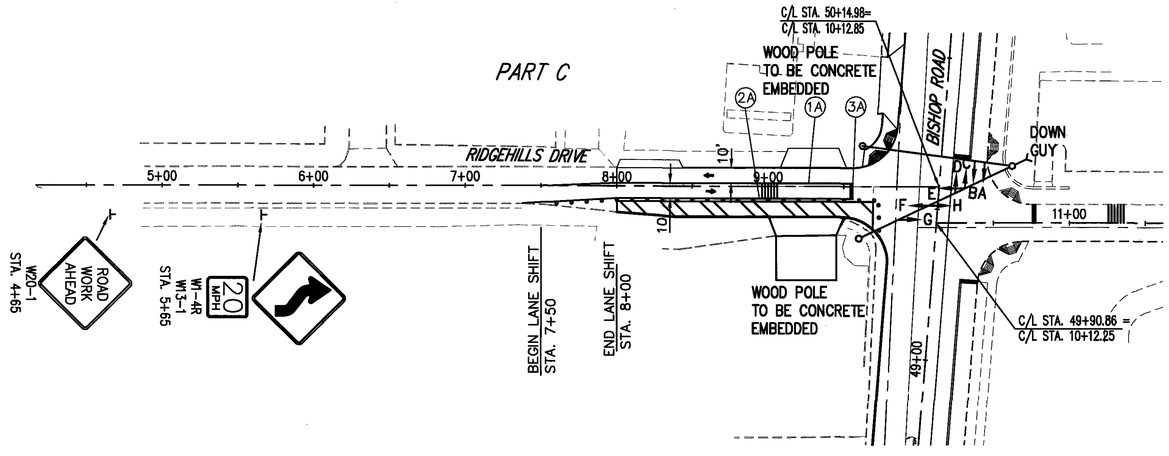
PART A

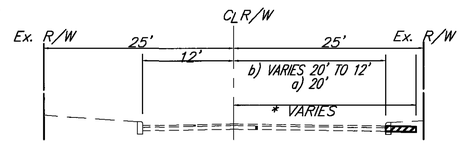


PART B



PART C



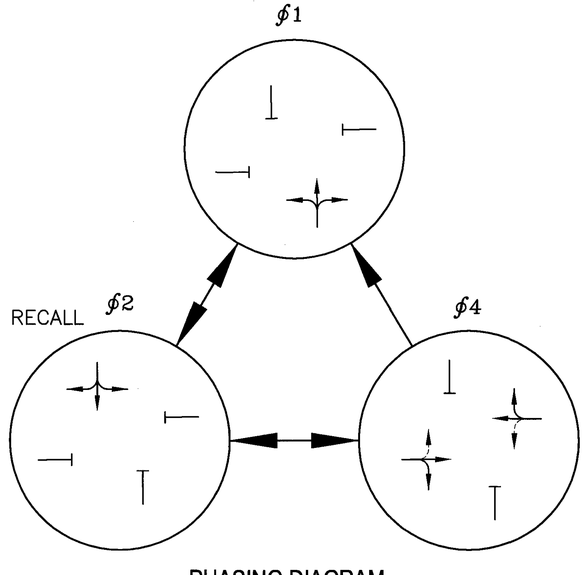


WORK ZONE PAVEMENT TYPICAL SECTION
RIDGEHILLS DRIVE

a) STA. 10+00 TO STA. 8+37.46
b) STA. 7+37.95 TO STA. 8+37.46
* STA. 6+65 TO STA. 8+00 VARIES 12.5' RT TO 24' RT.
STA. 8+00 TO STA. 9+57.5, 24' RT

PAVEMENT MARKING LEGEND

(1)	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A)	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2)	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3)	WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A)	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4)	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A)	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1



PHASING DIAGRAM

N

SCALE IN FEET 50 0 25 50

CALCULATED

CHECKED

RIDGEHILLS DRIVE – MAINTENANCE OF TRAFFIC PHASE 2B

LAK – 90/84 – 0.54/0.43

58A
369

H:\2002\02117\dwg\MOT_RH.DWG 10/28/2004 10:04:32 AM EDT

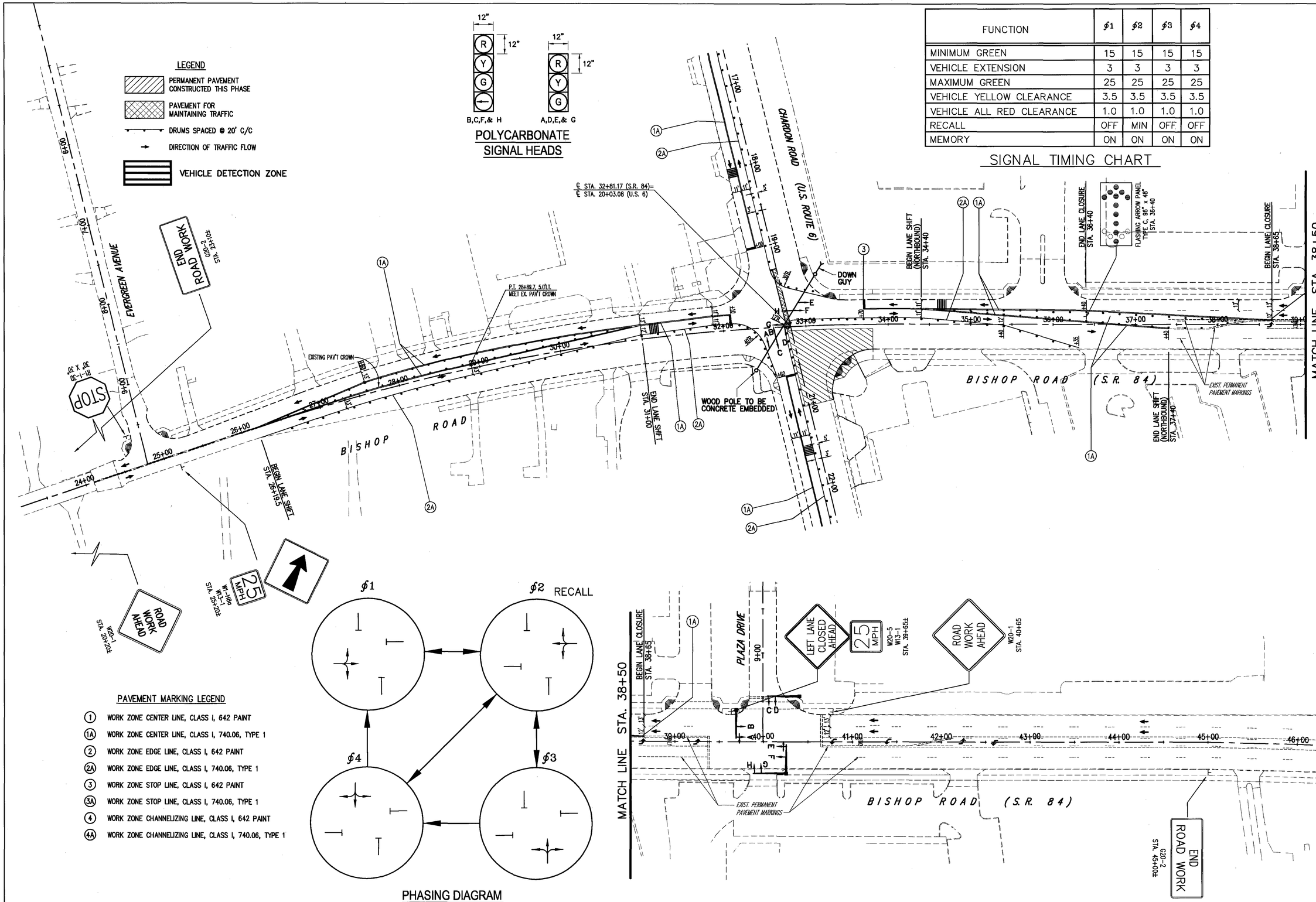
LEGEND

- PERMANENT PAVEMENT CONSTRUCTED THIS PHASE
- PAVEMENT FOR MAINTAINING TRAFFIC
- DRUMS SPACED @ 20' C/C
- DIRECTION OF TRAFFIC FLOW
- VEHICLE DETECTION ZONE

POLYCARBONATE SIGNAL HEADS

FUNCTION	ϕ1	ϕ2	ϕ3	ϕ4
MINIMUM GREEN	15	15	15	15
VEHICLE EXTENSION	3	3	3	3
MAXIMUM GREEN	25	25	25	25
VEHICLE YELLOW CLEARANCE	3.5	3.5	3.5	3.5
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0	1.0
RECALL	OFF	MIN	OFF	OFF
MEMORY	ON	ON	ON	ON

SIGNAL TIMING CHART



PAVEMENT MARKING LEGEND

(1)	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
(1A)	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1
(2)	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
(2A)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1
(3)	WORK ZONE STOP LINE, CLASS I, 642 PAINT
(3A)	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1
(4)	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
(4A)	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1

PHASING DIAGRAM

N

SCALE IN FEET 50 25 0 50

CALCULATED

CHECKED

MAINTENANCE OF TRAFFIC – U.S. 6 STA. 17+00 TO STA. 22+50
PHASE 2C

LAK – 90/84 – 0.54/0.43

58B
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE I	614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE I	614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT		614 WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE I	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE I	614 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A		622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED
				MILE	MILE	MILE	MILE	FT.		FT.	FT.	MILE	S.Y.		FT.	FT.
	PHASE 2A – BISHOP ROAD															
	22+00	29+00	RT		.13	.13	.13									
	29+00	41+00	RT		.21		.23			29						
	41+00	51+00	RT		.17		.17			23						
	51+00	59+00	RT		.12	.03	.11			32		315			167	333
	59+00	65+40	RT		.11	.11	.12									
	PHASE 2B – CHARDON ROAD															
	8+95	17+00			.14	.12	.12			34						
	17+00	22+50			.07		.07			23						
	22+50	29+50			.13	.12	.13									
	PHASE 2C – BISHOP ROAD															
	26+19.5	32+10			.23	.13				11.5						
	33+70	38+65			.15	.07				11.5						
	EVERGREEN AVENUE															
	PART A				.05	.05	.05	11.5					392			
	PART B				.04	.05	.05	11.5					248			
	RIDGEHILLS DRIVE															
	PART A			.03	.03	.09	.03	10					160			
	PART B				.03	.03										
	PART C				.04		.04			10						
	BISHOP PARK DRIVE															
	PART A					0.04	0.02	11					182			
	PART B			.01			.06	11								
	PART C				.01	.01	.05	11								
	PART D						.03			11						
	PLAZA DRIVE															
	7+65	10+00			.05		.03									
TOTALS CARRIED TO GENERAL SUMMARY				0.04	1.71	0.98	1.44	66.0		185.0		315.0	982.0		167.0	333.0

DATE: 10-22-04 – TIME: 15:59 – H:\2002\02117\dwg\MOTQTYSHT.dwg

CALCULATED J.S.Z. CHECKED W.D.B.

MAINTENANCE OF TRAFFIC
PHASE 2A, 2B & 2C

LAK – 90/84 – 0.54/0.43

58C
369

CODE 1: NORMAL PROJECT PARTICIPATION CODE 2: LAKE COUNTY DEPARTMENT OF UTILITIES CODE 3: CITY OF WILLOUGHBY HILLS

ITEM	SHEET NUMBER															SUB-TOTAL			ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN DESIGNATION OR SPECIAL
	16	18	19	64	66	67	68	70	71	72	69	74				CODE 1	CODE 2	CODE 3						
																							ROADWAY	
201																LUMP			201	11000	LUMP		CLEARING AND GRUBBING	
202				2												2			202	20010	2	EACH	HEADWALL REMOVED	
202						212										212			202	22900	212	SQ. YD.	APPROACH SLAB REMOVED	
202						626				385						1011			202	23000	1011	SQ. YD.	PAVEMENT REMOVED	
202						23642	9683									33325			202	23010	33325	SQ. YD.	PAVEMENT REMOVED, ASPHALT	
202											9630					9,630			202	30000	9,630	SQ. FT.	WALK REMOVED	
202				66		5374										5440			202	32000	5440	FEET	CURB REMOVED	
202				380												380			202	32500	380	FEET	CURB AND GUTTER REMOVED	
202				2365												2365			202	35100	2365	FEET	PIPE REMOVED, 24" AND UNDER	
202				50												50			202	35200	50	FEET	PIPE REMOVED, OVER 24"	
202				1703												1703			202	38000	1703	FEET	GUARDRAIL REMOVED	
202				4												4			202	58000	4	EACH	MANHOLE REMOVED	
202				3												3			202	58001	3	EACH	MANHOLE REMOVED, AS PER PLAN	18
202				54												54			202	58200	54	EACH	INLET REMOVED	
202				4												4			202	60010	4	EACH	MONUMENT ASSEMBLY REMOVED	
202				252												252			202	75000	252	FEET	FENCE REMOVED	
202				8												8			202	75400	8	EACH	LIGHT POLE REMOVED	
202				18												18			202	98100	18	EACH	REMOVAL MISC.: SPRINKLER HEADS	
202				27												27			202	98100	27	EACH	REMOVAL MISC.: GUARD POSTS	
202				10												10			202	98100	10	EACH	REMOVAL MISC.: LANDSCAPE BED	
202				2												2			202	98100	2	EACH	REMOVAL MISC.: IRRIGATION CONTROL BOX	
202				16												16			202	98100	16	EACH	REMOVAL MISC.: BUSINESS SIGN	
202				1												1			202	98100	1	EACH	REMOVAL MISC.: STONE PILLAR	
202				1												1			202	98100	1	EACH	REMOVAL MISC.: CURB ISLAND	
202				1												1			202	98100	1	EACH	REMOVAL MISC.: CONCRETE FOUNDATION	
202				30												30			202	98200	30	FEET	REMOVAL MISC.: STONE WALL	
202					1												1		202	20275600	1	EACH	METER VAULT REMOVED	
203								362	345	178		13,368				14,253			203	10000	14,253	CU. YD.	EXCAVATION	
203												11,846				11,846			203	20000	11,846	CU. YD.	EMBANKMENT	
203												1029				1029			203	20001	1029	CU. YD.	EMBANKMENT, AS PER PLAN	17
204	80					37,323	13,700									51,023			204	10000	51,023	SQ. YD.	SUBGRADE COMPACTION	
204	15,625															80			204	45000	80	HOUR	PROOF ROLLING	
205	1274															15,625			205	10500	15,625	CU. YD.	CEMENT STABILIZED EMBANKMENT	
205																1274			205	10550	1274	TON	CEMENT	
205																LUMP			205	20000	LUMP		CONTRACTOR DESIGNED CHEMICALLY STABILIZED EMBANKMENT	
206	1,274															1,274			206	10500	1,274	TON	CEMENT	16
206	11.719															11,719			206	11000	11,719	SQ. YD.	CURING COAT	16
206	11,719															11,719			206	15000	11,719	SQ. YD.	CEMENT STABILIZED SUBGRADE, 16 INCHES DEEP	16
206	8															8			206	20000	8	HRS.	TEST ROLLING	16
206																LUMP			206	30000	LUMP		CONTRACTOR DESIGNED CHEMICALLY STABILIZED SUBGRADE	16
209				13.64												13.64			209	60201	13.64	STATION	LINEAR GRADING, AS PER PLAN	17
604				14												14			604	38500	14	EACH	MONUMENT ASSEMBLY	
606				1362.5												1362.5			606	13000	1362.5	FT.	GUARDRAIL, TYPE 5	
606				3												3			606	22010	3	EACH	ANCHOR ASSEMBLY, TYPE E-98	
606				3												3			606	26500	3	EACH	ANCHOR ASSEMBLY, TYPE T	
606				2												2			606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
606				2												2			606	35100	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
608											39,859					39,859			608	10000	39,859	SQ. FT.	4" CONCRETE WALK	
608											35					35			608	49000	35	EACH	CURB RAMP	
SPECIAL			100													100			SPECIAL	69065010	100	TONS	WORK INVOLVING SOLID WASTE	

CALCULATED J.M.Z. CHECKED W.D.B.

GENERAL SUMMARY

LAK-90/84-0.54/.043

DATE: 10-27-04 - TIME: 09:31 - H:\2002\02117\dwg\Gensum.dwg

CODE 1: NORMAL PROJECT PARTICIPATION CODE 2: LAKE COUNTY DEPARTMENT OF UTILITIES CODE 3: CITY OF WILLOUGHBY HILLS

ITEM	SHEET NUMBER 16	18			65						73	73A	74			SUB-TOTAL CODE 1	CODE 2	CODE 3	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN DESIGNATION OR SPECIAL
																							EROSION CONTROL	
659		2														2			659	00100	2	EACH	SOIL ANALYSIS TEST	
659		3244														3244			659	00300	3244	CU.YD.	TOPSOIL	
659													29,371			29,371			659	10000	29,371	SQ. YD.	SEEDING AND MULCHING	
659		1461														1461			659	14000	1461	SQ. YD.	REPAIR SEEDING AND MULCHING	
659		1461														1461			659	15000	1461	SQ. YD.	INTER-SEEDING	
659		4														4			659	20000	4	TON	COMMERCIAL FERTILIZER	
659		6														6			659	31000	6	ACRE	LIME	
659		79														79			659	35000	79	M GAL.	WATER	
659		66														66			659	40000	66	M SQ.FT.	MOWING	
832																1			832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
832																50000			832	30000	50000	EACH	EROSION CONTROL	
																							DRAINAGE	
603		100			5											105			603	00200	105	FEET	4" CONDUIT, TYPE C	
603		100			22											122			603	00900	122	FEET	6" CONDUIT, TYPE B	
603		100			60											160			603	01100	160	FEET	6" CONDUIT, TYPE C	
603											730	176				730			603	01500	730	FEET	6" CONDUIT, TYPE F	
603		100														100			603	01800	100	FEET	8" CONDUIT, TYPE B	
603		100			5											105			603	02000	105	FEET	8" CONDUIT, TYPE C	
603					11											11			603	03300	11	FEET	10" CONDUIT, TYPE C	
603		100			1972											2072			603	04400	2072	FEET	12" CONDUIT, TYPE B	
603		100			887											987			603	04600	987	FEET	12" CONDUIT, TYPE C	
603					1272											1272			603	05900	1272	FEET	15" CONDUIT, TYPE B	
603					30											30			603	06100	30	FEET	15" CONDUIT, TYPE C	
603					374											374			603	07400	374	FEET	18" CONDUIT, TYPE B	
603					55											55			603	07600	55	FEET	18" CONDUIT, TYPE C	
603					28											28			603	08900	28	FEET	21" CONDUIT, TYPE B	
603					51											51			603	09100	51	FEET	21" CONDUIT, TYPE C	
603					180											180			603	10600	180	FEET	24" CONDUIT, TYPE C	
603					592											592			603	11900	592	FEET	27" CONDUIT, TYPE B	
603					643											643			603	12100	643	FEET	27" CONDUIT, TYPE C	
603					237											237			603	97000	237	FEET	SLOTTED DRAIN, 6", TYPE 1	
604					6											6			604	00400	6	EACH	CATCH BASIN, NO. 3	
604					48											48			604	00800	48	EACH	CATCH BASIN, NO. 3A	
604					2											2			604	02000	2	EACH	CATCH BASIN, NO. 6	
604		5			22											27			604	04500	27	EACH	CATCH BASIN, NO. 2-2B	
604		5														5			604	10100	5	EACH	INLET, SIDE DITCH	
604					1											1			604	20800	1	EACH	INLET RECONSTRUCTED TO GRADE	
604					31											31			604	31500	31	EACH	MANHOLE, NO. 3	
604					5											5			604	34500	5	EACH	MANHOLE ADJUSTED TO GRADE	
604					2											2			604	35500	2	EACH	MANHOLE RECONSTRUCTED TO GRADE	
604												4				4			604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
SPECIAL		10,000														10,000			SPECIAL	60450000	10,000	LBS.	MISCELLANEOUS METAL	18
605											7,797					7,797			605	11110	7,797	FEET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	
605											260	121				381			605	13300	381	FEET	6" UNCLASSIFIED PIPE UNDERDRAINS	
605											2,728	8,701				11,429			605	14020	11,429	FEET	6" BASE PIPE UNDERDRAINS, WITH FABRIC WRAP	

CALCULATED J.M.Z. CHECKED W.D.B.

GENERAL SUMMARY

LAK-90/84-0.54/.043

DATE: 10-27-04 - TIME: 10:45 - H:\2002\02117\dwg\Gensum.dwg

CODE 1: NORMAL PROJECT PARTICIPATION CODE 2: LAKE COUNTY DEPARTMENT OF UTILITIES CODE 3: CITY OF WILLOUGHBY HILLS

ITEM	SHEET NUMBER															SUB-TOTAL			ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN DESIGNATION OR SPECIAL
			16			67	68	70	71	72			21			CODE 1	CODE 2	CODE 3						
																							PAVEMENT	
252						80										80			252	01500	80	FEET	FULL DEPTH PAVEMENT SAWING	
301						85		74	52	36			350			597			301	46000	597	CU. YD.	ASPHALT CONCRETE BASE, PG64-22	
304								13					250			263			304	20000	263	CU. YD.	AGGREGATE BASE	
304						6039	2267									8307			304	20001	8,307	CU. YD.	AGGREGATE BASE, AS PER PLAN	19
407						29							35			64			407	10000	64	GAL.	TACK COAT	
407						15										15			407	14000	15	GAL.	TACK COAT FOR INTERMEDIATE COURSE	
408						115							100			215			408	10000	215	GAL.	PRIME COAT	
448						38										38			448	46050	38	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
448							34									34			448	46061	34	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	17
448						27		20	18	10						75			448	46904	75	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M	
448													55			55			448	47020	55	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
SPECIAL						152										152			SPECIAL	45130000	152	FEET	PRESSURE RELIEF JOINT, TYPE A	
452								336	607	408						1,351			452	10000	1,351	SQ. YD.	6" NON-REINFORCED CONCRETE PAVEMENT	
452								901	797	290						1,988			452	12000	1,988	SQ. YD.	8" NON-REINFORCED CONCRETE PAVEMENT	
452						34,741	12,570									47,312			452	13000	47,312	SQ. YD.	9" NON-REINFORCED CONCRETE PAVEMENT	
609						380										380			609	12000	380	FEET	COMBINATION CURB AND GUTTER, TYPE 2	
609						11881	356									12237			609	14000	12237	FEET	CURB, TYPE 2-A	
609			500			1,234										1,734			609	26000	1,734	FEET	CURB, TYPE 6	
609						447										447			609	26001	447	FEET	CURB, TYPE 6, AS PER PLAN	19

CALCULATED J.M.Z. CHECKED W.D.B.

GENERAL SUMMARY

LAK-90/84-0.54/.043

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369

DATE: 10-27-04 - TIME: 15:23 - H:\2002\02117\dwg\Gensum.dwg

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CODE 1: NORMAL PROJECT PARTICIPATION CODE 2: LAKE COUNTY DEPARTMENT OF UTILITIES CODE 3: CITY OF WILLOUGHBY HILLS

ITEM	SHEET NUMBER						18	19		65	66		222	223		SUB-TOTAL CODE 1	SUB-TOTAL CODE 2	SUB-TOTAL CODE 3	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN DESIGNATION OR SPECIAL
																							WATER WORK	
638											192					192			638	02710	192	FEET	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 56,	
																							BOLTLESS-RESTRAINED JOINTS AND FITTINGS	
638											192					192			638	07314	192	FEET	30" STEEL PIPE ENCASEMENT, BORED AND JACKED	
638											5					5			638	10500	5	EACH	FIRE HYDRANT REMOVED AND RESET	
638											9					9			638	11100	9	EACH	METER AND CHAMBER REMOVED AND RESET	
SPECIAL											517					330	187		SPECIAL	63840206	517	FEET	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53,	
																							PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS	
SPECIAL																								
SPECIAL											3532					523	3009		SPECIAL	63840410	3532	FEET	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53,	
																							PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS	
SPECIAL																								
SPECIAL											7					1	6		SPECIAL	63841100	7	EACH	8" GATE VALVE AND VALVE BOX	
SPECIAL																								
SPECIAL											13					3	10		SPECIAL	63841300	13	EACH	12" GATE VALVE AND VALVE BOX	
SPECIAL																								
SPECIAL											4					4			SPECIAL	63842700	4	EACH	6" HYDRANT ASSEMBLY, TYPE A	
SPECIAL											8					8			SPECIAL	63842800	8	EACH	6" HYDRANT ASSEMBLY, TYPE B	
SPECIAL											3					3			SPECIAL	63843000	3	EACH	HYDRANT ADJUSTED TO GRADE	
SPECIAL											16					16			SPECIAL	63843600	16	EACH	HYDRANT REMOVED AND DISPOSED OF	
SPECIAL											14					14			SPECIAL	63843800	14	EACH	VALVE BOX ADJUSTED TO GRADE	
SPECIAL											12					1	11		SPECIAL	63898000	12	EACH	WATER WORKS MISC: CLOSE EXISTING VALVE AND REMOVE VALVE BOX	
SPECIAL																								
SPECIAL											10					10			SPECIAL	63898000	10	EACH	WATER WORKS MISC: CORP STOP REMOVED AND RESET	
SPECIAL											10					10			SPECIAL	63898000	10	EACH	WATER WORKS MISC: CORP STOP REMOVED AND RESET	
SPECIAL											8					8			SPECIAL	63898000	8	EACH	WATER WORKS MISC: CORP STOP ADJUSTED TO GRADE	
SPECIAL											1						1		SPECIAL	63898000	1	EACH	WATER WORKS MISC: WATER METER VAULT	
SPECIAL											1						1		SPECIAL	63898000	1	EACH	WATER WORKS MISC: MANHOLE REMOVED AND DISPOSED OF	
																							SANITARY SEWER	
603							100									100			603	00900	100	FEET	6" CONDUIT, TYPE B	
603							100									100			603	01100	100	FEET	6" CONDUIT, TYPE C	
604										15						15			604	34500	15	EACH	MANHOLE ADJUSTED TO GRADE	
604										5						5			604	35500	5	EACH	MANHOLE RECONSTRUCTED TO GRADE	
																							TRAFFIC CONTROL	
																							SEE TRAFFIC CONTROL GENERAL SUMMARY SHEETS 245-247	
																							LIGHTING	
625								860										860	625	25402	860	FEET	CONDUIT, 2", 725.05	19
625								132										132	625	25602	132	FEET	CONDUIT, 4", 725.05	19
625								992										992	625	29400	992	FEET	TRENCH IN PAVED AREA	19
																							RETAINING WALLS	
SPECIAL													656	921		1577			SPECIAL	61050010	1577	SQ.FT.	RETAINING WALL, MISC.: SEGMENTAL CONCRETE UNIT	
																							(MANUFACTURED BLOCK) RETAINING WALL SYSTEM	

CALCULATED J.M.Z.
CHECKED W.D.B.

GENERAL SUMMARY

LAK-90/84-0.54/.043

DATE: 10-27-04 - TIME: 14:43 - H:\2002\021.17\dwg\Censum.dwg

CODE 1: NORMAL PROJECT PARTICIPATION CODE 2: LAKE COUNTY DEPARTMENT OF UTILITIES CODE 3: CITY OF WILLOUGHBY HILLS

ITEM	SHEET NUMBER 20	21	39	58C	SUB-TOTAL CODE 1	CODE 2	CODE 3	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN DESIGNATION OR SPECIAL
												MAINTENANCE OF TRAFFIC	
410	1700				1700			410	12000	1700	CU. YD.	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
614	500				500			614	11100	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
614	500				500			614	11200	500	HOUR	LAW ENFORCEMENT OFFICER	
614					LUMP			614	12420	LUMP		DETOUR SIGNING	
614	20				20			614	12460	20	EACH	WORK ZONE MARKING SIGN	
614		20			20			614	12470	20	EACH	WORK ZONE SPEED LIMIT SIGN	
614	100				100			614	12510	100	SQ. YD.	REPLACEMENT SIGN	
614	50				50			614	12600	50	EACH	REPLACEMENT DRUM	
614	200	50			250			614	13000	250	CU. YD.	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
614	25				25			614	13300	25	EACH	BARRIER REFLECTOR, TYPE B	
614	25				25			614	13350	25	EACH	OBJECT MARKER, ONE-WAY	
614			1.02	0.04	1.06			614	21100	1.06	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
614			0.13	1.71	1.84			614	21200	1.84	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	
614			1.50	0.98	2.48			614	22100	2.48	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
614			0.12	1.44	1.56			614	22200	1.56	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
614			331		331			614	23200	331	FEET	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
614				315	315			614	23400	315	FEET	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	
614			246	66	312			614	26200	312	FEET	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
614			15	185	200			614	26400	200	FEET	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
615			6233	982	7215			615	20000	7215	SQ. YD.	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
616	125	1			126			616	10000	126	M GAL.	WATER	
617		50			50			617	10100	50	CU.YD.	COMPACTED AGGREGATE, TYPE A	
617		1			1			617	25000	1	M GAL.	WATER	
622				167	167			622	40020	167	FEET	PORTABLE CONCRETE BARRIER, 32"	
622				333	333			622	40040	333	FEET	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
614					LUMP			614	11000	LUMP		MAINTAINING TRAFFIC	
619					24			619	16021	24	MONTH	FIELD OFFICE, TYPE C, AS PER PLAN	16
623					LUMP			623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
624					LUMP			624	10000	LUMP		MOBILIZATION	
												SEE STRUCTURE GENERAL SUMMARY	334

CALCULATED J.M.Z. CHECKED W.D.B.

GENERAL SUMMARY

LAK-90/84-0.54/.043

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SHEET NO.	202 HEADWALL REMOVED EACH	202 CURB REMOVED FT.	202 CURB AND GUTTER REMOVED FT.	202 PIPE REMOVED, 24" AND UNDER FT.	202 PIPE REMOVED, OVER 24" FT.	202 GUARDRAIL REMOVED FT.	202 MANHOLE REMOVED EACH	202 INLET REMOVED EACH	202 MANHOLE REMOVED AS PER PLAN EACH	202 MONUMENT ASSEMBLY REMOVED EACH	202 FENCE REMOVED FEET	202 LIGHT POLE REMOVED EACH	202 REMOVAL MISC.: SPRINKLER HEADS EACH	202 REMOVAL MISC.: GUARD POSTS EACH	202 REMOVAL MISC.: BUSINESS SIGN EACH	202 REMOVAL MISC.: STONE PILLAR EACH	202 REMOVAL MISC.: LANDSCAPE BED EACH	202 REMOVAL MISC.: IRRIGATION CONTROL BOX EACH	202 REMOVAL MISC.: CURB ISLAND EACH	202 REMOVAL MISC.: STONE WALL FT.	202 REMOVAL MISC.: CONCRETE FOUNDATION EACH	209 LINEAR GRADING, AS PER PLAN STATION	604 MONUMENT ASSEMBLY EACH		606 GUARDRAIL, TYPE 5 FT.	606 ANCHOR ASSEMBLY, TYPE T EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH
BISHOP ROAD																													
23+00 to 27+00	2			209		80		4															2						
27+00 to 31+00				436			1	5		1	21			1	2														
31+00 to 35+00				66				2		1		1	7	2	1		3	2					2						
35+00 to 39+00				210				4	3			1	3	3	4		2												
39+00 to 43+00				326				7			9			2	3														
43+00 to 47+00				223	50			11															1						
47+00 to 51+00				66			1	4						1	1		2						3						
51+00 to 55+00				52		186	1	3		1	22	1											2						
55+00 to 59+00				69		263	1	3			54			2		1							2						
59+00 to 63+00								2		1					1								2						
63+00 to 65+40			380																										
CHARDON ROAD																													
11+35 to 14+00				263				2									1												
14+00 to 18+00				271				2			126	1		11	2				1	30	1								
18+00 to 22+00				64				2					3	5															
22+00 to 26+00				110				2					5		2		1												
EDDY ROAD		66						1			20						1												
RAMP 8																						0.88			87.50	1	1		
RAMP 9						1174																10.75			1075	1		2	1
RAMP 10																						0.63			62.50	1	1		
RAMP 11																						1.38			137.50			1	1
BISHOP PARK DRIVE												4																	
TOTALS CARRIED TO GENERAL SUMMARY	2	66	380	2365	50	1703	4	54	3	4	252	8	18	27	16	1	10	2	1	30	1	13.64	14		1362.5	3	2	3	2

CALCULATED J.M.Z. CHECKED W.D.B.

ROADWAY SUB-SUMMARY

LAK-90/84-0.54/0.43

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	SANITARY		DRAINAGE																									
	604	604		603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603		604	604	604	604	604	604	604	604
SHEET NO.	MANHOLE ADJUSTED TO GRADE	MANHOLE RECONSTRUCTED TO GRADE		4" CONDUIT, TYPE C	6" CONDUIT, TYPE B	6" CONDUIT, TYPE C	8" CONDUIT, TYPE C	10" CONDUIT, TYPE C	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	15" CONDUIT, TYPE C	15" CONDUIT, TYPE B	18" CONDUIT, TYPE B	18" CONDUIT, TYPE C	21" CONDUIT, TYPE C	21" CONDUIT, TYPE B	24" CONDUIT, TYPE C	27" CONDUIT, TYPE C	27" CONDUIT, TYPE B	SLOTTED DRAIN, 6" TYPE 1		CATCH BASIN, NO. 2-2B	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 6	MANHOLE, NO. 3	MANHOLE ADJUSTED TO GRADE	INLET RECONSTRUCTED TO GRADE	MANHOLE RECONSTRUCTED TO GRADE
	EACH	EACH		FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.		EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
BISHOP ROAD																												
23+00 to 27+00	1								75	122				55	51						3	2	2		1			
27+00 to 31+00	1								109		20						180	230		37			4		2			
31+00 to 35+00	2					15	5		100	85	10								453	69	3		3		4			
35+00 to 39+00				5		33		11	70	150								389			3		4		3			
39+00 to 43+00	4	1							60	42		305	11			28			103	100	5		4		3		1	
43+00 to 47+00	2								59	105		177	30						12		3	1	5	1	1	1		
47+00 to 51+00	1	3							140	6									24				2		3	1		
51+00 to 55+00									66														2		1	1		1
55+00 to 59+00		1							408														4		2			1
59+00 to 63+00									35	24								24					3		2			
63+00 to end	1																									1		
CHARDON ROAD																												
11+35 to 14+00									51	308											1		2		1			
14+00 to 18+00									126	12		290	259								1		4		3			
18+00 to 22+00					22	12			177			195	44									1	2		1			
22+00 to 26+00	2								363	33										31	1		2		2			
26+00 to 29+00									62														2					
RIDGEHILLS DRIVE												107											1	1				
EDDY ROAD	1								24													1	1					
JOHNSON DRIVE									47			198	30								2	1	1		2	1		
TOTALS CARRIED TO GENERAL SUMMARY	15	5		5	22	60	5	11	1972	887	30	1272	374	55	51	28	180	643	592	237	22	6	48	2	31	5	1	2

CALCULATED J.M.Z. CHECKED W.D.B.

SANITARY & DRAINAGE SUB-SUMMARY

LAK-90/84-0.54/0.43

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CODE 1 = NORMAL PARTICIPATION — CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

WATER WORKS

SHEET NO.	202 CODE 2 METER VAULT REMOVED EACH		638 CODE 1 WATER WORKS MISC: CORP STOP REMOVED AND RESET EACH	638 CODE 1 WATER WORKS MISC: CORP STOP ADJUSTED TO GRADE EACH	638 CODE 1 METER & CHAMBER REMOVED AND RESET EACH	638 CODE 1 TYPE 'A' HYDRANT ASSEMBLY EACH	638 CODE 1 TYPE 'B' HYDRANT ASSEMBLY EACH	638 CODE 1 VALVE BOX ADJUSTED TO GRADE EACH	638 CODE 1 FIRE HYDRANT REMOVED AND DISPOSED OF EACH	638 CODE 2 8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS FEET	638 CODE 1 8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS FEET	638 CODE 2 8" GATE VALVE AND VALVE BOX EACH	638 CODE 1 8" GATE VALVE AND VALVE BOX EACH	638 CODE 1 HYDRANT REMOVED AND RESET EACH	638 CODE 2 12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS FEET	638 CODE 1 12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS FEET	638 CODE 2 12" GATE VALVE AND VALVE BOX EACH	638 CODE 1 12" GATE VALVE AND VALVE BOX EACH	638 CODE 1 HYDRANT ADJUST TO GRADE EACH	638 CODE 2 WATER WORKS MISC: CLOSE EXISTING VALVE AND REMOVE VALVE BOX EACH	638 CODE 1 WATER WORKS MISC: CLOSE EXISTING VALVE AND REMOVE VALVE BOX EACH	638 CODE 2 WATER WORKS MISC: MANHOLE REMOVE AND DISPOSED OF EACH	638 CODE 1 12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 56, BOLTLESS-RESTRAINED JOINTS AND FITTINGS FEET	638 CODE 1 30" STEEL PIPE ENCASEMENT, BORED OR JACKED FEET	638 CODE 2 WATER WORKS MISC: WATER METER VAULT EACH
BISHOP ROAD																									
23+00 to 27+00				1	1			2	1					1	103		1								
27+00 to 31+00					1		1		1						407										
31+00 to 35+00					1		2	2	2						431		4		1	3					
35+00 to 39+00							1		1						400										
39+00 to 43+00					2		1	2	4	129		3			432		1			2					
43+00 to 47+00					1	1			1	30		1			432					1					
47+00 to 51+00						1			1	28		2			367	66	1	1		3		1			
51+00 to 55+00							1		1							310	1	1			1		100	100	
55+00 to 59+00	1		1		1		1		1						173	147	1	1		1			92	92	1
59+00 to 63+00			7	4	1		1	5	1						264		1			1					
63+00 to end			2	1		1			1																
CHARDON ROAD																									
11+35 to 14+00								2						1											
14+00 to 18+00				1	1									3											
18+00 to 22+00						1																			
22+00 to 26+00				1		1			1																
26+00 to 30+00								1											1						
EDDY ROAD																									
10+00 to 14+00											330		1						1						
TOTALS CARRIED TO GENERAL SUMMARY	1		10	8	9	5	8	14	16	187	330	6	1	5	3009	523	10	3	3	11	1	1	192	192	1

CALCULATED J.M.Z. CHECKED W.D.B.

WATER WORKS SUB-SUMMARY

LAK-90/84-0.54/0.43

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PAVEMENT

* COMPUTER GENERATED AREA

STATION TO STATION	REPLACEMENT AREA			ASPHALT AREA			204	301	304	252	407	407	408	448	448	451	452	609	609	609	609		202	202	202	202
	LENGTH (FEET)	AVE. WIDTH (FEET)	P'MT AREA SQ. YDS.				SUBGRADE COMPACTION	8" ASPHALT CONCRETE BASE	AGGREGATE BASE (6"), AS PER PLAN	FULL DEPTH PAVEMENT SAWING	TACK COAT, 0.10 GAL/SY	TACK COAT, INTERMEDIATE COURSE, 0.05 GAL/SY	PRIME COAT, 0.40 GAL/SY	1 1/4" ASPHALT CONC. SURFACE COURSE, TYPE 1, PG 70-22M	1 3/4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE 2, PG 64-28M	SPEC. PRESSURE RELIEF JOINT, TYPE A	9" NON-REINFORCED CONCRETE PAVEMENT	COMBINATION CURB & GUTTER, TYPE 2	CURB, TYPE 2A	CURB TYPE 6, AS PER PLAN	CURB TYPE 6		CONCRETE PAVEMENT REMOVED	PAVEMENT REMOVED ASPHALT	CURB REMOVED	APPROACH SLAB REMOVED
							SQ.YDS.	CU.YDS.	CU.YDS.	FT.	GAL.	GAL.	GAL.	CU.YDS.	CU.YDS.	FT.	SQ.YDS.	FT.	FT.	FT.	FT.		SQ.YDS.	SQ.YDS.	FT.	SQ.YDS.
SR 84 (BISHOP ROAD)																										
24+10 to 27+00	290		990*				1097.2	21.4	186.5					3.4	4.8		990		439.4					767		
27+00 to 31+00	400		2639*				2502.3		448.6								2369		800.5		10			1063.2		
31+00 to 35+00	400		2709.4*				2842.7		460.6								2709.4		481	122	80			1846.3	316	
35+00 to 39+00	400	61	2711.1				2844.4		460.9								2711.1		891	15				2051	666.5	
39+00 to 43+00	400	61	2711.1				2844.4		460.9								2711.1		817	84	55			1820.3	640	
43+00 to 47+00	400	61	2711.1				2844.4		460.9								2711.1		800		85			1735.7	800	
47+00 to 51+00	400	61	2711.1				2844.4		460.9								2711.1		522		31			1764.5	545	
51+00 to 53+27.25	227.25		1567.4*				1643.2		266.5							76	1467.4		269.2		176			1008	320	106
56+60.75 to 59+00	239.25		1551*				1630.8		263.7							76	1551		293.7					749	380	106
59+00 to 63+00	400		1456*				1589.3		247.5								1456		704.4					1194.3	732	
63+00 to 63+50	50	27.3	151.7				168.4		25.8								151.7		100					150	100	
63+50 to 65+40	190																	380							380	
SR 6 (CHARDON ROAD)																										
11+35 to 14+00	265		1538.2*				1626.5		261.5								1538.2		530		28			1265		
14+00 to 18+00	400		2608.7*				2742.0		443.5	80							2608.7		800		332			1738		
18+00 to 22+00	400		2541.6*				2674.9		432.1								2541.6		799.4	128	244			1705.5		
22+00 to 26+00	400		2089*				2222.3		355.1								2089		800	98				1151		
26+00 to 27+60	160		526.1*				579.4		89.4								526.1		320					467.5		
EVERGREEN AVE.																										
8+55 to 9+83.74			374.9				416.2		66.6								374.9		288					364		
PLAZA DRIVE																										
8+30.22 to 9+69.5	139.28		547.22*				599.8		93.0								547.22		210					545	300	
BISHOP PARK DRIVE																										
8+55 to 9+00																					98				98	
9+00 to 9+76.24	76.24		380*				426.5		64.6					13.3	18.6		380		188		96			345	96	
EDDY ROAD																										
10+42.34 to 13+25			822.4*				925.1		139.8								822.4		619					937		
13+25 to 13+75			146.5				163.8	32.2	24.9		14.7	7.3	58.6	5.1	7.2											
RIDGEHILLS DRIVE																										
8+00 to 9+82.25	182.25		701.8				762.55		119.3								701.8		400				625.3			
JOHNSON DRIVE																										
10+15.78 to 11+90			540.6				605.3		91.9								540.6		405					494		
11+90 to 12+40			139.3				156.2	30.6	23.7		13.9	7.0	55.7	4.9	6.8											
DRIVEWAY @ 35+87 LT			353.7				376.4		60.1								353.7		204					304		
DRIVEWAY @ 39+23 LT			177.7				194		30.2								177.7		102					176		
	QUANTITIES CARRIED TO GENERAL SUMMARY						37322.5	84.2	6038.8	80.0	28.6	14.3	114.3	26.7	37.4	152.0	34740.82	380	11881	447	1234		625.3	23641.3	5374	212.0

CALCULATED J.S.Z. CHECKED W.D.B.

PAVEMENT SUB-SUMMARY

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PAVEMENT

* COMPUTER GENERATED AREA

STATION TO STATION	REPLACEMENT AREA			ASPHALT AREA			202		204	304	448	452	609
	LENGTH (FEET)	AVE.WIDTH (FEET)	P'MT AREA SQ. YDS.				PAVEMENT REMOVED, ASPHALT		SUBGRADE COMPACTION	AGGREGATE BASE (6"), AS PER PLAN	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	9" NON-REINFORCED CONCRETE PAVEMENT	CURB, TYPE 2A
							SQ.YDS.		SQ.YDS.	CU.YDS.	CU.YDS.	SQ.YDS.	FT.
RAMP 8													
95+96.88 to 101+00	503.12		1603.3*				1430.4		1771.0	291.6		1603.3	
101+00 to 104+73.78	373.78		1600.3*				1076.8		1724.9	286.2	2.8	1600.3	87.6
RAMP 9													
96+54.35 to 100+00	345.65		1260*				968.0		1375.2	227.3	6.0	1260	
100+00 to 104+00	400		1688.6*				1104.0		1821.9	302.2	12.4	1688.6	
104+00 to 106+32.64	232.64		1019.7*				650.9		1097.3	182.2	5.9	1019.7	102.3
RAMP 10													
105+86.59 to 110+00	413.41		1222.3*				1171.6		1360.1	223.4	2.3	1222.3	83
110+00 to 113+47.99	347.99		1011.7*				956.9		1127.7	186.5		1011.7	
RAMP 11													
106+09.86 to 110+00	390.14		1675.7				1221.3		1805.7	299.6	4.1	1675.7	83
110+00 to 113+84.57	384.57		1488.3				1102.7		1616.5	267.5		1488.3	
QUANTITIES CARRIED TO GENERAL SUMMARY							9682.6		13700.0	2266.5	33.5	12569.9	355.9

CALCULATED J.S.Z. CHECKED W.D.B.

PAVEMENT SUB-SUMMARY

LAK-90/84-0.54/0.43

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SIDEWALK CALCULATIONS

STREET NAME	SHEET NUMBER	REFERENCE NUMBER	STA. TO STA.	SIDE	LENGTH, L	AVERAGE WIDTH, W	SURFACE AREA, A (A=LxW)	AREA CALCULATED BY COMPUTER	202 WALK REMOVED	608 4" CONCRETE WALK	608 CURB RAMP, TYPE 1
							SQ.FT.	SQ.FT.	SQ.FT.	SQ.FT.	EACH
BISHOP RD.	1	SW-1	24+65	L	–	–	–	157		157	1
BISHOP RD.	1	SW-2	25+17 TO 25+41	L	24	6	144	160		304	1
BISHOP RD.	1	SW-3	25+53 TO 26+78	L	125	6	750	–	200	750	–
BISHOP RD.	1	SW-4	24+50 TO 25+60	R	110	6	660	–		660	–
BISHOP RD.	1	SW-5	25+72 TO 27+00	R	128	6	768	–		768	–
BISHOP RD.	2	SW-1	27+04 TO 27+83	L	79	6	474	–	395	474	–
BISHOP RD.	2	SW-2	28+07 TO 28+41	L	34	6	204	–	155	204	–
BISHOP RD.	2	SW-3	28+53 TO 29+21	L	68	6	408	35	300	443	–
BISHOP RD.	2	SW-4	29+45 TO 30+44.5	L	99.5	6	597	–	445	597	–
BISHOP RD.	2	SW-5	30+69.5 TO 31+05	L	35.3	6	213	–	115	213	–
BISHOP RD.	2	SW-6	27+00 TO 27+23	R	23	6	138	–	–	138	–
BISHOP RD.	2	SW-7	27+35 TO 28+77	R	142	6	852	–	–	852	–
BISHOP RD.	2	SW-8	28+89 TO 29+58	R	69	6	414	–	–	414	–
BISHOP RD.	2	SW-9	29+70 TO 30+46	R	76	6	456	–	–	456	–
BISHOP RD.	2	SW-10	30+58 TO 30+76	R	18	6	108	–	–	108	–
BISHOP RD.	3	SW-1	31+37 TO 31+88	L	–	–	–	467	–	467	–
BISHOP RD.	3	SW-2	32+07 TO 32+30	L	–	–	–	367	–	367	2
BISHOP RD.	3	SW-3	32+96 TO 35+00	L	159	6	954	673	–	1627	2
BISHOP RD.	3	SW-4	31+23 TO 32+65	R	88	10	880	693	–	1573	2
BISHOP RD.	3	SW-5	33+31 TO 33+60	R	–	–	–	334	–	334	2
BISHOP RD.	3	SW-6	33+97 TO 34+75	R	78	6	468	–	–	468	–
BISHOP RD.	4	SW-1	35+00 TO 35+57	L	40	6	240	160	–	400	1
BISHOP RD.	4	SW-2	36+17 TO 39+00	L	251	6	1506	320	–	1826	2
BISHOP RD.	4	SW-3	35+09 TO 36+38.5	R	129.5	6	777	–	–	777	–
BISHOP RD.	4	SW-4	36+77.5 TO 38+01	R	123.5	6	741	–	–	741	–
BISHOP RD.	4	SW-5	38+25 TO 39+00	R	75	6	450	–	–	450	–
BISHOP RD.	5	SW-1	39+00 TO 39+83	L	17	6	102	296	–	398	2
BISHOP RD.	5	SW-2	40+25 TO 40+98	L	53	6	318	166	–	484	1
BISHOP RD.	5	SW-3	41+40 TO 42+97	L	157	6	942	–	–	942	–
BISHOP RD.	5	SW-4	39+00 TO 39+84	R	84	6	504	–	–	504	–
BISHOP RD.	5	SW-5	40+14 TO 42+10	R	196	6	1176	–	–	1176	–
BISHOP RD.	5	SW-6	42+40 TO 43+00	R	60	6	360	–	–	360	–
BISHOP RD.	6	SW-1	43+39 TO 45+20	L	181	6	1086	–	–	1086	–
BISHOP RD.	6	SW-2	45+71 TO 47+00	L	129	6	774	–	–	774	–
BISHOP RD.	6	SW-3	43+00 TO 45+33	R	233	6	1398	–	–	1398	–
BISHOP RD.	6	SW-4	45+61 TO 47+00	R	139	6	834	–	–	834	–
TOTAL A							19,696	3828	1610	23,524	16

SIDEWALK CALCULATIONS

STREET NAME	SHEET NUMBER	REFERENCE NUMBER	STA. TO STA.	SIDE	LENGTH, L	AVERAGE WIDTH, W	SURFACE AREA, A (A=LxW)	AREA CALCULATED BY COMPUTER	202 WALK REMOVED	608 4" CONCRETE WALK	608 CURB RAMP
							SQ.FT.	SQ.FT.	SQ.FT.	SQ.FT.	EACH
BISHOP RD.	7	SW-1	47+00 TO 47+42	L	27	6	162	157	–	319	1
BISHOP RD.	7	SW-2	41+97 TO 48+46.5	L	40	6	240	157	–	397	1
BISHOP RD.	7	SW-3	48+81.5 TO 49+88	L	70	6	420	410	–	830	2
BISHOP RD.	7	SW-4	50+26 TO 50+60	L	–	–	–	328	–	328	2
BISHOP RD.	7	SW-5	47+00 TO 47+37.5	R	37.5	6	225	–	–	225	–
BISHOP RD.	7	SW-6	47+50.5 TO 49+83	R	204	6	1224	436	–	1660	2
BISHOP RD.	7	SW-7	50+09 TO 51+00	R	47	10	470	519	–	989	2
BISHOP RD.	8	SW-1	51+00 TO 51+31	L	–	–	–	249	–	249	–
BISHOP RD.	8	SW-2	51+71 TO 52+55	L	–	–	–	773	360	773	1
BISHOP RD.	8	SW-3	53+00 TO 53+29	L	–	–	–	255	–	255	1
BISHOP RD.	8	SW-4	51+00 TO 51+48	R	48	10	480	–	–	480	–
BISHOP RD.	8	SW-5	51+76 TO 52+65	R	59	10	590	311	360	901	1
BISHOP RD.	8	SW-6	52+96 TO 52+25	R	–	–	–	254	–	254	–
BISHOP RD.	9	SW-1	56+62 TO 57+03	L	–	–	–	304	325	304	1
BISHOP RD.	9	SW-2	57+48 TO 59+00	L	137	6	822	157	725	979	1
BISHOP RD.	9	SW-3	56+59 TO 56+90	R	–	–	–	233	325	233	1
BISHOP RD.	9	SW-4	57+34 TO 58+02	R	54	6	324	158	300	482	1
BISHOP RD.	9	SW-5	58+14 TO 58+88	R	74	6	444	–	300	444	–
BISHOP RD.	10	SW-1	59+00 TO 61+04	L	204	6	1224	–	1000	1224	–
BISHOP RD.	10	SW-2	61+16 TO 61+76	L	60	6	360	15	305	375	–
BISHOP RD.	10	SW-3	61+90 TO 62+18	L	28	6	168	–	140	168	–
BISHOP RD.	10	SW-4	62+32 TO 62+59.5	L	27.5	6	165	–	135	165	–
BISHOP RD.	10	SW-5	62+72.5 TO 63+00	L	27.5	6	165	–	140	165	–
BISHOP RD.	10	SW-6	59+00 TO 59+19	R	19	6	114	–	60	114	–
BISHOP RD.	10	SW-7	59+31 TO 59+76	R	45	6	270	–	240	270	–
BISHOP RD.	10	SW-8	59+88 TO 60+89	R	84	6	504	149	490	653	1
BISHOP RD.	10	SW-9	61+25 TO 62+46.5	R	107	6	642	158	600	800	1
BISHOP RD.	10	SW-10	62+63.5 TO 63+02.5	R	39	6	234	–	190	234	–
BISHOP RD.	11	SW-1	63+00 TO 63+74.7	L	74.7	5.5	399	–	367	399	–
BISHOP RD.	11	SW-2	63+22.5 TO 63+96.2	R	73.7	5.5	357	–	349	357	–
BISHOP RD.	11	SW-3	63+90.7 TO 64+45.6	L	54.9	5	272	–	272	272	–
BISHOP RD.	11	SW-4	64+58.1 TO 65+40	L	81.9	5	408	–	408	408	–
BISHOP RD.	11	SW-5	64+123.1 TO 65+40	R	127.9	5	629	–	629	629	–
TOTAL B							11,312	5023	8020	16,335	19
(TOTAL A)							19,696	3828	1610	23,524	16
SHEET TOTAL CARRIED TO GENERAL SUMMARY							31,008	8,851	9,630	39,859	35

CALCULATED R.A.B. CHECKED J.M.Z.

SIDEWALK QUANTITY CALCULATIONS

LAK-90/84-0.54/0.43

STREET NAME	SHEET NUMBER	REFERENCE NUMBER	CENTERLINE STATION	SIDE	TYPE R or C	202		PROPOSED DRIVEWAY DIMENSIONS				PROPOSED DRIVEWAY AREAS		203			301		304	448	452	
						CURB REMOVED	PAVEMENT REMOVED	APRON AREA AVG. WIDTH x LENGTH	DRIVEWAY THRU SIDEWALK AREA LENGTH x WIDTH	DRIVEWAY AREA LENGTH x WIDTH	DRIVEWAY EXTRA AREA	TOTAL RIGID AREA	TOTAL FLEXIBLE OR STONE AREA	EXCAVATION 5" DEPTH	EXCAVATION 6" DEPTH	EXCAVATION 8" DEPTH	3 3/4" ASPHALT CONCRETE BASE, PG64-22	4 3/4" ASPHALT CONCRETE BASE, PG64-22	8" AGGREGATE BASE	1 1/4" ASPHALT CONCRETE SURFACE COURSE TYPE I, PG64-22	6" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN	8" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN
						LIN. FT.	SQ YDS				SQ YDS	SQ YDS	SQ YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	SQ YDS	SQ YDS
BISHOP ROAD		DR-1	25+47	LT	R		–	17 x 6.5	12 x 6	24 x 11.5	–	20.28	30.67	4.26	3.38	–	3.19	–	–	1.07	20.28	–
BISHOP ROAD		DR-2	25+66	RT	R		–	17 x 6.5	12 x 6	20 x 10.5	–	20.28	23.33	–	3.38	5.18	–	–	5.18	–	20.28	–
BISHOP ROAD		DR-3	26+91	LT	R		* 14.24	31 x 6.5	26 x 6	22 x 13	–	39.72	31.78	4.41	6.62	–	3.31	–	–	1.10	39.72	–
BISHOP ROAD		DR-4	22+78	RT	R		–	15 x 13	–	–	–	21.8	–	–	3.6	–	–	–	–	–	21.8	–
BISHOP ROAD		DR-5	23+43	LT	R		–	15.4 x 17.2	–	–	–	29.6	–	–	4.9	–	–	–	–	–	29.6	–
BISHOP ROAD		DR-1	27+29	RT	R			17 x 6.5	12 x 6	13.5 x 11	–	20.28	16.5	–	3.38	3.67	–	–	3.67	–	20.28	–
BISHOP ROAD		DR-2	27+95	LT	R		* 50.37	29 x 6.5	24 x 6	24 x 8.5	–	59.61	–	–	9.94	–	–	–	–	–	59.61	–
BISHOP ROAD		DR-3	28+47	LT	R		* 9.26	17 x 6.5	12 x 6	12 x 7.5	–	20.28	10.0	1.39	3.38	–	1.04	–	–	0.35	20.28	–
BISHOP ROAD		DR-4	28+83	RT	R			17 x 6.5	12 x 6	10.5 x 7	–	20.28	8.17	1.13	3.38	–	0.85	–	–	0.25	20.28	–
BISHOP ROAD		DR-5	29+33	LT	C		* 86.75	34 x 6.5	24 x 6	26 x 12	–	40.56	34.67	–	5.78	9.01	–	4.57	–	1.21	–	40.56
BISHOP ROAD		DR-6	29+64	RT	R			17 x 6.5	12 x 6	7 x 10.5	–	20.28	8.17	1.13	3.38	–	0.85	–	–	0.28	20.28	–
BISHOP ROAD		DR-7	30+52	RT	R			17 x 6.5	12 x 6	12 x 12	–	20.28	16.0	2.22	3.38	–	1.67	–	–	0.55	20.28	–
BISHOP ROAD		DR-8	30+57	LT	C		* 19.94	35 x 6.5	25 x 6	25 x 12	–	41.94	33.33	–	5.56	9.32	–	4.40	–	1.16	–	41.94
BISHOP ROAD		DR-9	30+98	RT	C			49.5 x 10	–	37.5 x 9.5	–	55.0	39.58	–	6.60	12.22	–	5.22	–	1.38	–	55.0
BISHOP ROAD		DR-1	31+15	LT	C			–	35 x 9.5	35 X 5	–	36.94	19.44	–	3.24	8.21	–	2.56	–	0.68	–	36.94
BISHOP ROAD		DR-2	32+03	LT	C			–	21 x 9.5	21 x 12	–	22.17	28.0	–	4.67	4.93	–	3.69	–	0.98	–	22.17
BISHOP ROAD		DR-3	33+74	RT	C		* 95.18	–	35 x 12.5	35 x 16	–	48.54	62.22	–	10.17	10.79	–	8.05	–	2.12	–	48.54
BISHOP ROAD		DR-4	34+87	RT	C		* 113.52	–	34 x 12.5	34 x 7	–	47.22	26.44	–	4.41	10.49	–	3.49	–	0.92	–	47.22
BISHOP ROAD		DR-1	36+58	RT	C		* 76.15	49 x 6.5	39 x 6	39 x 17	* 218	61.39	97.89	–	16.32	13.64	–	12.92	–	3.40	–	61.39
BISHOP ROAD		DR-2	38+13	RT	C		* 65.63	34 x 6.5	24 x 6	24 x 17	* 28	40.56	48.44	–	8.07	9.01	–	6.39	–	1.68	–	40.56
BISHOP ROAD		DR-1	39+99	RT	C		* 111.22	40 x 6.5	30 x 6	31 x 7	–	48.89	24.11	–	4.02	10.86	–	3.18	–	0.84	–	48.89
BISHOP ROAD		DR-2	41+19	LT	C	90	* 166.41	56 x 6.5	42 x 6	34 x 12.5	32 x 10	115.67	35.56	–	5.93	25.7	–	4.69	–	1.24	–	115.67
BISHOP ROAD		DR-3	42+25	RT	C		* 127.89	40 x 6.5	30 x 6	32 x 7	–	48.89	24.89	–	4.15	10.86	–	3.28	–	0.87	–	48.89
BISHOP ROAD		DR-1	43+18	LT	C	90	* 168.30	65 x 6.5	43 x 6	35.5 x 13	–	126.89	–	–	–	28.2	–	–	–	–	–	~~126.89~~
BISHOP ROAD		DR-2	45+39	RT	R			33 x 6.5	28 x 6	11 x 7	–	42.5	7.78	–	7.08	1.9	–	–	1.9	–	42.5	–
BISHOP ROAD		DR-3	45+49	LT	C	120	* 209.44	63 x 6.5	45 x 6	30.5 x 27	–	166.40	–	–	–	36.98	–	–	–	–	–	
BISHOP ROAD		DR-4	45+55	RT	R			–	–	11 x 7	–	–	8.6	–	–	1.9	–	–	1.9	–	–	–
								* AREA FIGURED BY CAD														
R = RESIDENTIAL DRIVEWAY C = COMMERCIAL DRIVEWAY					TOTAL		1314.3					TOTAL		14.54	134.72	212.57	10.91	62.44	12.65	20.08	335.19	901.06
						300	1315					SHEET TOTAL		362			74		13	20	336	901

CALCULATED R.A.B. CHECKED J.M.Z.

DRIVEWAY SUB-SUMMARY

LAK-90/84-0.54/0.43

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STREET NAME	SHEET NUMBER	REFERENCE NUMBER	CENTERLINE STATION	SIDE	TYPE R or C	202		PROPOSED DRIVEWAY DIMENSIONS				PROPOSED DRIVEWAY AREAS		203			301		304	448	452	
						CURB REMOVED	PAVEMENT REMOVED	APRON AREA AVG. WIDTH x LENGTH	DRIVEWAY THRU SIDEWALK AREA LENGTH x WIDTH	DRIVEWAY AREA LENGTH x WIDTH	DRIVEWAY EXTRA AREA	TOTAL RIGID AREA	TOTAL FLEXIBLE OR STONE AREA	EXCAVATION 5" DEPTH	EXCAVATION 6" DEPTH	EXCAVATION 8" DEPTH	3 3/4" ASPHALT CONCRETE BASE, PG64-22	4 3/4" ASPHALT CONCRETE BASE, PG64-22	8" AGGREGATE BASE	1 1/4" ASPHALT CONCRETE SURFACE COURSE TYPE I, PG64-22	8" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN	8" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN
						LIN. FT.	SQ YDS				SQ YDS	SQ YDS	SQ YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	SQ YDS	SQ YDS
BISHOP ROAD		DR-1	47+44	RT	R		–	18 x 6.5	13 x 6	13 x 7	–	21.67	10.11	1.40	3.61	–	1.05	–	–	0.35	21.67	–
BISHOP ROAD		DR-2	48+64	LT	C		–	41.5 x 6.5	35 x 6	–	–	53.31	–	–	–	11.85	–	–	–	–	–	53.31
BISHOP ROAD		DR-3	50+78	LT	C		* 25.7	47 x 10	–	37 x 4	–	68.67	–	–	–	15.26	–	–	–	–	–	68.67
BISHOP ROAD		DR-1	51+51	LT	C		* 34.32	49 x 10	–	39 x 5	–	76.11	–	–	–	16.91	–	–	–	–	–	76.11
BISHOP ROAD		DR-2	51+61	RT	C		–	30 x 10	–	20 x 9.5	–	54.44	–	–	–	12.10	–	–	–	–	–	54.44
BISHOP ROAD		DR-1	58+08	RT	R		* 120	19 x 6.5	12 x 6	50 x 10.5	–	21.72	58.33	8.10	3.62	–	6.08	–	–	2.02	21.72	–
BISHOP ROAD		DR-2	58+94	RT	R		* 199.16	19 x 6.5	14 x 6	61 x 14	* 33.93	151.87	–	–	25.31	–	–	–	–	–	151.87	–
BISHOP ROAD		DR-1	59+25	RT	R		* 28.20	17 x 6.5	12 x 6	55 x 11	* 56.1	20.28	123.32	17.13	3.38	–	12.85	–	–	4.28	20.28	–
BISHOP ROAD		DR-2	59+82	RT	R		* 26.87	17 x 6.5	12 x 6	70 x 11	* 56.1	20.28	150.77	20.94	3.38	–	15.70	–	–	5.24	20.28	–
BISHOP ROAD		DR-3	61+10	LT	R		* 56.76	16 x 6.5	12 x 6	29 x 12	–	58.22	–	–	9.70	–	–	–	–	–	58.22	–
BISHOP ROAD		DR-4	61+83	LT	R		* 41.48	18 x 6.5	14 x 6	14 x 14	–	44.11	–	–	7.35	–	–	–	–	–	44.11	–
BISHOP ROAD		DR-5	62+25	LT	R		* 43.03	18 x 6.5	14 x 6	14 X 14	–	44.11	–	–	7.35	–	–	–	–	–	44.11	–
BISHOP ROAD		DR-6	62+55	RT	R		* 20.22	22 x 6.5	17 x 6	–	* 102.16	27.22	102.16	14.19	4.54	–	10.64	–	–	3.55	27.22	–
BISHOP ROAD		DR-7	62+66	LT	R		* 16.41	19 x 6.5	13 x 6	12.5 x 39	15.27	37.66	54.17	7.52	10.00	–	5.64	–	–	1.88	37.66	–
BISHOP ROAD		DR-1	63+14	RT	R		* 66.85	28 x 6.5	23 x 6	23 x 14	–	71.33	–	–	11.89	–	–	–	–	–	71.33	–
BISHOP ROAD		DR-2	63+83	LT	R		* 19.8	20.9 x 4.7	15.9 x 5	15.9 x 6	–	29.5	–	–	4.91	–	–	–	–	–	29.5	–
BISHOP ROAD		DR-3	64+04	RT	R		* 12.0	20.9 x 5.3	15.9 x 5	15.9 x 2	–	24.5	–	–	4.08	–	–	–	–	–	24.5	–
BISHOP ROAD		DR-4	64+52	LT	R		* 13.1	17.5 x 4.7	12.5 x 5	11.8 x 4.6	–	22.0	–	–	3.67	–	–	–	–	–	22.0	–
BISHOP ROAD		DR-5	65+12	RT	R		* 9.4	21.5 x 5.2	–	–	–	12.2	–	–	2.04	–	–	–	–	–	12.2	–
EUCLID-CHARDON		DR-1	13+94	RT	C	56	* 74.85	24 x 23	–	–	* 12.35	73.68	–	–	–	16.37	–	–	–	–	–	73.68
EUCLID-CHARDON		DR-1	15+15	RT	C			34 x 9.5	–	24 x 8.5	–	58.56	–	–	–	13.01	–	–	–	–	–	58.56
EUCLID-CHARDON		DR-2	16+74	RT	C			41 x 9.5	–	32 x 5	–	61.06	–	–	–	13.57	–	–	–	–	–	61.06
EUCLID-CHARDON		DR-3	17+92	RT	C			35 x 9.5	–	25 x 5	–	50.83	–	–	–	11.30	–	–	–	–	–	50.83
EUCLID-CHARDON		DR-1	18+51	RT	C			35 x 9.5	–	–	–	36.94	–	–	–	8.21	–	–	–	–	–	36.94
EUCLID-CHARDON		DR-2	19+18	RT	C			14.5 x 21.5	–	–	–	34.69	–	–	–	7.71	–	–	–	–	–	34.69
EUCLID-CHARDON		DR-3	21+12	LT	C			31 x 19.5	–	–	–	67.17	–	–	–	14.93	–	–	–	–	–	67.17
EUCLID-CHARDON		DR-4	21+93	LT	C			33 x 34.5	–	–	* 34.58	161.08	–	–	–	35.80	–	–	–	–	–	161.08
R = RESIDENTIAL DRIVEWAY C = COMMERCIAL DRIVEWAY					TOTAL		808.15	* AREA FIGURED BY CAD				TOTAL		69.28	98.56	177.02	51.96	–	–	17.32	606.67	796.54
						56	809					SHEET TOTAL		345			52		–	18	607	797

CALCULATED R.A.B.
CHECKED J.M.Z.

DRIVEWAY SUB-SUMMARY

LAK-90/84-0.54/0.43

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STREET NAME	SHEET NUMBER	REFERENCE NUMBER	CENTERLINE STATION	SIDE	TYPE R or C	202		PROPOSED DRIVEWAY DIMENSIONS				PROPOSED DRIVEWAY AREAS		203			301		304	448	452	
						CURB REMOVED	PAVEMENT REMOVED	APRON AREA AVG. WIDTH x LENGTH	DRIVEWAY THRU SIDEWALK AREA LENGTH x WIDTH	DRIVEWAY AREA LENGTH x WIDTH	DRIVEWAY EXTRA AREA	TOTAL RIGID AREA	TOTAL FLEXIBLE OR STONE AREA	EXCAVATION 5" DEPTH	EXCAVATION 6" DEPTH	EXCAVATION 8" DEPTH	3 3/4" ASPHALT CONCRETE BASE, PG64-22	4 3/4" ASPHALT CONCRETE BASE, PG64-22	8" AGGREGATE BASE	1 1/4" ASPHALT CONCRETE SURFACE COURSE TYPE I, PG64-22	6" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN	8" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN
						LIN. FT.	SQ YDS				SQ YDS	SQ YDS	SQ YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	CU YDS	SQ YDS	SQ YDS
EUCLID–CHARDON		DR–1	23+21	RT	C		–	41 x 9.5	–	31 x 11.5	–	82.89	–	–	–	18.42	–	–	–	0.35	–	82.89
EUCLID–CHARDON		DR–2	24+63	RT	R		* 47.33	15 x 9.5	–	17 x 10	–	34.72	–	–	5.79	–	–	–	–	–	34.72	–
EUCLID–CHARDON		DR–3	25+64	RT	R		* 11.06	18 x 9.5	–	12.5 x 6	–	27.33	–	–	4.56	–	–	–	–	–	27.33	–
EUCLID–CHARDON		DR–1	26+69	RT	R		–	18 x 9.5	–	–	–	19.0	–	–	3.17	–	–	–	–	–	19.0	–
EUCLID–CHARDON		DR–2	27+49	LT	R		41.40	37.2 x 12.4	–	9.4 x 29.4	–	83.05	–	–	13.8	–	–	–	–	–	83.05	–
EUCLID–CHARDON		DR–3	27+69	RT	R			13.7 x 15.9	–	–	–	24.12	–	–	4.0	–	–	–	–	–	24.12	–
EUCLID–CHARDON		DR–4	28+48	RT	R			13.3 x 15.9	–	–	–	23.5	–	–	3.9	–	–	–	–	–	23.5	–
EUCLID–CHARDON		DR–5	28+68	RT	R			11.3 x 15.9	–	–	–	20.0	–	–	3.3	–	–	–	–	–	20.0	–
EUCLID–CHARDON		DR–6	29+09	LT	R				–	–	–	41.6	–	–	6.9	–	–	–	–	–	41.6	–
JOHNSON ROAD		DR–1	11+12	RT	R		* 50.90	21 x 5	–	17.5 x 16	–	17.5	42.78	–	7.13	–	–	–	–	–	42.78	–
JOHNSON ROAD		DR–2	11+13	LT	R		* 13.19	22 x 5	–	–	–	17.5	12.22	–	2.04	–	–	–	–	–	12.22	–
EDDY ROAD		DR–1	12+39	LT	C		* 55.37	45 x 15	–	25 x 35	–	75.0	97.22	–	16.20	16.67	–	12.83	–	3.37	75.0	
EDDY ROAD		DR–2	12+87	RT	R		–	29 x 5	–	24 x 3.5	–	25.44	–	–	4.24	–	–	–	–	–	25.44	–
EDDY ROAD		DR–3	13+45	RT	R		–	17 x 5	–	13 x 10	–	23.89	–	–	3.98	–	–	–	–	–	23.89	–
RIDGEHILLS		DR–1	8+22	LT	C		* 22.22	40 x 5	–	–	–	22.22	–	–	–	4.94	–	–	–	–	–	22.22
RIDGEHILLS		DR–2	9+25	RT	C		* 59.87	40 x 12.5	–	–	* 175.78	55.56	* 175.78	–	29.30	12.35	–	23.19	–	6.11	–	55.56
RIDGEHILLS		DR–3	9+30	LT	C		* 54.17	39 x 12.5	–	–	–	54.17	–	–	–	12.04	–	–	–	–	–	54.17
EVERGREEN AVE.		DR–1	8+92	RT	R		* 29.55	28 x 9.5	–	–	–	29.55	–	–	4.93	–	–	–	–	–	29.55	–
							* 385.06	* AREA FIGURED BY CAD					TOTAL	–	113.23	64.42	–	36.02	–	9.83	407.20	289.84
R = RESIDENTIAL DRIVEWAY C = COMMERCIAL DRIVEWAY					TOTAL		385						SHEET TOTAL	178			36		–	10	408	290

CALCULATED R.A.B. CHECKED J.M.Z.

DRIVEWAY SUB–SUMMARY

LAK–90/84–0.54/0.43

FOR OUTLET DETAIL REFERENCES
SEE SHEET ___.

REFERENCE NO.	PLAN & PROFILE SHEET NO.	STATION FROM	STATION TO	SIDE	OFFSET FROM ℄	OUTLET DETAIL REFERENCE	603 6" CONDUIT, TYPE F FOOT	605 6" BASE PIPE UNDERDRAINS, WITH FABRIC WRAP FOOT	605 6" SHALLOW PIPE UNDERDRAINS, WITH FABRIC WRAP FOOT	605 6" UNCLASSIFIED PIPE UNDERDRAINS FOOT	BENDS AND BRANCHES FOR INFORMATION ONLY 6" x 6" TEE NO.	6" x 45° BEND NO.	6" x 90° BEND NO.	
	S.R. 84 (BISHOP ROAD)													
1		25+30	26+12	LT			10	72						
2		26+15	26+67	LT			10	42						
3		26+67	27+15	LT			10	38						
4		24+40	26+12	RT			10	162						
5		26+15	26+67	RT			10	42						
6		26+67	27+15	RT			10	38						
7		27+18	28+97	LT			10		169					
8		29+00	31+54	LT			10		244					
9		27+18	28+97	RT			10		169					
10		29+00	31+54	RT			10		244					
11		31+54	17+50	LT			10		267					
12		19+38	34+95	LT			10		207					
13		34+95	35+60	RT			10			70				
14		31+54	32+00	RT			10		36					
15		32+03	20+90	RT			10		90					
16		20+80	34+95	LT			10		170					
17		34+98	37+80	LT			10		272					
18		36+15	38+26	LT			10		225					
19		38+26	39+00	RT			10			70				
20		37+80	40+75	RT			10		285					
21		39+40	8+30	LT			10		230					
22		8+30	40+75	LT			10		75	90				
23		40+78	42+60	LT			10		172					
24		42+63	44+75	LT			10		202					
25		40+78	42+60	RT			10	172						
26		42+63	44+75	RT			10	202						
27		44+78	45+26	LT			10		38					
28		45+26	45+97	LT			10		61					
29		46+00	9+00	LT			10		200					
30		44+78	45+21	RT			10	33						
31		45+21	45+89	RT			10	58						
32		45+92	47+56.45	RT			10	155						
33		9+00	49+50	LT			10		214					
34		49+53	9+00	LT			10		90					
35		50+24	52+07	LT			10		186					
36		47+56.45	49+50	RT			10		184					
37		49+53	49+84	RT			10	34						
38		50+09	52+07	RT			10		200					
39		57+78	57+94	LT			10		6					
40		57+94	58+37	LT			10		33					
TOTAL A							400	1048	4269	230				

REFERENCE NO.	PLAN & PROFILE SHEET NO.	STATION FROM	STATION TO	SIDE	OFFSET FROM ℄	OUTLET DETAIL REFERENCE	603 6" CONDUIT, TYPE F FOOT	605 6" BASE PIPE UNDERDRAINS, WITH FABRIC WRAP FOOT	605 6" SHALLOW PIPE UNDERDRAINS, WITH FABRIC WRAP FOOT	605 6" UNCLASSIFIED PIPE UNDERDRAINS FOOT	BENDS AND BRANCHES FOR INFORMATION ONLY 6" x 6" TEE NO.	6" x 45° BEND NO.	6" x 90° BEND NO.	6" x 6" CROSS NO.
	S.R. 84 (BISHOP ROAD)													
41		58+40	59+74.10	LT			10		124					
42		57+63	57+94	RT			10		21					
43		57+94	58+37	RT			10		33					
44		58+40	59+74.10	RT			10		124					
45		59+74.10	62+05	LT			10		221					
46		62+08	65+02	LT			10		284					
47		59+74.10	60+50	RT			10		66					
48		60+53	10+50	RT			10		42					
49		10+51	62+32	RT			10		122					
50		62+35	64+94	RT			10		249					
	S.R. 6 (EUCLID–CHARDON ROAD)													
51		11+35	11+60	LT			10			15				
52		11+60	14+47	LT			10	277						
53		11+35	11+60	RT			10			15				
54		11+60	14+47	RT			10		277					
55		14+50	17+47	LT			10	287						
56		17+50	19+37.81	LT			10	178						
57		14+50	17+47	RT			10		287					
58		20+80	24+12	LT			10		322					
59		20+90	21+37	RT			10		37					
60		21+40	22+72	RT			10		122					
61		24+15	26+47	LT			10	222						
62		22+75	25+87	RT			10		302					
63		25+90	27+60	RT			10		160					
64		26+50	27+60	LT			10		100					
	EVERGREEN AVENUE													
65		7+77	25+30.60	LT			10		215					
66		8+50	24+50	RT			10		134					
	EDDY ROAD													
67		10+70	13+25	LT			10	245						
68		10+70	13+25	RT			10	245						
	RIDGEHILLS DRIVE													
69		8+00	9+00	LT			10	90						
70		9+00	9+56.01	LT			10	46						
71		8+00	9+00	RT			10	90						
	JOHNSON DRIVE													
72		10+54	11+90	LT			10		126					
73		10+50	11+90	RT			10		130					
TOTAL B							330	1,680	3,528	30				
(TOTAL A)							(400)	(1,048)	(4,269)	(230)				
SHEET TOTAL CARRIED TO GENERAL SUMMARY							730	2,728	7,797	260				

CALCULATED R.A.B.
CHECKED J.M.Z.

UNDERDRAIN SUB–SUMMARY

LAK–90/84–0.54/0.43

FOR OUTLET DETAIL REFERENCES
SEE SHEET ___.

REFERENCE NO.	PLAN & PROFILE SHEET NO.	STATION FROM	STATION TO	SIDE	OFFSET FROM ℄	OUTLET DETAIL REFERENCE	603 6" CONDUIT, TYPE F FOOT	604 PRECAST REINFORCED CONCRETE OUTLET EACH	605 6" BASE PIPE UNDERDRAINS, WITH FABRIC WRAP FOOT	605 6" SHALLOW PIPE UNDERDRAINS, WITH FABRIC WRAP FOOT	605 6" UNCLASSIFIED PIPE UNDERDRAINS FOOT	BENDS AND BRANCHES FOR INFO. ONLY 6" x 6" TEE NO.	6" x 45° BEND NO.	6" x 90° BEND NO.	6" x 6" CROSS NO.
		RAMP 10													
74		106+00	111+81	LT	21		37	1	594			1		1	
75		105+74	111+81	RT	7				631						1
76		111+81	112+39.4	LT	21						61				
77		112+39.4	113+50	LT	21				109						
78		111+81	112+39.4	RT	7						60				
79		112+39.4	113+50	RT	7				109						
		RAMP 11													
80		106+04	110+51.7	LT	11		48	1	462						1
81		106+38	110+51.7	LT	1				414						1
82		106+20	110+51.7	RT	29				445			1			
83		110+51.7	113+84.57	LT	11				333						
84		110+51.7	113+84.57	LT	1				333						
85		110+51.7	113+84.57	RT	29				334						
		RAMP 8													
86		95+97	97+97	LT	7				200						
87		95+97	97+97	RT	21				200						
88		98+00	104+69	LT	VAR		46	1	691					1	
89		98+00	104+76	RT	VAR				689			1			
90		100+90	104+50	LT	1				366						
		RAMP 9													
91		96+54	98+22	LT	VAR				168						
92		96+54	98+22	RT	VAR				168						
93		98+25	106+44	LT	29				841						
94		98+25	106+46	RT	11		45	1	840					1	
95		98+25	106+00	RT	1				775			1			
SHEET TOTAL CARRIED TO GENERAL SUMMARY							176	4	8,701		121	4	–	3	3

CALCULATED R.A.B. CHECKED J.M.Z.

UNDERDRAIN SUB–SUMMARY

LAK–90/84–0.54/0.43

73A
369

DATE: 10-27-04 - TIME: 08:41 - H:\2002\02117\dwg\underdrainss.dwg

STATION		203	203	203	659
		EXCAVATION	EMBANKMENT	EMBANKMENT, AS PER PLAN	SEEDING AND MULCHING
FROM	TO	CU. YD.	CU. YD.	CU. YD.	SQ. YD.
S.R. 84 – BISHOP ROAD					
23+50	24+50	59	3		45
24+50	26+00	256	149		540
26+00	28+00	644	97		558
28+00	30+00	832	7		537
30+00	32+00	1034	3		414
32+00	34+00	753	120		386
34+00	36+00	488	711		753
36+00	38+00	771	140		484
38+00	40+00	1061	46		502
40+00	42+00	758	23		518
42+00	44+00	515	113		658
44+00	46+00	549	98		599
46+00	48+00	774	60		581
48+00	49+50	1452	34		553
49+50	51+00	1143	16		139
51+00	53+00	639	623		469
53+00	53+50	51		332	142
56+50	57+50	112	820	697	395
57+50	59+00	170	1854		961
59+00	60+50	281	612		700
60+50	62+50	341	126		571
62+50	64+50	137	65		334
U.S. 6 – CHARDON ROAD					
11+35	12+50	318	34		231
12+50	14+50	465	79		434
14+50	16+50	609	13		406
16+50	18+50	574	29		385
18+50	20+50	561	24		261
20+50	22+50	643	29		419
22+50	24+50	774	12		431
24+50	26+50	318	63		419
26+50	28+00	142	25		270
EVERGREEN AVENUE					
8+55	9+50	93	35		146
COLUMN TOTALS – A		17,317	6,075	1,029	14,241

STATION		203	203	203	659
		EXCAVATION	EMBANKMENT	EMBANKMENT, AS PER PLAN	SEEDING AND MULCHING
FROM	TO	CU. YD.	CU. YD.	CU. YD.	SQ. YD.
PLAZA DRIVE					
8+00	9+50	276	1		292
JOHNSON DRIVE					
10+50	11+90	211	33		320
11+90	12+40	43	9		67
EDDY ROAD					
10+50	12+00	1427	0		697
12+00	13+75	454	51		398
BISHOP PARK DRIVE					
9+00	9+50	150	0		97
RIDGEHILLS DRIVE					
9+00	9+50	395	1		311
RAMP 8					
95+96.88	96+50	75	5		135
96+50	98+00	251	13		433
98+00	99+50	406	0		483
99+50	101+00	259	57		450
101+00	102+50	53	402		828
102+50	104+50	27	1384		1445
104+50	105+00	0	356		242
RAMP 9					
96+54.35	97+50	196	2		333
97+50	99+00	343	13		338
99+00	100+00	246	49		325
100+00	101+00	241	58		375
101+00	102+00	203	140		478
102+00	103+00	130	257		475
103+00	104+00	341	126		369
104+00	105+00	241	0		297
105+00	106+00	224	9		228
COLUMN TOTALS – B		6,192	2,966		9,416

STATION		203	203	203	659
		EXCAVATION	EMBANKMENT	EMBANKMENT, AS PER PLAN	SEEDING AND MULCHING
FROM	TO	CU. YD.	CU. YD.	CU. YD.	SQ. YD.
RAMP 10					
106+00	107+00	118	150		397
107+00	108+00	3	112		434
108+00	109+00	11	177		516
109+00	110+00	0	219		481
110+00	111+50	0	314		650
111+50	113+00	28	170		464
113+00	113+47.99	48	5		99
RAMP 11					
106+50	108+00	0	780		797
108+00	110+00	0	550		797
110+00	111+50	4	278		528
111+50	113+00	152	48		403
113+00	113+84.57	114	2		148
COLUMN TOTALS – C		478	2,805		5,714
COLUMN TOTALS – A		17,317	6,075	1,029	14,241
COLUMN TOTALS – B		6,192	2,966		9,416
COLUMN TOTALS – C		478	2,805		5,714
TOTALS		23,987	11,846	1,029	29,371
DEDUCT PAVEMENT REMOVED QUANTITIES		−10,619	(25284.3 S.Y. x 15") (AVE. DEPTH)		
EARTHWORK CARRIED TO GENERAL SUMMARY		13,368	11,846	1,029	29,371

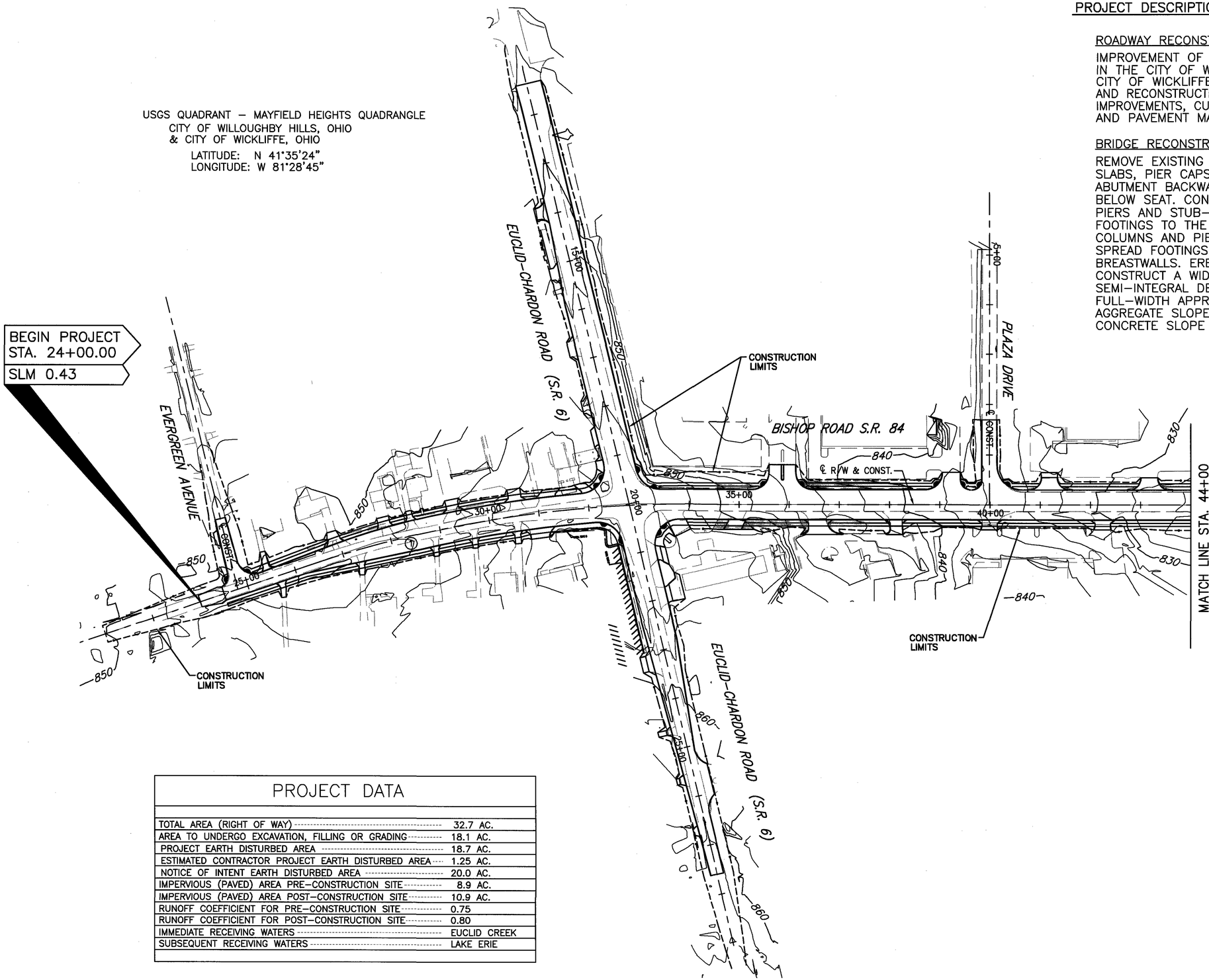
CALCULATED R.L.B. CHECKED J.M.Z.

EARTHWORK QUANTITY CALCULATIONS

LAK–90/84–0.54/0.43

DATE: 10–26–04 – TIME: 16:28 – H:\2002\02117\dwg\SUBSUM_earth.dwg

USGS QUADRANT – MAYFIELD HEIGHTS QUADRANGLE
CITY OF WILLOUGHBY HILLS, OHIO
& CITY OF WICKLIFFE, OHIO
LATITUDE: N 41°35'24"
LONGITUDE: W 81°28'45"



PROJECT DESCRIPTION

ROADWAY RECONSTRUCTION & WIDENING

IMPROVEMENT OF 0.73 MILES OF STATE ROUTE 84 IN THE CITY OF WILLOUGHBY HILLS AND THE CITY OF WICKLIFFE, LAKE COUNTY BY WIDENING AND RECONSTRUCTION. INCLUDES SEWER IMPROVEMENTS, CURB, SIDEWALK, TRAFFIC CONTROL, AND PAVEMENT MARKINGS.

BRIDGE RECONSTRUCTION & WIDENING

REMOVE EXISTING SUPERSTRUCTURE, APPROACH SLABS, PIER CAPS AND COLUMNS; REMOVE ABUTMENT BACKWALLS AND CONCRETE 12"± BELOW SEAT. CONSTRUCT NEW CAP AND COLUMN PIERS AND STUB–TYPE ABUTMENTS ON SPREAD FOOTINGS TO THE EAST. CONSTRUCT NEW COLUMNS AND PIER CAPS ON THE EXISTING SPREAD FOOTINGS. CAP THE EXISTING BREASTWALLS. ERECT NEW STEEL BEAMS. CONSTRUCT A WIDER COMPOSITE DECK HAVING SEMI–INTEGRAL DETAILS. CONSTRUCT FULL–WIDTH APPROACH SLABS. REMOVE CRUSHED AGGREGATE SLOPE PROTECTION AND PLACE CONCRETE SLOPE PROTECTION.

PROJECT DATA

TOTAL AREA (RIGHT OF WAY)	32.7 AC.
AREA TO UNDERGO EXCAVATION, FILLING OR GRADING	18.1 AC.
PROJECT EARTH DISTURBED AREA	18.7 AC.
ESTIMATED CONTRACTOR PROJECT EARTH DISTURBED AREA	1.25 AC.
NOTICE OF INTENT EARTH DISTURBED AREA	20.0 AC.
IMPERVIOUS (PAVED) AREA PRE–CONSTRUCTION SITE	8.9 AC.
IMPERVIOUS (PAVED) AREA POST–CONSTRUCTION SITE	10.9 AC.
RUNOFF COEFFICIENT FOR PRE–CONSTRUCTION SITE	0.75
RUNOFF COEFFICIENT FOR POST–CONSTRUCTION SITE	0.80
IMMEDIATE RECEIVING WATERS	EUCLID CREEK
SUBSEQUENT RECEIVING WATERS	LAKE ERIE

N

SCALE IN FEET: 100 50 0 100

CALCULATED | CHECKED

BISHOP ROAD – PROJECT SITE PLAN
STA. 24+10 TO STA. 44+00

LAK–90/84–0.54/0.43

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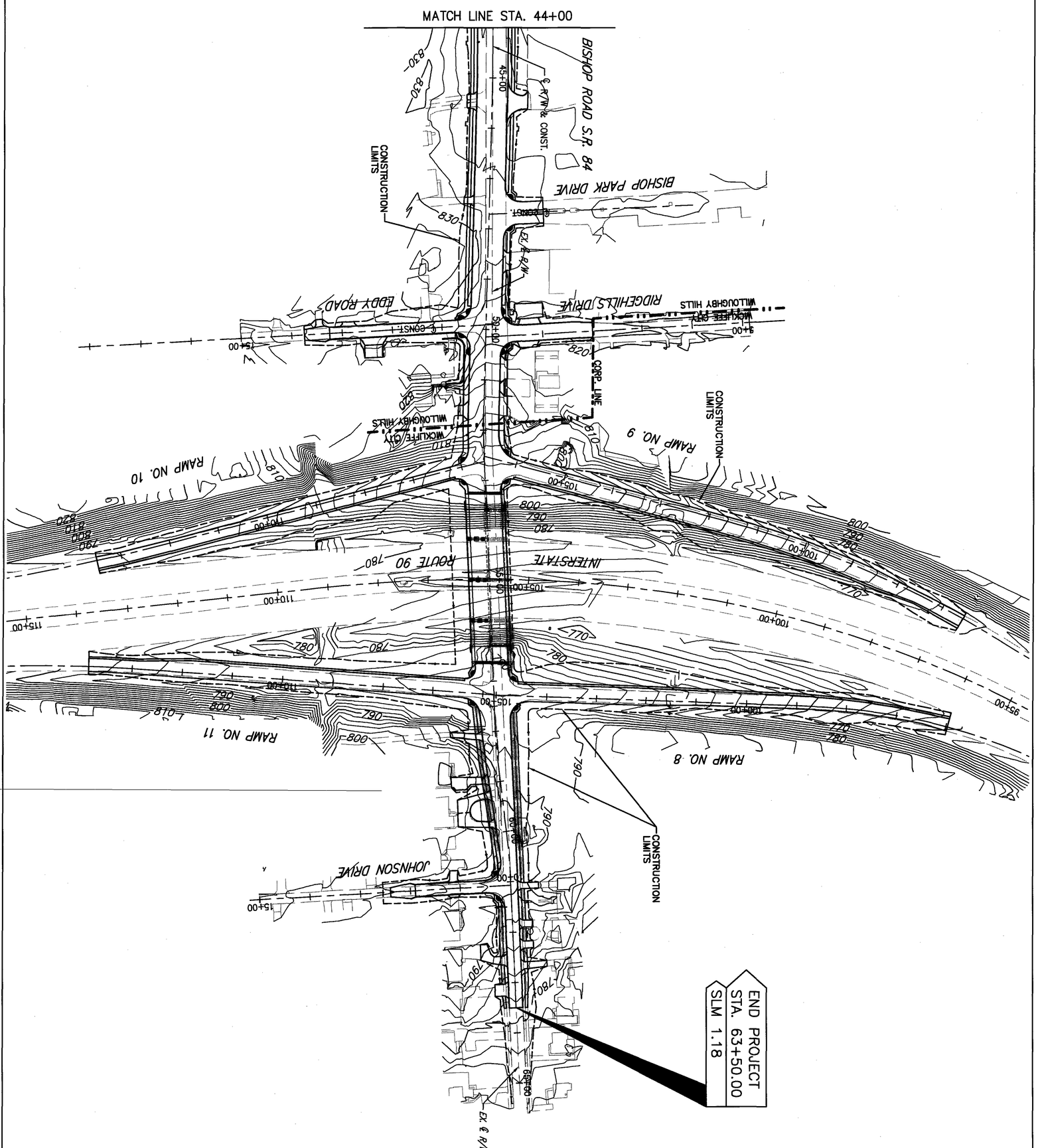

76 / 369	LAK-90/84-0.54/0.43	BISHOP ROAD – PROJECT SITE PLAN STA. 44+00 TO STA. 63+50	CALCULATED CHECKED	100 50 0 100 SCALE IN FEET

BEGIN PROJECT STA. 24+00.00

BEGIN PAVEMENT TAPER STA. 24+00.0, 13.0' LT.

BEGIN PAVEMENT TAPER STA. 24+00.0, 10.6' RT.

END PAVEMENT TAPER STA. 24+50.0, 13.0' RT.

PAVEMENT TAPER STA. 26+18.38, 13.0' RT.

PC = 26+18.38

MATCH LINE STA. 27+00

BISHOP ROAD

EVERGREEN AVE

S78°18'10"W

N.18°45'04"W. 150.15'

N.9°37'25"W. 220.19'

(TO BE ABANDONED)

N16°43'25"W

P.T. FACE OF CURB STA. 25+31.84, 17.32'LT.

P.C. FACE OF CURB STA. 28+81.28, 23.47'LT.

EX. R/W

EX. ℄ R/W

℄ CONST.

12" CMP REMOVE

PLUG

12" STO

12" WTR

8" SAN

EDGE WOODS

VACANT

SAVE

SAVE (PRUNE WEST SIDE)

SAVE (PRUNE WEST SIDE)

DR-1 DR-2 DR-3 DR-5

SW-1 SW-2 SW-3 SW-4 SW-5

UD-1 UD-2 UD-3 UD-4 UD-5 UD-6

D-1 D-2 D-4 D-5 D-6 D-7 D-8

R-1 R-2 R-3 R-4 R-5 R-6 R-7 R-8 R-9

S-1

* TAPER CURB HEIGHT FROM 0" TO 6" IN TEN FEET

UNDERDRAIN DEPTH = 18" FROM STA. 24+50 TO STA. 27+18 (NORTHBOUND & SOUTHBOUND LANES)

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 30+13.11
Δ =18°50'30" RT.
D_c=02°24'30"
R=2379.08'
T=394.74'
L=782.36'
E=32.53'
emax= N/A
P.C.=STA. 26+18.38
P.T.=STA. 34+00.73

② FACE OF CURB CURVE DATA
R=1412.84'
Δ =8°34'07" RT.
T=105.84'
L=211.29'
C=211.09'
CB: N.14°28'00"W.
P.C.=STA. 26+81.28, 23.47'LT.
P.T.=STA. 28+90.00, 30.00'LT.

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

BISHOP ROAD – PLAN AND PROFILE
STA. 23+00 TO STA. 27+00

LAK-90/84-0.54/0.43

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PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

852.43 852.08 851.51 850.95 850.67 850.43 850.26 850.17 850.16 850.22

851.62 852.43 852.10 851.50 850.96 850.63 850.51 850.68

860 855 850 845 840 835 830

MEET EXISTING PAVEMENT
STA. 24+00.00
ELEV. 852.43

-0.70%

PVI STA. 24+50

GRADE BREAK

-1.12%

PVC STA. 25+75

PVC ELEV. 850.67

250.00' VC
PVI STA = 27+00
PVI ELEV = 849.27
S.S.D. = 450'
S.S.D. EXCEEDS DESIGN VALUE

69'-12" CONDUIT, TYPE C @ 1.00%

55'-18" CONDUIT, TYPE C @ 0.52%

33'-21" CONDUIT, TYPE C @ 1.32%

5' MIN. COVER

18" MIN.

EX. STO. 1B (TO BE REMOVED) STA. 24+37, 19.2' RT. GR. 851.30 12" INV. 847.50 N&S

EX. STO. 1B (TO BE REMOVED) STA. 25+18.1, 19.2' RT. GR. 850.53 12" INV. 848.03 N&S

EX. STO. 1B STA. 25+15.2, 22.4' LT. GR. 849.76 12" INV. 846.43 N 12" INV. 846.51 SW 12" INV. 846.46 S

EX. STO. 1B (TO BE REMOVED) STA. 25+49.5, 19' RT. GR. 850.13 12" INV. 848.23 N&S

MAKE CONN. TO EXIST. W/L

CB-2-2B STA. 25+45, 30'RT. GRATE 850.50 12" INV. 847.67 NW

EX. SAN. M.H. STA. 25+80, 28.3' RT. RIM 850.95 (851.00) INV. 8" 842.15 SW INV. 8" 842.15 NE

(ADJUST TO GRADE)

EX. STO. 1B (TO BE REMOVED) STA. 26+11.5, 19.9' LT. GR. 848.78 INV. 846.90 E&W 12" INV. 846.80 S

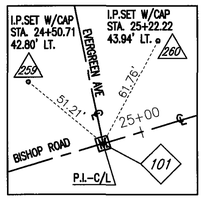
CB-3A STA. 26+12, 13'RT. GRATE 849.92 12" INV. 846.98 SE 12" INV. 846.70 W 12" INV. 846.82 E 18" INV. 846.20 N 6" INV. 847.25 S

CB-2-2B STA. 26+12, 31'RT. GRATE 849.50 12" INV. 847.00 W

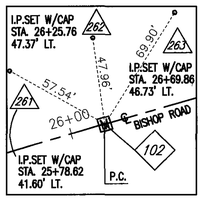
12" DIP CL 53 WTR. EX. 8" SAN

MH NO.3 STA. 26+67, 28.5'RT. RIM 850.53 12" INV. 846.41 E 18" INV. 845.91 S 21" INV. 845.66 N

23+00 24+00 25+00 26+00 27+00



BISHOP ROAD
P.I. STA. 24+78.82
(EVERGREEN AVE)
C.L. STA. 10+00.00



BISHOP ROAD
P.C. STA. 26+18.37

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 HEADWALL REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 INLET REMOVED	202 GUARDRAIL REMOVED	604 MONUMENT ASSEMBLY
				EACH	FT.	EACH	FT.	EACH
R-1	24+32.67	26+02.96	RT		170	3		
R-2	26+10.22		RT	1				
R-3	25+87.18	26+24.69	RT				40	
R-4	25+94.04	26+33.68	LT				40	
R-5	26+10.85		LT	1				
R-6	26+11.50		LT			1		
R-7	24+78.82		℄					1
R-8	26+18.37		℄					1
R-9	26+11.50, 20' LT	26+10.18, 18.4' RT			39			
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				2	209	4	80	2

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE ADJUSTED TO GRADE	603 12" CONDUIT, TYPE C	603 12" CONDUIT, TYPE B	603 18" CONDUIT, TYPE C	603 21" CONDUIT, TYPE C	604 CATCH BASIN, NO. 2-2B	604 CATCH BASIN, NO. 3A	604 CATCH BASIN, NO. 3	604 MANHOLE, NO. 3
				EACH	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH
S-1	25+80.03		RT	1								
D-1	25+45, 30' RT	26+12, 13' RT			69				1			
D-2	26+12, 45' LT	26+12, 20.5' LT			26				1			
D-3	26+12		20.5' LT to 13' RT			34				1		
D-4	26+12		13' to 31' RT		18				1			
D-5	26+13, 12.7' RT	26+67, 28.5' RT					55			1		
D-6	26+67, 22.6' LT	26+67, 18.5' RT				41					1	
D-7	26+67,18.5' RT	26+67, 28.5' RT			9						1	
D-8	26+67, 28.5' RT	27+18, 33' RT						51				1
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				1	122	75	55	51	3	2	2	1

CALCULATED J.M.Z.
CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 23+00 TO STA. 27+00

LAK-90/84-0.54/0.43

78
369

DATE: 10-21-04 - TIME: 09:51 - H:\2002\02117\dwg\QSHT01.dwg

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 30+13.11
Δ =18°50'29" RT.
D_c=02°24'30"
R=2379.08'
T=394.74'
L=782.35'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

② FACE OF CURB CURVE DATA
R=1412.84'
Δ =8°34'07" RT.
T=105.84'
L=211.29'
C=211.09'
CB: N.14°28'00"W.
P.C.=STA. 26+81.28, 23.47'LT.
P.T.=STA. 28+90.00, 30.00'LT.

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214

SCALE IN FEET 20 10 0 20

CALCULATED
CHECKED

BISHOP ROAD – PLAN AND PROFILE
STA. 27+00 TO STA. 31+00

LAK-90/84-0.54/0.43

79
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED 24" AND UNDER	202 INLET REMOVED	202 MANHOLE REMOVED	202 FENCE REMOVED	202 GUARD POST REMOVED	202 BUSINESS SIGN REMOVED	202 MONUMENT ASSEMBLY REMOVED
	FROM	TO		FT.	EACH	EACH	FT.	FT.	FT.	EACH
R-1	27+08.47	27+52.30	RT	44	1					
R-2	27+30.65	27+30.13	LT to RT	37	1					
R-3	28+31.97	28+31.23	LT to RT	40						
R-4	27+52.30	28+46.27	RT	131						
R-5	28+31.97	28+74.68	LT	43	1					
R-6	28+74.68	29+05.11	LT	31	1	1				
R-7	30+43.57	31+56.56	RT	110	1					
R-8	30+60.31	30+57.80	RT				21			
R-9	30+42.25		RT					1		
R-10	29+16.96		LT						1	
R-11	29+49.07		LT						1	
R-12	27+71.27		4.92' LT							1
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				436	5	1	21	1	2	1

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE ADJUSTED TO GRADE		603 12" CONDUIT TYPE B	603 15" CONDUIT TYPE C	603 24" CONDUIT TYPE C	603 27" CONDUIT TYPE C	603 SLOTTED DRAIN 6" TYPE 1		604 CATCH BASIN NO. 3A	604 MANHOLE NO. 3
	FROM	TO		FT.		FT.	FT.	FT.	FT.	FT.		EACH	EACH
S-1	27+82.87		RT	1									
D-1	27+18		25.6' LT to 23.2' RT			49						1	
D-2	27+18		23.2' LT to 33' RT				10					1	
D-3	27+18, 33' RT	29+00, 40' RT						180					1
D-4	29+00		30' LT to 30' RT			60						1	
D-5	29+00		30' RT to 40' RT				10					1	
D-6	29+00, 40' RT	31+30, 35' RT							230				1
D-7	30+78, 46' RT	31+16	46' RT							37			
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				1		109	20	180	230	37		4	2

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 27+00 TO STA. 31+00

LAK-90/84-0.54/0.43

MATCH LINE STA. 31+00

MATCH LINE STA. 35+00

BISHOP ROAD

S.R. 84 BISHOP ROAD

CHARDON ROAD U.S. ROUTE 6

CURB, TYPE 6, AS PER PLAN

CURB, TYPE 6 (TO BE ABANDONED)

CURB, TYPE 8

CURB, TYPE B

REMOVE & REPLACE BY OTHERS

DO NOT DISTURB

SAVE

REMOVE

TAKE

EX. R/W TAKE

EX. R/W

ANGLE PT. EX. ℄ R/W

ANGLE PT. S.R. 84

℄ CONST.

℄ STA 32+81.17

PT = 34+00.73

N02°07'05"E

EX. TRAFFIC EASEMENT VOL. 424 PG. 927

EX. TRAFFIC EASEMENT VOL. 434 PG. 930

EX. ROADWAY EASEMENT VOL. 239 PG. 239

EX. 10' HIGHWAY EASEMENT DOC. #9900022940

(12 PARKING SPACES)

TRENCH DRAIN

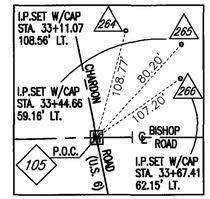
2" TRENCH DRAIN

LOOP DET.

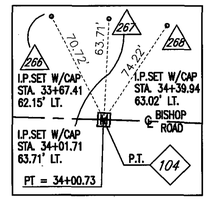
STONE WALL

CANOPY OVER GAS PUMPS

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 30+13.11
Δ =18°50'29" RT.
D_C =02°24'30"
R=2379.08'
T=394.74'
L=782.35'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73



BISHOP ROAD
P.O.C. STA. 32+81.17



BISHOP ROAD
P.T. STA. 34+00.73

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS

PARCEL 17 (TRUE NORTH SHELL STATION) NOTE:

CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE, TEST WELL, FUEL PORT OR GAS LID DURING CONSTRUCTION.

PROPOSED PROFILE GRADE: 856.53 | 856.69 | 856.75 | 856.72 | 856.59 | 856.37 | 856.06 | 855.66 | 855.21 | 854.31 | 853.83 | 853.31 | 852.73 | 852.11 | 851.43 | 850.71

250.00' VC
HIGH POINT ELEV = 856.75
HIGH POINT STA = 31+54.03
PVI STA = 31+50
PVI ELEV = 857.91
S.S.D. = 415'
S.S.D. EXCEEDS DESIGN VALUE

TYPE 'B' HYD. ASSEM.

1.92%

30'-27" CONDUIT, TYPE C @ 0.30%

143'-27" CONDUIT, TYPE B @ 0.30%

EX. 12" STM.

EX. 12" WTR

EX. 8" SAN.

12" DIP CL 53 WTR.
EX. SAN. M.H. (ADJUST TO GRADE)
STA. 32+46.9, 20.4' RT.
RIM 855.53' (855.76)
INV. 18" 839.75' W
INV. 18" 839.97' S
INV. 12" 839.73' E

MH NO.3
STA. 31+30, 35'RT.
RIM 856.88
12" INV. 852.38 SE
27" INV. 842.36 N&S

(ADJUST TO GRADE)
EX. SAN. M.H.
STA. 31+58.2, 18.5' RT.
RIM 856.57' (856.44)
INV. 8" 840.27' N
INV. 8" 840.27' S
INV. 6" 848.17' NE

PVT STA. 32+75
PVT ELEV. 855.66

12" TEE

MH NO.3
STA. 32+75, 35'RT.
RIM 855.30
18" INV. 844.24 E
18" INV. 841.17 W
27" INV. 841.92 S
27" INV. 840.83 N
12" INV. 851.00 SE

EX. 12" E 24" GAS

5' MIN. COVER

PVC STA. 33+50
PVC ELEV. 854.31

194'-27" CONDUIT, TYPE B @ 1.50%

300.00' VC
PVI STA = 35+00
PVI ELEV = 851.61
S.S.D. > 730'
S.S.D. – NOT RESTRICTED

TYPE 'B' HYD. ASSEM.

1.80%

33'-12" CONDUIT, TYPE B @ 1.00%

30'-27" CONDUIT, TYPE C @ 1.50%

MH NO.3
STA. 34+70, 40' RT.
RIM 851.78
15" INV. 839.45
27" INV. 837.90 N&S

EX. 12" WTR

MH NO.3
STA. 34+97, 11'RT.
RIM 850.62
12" INV. 842.52 W
12" INV. 840.00 SE
EX.8" INV. 845.58 E

EXISTING PROFILE GRADE: 857.23 | 857.08 | 856.49 | 855.63 | 854.94 | 853.51 | 852.05 | 850.43 | 848.80

865 860 855 850 845 840 835

31+00 32+00 33+00 34+00 35+00

SCALE IN FEET: 20 10 0 10 20

CALCULATED

CHECKED

BISHOP ROAD – PLAN AND PROFILE
STA. 31+00 TO STA. 35+00

LAK–90/84–0.54/0.43

81
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 GUARD POST REMOVED EACH	202 PIPE REMOVED 24" AND UNDER FT.	202 INLET REMOVED EACH	202 REMOVAL MISC.: SPRINKLER HEAD EACH	202 LIGHT POLE REMOVED EACH	202 BUSINESS SIGN REMOVED EACH	202 REMOVAL MISC.: LANDSCAPE BED LS	202 REMOVAL MISC.: IRRIGATION CONTROL BOX EACH	202 MONUMENT ASSEMBLY REMOVED EACH		604 MONUMENT ASSEMBLY EACH
R-1	32+31.50		LT	1										
R-2	32+43.03		LT	1										
R-3	32+81.17											1		1
R-4	34+00.73													1
R-5	34+96.64	34+94	LT to RT		66	2								
R-6	31+39.47		RT				1							
R-7	31+88.86		RT					1						
R-8	31+21	32+40	RT							1				
R-9	32+42.69		RT				1							
R-10	32+38		LT						1					
R-11	33+46.50		RT				4							
R-12	33+44.94		RT								1			
R-13	34+41.54		RT								1			
R-14	34+58.63		RT				1							
R-15	33+50		RT							1				
R-16	33+95	34+55	RT							1				
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				2	66	2	7	1	1	3	2	1		2

DRAINAGE & EROSION CONTROL

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE ADJUSTED TO GRADE EACH	603 6" CONDUIT TYPE C FT.	603 8" CONDUIT TYPE C FT.	603 12" CONDUIT TYPE C FT.	603 12" CONDUIT TYPE B FT.	603 15" CONDUIT TYPE C FT.	603 27" CONDUIT TYPE B FT.	603 SLOTTED DRAIN, 6" TYPE 1 FT.		604 CATCH BASIN NO. 2-2B EACH	604 CATCH BASIN NO. 3A EACH	604 MANHOLE NO. 3 EACH
S-1	31+58.25		RT	1											
S-2	32+46.89		RT	1											
D-1	31+16.15, 46.5' RT	31+30, 35' RT			5		14						1		
D-2	31+30, 35' RT	32+75, 35' RT								143					1
D-3	32+50, 45.87' RT	32+75, 35' RT						27						1	
D-4	32+75, 35' RT	34+70, 40' RT								194					1
D-5	33+70.6, 63' RT	34+02, 48' RT			5						35				
D-6	34+02, 48' RT	34+70.8, 46.5' RT					64						1		
D-7	34+70.8, 46.5' RT	35+05.69, 47' RT			5						34				
D-8	34+95, 30' LT	34+97, 11' RT				5		40						1	
D-9	34+97, 11' RT	34+70.66, 30' RT						33							1
D-10	34+70.66, 30' RT	34+70, 40' RT							10					1	
D-11	34+70.81, 46.5' RT	34+70, 40' RT					7						1		
D-12	34+70, 40' RT	35+86, 40' RT								116					1
TOTALS CARRIED TO DRAOMAGE SUB-SUMMARY, SHEETS				2	15	5	85	100	10	453	69		3	3	4

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 31+00 TO STA. 35+00

LAK-90/84-0.54/0.43

82
369

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NOTE: DRIVE TO BE CONSTRUCTED UTILIZING SAME PROPOSED PAVEMENT COMPOSTION AS S.R. 84 (BISHOP ROAD)

EX. ACCESS EASEMENT VOL. 882 PG. 916

EX. ACCESS EASEMENT DOC. #2002R052136

EX. ACCESS EASEMENT DOC. #2002R019999

(26 SPACES)

RETAINING WALL

S.R. 84 BISHOP ROAD

℄ R/W & CONST.

N02°07'05"E

MATCH LINE STA. 35+00

MATCH LINE STA. 39+00

(TO BE ABANDONED)

CURB, TYPE 6

CURB, TYPE 6 AS PER PLAN

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS

PARCEL 31-A-008-D-00-086-0 (MCDONALDS)
INGRESS AND EGRESS TO THIS PARCEL FROM BISHOP ROAD SHALL BE MAINTAINED AT ALL TIMES THAT MCDONALDS IS OPEN FOR BUSINESS. ALL PAVEMENT AND DRIVEWAY CONSTRUCTION SHALL BE COORDINATED WITH THE PROJECT ENGINEER AND THE PROPERTY OWNER AS TO NOT UNDULY DISTURB THE OPERATIONS OF THE RESTAURANT. THE CONTRACTOR SHALL RESTORE THE PROPERTY TO THE SAME CONDITION WHICH EXISTED PRIOR TO THE COMMENCEMENT OF WORK.

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

300.00' VC
PVI STA = 35+00
PVI ELEV = 851.61
S.S.D. > 730'
S.S.D. — NOT RESTRICTED

100.00' VC
PVI STA = 37+00
PVI ELEV = 843.21
S.S.D. > 730'
S.S.D. — NOT RESTRICTED

-4.20%

-2.48%

PVT STA. 36+50
PVT ELEV. 845.31
PVC STA. 36+50
PVC ELEV. 845.31

PVT STA. 37+50
PVT ELEV. 841.97

TYPE 'B' HYD. ASSEM.

5' MIN. COVER

86'-27" CONDUIT, TYPE C @ 1.50%

12" DIP CL 53 WTR.

98'-27" CONDUIT, TYPE C @ 2.00%

146'-27" CONDUIT, TYPE C @ 2.50%

50'-12" CONDUIT, TYPE C @ 0.75%

70'-27" CONDUIT, TYPE C @ 2.50%

EX. STO. MH (TO BE REMOVED) AS PER PLAN
STA. 35+80.1, 15.4' RT.
RIM 846.41
10" INV. 838.61 E
12" INV. 838.51 S
12" INV. 838.41 N

MH NO.3
STA. 35+86, 40'RT.
RIM 847.66
27" INV. 836.16 N&S
10" INV. 838.9± E

(TO BE REMOVED) AS PER PLAN
EX. STO. MH
STA. 36+73.3, 13.4' RT.
RIM 843.83
12" INV. 834.73 S
12" INV. 839.53 E
15" INV. 834.83 N

MH NO.3
STA. 36+84, 40'RT.
RIM 844.15
27" INV. 834.20 N&S
12" INV. 835.58 E

CB NO.3A
STA. 37+80, 30'RT.
GRATE 840.53
12" INV. 836.63 NW
6" INV. 836.86 S

EX. STO. MH (TO BE REMOVED)
STA. 38+26.3, 14' RT.
RIM 839.98
12" INV. 832.38 W
15" INV. 831.08 N&S

MH NO.3
STA. 38+30, 40'RT.
RIM 840.16
12" INV. 834.49 W
12" INV. 836.26 SE
27" INV. 830.55 N&S
12" INV. 831.76 E

EX. SAN. M.H. (RECONSTRUCT TO GRADE)
STA. 38+37.3, 24.2' RT.
RIM 840.29' (839.45)
INV. 8" 831.09' N

33'-12" CONDUIT, TYPE C @ 1.00%

CB NO.3A
STA. 38+26, 50'RT.
GRATE 841.12
12" INV. 834.17 N&W
EX. 12" INV. 834.80± E

CB NO.2-2B
STA. 38+58, 50'RT.
GRATE 841.00
12" INV. 834.50 S
EX. 10" INV. 835.30± E

38+00

10'-12" CONDUIT, TYPE C @ 1.00%

CB NO.2-2B
STA. 36+95, 52'RT.
GRATE 844.50
12" INV. 839.00 S
EX. 12" INV. 839.90± NE

CB NO.3A
STA. 36+85, 52'RT.
GRATE 844.83
12" INV. 838.90 N&W
EX. 4" INV. 841.80± NE

37+00

35+00 36+00 37+00 38+00 39+00

SCALE IN FEET 20 0 10 20

CALCULATED CHECKED

BISHOP ROAD - PLAN AND PROFILE
STA. 35+00 TO STA. 39+00

LAK - 90/84 - 0.54/0.43

83
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVAL 24" AND UNDER (FT.)	202 INLET REMOVED (EACH)	202 MANHOLE REMOVED, AS PER PLAN (EACH)	202 LIGHT POLE REMOVED (EACH)	202 REMOVAL MISC.: SPRINKLER HEAD (EACH)	202 REMOVAL MISC.: BUSINESS SIGN (EACH)	202 REMOVAL MISC.: LANDSCAPE BED (EACH)	202 GUARD POST REMOVED (EACH)
R-1	NOT USED										
R-2	35+24.28		RT		1						
R-3	35+80.10		15.4' RT			1					
R-4	36+73.26	36+74.11	RT	18							
R-5	36+74.11	36+94.52	RT	29							
R-6	36+74.11	36+95	RT	24							
R-7	36+73.26	38+26.27	RT			1					
R-8	38+26.27	38+25	RT	36	1						
R-9	38+26.27	39+36.62	RT			1					
R-10	38+47	38+58	LT to RT	103	2						
R-11	35+24.81		92' RT				1				
R-12	35+66.28	35+79.54	RT					2			
R-13	36+33.27		RT						1		
R-14	36+40		LT							1	
R-15	36+79.20		RT						1		
R-16	36+80		RT					1			
R-17	37+18.57	37+28.72	LT								3
R-18	37+41.34	37+75.52	LT							1	
R-19	37+95.55		LT						1		
R-20	38+29.75		RT						1		
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				210	4	3	1	3	4	2	3

DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 4" CONDUIT TYPE C (FT.)	603 6" CONDUIT TYPE C (FT.)	603 12" CONDUIT TYPE C (FT.)	603 10" CONDUIT TYPE C (FT.)	603 12" CONDUIT TYPE B (FT.)	603 27" CONDUIT TYPE C (FT.)	604 CATCH BASIN NO. 2-2B (EACH)	604 CATCH BASIN NO. 3A (EACH)	604 MANHOLE NO. 3 (EACH)
D-1	35+86	36+84	40' RT				5		98			1
D-2	36+84, 40' RT	36+85.54, 52' RT		5		12					1	
D-3	36+85.54, 52' RT	36+94.52, 52' RT				10				1		
D-4	36+84	38+30	40' RT						146			1
D-5	37+80, 30' RT	38+30, 40' RT				50					1	
D-6	38+30, 40' RT	38+26, 50' RT				15	6				1	
D-7	38+26	38+58	50' RT			33				1		
D-8	38+47, 51' LT	38+26, 30' LT				30				1		
D-9	38+26, 30' LT	38+30, 40' RT						70			1	
D-10	38+30	39+75	40' RT						145			1
D-11	38+71.43	39+04.21	LT		33							
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				5	33	150	11	70	389	3	4	3

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 35+00 TO STA. 39+00

LAK - 90/84 - 0.54/0.43

84
369

DATE: 10-21-04 - TIME: 14:30 - H:\2002\02117\dwg\QSHT04.dwg

NOTE: DRIVE TO BE CONSTRUCTED UTILIZING SAME PROPOSED PAVEMENT COMPOSTION AS S.R. 84 (BISHOP ROAD)

EX. TRAFFIC EASEMENT VOL. 392 PG. 371

PLAZA DRIVE

N87°52'55"W

9+00

+24

1" WIDE TRENCH DRAIN

SAVE

TAKE

SW-1

SW-2

SW-3

SW-4

SW-5

SW-6

UD-20

UD-21

UD-22

UD-23

UD-24

UD-25

UD-26

D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 D-9 D-10 D-11 D-12

R-1 R-2 R-3 R-4 R-5 R-6 R-7 R-8 R-9 R-10 R-11 R-12 R-13

DR-1 DR-2 DR-3

S-1 S-2 S-3 S-4 S-5

W-4

EX. OBT EASEMENT VOL. 941 PG. 1188

EX. OBT EASEMENT OVERLAPS PARCEL 25WD BY 75 S.F. & 25T BY 6,719 S.F.

UNDERDRAIN DEPTH = 18" FROM STA. 40+75 TO STA. 47+56, (NORTHBOUND LANE)

ASPH. PARKING

DO NOT DISTURB

9' OF CHAIN LINK FENCE TO BE REMOVED

CURB, TYPE 6

EX. 30' SANITARY SEWER & STORM SEWER EASEMENT VOL. 216 PG. 462

EX. OBT EASEMENT VOL. 941 PG. 1188

DO NOT DISTURB

3" DIA. METAL POSTS

GUIDE POSTS

EX. 30' SANITARY SEWER & STORM SEWER EASEMENT VOL. 216 PG. 452

EX. 30' SANITARY SEWER & STORM SEWER EASEMENT VOL. 216 PG. 462

S.R. 84 (BISHOP ROAD)

℄ R/W & CONST.

41+00

42+00

N02°07'05"E

(TO BE ABANDONED)

C/L DITCH

CURB, TYPE 6, AS PER PLAN (6 PARKING SPACES)

DO NOT DISTURB

(7 PARKING SPACES)

EX. ROADWAY EASEMENT DOC. #980007425

EXISTING CURB

DO NOT DISTURB (9 PARKING SPACES)

EX. ROADWAY EASEMENT OVERLAPS PARCEL 24WD BY 782 S.F. & 24T BY 721 S.F.

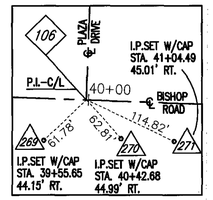
DO NOT DISTURB PARKING LOT

0.5' WIDE TRENCH DRAIN

CURB CUT EASEMENT DOC. #980007425

MATCH LINE STA. 39+00

MATCH LINE STA. 43+00



BISHOP ROAD
P.I. STA. 39+98.86
(PLAZA DRIVE)
C/L STA. 10+00.00

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS

PROPOSED PROFILE GRADE

838.24 837.00 835.76 834.52 833.32 832.12 830.92 829.72 828.52

845 840 835 830 825 820 815

75'-27" CONDUIT, TYPE C @ 2.50%

-2.48%

MH NO.3
STA. 39+75, 40'RT.
RIM 836.55
27" INV. 826.93 S&NW

EX. 8" WATER

HYD.

12" X 8" TEE

EX. 12" WTR

EX. 6" SAN.

EX. 15" STO.

103'-27" CONDUIT, TYPE B @ 1.50%

PVI STA = 40+50
PVI ELEV = 834.52
GRADE BREAK
NO VERTICAL CURVE

CB NO.3A
STA. 40+75, 30' LT.
GRATE EL 833.38
15" INV. 825.80 E&N
6" INV. 829.71 S

6" MIN. COVER

185'-15" CONDUIT, TYPE B @ 2.40%

12" DIP CL 53 WTR.

(TO BE REMOVED)
EX. STO. MH AS PER PLAN
STA. 39+36.6, 13.3' RT.
RIM 837.28
15" INV. 826.48 S
15" INV. 826.88 NW

(RECONSTRUCT TO GRADE)
EX. SAN. M.H.
STA. 39+56.3 23.9' RT.
RIM 837.31 (836.44)
8" INV. 827.51' S
8" INV. 827.11 W

(EX. STO.)
(NO RECORD)

(ADJUST TO GRADE)
EX. SAN. M.H.
STA. 39+73.7 36.5' LT.
RIM 836.60 (836.50)
10" INV. 823.20' W
10" INV. 823.10 N
10" INV. 825.70' E

EX. STO. IB (RECONSTRUCT TO GRADE)
STA. 40+18.8, 54.1' LT.
RIM 835.38 (834.61)
18" INV. 820.88 W
36" INV. 818.78 N&S
27" INV. 825.38 SE

EX. SAN. M.H. (ADJUST TO GRADE)
STA. 41+38.9, 38.4' LT.
RIM 832.20 (832.60)
8" INV. 822.80 W
10" INV. 822.30 N&S

MH NO.3
STA. 42+73, 55' LT.
RIM EL 829.36
18" INV. 822.90 NE
21" INV. 818.72 SE
36" INV. 817.76 N&S

CB NO.2-2B
STA. 42+81, 48' LT.
GRATE EL 829.00
18" INV. 823.00 SW
12" INV. 823.70± E
ASSEM.

EX. SAN. M.H. (ADJUST TO GRADE)
STA. 42+72.8, 38' LT.
RIM 829.16 (829.38)
8" INV. 822.26 E
10" INV. 821.96 N&S

28'-21" CONDUIT, TYPE C @ 1.00%

-2.40%

12" X 8" TEE

18" MIN.

EX. 12" STO.(RT)

EX. 10" SAN.

EX. 12" WTR

EX. 36" STO.(LT)

CB NO.3A
STA. 42+60, 30' LT.
GRATE EL 828.94
15" INV. 819.50 E
15" INV. 821.36 S
21" INV. 819.00 NW
6" INV. 825.27 S

10'-18" CONDUIT, TYPE C @ 1.00%

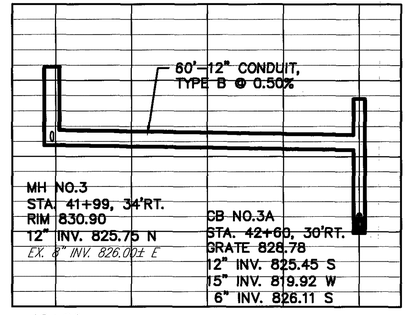
(TO BE REMOVED)
EX. STO. IB (GRATE)
STA. 41+98.1, 19.1' RT.
RIM 830.27'
INV. 12" 825.77' SW
INV. 12" 825.97' W
INV. 10" 826.07' W
INV. 8" 825.97' E

EX. STO. IB (TO BE REMOVED)
STA. 42+72.8, 54.8' LT.
GR. 829.36
36" INV. 817.76 N&S

EXISTING PROFILE GRADE

838.33 837.05 835.78 834.60 833.15 831.79 830.42 828.99 827.69

39+00 40+00 41+00 42+00 43+00



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BISHOP ROAD – PLAN AND PROFILE
STA. 39+00 TO STA. 43+00

LAK – 90/84 – 0.54/0.43

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED 24" AND UNDER	202 GUARD POST REMOVED	202 FENCE REMOVED	202 INLET REMOVED	202 REMOVAL MISC.: BUSINESS SIGN
				FT.	EACH	FT.	EACH	EACH
R–1	40+93.85		LT		1			
R–2	41+48.25		LT		1			
R–3	40+73.90		LT			9		
R–4	41+97.70	41+99	LT to RT	60			2	
R–5	41+92.68		RT	10			1	
R–6	42+10.80		RT				1	
R–7	42+77.24		RT				1	
R–8	42+81.18		LT				1	
R–9	41+98.07	44+27.63	RT	230				
R–10	39+77		LT					1
R–11	42+01.68		LT					1
R–12	42+90		LT					1
R–13	39+63.7, 54' RT	39+85.68, 38' RT	RT	26			1	
TOTALS CARRIED TO ROADWAY SUB–SUMMARY, SHEETS				326	2	9	7	3

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE ADJUSTED TO GRADE	SAN. 604 MANHOLE RECONSTRUCTED TO GRADE	603 12" CONDUIT, TYPE C	603 12" CONDUIT, TYPE B	603 15" CONDUIT, TYPE B	603 18" CONDUIT, TYPE B	603 21" CONDUIT, TYPE B	603 27" CONDUIT, TYPE B	603 SLOTTED DRAIN, 6" TYPE 1	604 CATCH BASIN NO. 2–2B	604 CATCH BASIN NO. 3A	604 MANHOLE NO. 3	604 INLET BASIN RECONSTRUCTED TO GRADE
				EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH
S–1	39+56.28		RT		1											
S–2	39+73.74		LT	1												
S–3	42+72.89		RT	1												
S–4	42+70.73		LT	1												
S–5	41+38.89		LT	1												
D–1	39+75, 40' RT	40+18.82, 54' LT									103				1	1
D–2	40+75		30' LT to RT					60						1		
D–3	40+75	42+60	30' LT					185						1		
D–4	42+73, 55' LT	42+60, 30' LT								28					1	
D–5	42+60		30' LT to 30' RT					60						1		
D–6	41+99, 31' RT	42+60, 30' RT					60							1	1	
D–7	42+39.88, 46' RT	42+59.85, 30' RT				26							1			
D–8	42+81, 48' LT	42+73, 55' LT							11				1			
D–9	39+04, 55' LT	39+41, 55' LT										37	1			
D–10	39+75, 40' RT	40+15, 46' RT				10						31	1			
D–11	42+08	42+40	47' RT									32				
D–12	42+60		50' RT			6							1			
TOTALS CARRIED TO DRAINAGE SUB–SUMMARY, SHEETS				4	1	42	60	305	11	28	103	100	5	4	3	1

CALCULATED J.M.Z.
CHECKED W.D.B.

ESTIMATED QUANTITIES – BISHOP ROAD
STA. 39+00 TO STA. 43+00

LAK – 90/84 – 0.54/0.43

86
369

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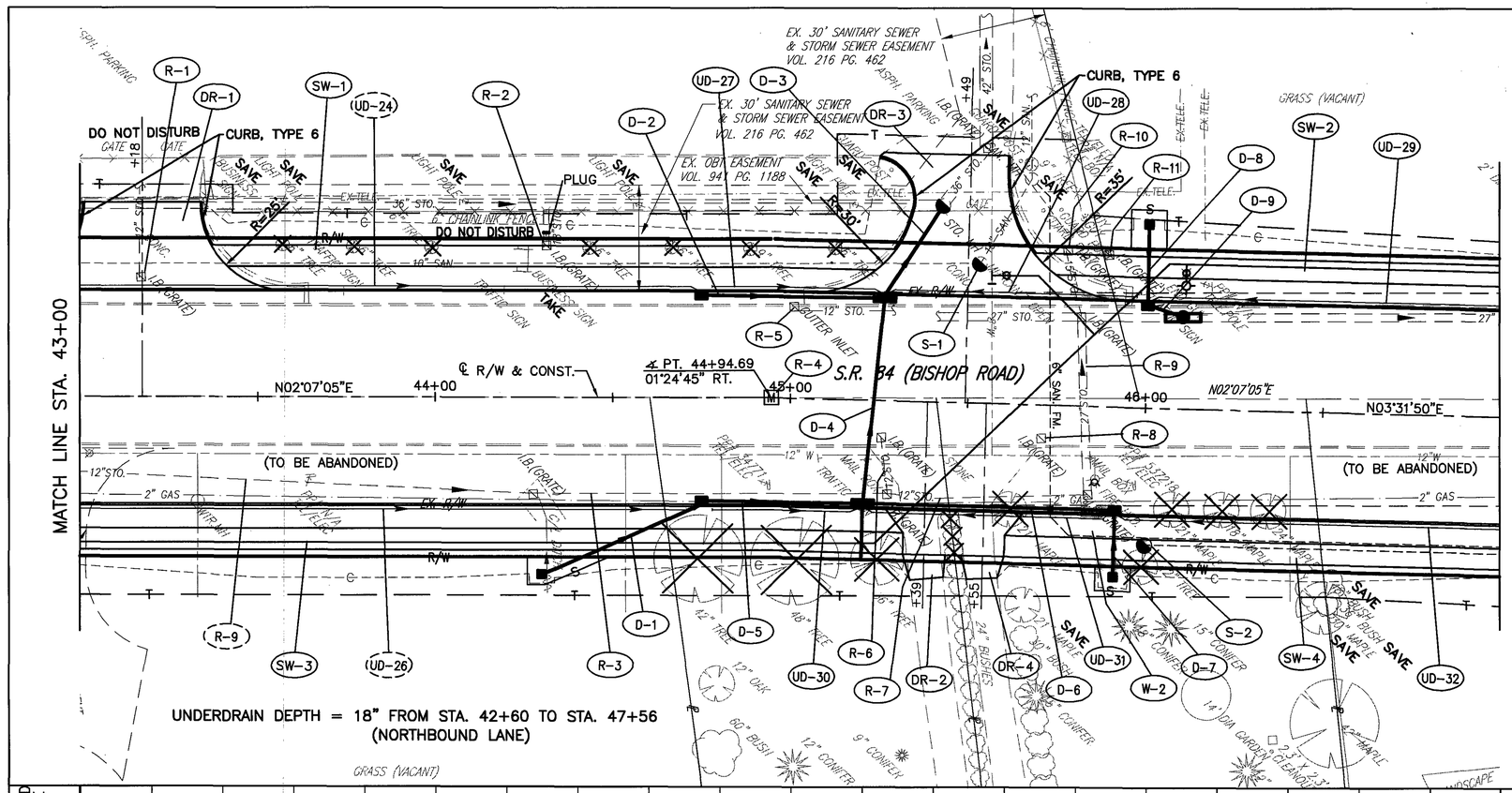
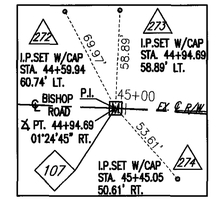
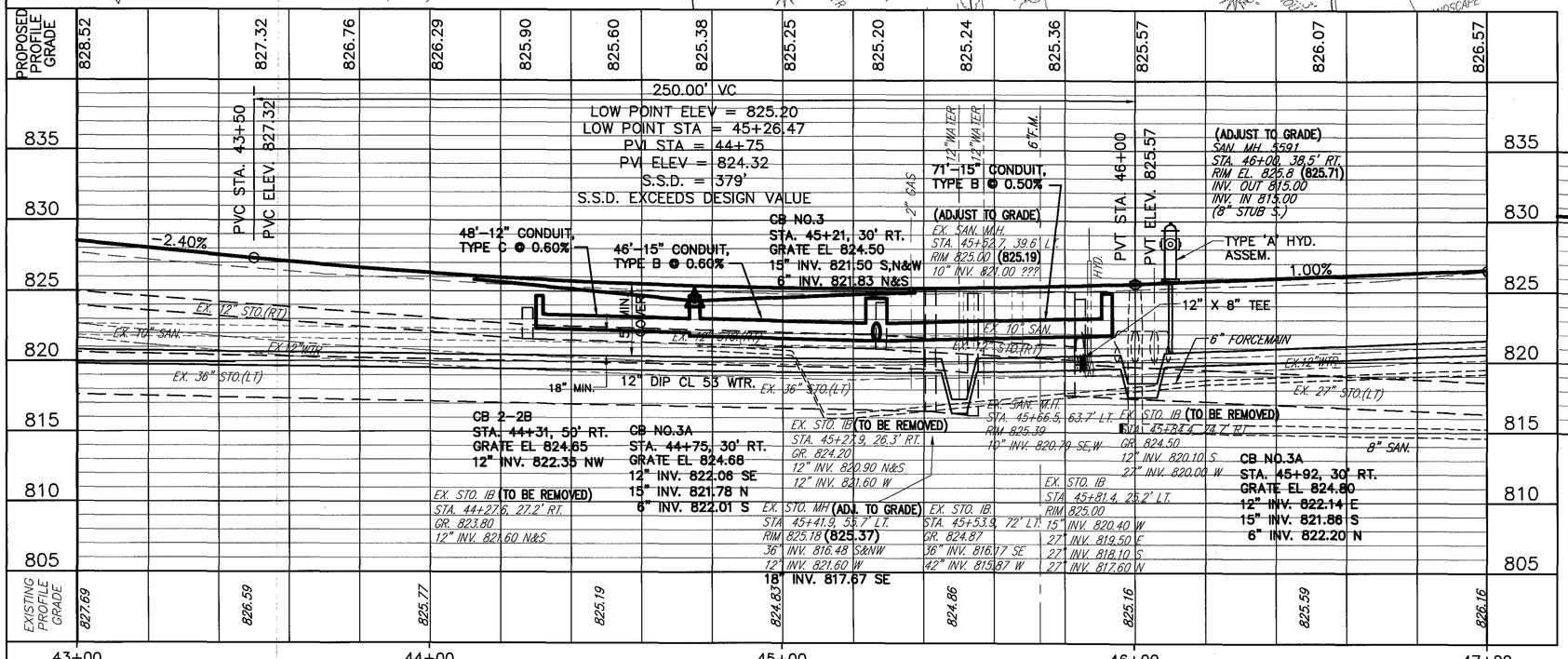
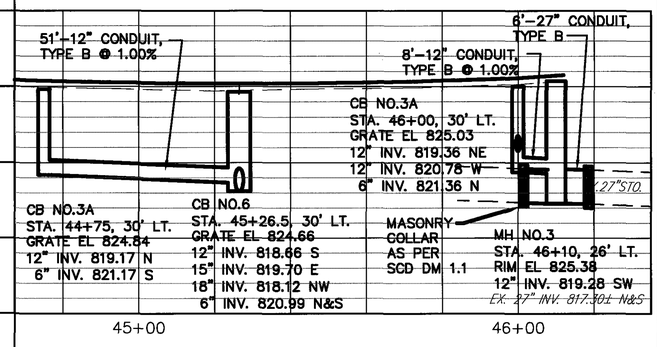




BISHOP ROAD
P.I. STA. 44+94.69

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214





BISHOP ROAD – PLAN AND PROFILE
STA. 43+00 TO STA. 47+00

LAK – 90/84 – 0.54/0.43

87
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 INLET REMOVED EACH	202 PIPE REMOVED 24" AND UNDER FT.	202 PIPE REMOVED OVER 24" FT.		604 MONUMENT ASSEMBLY EACH
R-1	43+17.22		LT	1	21			
R-2	44+31.42		LT	1	10			
R-3	44+27.63	45+27.88	LT	1	100			
R-4	44+94.69							1
R-5	45+00.51		RT	1				
R-6	45+25.88	45+28	RT	1	16			
R-7	45+28	45+84.39	RT	1	57			
R-8	45+70.84		LT	1				
R-9	45+81.40	45+84.39	RT	2		50		
R-10	45+77.15	45+81.40	LT	1	19			
R-11	45+88.90		LT	1				
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				11	223	50		1

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE ADJUSTED TO GRADE EACH		603 12" CONDUIT, TYPE C FT.	603 12" CONDUIT, TYPE B FT.	603 15" CONDUIT, TYPE B FT.	603 18" CONDUIT, TYPE B FT.	603 27" CONDUIT, TYPE B FT.		604 CATCH BASIN NO. 2-2B EACH	604 CATCH BASIN NO. 3A EACH	604 CATCH BASIN NO. 3 EACH	604 CATCH BASIN NO. 6 EACH	604 MANHOLE NO. 3 EACH	604 MANHOLE ADJUSTED TO GRADE EACH
S-1	45+52.7		RT	1													
S-2	46+00		LT	1													
D-1	44+31, 50' RT	44+75, 30' RT				48						1	1				
D-2	44+75, 30' LT	45+26.5, 30' LT					51						1				
D-3	45+26.5, 30' LT	45+41.9, 55.7' LT							30						1		1
D-4	45+26.5	45+21	30'LT to 45'RT			15		60						1			
D-5	44+75	45+21	30' RT					46					1				
D-6	45+21	45+92	30' RT					71					1				
D-7	45+92		30' to 48' RT			20						1					
D-8	46+00	52' LT to 30' LT				22						1					
D-9	46+00, 30' LT	46+10, 26' LT					8			12			1			1	
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				2		105	59	177	30	12		3	5	1	1	1	1

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 43+00 TO STA. 47+00

LAK - 90/84 - 0.54/0.43

88
369

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* TAPER CURB HEIGHT FROM 0" TO 6" IN TEN FEET

MATCH LINE STA. 47+00

MATCH LINE STA. 51+00

S.R. 84 BISHOP ROAD

BISHOP PARK DRIVE

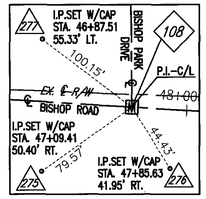
RIDGEHILLS DR. 50'

EDDY ROAD 60'

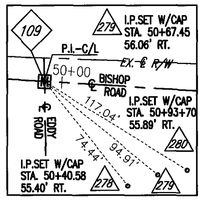
(TO BE ABANDONED)

RETAINING WALL

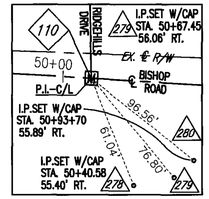
CURB, TYPE 6



BISHOP ROAD
P.I. STA. 47+70.98
(BISHOP PARK)
C/L STA. 10+06.82



BISHOP ROAD
P.I. STA. 49+90.86
(EDDY ROAD)
C/L STA. 10+12.25



BISHOP ROAD
P.I. STA. 50+14.95
(RIDGEHILLS DRIVE)
C/L STA. 10+12.85

UNDERDRAIN DEPTH = 18" FROM STA. 49+50 TO STA. 13+25 (EDDY ROAD, EASTBOUND LANE)

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS

PARCEL 33 (TRUE NORTH SHELL STATION) NOTES:

1. ONE DRIVEWAY ACCESS SHALL REMAIN OPEN AT ALL TIMES ALONG RIDGEHILLS DRIVE AND ALONG BISHOP ROAD DURING CONSTRUCTION.
2. CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE, TEST WELL, FUEL PORT OR GAS LID DURING CONSTRUCTION.

PROPOSED PROFILE GRADE: 826.57 | 826.76 | 826.85 | 826.82 | 826.68 | 826.44 | 826.08 | 825.61 | 825.03 | 824.34 | 823.53 | 822.62 | 821.60 | 820.46 | 819.22 | 816.62

EXISTING PROFILE GRADE: 826.16 | 826.59 | 826.92 | 826.21 | 825.13 | 823.76 | 821.50 | 818.91 | 816.35

350.00' VC
HIGH POINT ELEV = 826.85
HIGH POINT STA = 47+56.45
PVI STA = 48+75
PVI ELEV = 828.32
S.S.D. = 349'
S.S.D. EXCEEDS DESIGN VALUE

PVC STA. 47+00
PVC ELEV. 826.57

1.00%

12" X 8" TEE

8" WATER

4" GAS

12" DIP CL 53 WTR.

5' MIN. COVER

EX. 12" W.M.

EX. 27" STO.

8" SAN.

AIR RELEASE MANHOLE (ADJUST TO GRADE)
STA. 47+65, 43.1' RT.
RIM EL. 827.1
INV. 6" 819.75

6'-27" CONDUIT, TYPE B

MASONRY COLLAR AS PER SCD DM 1.1

EX. STO. MH (ADJUST TO GRADE)
STA. 48+93.9, 32.9' LT.
RIM 825.11 (825.23)
24" INV. 814.51 W
27" INV. 814.21 S
27" INV. 814.11 N

MH NO.3
STA. 49+50, 35' LT.
RIM EL 823.80
12" INV. 814.59 E
EX. 27" INV. 812.44 N&S

SAN. MH. 5592 (RECONSTRUCT TO GRADE)
STA. 49+86.6, 50.6' RT.
STA. 10+50.5, 3.6' RT.
EX. RIM EL. 825.1
(RIM EL. 821.4±)
INV. IN 813.45
INV. OUT 813.45

30'-12" CONDUIT, TYPE B @ 4.00%

EX. STO. MH (ADJUST TO GRADE)
STA. 49+91.1, 36.3' LT.
RIM 821.21 (821.29)
27" INV. 811.21 N&S
30" INV. 812.11 W

MH NO.3
STA. 50+15, 7' RT.
RIM EL 820.80
12" INV. 817.32 E
12" INV. 815.84 N

PVT STA. 50+50
PVT ELEV. 819.22

5.20%

18" MIN.

EX. 12" STO.

EX. STO. MH (TO BE REMOVED)
STA. 50+40, 5.2' RT.
RIM 819.94
12" INV. 814.84 N

47+00 | 48+00 | 49+00 | 50+00 | 51+00

N

SCALE IN FEET: 20 0 10 20

CALCULATED

CHECKED

BISHOP ROAD – PLAN AND PROFILE
STA. 47+00 TO STA. 51+00

LAK – 90/84 – 0.54/0.43

89
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 INLET REMOVED EACH	202 PIPE REMOVED 24" AND UNDER FT.	202 MANHOLE REMOVED EACH	202 REMOVL MISC.: LANDSCAPE BED EACH	202 REMOVL MISC.: GUARD POST EACH	202 REMOVL MISC.: BUSINESS SIGN EACH		604 MONUMENT ASSEMBLY EACH
R-1	47+16, 41' LT	47+40, 53' LT	℄				1				
R-2	47+70.98		39.7' LT					1			1
R-3	48+45.11										
R-4	49+69.7, 38' LT	49+81.5, 43.4' LT	℄	2	13						
R-5	49+90.86										1
R-6	49+68.99	50+11.93	RT	1	43						
R-7	50+14.96		℄								1
R-8	50+11.93	50+39.81	RT	1	10	1					
R-9	50+25.70		75.8' RT						1		
R-10	50+17		RT				1				
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				4	66	1	2	1	1		3

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE RECONSTRUCTED TO GRADE EACH	SAN. 604 MANHOLE ADJUSTED TO GRADE EACH	603 12" CONDUIT, TYPE C FT.	603 12" CONDUIT, TYPE B FT.	603 27" CONDUIT, TYPE B FT.		604 CATCH BASIN NO. 3A EACH	604 MANHOLE NO. 3 EACH	604 MANHOLE ADJUSTED TO GRADE EACH
S-1	47+65		43.1' RT		1							
S-2	49+86.6		38.5' RT	1								
S-3	50+22.91		27.1' RT	1								
S-4	49+82.65		67.6' LT	1								
D-1	48+93.9		32.9' LT									1
D-2	49+50		35' LT to 30' LT			6		12			1	
D-3	49+50		35' LT to 30' RT				60			2		
D-4	50+15, 7' RT	50+07, 55' RT					50					
D-5	50+15, 7' RT	50+44.8, 5' RT					30				1	
D-6	50+21.08		37.7' LT					12			1	
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				3	1	6	140	24		2	3	1

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 47+00 TO STA. 51+00

LAK - 90/84 - 0.54/0.43

90
369

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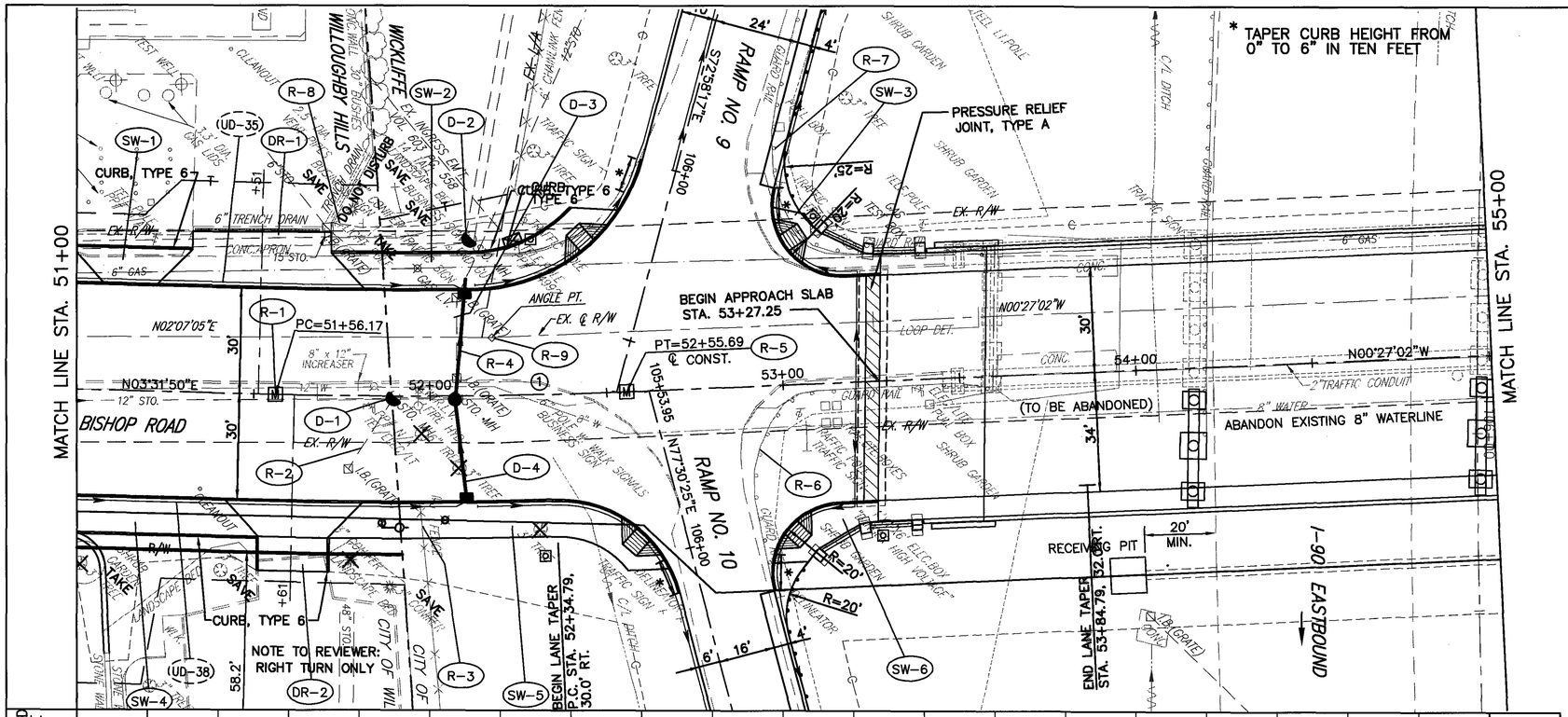
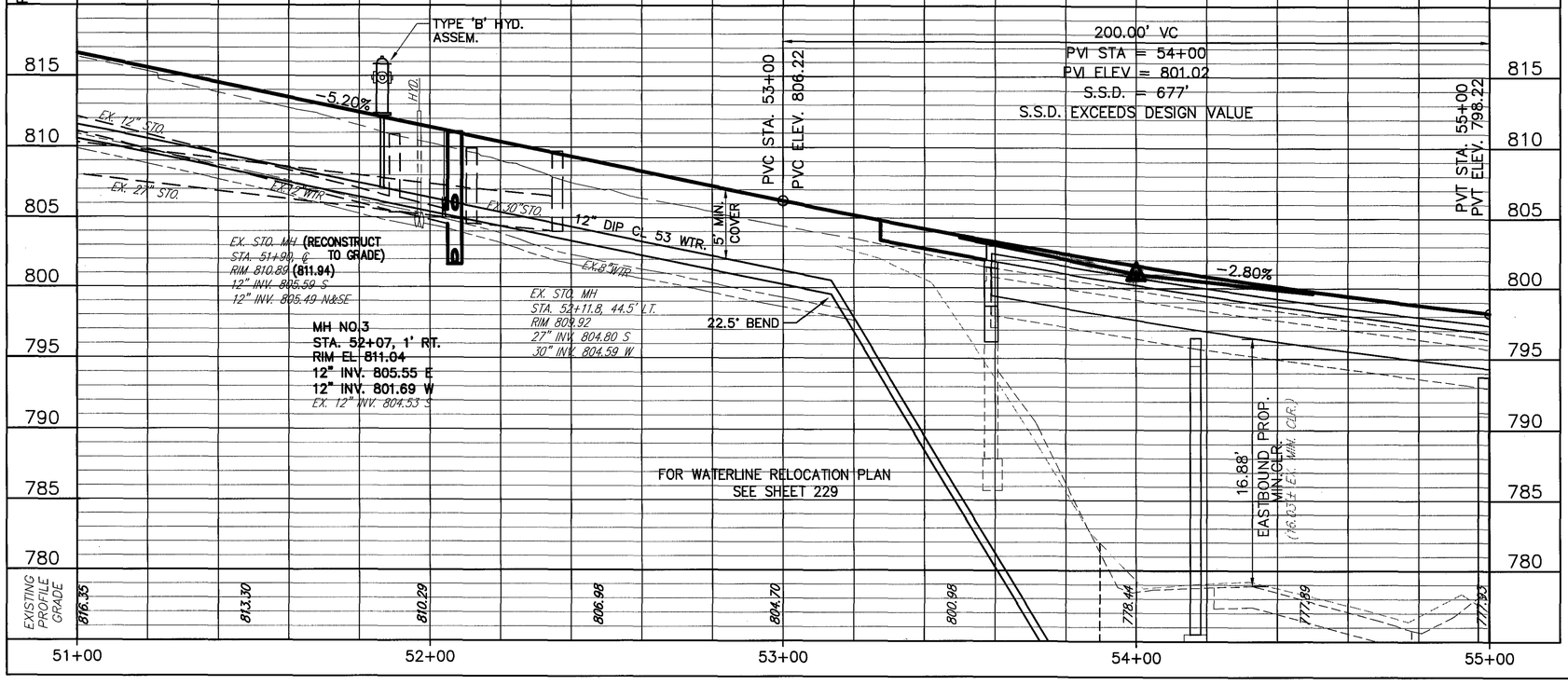


① S.R. 84 ℄ CURVE DATA
P.I.=STA. 52+05.95
Δ =03°58'52" RT.
D =04°00'00"
R=1432.39'
T=49.78'
L=99.52'
E=0.86
emax= N/A
P.C.=STA. 51+56.17
P.T.=STA. 52+55.69

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS

PARCEL 33 (TRUE NORTH SHELL STATION) NOTES:

1. ONE DRIVEWAY ACCESS SHALL REMAIN OPEN AT ALL TIMES ALONG RIDGEHILLS DRIVE AND ALONG BISHOP ROAD DURING CONSTRUCTION.
2. CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE, TEST WELL, FUEL PORT OR GAS LID DURING CONSTRUCTION.



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SCALE IN FEET 20 10 0 20
CALCULATED
CHECKED

BISHOP ROAD – PLAN AND PROFILE
STA. 51+00 TO STA. 55+00

LAK – 90/84 – 0.54/0.43

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 INLET REMOVED EACH	202 PIPE REMOVED 24" AND UNDER FT.	202 FENCE REMOVED FT.	202 MANHOLE REMOVED EACH	202 GUARDRAIL REMOVED FT.	202 LIGHT POLE REMOVED EACH	202 MONUMENT ASSEMBLY REMOVED EACH		604 MONUMENT ASSEMBLY EACH
R-1	51+56.17		℄									1
R-2	51+77.03	51+89.76	RT	1	24							
R-3	51+96.98	51+98.98	RT			22						
R-4	52+07.72	52+07.40	LT to RT	2	28		1					
R-5	52+55.69		℄									1
R-6	52+94.44	53+58.62	RT					115				
R-7	53+01.52		LT					71				
R-8	51+73.14		48.6' LT						1			
R-9	52+17.74		16.5' LT							1		
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				3	52	22	1	186	1	1		2

DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 12" CONDUIT, TYPE B FT.		604 CATCH BASIN NO. 3A EACH	604 MANHOLE NO. 3 EACH	604 MANHOLE ADJUSTED TO GRADE EACH	604 MANHOLE RECONSTRUCTED TO GRADE EACH
D-1	51+89.76		℄						1
D-2	52+11.81		44.5' LT					1	
D-3	52+07		30' LT to 1' RT	37		1			
D-4	52+07		1' RT to 30' RT	29		1	1		
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				66		2	1	1	1

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 51+00 TO STA. 55+00

LAK - 90/84 - 0.54/0.43

92
369

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MATCH LINE STA. 55+00

MATCH LINE STA. 59+00

I-90 WESTBOUND

S.R. 84 (BISHOP ROAD)
N00°27'02"W

RAMP NO. 8

RAMP NO. 11

PRESSURE RELIEF JOINT, TYPE A

END APPROACH SLAB STA. 56+60.75

BEGIN PAVEMENT TAPER STA.57+75.0, 30.0' LT.

PAVEMENT TAPER STA.58+50.0, 28.0' LT.

PC=57+75

PT=58+84.38

N04°49'32"W

(TO BE ABANDONED)

BORING PIT

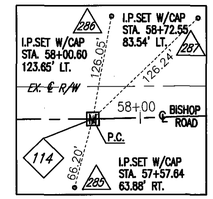
BEGIN LANE TAPER STA. 56+45, 32.0' RT.

LANE LINE/ GUTTER P.R.C. STA. 57+63.05 29.14' RT.

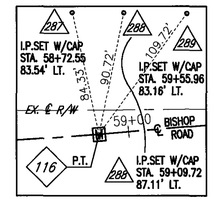
* TAPER CURB HEIGHT FROM 0" TO 6" IN TEN FEET

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 58+29.72
Δ =04°22'30" LT.
D =04°00'00"
R=1432.40'
T=54.72'
L=109.38'
E=1.05
emax= N/A
P.C.=STA. 57+75.00
P.T.=STA. 58+84.38

③ GUTTER/ F.O.C. CURVE DATA
P.I.=STA. 58+23.80, 26.72
Δ =03°28'16" LT.
D =02°48'43"
R=2037.57'
T=61.74'
L=123.44'
E=0.94'
emax= N/A
P.R.C. STA. 57+63.05, 29.14' RT.
P.T. = 58+84.38, 23.12' RT.



BISHOP ROAD
P.C. STA. 57+75.00



BISHOP ROAD
P.T. STA. 58+84.38

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS

PROPOSED PROFILE GRADE

PVT STA. 55+00
PVT ELEV. 798.22

WESTBOUND PROP. MIN.CLR. (14.82'+4.0' MIN. CLR.)

16.00' REQUIRED MIN. CLR. (TYP.)

-2.80%

200.00' VC
LOW POINT ELEV = 792.14
LOW POINT STA = 57+94.27
PVI STA = 57+40
PVI ELEV = 791.50
S.S.D. = 305'
S.S.D. EXCEEDS DESIGN VALUE

PVC STA. 56+40
PVC ELEV 794.30

PVT STA. 58+40
PVT ELEV. 792.33

0.83%

TYPE 'B' HYD. ASSEM.

130'-12" CONDUIT, TYPE B @ 1.00%

3' MIN. COVER

46'-12" CONDUIT, TYPE B @ 1.00%

11.25° BEND

CB NO.3A
STA. 56+65, 34' RT.
GRATE EL 792.97
12" INV. 788.30 N

12" DIP CL 53 WTR.

BORING PIT

11.25° BEND

EX. 8"WTR

EX. 12" STO.

EX. 2"WTR

(ABANDONED) EX.8"WTR

PRESSURE REGULATOR VAULT

EX. 10" SAN. SEE WATERLINE DETAILS

EX. 10" SAN.

EX. STO. MH (TO BE REMOVED)
STA. 57+73.9, 16.9' LT.
RIM 787.56
12" INV. 783.76 E,W&NE

EX. SAN. MH (RECONSTRUCT TO GRADE)
STA. 58+03.4, 4.2' RT.
RIM 791.79 (792.09)
8" INV. 779.59 E
10" INV. 779.39 S
10" INV. 779.29 N

EX. STO. MH (RECONSTRUCT TO GRADE)
STA. 58+07.8, 2.3' RT.
RIM 787.83 (792.13)
8" INV. 780.83 SE
12" INV. 783.13 SW
12" INV. 780.53 N ?

CB NO.3
STA. 57+94, 27.4' RT.
GRATE EL 791.47
12" INV. 786.58 N&NW
12" INV. 787.00 S
6" INV. 787.80 N&S

12" INV. 786.31 SE
12" INV. 786.28 SW

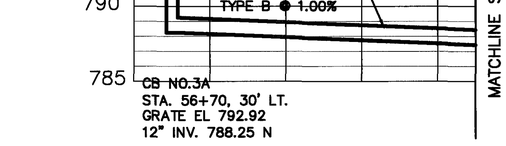
CB NO.3A
STA. 58+40, 25' RT.
GRATE EL 791.71
12" INV. 787.04 S
6" INV. 788.04 N

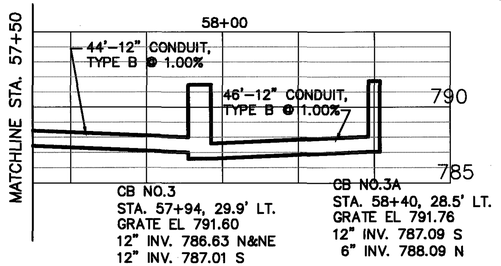
EXISTING PROFILE GRADE

777.93 775.08 773.43 790.35 788.61 787.62 787.92 788.67 789.38

55+00 56+00 57+00 58+00 59+00

795 790 785 780 775 770 765





BISHOP ROAD – PLAN AND PROFILE
STA. 55+00 TO STA. 59+00

LAK – 90/84 – 0.54/0.43

93
369

SCALE IN FEET 0 10 20

CALCULATED

CHECKED

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED FT.	202 INLET REMOVED EACH	202 MANHOLE REMOVED EACH	202 PIPE REMOVED 24" AND UNDER FT.	202 FENCE REMOVED FT.	202 REMOVAL MISC.: GUARD POST EACH	202 REMOVAL MISC.: STONE PILLAR EACH	604 MONUMENT ASSEMBLY EACH
R-1	56+29.65	56+92.66	RT	138							
R-2	56+31.74	57+15.26	LT	125							
R-3	57+73.39	57+74.07	LT		2	1	30				
R-4	57+75		℄								1
R-5	57+73.87	58+07.69	LT to RT				39				
R-6	57+87.05	57+67.82	RT					54			
R-7	58+48.38		RT		1						
R-8	58+84.38		℄								1
R-9	57+97.5, 69' RT	58+08.5, 68' RT							2		
R-10	58+14.64		68.5' RT							1	
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				263	3	1	69	54	2	1	2

SAN.

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 MANHOLE RECONSTRUCTED TO GRADE EACH	603 12" CONDUIT, TYPE B FT.	604 CATCH BASIN NO. 3A EACH	604 MANHOLE NO. 3 EACH	604 MANHOLE RECONSTRUCTED TO GRADE EACH
S-1	58+03.20		RT	1				
D-1	56+80.9, 30' LT	57+94, 29.9' LT			124	1		
D-2	56+69.7, 34' RT	57+94, 27.4' RT			130	1		
D-3	57+94, 29.9' RT	58+40, 28.5' LT			46	1	1	
D-4	57+94, 27.4' RT	58+40, 25' RT			46	1	1	
D-5	57+94, 29.9' LT	58+07.8, 2.3' RT			35			1
D-6	58+07.8, 2.3' RT	57+94, 27.4' RT			27			
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				1	408	4	2	1

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - BISHOP ROAD
STA. 55+00 TO STA. 59+00

LAK - 90/84 - 0.54/0.43

94
369

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MATCH LINE STA. 59+00

MATCH LINE STA. 63+00

PAVEMENT TAPER STA.59+90.0, 17.8' LT.

STATION EQUATION
PT STA. 61+06.97 (BACK)=
PT STA. 61+06.46 (AHEAD)

S.R. 84 BISHOP ROAD

N00°27'02"W

N04°49'32"W (TO BE ABANDONED)

℄ CONST.

℄ CONST. & EX. R/W

MEET EX. ℄ R/W STA. 61+06.46

PC=59+98.00

BEGIN SIDEWALK TAPER

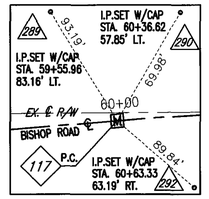
END PAVEMENT TAPER STA.61+55.0, 13.0' RT.

JOHNSON DR.

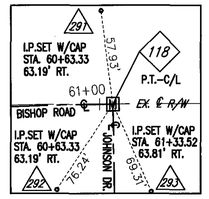
SEE DRIVE DETAIL SHEET 214

② S.R. 84 ℄ CURVE DATA
P.I.=STA. 60+52.41
Δ =03°58'52" RT.
D =04°00'00"
R=1432.40'
T=54.61'
L=109.15'
E=1.04'
emax= N/A
P.C.=STA. 59+97.80
P.T.=STA. 61+06.98

④ GUTTER/ F.O.C. CURVE DATA
P.I.=STA. 60+33.51, 17.15' RT.
Δ =02°28'44" LT.
D =04°10'21"
R=2037.57'
T=29.71'
L=59.41'
E=0.32'
emax= N/A
P.C. = 59+97.80, 18.9' RT.
P.C.C. = 60+57.92, 16.72' RT.



BISHOP ROAD
P.C. STA. 59+98.00



BISHOP ROAD
P.T. STA. 61+06.98
(JOHNSON DRIVE)
C/L STA. 10+00.00

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221

NOTE:
DURING CONSTRUCTION THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF WICKLIFFE A TEMPORARY SUPPORT OF THE ERIUV (HOLY WIRE) THAT ENCIRCLES THE TELSHE-YESHIVA COMMUNITY FROM SUB-LOT 41 TO SUB-LOT 52.

PROPOSED PROFILE GRADE: 792.83 | 793.23 | 793.30 | 793.22 | 792.99 | 792.60 | 792.06 | 791.37 | 790.53 | 789.55 | 787.53 | 785.51 | 783.49

200.00' VC
HIGH POINT ELEV = 793.30
HIGH POINT STA = 59+74.10
PVI STA = 60+40
PVI ELEV = 793.99
S.S.D. = 322'
S.S.D. EXCEEDS DESIGN VALUE

PVC STA. 59+40
PVC ELEV. 793.16
PVT STA. 61+40
PVT ELEV. 789.95
PVI STA = 63+00
PVI ELEV = 783.49
GRADE BREAK - NO V.C.

0.83%
-4.04%

TYPE 'A' HYD. ASSEM.
5' MIN. COVER
15'-12" CONDUIT, TYPE C @ 1.00%
12" DIP CL 53 WTR.
6'-12" CONDUIT, TYPE C
6'-27" CONDUIT, TYPE C
MASONRY COLLAR AS PER SCD DM 1.1
MAKE CONN. TO EXIST. W/L

EX. STO. MH (ADJUST TO GRADE)
STA. 60+65.6, 11.5' RT.
RIM 790.76 (790.95)
12" INV. 778.08 S
21" INV. 777.98 N
21" INV. 780.68 E
18" INV. 783.37 E

EX. SAN. MH (ADJUST TO GRADE)
STA. 61+00.2, 23' RT.
RIM 790.77 (791.05)
8" INV. 779.47 E
10" INV. 776.87 S
10" INV. 776.77 N

EX. STO. IB (TO BE REMOVED)
STA. 62+30, 13' RT.
RIM 785.63
12" INV. 782.93 E
6" INV. 783.03 SE

CB NO.3A
STA. 60+50, 17' RT.
GRATE EL 792.11
12" INV. 786.44 N
6" INV. 788.44 S

MH NO.3
STA. 60+65, 20' RT.
RIM EL 792.68
12" INV. 778.40 N&S
12" INV. 786.29 S

MH NO.3
STA. 62+37, 20' RT.
RIM EL 786.00
21" INV. 773.85 N&S
12" INV. 781.80 SW

EXISTING PROFILE GRADE: 788.38 | 790.23 | 790.87 | 790.74 | 790.69 | 788.93 | 787.29 | 785.42 | 783.45

800 795 790 785 780 775 770

59+00 60+00 61+00 61+00 63+00

N

SCALE IN FEET 20 10 0 10 20

CALCULATED

CHECKED

BISHOP ROAD - PLAN AND PROFILE
STA. 59+00 TO STA. 63+00

LAK - 90/84 - 0.54/0.43

95
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 INLET REMOVED	202 REMOVAL MISC.: BUSINESS SIGN	202 MONUMENT ASSEMBLY REMOVED		604 MONUMENT ASSEMBLY
				EACH	EACH	EACH		EACH
R-1	59+98		℄					1
R-2	60+68.37		RT	1				
R-3	61+06.97		℄			1		1
R-4	60+34.26		14' RT		1			
R-5	62+31.90		RT	1				
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				2	1	1		2

DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 12" CONDUIT, TYPE B	603 12" CONDUIT, TYPE C	603 27" CONDUIT, TYPE C		604 CATCH BASIN NO. 3A	604 MANHOLE NO. 3
				FT.	FT.	FT.		EACH	EACH
D-1	60+50, 17' RT	60+65, 20' RT			15	12		1	1
D-2	62+05, 13' LT	62+32, 13' RT		35				1	
D-3	62+32, 13' RT	62+37, 20' RT			9	12		1	1
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				35	24	24		3	2

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES – BISHOP ROAD
STA. 59+00 TO STA. 63+00

LAK – 90/84 – 0.54/0.43

96
369

DATE: 10-22-04 – TIME: 09:14 – H:\2002\02117\dwg\QSHT10.dwg

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 99 THRU 121
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214

NOTE TO REVIEWER:
EXISTING CURB AND GUTTER SECTION WILL NEED TO BE REPLACED FROM STA. 63+50 TO STA. 65+40, LT. & RT., DUE TO PAVEMENT FOR MAINTAINING TRAFFIC.

NOTE:
DURING CONSTRUCTION THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF WICKLIFFE A TEMPORARY SUPPORT OF THE ERIUV (HOLY WIRE) THAT ENCIRCLES THE TELSHE-YESHIVA COMMUNITY FROM SUB-LOT 41 TO SUB-LOT 52.

MATCH LINE STA. 63+00

END PROJECT STA. 63+50.00

END PAVEMENT TAPER MEET EX. GUTTER STA.63+50.0, 13.0' LT.

BEGIN SIDEWALK TAPER STA.63+25.9, 26.0' RT.

END PAVEMENT TAPER MEET EX. GUTTER STA.63+50.0, 13.0' RT.

S.R. 84 BISHOP ROAD

℄ R/W & CONST.

N00°27'02"W

64+00

65+00

SW-1 SW-2 SW-3 SW-4 SW-5 R-1 R-2 DR-1 DR-2 DR-3 DR-4 DR-5 D-1 S-1 (UD-46) (UD-50)

PROPOSED PROFILE GRADE 783.49 781.53

63+00 = 783.49
PVI STA =
PVI ELEV =

V.C. NO

GRADE BREAK

MEET EXISTING PAVEMENT
STA. 63+50
ELEV. 781.53

-3.92%

3.88%

(ABANDONED) EX.6" WTR.
EX.12" WTR.
EX. 21" STO.
EX. 10" SAN.
EX. 21" STO.
EX. 10" SAN.

EX. SAN. MH
STA. 63+81, 22' RT.
RIM 780.18
10" INV. 768.18 N&S

EX. STO. MH
STA. 63+87, 20' RT.
RIM 779.82
21" INV. 769.12 N&S
12" INV. 775.32 E

EXISTING PROFILE GRADE 783.45 781.53 779.59 777.70 775.99

63+00 64+00 65+00 66+00 67+00

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CALCULATED
CHECKED
SCALE IN FEET 20 10 0 20

BISHOP ROAD - PLAN AND PROFILE
STA. 63+00 TO END OF PROJECT

LAK - 90/84 - 0.54/0.43

97
369

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 CURB AND GUTTER REMOVED
				FEET
R–1	63+50	65+40	LT.	190
R–1	63+50	65+40	RT.	190
TOTALS CARRIED TO ROADWAY SUB–SUMMARY, SHEETS				380

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE ADJUSTED TO GRADE	603 MANHOLE ADJUSTED TO GRADE
				EACH	EACH
D–1	63+87.09		20.0' RT		1
S–1	63+81.25		21.76' RT	1	
TOTALS CARRIED TO DRAINAGE SUB–SUMMARY, SHEETS				1	1

CALCULATED J.M.Z.
CHECKED W.D.B.

ESTIMATED QUANTITIES – BISHOP ROAD
STA. 63+00 TO END OF PROJECT

LAK – 90/84 – 0.54/0.43

98
369

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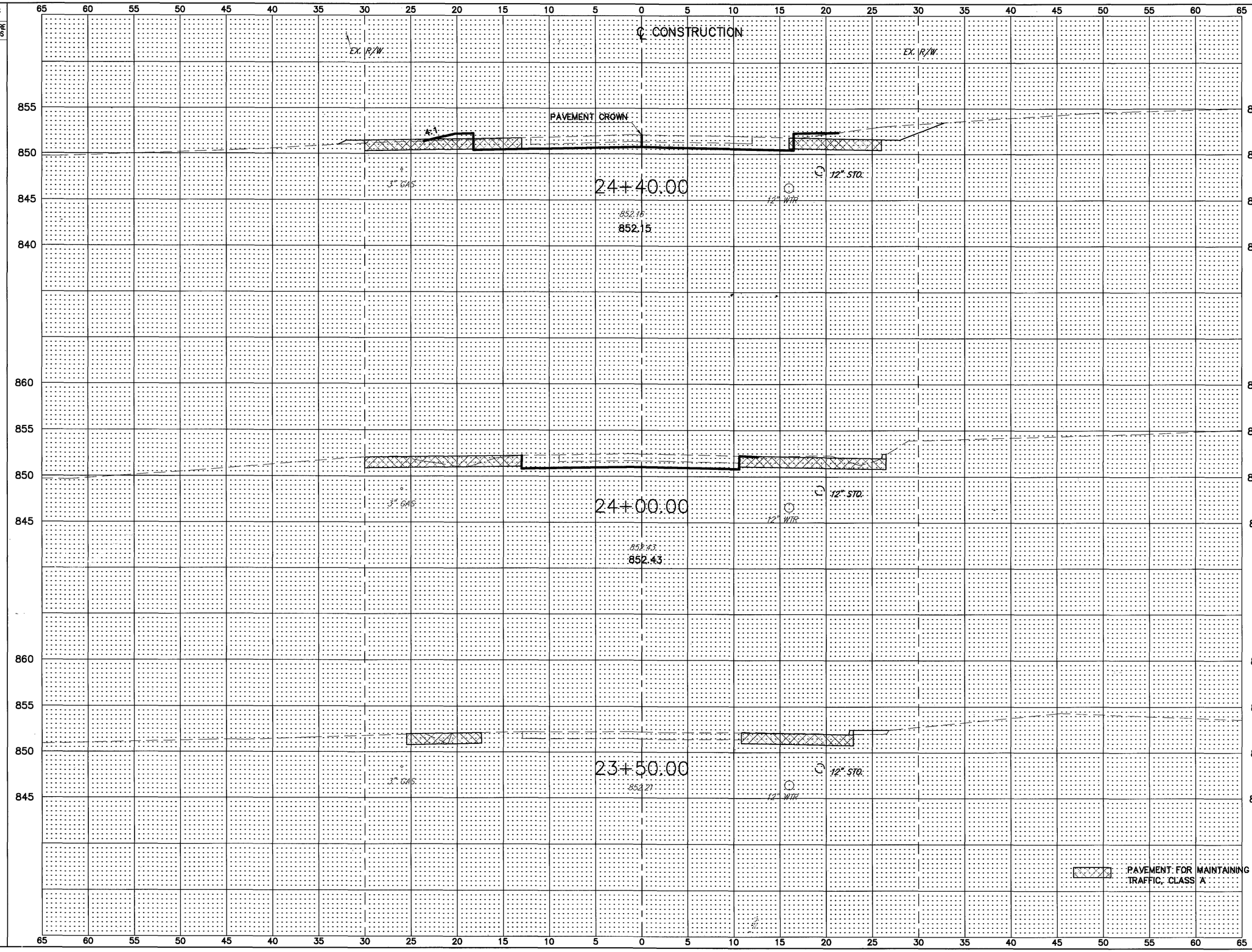
SEEDING	
END WIDTH	SQUARE YARDS
14	
	45
6	



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
46	4		
		59	45
34	0		

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD

CROSS SECTIONS STA. 23+50 TO STA. 24+40

LAK – 90/84 – 0.54/0.43

99
369

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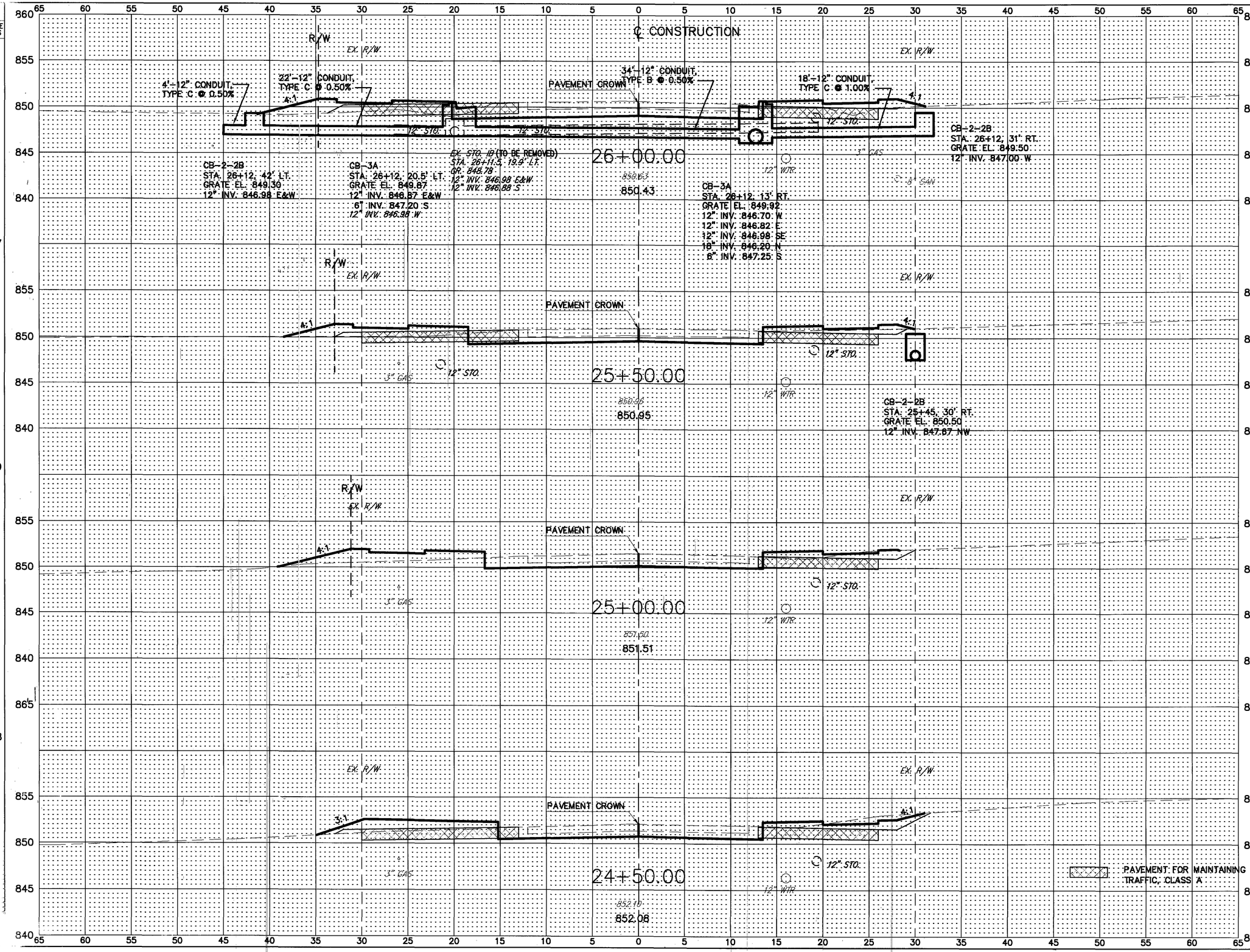
SEEDING	
END WIDTH	SQUARE YARDS
31	167
29	169
32	178
32	169
26	



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
49	35		
		86	55
44	24		
		78	45
40	25		
		76	44
42	22		
		6	5

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 24+50 TO STA. 26+00

LAK – 90/84 – 0.54/0.43

100
369

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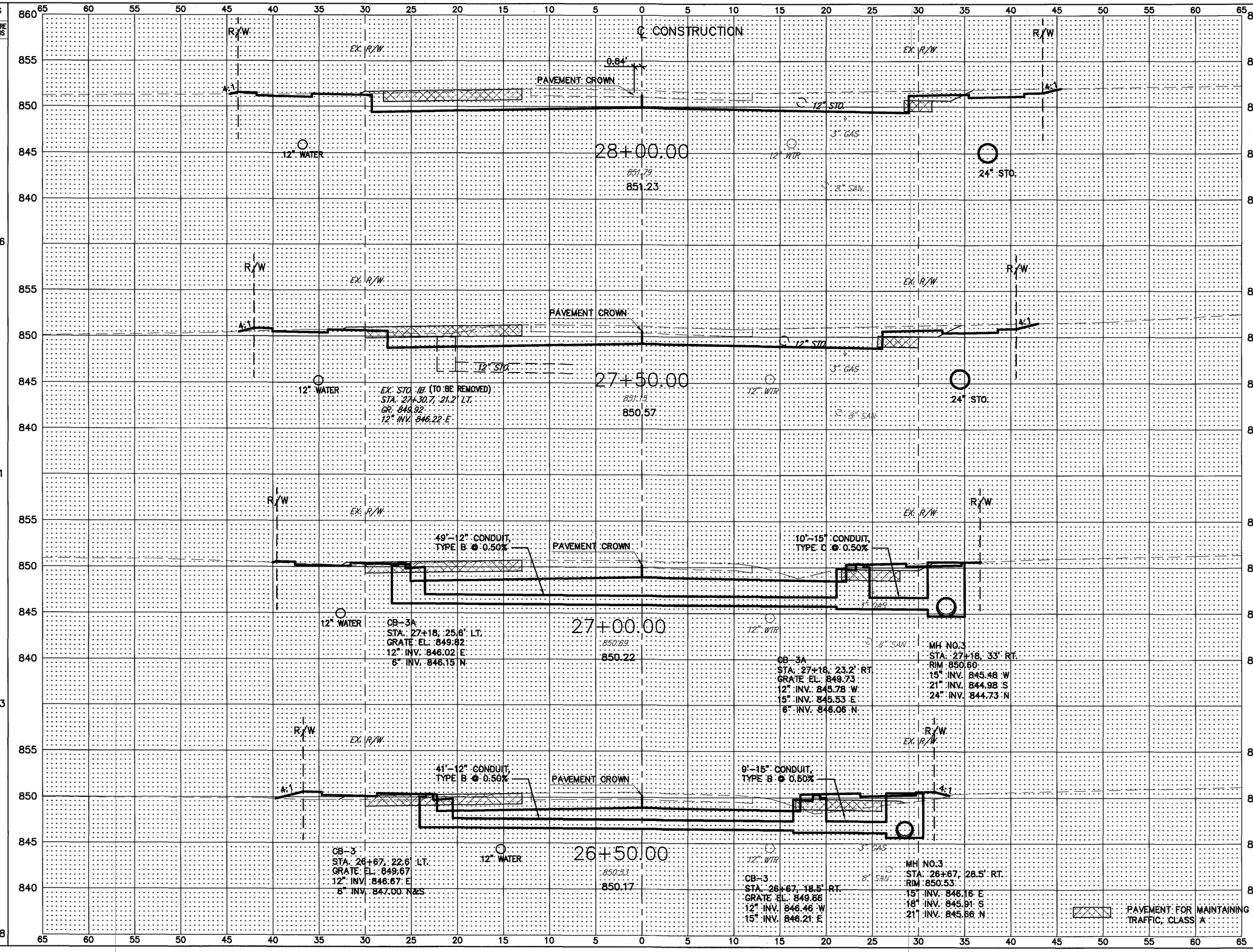
SEEDING	
END WIDTH	SQUARE YARDS
24	136
25	131
22	133
26	158

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
127	1		
115	2	224	3
82	2	182	4
63	30	134	30
		104	60

CALCULATED M.L.M.

CHECKED W.D.B.



S.R. 84 – BISHOP ROAD

CROSS SECTIONS STA. 26+50 TO STA. 28+00

LAK – 90/84 – 0.54/0.43

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369

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SEEDING	
END WIDTH	SQUARE YARDS
25	139
25	136
24	131
23	131

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
127	1		
		217	1
107	1		
		187	3
95	2		
		199	2
120	0		
		229	1

CALCULATED M.L.M.

CHECKED W.D.B.

℄ CONSTRUCTION

R/W

EX. R/W.

4:1

12" WATER

30+00.00
855.82
855.03

12" WTR.

3" GAS

27" STO.

8" SAN

29+50.00
854.57
854.07

1" GAS

5.0' (TYP)

PAVEMENT CROWN

60"–12" CONDUIT, TYPE B @ 1.00%

10–15" CONDUIT, TYPE C @ 1.00%

EX. STO. MH (TO BE REMOVED)
STA. 29+05.1, 19.4' LT.
RIM 853.31
12" INV. 848.21 S&W

29+00.00
853.39
853.11

CB–3A
STA. 29+00, 30.0' LT.
GRATE EL. 852.57
12" INV. 845.00 E
6" INV. 848.90 N

CB–3A
STA. 29+00, 30.0' RT.
GRATE EL. 852.41
12" INV. 844.40 W
15" INV. 844.15 E
6" INV. 848.74 N

MH NO.3
STA. 29+00, 40' RT.
RIM 853.28
15" INV. 844.05 E
24" INV. 843.30 S
27" INV. 843.05 N

2.73'

12" STO.

28+50.00
852.50
852.15

EX. STO. I2 (TO BE REMOVED)
STA. 28+32, 21.9' LT.
GR. 851.26
12" INV. 847.26 E

24" STO.

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 28+50 TO STA. 30+00

LAK – 90/84 – 0.54/0.43

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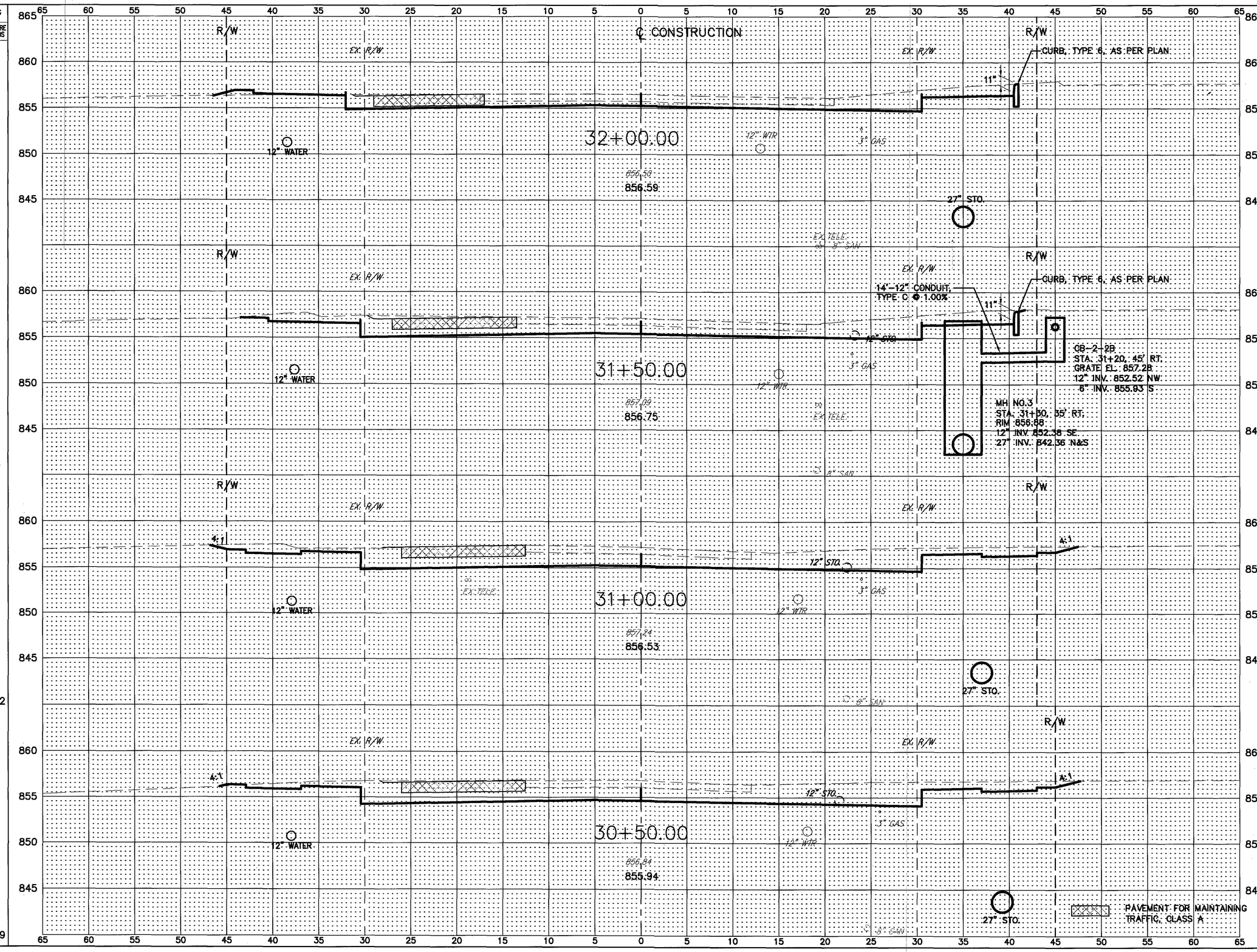
SEEDING	
END WIDTH	SQUARE YARDS
6	39
8	94
26	142
25	139



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
97	2		
		214	2
134	0		
		265	0
152	0		
		289	0
160	0		
		266	1

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 30+50 TO STA. 32+00

LAK – 90/84 – 0.54/0.43

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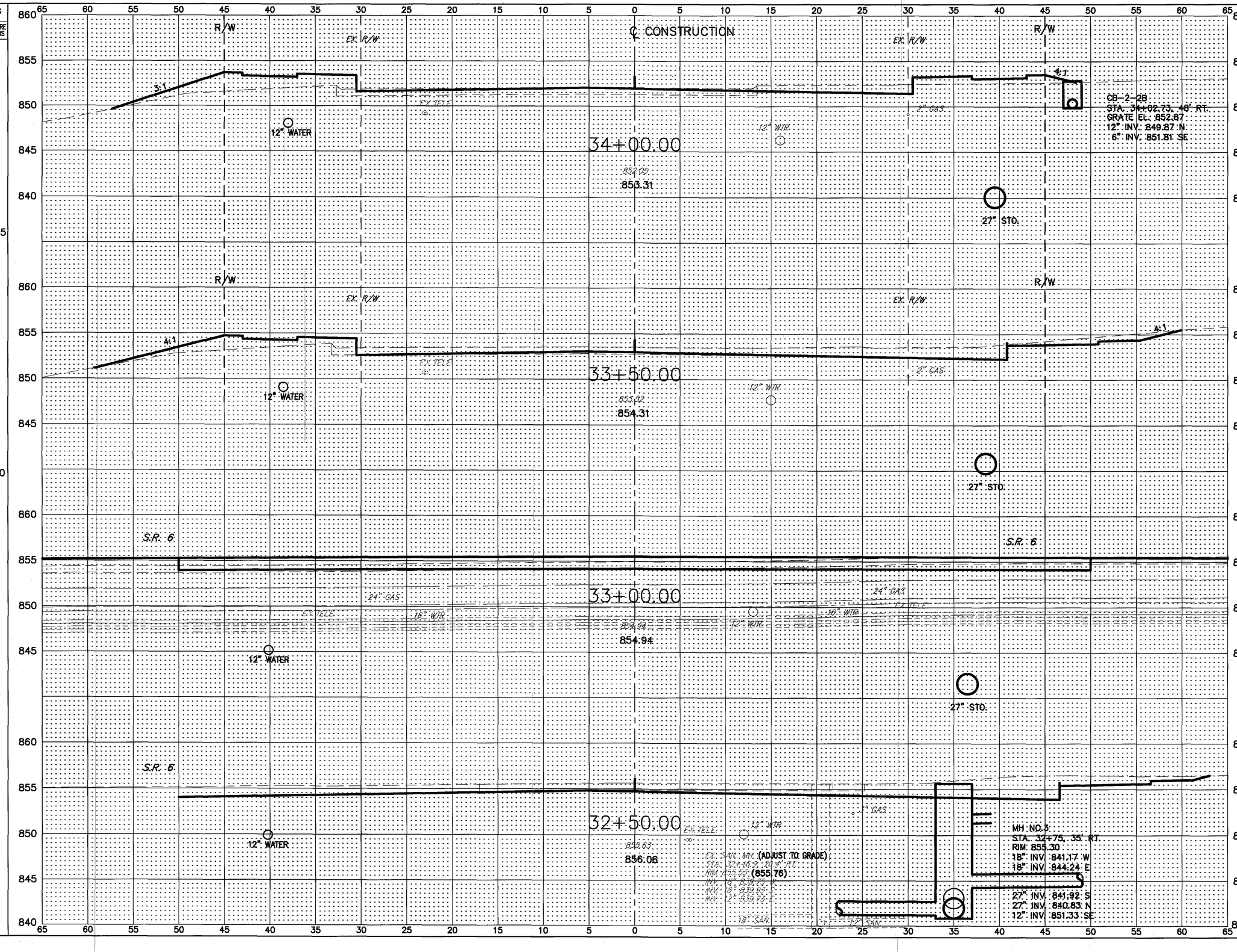
SEEDING	
END WIDTH	SQUARE YARDS
45	225
36	100
0	22
8	39



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
48	73		
		111	90
72	24		
		191	22
134	0		
		243	0
128	0		
		208	2

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 32+50 TO STA. 34+00

LAK – 90/84 – 0.54/0.43

104
369

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SEEDING	
END WIDTH	SQUARE YARDS
16	136
33	186
34	200
38	231

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
84	48		
		179	146
109	110		
		143	206
45	113		
		82	201
43	104		
		84	164

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD

CROSS SECTIONS STA. 34+50 TO STA. 36+00

LAK – 90/84 – 0.54/0.43

105
369

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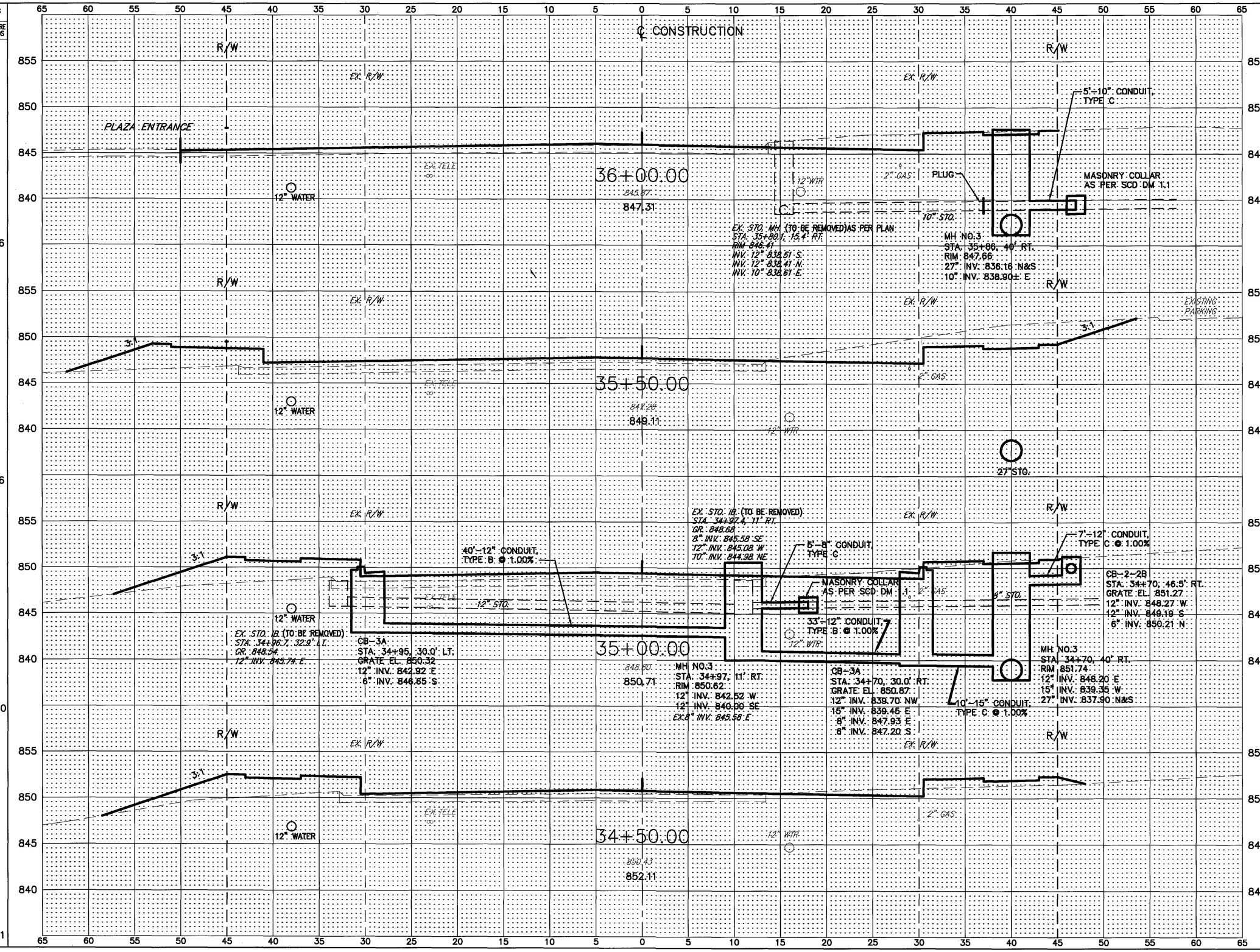

SEEDING	
END WIDTH	SQUARE YARDS
24	136
25	131
22	117
20	100

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
117	5		
		244	12
147	8		
		244	19
117	12		
		157	38
52	29		
		126	71

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 36+50 TO STA. 38+00

LAK – 90/84 – 0.54/0.43

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369

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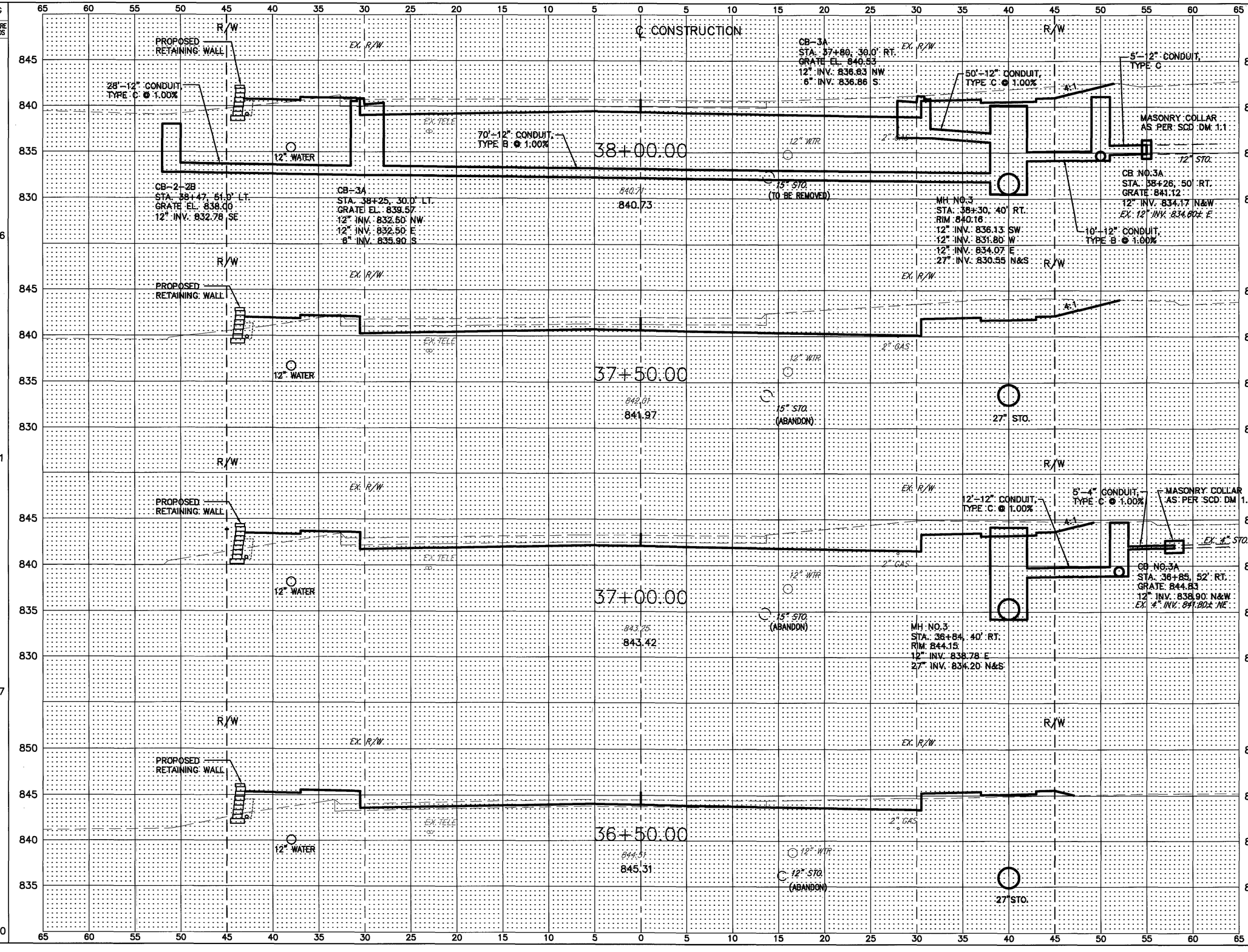

SEEDING	
END WIDTH	SQUARE YARDS
17	94
17	
	97
18	
	147
35	
	164

C CONSTRUCTION

R/W

EX. R/W.

PLAZA DR.

EX. STO. 1B (RECONSTRUCT TO GRADE)
STA. 40+18.8, 54.1' LT.
RIM 835.38 (834.61)
18" INV. 820.88 W
36" INV. 818.78 N&S
27" INV. 824.80

36" STO.

10" SAN

EX. TELE

103'-27" CONDUIT, TYPE B @ 1.00%

12" WATER

12" WTR

2" GAS

40+00.00
835.76
835.76

MH NO.3
STA. 39+75, 40' RT.
RIM EL. 836.55
27" INV. 826.93 S
27" INV. 825.93 NW
12" INV. 832.65 NE

10'-12" CONDUIT, TYPE C @ 2.00%

CB NO.2-2B
STA. 39+82.48, 46.6' RT.
GRATE 836.95
6" INV. 835.89 N
12" INV. 832.75 SW

EX. STO. 1B
STA. 39+63.7, 52.6' RT.
GRATE 837.32
60" INV. 826.72 N&SE
8" INV. 833.32 NW (TO BE REMOVED)

CURB, TYPE 6, AS PER PLAN

12"

39+50.00
837.65
837.00

15" STO.

8" SAN

27" STO.

39+00.00
838.33
838.24

4:1

38+50.00
839.56
839.49

6'-10" CONDUIT, TYPE C

3:1

MASONRY COLLAR AS PER SCD DM 1.1

EX.10" STO.

CB NO.2-2B
STA. 38+58, 50' RT.
GRATE 841.00
12" INV. 834.50 S
EX.10" INV. 835.30± E

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
135	0		
		239	14
123	15		
		265	14
163	0		
		300	7
161	7		
		257	11

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 38+50 TO STA. 40+00

LAK – 90/84 – 0.54/0.43

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SEEDING	
END WIDTH	SQUARE YARDS
33	156
23	131
24	125
21	106

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
74	4	150	7
88	3	172	8
98	6	201	7
119	1	235	1

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD

CROSS SECTIONS STA. 40+50 TO STA. 42+00

LAK – 90/84 – 0.54/0.43

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65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

835 830 825 820 840

℄ CONSTRUCTION

R/W

EX. R/W.

4:1

42+00.00

830.42

830.92

41+50.00

831.79

832.12

41+00.00

833.15

833.32

40+50.00

834.60

834.52

36" STO.

12" SAN.

10" SAN.

15" STO.

EX. STO. 1B (TO BE REMOVED)
STA. 41+98.2, 25.8' LT.
GR. 830.19
PLUGGED

10" STO.

12" WTR

EX. STO. 1B (TO BE REMOVED)
STA. 41+98.1, 19.1' RT.
GR. 830.27
8" INV. 825.97 SE
10" INV. 826.07 W
12" INV. 825.87 N
12" INV. 825.77 SW

2" GAS

6'-8" CONDUIT, TYPE C

MASONRY COLLAR AS PER SCD DM 1.1

EX. 8" STO.

MH-3
STA. 41+99, 34.0' RT.
RIM EL. 830.90
12" INV. 825.75 N
EX. 8" INV. 826.00± E

12" WATER

CURB, TYPE 6, AS PER PLAN

12"

60'-15" CONDUIT, TYPE B @ 0.70%

EX. 10" CLAY

CB-3A
STA. 40+75, 30.0' LT.
GRATE EL. 833.38
15" INV. 825.80 E&N
6" INV. 829.71 S

GB-3A 12" WATER
STA. 40+75, 30.0' RT.
GRATE EL. 833.22
15" INV. 826.22 W
6" INV. 829.55 S

SEEDING	
END WIDTH	SQUARE YARDS
32	178
32	158
25	161
33	161

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
77	19	127	39
60	23	102	42
50	23	132	25
92	4	154	7

CALCULATED M.L.M.

CHECKED W.D.B.

℄ CONSTRUCTION

R/W

EX. R/W.

4:1

10" SAN.

36" STO.

12" WTR.

12" STO.

2" GAS

12" WATER

44+00.00

825.77

826.29

43+50.00

826.89

827.32

43+00.00

827.69

828.52

12" STO.

CB NO.2-2B
STA. 42+81. 48' LT.
GRATE 829.00
18" INV. 823.00 SW
EX.12" INV. 823.70± E

MH NO.3
STA. 42+73. 55' LT.
RIM EL. 829.36
21" INV. 818.72 SE
18" INV. 822.90 NE
EX. 36" INV. 817.76 N&S

28'-21" CONDUIT,
TYPE B @ 1.00%

CB-3A
STA. 42+60. 30.0' LT.
GRATE EL. 828.94
15" INV. 819.50 E

15" INV. 821.36 S
21" INV. 819.00 NW
6" INV. 825.27 S

42+50.00

828.99

829.72

60'-15" CONDUIT,
TYPE B @ 0.70%

CB NO.2-2B
STA. 42+41. 46.5' RT.
GRATE 830.56
6" INV. 829.50 S
12" INV. 825.70 NW

25'-12" CONDUIT,
TYPE C

PLUG

6'-12" CONDUIT,
TYPE C

MASONRY COLLAR
AS PER SCD DM 1.1

EX.12"STO.

CB NO.2-2B
STA. 42+60. 50' RT.
GRATE 829.50
EX.12" INV. 827.00± SE

CB-3A
STA. 42+60. 30.0' RT.
GRATE EL. 828.78
15" INV. 819.92 W
12" INV. 825.45 S&SE
6" INV. 826.11 S

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 42+50 TO STA. 44+00

LAK – 90/84 – 0.54/0.43

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SEEDING	
END WIDTH	SQUARE YARDS
30	147
23	133
25	150
29	169

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

830 825 820 815

℄ CONSTRUCTION

R/W EX. R/W.

22'-12" CONDUIT, TYPE C @ 1.00%

4:1

CB 2-2B
STA. 46+00, 52.0' LT.
GRATE EL. 824.00
12" INV. 821.00 E

CB-3A 12" WATER
STA. 46+00, 30.0' LT.
GRATE EL. 825.03
12" INV. 819.36 NE
12" INV. 820.78 W
6" INV. 821.36 N

8'-12" CONDUIT, TYPE B @ 1.00%

MH NO.3
STA. 46+10, 26.0' LT.
RIM EL. 825.36
12" INV. 819.28 SW
EX. 27" INV. 817.30± N&S

46+00.00
825.16
825.57

12" WTR
2" GAS

6" F.M.

20'-12" CONDUIT, TYPE C @ 0.60%

CB-3A
STA. 45+92, 30.0' RT.
GRATE EL. 824.80
12" INV. 822.14 E
15" INV. 821.86 S
6" INV. 822.20 N

CB 2-2B
STA. 45+92, 48.0' RT.
GRATE EL. 824.64
12" INV. 822.24 W

SAN. MH. 5591 (ADJUST TO GRADE)
STA. 46+00, 38.5' RT.
RIM EL. 825.8
INV. OUT 815.00
INV. IN 815.00
(8" STUB S.)

R/W EX. R/W.

4:1

18" SAN

15" STO.

45+50.00
824.86
825.24

12" WTR
12" WATER
12" STO.
2" GAS

30'-18" CONDUIT, TYPE B @ 1.50%

60'-15" CONDUIT, TYPE B @ 3.00%

10" SAN

15'-12" CONDUIT, TYPE C @ 1.00%

12" STO.
4" GAS

12" WATER

CB-3
STA. 45+21, 30.0' RT.
GRATE EL. 824.50
15" INV. 821.50 S,N&W
12" INV. 821.50 E
6" INV. 821.83 N&S

36" STO.

EX. STO. MH (ADJUST TO GRADE)
STA. 45+41.9, 55.7' LT.
RIM 825.18 (825.37)
12" INV. 821.60 W
36" INV. 816.48 S&NW
18" INV. 817.67 SE

CB-6
STA. 45+26.5, 30.0' LT.
GRATE EL. 824.66
12" INV. 818.66 S
15" INV. 819.70 E
18" INV. 818.12 NW
6" INV. 820.99 N&S

45+00.00
824.67
825.25

10" SAN

48'-12" CONDUIT, TYPE C @ 0.60%

CB-3A
STA. 44+75, 30.0' LT.
GRATE EL. 824.84
12" INV. 819.17 N
6" INV. 821.17 S

44+50.00
825.19
825.60

CB-3A
STA. 44+75, 30.0' RT.
GRATE EL. 824.68
12" INV. 822.06 SE
15" INV. 821.78 N
6" INV. 822.01 S

CB 2-2B
STA. 44+31, 50.0' RT.
GRATE EL. 824.65
12" INV. 822.35 NW

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
72	19		
		135	23
74	6		
		138	13
75	8		
		137	26
73	20		
		139	36

CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 44+50 TO STA. 46+00

LAK – 90/84 – 0.54/0.43

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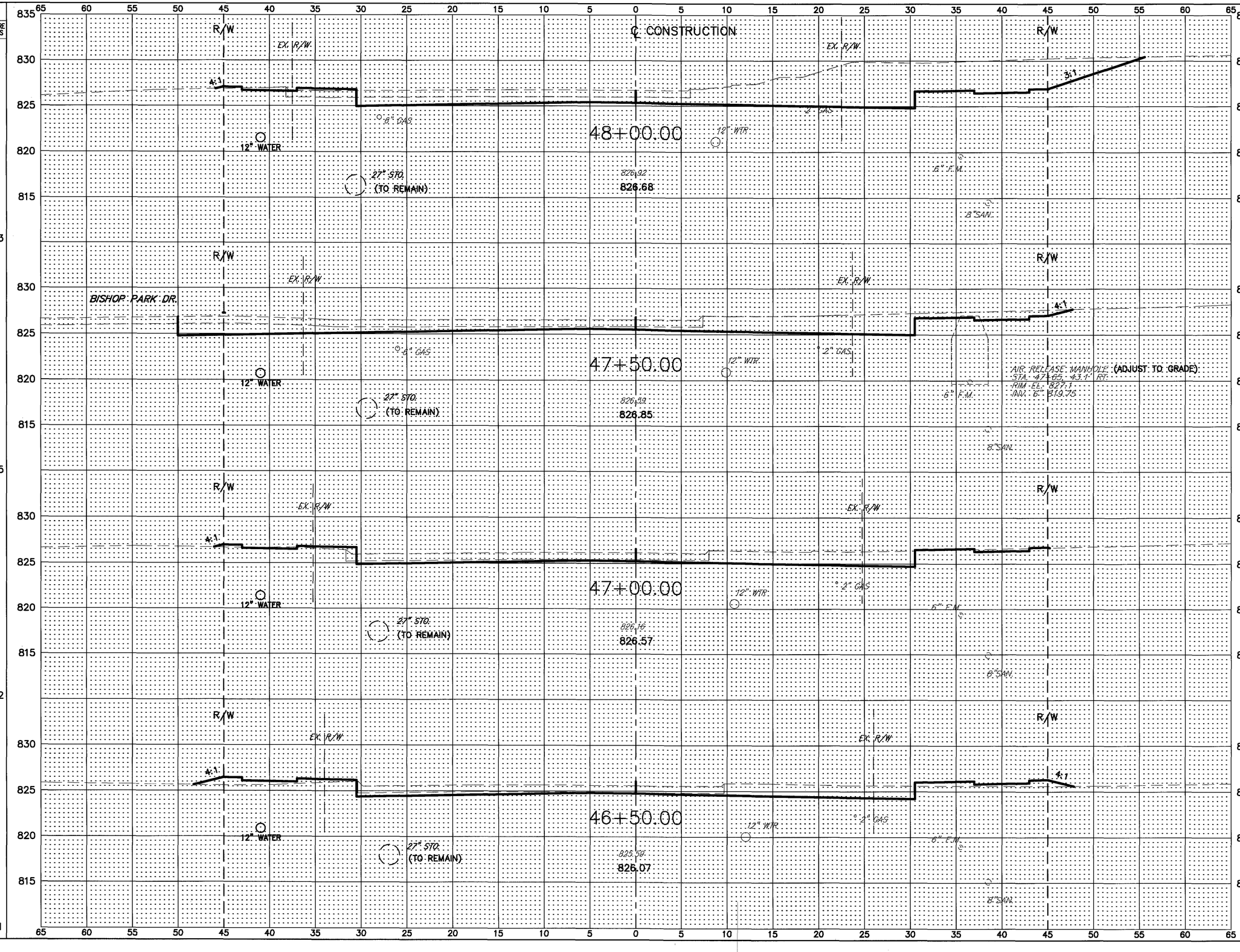
SEEDING	
END WIDTH	SQUARE YARDS
	33
	153
	22
	125
	23
	142
	28
	161



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
213	8		
		321	7
134	0		
		192	4
73	4		
		131	18
68	15		
		130	31

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 46+50 TO STA. 48+00

LAK – 90/84 – 0.54/0.43

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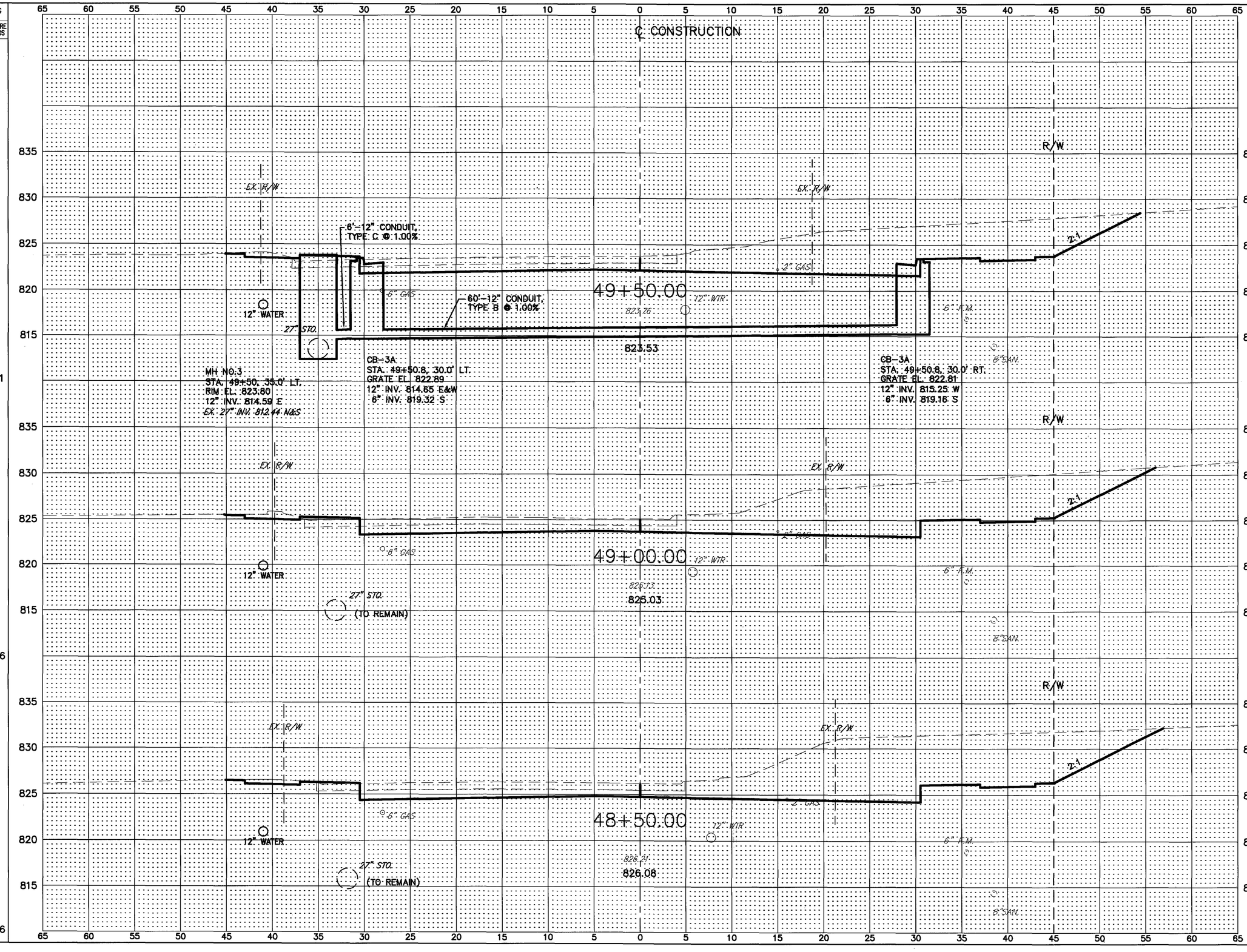
SEEDING	
END WIDTH	SQUARE YARDS
32	181
33	186
34	186

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
239	9		
		463	14
261	6		
		517	9
297	4		
		472	11

CALCULATED M.L.M.

CHECKED W.D.B.



S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 48+50 TO STA. 49+50

LAK – 90/84 – 0.54/0.43

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SEEDING	
END WIDTH	SQUARE YARDS
4	31
7	19
0	89

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
130	9		
		283	8
176	0		
		401	0
257	0		
		459	8

CALCULATED M.L.M.

CHECKED W.D.B.

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

℄ CONSTRUCTION

830 825 820 815 810 805

EX. R/W

CURB, TYPE 6

27" STO.

6" GAS

51+00.00

12" WTR

816.35

816.62

12" STO.

12" WATER

R/W

PROPOSED RETAINING WALL SEE DETAIL SHEET 222-225

4:1

EX. R/W

CURB, TYPE 6

27" STO.

6" GAS

50+50.00

818.91

819.22

12" WTR.

12" WATER

EX. STO. MH. (ADJUST TO GRADE)
STA. 50+46. 5.2' RT. (819.64)
RIM 819.94
EX. 12" INV. 814.84 N
12" INV. 817.01 S

R/W

PROPOSED RETAINING WALL SEE DETAIL SHEET 222-225

4:1

EX. R/W

RIDGEHILLS DR.

EX. R/W

6" GAS

12" WATER

EX. STO. MH. (ADJUST TO GRADE)
STA. 49+91.1, 36.3' LT.
RIM 821.21 (821.29)
27" INV. 811.21 N&S
30" INV. 812.11 W

50+00.00

821.50

821.60

12" WTR

MH NO.3
STA. 50+15. 7' RT.
RIM 820.80
12" INV. 817.32 E
12" INV. 815.84 N

EX. R/W

EDDY ROAD

50' - 2" CONDUIT, TYPE B @ 1.00%

6" F.M.

SAN. MH. 5592 (RECONSTRUCCT TO GRADE)
STA. 49+87. 38.5' RT.
STA. 49+50.5, 3.6' RT.
RIM EL. 825.1
RIM EL. 821.4±
INV. IN 813.45
INV. OUT 813.45

CB NO.3A.
STA. 10+70, 12.6' LT.
GRATE 820.84
12" INV. 817.82 S&W
6" INV. 818.44 E

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 50+00 TO STA. 51+00

LAK – 90/84 – 0.54/0.43

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SEEDING	
END WIDTH	SQUARE YARDS
21	
	164
38	
	164
21	
	94
13	
	47

END AREA		VOLUME	
CUT	FILL	CUT	FILL
S.F.	S.F.	C.Y.	C.Y.
31	79		
		68	274
42	217		
		152	246
122	49		
		206	70
100	27		
		213	33

CALCULATED M.L.M.

CHECKED W.D.B.

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

810 805 800 795 815 820

℄ CONSTRUCTION

EX. R/W

4:1

53+00.00

804.70
806.22

8" WTR

12" WATER

52+50.00

806.99
808.82

CURB, TYPE 6

6'-12" CONDUIT, TYPE B

29'-12" CONDUIT, TYPE B @ 0.50%

31'-12" CONDUIT, TYPE B @ 0.60%

6" GAS

30" STO.

EX. STO. MH.
STA. 52+11.6, 44.5' LT.
RIM: 809.92
27" INV. 804.80 S
30" INV. 804.59 W

12" STO.

CONCRETE COLLAR AS PER SCD DM 1.1

CB-3A
STA. 52+10.20, 30.0' LT.
GRATE EL. 810.36
12" INV. 801.50 E
6" INV. 806.85 S
EX. 12" INV. 801.46 NW

12" WTR

52+00.00

810.28
811.42

MH NO.3
STA. 52+07, 1.0' RT.
GRATE EL. 811.04
12" INV. 805.55 E
12" INV. 801.69 W
EX. 12" INV. 804.53 S

CB-3A
STA. 52+10, 30.0' RT.
GRATE EL. 810.20
12" INV. 805.69 W
6" INV. 806.69 S

R/W

51+50.00

813.30
814.02

27" STO.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 51+50 TO STA. 53+00

LAK – 90/84 – 0.54/0.43

114
369

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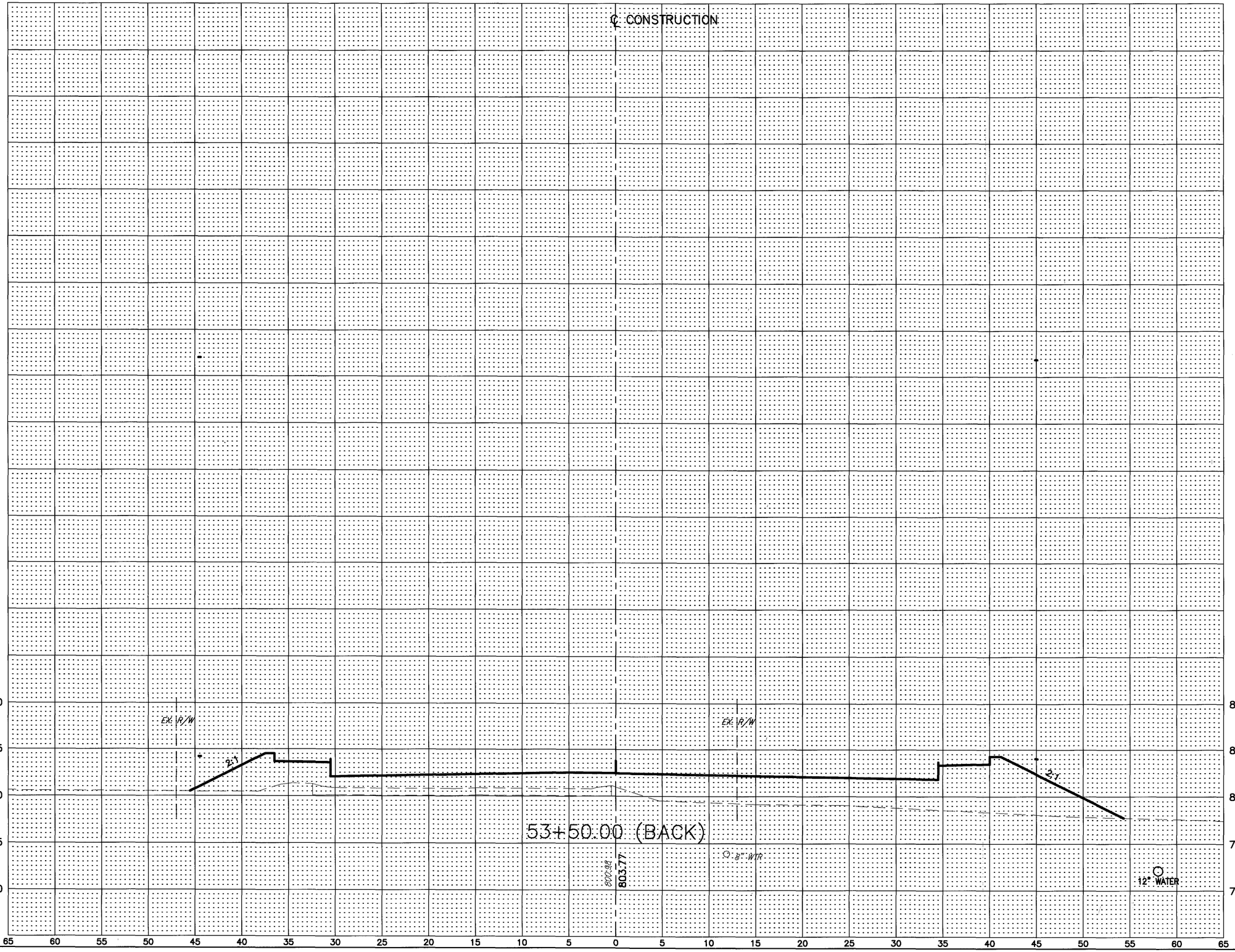
SEEDING	
END WIDTH	SQUARE YARDS
30	142



END AREA		VOLUME	
CUT	FILL	CUT	FILL
S.F.	S.F.	C.Y.	C.Y.
24	279	51	332

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 53+50

LAK – 90/84 – 0.54/0.43

115
369

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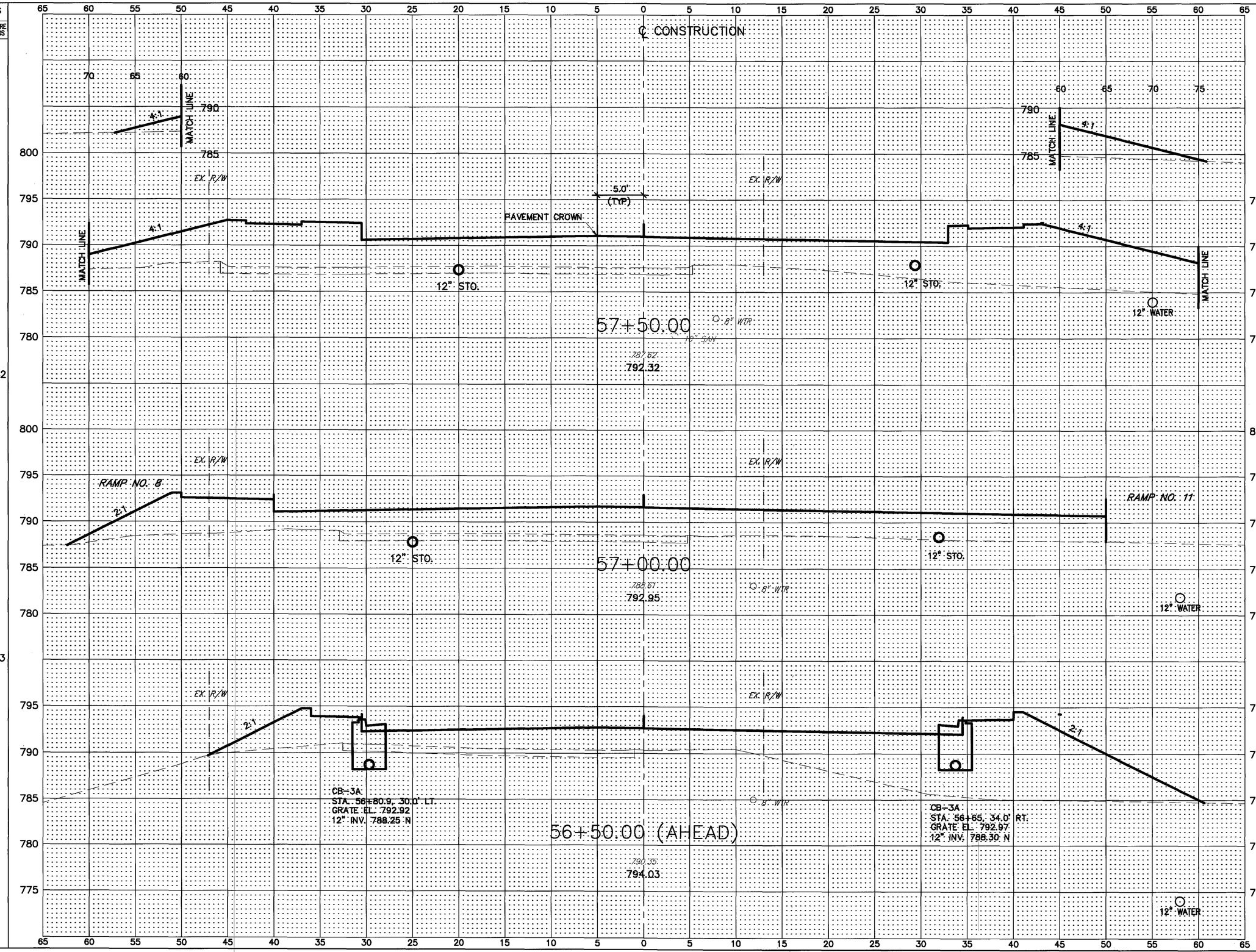
SEEDING	
END WIDTH	SQUARE YARDS
72	242
15	153
40	



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
39	545		
		63	820
29	341		
		49	697
24	412		

CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 56+50 TO STA. 57+50

LAK – 90/84 – 0.54/0.43

116
369

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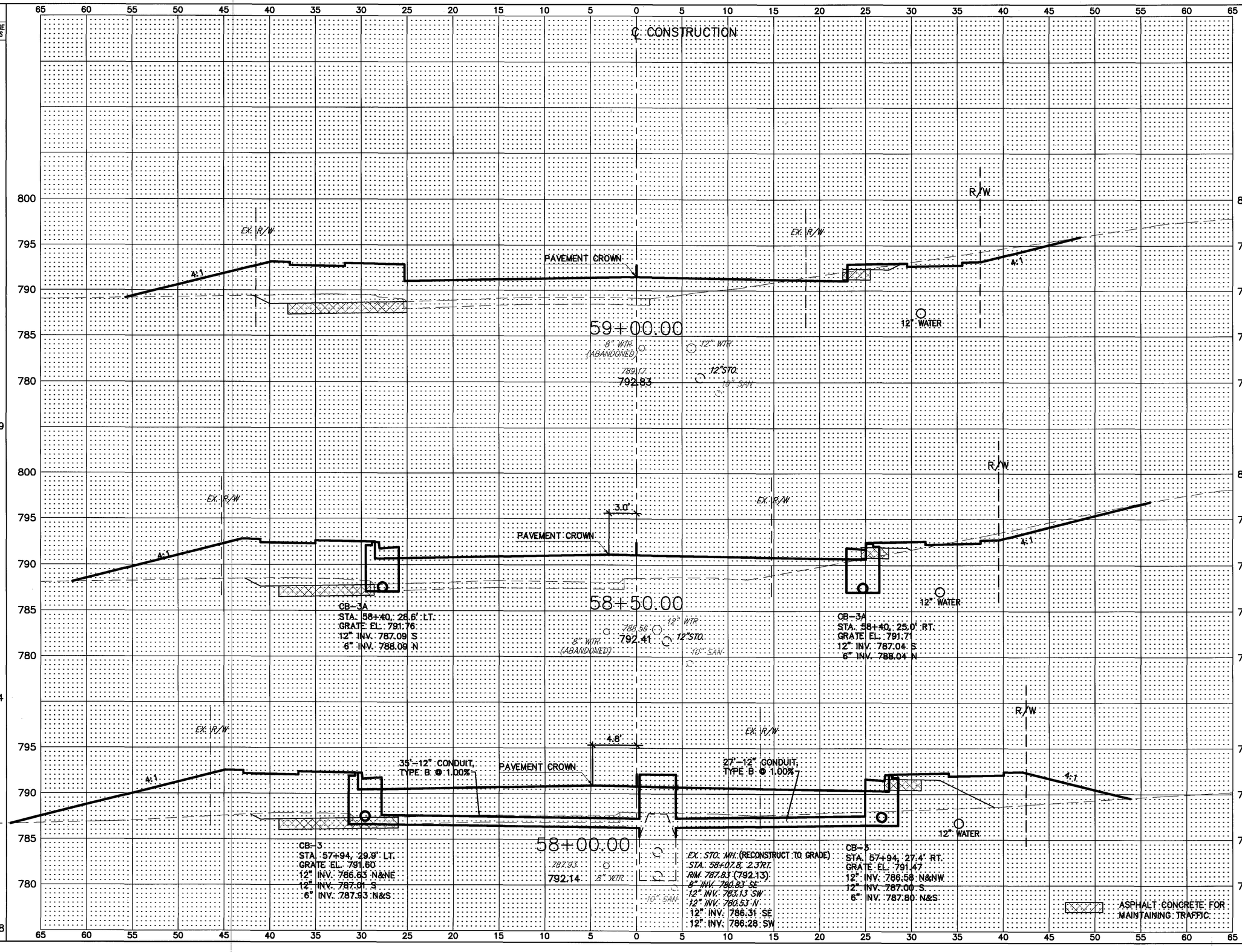
SEEDING	
END WIDTH	SQUARE YARDS
48	289
56	314
57	358



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
36	180		
		62	393
31	244		
		50	591
23	394		
		58	870

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 58+00 TO STA. 59+00

LAK – 90/84 – 0.54/0.43

117
369

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SEEDING		END AREA		VOLUME		
END WIDTH	SQUARE YARDS	CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.	
42	219	47	60	113	119	
37	225	75	68	102	195	
44	256	35	142	66	298	

CALCULATED M.L.M.

CHECKED W.D.B.

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

805 800 795 790 785 780

℄ CONSTRUCTION

EX. R/W

R/W

4:1

12" WATER

60+50.00

791.06

792.60

8" WTR. (ABANDONED)

12" WTR.

CB-3A
STA. 60+50, 17.0' RT.
GRATE EL. 792.11
12" INV. 786.44 N
6" INV. 788.44 S

12"STO.

10" SAN.

60+00.00

790.67

793.22

59+50.00

790.15

793.23

ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

S.R. 84 – BISHOP ROAD

CROSS SECTIONS STA. 59+50 TO STA. 60+50

LAK – 90/84 – 0.54/0.43

118
369

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SEEDING	
END WIDTH	SQUARE YARDS
26	144
26	139
24	119
19	169

C CONSTRUCTION

EX. R/W

35'-12" CONDUIT, TYPE B @ 1.00%

9'-12" CONDUIT, TYPE C @ 1.00%

4:1

12" WTR

CB-3A
STA. 62+05, 13.0' LT.
GRATE EL. 786.91
12" INV. 782.24 NE
6" INV. 783.24 S

62+50.00
785.50
785.51

8" WTR (ABANDONED)

CB-3A
STA. 62+32, 13.0' RT.
GRATE EL. 785.81
12" INV. 781.89 NE&SW
12" INV. 782.93 E
6" INV. 783.03 SE

MH NO.3
STA. 62+37, 20.0' RT.
GRATE EL. 786.00
12" INV. 781.80 SW
21" INV. 773.85 N&S

10" SAN.

62+00.00
787.41
787.52

21"STO.

61+50.00
788.92
789.54

61+00.00
790.71
791.38

6" WTR (ABANDONED)

12" WTR

12"STO.

12" WATER

JOHNSON DR.

EX. SAN. MH. (ADJUST TO GRADE)
STA. 61+70.2, 22.7' Rt.
RIM 790.77 (791.05)
8" INV. 779.47 E
10" INV. 776.87 S
10" INV. 776.77 N

ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
39	5	70	8
36	3	56	14
24	12	97	30
80	20	118	74

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 61+00 TO STA. 62+50

LAK – 90/84 – 0.54/0.43

119
369

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SEEDING	
END WIDTH	SQUARE YARDS
34	
	178
30	
	156

END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
36	28		
		67	43
36	18		
		70	22

CALCULATED M.L.M.

CHECKED W.D.B.

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

℄ CONSTRUCTION

785 780 775 770

EX. R/W

64+50.00

77.69

12" WTR.

8" WTR. (ABANDONED)

64+00.00

779.58

12" WTR.

8" WTR. (ABANDONED)

21" STO.

10" SAN.

4:1

63+50.00

78V.52

781.49

12" WTR.

8" WTR. (ABANDONED)

21" STO.

10" SAN.

790 785 780 775

63+00.00

78X.48

783.49

12" WTR.

8" WTR. (ABANDONED)

21" STO.

10" SAN.

ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

S.R. 84 – BISHOP ROAD

CROSS SECTIONS STA. 63+00 TO STA. 64+50

LAK – 90/84 – 0.54/0.43

120
369

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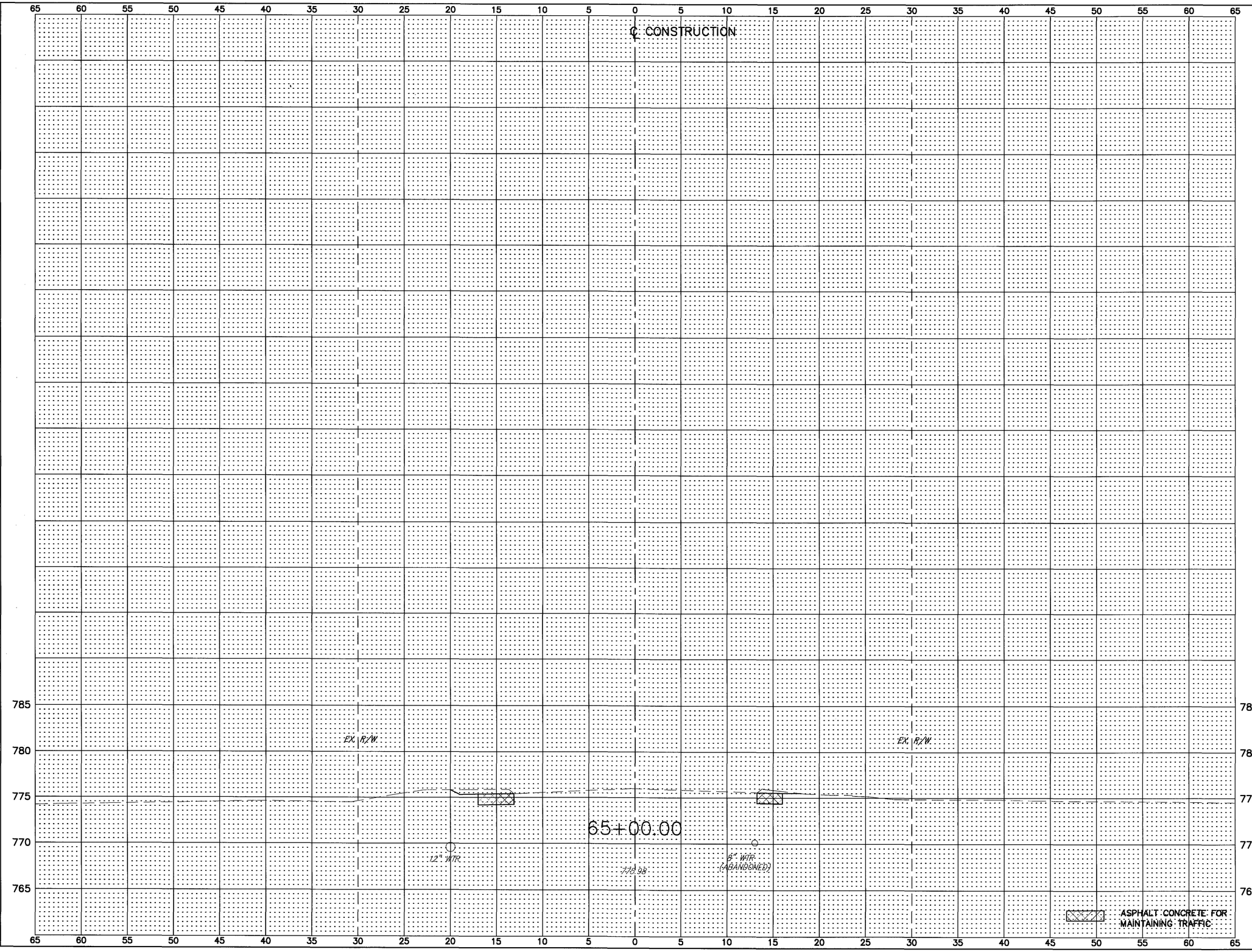
SEEDING	
END WIDTH	SQUARE YARDS



END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
CROSS SECTIONS STA. 65+00

LAK – 90/84 – 0.54/0.43

121
369

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FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 132 THRU 140
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214

EX. EOG EASEMENT OVERLAPS PARCEL 21WD BY 8,701 S.F.

UNDERDRAIN DEPTH = 18" FROM STA. 11+60 TO STA. 19+25 (WESTBOUND LANE)

CHARDON ROAD U.S. ROUTE 6

EMERALD LAKES BLVD. 60'

BEGIN PAVEMENT TAPER RT. STA. 11+35.0, 22.0' RT. & 29.4' LT.

MATCH LINE 14+00

CURB, TYPE 6

PLUG

MEET EXISTING PAVEMENT
STA. 11+35.00

EXISTING PROFILE

0.80%

225'-12" CONDUIT, TYPE C @ 0.35%

EX. STO. IB (TO BE REMOVED)
STA. 11+56.2, 27.3' RT.
GR. 847.40
8" INV. 845.40 E
8" INV. 845.30 W

MH NO. 3
STA. 11+75, 27' RT.
RIM 848.90
12" INV. 844.67 NW&E
12" INV. 845.47 S

(TO BE REMOVED)
EX. STO. IB
STA. 12+67.5, 26.2' RT.
GR. 849.10
8" INV. 846.80 E&W

EX. SAN. MH.
STA. 13+28.6, 37.6' RT.
RIM 850.30
18" INV. 837.70 E
18" INV. 837.60 W

PROPOSED PROFILE GRADE							848.66	848.86		849.26		849.66		850.06		850.46		850.86						
EXISTING PROFILE GRADE						848.50		848.86		849.27		849.68		850.00		850.36		850.78						

860 855 850 845 840 835 830

10+00 11+00 12+00 13+00 14+00

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U.S. 6 – CHARDON ROAD – PLAN AND PROFILE
STA. 11+35 TO STA. 14+00

LAK – 90/84 – 0.54/0.43

SCALE IN FEET 20 0 10 20

CALCULATED

CHECKED

122
369

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 INLET REMOVED	202 PIPE REMOVED 24" AND UNDER	202 REMOVAL MISC.: LANDSCAPE BED
				EACH	FT.	EACH
R-1	11+56.2		RT	1		
R-2	11+56.2	12+67.5	RT		109	
R-3	12+67.5	14+21.45	RT	1	154	
R-4	13+48.73	13+61	32' RT			1
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				2	263	1

DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 12" CONDUIT, TYPE B	603 12" CONDUIT, TYPE C	604 CATCH BASIN NO. 2-2B	604 CATCH BASIN NO. 3A	604 MANHOLE NO. 3
				FT.	FT.	EACH	EACH	EACH
D-1	11+60		30' LT to 21' RT	51			1	
D-2	11+60, 21' RT	11+75, 27' RT			17		1	
D-3	11+75, 27' RT	11+75, 33' RT			6	1		
D-4	11+75, 27' RT	14+60, 27' RT			285			1
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				51	308	1	2	1

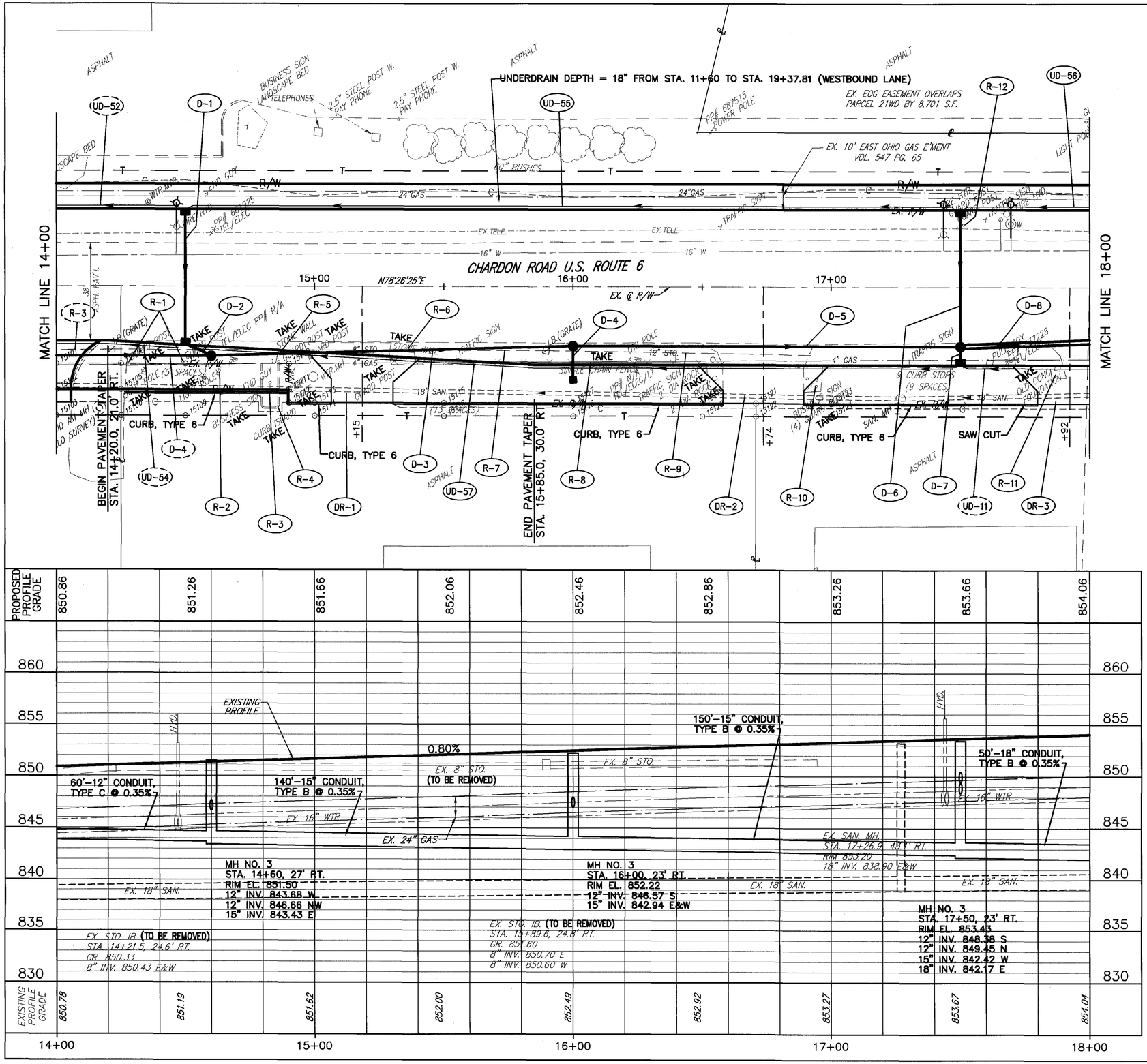
CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - CHARDON ROAD
STA. 11+35 TO STA. 14+00

LAK - 90/84 - 0.54/0.43

123
369

DATE: 10-22-04 - TIME: 10:15 - H:\2002\02117\dwg\QSR601.dwg



FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 132 THRU 140
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

U.S. 6 – CHARDON ROAD – PLAN AND PROFILE
STA. 14+00 TO 18+00

LAK – 90/84 – 0.54/0.43

124
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 REMOVAL MISC.: GUARD POST EACH	202 INLET REMOVED EACH	202 PIPE REMOVED 24" AND UNDER FT.	202 FENCE REMOVED FT.	202 LIGHT POLE REMOVED EACH	202 REMOVAL MISC.: BUSINESS SIGN EACH	202 REMOVAL MISC.: CURB ISLAND EACH	202 REMOVAL MISC.: STONE WALL FT.	202 REMOVAL MISC.: CONCRETE FOUNDATION EACH
R-1	14+27.59	15+30.51	RT	5								
R-2	14+62.78		32.7' RT					1				
R-3	14+82.73		39' RT						1			
R-4	14+79	14+86	30' RT							1		
R-5	14+86.12	14+97	RT								16	
R-6	15+29	15+39	RT								14	
R-7	14+21.45	15+84.58	RT		1	168						
R-8	15+30.89	16+56.97	RT				126					
R-9	15+98.58	16+92.29	RT		1	103						
R-10	16+92		37' RT	4					1			
R-11	17+87		31' RT									1
R-12	17+49.05		LT	2								
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				11	2	271	126	1	2	1	30	1

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 12" CONDUIT, TYPE B FT.	603 12" CONDUIT, TYPE C FT.	603 15" CONDUIT, TYPE B FT.	603 18" CONDUIT, TYPE B FT.	604 CATCH BASIN NO. 2-2B EACH	604 CATCH BASIN NO. 3A EACH	604 MANHOLE NO. 3 EACH
D-1	14+50		30' LT to 22.6' RT	53					1	
D-2	14+50, 22.6' RT	14+60, 27' RT			12				1	
D-3	14+60, 27' RT	16+00, 23' RT				140				1
D-4	16+00, 23' RT	16+00, 36' RT		13				1		
D-5	16+00, 23' RT	17+50, 23' RT				150				1
D-6	17+50, 30' LT	17+50, 23' RT		53					1	
D-7	17+50, 23' RT	17+50, 30' RT		7					1	
D-8	17+50, 23' RT	20+08.5, 12' RT					259			1
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				126	12	290	259	1	4	3

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - CHARDON ROAD
STA. 14+00 TO STA. 18+00

LAK - 90/84 - 0.54/0.43

125
369

DATE: 10-22-04 - TIME: 11:36 - H:\2002\02117\dwg\QSR602.dwg

PROPERTY OWNER (TRUE NORTH ENERGY) NOTIFICATION NOTE:
THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER OF PARCEL 17 THIRTY (30) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES THAT WILL ELIMINATE THE USE OF THE NORTHERN SIDE OF THE FUEL PUMP LOCATED AT APPROXIMATELY STA. 18+90, 46' RT. THE CONTRACTOR'S OPERATION WILL NOT BE ALLOWED TO TAKE THIS SIDE OF THE FUEL PUMP OUT OF SERVICE PRIOR TO APRIL 1, 2006.

CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE, TEST WELL, FUEL PORT OR GAS LID DURING CONSTRUCTION.

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 132 THRU 140
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS

MATCH LINE 18+00

MATCH LINE 22+00

CHARDON ROAD U.S. ROUTE 6

BISHOP ROAD

EX. EOG EASEMENT OVERLAPS PARCEL 21WD BY 8,701 S.F.

EX. 10' EAST OHIO GAS E'MENT VOL. 547 PG. 65

EX. ACCESS EASEMENT

EX. TRAFFIC EASEMENT VOL. 424 PG. 927

EX. TRAFFIC EASEMENT VOL. 424 PG. 930

EX. 20' SEWER EASEMENT VOL. 138 PG. 665

CURB TYPE 6

CURB TYPE 6 PLAN (SPACES)

CANOPY OVER GAS PUMPS

2'X2' BRICK PILLARS

FUEL PUMP ISLAND

DO NOT DISTURB

REMOVE & REPLACE BY OTHERS

(25 PARKING SPACES)

ANGLE PT. STA. 20+00

℄ STA. 32+81.17

℄ CONST. STA. 32+00

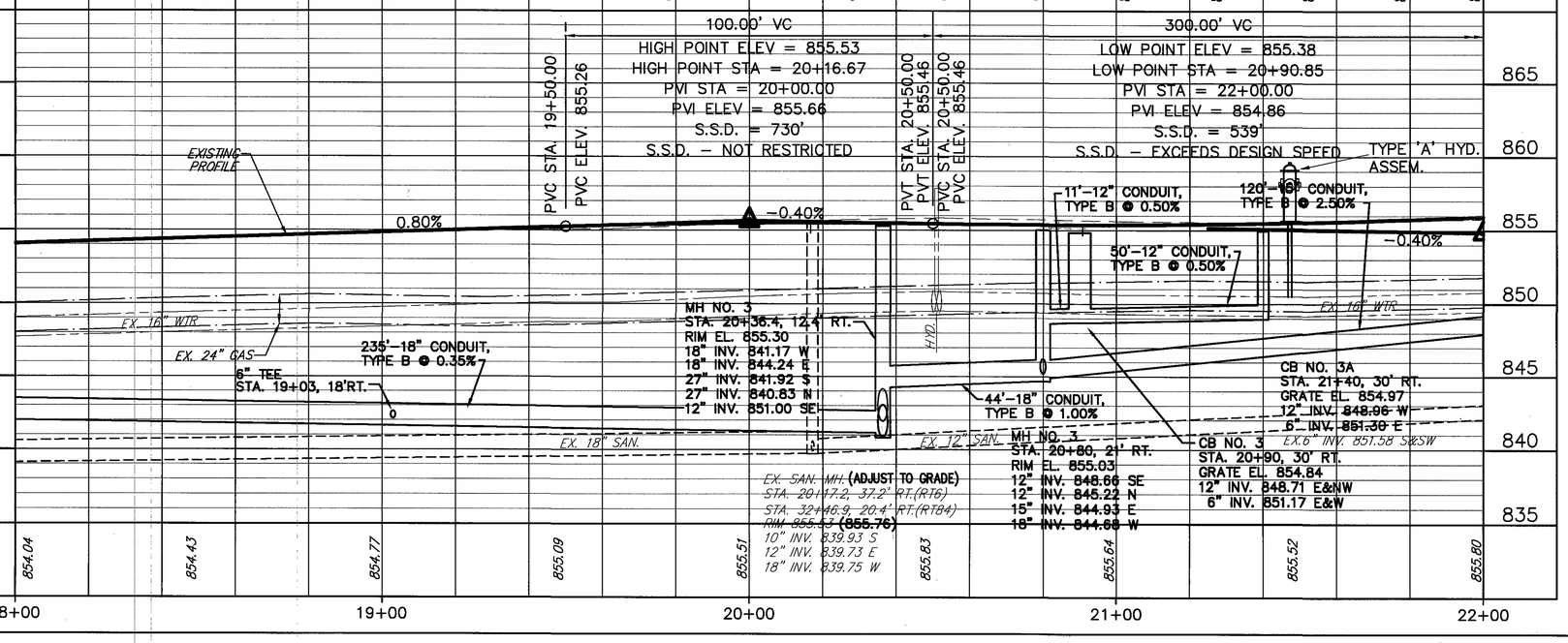
N78°26'25"E

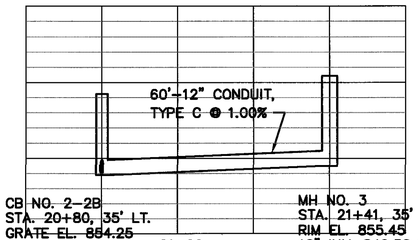
N78°46'14"E

96.4'

58.5'

40.2'





N

SCALE IN FEET 20 10 0 10 20

CALCULATED

CHECKED

U.S. 6 – CHARDON ROAD – PLAN AND PROFILE STA. 18+00 TO 22+00

LAK – 90/84 – 0.54/0.43

126
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 REMOVAL MISC.: GUARD POST	202 INLET REMOVED	202 PIPE REMOVED 24" AND UNDER	202 REMOVAL MISC.: SPRINKLER HEAD
				EACH	EACH	FT.	EACH
R-1	18+31.20		RT	2			
R-2	21+15.39		RT	3			
R-3	21+41		LT to RT		2	64	
R-4	21+40, 21+56, 21+85						3
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				5	2	64	3

DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 6" CONDUIT, TYPE B	603 6" CONDUIT, TYPE C	603 12" CONDUIT, TYPE B	603 15" CONDUIT, TYPE B	603 18" CONDUIT, TYPE B	604 CATCH BASIN NO. 3A	604 CATCH BASIN NO. 3	604 MANHOLE NO. 3
				FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH
D-1	20+36.40, 12.4' RT	20+80, 21' RT						44			
D-2	20+80, 35' LT	21+41, 35' LT			6	60					
D-3	20+80	34.8' LT to 21' RT				56			1		
D-4	20+80, 21' RT	20+90, 30' RT				11				1	
D-5	20+90, 30' RT	21+40, 30' RT			6	50			1		
D-6	20+80, 21' RT	22+75, 20' RT					195				1
D-7	19+03, 18' RT	19+03, 40' RT		22							
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				22	12	177	195	44	2	1	1

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - CHARDON ROAD
STA. 18+00 TO STA. 22+00

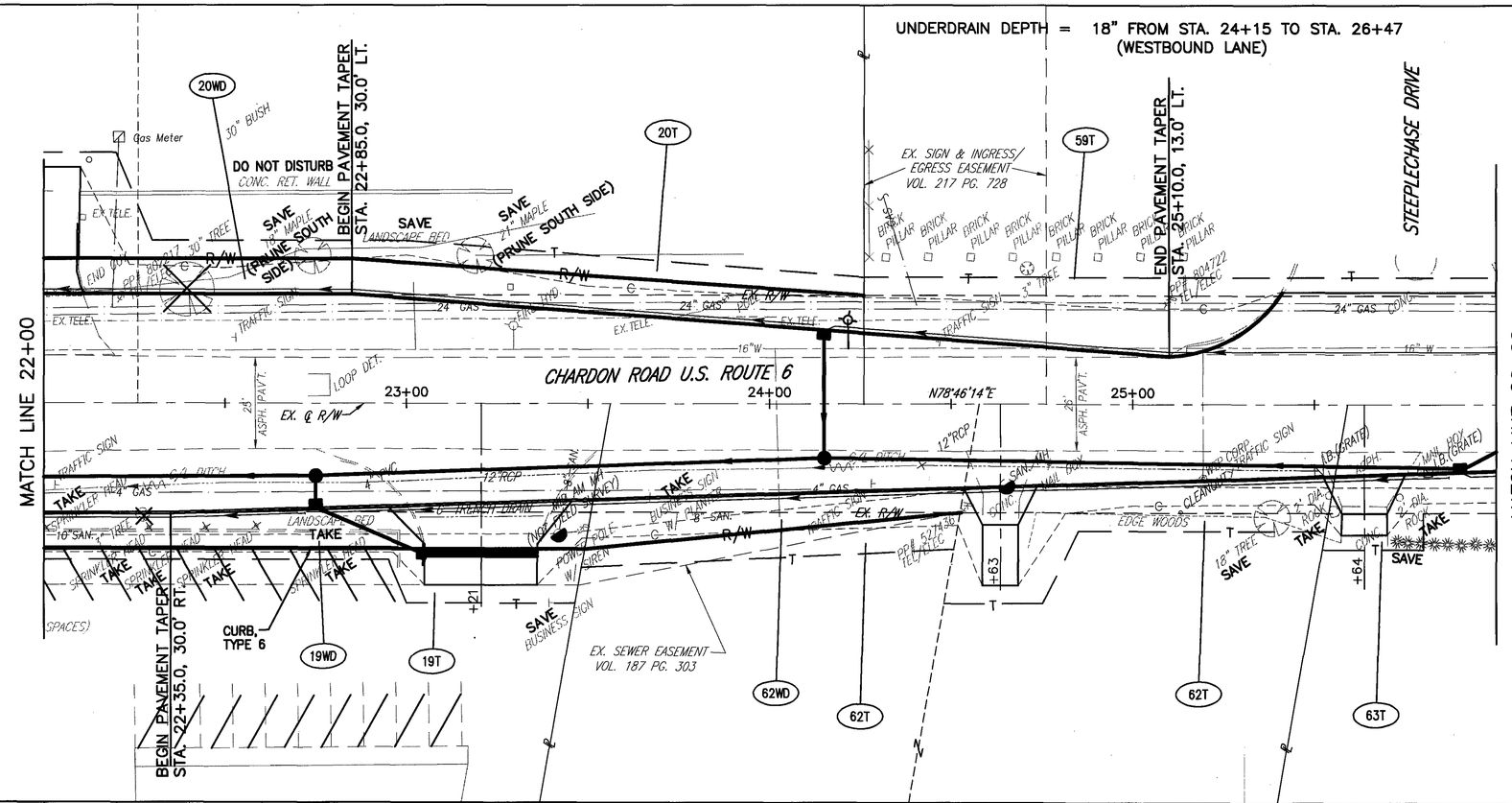
LAK - 90/84 - 0.54/0.43

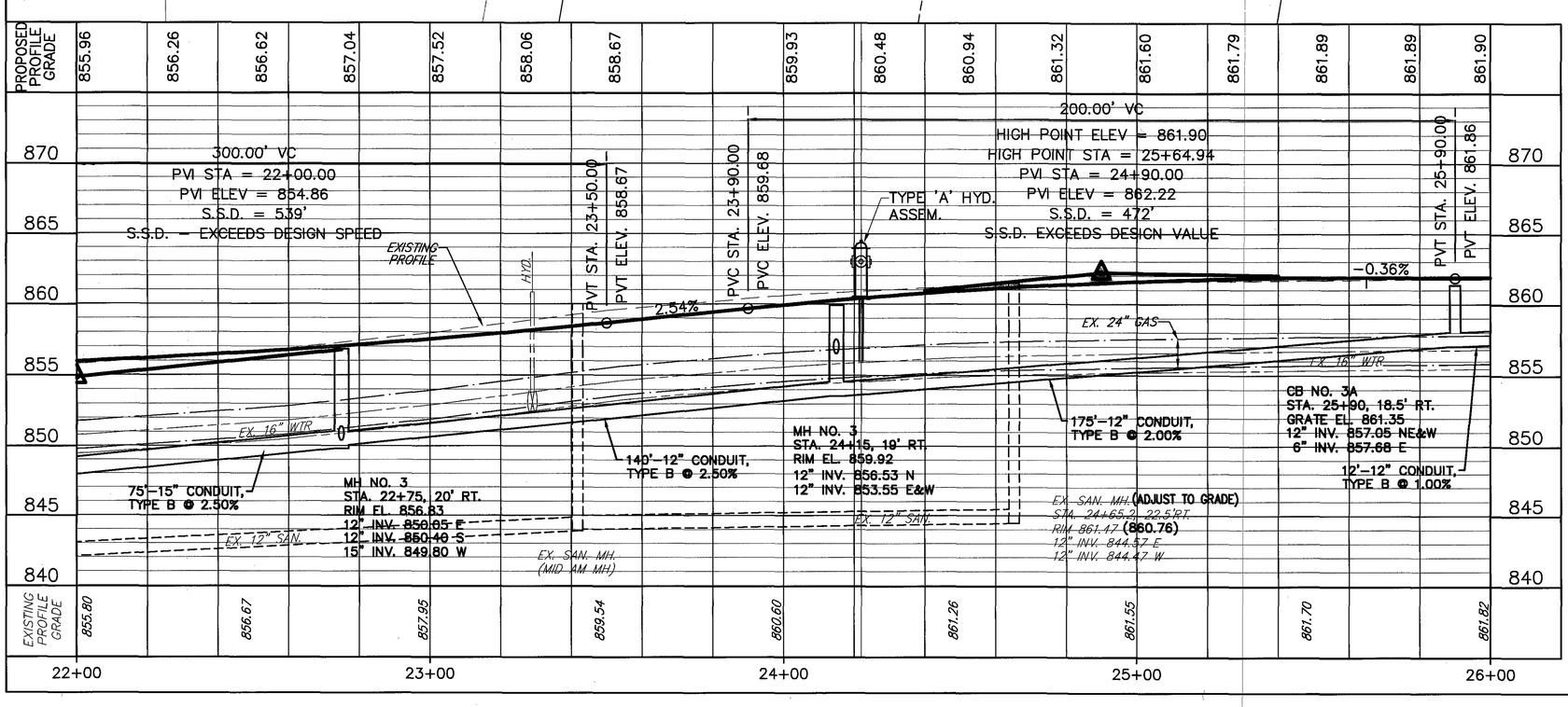
DATE: 10-22-04 - TIME: 11:44 - H:\2002\02117\dwg\QSR603.dwg

UNDERDRAIN DEPTH = 18" FROM STA. 24+15 TO STA. 26+47
(WESTBOUND LANE)

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 132 THRU 140
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214

THE PROPOSED INLET IS PLACED AT STA. 24+15 (WESTBOUND LANE)
TO AVOID CONFLICT WITH THE EXISTING 24" GAS LINE





U.S. 6 – CHARDON ROAD – PLAN AND PROFILE
STA. 22+00 TO 26+00

LAK – 90/84 – 0.54/0.43

128
369

SCALE IN FEET 20 10 0 10 20

CALCULATED
CHECKED

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED 24" AND UNDER	202 INLET REMOVED	202 REMOVAL MISC.: SPRINKLER HEAD	202 REMOVAL MISC.: LANDSCAPE BED	202 REMOVAL MISC.: BUSINESS SIGN
				FT.	EACH	EACH	EACH	EACH
R-1	24+41.76	25+51.26	RT	110	1			
R-2	22+00	22+88	RT			5		
R-3	22+00	22+98	RT				1	
R-4	23+67		RT					1
R-5	24+28		RT					1
R-6	25+81.37		RT		1			
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				110	2	5	1	2

SANITARY & DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	SAN. 604 MANHOLE ADJUSTED TO GRADE	603 12" CONDUIT, TYPE C	603 12" CONDUIT, TYPE B	603 SLOTTED DRAIN, 6" TYPE 1	604 CATCH BASIN NO. 2-2B	604 CATCH BASIN NO. 3A	604 MANHOLE NO. 3
				EACH	FT.	FT.	FT.	EACH	EACH	EACH
S-1	23+41.79		RT	1						
S-2	24+65.20		RT	1						
D-1	22+75		20' to 28.7' RT			9			1	
D-2	22+75, 20' RT	24+15, 19' RT				140				1
D-3	24+15	20.2' LT to 19' RT				39			1	
D-4	24+15, 19' RT	25+90, 18.50' RT				175				1
D-5	22+75, 28.1' RT	23+04, 41.5' RT			33			1		
D-6	23+04, 41.5' RT	23+36, 41' RT					31			
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				2	33	363	31	1	2	2

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - CHARDON ROAD
STA. 22+00 TO STA. 26+00

LAK - 90/84 - 0.54/0.43

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FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 132 THRU 140
FOR DRIVE PROFILES SEE SHEETS 200 THRU 213
FOR DRIVEWAY DETAILS SEE SHEET 214

MATCH LINE 26+00

CHARDON ROAD U.S. ROUTE 6

END PAVEMENT TAPER
STA. 27+60.0, 13.0' RT.

* TAPER CURB HEIGHT FROM 6" TO 0" IN TEN FEET

MEET EXISTING PAVEMENT
STA. 27+60.00
ELEV. 862.54

50'-12" CONDUIT, TYPE B @ 1.00%

0.40%

0.70%

CB NO. 3A
STA. 26+50, 13' LT.
GRATE EL. 861.67
12" INV. 857.67 SW
6" INV. 858.00 E

EX. 16" WTR

EX. 24" GAS

PROPOSED PROFILE GRADE: 861.90, 862.10, 862.30, 862.50

EXISTING PROFILE GRADE: 862.00, 862.25, 862.46, 862.81, 863.35

26+00 27+00 28+00 29+00 30+00

U.S. 6 – CHARDON ROAD – PLAN AND PROFILE
STA. 26+00 TO 29+00

LAK – 90/84 – 0.54/0.43

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE																									
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS																												

DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 12" CONDUIT, TYPE B		604 CATCH BASIN NO. 3A																						
				FT.		EACH																						
D-1	26+50, 13' LT	25+90, 18.5' RT		62		2																						
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				62		2																						

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES - CHARDON ROAD
STA. 26+00 TO STA. 29+00

LAK - 90/84 - 0.54/0.43

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SEEDING	
END WIDTH	SQUARE YARDS
18	100
18	
20	106
20	
10	25

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

860 855 850 845 840

℄ CONSTRUCTION

R/W EX. R/W 4:1 24"GAS. 16" WTR EX.TELE. 8" STO (TO BE REMOVED) 4"GAS. 12" STO. 18" SAN. R/W EX. R/W 4:1

PROP. 849.66
12+50.00
EX. 849.68

R/W EX. R/W 4:1 24"GAS. 16" WTR EX.TELE. 8" STO (TO BE REMOVED) 4"GAS. 12" STO. 18" SAN. R/W EX. R/W 4:1

PROP. 849.26
12+00.00
EX. 849.27

R/W EX. R/W 51'-12" CONDUIT, TYPE B @ 0.50% 17'-12" CONDUIT, TYPE C @ 0.50% EX. R/W 5'-12" CONDUIT, TYPE C @ 0.50% R/W 4:1 24"GAS. 16" WTR EX.TELE. 8" STO 4"GAS. 18" SAN.

CB-3A
STA. 11+60, 30.0' LT.
GRATE EL. 848.25
12" INV. 845.00 S
6" INV. 845.58 E

PROP. 848.86
11+50.00
EX. 848.86

CB-3A
STA. 11+60, 21.0' RT.
GRATE EL. 848.52
12" INV. 844.75 N&SE
6" INV. 844.85 E

MH NO. 3
STA. 11+75, 27.0' RT.
RIM EL. 848.90
12" INV. 844.67 NW&E
12" INV. 845.47 S

CB-2-2B
STA. 11+75, 33.0' RT.
GRATE EL. 847.50
12" INV. 845.50 N

R/W EX. R/W 24"GAS. 16" WTR EX.TELE. EX. R/W R/W

PROP. 848.66
11+35.00 (AHEAD)
EX. 848.66

8" STO 4"GAS. 18" SAN.

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

END AREA		VOLUME	
CUT	FILL	CUT	FILL
75	5	139	11
75	7		
74	14	138	19
72	0	41	4

CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 11+35 TO STA. 12+50

LAK – 90/84 – 0.54/0.43

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SEEDING	
END WIDTH	SQUARE YARDS
22	117
20	111
20	106
18	100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
59	14	110	26
60	14	110	23
59	11	115	18
65	8	130	12

CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 13+00 TO STA. 14+50

LAK – 90/84 – 0.54/0.43

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369

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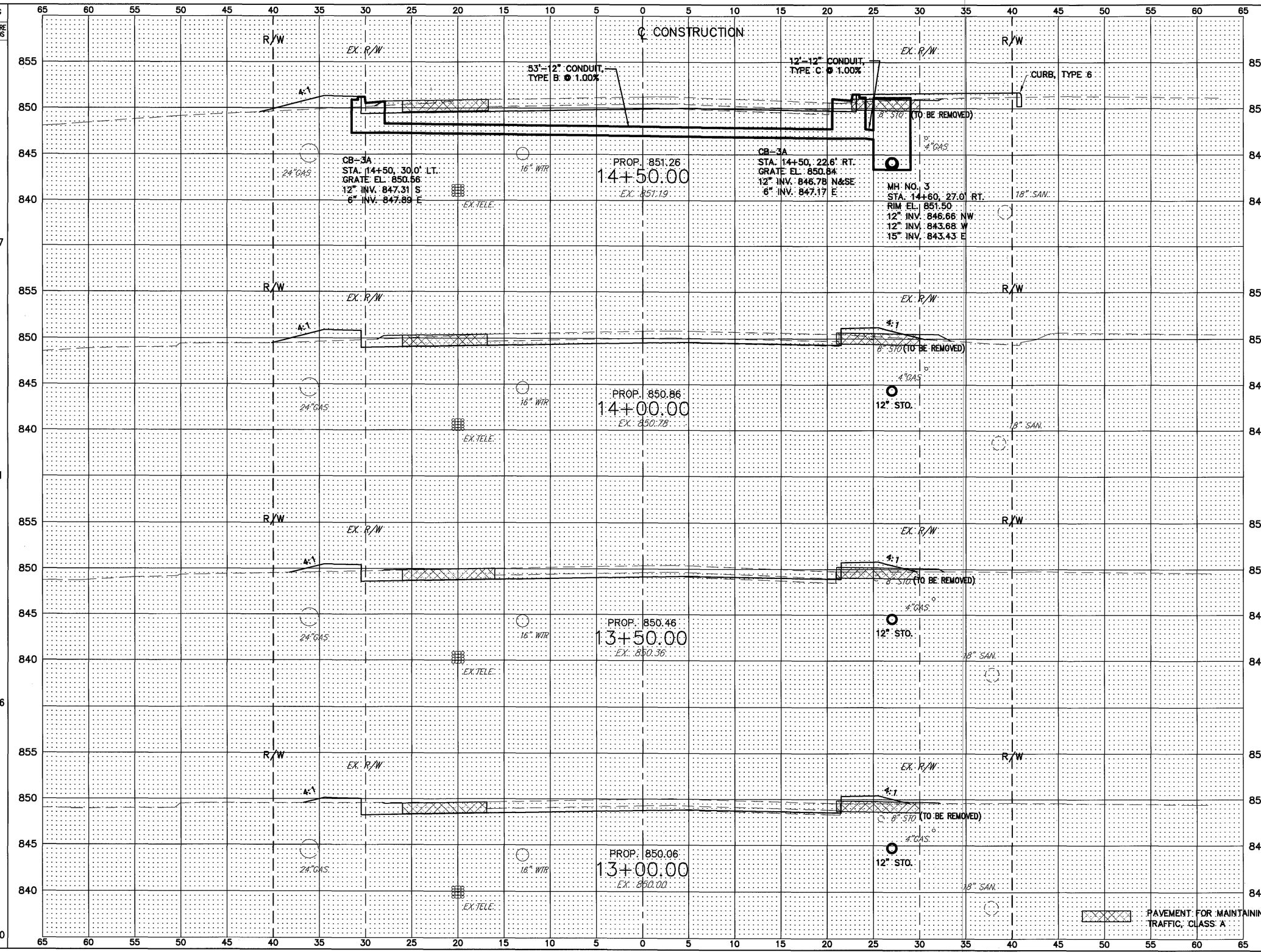
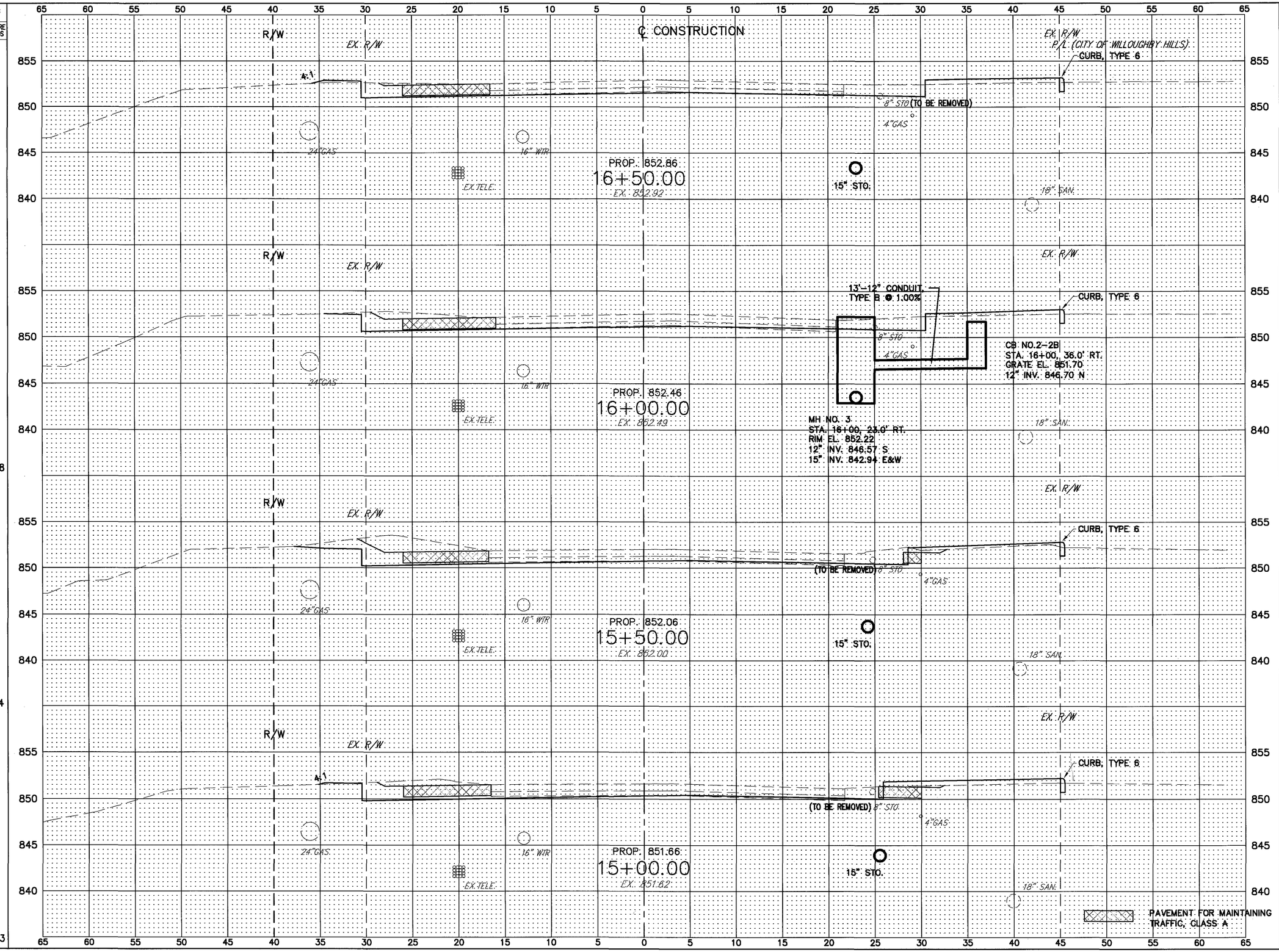


SEEDING	
END WIDTH	SQUARE YARDS
16	81
13	108
26	114
15	103



END AREA		VOLUME	
CUT	FILL	CUT	FILL
80	0		
		151	0
83	0		
		167	0
97	0		
		163	0
79	0		
		128	13

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 15+00 TO STA. 16+50

LAK – 90/84 – 0.54/0.43

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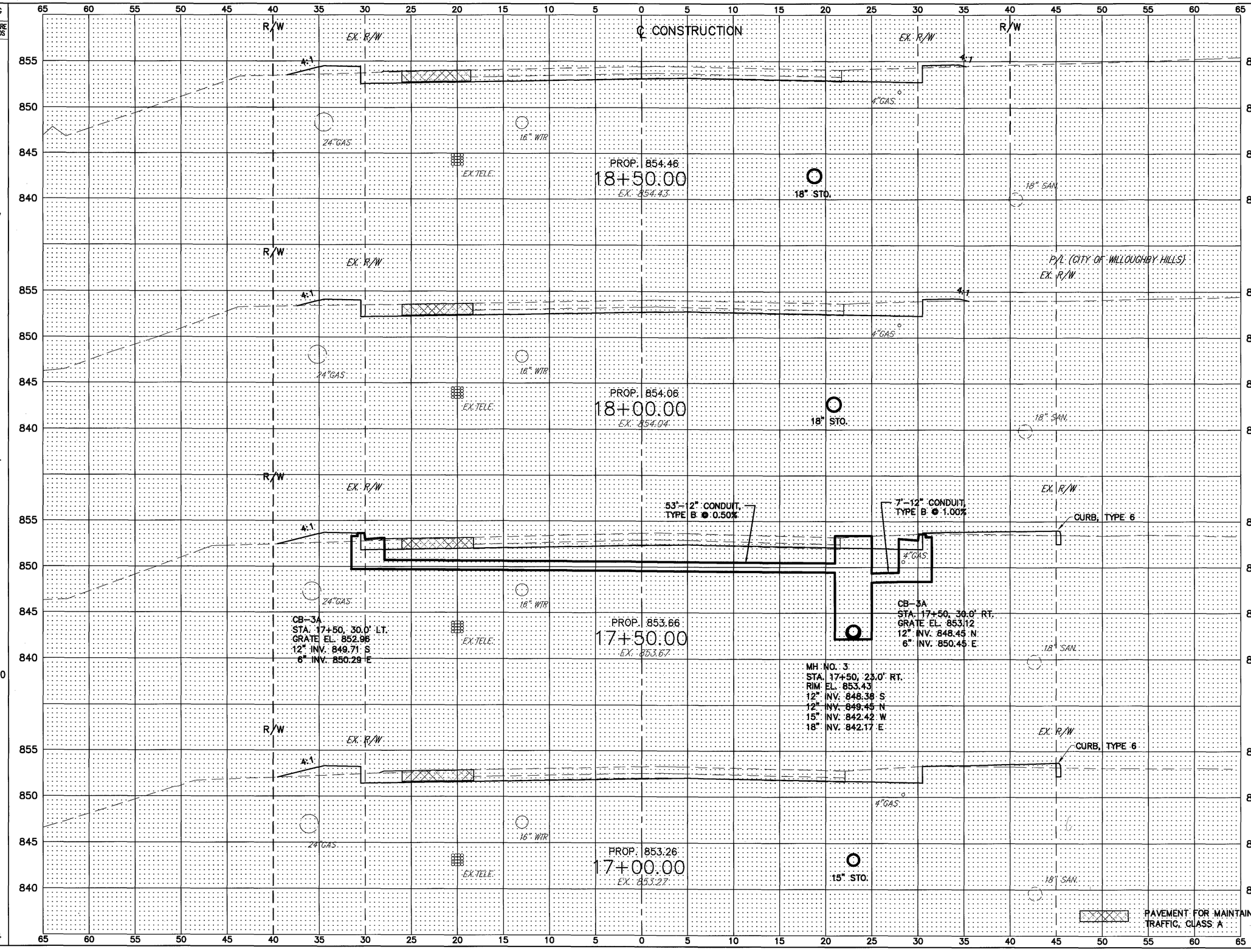
SEEDING	
END WIDTH	SQUARE YARDS
17	97
16	94
18	100
18	94



END AREA		VOLUME	
CUT	FILL	CUT	FILL
77	4		
		144	7
78	3		
		142	8
75	6		
		142	8
78	6		
		146	6

CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 17+00 TO STA. 18+50

LAK – 90/84 – 0.54/0.43

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SEEDING	
END WIDTH	SQUARE YARDS
21	
	58
0	
	28
10	
	78
18	
	97

END AREA	
CUT	FILL
119	4
0	0
125	5
80	4

VOLUME	
CUT	FILL
110	4
116	5
190	8
145	7

CALCULATED M.L.M.

CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 19+00 TO STA. 20+50

LAK – 90/84 – 0.54/0.43

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EX. R/W
℄ CONSTRUCTION
25"–12" CONDUIT TYPE B @ 1.00%
R/W
CURB, TYPE 6
4:1
8:1
24"GAS
EX.TELE.
16" WTR
4"GAS
PROP. 855.46
20+50.00
EX. 855.83
CB–3
STA. 20+38.9, 41.4' RT.
GRATE EL. 855.33
12" INV. 851.25 NW
6" INV. 851.75 S
MH NO. 3
STA. 20+36.4, 12.4' RT.
RIM EL. 855.30
18" INV. 844.24 E
18" INV. 841.17 W
27" INV. 841.92 S
27" INV. 840.83 N
12" INV. 851.00 SE
12" SAN.
S.R. 84
PROP. 855.51
20+00.00
EX. 855.51
18" STO.
18" SAN.
PROP. 855.26
19+50.00
EX. 855.09
PROP. 854.86
19+00.00
EX. 854.77
CAP
22'–6" CONDUIT TYPE B @ 30.00%
6" TEE
STA. 19+03, 18'RT.
PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

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SEEDING	
END WIDTH	SQUARE YARDS
18	111
22	106
16	94
18	108

END AREA		VOLUME	
CUT	FILL	CUT	FILL
84	0	144	6
72	6	136	9
75	4	161	7
99	3	202	7

CALCULATED M.L.M.

CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 21+00 TO STA. 22+50

LAK – 90/84 – 0.54/0.43

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65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

860 855 850 845

℄ CONSTRUCTION

R/W

EX. R/W

4:1

24"GAS

EX.TELE.

16" WTR

PROP. 856.62
22+50.00
EX. 856.67

9'-12" CONDUIT, TYPE B @ 1.00%

4"GAS

MH NO. 3
STA. 22+75, 20.0' RT.
RIM EL. 856.83
12" INV. 850.05 E
12" INV. 850.40 S
15" INV. 849.80 W

CURB, TYPE 6

CB NO. 3A
STA. 22+75, 28.7' RT.
GRATE EL. 856.49
12" INV. 850.49 N
12" INV. 853.49 SE
6" INV. 852.82 E

12" SAN.

PROP. 855.96
22+00.00
EX. 855.80

18" WTR

15" STO.

6'-6" CONDUIT, TYPE C

PLUG

EX. 6" STO.

MASONRY COLLAR AS PER SCD DM 1.1

MH NO. 3
STA. 21+40, 33.0' LT.
RIM EL. 855.45
12" INV. 849.50 W
EX. 6" INV. 850.22 N
EX. 10" INV. 850.82 S

EX. 18" STO.

PROP. 855.55
21+50.00
EX. 855.52

6'-6" CONDUIT, TYPE C

CB-3A
STA. 21+40, 30.0' RT.
GRATE EL. 854.97
12" INV. 848.96 W
6" INV. 851.30 E
EX. 6" INV. 851.58 S&SW

58'-12" CONDUIT, TYPE B @ 0.50%

CB-3A
STA. 20+80, 34.80' LT.
GRATE EL. 854.28
12" INV. 845.50 S
12" INV. 848.90 E
6" INV. 850.58 SE

PROP. 855.38
21+00.00
EX. 855.64

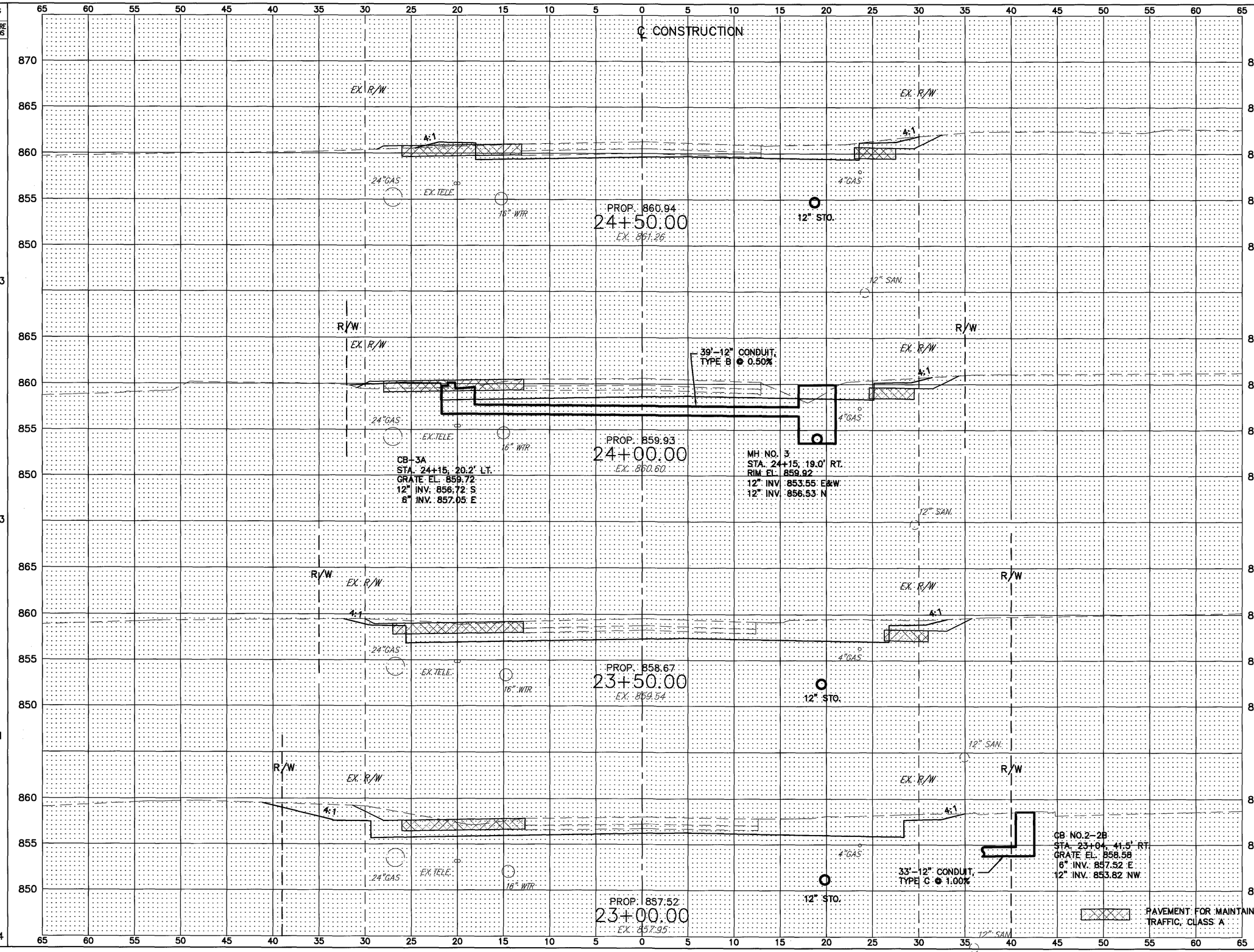
11'-12" CONDUIT, TYPE B @ 0.50%

MH NO. 3
STA. 20+80, 21.0' RT.
RIM EL. 855.03
12" INV. 848.66 SE
12" INV. 845.22 N
15" INV. 844.93 E
18" INV. 844.58 NW

CB-3
STA. 20+87.3, 30.0' RT.
GRATE EL. 854.64
12" INV. 848.71 E&NW
6" INV. 851.17 E&W

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

SEEDING	
END WIDTH	SQUARE YARDS
17	103
20	103
17	111
23	114



END AREA		VOLUME	
CUT	FILL	CUT	FILL
71	2		
		144	7
85	5		
		194	5
125	0		
		237	0
131	0		
		199	0

CALCULATED M.L.M.

CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 23+00 TO STA. 24+50

LAK – 90/84 – 0.54/0.43

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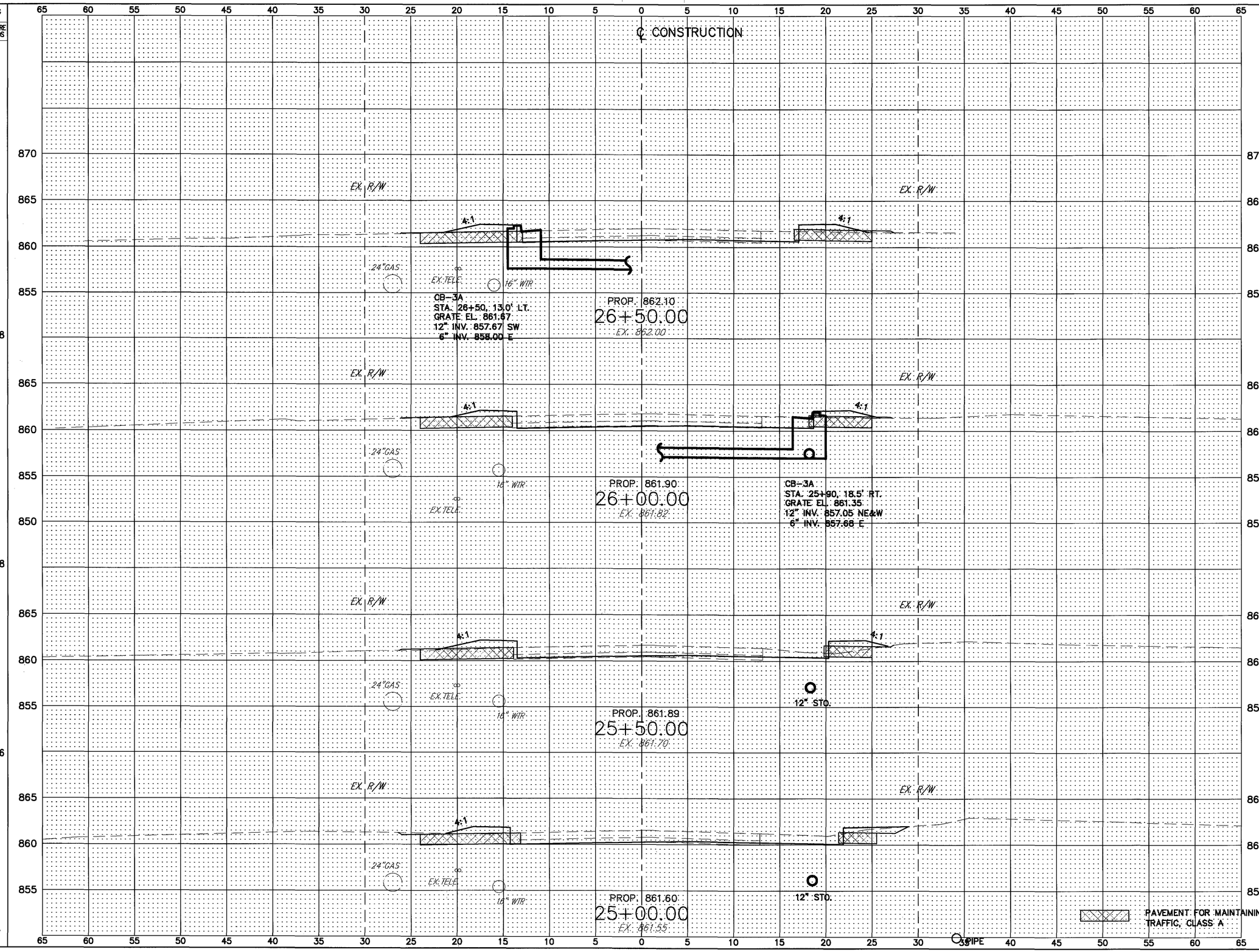
SEEDING	
END WIDTH	SQUARE YARDS
20	108
19	108
20	106
18	97

END AREA		VOLUME	
CUT	FILL	CUT	FILL
35	5		
		71	18
42	14		
		70	24
34	12		
		71	15
43	4		
		106	6

CALCULATED M.L.M.

CHECKED W.D.B.



U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 25+00 TO STA. 26+50

LAK – 90/84 – 0.54/0.43

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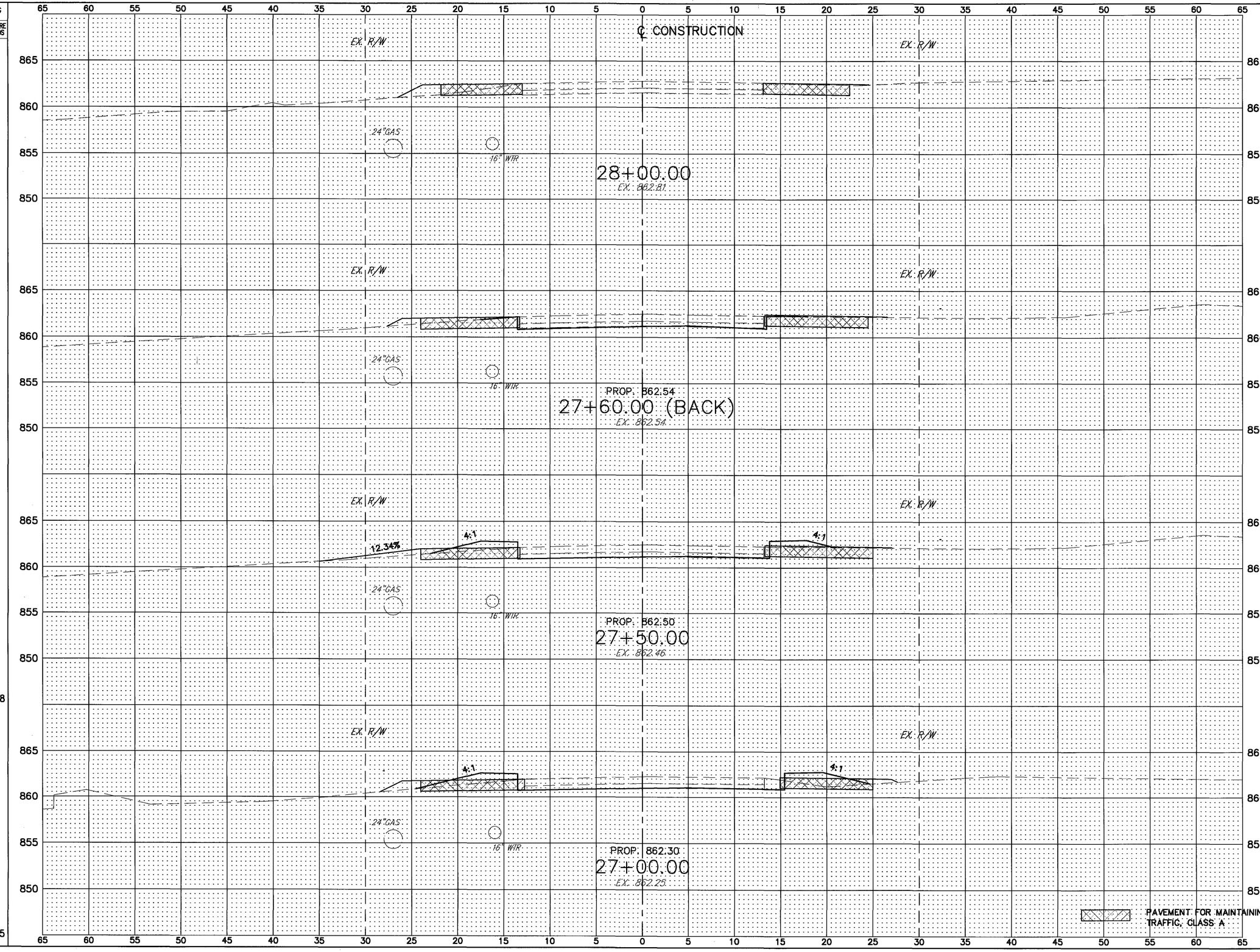
SEEDING	
END WIDTH	SQUARE YARDS
10	17
	21
	128
	25
	125



END AREA		VOLUME	
CUT	FILL	CUT	FILL
34	0		
		13	2
34	10		
		64	14
35	5		
		65	9

CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
CROSS SECTIONS STA. 27+00 TO STA. 28+50

LAK – 90/84 – 0.54/0.43

140
369

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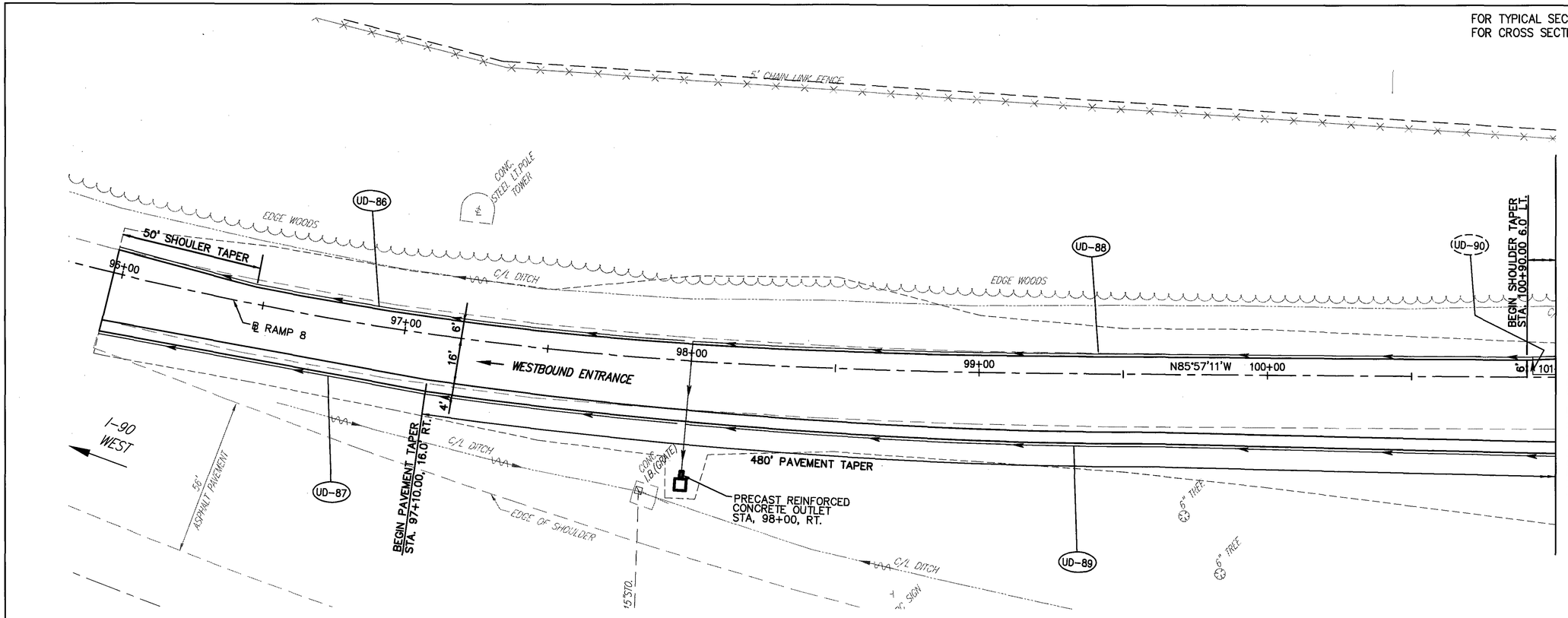
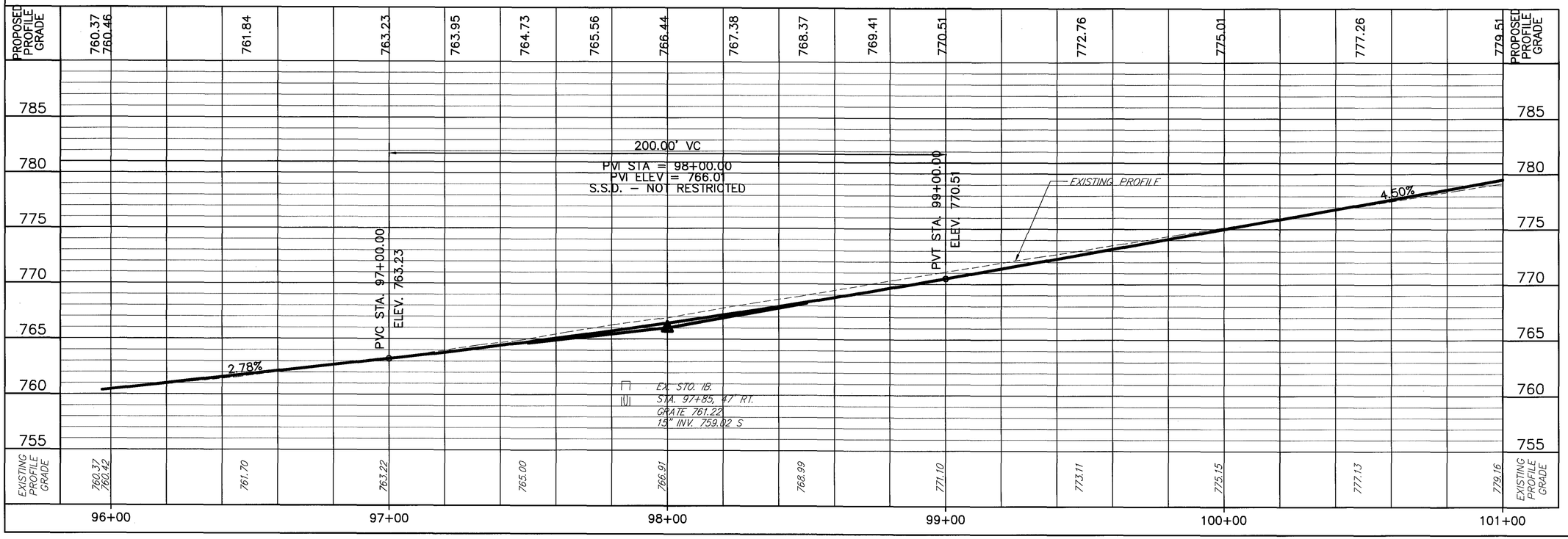
FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 144 THRU 150



CURVE DATA RAMP 8
P.I. STA. = 97+36.37
Δ = 26°00'00"
Dc = 5°00'00"
R = 1137.916'
Ls = 200.00'
Θs = 5°00'00"
LT = 133.39'
ST = 66.716'
Lc = 516.37'
Ts = 262.71'
Es = 8.518'
P.C. STA. 95+96.86
C.S. STA. 97+62.72
S.T. STA. 99+62.72



SCALE IN FEET 20 10 0 10 20

CALCULATED
CHECKED

RAMP 8 – PLAN AND PROFILE
STA. 95+96.88 TO STA. 101+00

LAK – 90/84 – 0.54/0.43

141
369

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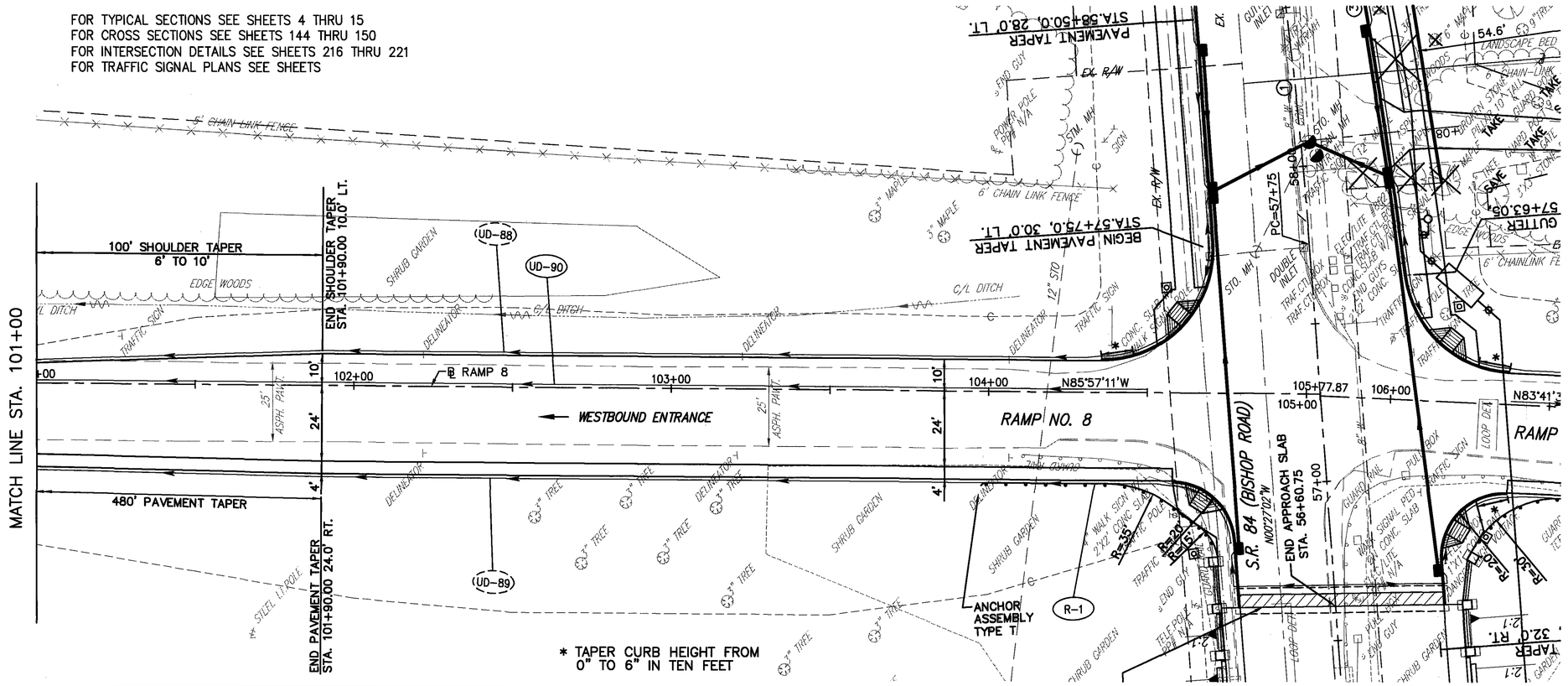
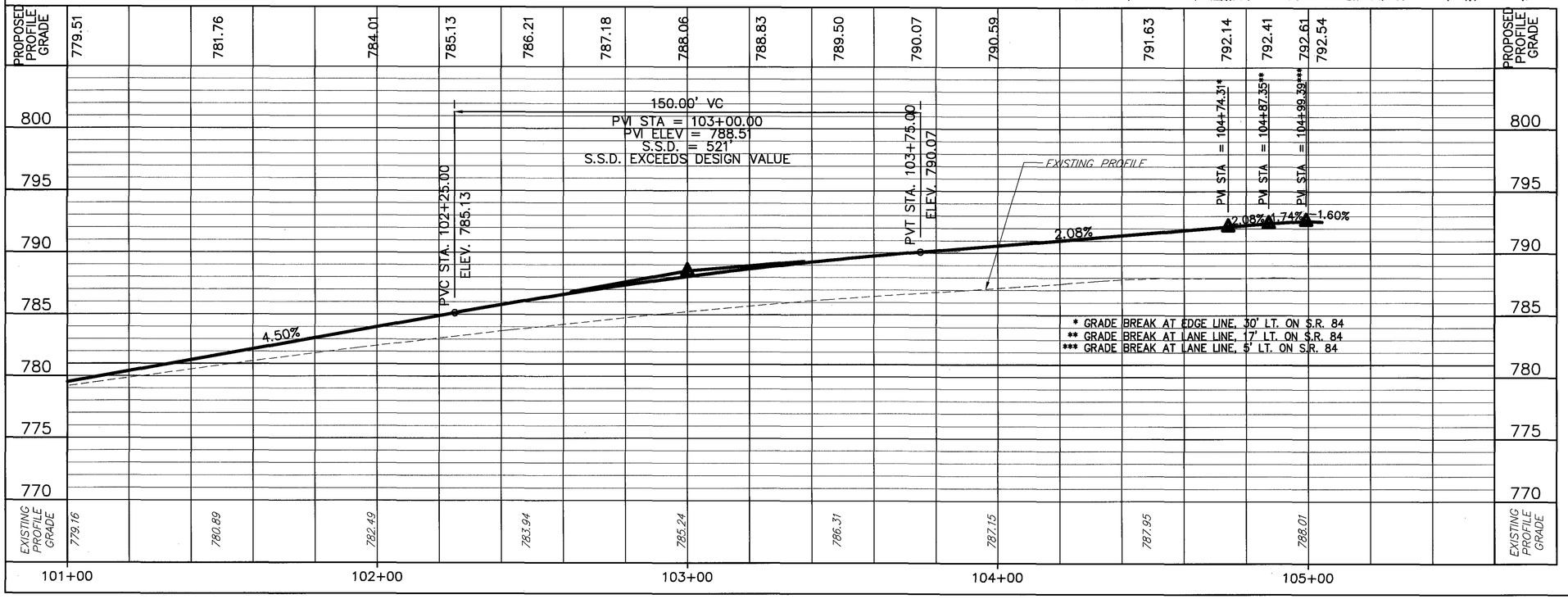
FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 144 THRU 150
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS





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CALCULATED
CHECKED

SCALE IN FEET
20 10 0 20

RAMP 8 – PLAN AND PROFILE
STA. 101+00 TO STA. 105+04.40

LAK – 90/84 – 0.54/0.43

142
369

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	209 LINEAR GRADING, AS PER PLAN		606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1
				STA.		FT.	EACH	EACH
R-1	103+97.75, 30.0' RT	56+77.96, 35.83' LT		0.88		87.50	1	1
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				0.88		87.50	1	1

SANITARY, DRAINAGE & WATER WORKS

REF. NO.	STATION FROM	STATION TO	SIDE
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS			

ESTIMATED QUANTITIES - RAMP 8
STA. 96+00 TO STA. 105+04.40

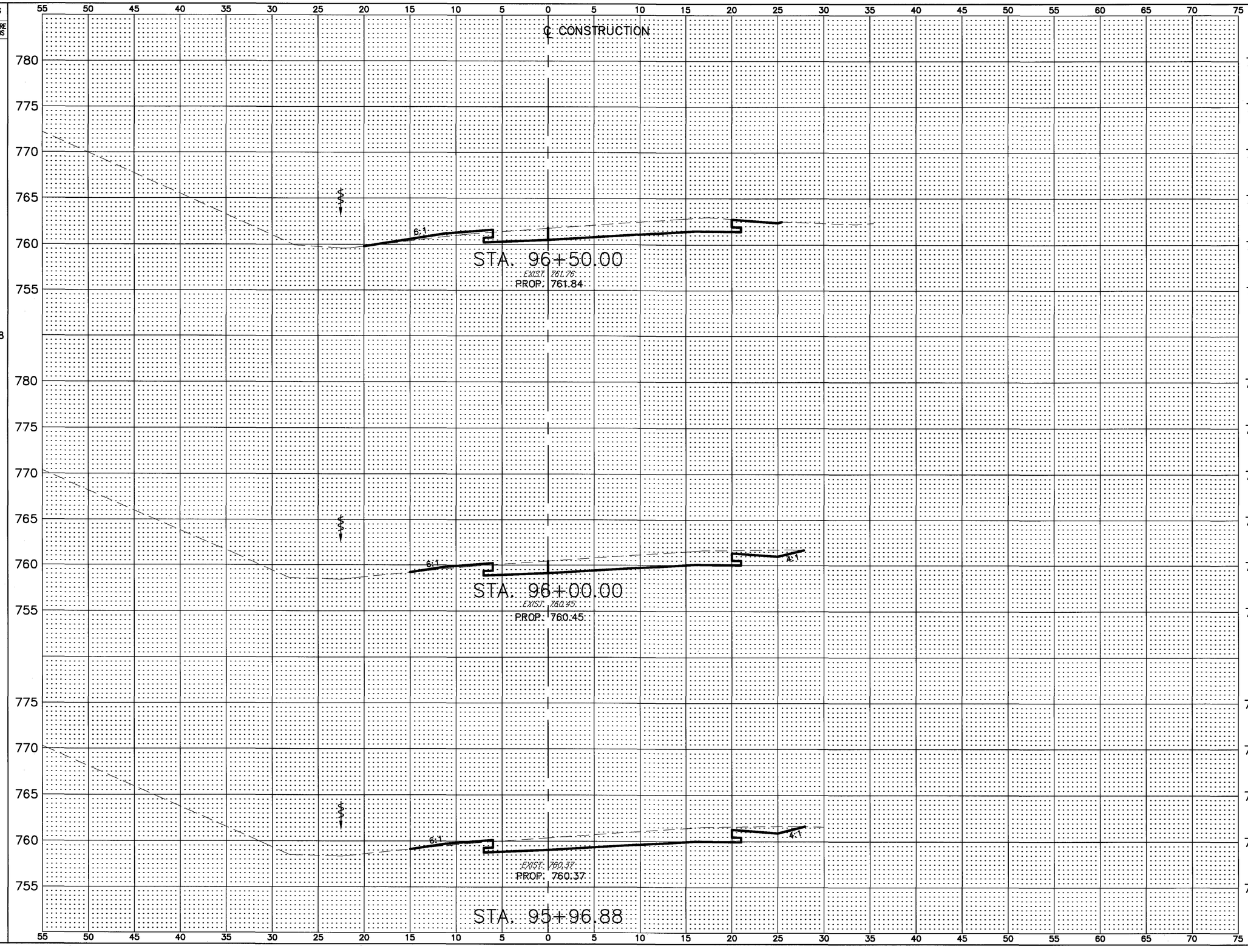
CALCULATED J.M.Z.
CHECKED W.D.B.

LAK - 90/84 - 0.54/0.43

143
369

DATE: 10-22-04 - TIME: 13:40 - H:\2002\02117\dwg\QRAMP8.dwg

SEEDING	
END WIDTH	SQUARE YARDS
24	
	128
22	
	7
22	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
35	3		
		70	4
41	1		
		5	1
41	1		

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 8

CROSS SECTIONS STA. 95+96.88 TO STA. 96+50.00

LAK – 90/84 – 0.54/0.43

144
369

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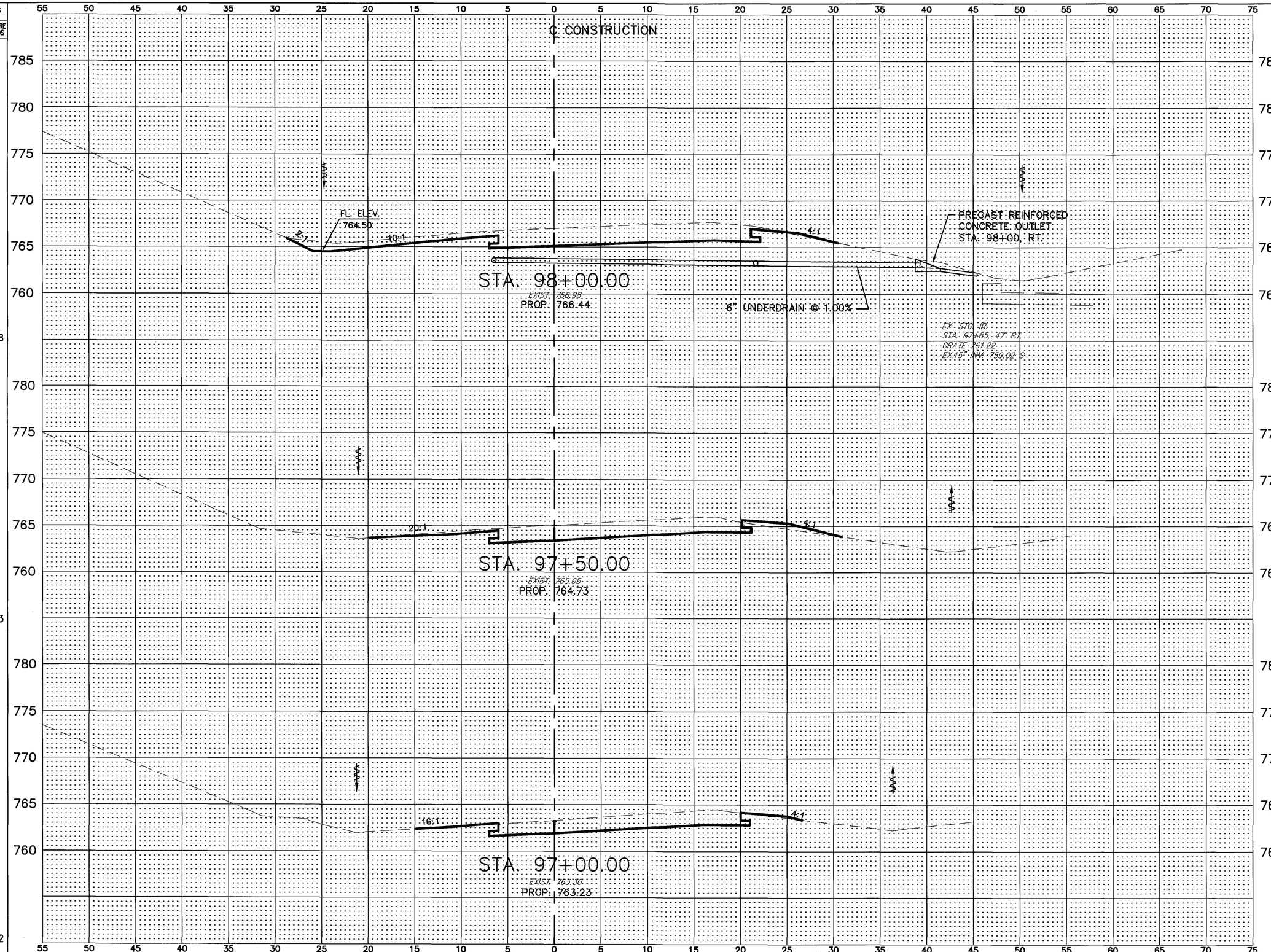
SEEDING	
END WIDTH	SQUARE YARDS
36	178
28	133
20	122



END AREA		VOLUME	
CUT	FILL	CUT	FILL
69	0		
		106	4
45	4		
		77	5
38	1		
		68	4

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 8

CROSS SECTIONS STA. 97+00.00 TO STA. 98+00.00

LAK – 90/84 – 0.54/0.43

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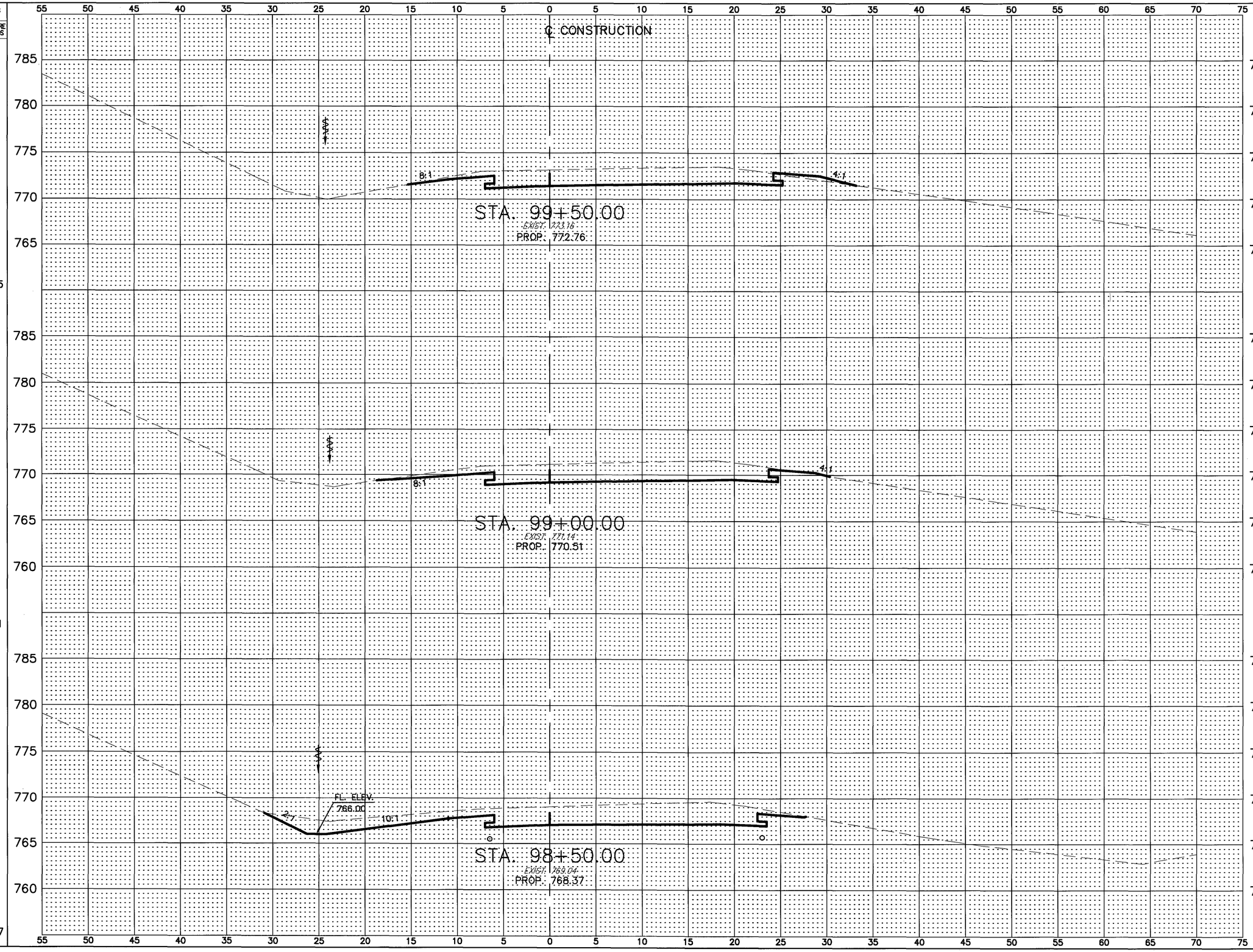
SEEDING	
END WIDTH	SQUARE YARDS
22	
	125
23	
	161
	35
	197



END AREA		VOLUME	
CUT	FILL	CUT	FILL
56	2		
		114	0
67	0		
		145	0
90	0		
		147	0

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 8

CROSS SECTIONS STA. 98+50.00 TO STA. 99+50.00

LAK - 90/84 - 0.54/0.43

146
369

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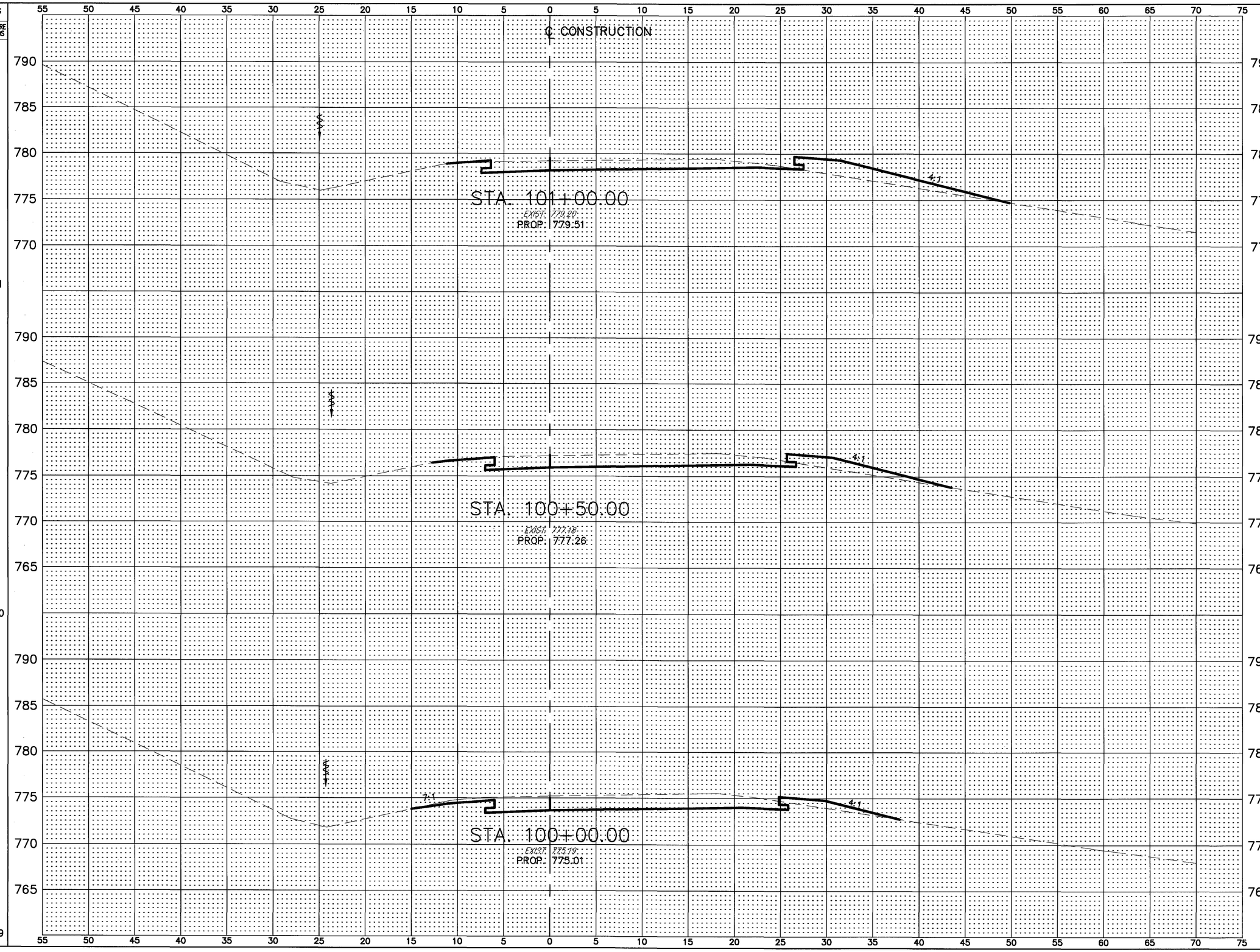
SEEDING	
END WIDTH	SQUARE YARDS
30	161
28	150
26	139



END AREA		VOLUME	
CUT	FILL	CUT	FILL
29	22		
		81	32
39	13		
		81	18
49	6		
		97	7

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 8

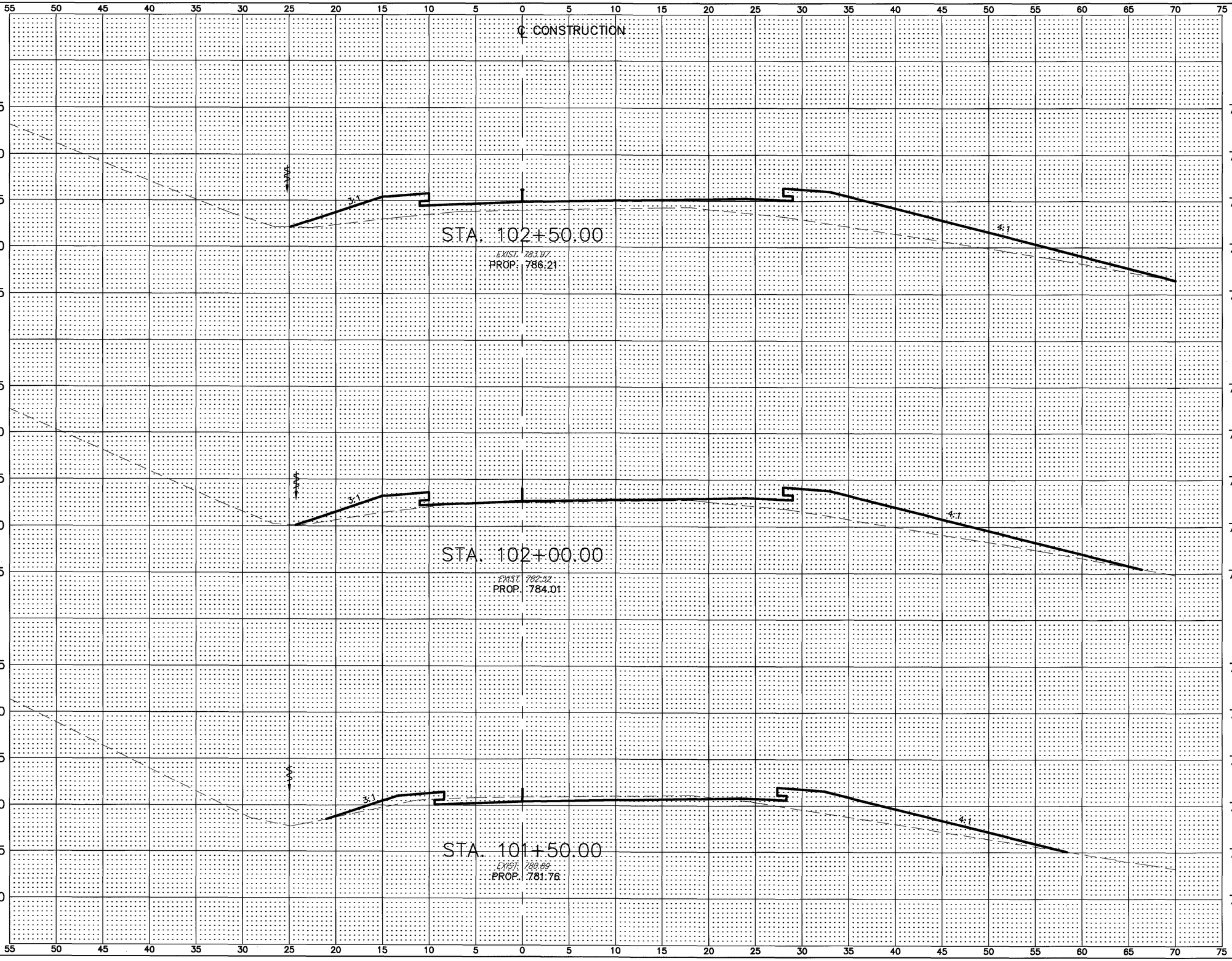
CROSS SECTIONS STA. 100+00.00 TO STA. 101+00.00

LAK - 90/84 - 0.54/0.43

147
369

H:\2002\02117\dwg\XSECRAMP8.dwg 11/21/03 01:25:28 PM EST

SEEDING	
END WIDTH	SQUARE YARDS
60	322
56	289
48	217



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	140		
		0	209
0	86		
		13	126
14	50		
		40	67

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 8

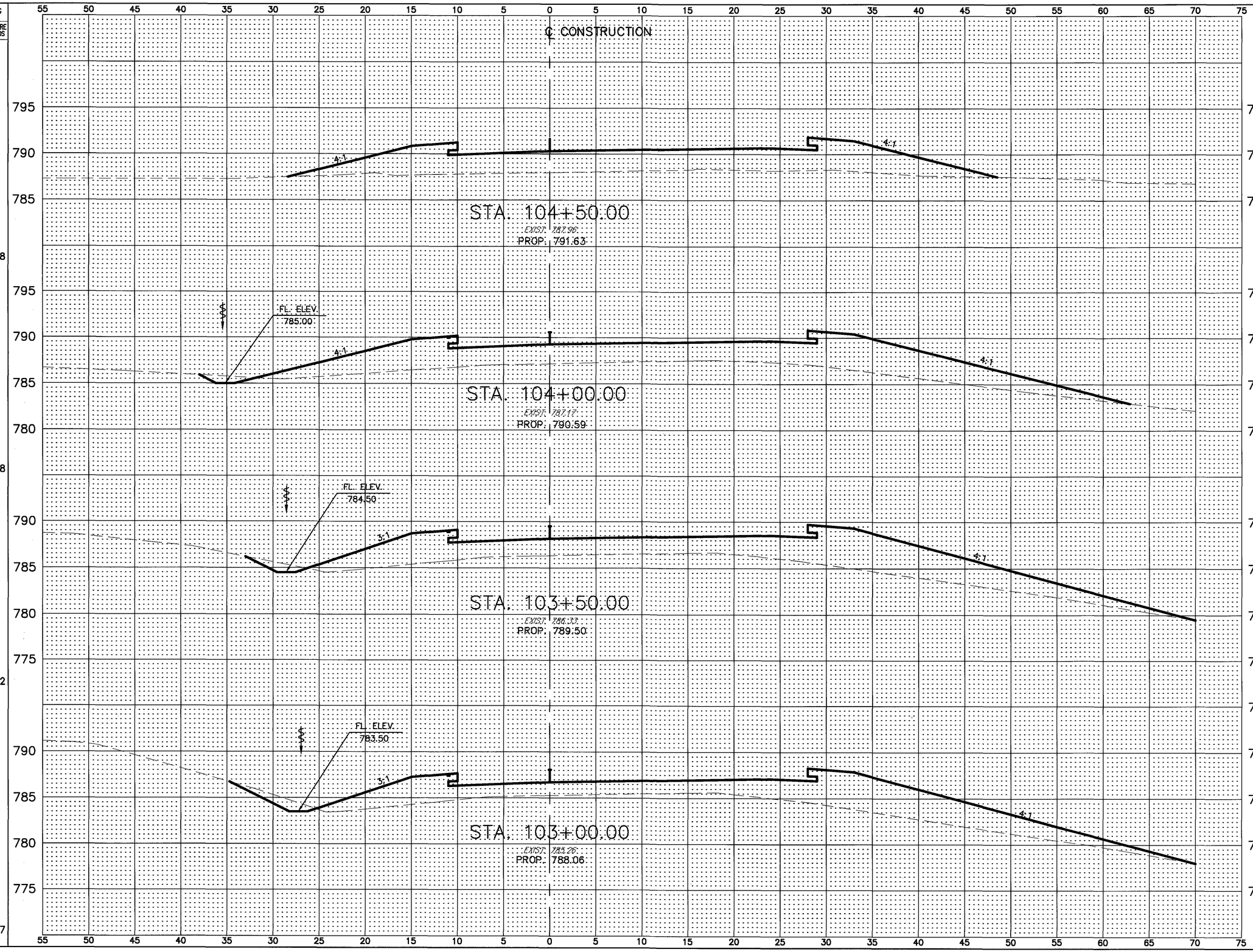
CROSS SECTIONS STA. 101+50.00 TO STA. 102+50.00

LAK - 90/84 - 0.54/0.43

148
369

H:\2002\02117\dwg\XSECRAMP8.dwg 11/21/03 01:25:28 PM PM EST

SEEDING	
END WIDTH	SQUARE YARDS
44	308
67	378
69	392
72	367



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	166		
		3	342
3	203		
		7	381
4	208		
		11	362
6	183		
		6	299

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 8

CROSS SECTIONS STA. 103+00.00 TO STA. 104+50.00

LAK – 90/84 – 0.54/0.43

149
369

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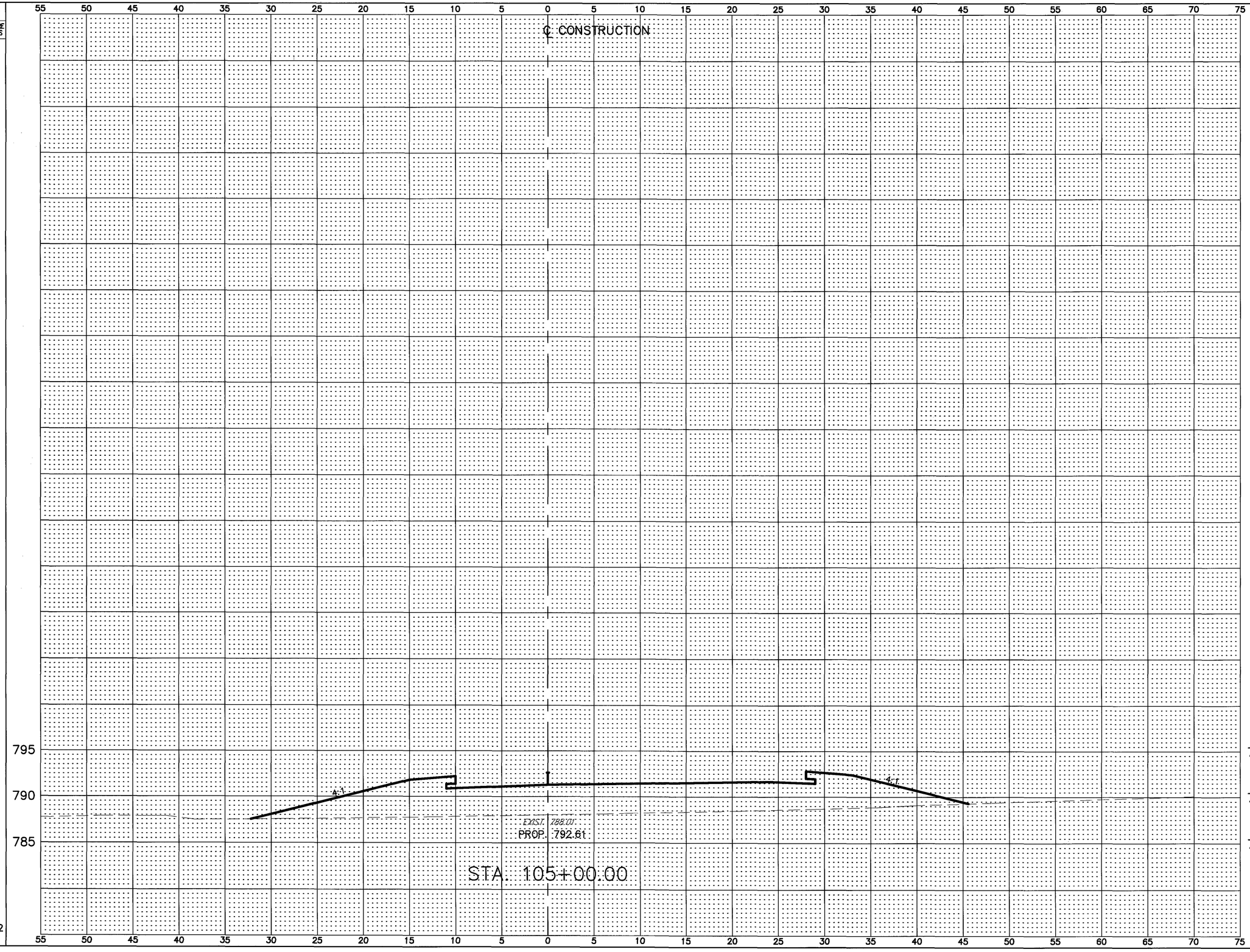
SEEDING	
END WIDTH	SQUARE YARDS
43	
242	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	218		
		0	356

CALCULATED M.L.M.

CHECKED W.D.B.

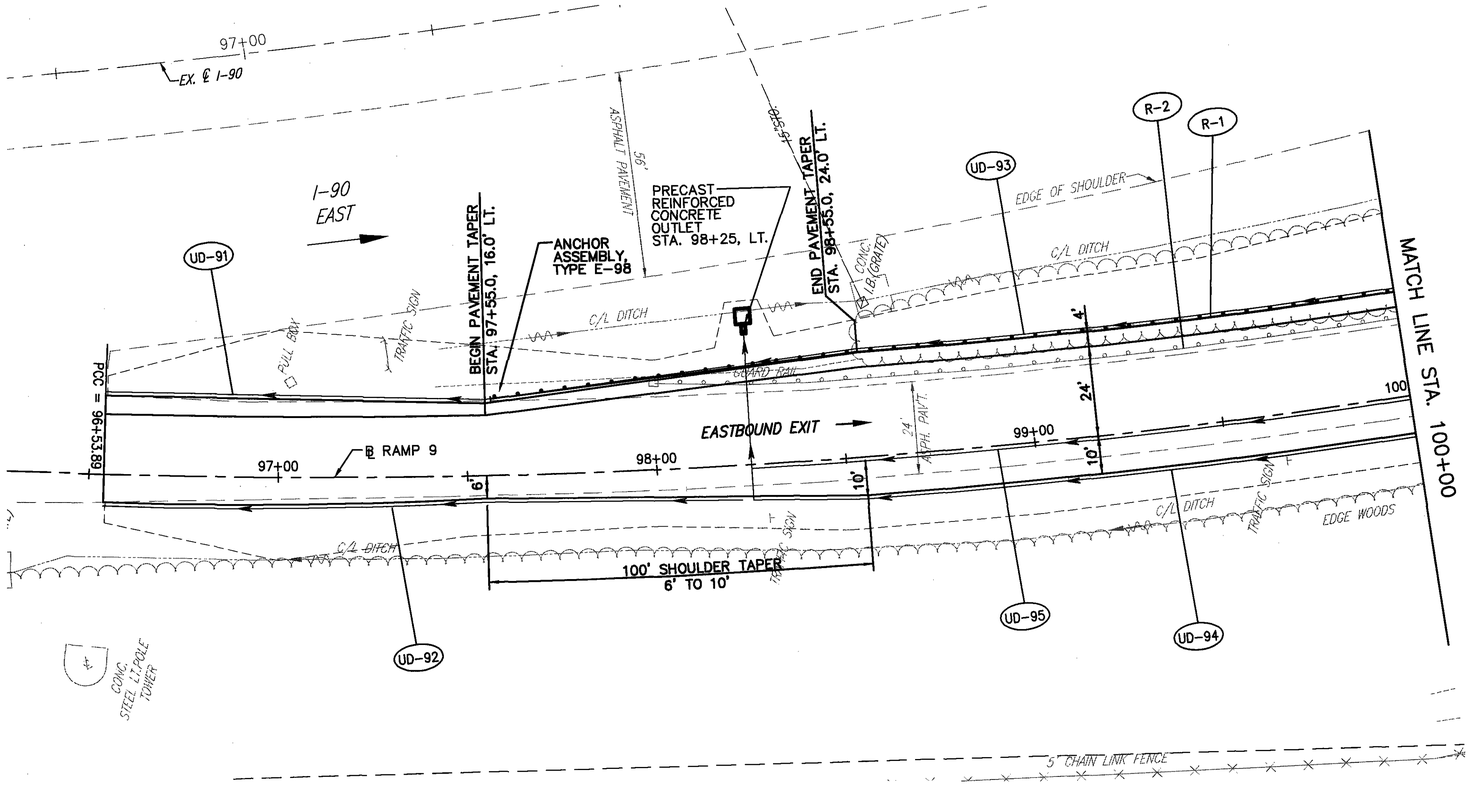
RAMP 8

CROSS SECTIONS STA. 105+00.00

LAK – 90/84 – 0.54/0.43

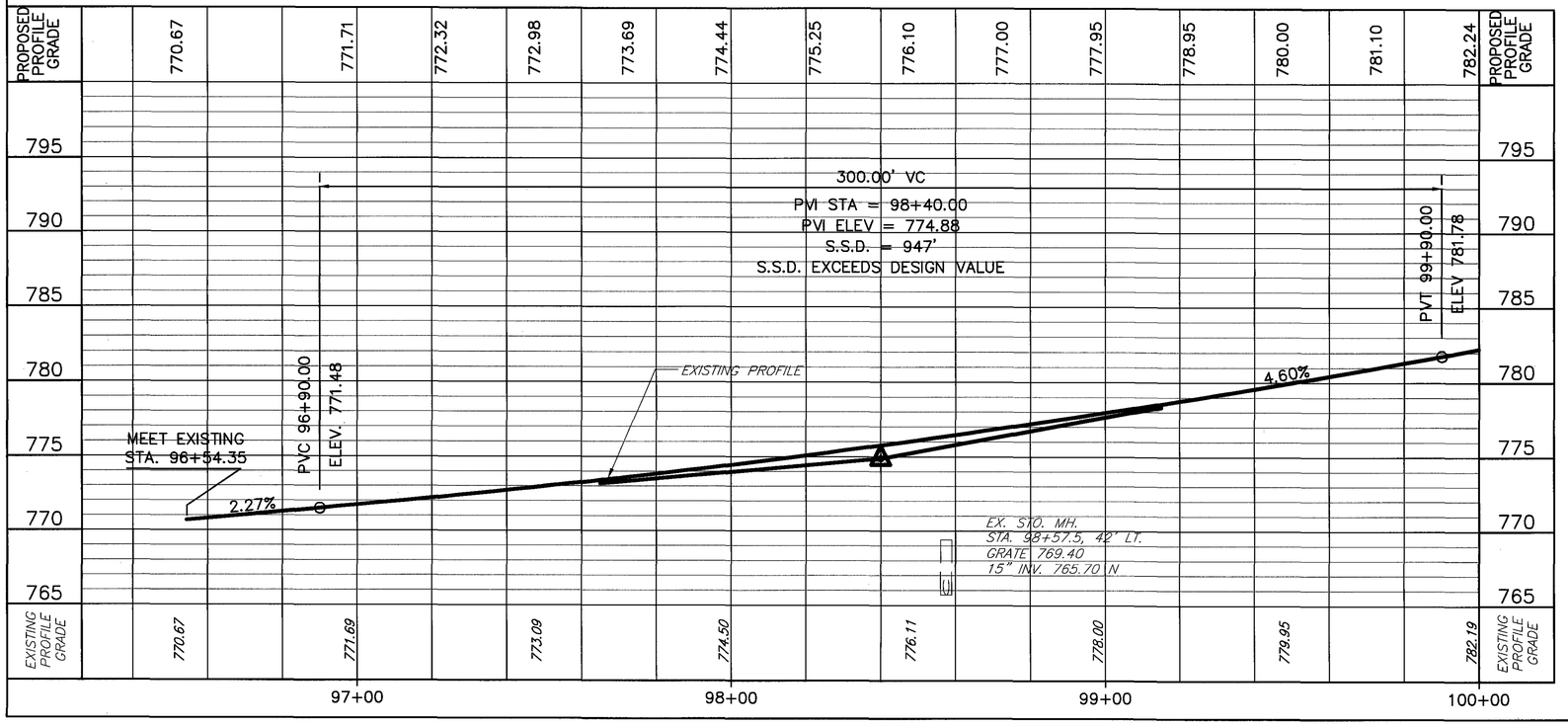
150
369

H:\2002\02117\dwg\XSECRAMP8.dwg 11/21/03 01:25:28 PM EST



CURVE DATA RAMP 9
P.I. STA. 99+10.21
Δ = 15°00'00"
Dc = 2°59'15"
R = 1917.86'
Ls = 200.418'
Θs = 2°59'37.4"
LT = 133.63'
ST = 66.82'
Lc = 401.885'
Ts = 349.435'
Es = 16.992'
P.C. STA. 96+54.35
C.S. STA. 100+56.24
S.T. STA. 102+56.65

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 155 THRU 163



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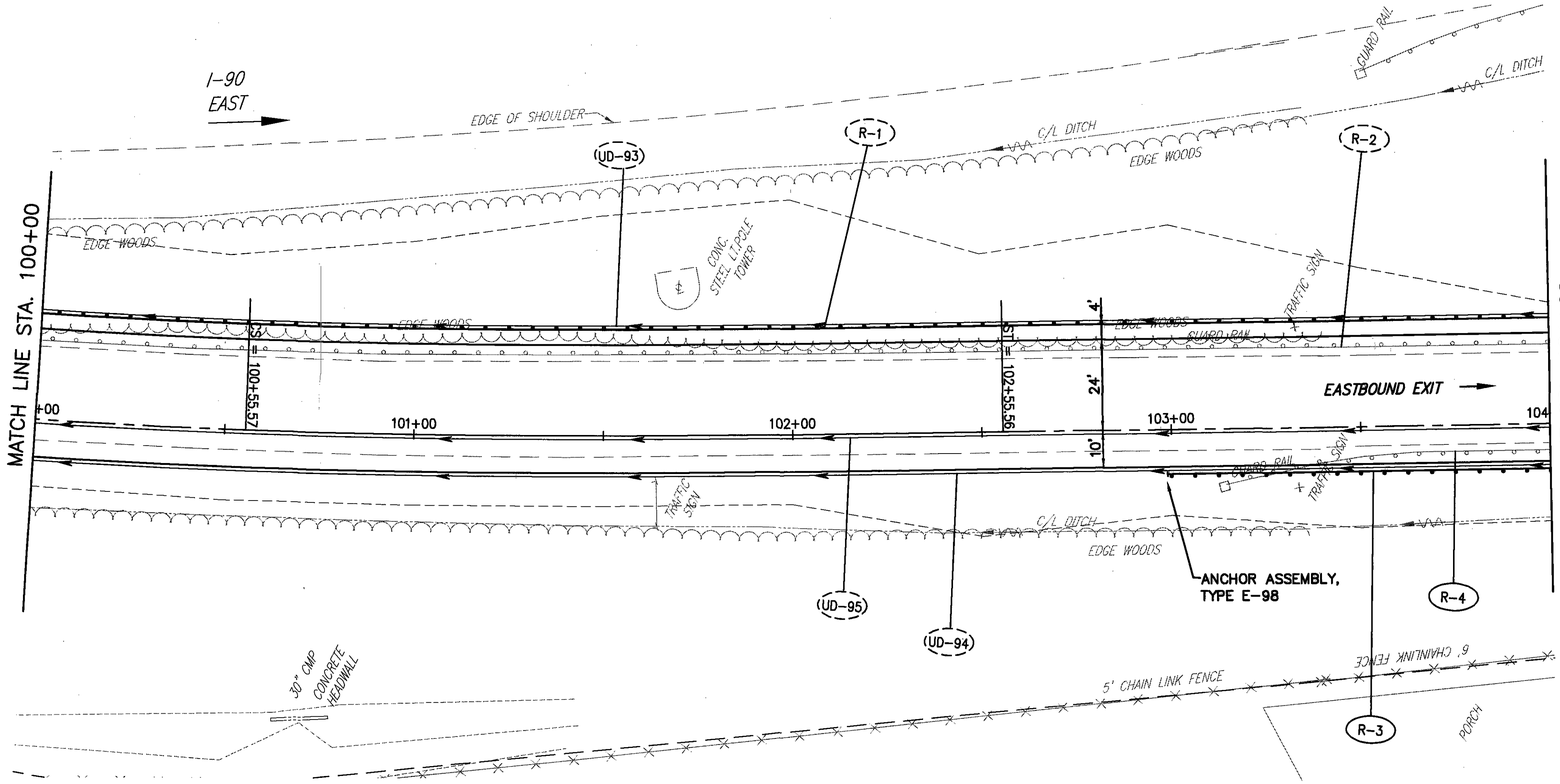
CALCULATED
CHECKED

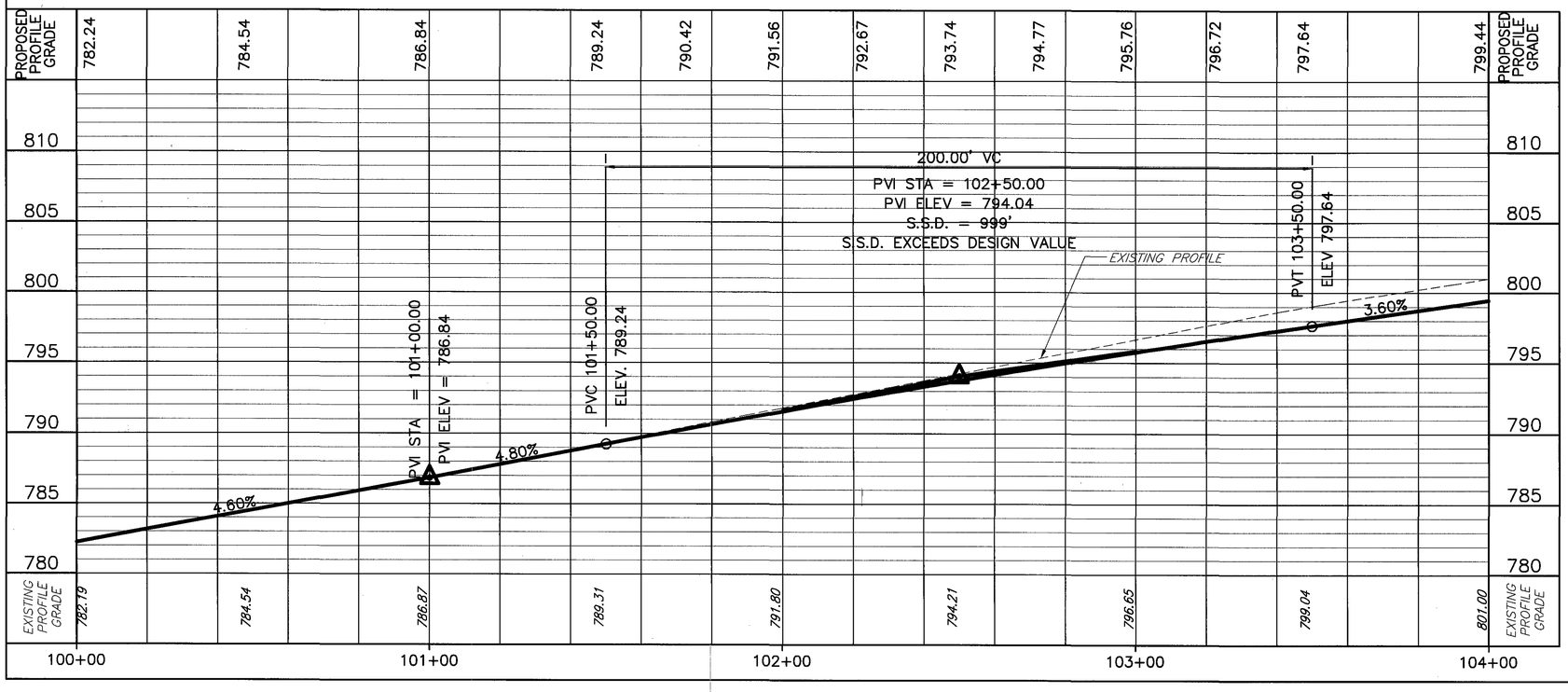
SCALE IN FEET
20 10 0 20

RAMP 9 - PLAN AND PROFILE
STA. 96+54.35 TO STA. 100+00

LAK - 90/84 - 0.54/0.43

151
369





CURVE DATA RAMP 9
P.I. STA. 99+10.21
? = 15°00'00"
Dc = 2°59'15"
R = 1917.86'
Ls = 200.418'
θs = 2°59'37.4"
LT = 133.63'
ST = 66.82'
Lc = 401.885'
Ts = 349.435'
Es = 16.992'
P.C. STA. 96+54.35
C.S. STA. 100+56.24
S.T. STA. 102+56.65

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 155 THRU 163

SCALE IN FEET 20 10 0 10 20

CALCULATED
CHECKED

RAMP 9 – PLAN AND PROFILE
STA. 100+00 TO STA. 104+00

LAK – 90/84 – 0.54/0.43

152
369

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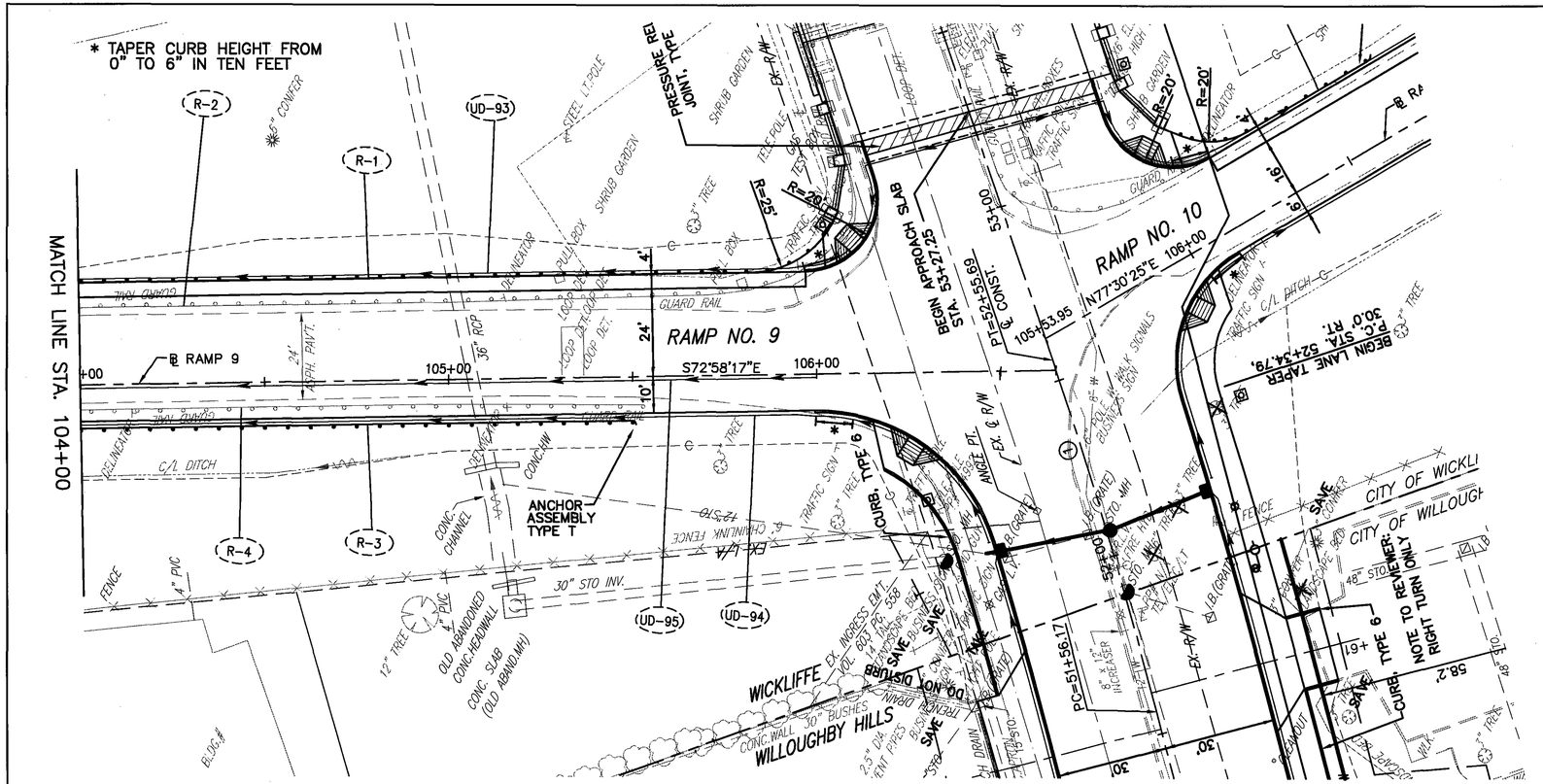
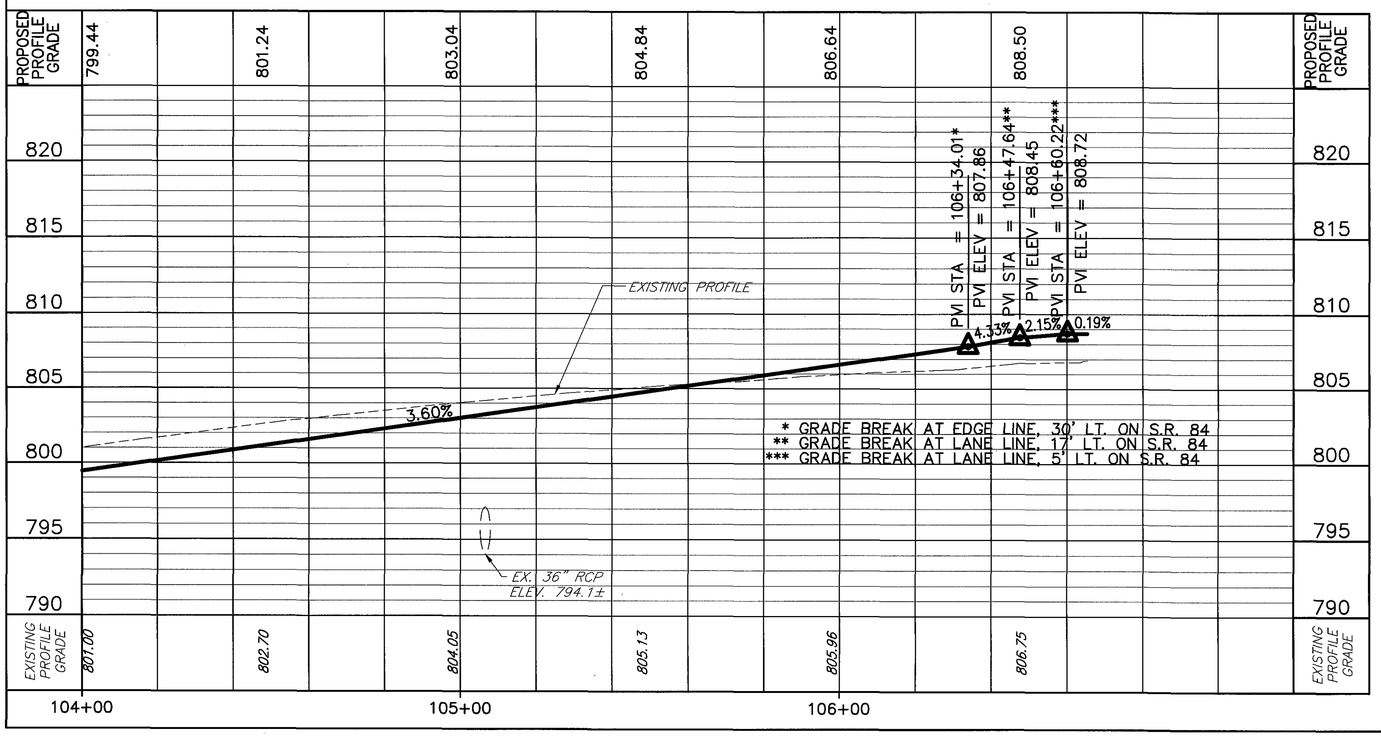


FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 155 THRU 163
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS



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SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

RAMP 9 – PLAN AND PROFILE
STA. 104+00 TO STA. 106+65.46

LAK – 90/84 – 0.54/0.43

153
369

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	209 LINEAR GRADING, AS PER PLAN	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE E-98	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2
	FROM	TO		FT.	STA.	FT.	EACH	EACH	EACH
R-1	97+56.59, 20.3' LT	53+11.19, 43.9' LT			8.5	850	1		1
R-2	98+00.00, 24' LT.	53+01.5, 37' LT.		929					
R-3	102+98.83, 12' RT	105+50.16, 13' RT			2.3	225	1	1	
R-4	103+14.20, 15' RT.	105+52.60, 7.7' RT.		245					
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				1174	10.8	1075	2	1	1

DRAINAGE, EROSION CONTROL, & WATER WORKS

REF. NO.	STATION FROM	STATION TO	SIDE
	FROM	TO	
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS			

CALCULATED J.M.Z.
CHECKED W.D.B.

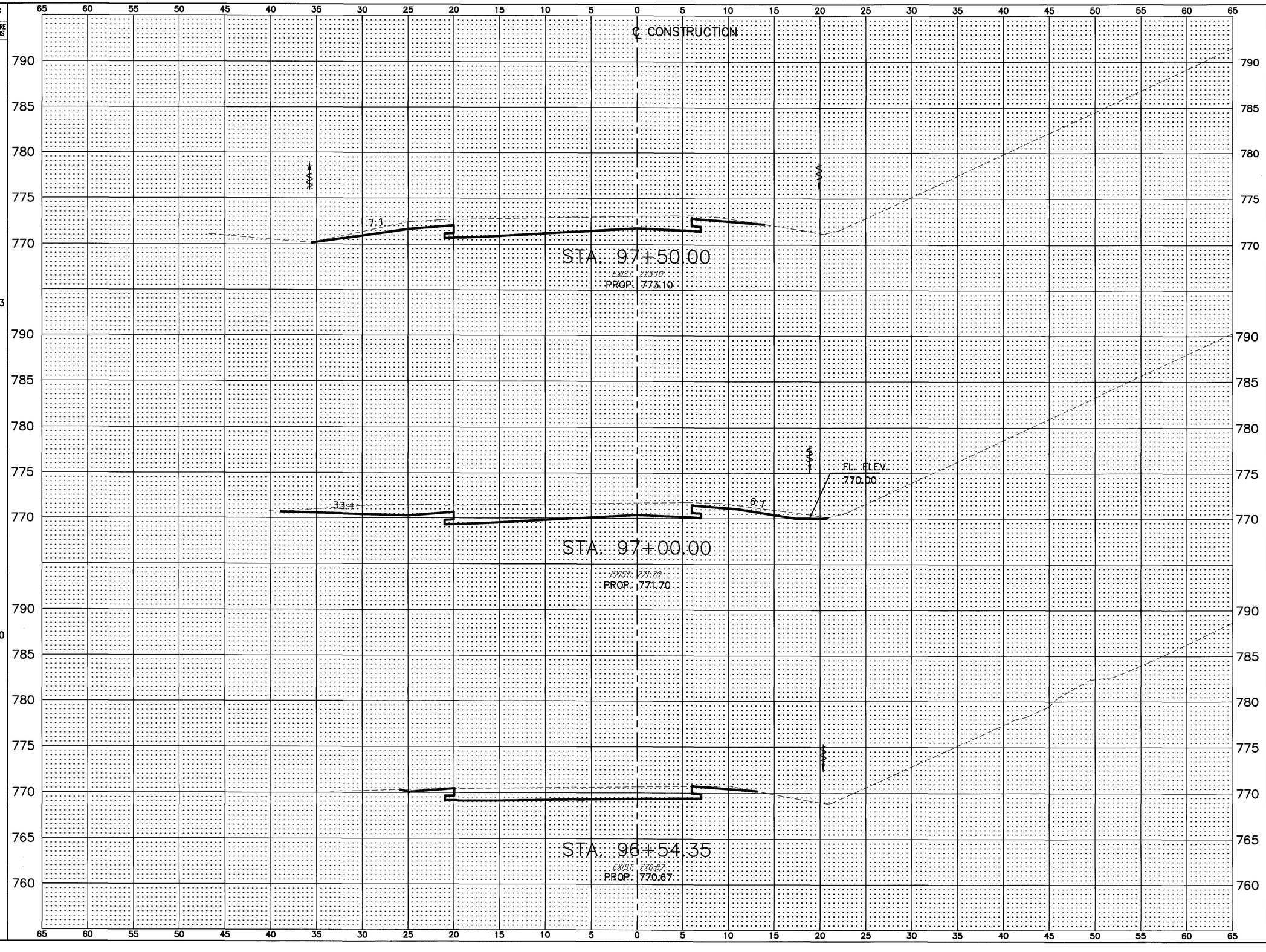
ESTIMATED QUANTITIES - RAMP 9
STA. 96+54.35 TO STA. 106+65.46

LAK - 90/84 - 0.54/0.43

154
369

DATE: 10-22-04 - TIME: 13:43 - H:\2002\02117\dwg\QRAMP9.dwg

SEEDING	
END WIDTH	SQUARE YARDS
28	
	183
38	
	150
16	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
53	0		
		110	0
66	0		
		86	2
36	2		

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 9

CROSS SECTIONS STA. 96+54.35 TO STA. 97+50.00

LAK – 90/84 – 0.54/0.43

155
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
26	122
18	94
16	122

C CONSTRUCTION

STA. 99+00.00
EXIST. 778.00
PROP. 778.00

PREGAST REINFORCED CONCRETE OUTLET STA. 98+25

15" STO.

EX. STO. IB.
STA. 78+57.5, 42' LT.
GRATE 769.40
15" INV. 765.70 N.

STA. 98+50.00
EXIST. 776.12
PROP. 776.12

STA. 98+00.00
EXIST. 774.51
PROP. 774.51

END AREA		VOLUME	
CUT	FILL	CUT	FILL
65	10		
		122	11
67	2		
		117	2
59	0		
		104	0

CALCULATED M.L.M.
CHECKED W.D.B.

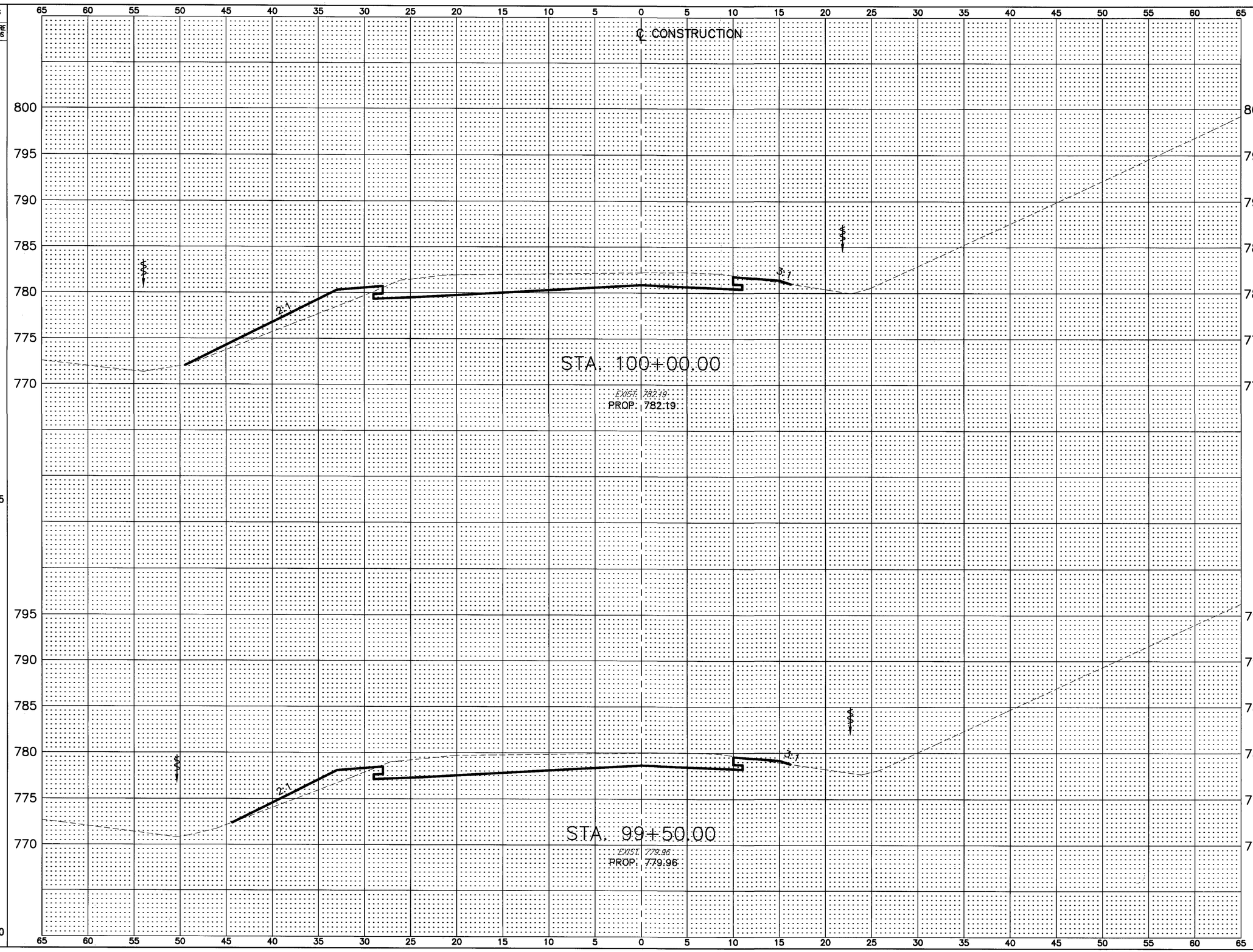
RAMP 9
CROSS SECTIONS STA. 98+00.00 TO STA. 99+00.00

LAK – 90/84 – 0.54/0.43

156
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM AM EST

SEEDING	
END WIDTH	SQUARE YARDS
35	
	175
28	
	150



END AREA		VOLUME	
CUT	FILL	CUT	FILL
67	21		
		124	30
67	11		
		122	19

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 9

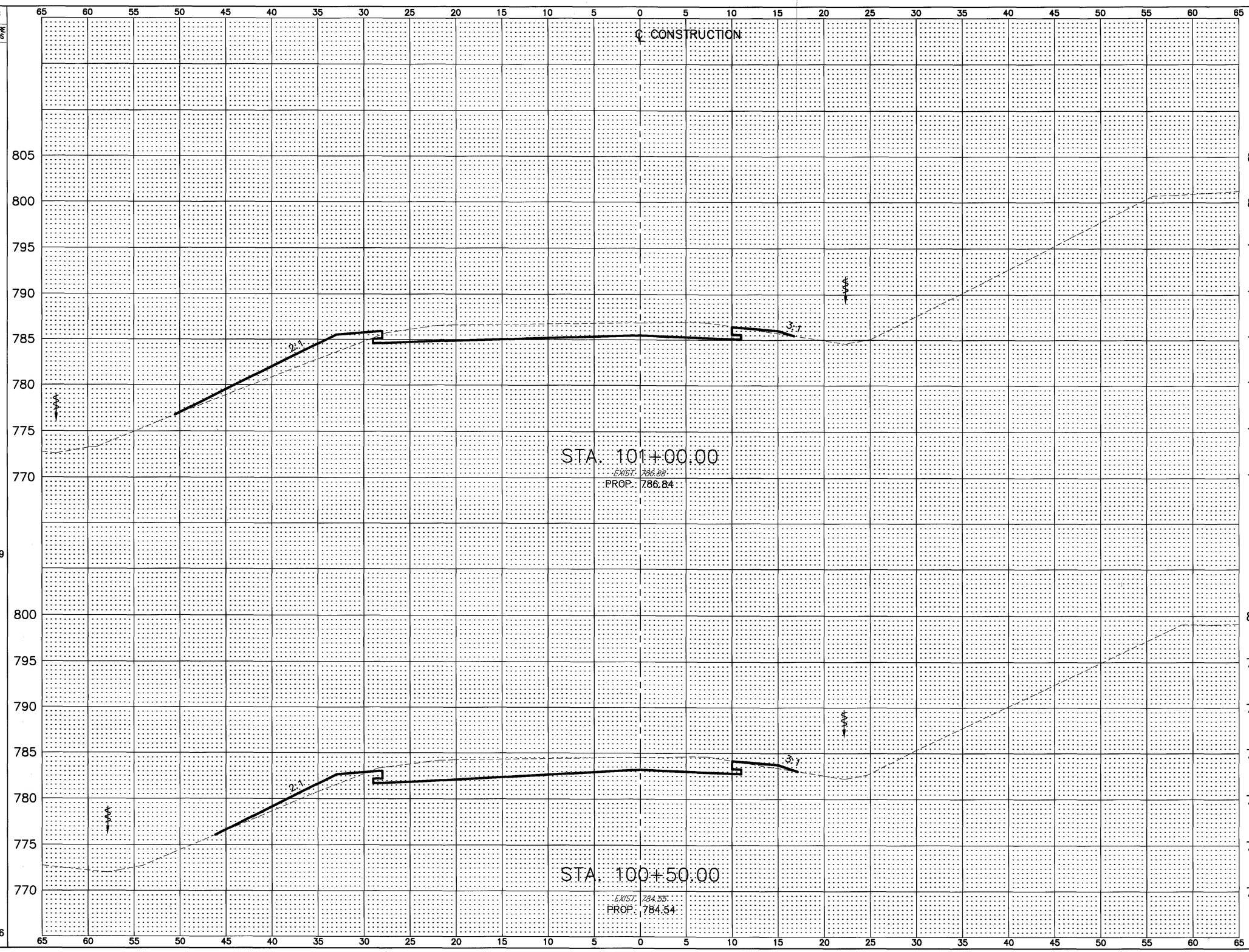
CROSS SECTIONS STA. 99+50.00 TO STA. 100+00.00

LAK – 90/84 – 0.54/0.43

157
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
36	
	189
32	
	186



END AREA		VOLUME	
CUT	FILL	CUT	FILL
59	23		
		117	30
67	9		
		124	28

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 9

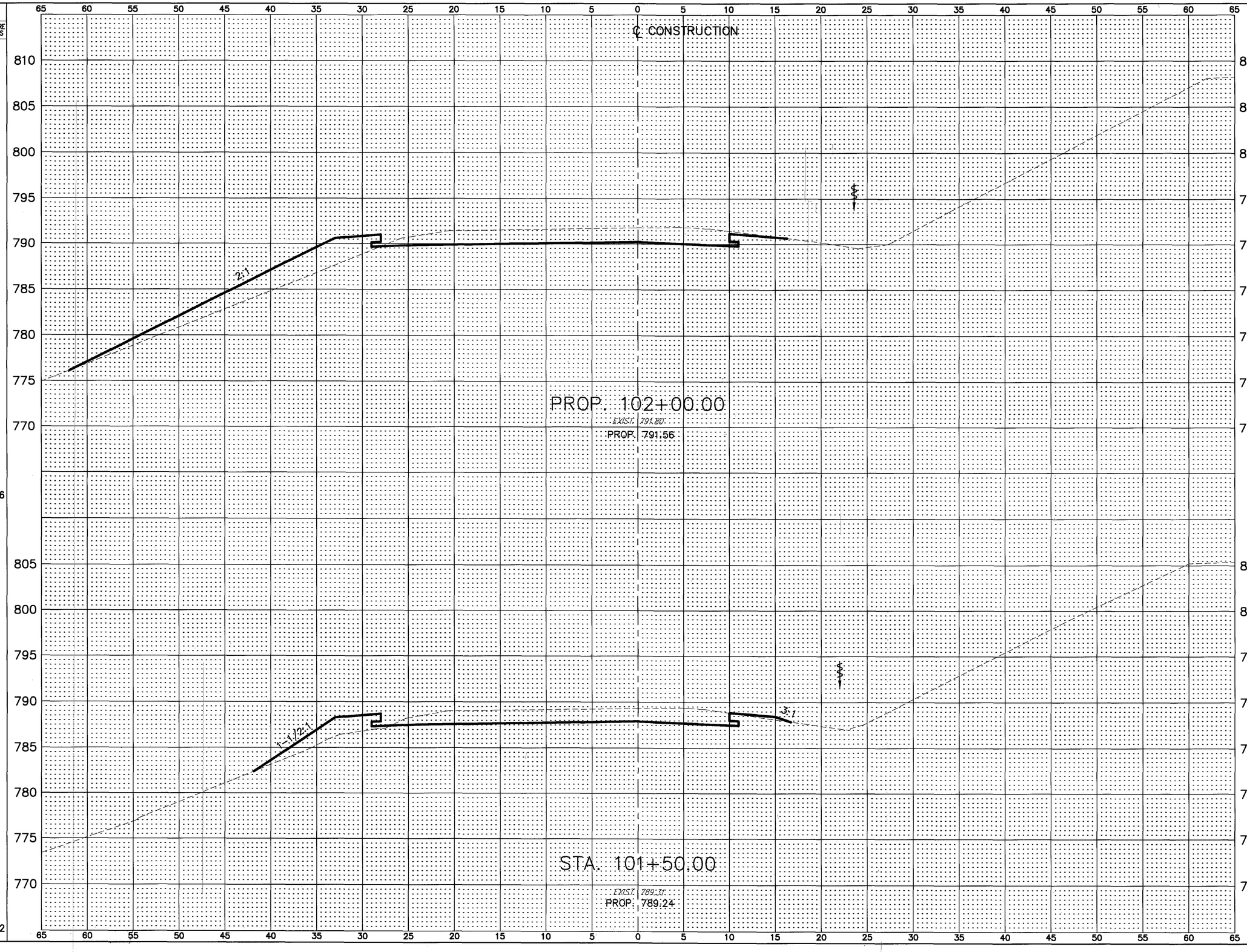
CROSS SECTIONS STA. 100+50.00 TO STA. 101+00.00

LAK – 90/84 – 0.54/0.43

158
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
48	
	256
44	
	222



END AREA		VOLUME	
CUT	FILL	CUT	FILL
58	54		
		101	84
51	37		
		102	56

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 9

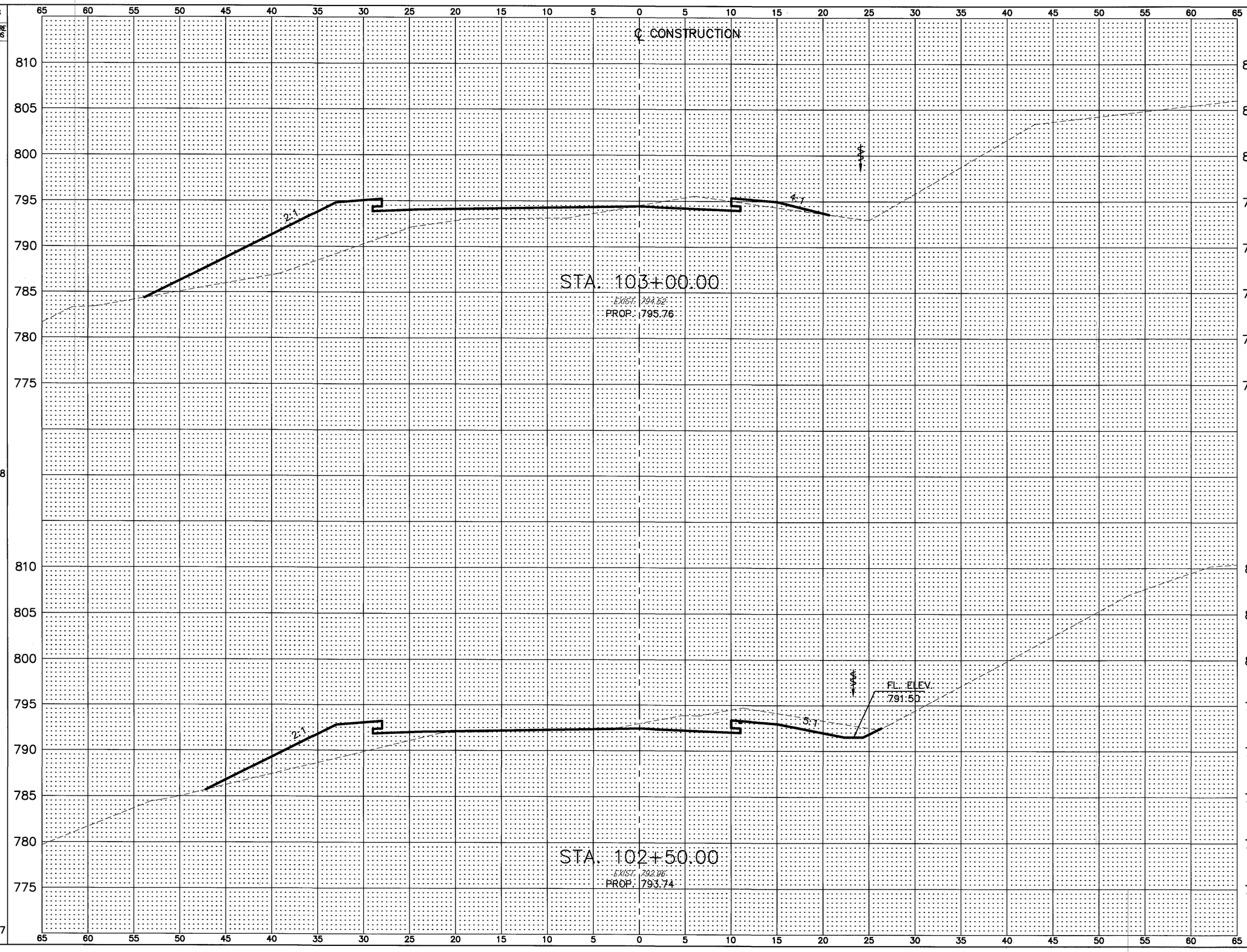
CROSS SECTIONS STA. 101+50.00 TO STA. 102+00.00

LAK – 90/84 – 0.54/0.43

159/369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
41	
	228
41	
	247



END AREA		VOLUME	
CUT	FILL	CUT	FILL
10	126		
		43	162
36	49		
		87	95

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 9

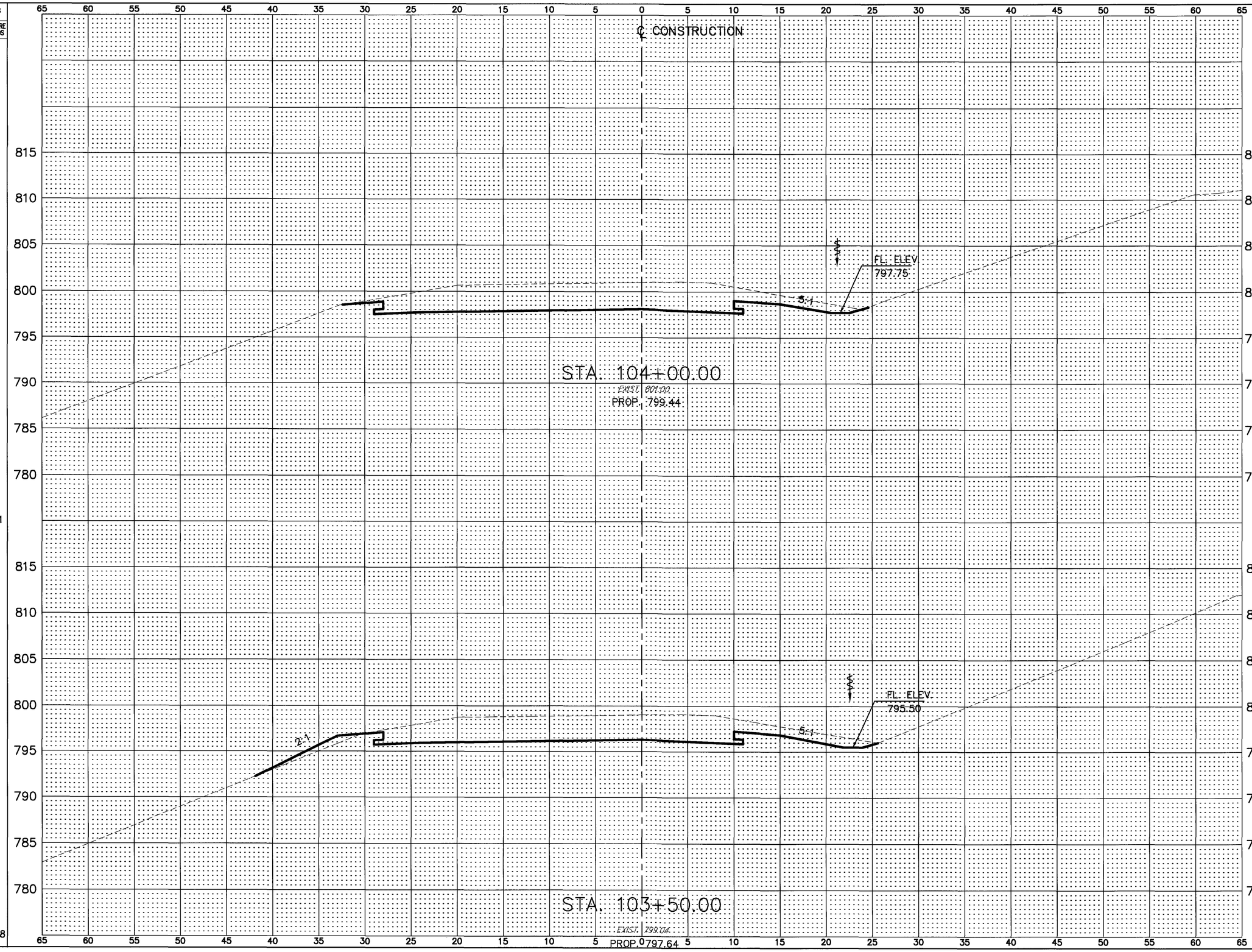
CROSS SECTIONS STA. 102+50.00 TO STA. 103+00.00

LAK – 90/84 – 0.54/0.43

160
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
24	161
34	208



END AREA		VOLUME	
CUT	FILL	CUT	FILL
122	0		
		222	5
118	5		
		119	121

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 9

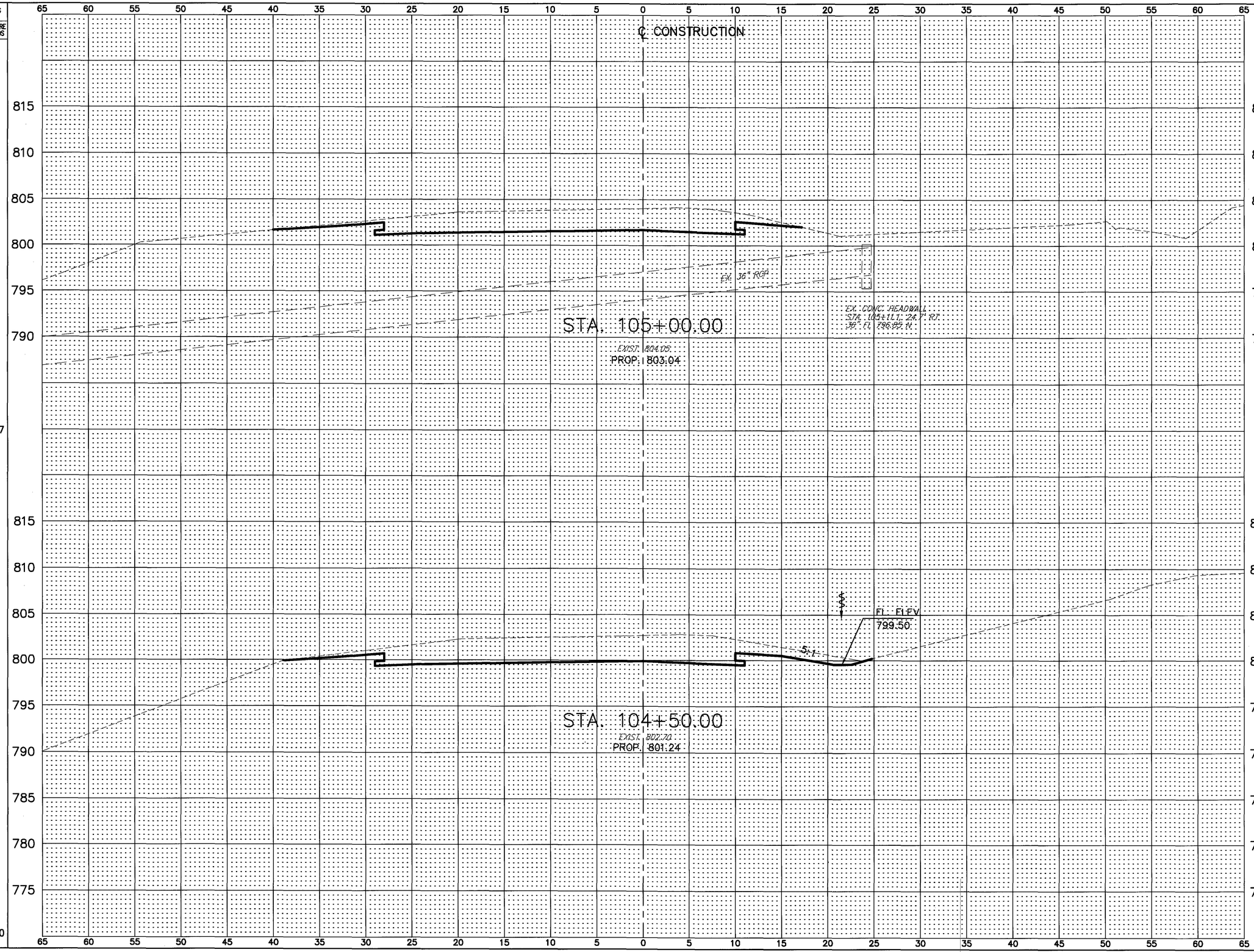
CROSS SECTIONS STA. 103+50.00 TO STA. 104+00.00

LAK – 90/84 – 0.54/0.43

161
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
23	
	147
30	
	150



END AREA		VOLUME	
CUT	FILL	CUT	FILL
93	0		
		197	0
120	0		
		224	0

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 9

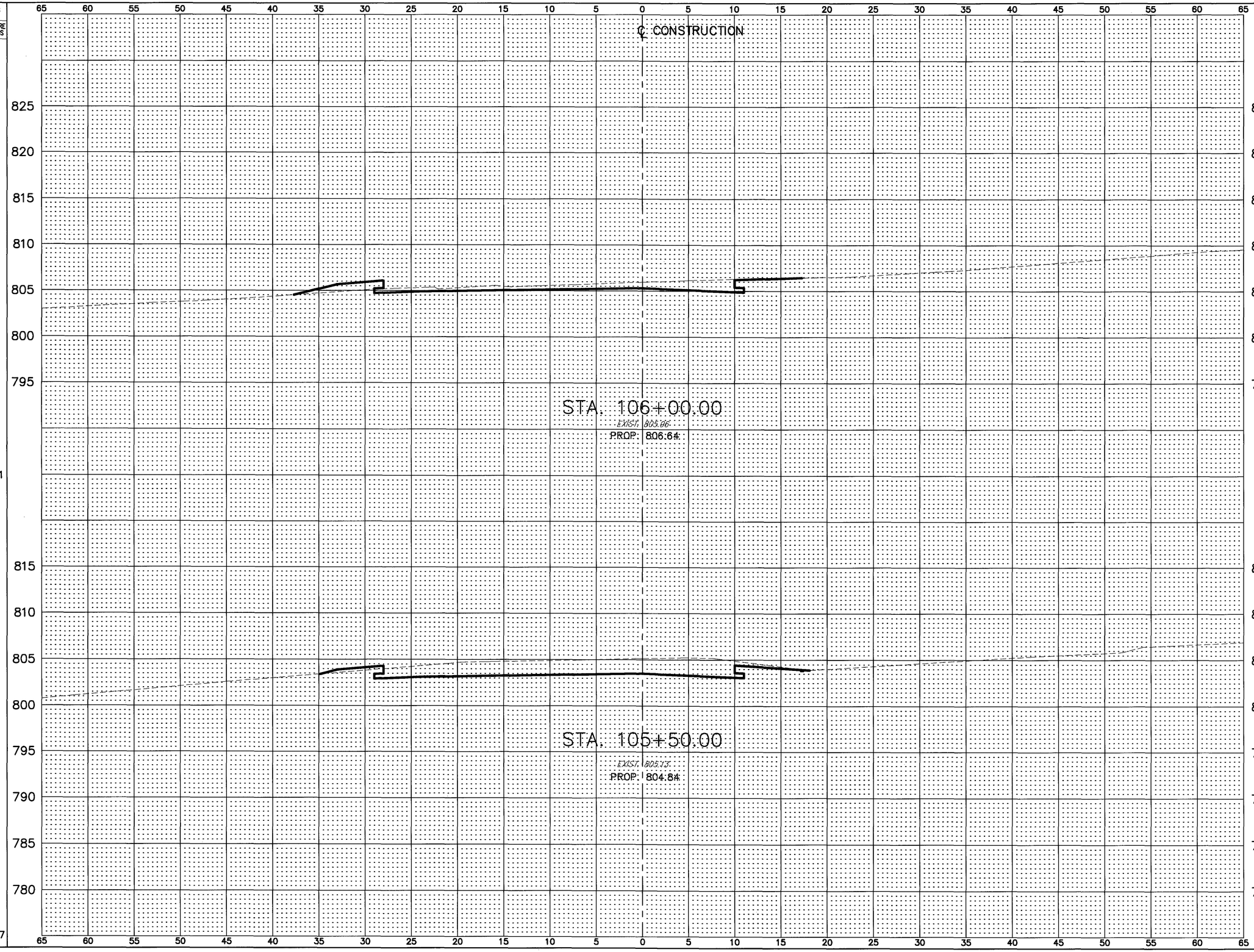
CROSS SECTIONS STA. 104+50.00 TO STA. 105+00.00

LAK - 90/84 - 0.54/0.43

162
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
21	
	111
19	
	117



END AREA		VOLUME	
CUT	FILL	CUT	FILL
24	6		
		80	7
62	2		
		144	2

CALCULATED M.L.M.

CHECKED W.D.B.

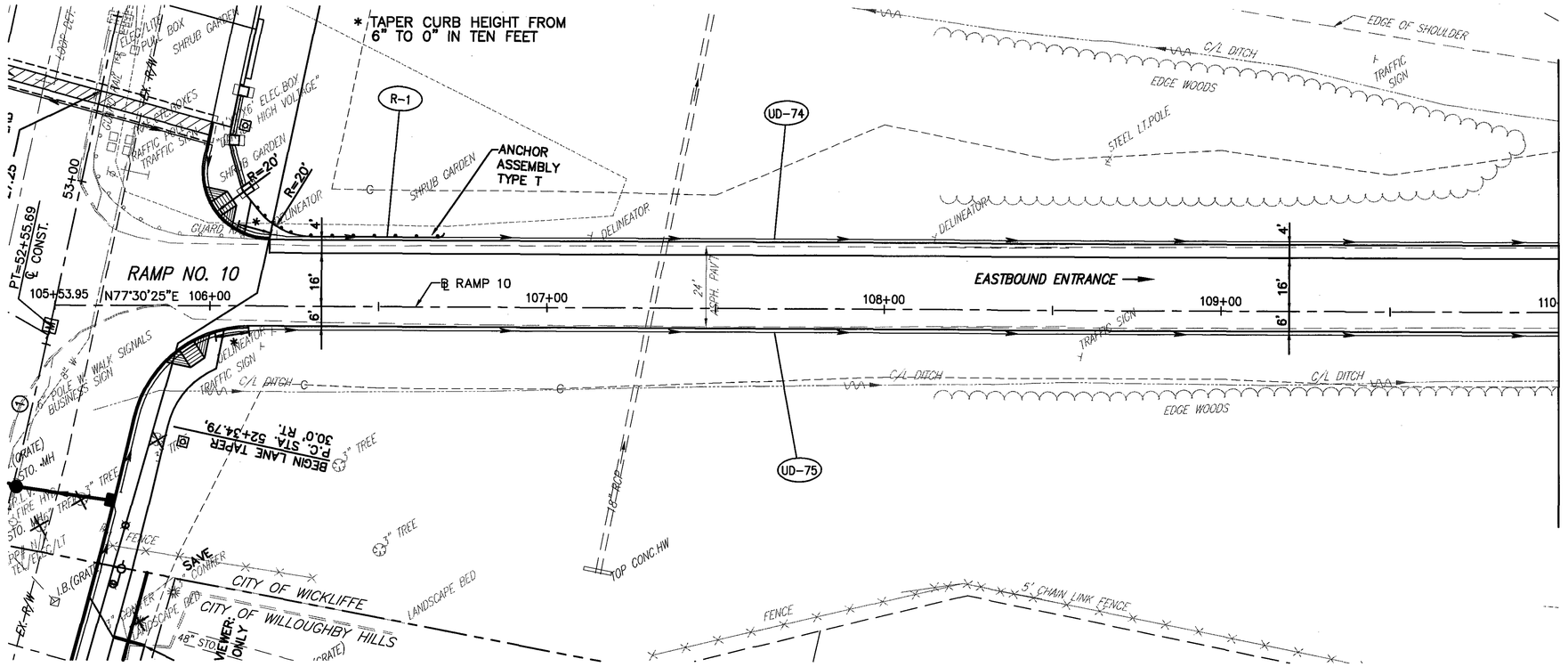
RAMP 9

CROSS SECTIONS STA. 105+50.00 TO STA. 106+00.00

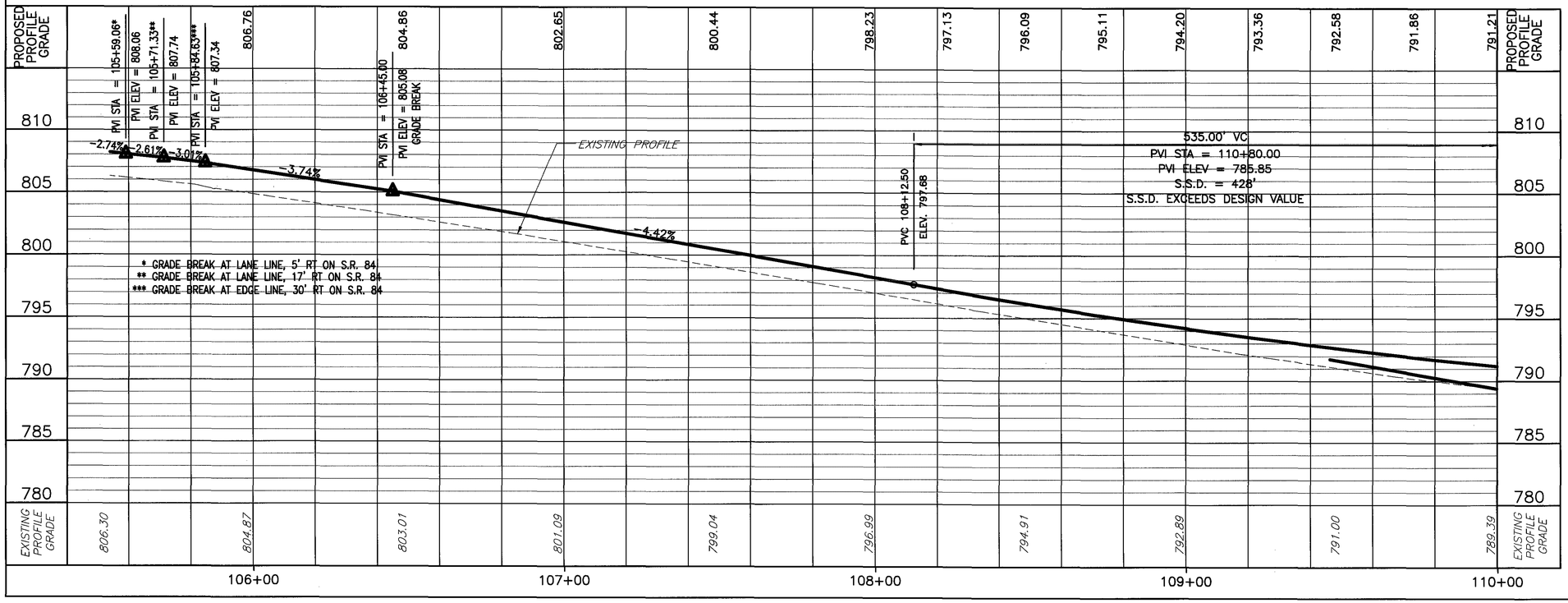
LAK – 90/84 – 0.54/0.43

163
369

H:\2002\02117\dwg\XSECRAMP9.dwg 11/25/03 10:40:45 AM EST



FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 167 THRU 173
FOR INTERSECTION DETAILS SEE SHEETS 216 THRU 221
FOR TRAFFIC SIGNAL PLANS SEE SHEETS



SCALE IN FEET: 20 10 0 10 20

CALCULATED

CHECKED

RAMP 10 – PLAN AND PROFILE
STA. 105+53.95 TO STA. 110+00

LAK – 90/84 – 0.54/0.43

164
369

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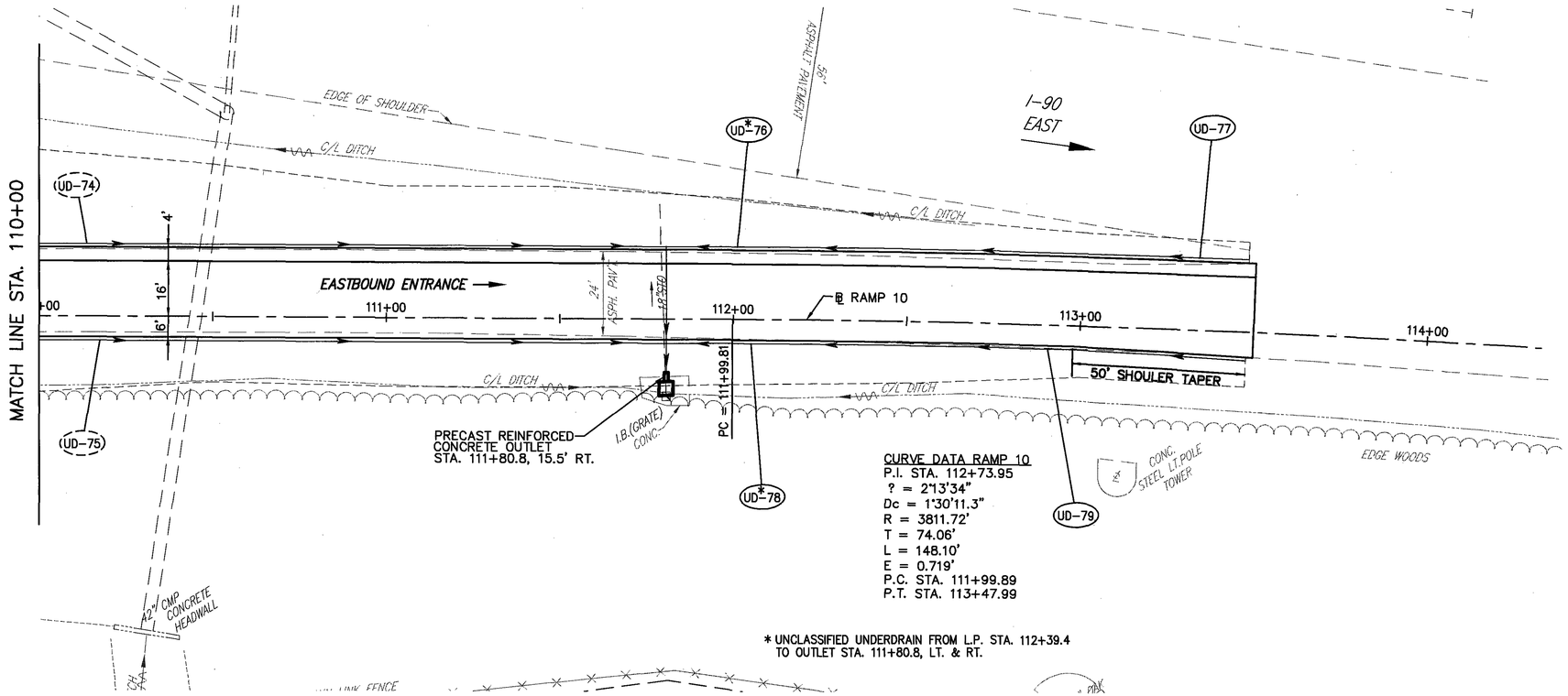
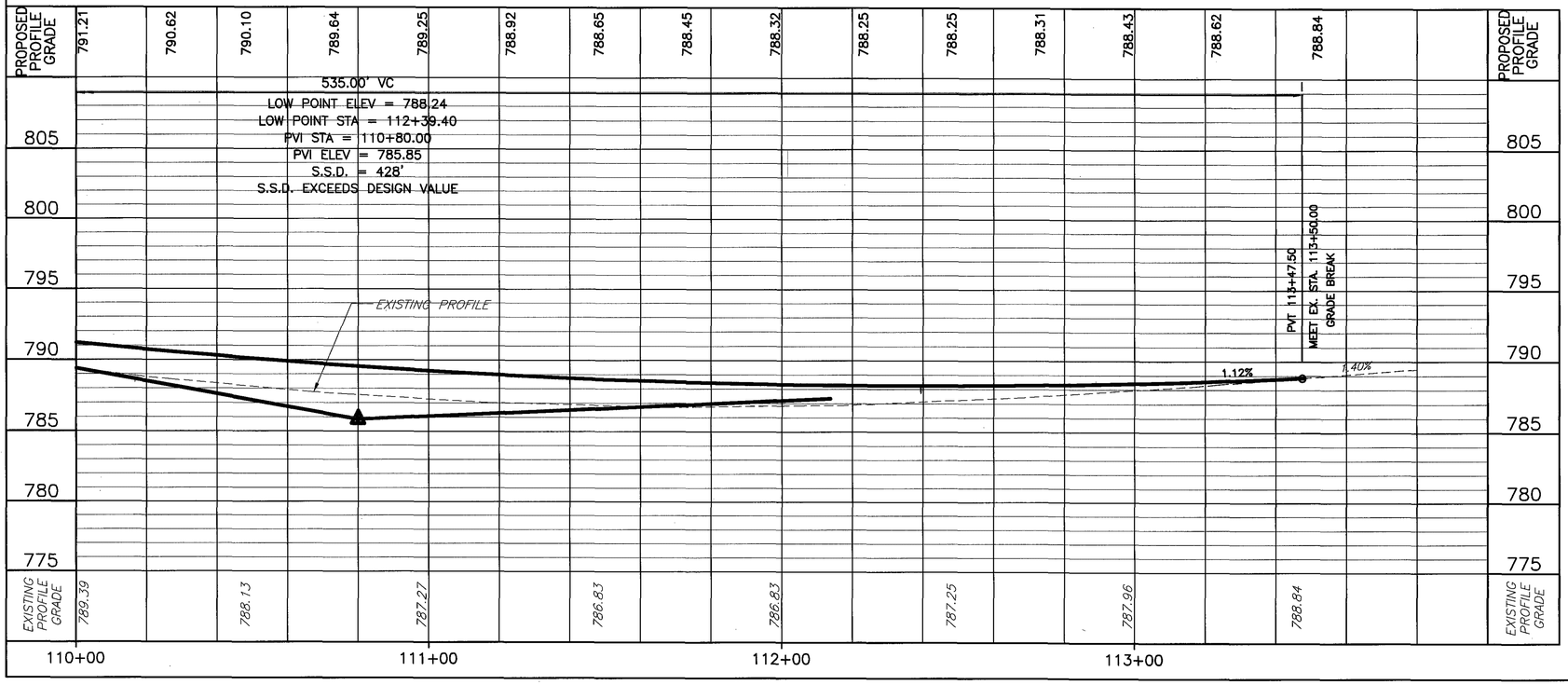
FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 166 THRU 173



CURVE DATA RAMP 10
P.I. STA. 112+73.95
? = 2°13'34"
Dc = 1°30'11.3"
R = 3811.72'
T = 74.06'
L = 148.10'
E = 0.719'
P.C. STA. 111+99.89
P.T. STA. 113+47.99

* UNCLASSIFIED UNDERDRAIN FROM L.P. STA. 112+39.4
TO OUTLET STA. 111+80.8, LT. & RT.



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CALCULATED | CHECKED

SCALE IN FEET 20 10 0 20

RAMP 10 – PLAN AND PROFILE
STA. 110+00 TO STA. 113+47.99

LAK – 90/84 – 0.54/0.43

165
369

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	209 LINEAR GRADING, AS PER PLAN		606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1
				STA.		FT.	EACH	EACH
R-1	53+06.95, 47.8' RT	106+67.49, 22' LT		0.63		62.50	1	1
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				0.63		62.50	1	1

SANITARY, DRAINAGE, & WATER WORKS

REF. NO.	STATION FROM	STATION TO	SIDE
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS			

CALCULATED J.M.Z.
CHECKED W.D.B.

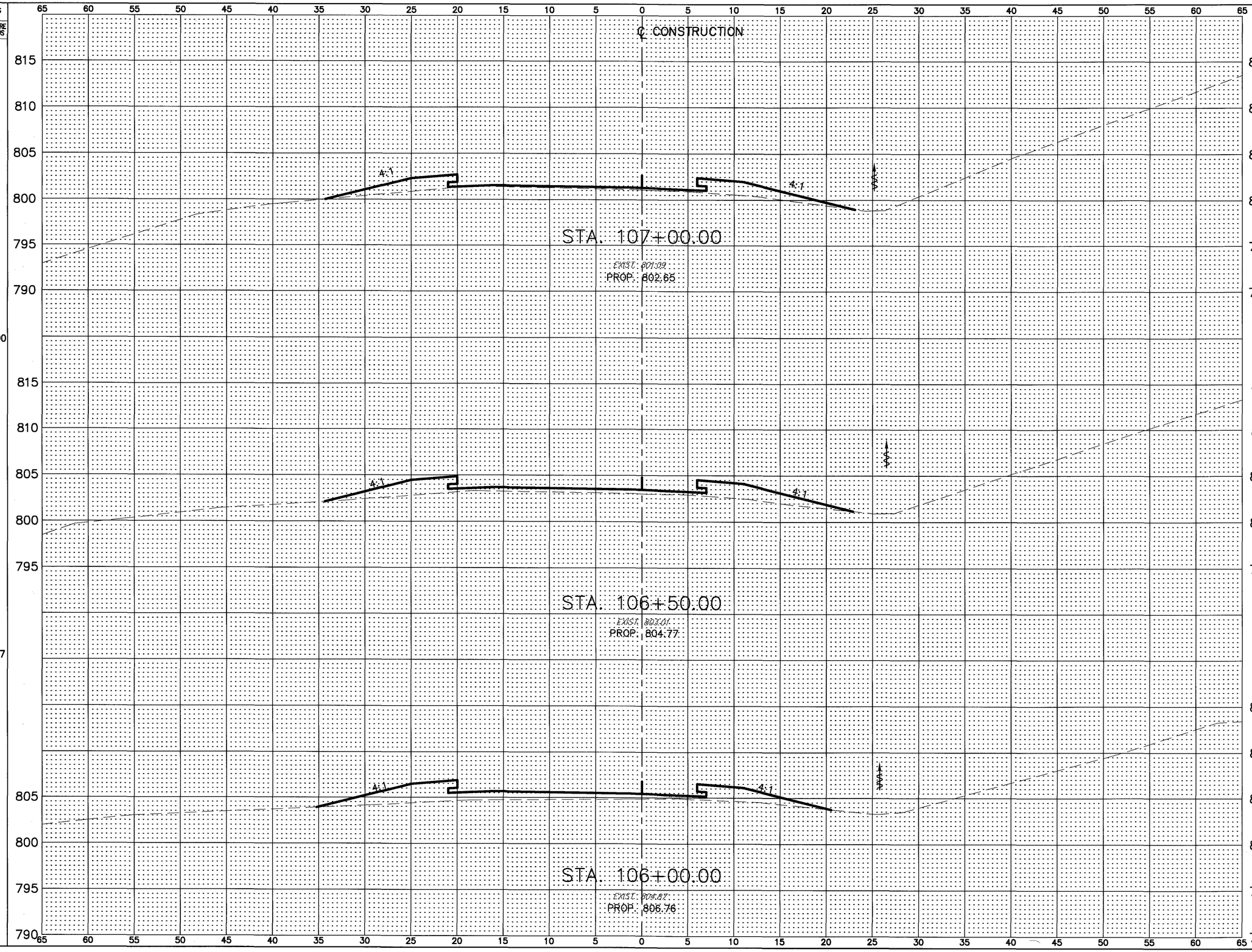
ESTIMATED QUANTITIES - RAMP 10
STA. 105+53.95 TO STA. 113+47.99

LAK - 90/84 - 0.54/0.43

166
369

DATE: 10-22-04 - TIME: 13:46 - H:\2002\02117\dwg\QRAMP10.dwg

SEEDING	
END WIDTH	SQUARE YARDS
36	200
36	197
35	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	20	0	59
0	44	0	91
0	54		

CALCULATED M.L.M.
CHECKED W.D.B.

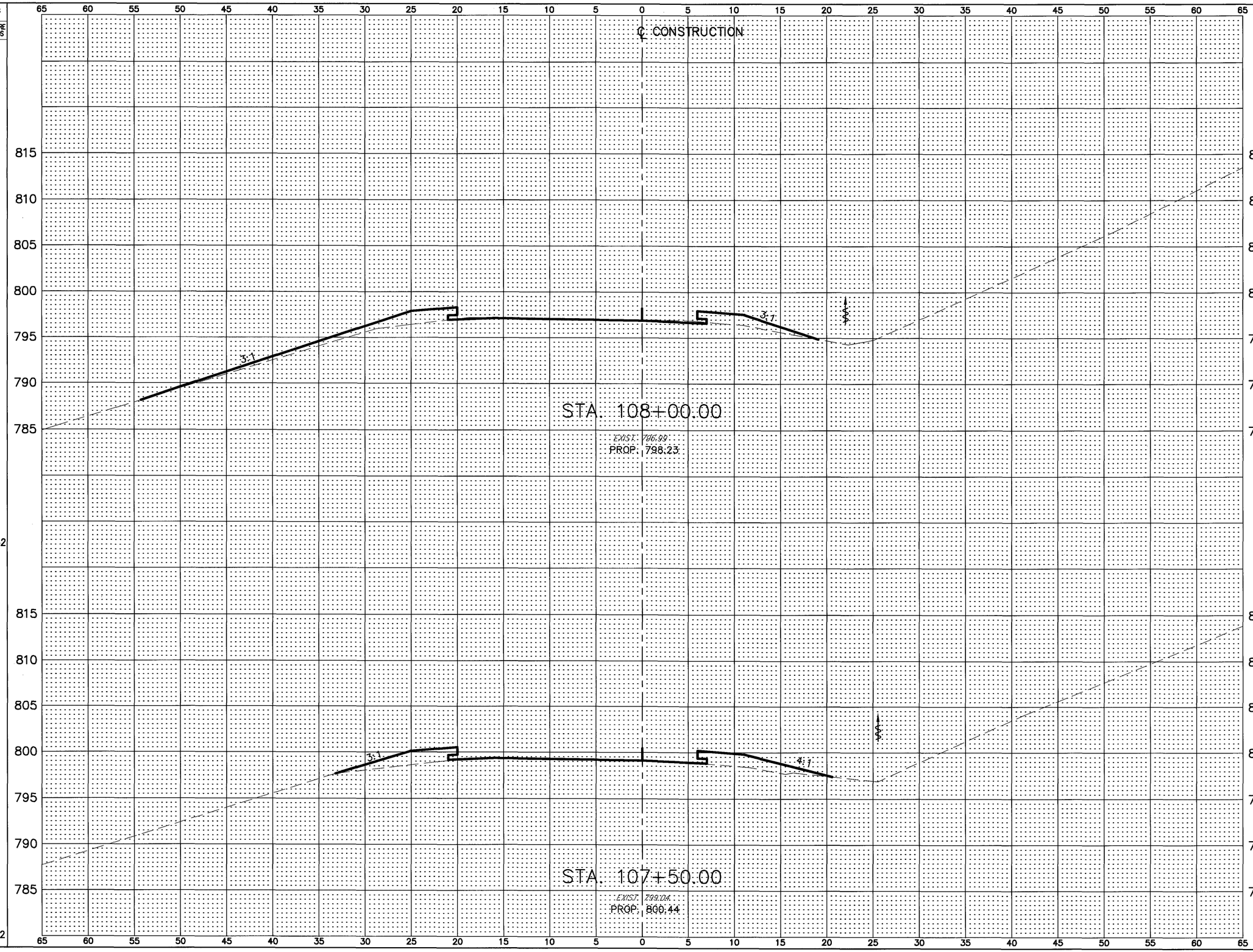
RAMP 10
CROSS SECTIONS STA. 106+00.00 TO STA. 107+00.00

LAK - 90/84 - 0.54/0.43

167
369

H:\2002\02117\dwg\XSECRAMP10.dwg 11/24/03 01:34:46 PM EST

SEEDING	
END WIDTH	SQUARE YARDS
54	
	242
33	
	192



END AREA		VOLUME	
CUT	FILL	CUT	FILL
3	31		
		3	61
0	35		
		0	51

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 10

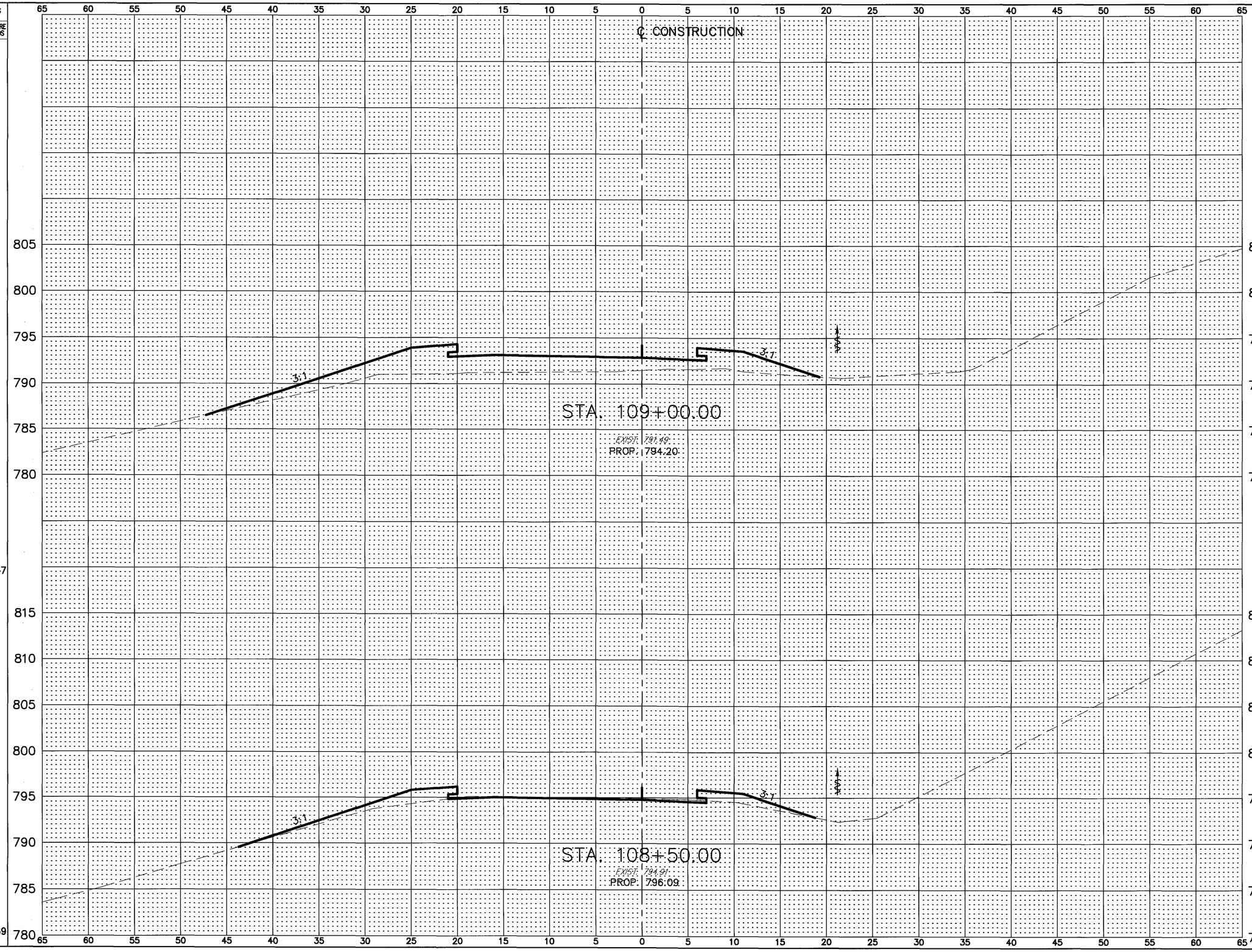
CROSS SECTIONS STA. 107+50.00 TO STA. 108+00.00

LAK - 90/84 - 0.54/0.43

168
369

H:\2002\02117\dwg\XSECRAMP10.dwg 11/24/03 01:34:46 PM EST

SEEDING	
END WIDTH	SQUARE YARDS
46	
43	247
	269



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	101		
4	30	4	121
		7	56

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 10

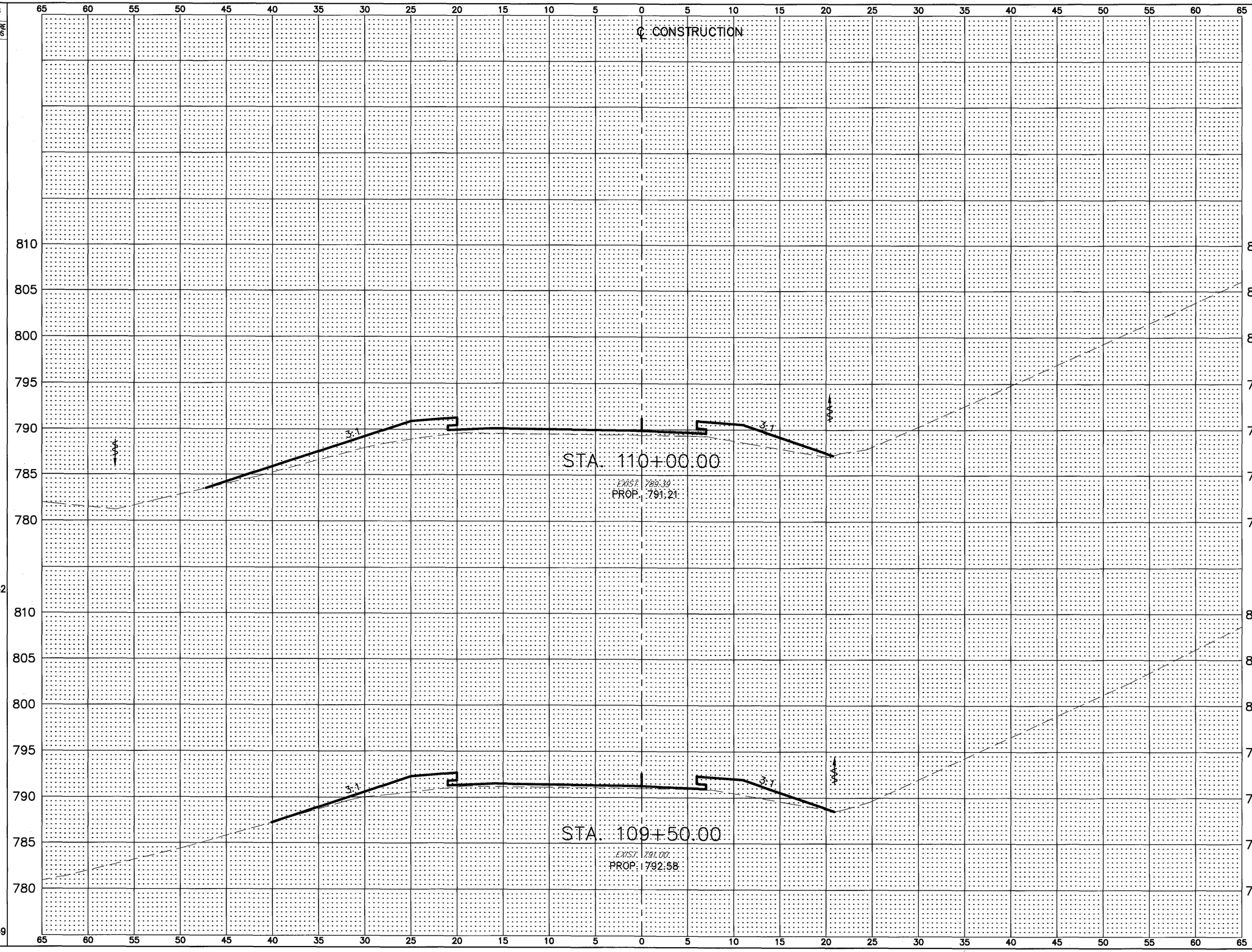
CROSS SECTIONS STA. 108+50.00 TO STA. 109+00.00

LAK – 90/84 – 0.54/0.43

169
369

H:\2002\02117\dwg\XSECRAMP10.dwg 11/24/03 01:34:46 PM EST

SEEDING	
END WIDTH	SQUARE YARDS
47	
	242
40	
	239



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	61		
		0	91
0	37		
		0	128

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 10

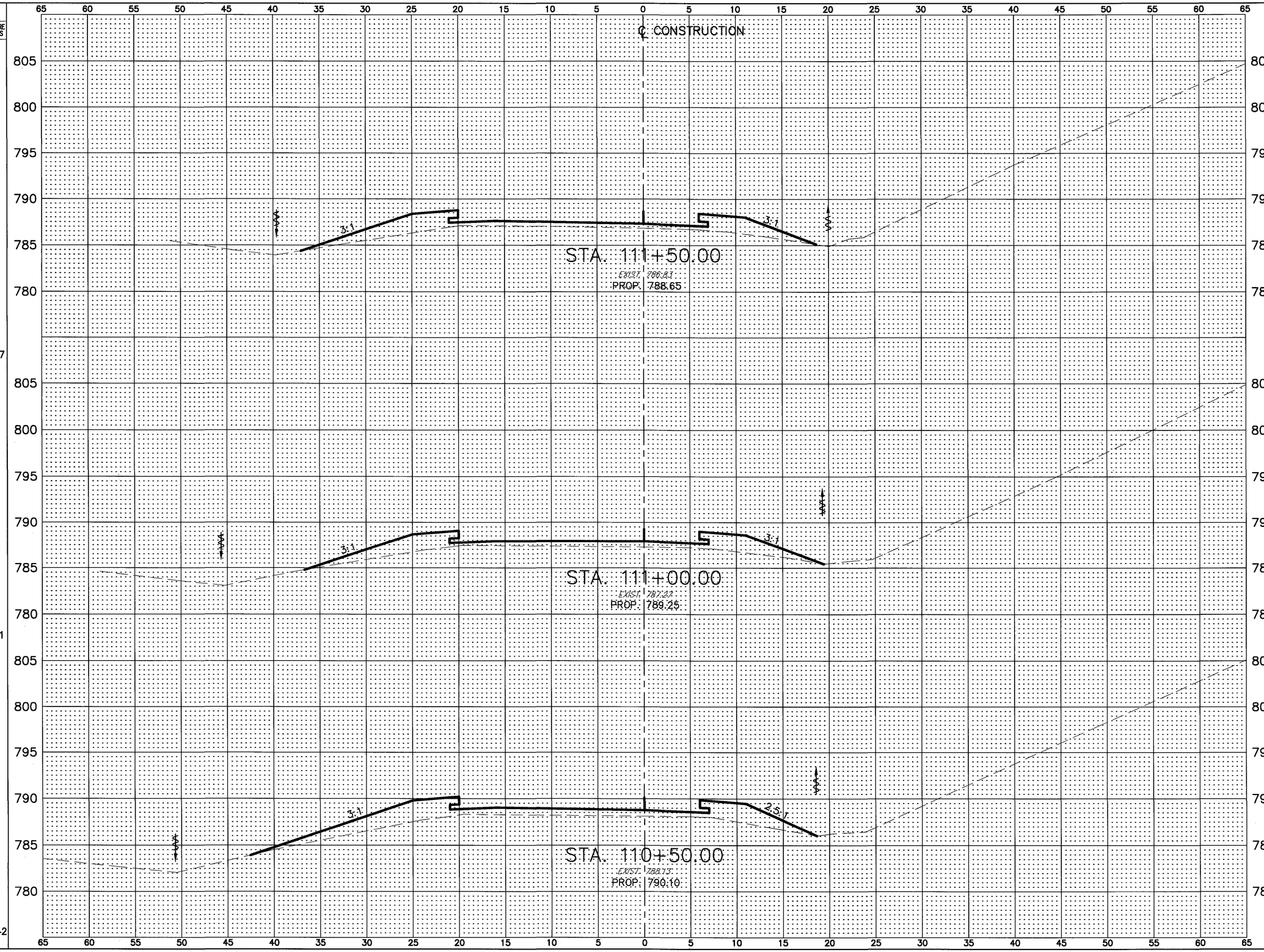
CROSS SECTIONS STA. 109+50.00 TO STA. 110+00.00

LAK - 90/84 - 0.54/0.43

170
369

H:\2002\02117\dwg\XSECRAMP10.dwg 11/24/03 01:34:46 PM EST

SEEDING	
END WIDTH	SQUARE YARDS
35	197
36	211
40	242



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	49	0	93
0	51	0	106
0	63	0	115

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 10

CROSS SECTIONS STA. 110+50.00 TO STA. 111+50.00

LAK – 90/84 – 0.54/0.43

171
369

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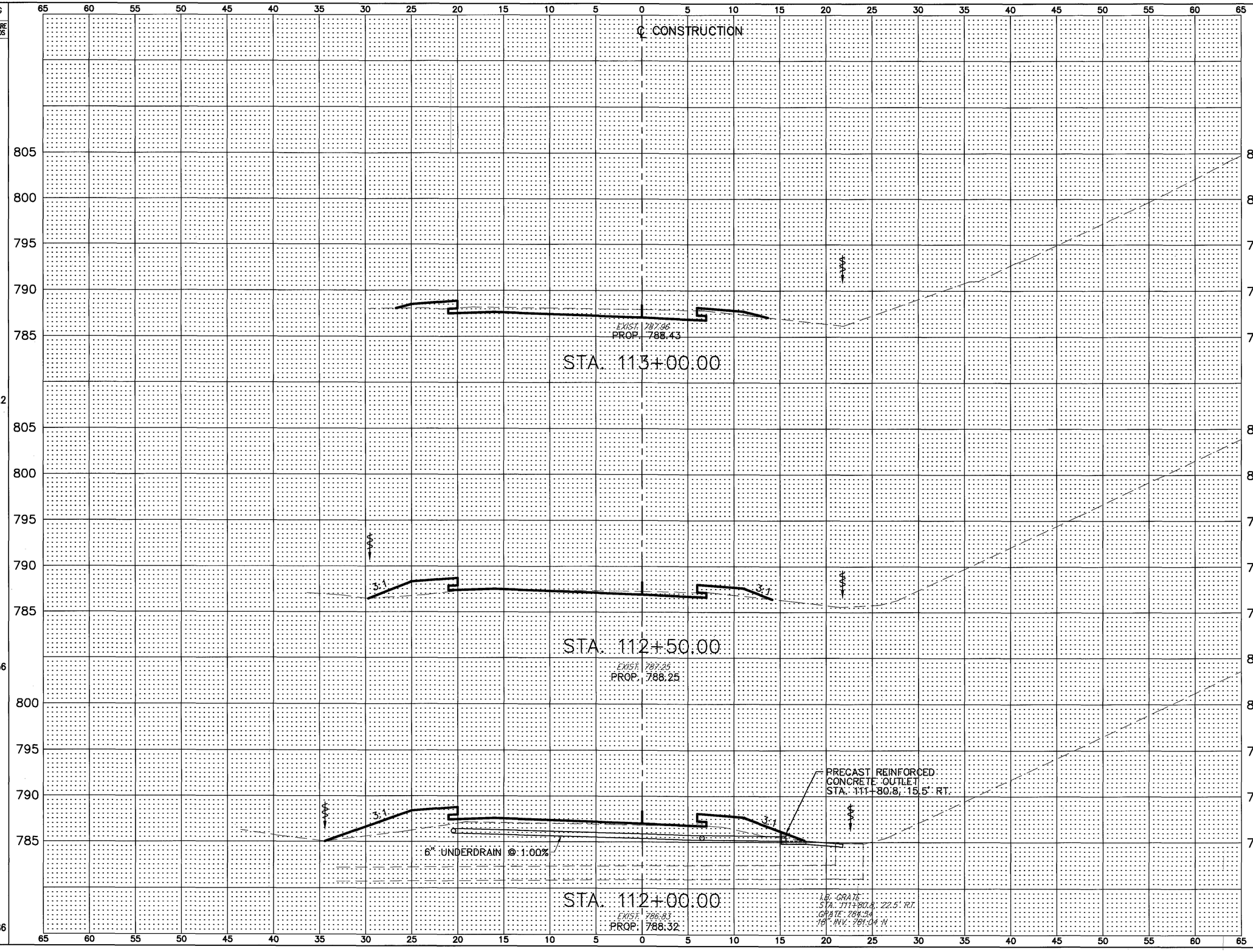
SEEDING	
END WIDTH	SQUARE YARDS
19	122
25	156
31	186



END AREA		VOLUME	
CUT	FILL	CUT	FILL
20	6		
5	26		
		5	59
0	38		
		0	81

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 10

CROSS SECTIONS STA. 112+00.00 TO STA. 113+00.00

LAK – 90/84 – 0.54/0.43

172/369

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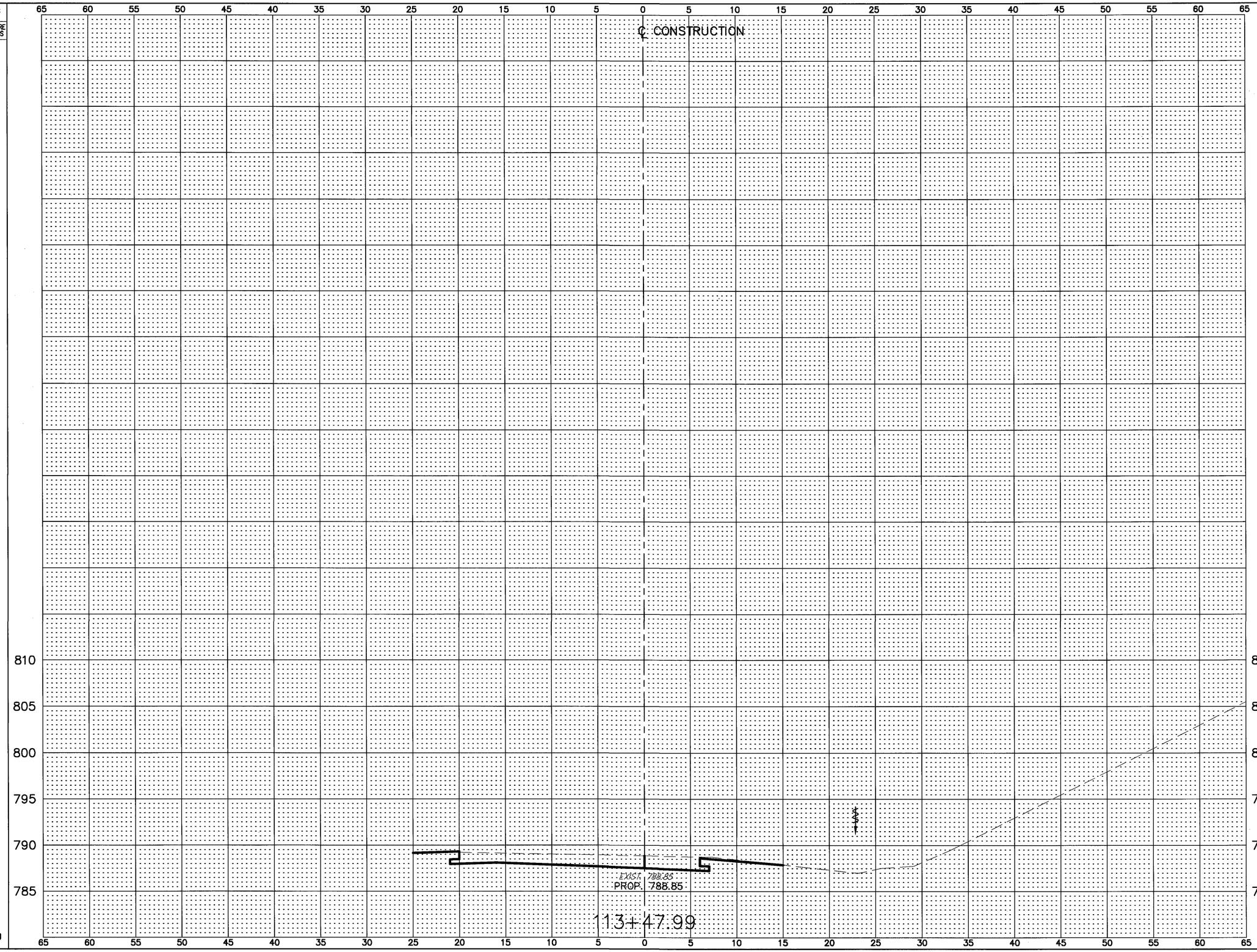
SEEDING	
END WIDTH	SQUARE YARDS
18	
99	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		34 0	
		48 5	

CALCULATED M.L.M.

CHECKED W.O.B.

RAMP 10

CROSS SECTIONS STA. 113+47.99

LAK - 90/84 - 0.54/0.43

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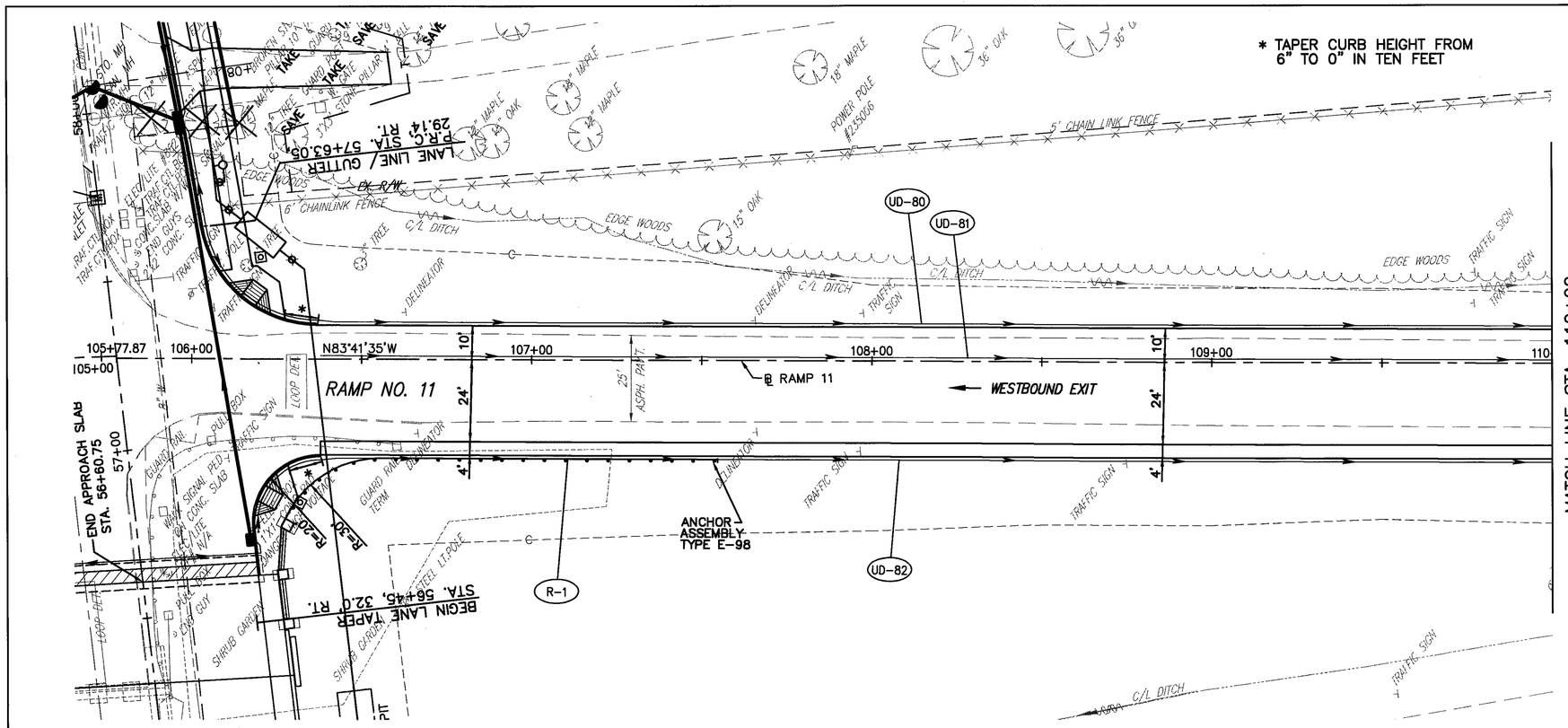


SCALE IN FEET 20 10 0 20

CALCULATED

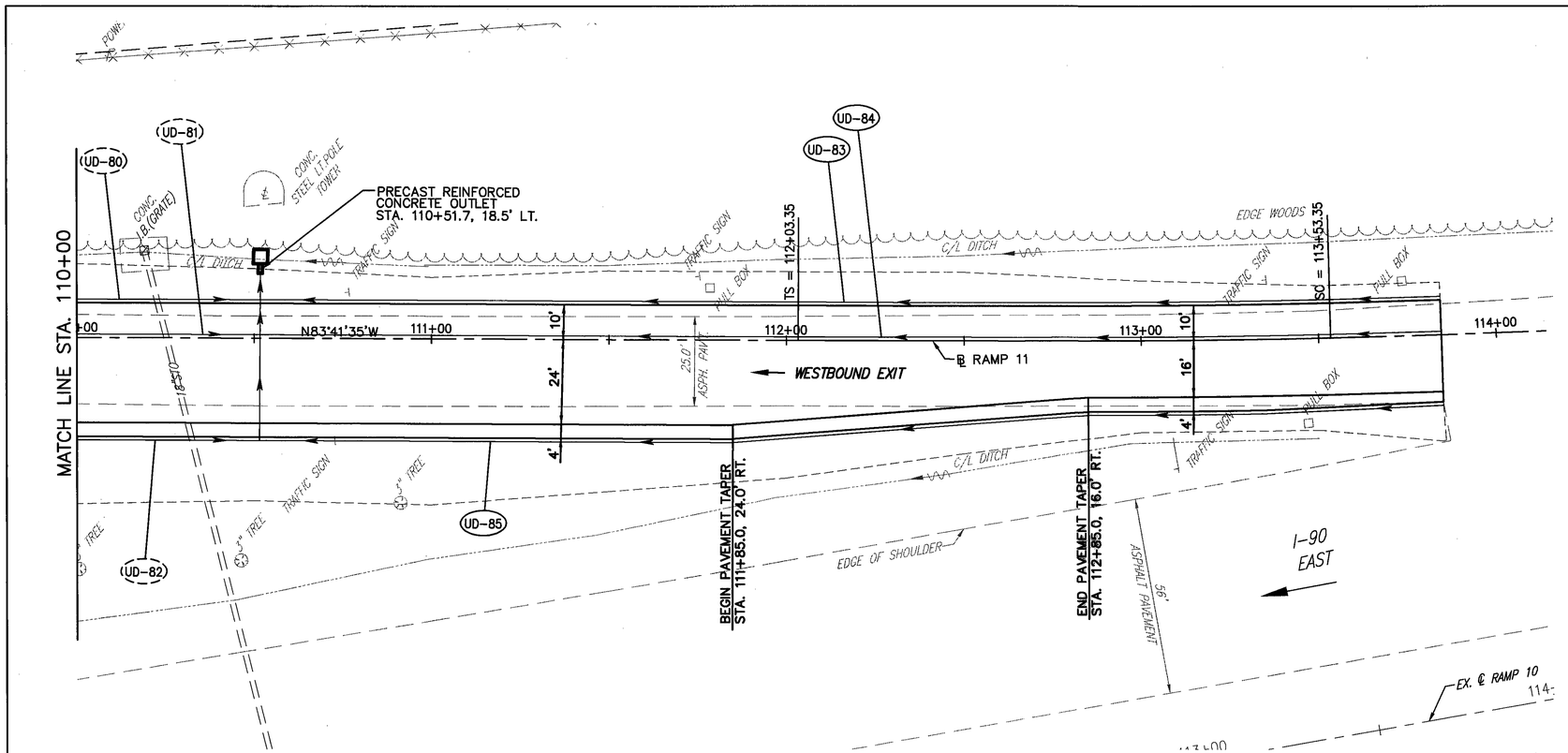
CHECKED

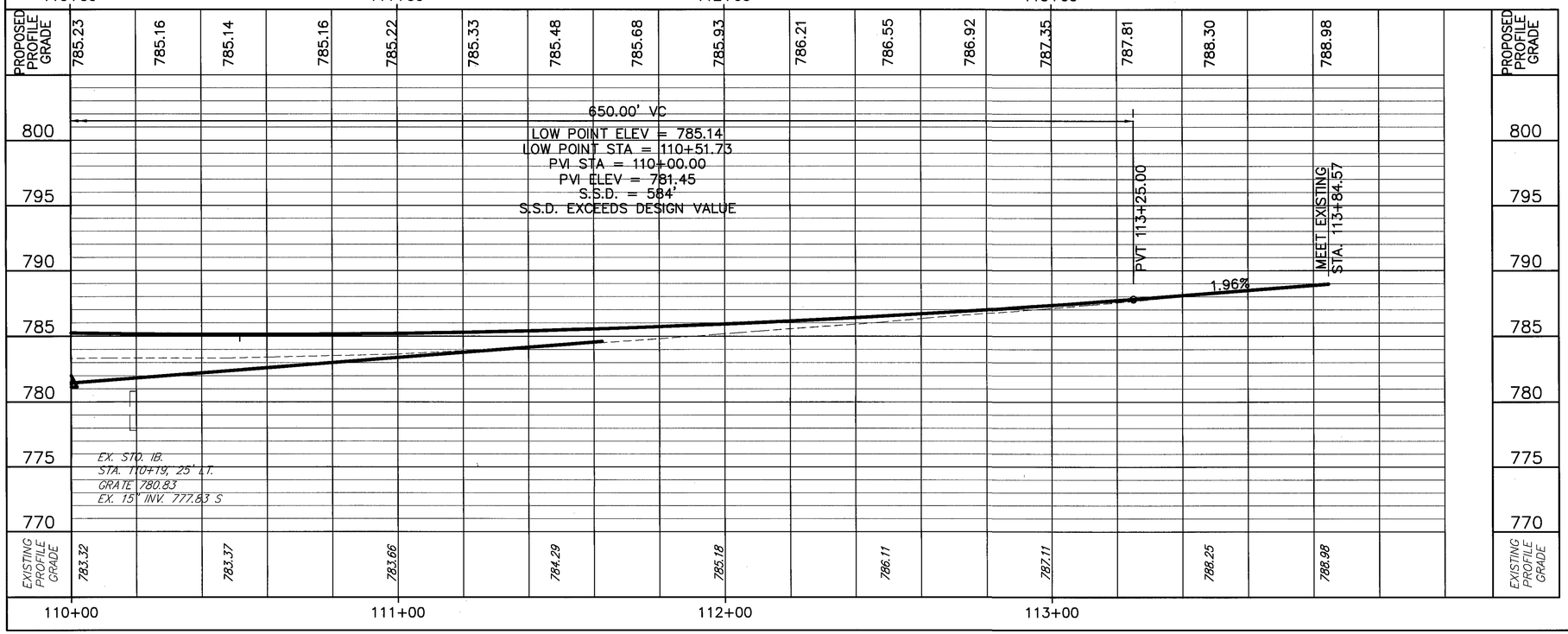
RAMP 11 – PLAN AND PROFILE
STA. 105+77.88 TO STA. 110+00

LAK – 90/84 – 0.54/0.43

174
369

H:\2002\02117\DWG\RAMP11-1.DWG





CURVE DATA RAMP 11
P.I. STA. 113+22.79
? = 2°07'27"
Dc = 2°00'20"
R = 2856.79'
Ls = 149.79'
θs = 1°30'07.5"
LT = 99.86'
ST = 49.93'
Lc = 31.02'
Ts = 119.035'
Es = 0.668'
T.S. STA. 112+03.76
S.C. STA. 113+53.55
P.T. STA. 113+84.57

FOR TYPICAL SECTIONS SEE SHEETS 4 THRU 15
FOR CROSS SECTIONS SEE SHEETS 177 THRU 181

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

RAMP 11 – PLAN AND PROFILE
STA. 110+00 TO STA. 113+84.57

LAK – 90/84 – 0.54/0.43

175
369

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ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	209 LINEAR GRADING, AS PER PLAN		606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE E-98	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2
				STA.		FT.	EACH	EACH
R-1	56+73.96, 43.7' RT	107+53.74, 29' RT		1.38		137.50	1	1
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				1.38		137.50	1	1

SANITARY, DRAINAGE & WATER WORKS

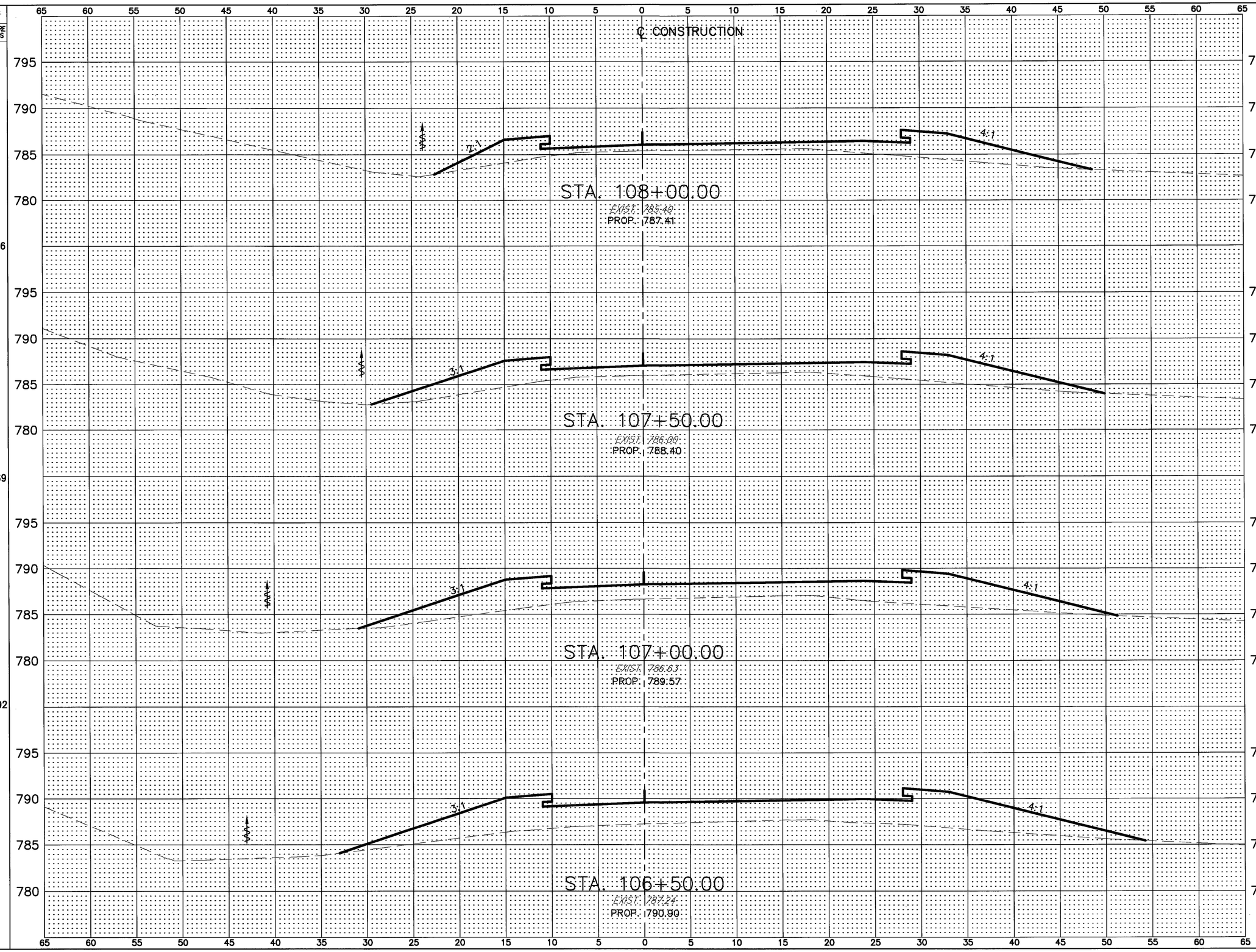
REF. NO.	STATION FROM	STATION TO	SIDE
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS			

CALCULATED J.M.Z.
CHECKED W.D.B.

ESTIMATED QUANTITIES - RAMP 11
STA. 105+77.88 TO STA. 113+84.57

LAK - 90/84 - 0.54/0.43

SEEDING	
END WIDTH	SQUARE YARDS
38	236
47	269
50	292
55	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	87	0	192
0	120	0	256
0	157	0	332
0	202		

CALCULATED M.L.M.
CHECKED W.D.B.

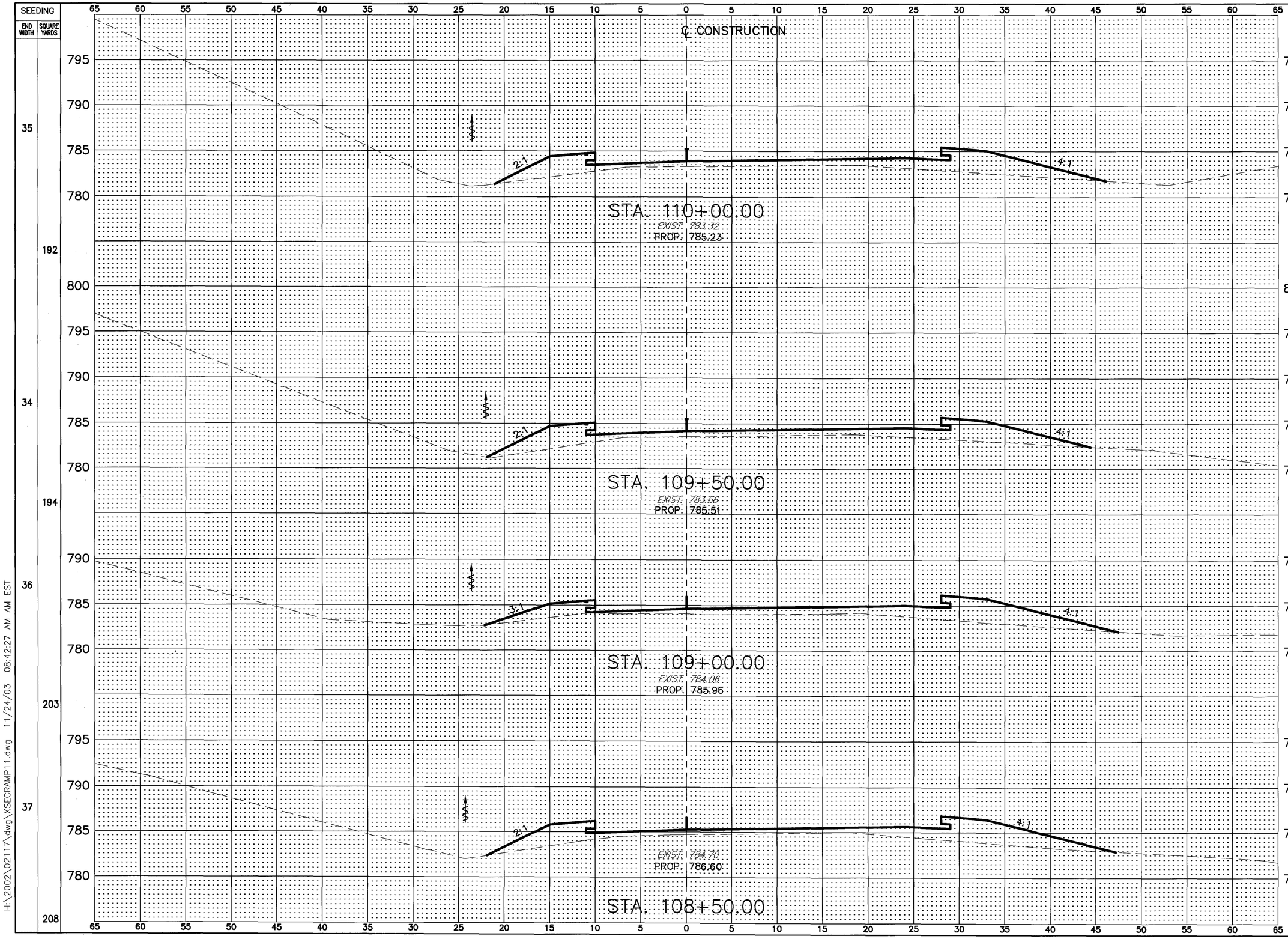
RAMP 11
CROSS SECTIONS STA. 106+50.00 TO STA. 108+00.00

LAK – 90/84 – 0.54/0.43

177
369

H:\2002\02117\dwg\XSECRAMP11.dwg 11/24/03 08:42:27 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
35	192
34	194
36	203
37	208



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	72		
		0	131
0	70		
		0	131
0	72		
		0	137
0	76		
		0	151

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 11

CROSS SECTIONS STA. 108+50.00 TO STA. 110+00.00

LAK – 90/84 – 0.54/0.43

178
369

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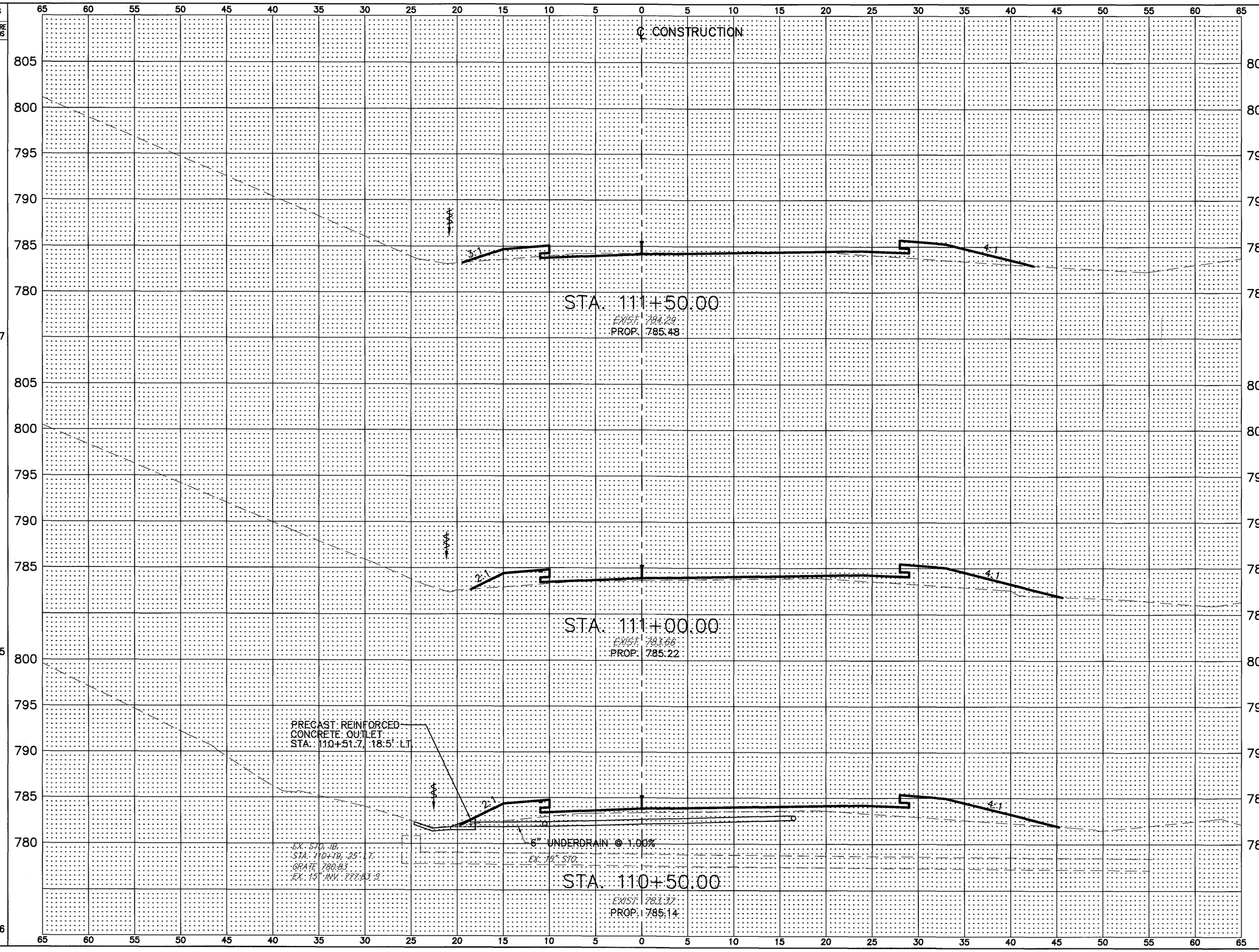
SEEDING	
END WIDTH	SQUARE YARDS
29	167
31	175
32	186



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	28		
		4	66
0	43		
		0	93
0	57		
		0	119

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 11

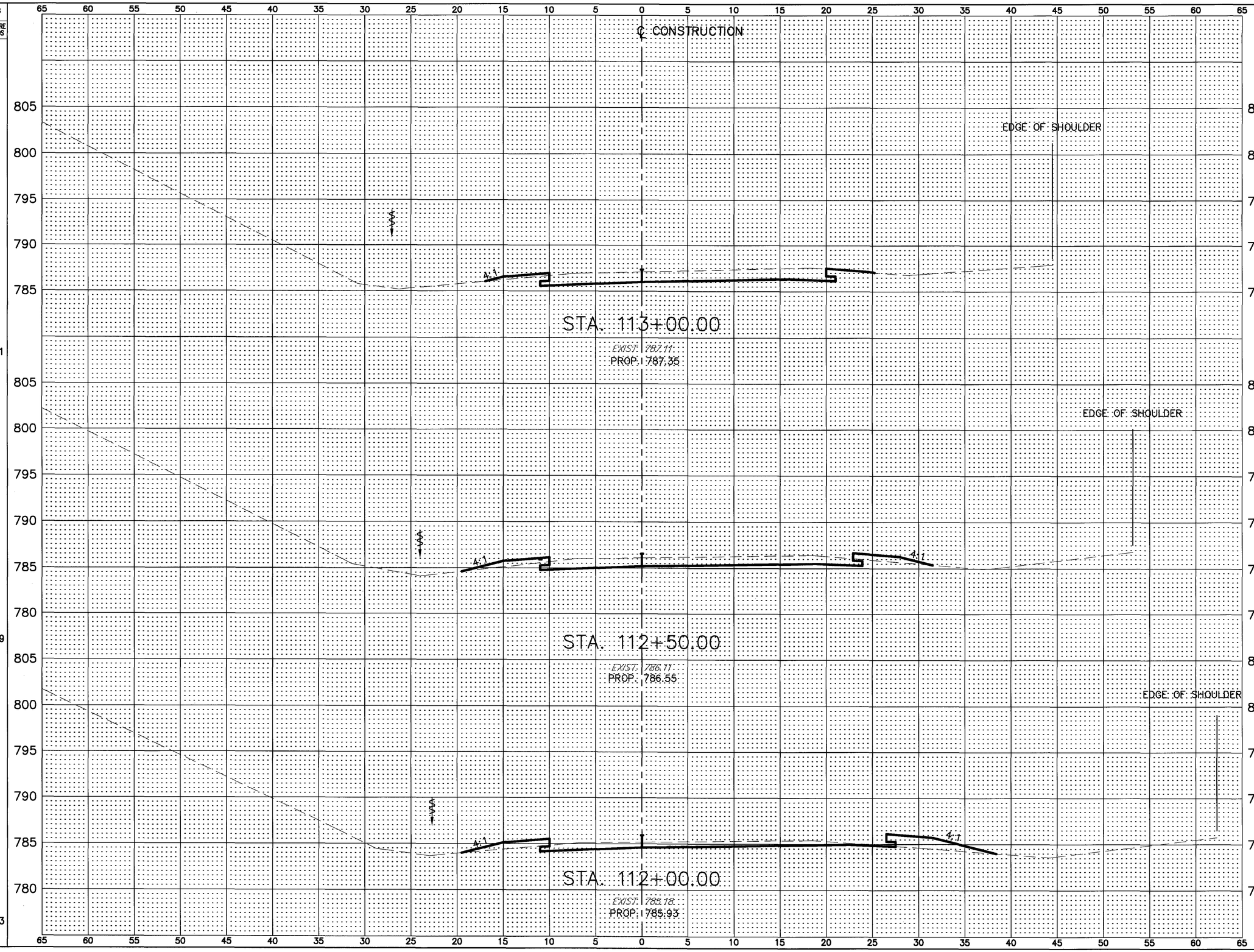
CROSS SECTIONS STA. 110+50.00 TO STA. 111+50.00

LAK – 90/84 – 0.54/0.43

179
369

H:\2002\02117\dwg\XSECRAMP11.dwg 11/24/03 08:42:27 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
16	111
24	139
26	153



END AREA		VOLUME	
CUT	FILL	CUT	FILL
36	2		
		62	9
31	8		
		46	21
19	15		
		44	18

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 11

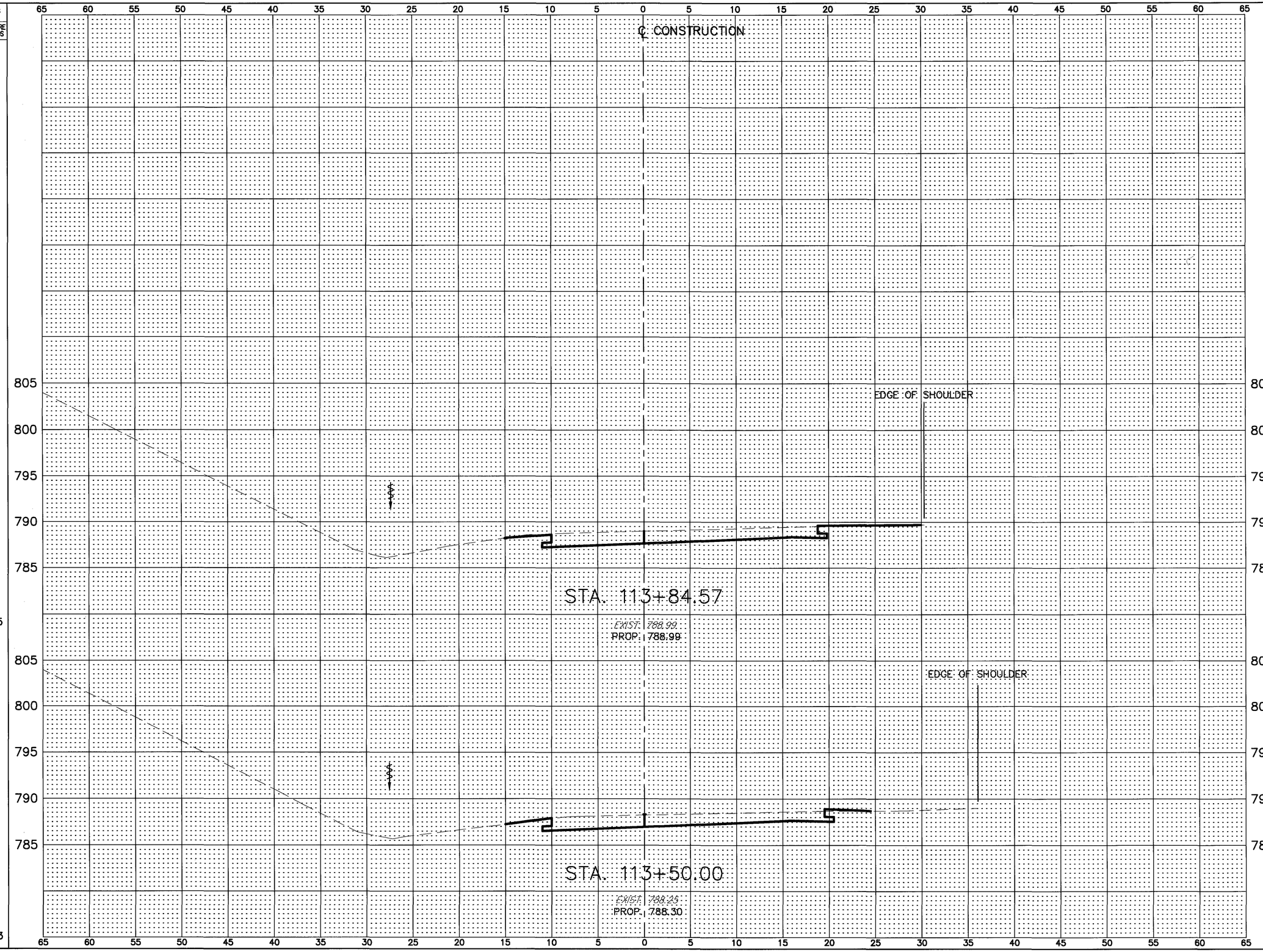
CROSS SECTIONS STA. 1112+00.00 TO STA. 113+00.00

LAK – 90/84 – 0.54/0.43

180
369

H:\2002\02117\dwg\XSECRAMP11.dwg 11/24/03 08:42:27 AM EST

SEEDING	
END WIDTH	SQUARE YARDS
20	
65	
14	
83	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
38	0		
		47	0
36	0		
		67	2

CALCULATED M.L.M.

CHECKED W.D.B.

RAMP 11

CROSS SECTIONS STA. 113+00.00 TO STA. 113+84.57

LAK – 90/84 – 0.54/0.43

181
369

H:\2002\02117\dwg\XSECRAMP11.dwg 11/24/03 08:42:27 AM EST

FOR INTERSECTION DETAILS SEE SHEET 216
FOR DRIVEWAY DETAILS SEE SHEET 215
FOR DRIVEWAY SUB-SUMMARY SEE SHEETS 70-72
FOR UNDERDRAIN SUB-SUMMARY SEE SHEET 73

ACCESS TO PARCEL 3 SHALL BE MAINTAINED AT ALL TIMES.

BEGIN PAVT. TAPER STA. 8+55.0, 9.6' LT.

END PAVT. TAPER STA. 9+35.0, 12.0' LT.

EVERGREEN AVE.

BISHOP ROAD

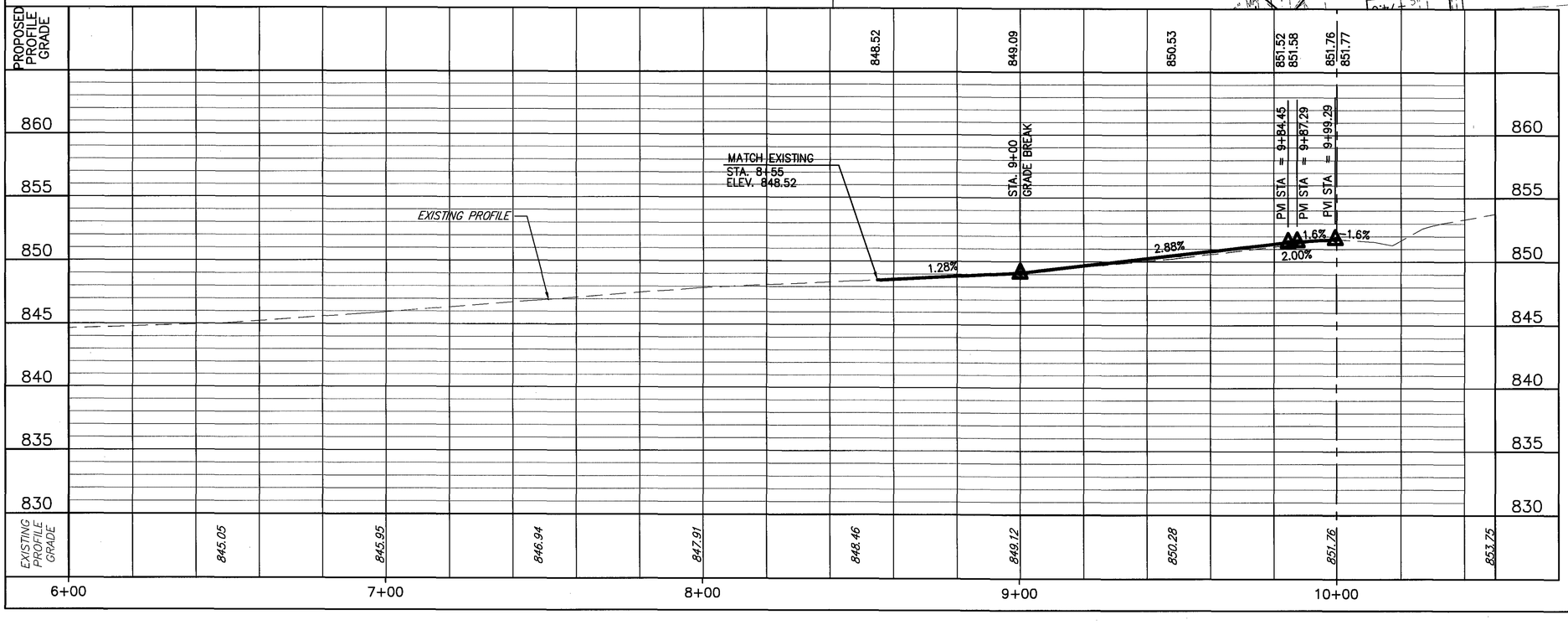
BEGIN PROJECT STA. 24+00.00

BEGIN PAVEMENT TAPER STA. 24+00.0, 13.0' LT.

BEGIN PAVEMENT TAPER STA. 24+00.0, 10.6' RT.

END PAVEMENT TAPER STA. 24+50.0, 13.0' RT.

* TAPER CURB HEIGHT FROM 0" TO 6" IN TEN FEET



EVERGREEN AVE. - PLAN AND PROFILE
STA. 7+00 TO STA. 10+00

SCALE IN FEET 20 10 0 20

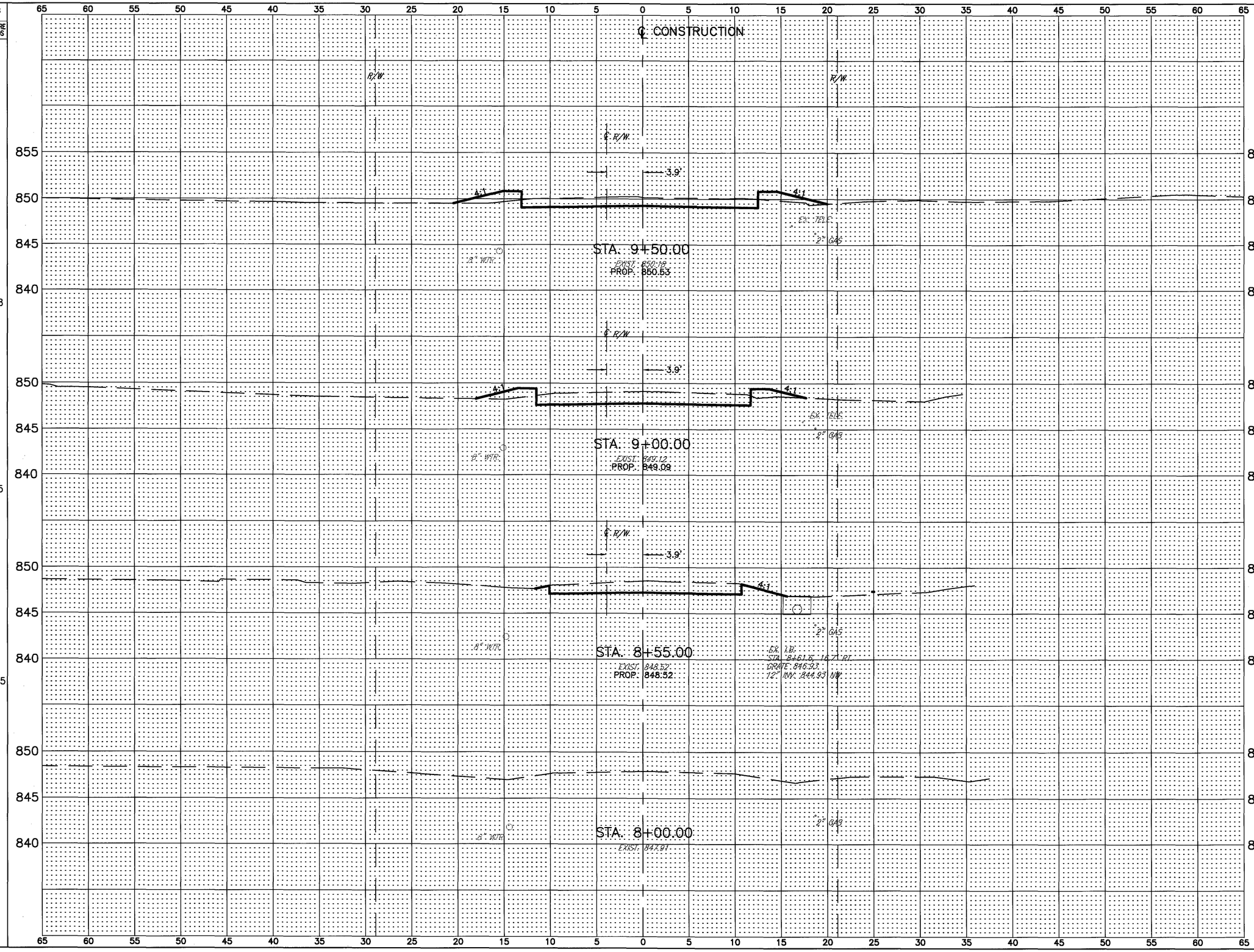
CALCULATED
CHECKED

LAK - 90/84 - 0.54/0.43

182
369

H:\2002\02117\DWG\02117416.DWG

SEEDING	
END WIDTH	SQUARE YARDS
15	78
13	55
9	12.5
0	



END AREA		VOLUME	
CUT S.F.	FILL S.F.	CUT C.Y.	FILL C.Y.
24.1	10.5		
		48.6	17.0
28.4	7.9		
		43.6	11.8
24	6.3		
		0	5.8
0	0		

CALCULATED M.L.M.

CHECKED W.D.B.

EVERGREEN AVENUE

CROSS SECTIONS STA. 8+55.00 TO STA. 9+50.00

LAK - 90/84 - 0.54/0.43

182A
369

H:\2002\02117\dwg\XSEC-EVERGREEN.dwg 5/12/2005 2:35:34 PM EDT

FOR TYPICAL SECTIONS SEE SHEETS 5 AND 11
FOR CROSS SECTIONS SEE SHEET 184
FOR INTERSECTION DETAILS SEE SHEET 216
FOR UNDERDRAIN SUB-SUMMARY SEE SHEET 73

* TAPER TO MEET EXISTING CURB & GUTTER IN TEN FEET.

NOTE: DRIVE TO BE CONSTRUCTED UTILIZING SAME PROPOSED PAVEMENT COMPOSITION AS S.R. 84 (BISHOP ROAD)

EX. STO. 1B (RECONSTRUCT TO GRADE)
STA. 10+18.8, 54.1' LT.
STA. 9+46, 20' LT.
RIM 835.38 (834.61)
18" INV. 820.98 W
36" INV. 812.79 N&S
27" INV. 824.90 SE

PLAZA DRIVE – PLAN AND PROFILE
STA. 6+00 TO 10+00

SCALE IN FEET: 20 10 0 20

CALCULATED

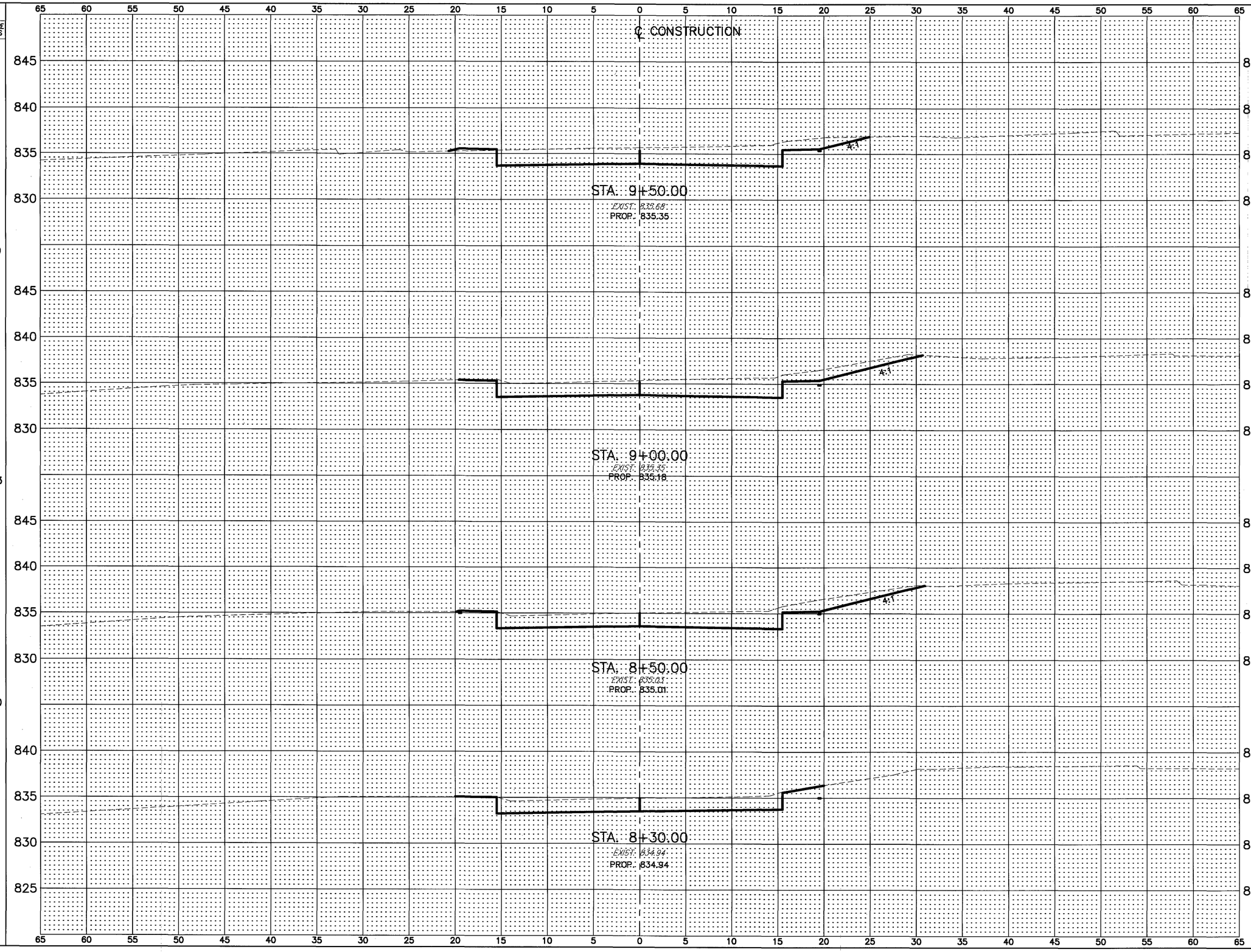
CHECKED

LAK – 90/84 – 0.54/0.43

183
369

H:\2002\02117\DWG\02117470.DWG

SEEDING	
END WIDTH	SQUARE YARDS
19	119
24	133
24	40
12	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
66	1		
		121	1
65	0		
		116	0
60	0		
		39	0
44	0		

CALCULATED M.L.M.

CHECKED W.D.B.

PLAZA DRIVE

CROSS SECTIONS STA. 8+30.22 TO STA. 9+50.00

LAK – 90/84 – 0.54/0.43

184
369

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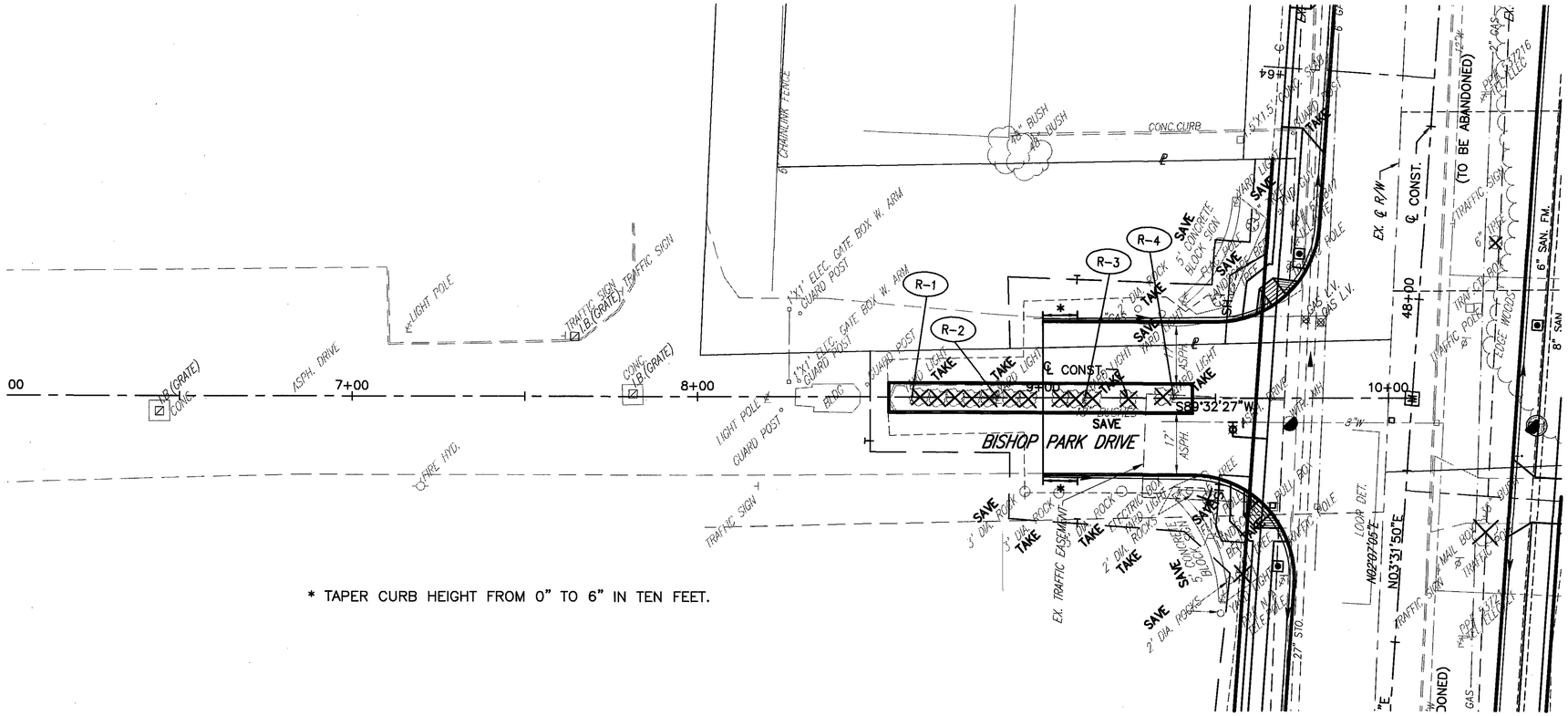
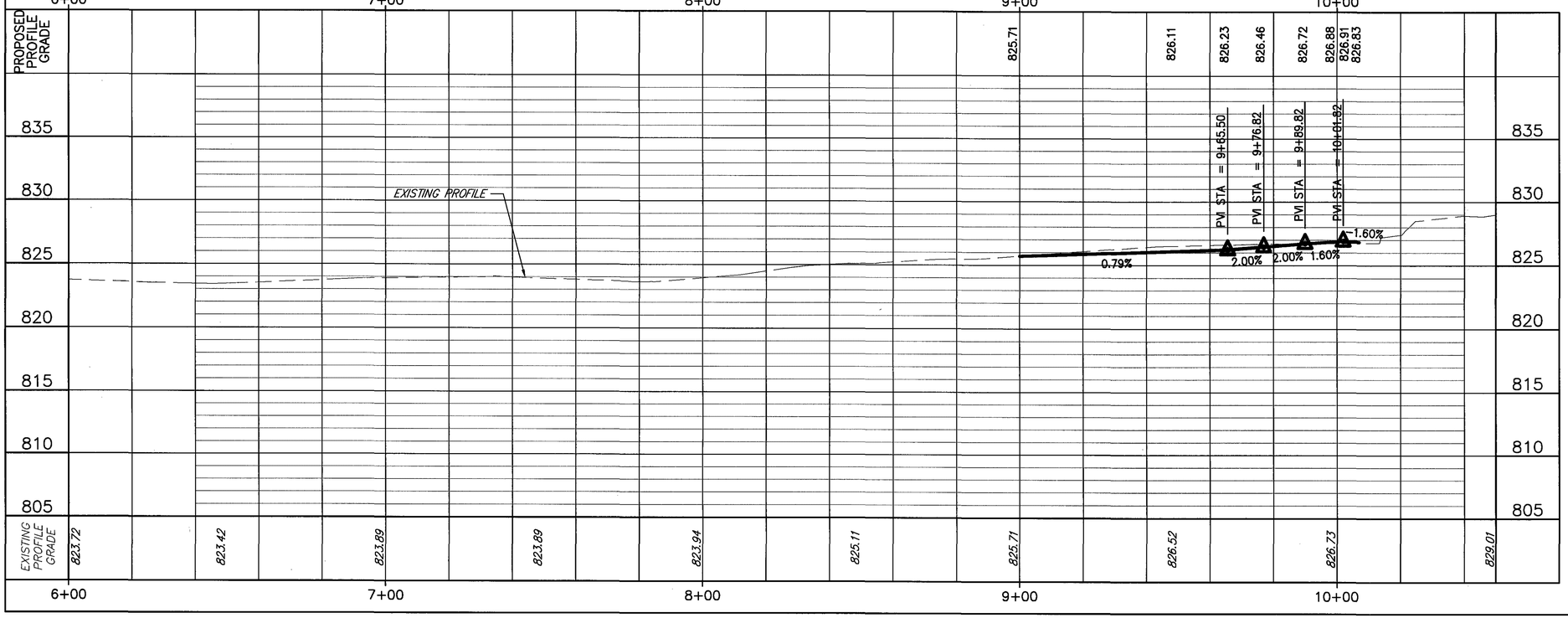
FOR TYPICAL SECTIONS SEE SHEETS 5 AND 11
FOR CROSS SECTIONS SEE SHEET 187
FOR INTERSECTION DETAILS SEE SHEET 218
FOR TRAFFIC SIGNAL PLANS SEE SHEET





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CALCULATED
CHECKED
SCALE IN FEET 20 10 0 20

BISHOP PARK DR. – PLAN AND PROFILE
STA. 6+00 TO 10+00

LAK – 90/84 – 0.54/0.43

185
369

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 LIGHT POLE REMOVED EACH
R-1	8+62.02			1
R-2	8+86.99			1
R-3	9+12.19			1
R-4	9+37.88			1
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				4

DRAINAGE, EROSION CONTROL, & WATER WORKS

REF. NO.	STATION FROM	STATION TO	SIDE
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS			

CALCULATED J.M.Z. CHECKED W.D.B.

ESTIMATED QUANTITIES
BISHOP PARK DRIVE

LAK - 90/84 - 0.54/0.43

186
369

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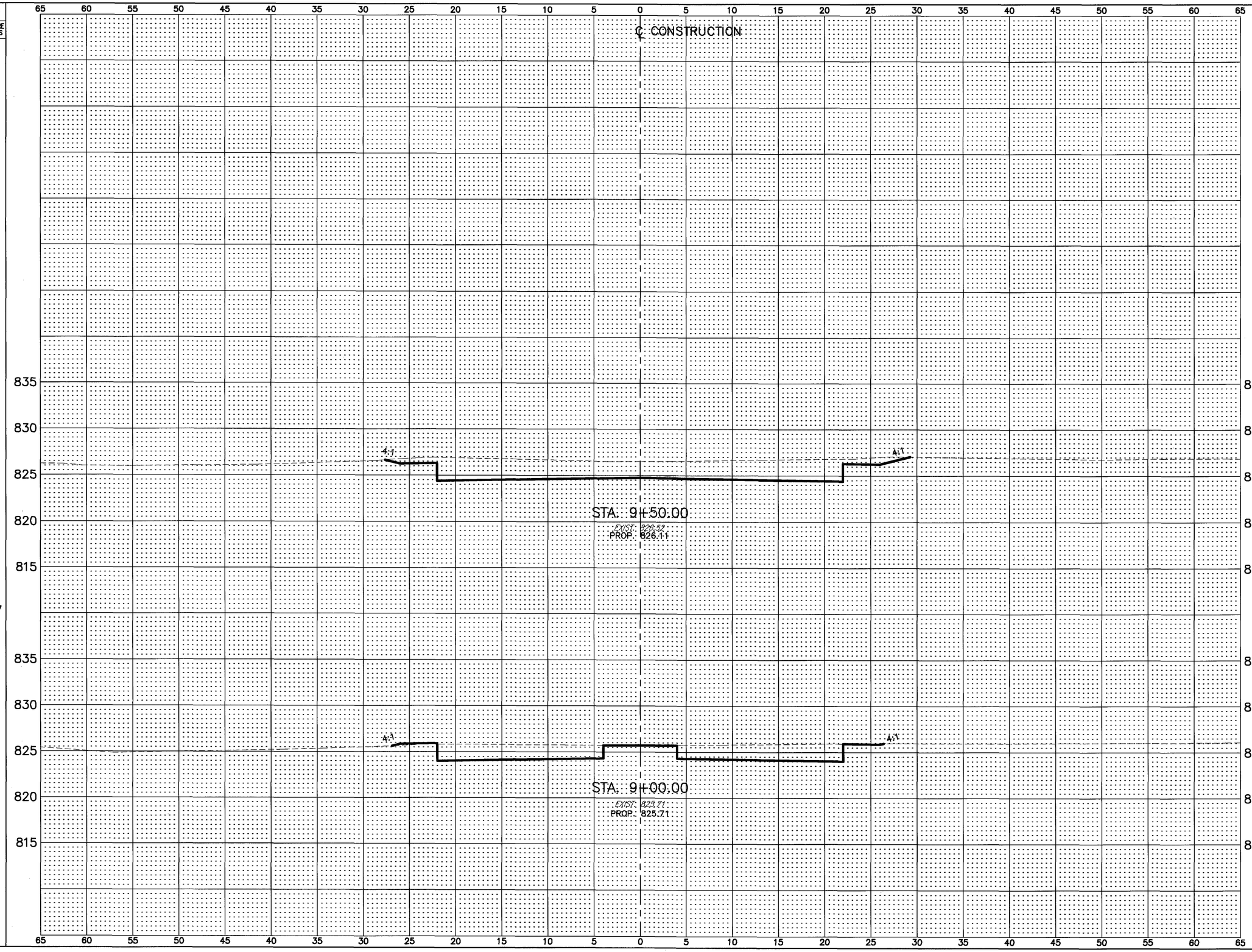
SEEDING	
END WIDTH	SQUARE YARDS
20	97
15	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
103	0		
		150	0
66	0		

CALCULATED M.L.M.
CHECKED W.D.B.

BISHOP PARK DRIVE

CROSS SECTIONS STA. 9+00.00 TO STA. 9+50.00

LAK - 90/84 - 0.54/0.43

187
369

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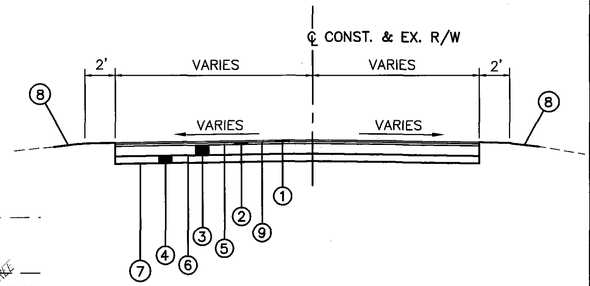
UNDERDRAIN DEPTH = 18" FROM STA. 49+50 (S.R.84, NORTHBOUND) TO STA. 13+25 (EDDY ROAD, EASTBOUND)

UNDERDRAIN DEPTH = 18" FROM STA. 13+25 TO STA. 10+80 (EDDY ROAD, WASTBOUND)



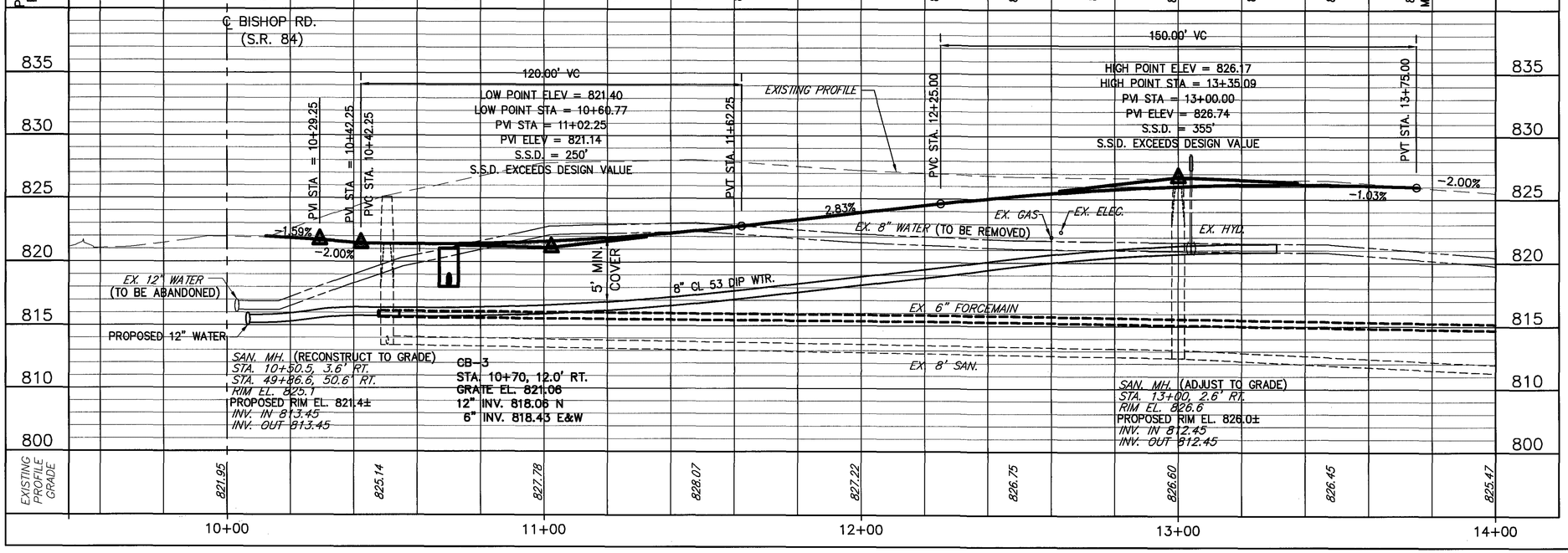
ASPHALT TRANSITION SECTION

STA. 13+25.00 TO STA. 13+75.00 = 50.00 LIN. FT.
(NOT TO SCALE)

1. ITEM 448 – 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 70-22M
2. ITEM 448 – 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG 70-22M
3. ITEM 301 – 8" ASPHALT CONCRETE BASE, PG 64-22
4. ITEM 304 – 6" AGGREGATE BASE
5. ITEM 407 – TACK COAT
6. ITEM 408 – PRIME COAT
7. ITEM 204 – SUBGRADE COMPACTION
8. ITEM 659 – SEEDING AND MULCHING
9. ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE

* TAPER CURB HEIGHT FROM 6" TO 0" IN TEN FEET

FOR TYPICAL SECTIONS SEE SHEETS 5 AND 11
FOR CROSS SECTIONS SEE SHEETS 190 THRU 191
FOR DRIVE PROFILES SEE SHEET 213B
FOR DRIVEWAY DETAILS SEE SHEET 215
FOR INTERSECTION DETAILS SEE SHEET 219
FOR TRAFFIC SIGNAL PLANS SEE SHEET
FOR UNDERDRAIN SUB-SUMMARY SEE SHEET 73
FOR DRIVEWAY SUB-SUMMARY SEE SHEET 72



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EDDY ROAD – PLAN AND PROFILE
STA. 10+00 TO 14+00

LAK – 90/84 – 0.54/0.43

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	202 FENCE REMOVED	202 INLET REMOVED	202 CURB REMOVED	202 REMOVAL MISC.; LANDSCAPE BED
	FROM	TO		FT.	EACH	FT.	EACH
R–1	11+01.08	11+20.78	RT	20			
R–2	11+75.98		LT		1		
R–3	12+19.29	12+32.26	LT			40	
R–4	12+55.97		LT			26	
R–5	10+90.62	12+31.72	LT				1
TOTALS CARRIED TO ROADWAY SUB–SUMMARY, SHEETS				20	1	66	1

DRAINAGE, EROSION CONTROL, & WATER WORKS

REF. NO.	STATION FROM	STATION TO	SIDE	SAN 604 MANHOLE ADJUSTED TO GRADE	603 12" CONDUIT, TYPE B	604 CATCH BASIN NO. 3A	604 CATCH BASIN NO. 3
	FROM	TO		EACH	FT.	EACH	EACH
D–1	10+70, 12.6' LT	10+70, 12' RT	RT		24	1	1
S–1	13+00		2.6' RT	1			
TOTALS CARRIED TO DRAINAGE SUB–SUMMARY, SHEETS				1	24	1	1

CALCULATED J.M.Z. CHECKED W.D.B.

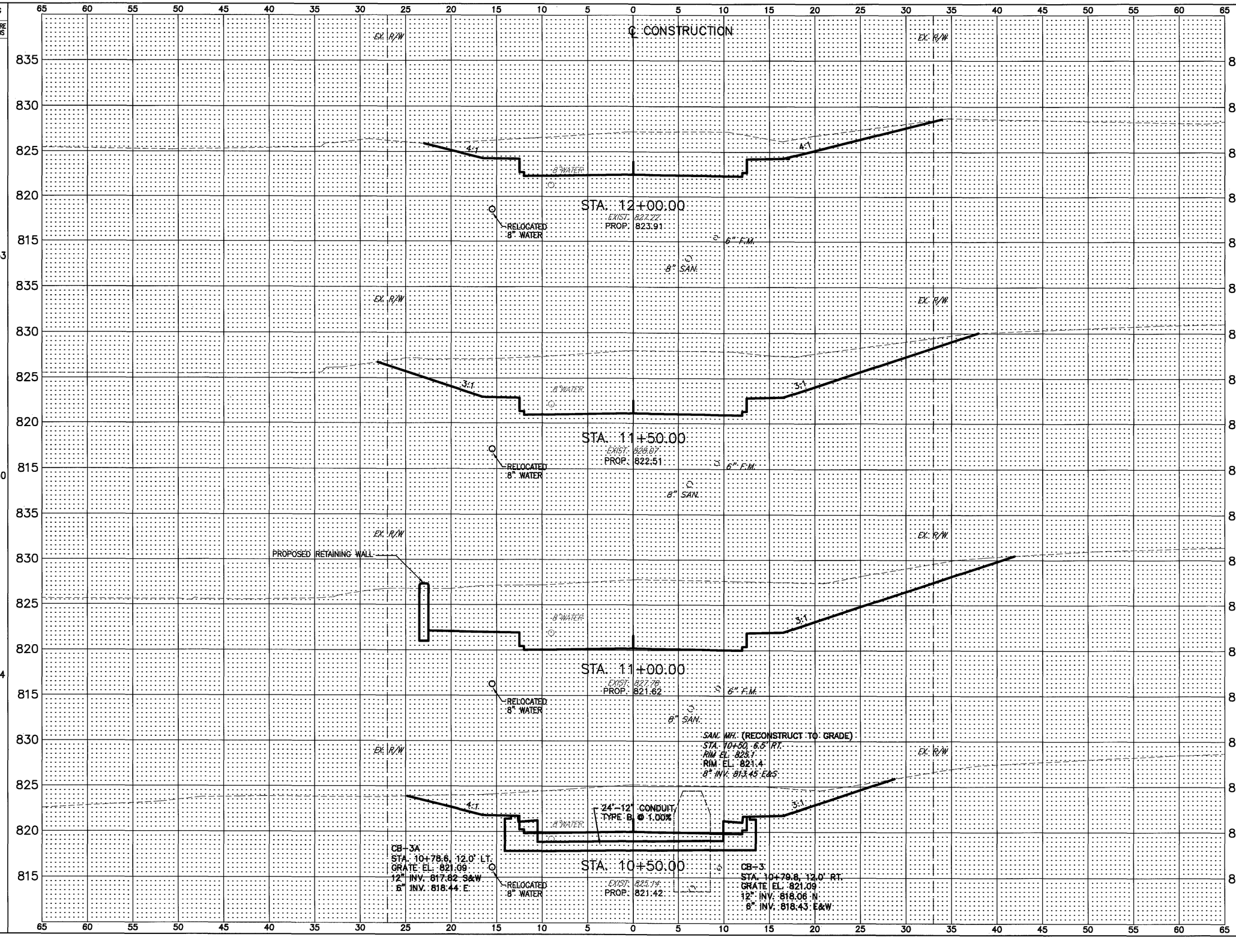
ESTIMATED QUANTITIES
EDDY ROAD

LAK – 90/84 – 0.54/0.43

189
369

DATE: 10–22–04 – TIME: 13:30 – H:\2002\02117\dwg\CEDDY.dwg

SEEDING	
END WIDTH	SQUARE YARDS
37	233
47	250
43	214
34	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
156	0		
		405	0
281	0		
		562	0
326			
		460	0
171			

CALCULATED M.L.M.

CHECKED W.D.B.

EDDY ROAD

CROSS SECTIONS STA. 10+50.00 TO STA. 12+00.00

LAK - 90/84 - 0.54/0.43

190
369

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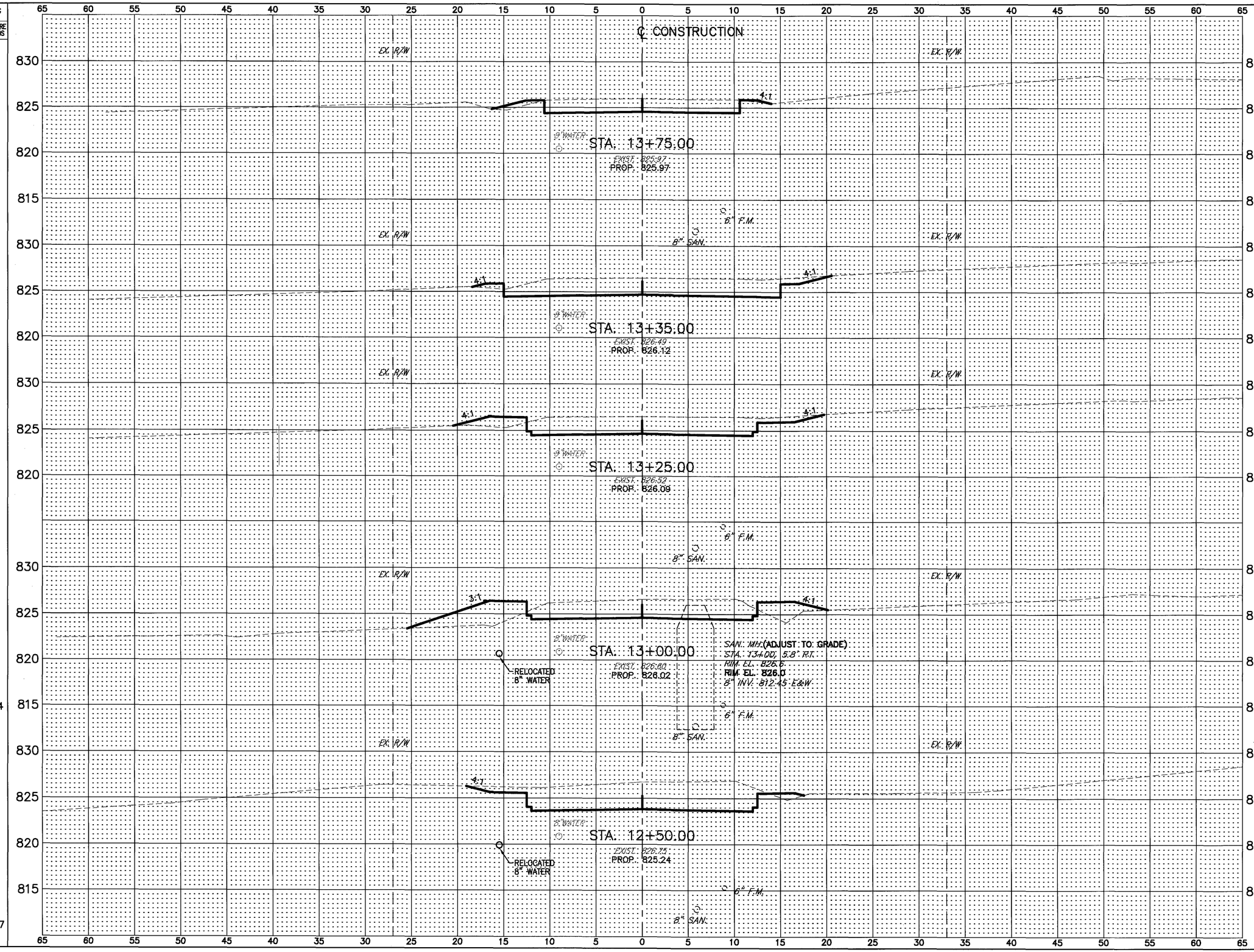
SEEDING	
END WIDTH	SQUARE YARDS
13	58
13	18
19	61
25	114
16	147



END AREA		VOLUME	
CUT	FILL	CUT	FILL
30	0	63	2
55	2	19	2
50	6	45	16
47	29	113	29
75	2	214	2

CALCULATED M.L.M.

CHECKED W.D.B.

EDDY ROAD

CROSS SECTIONS STA. 12+50.00 TOS TA. 13+75.00

LAK - 90/84 - 0.54/0.43

191
369

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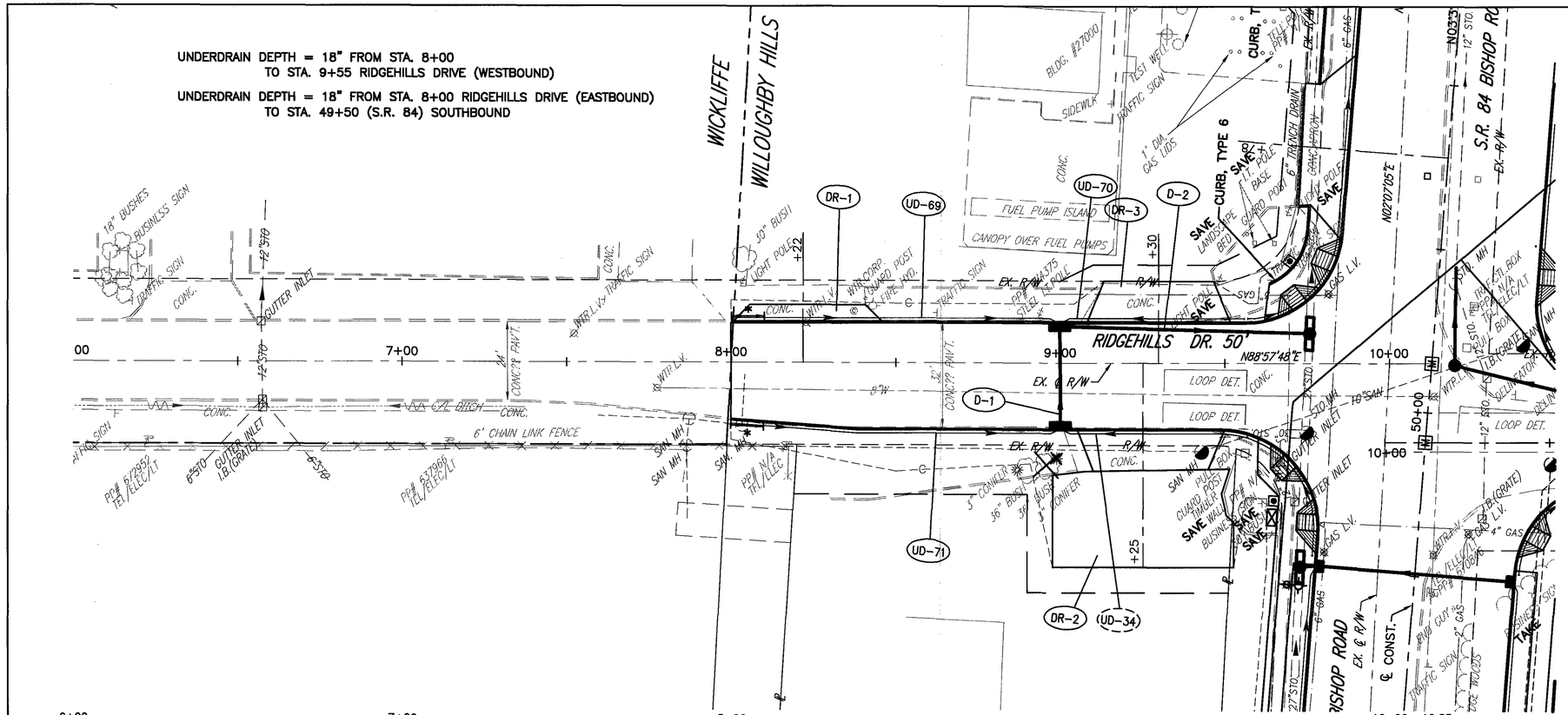
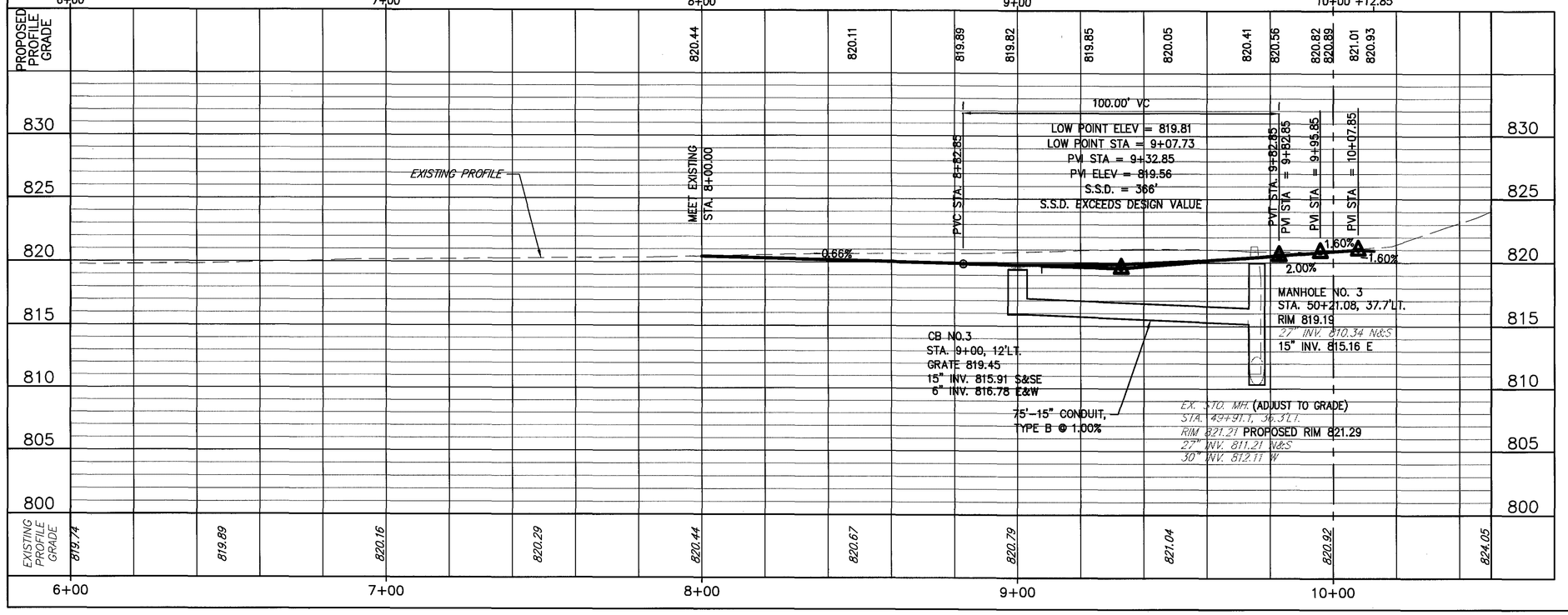
UNDERDRAIN DEPTH = 18" FROM STA. 8+00
TO STA. 9+55 RIDGEHILLS DRIVE (WESTBOUND)

UNDERDRAIN DEPTH = 18" FROM STA. 8+00 RIDGEHILLS DRIVE (EASTBOUND)
TO STA. 49+50 (S.R. 84) SOUTHBOUND

FOR TYPICAL SECTIONS SEE SHEETS 5 AND 11
FOR CROSS SECTIONS SEE SHEET 194–195
FOR INTERSECTION DETAILS SEE SHEET 219
FOR UNDERDRAIN SUB–SUMMARY SEE SHEET 73
FOR DRIVEWAY DETAILS SEE SHEET 215
FOR DRIVEWAY SUB–SUMMARY SEE SHEET 72
FOR TRAFFIC SIGNAL PLANS SEE SHEET





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CALCULATED
CHECKED

SCALE IN FEET
20 10 0 20

RIDGEHILLS DR. – PLAN AND PROFILE
STA. 6+00 TO 10+00

LAK – 90/84 – 0.54/0.43

192
369

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE																								
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS																											

SANITARY, DRAINAGE & WATER WORKS

REF. NO.	STATION FROM	STATION TO	SIDE	603 15" CONDUIT, TYPE B		604 CATCH BASIN NO. 6	604 CATCH BASIN NO. 3A																				
				FT.		EACH	EACH																				
D-1	9+00		12' LT to 20' RT	32			1																				
D-2	9+20, 12' LT	9+75, 9.1' RT		75		1																					
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				107		1	1																				

CALCULATED J.M.Z.
CHECKED W.D.B.

ESTIMATED QUANTITIES - RIDGEHILLS DRIVE
STA. 6+00 TO STA. 10+00

LAK - 90/84 - 0.54/0.43

193
369

SEEDING	
END WIDTH	SQUARE YARDS

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

℄ CONSTRUCTION

830
825
820
815

EX. R/W

EX. R/W

2:1

STA. 7+50.00

EXIST. 820.29

EX. R/W

EX. R/W

3:1

STA. 7+00.00

EXIST. 820.16

PAVEMENT FOR MAINTAINING TRAFFIC

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED M.L.M.

CHECKED W.D.B.

RIDGEHILLS DRIVE

CROSS SECTIONS STA. 7+00.00 TO 7+50.00

LAK - 90/84 - 0.54/0.43

194
369

H:\2002\02117\dwg\XSEC-RIDGE.dwg 8/12/2004 11:36:45 AM EDT

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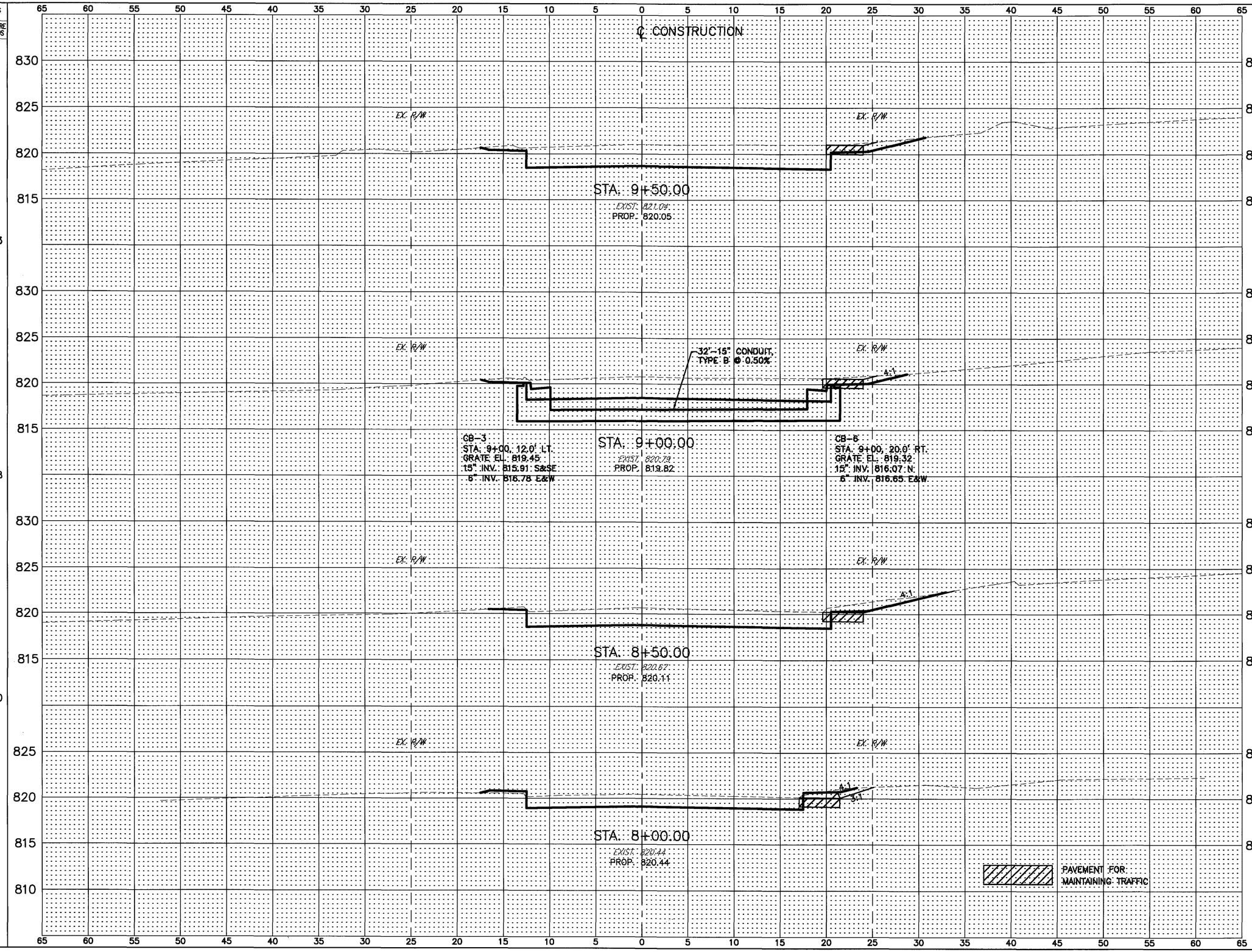
SEEDING	
END WIDTH	SQUARE YARDS
19	103
18	108
21	100
15	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
87	0		
		157	0
83	0		
		139	0
67	0		
		99	1
40	1		

CALCULATED M.L.M.

CHECKED W.D.B.

RIDGEHILLS DRIVE

CROSS SECTIONS STA. 8+00.00 TO 9+50.00

LAK - 90/84 - 0.54/0.43

195/369

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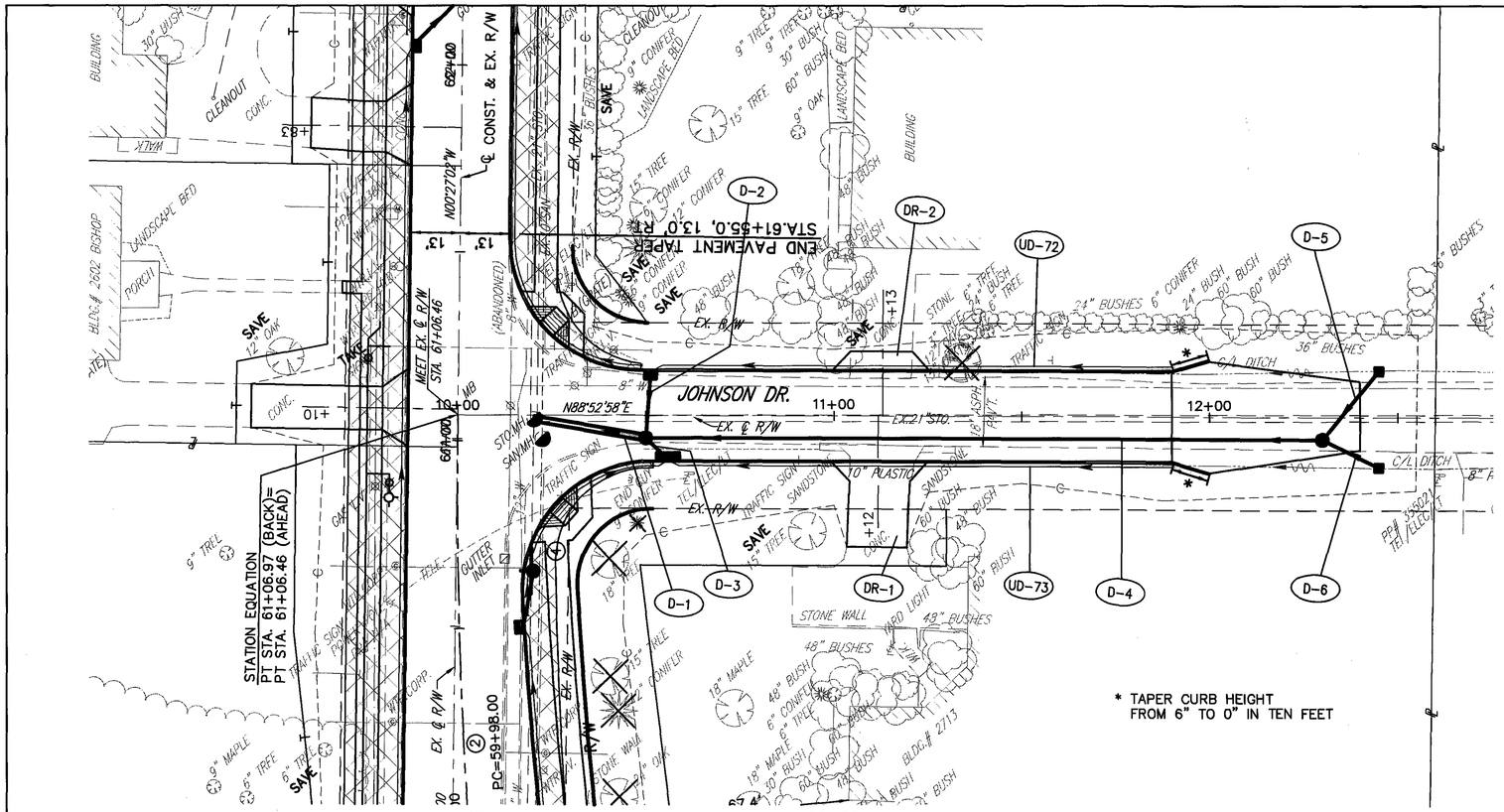
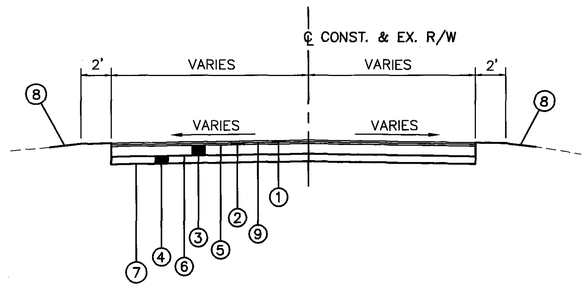


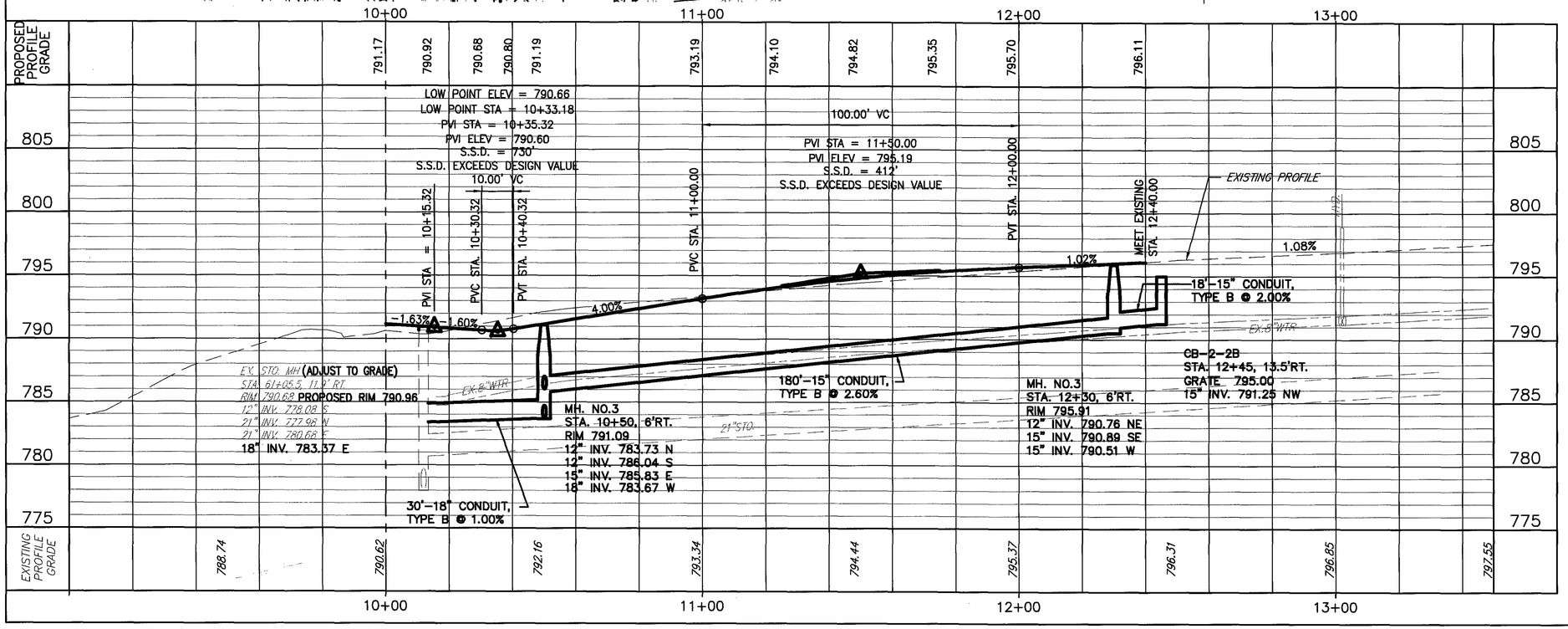


ASPHALT TRANSITION SECTION

STA. 11+90.00 TO STA. 12+40.00 = 50.00 LIN. FT.
(NOT TO SCALE)

① ITEM 448 – 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 70-22M
② ITEM 448 – 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG 70-22M
③ ITEM 301 – 8" ASPHALT CONCRETE BASE, PG 64-22
④ ITEM 304 – 6" AGGREGATE BASE, AS PER PLAN
⑤ ITEM 407 – TACK COAT
⑥ ITEM 408 – PRIME COAT
⑦ ITEM 204 – SUBGRADE COMPACTION
⑧ ITEM 659 – SEEDING AND MULCHING
⑨ ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE

FOR TYPICAL SECTIONS SEE SHEETS 5 AND 11
FOR CROSS SECTIONS SEE SHEETS 198-199
FOR INTERSECTION DETAILS SEE SHEET 218
FOR UNDERDRAIN SUB-SUMMARY SEE SHEET 73
FOR DRIVEWAY DETAILS SEE SHEET 215
FOR DRIVEWAY SUB-SUMMARY SEE SHEET 72



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JOHNSON DRIVE – PLAN AND PROFILE
STA. 10+00 TO 13+50

LAK – 90/84 – 0.54/0.43

196
369

CALCULATED
CHECKED

SCALE IN FEET
20 10 0 20

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE	
TOTALS CARRIED TO ROADWAY SUB-SUMMARY, SHEETS				

SANITARY, DRAINAGE & WATER WORKS

REF. NO.	STATION FROM	STATION TO	SIDE	603 12" CONDUIT, TYPE B FT.	603 15" CONDUIT, TYPE B FT.	603 18" CONDUIT, TYPE B FT.		604 CATCH BASIN NO. 2-2B EACH	604 CATCH BASIN NO. 3A EACH	604 CATCH BASIN NO. 3 EACH	604 MANHOLE NO. 3 EACH	604 MANHOLE ADJUSTED TO GRADE EACH
D-1	10+05.5, 11.9' RT	10+50, 6' RT				30						1
D-2	10+54, 12' LT	10+50, 6' RT		17					1			
D-3	10+50, 6' RT	10+50, 12' RT		6						1		
D-4	10+50, 6' RT	12+30, 6' RT			180						1	
D-5	12+45, 12.5' LT	12+30, 6' LT		24				1				
D-6	12+30, 6' RT	12+45, 13.5' RT			18			1			1	
TOTALS CARRIED TO DRAINAGE SUB-SUMMARY, SHEETS				47	198	30		2	1	1	2	1

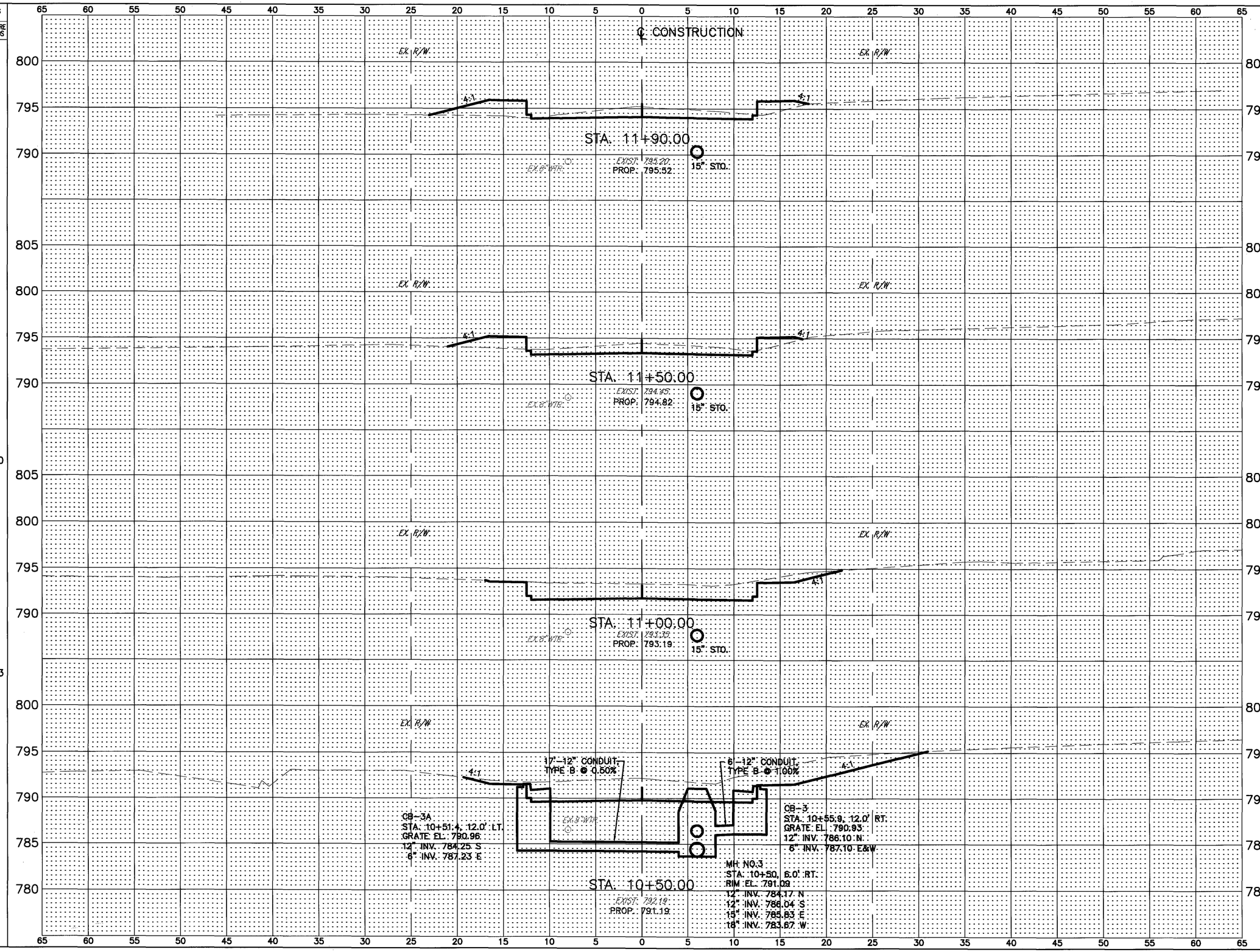
DATE: 10-22-04 - TIME: 13:27 - H:\2002\02117\dwg\QJOHNSON.dwg

CALCULATED J.M.Z.
CHECKED W.D.B.

ESTIMATED QUANTITIES - JOHNSON DRIVE
STA. 10+00 TO STA. 13+00

LAK - 90/84 - 0.54/0.43

SEEDING	
END WIDTH	SQUARE YARDS
21	87
18	100
18	133
30	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	18		
		27	22
19	12		
		61	11
47	0		
		123	0
86	0		

CALCULATED M.L.M.

CHECKED W.D.B.

JOHNSON DRIVE

CROSS SECTIONS STA. 9+50.00 TO STA. 12+00.00

LAK - 90/84 - 0.54/0.43

198
369

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SEEDING	
END WIDTH	SQUARE YARDS
10	
	49
12	
	18

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

805 800 795 790 785 790 795 800

℄ CONSTRUCTION

EX. R/W

24"-12" CONDUIT, TYPE B @ 1.00%

18"-15" CONDUIT, TYPE B @ 2.00%

4:1

CB-2-2B
STA. 12+45, 12.5' LT.
GRATE EL. 794.50
12" INV. 791.00 SW

CB-2-2B
STA. 12+45, 13.5' RT.
GRATE EL. 795.00
15" INV. 791.25 NW

EX. 8" WTR.

STA. 12+40.00

EXIST. 796.11
PROP. 796.11

MH NO.3
STA. 12+30, 6.0' RT.
RIM EL. 795.91
12" INV. 790.76 NE
15" INV. 790.89 SE
15" INV. 790.51 W

EX. R/W

4:1

STA. 12+00.00

EXIST. 795.39
PROP. 795.70

15" STO.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
27	1		
		36	5
21	5		
		7	4

CALCULATED W.L.M.

CHECKED W.D.B.

JOHNSON DRIVE
CROSS SECTIONS STA. 12+40.00

LAK - 90/84 - 0.54/0.43

199
369

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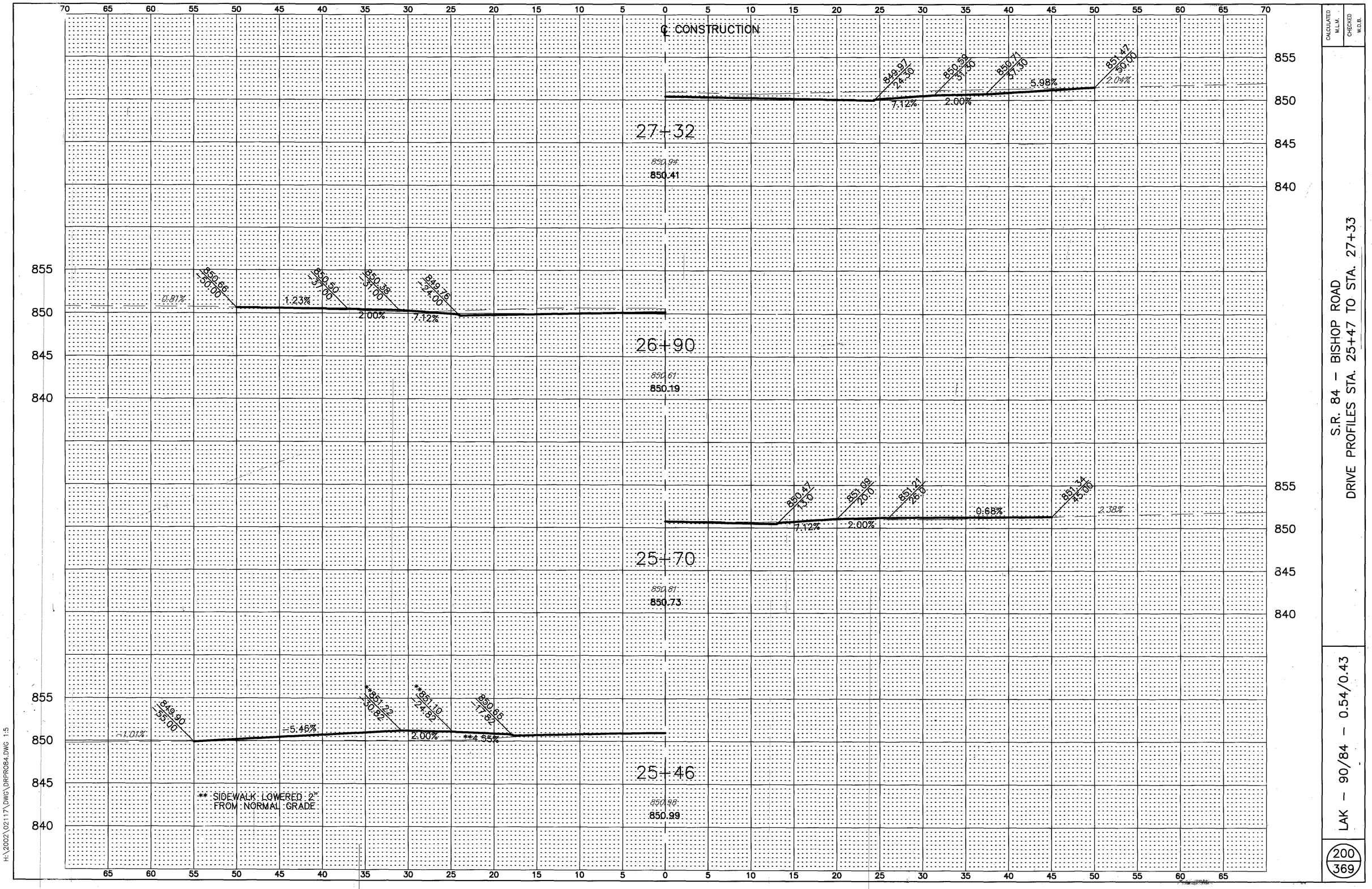

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD

DRIVE PROFILES STA. 25+47 TO STA. 27+33

LAK – 90/84 – 0.54/0.43

200
369

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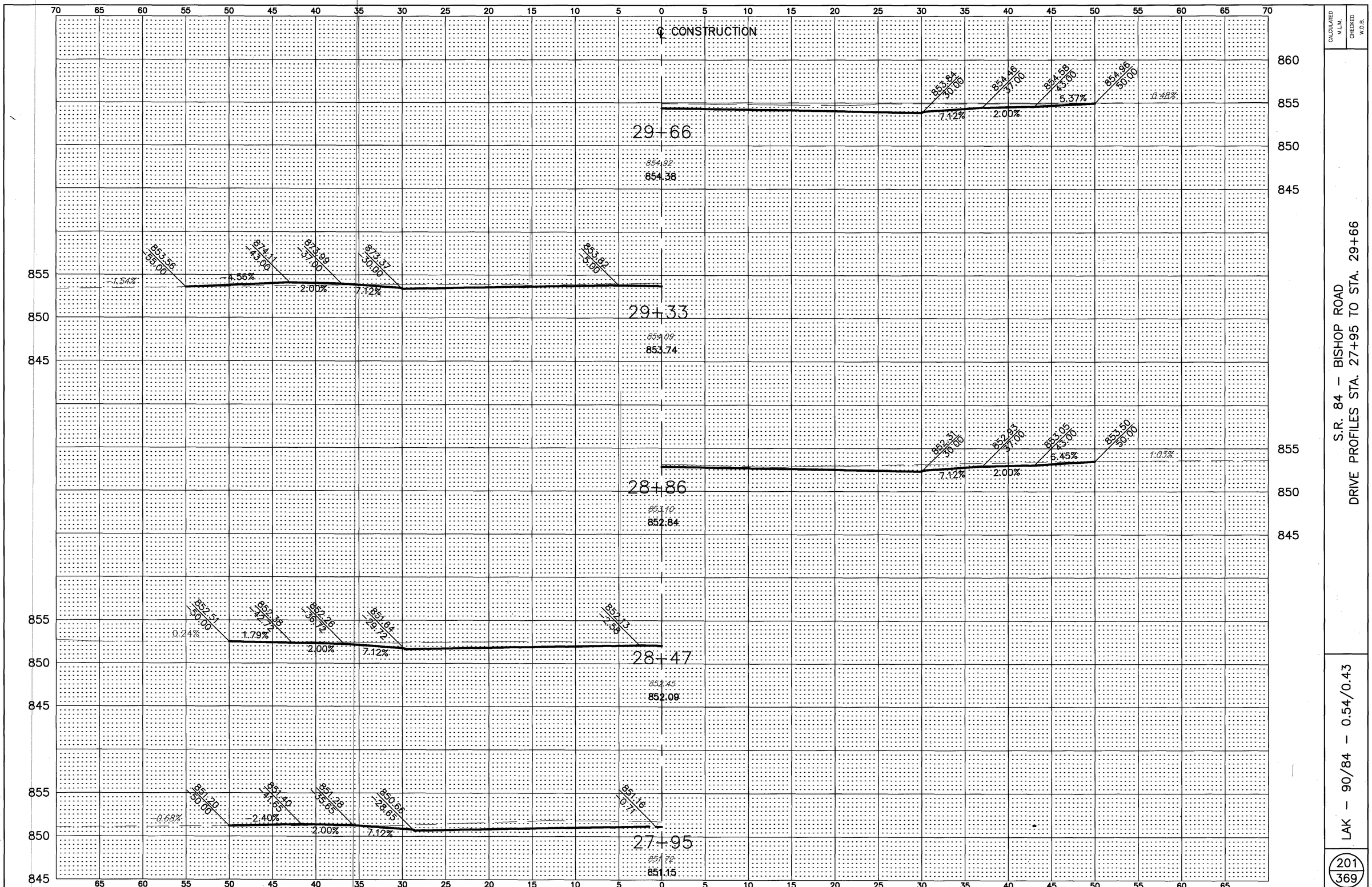

CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
DRIVE PROFILES STA. 27+95 TO STA. 29+66

LAK – 90/84 – 0.54/0.43

201
369

H:\2002\02117\DWG\DRPRO84.DWG 1:5

CALCULATED M.L.M. CHECKED W.D.B.

S.R. 84 – BISHOP ROAD

DRIVE PROFILES STA. 30+53 TO STA. 30+98

LAK – 90/84 – 0.54/0.43

202
369

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℄ CONSTRUCTION

34+87

849.20
851.09

33+74

852.66
853.85

32+03

856.43
856.57

31+15

857.27
856.64

850.56 50.00 7.12% 851.18 37.00 2.00% 851.30 45.00 2.04% 851.44 50.00 6.34%

853.32 50.00 **4.55% 853.78** 37.00 2.00% 853.90** 45.00 0.22% 853.94 65.00 0.99%

856.22 50.00 -2.18% -2.50% -4.89% **856.71 40.00 **3.74% 856.20 50.00 856.65 5.00

857.16 45.00 -0.74% 856.94 40.00 4.42% 856.26 50.00 5.50% 856.12 5.00

** SIDEWALK LOWERED 2" FROM NORMAL GRADE

** SIDEWALK LOWERED 2" FROM NORMAL GRADE

CALCULATED M.L.M. CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
DRIVE PROFILES STA. 31+15 TO STA. 34+87

LAK – 90/84 – 0.54/0.43

203
369

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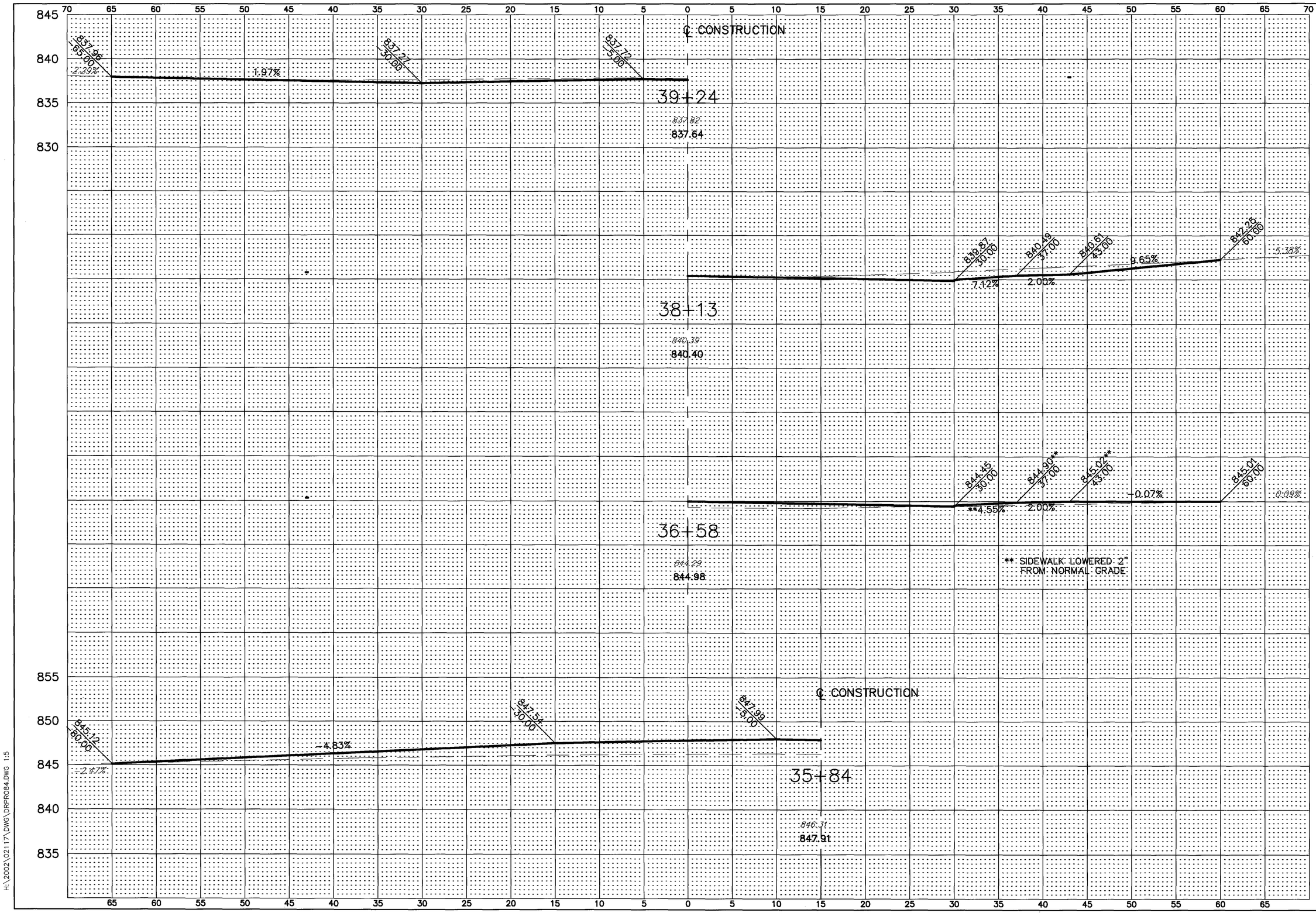


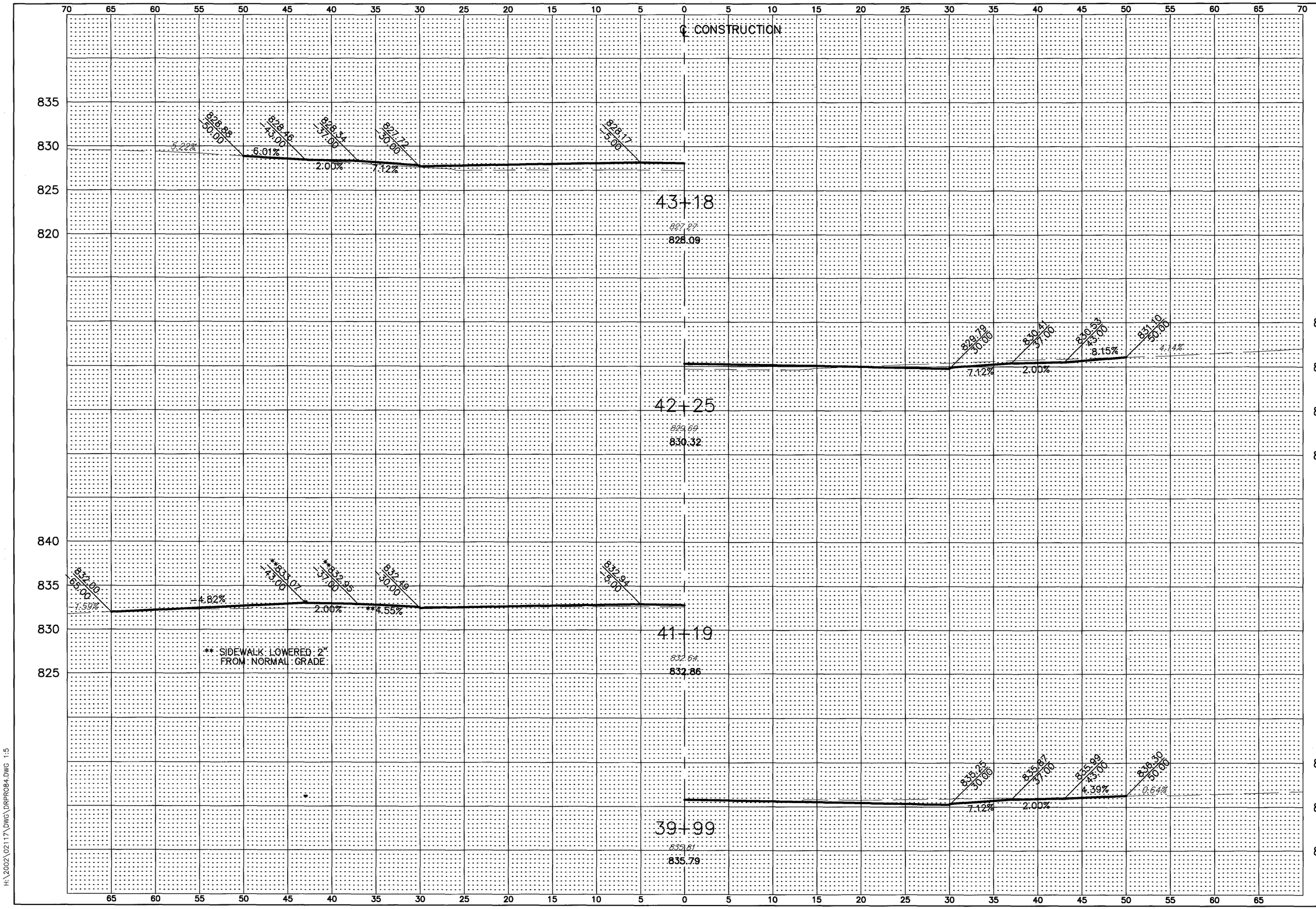
CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
DRIVE PROFILES STA. 35+84 TO STA. 39+20

LAK – 90/84 – 0.54/0.43

204
369

H:\2002\021117\DWG\DRPRO84.DWG 1:5



CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
DRIVE PROFILES STA. 39+99 TO STA. 43+18

LAK – 90/84 – 0.54/0.43

205
369

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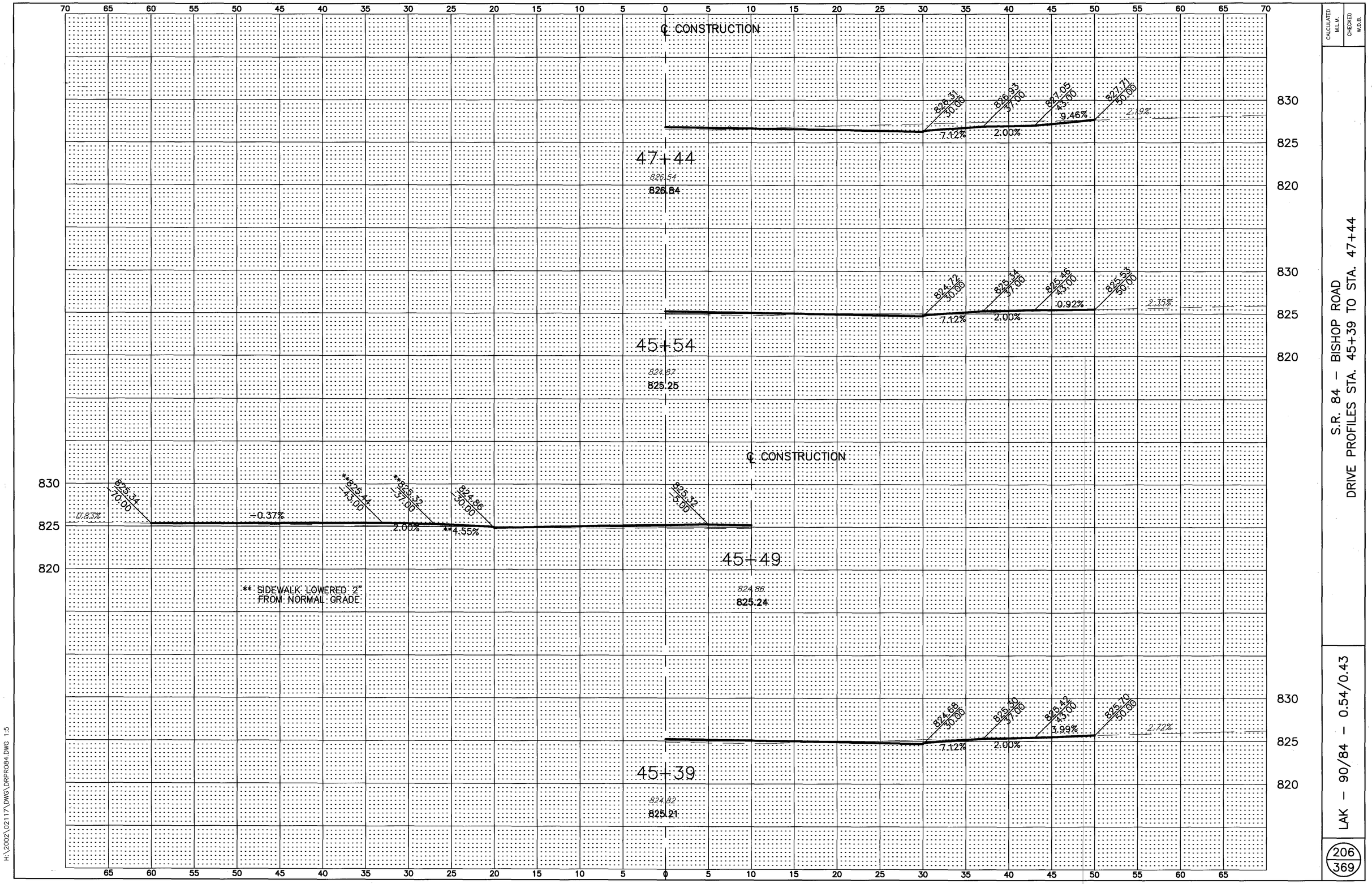

CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
DRIVE PROFILES STA. 45+39 TO STA. 47+44

LAK – 90/84 – 0.54/0.43

206
369

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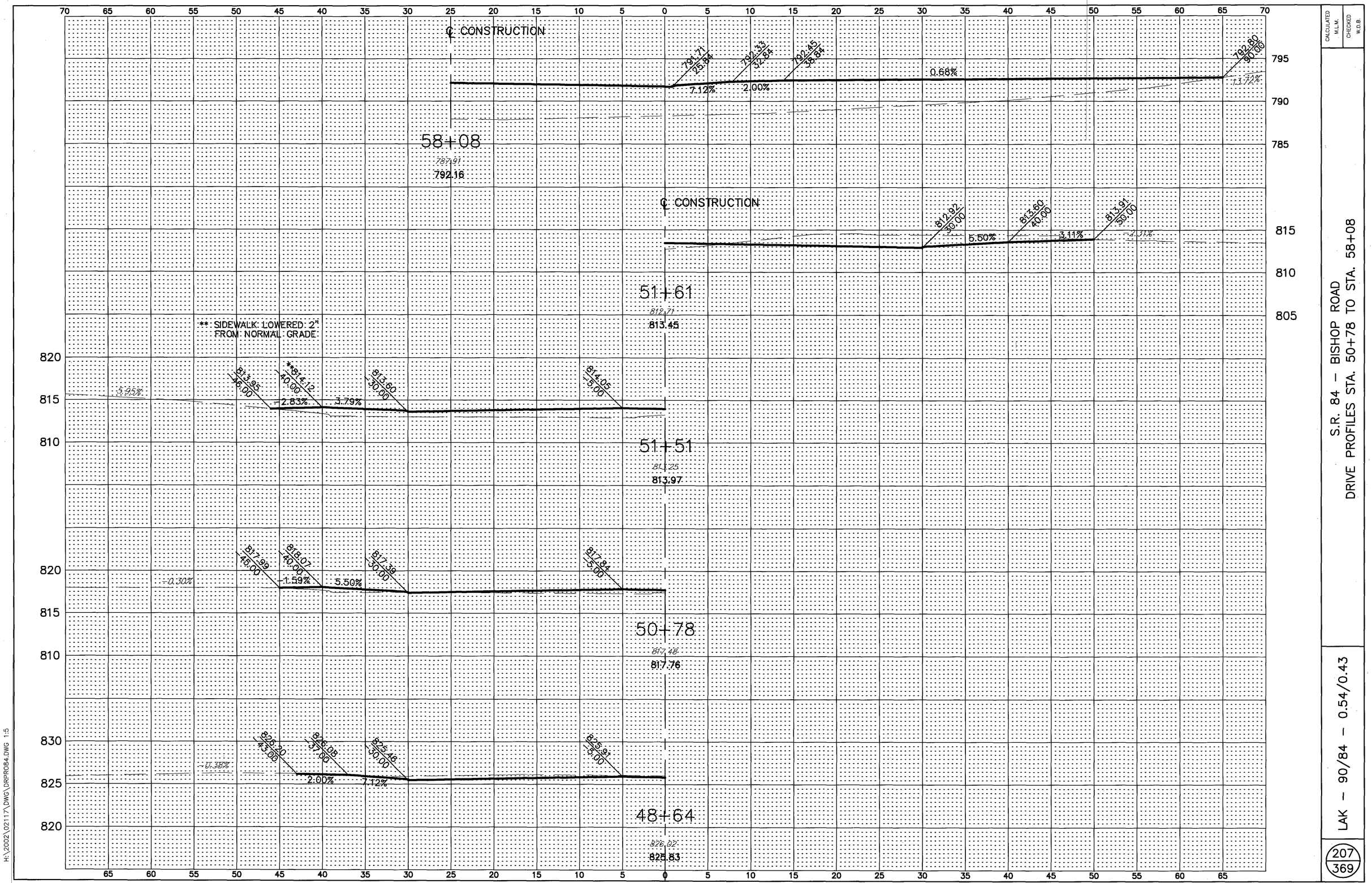

CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
DRIVE PROFILES STA. 50+78 TO STA. 58+08

LAK – 90/84 – 0.54/0.43

207
369

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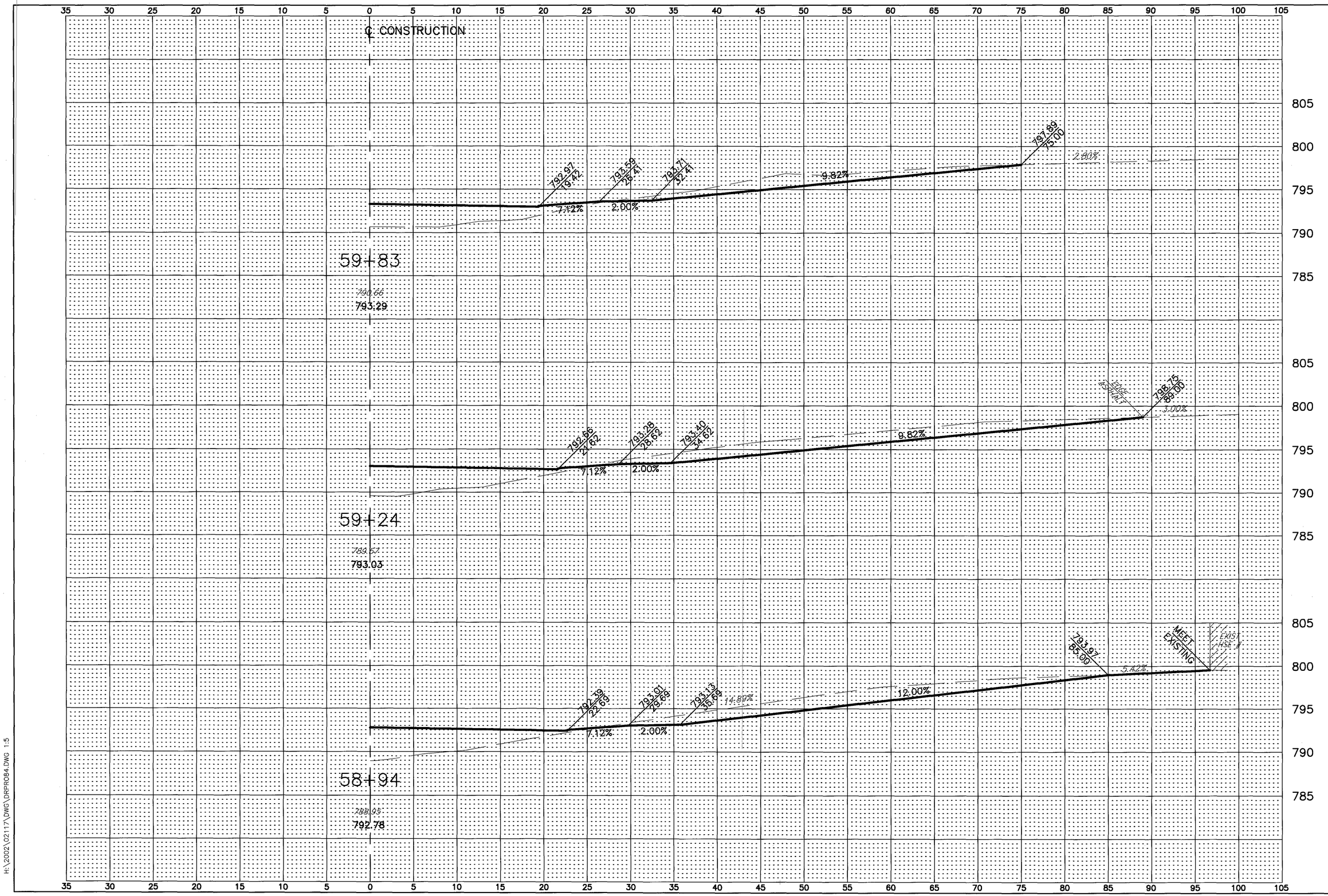

CALCULATED M.L.M.
CHECKED W.D.B.

S.R. 84 – BISHOP ROAD
DRIVE PROFILES STA. 58+94 TO STA. 59+83

LAK – 90/84 – 0.54/0.43

208
369

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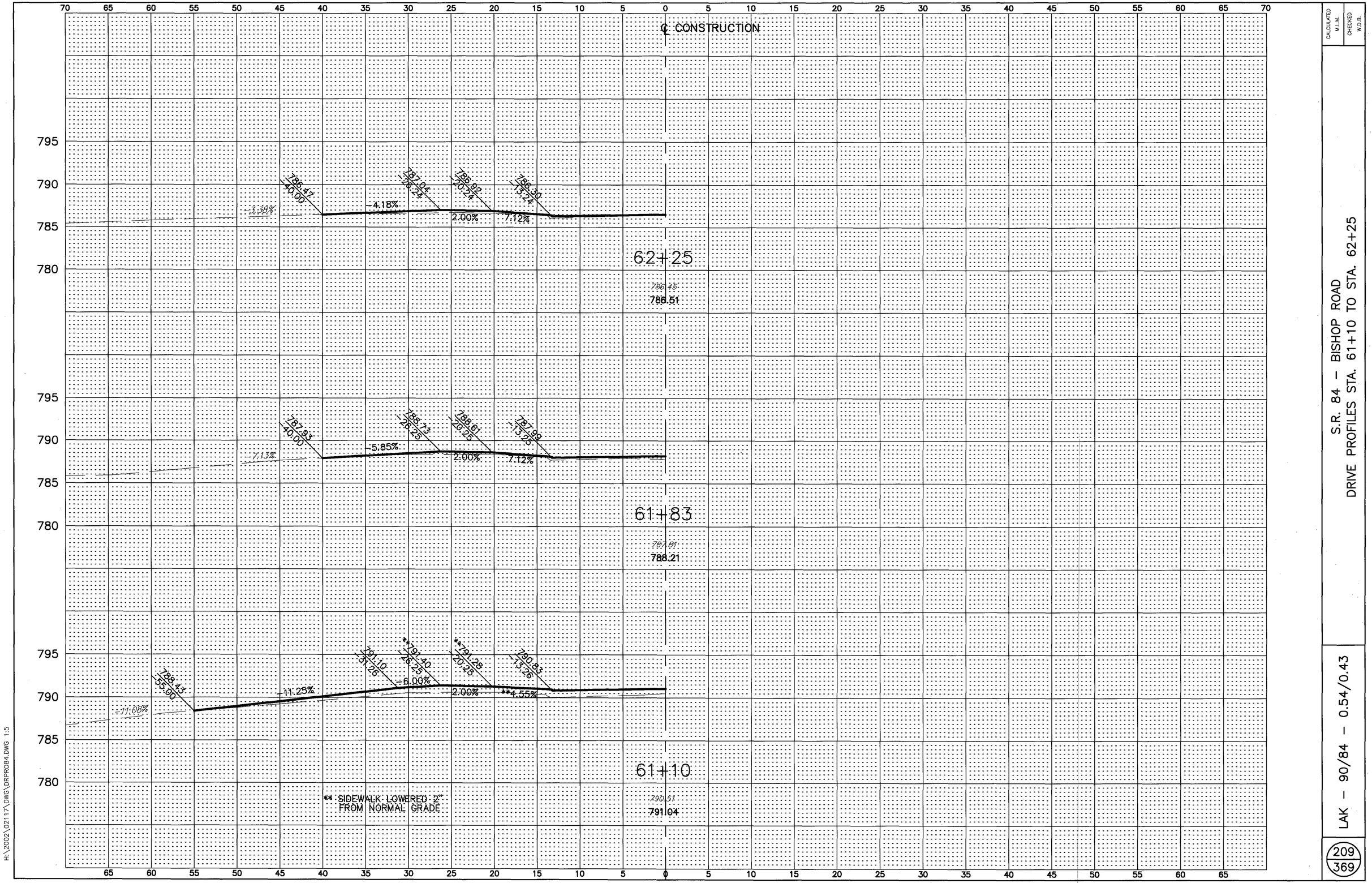

CALCULATED M.L.M. CHECKED W.D.B.

S.R. 84 – BISHOP ROAD

DRIVE PROFILES STA. 61+10 TO STA. 62+25

LAK – 90/84 – 0.54/0.43

209
369

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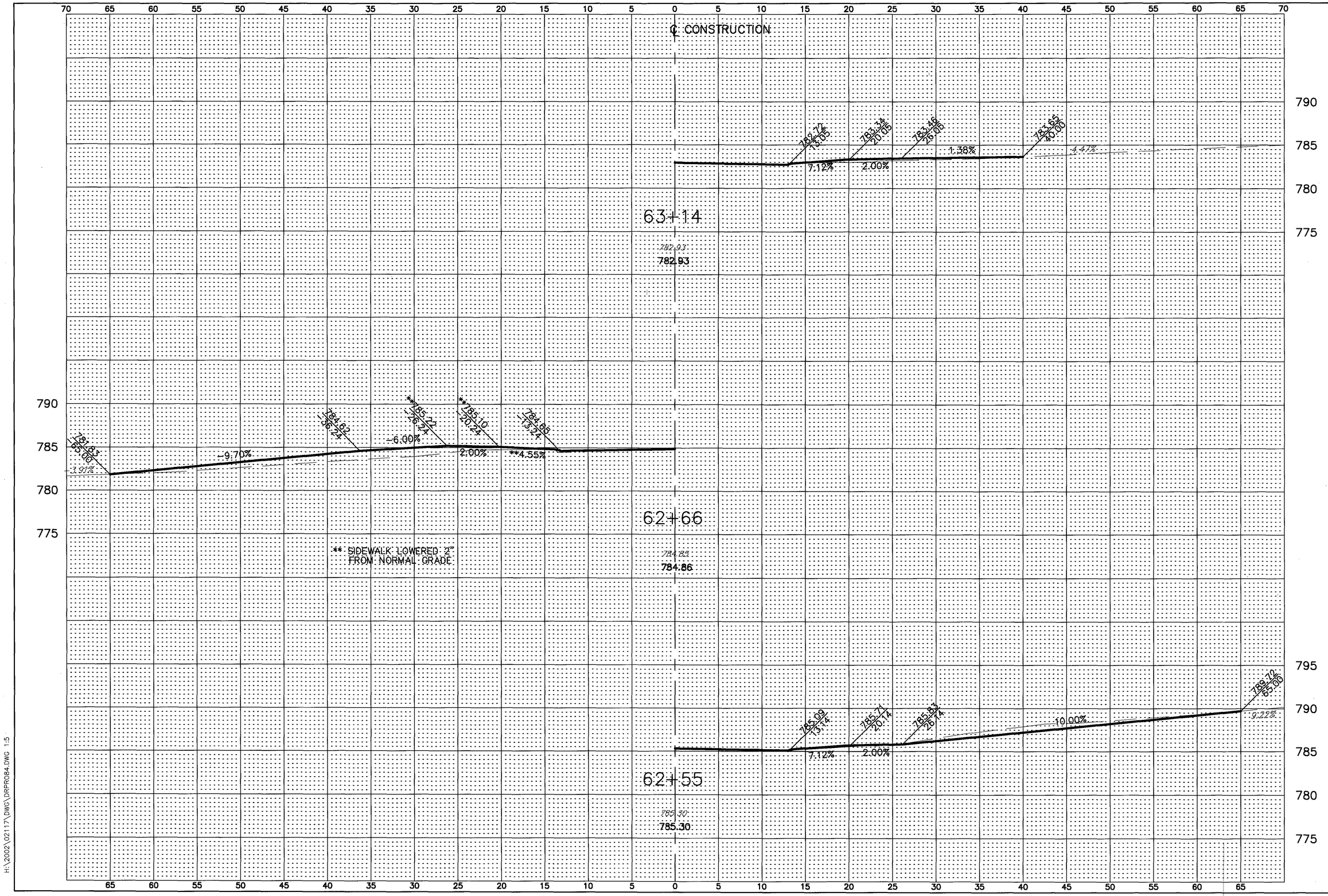

CALCULATED M.L.M.

CHECKED W.D.B.

S.R. 84 – BISHOP ROAD

DRIVE PROFILES STA. 62+55 TO STA. 63+14

LAK – 90/84 – 0.54/0.43

210
369

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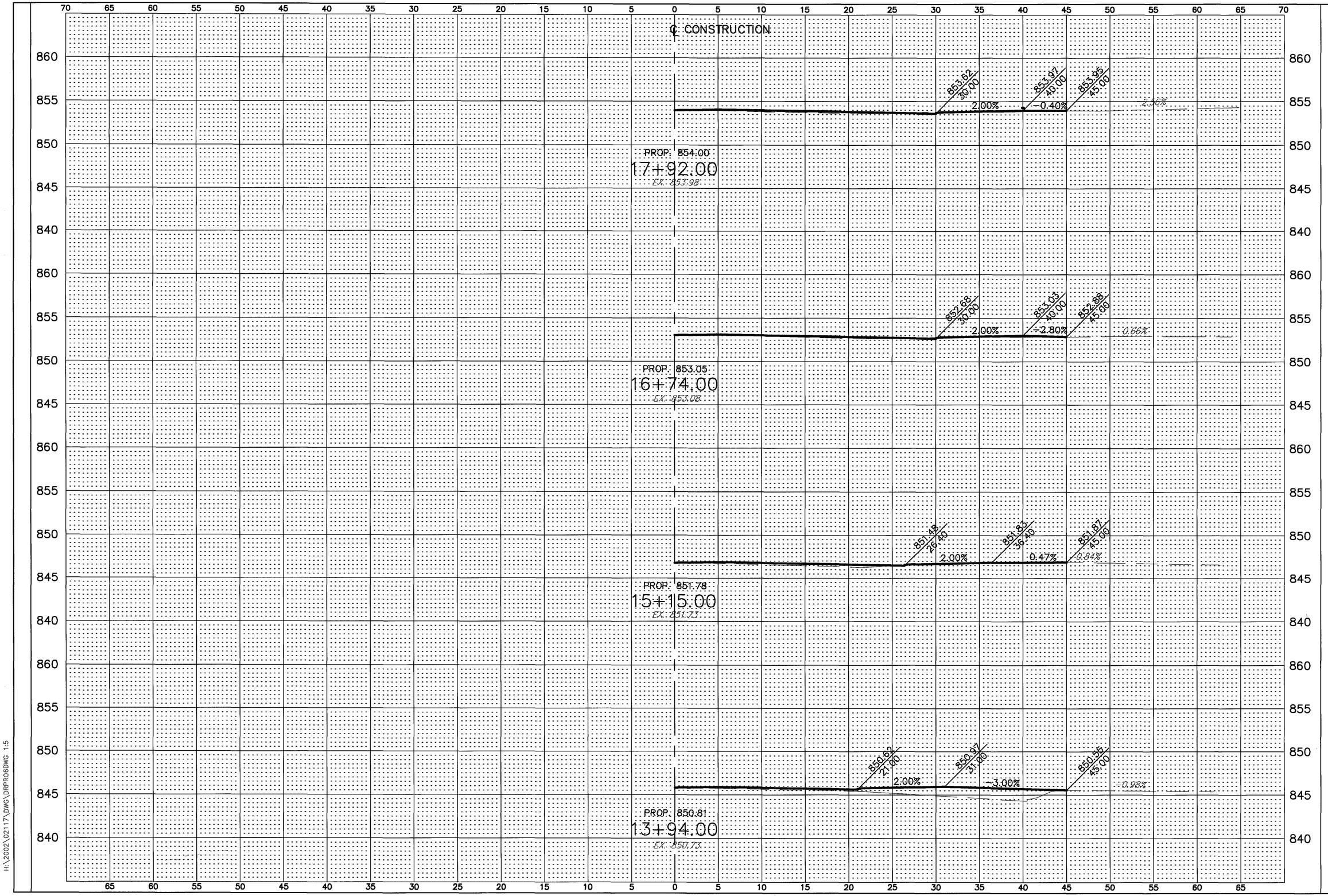

CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
DRIVE PROFILES STA. 13+94 TO STA. 17+92

LAK – 90/84 – 0.54/0.43

211
369

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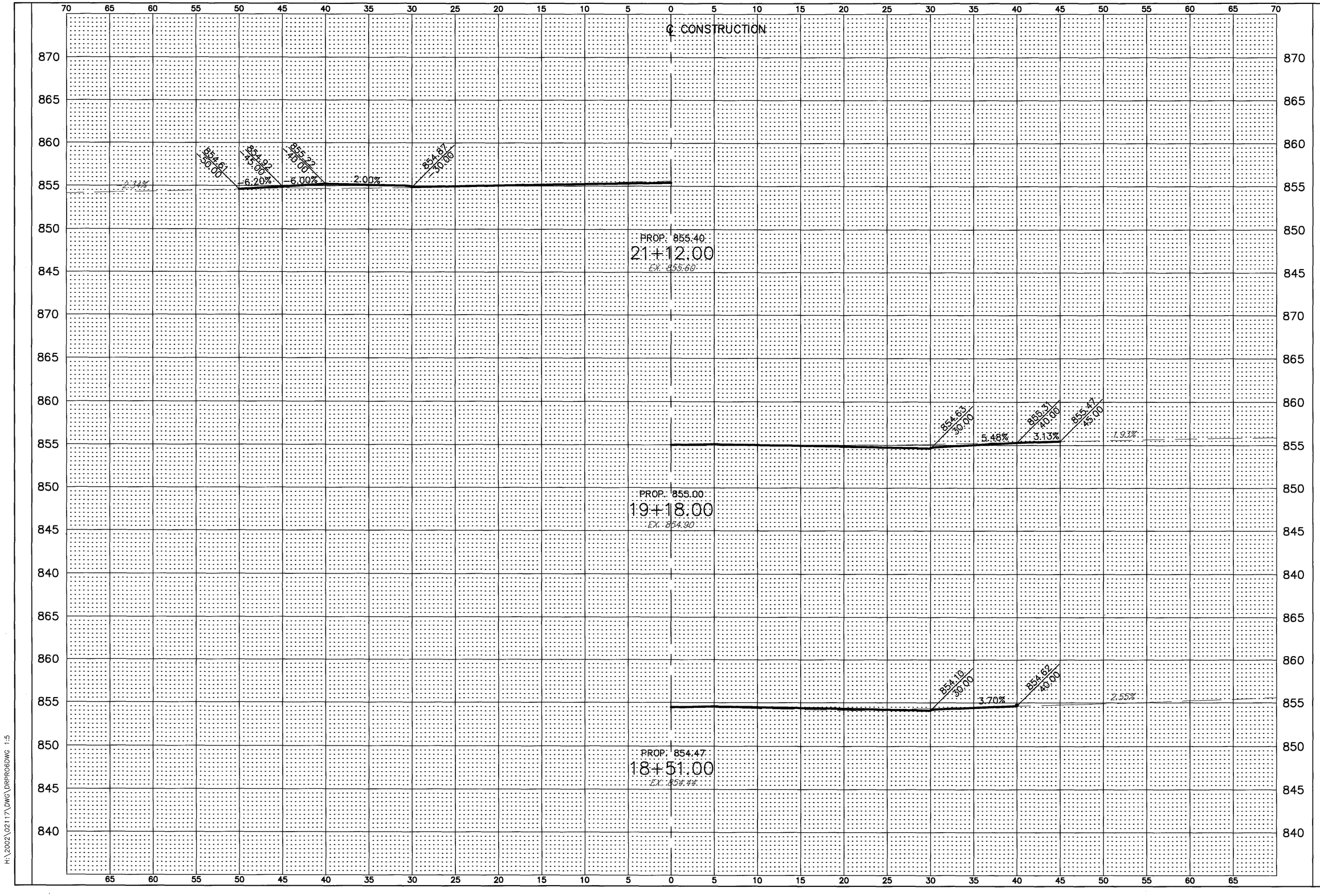

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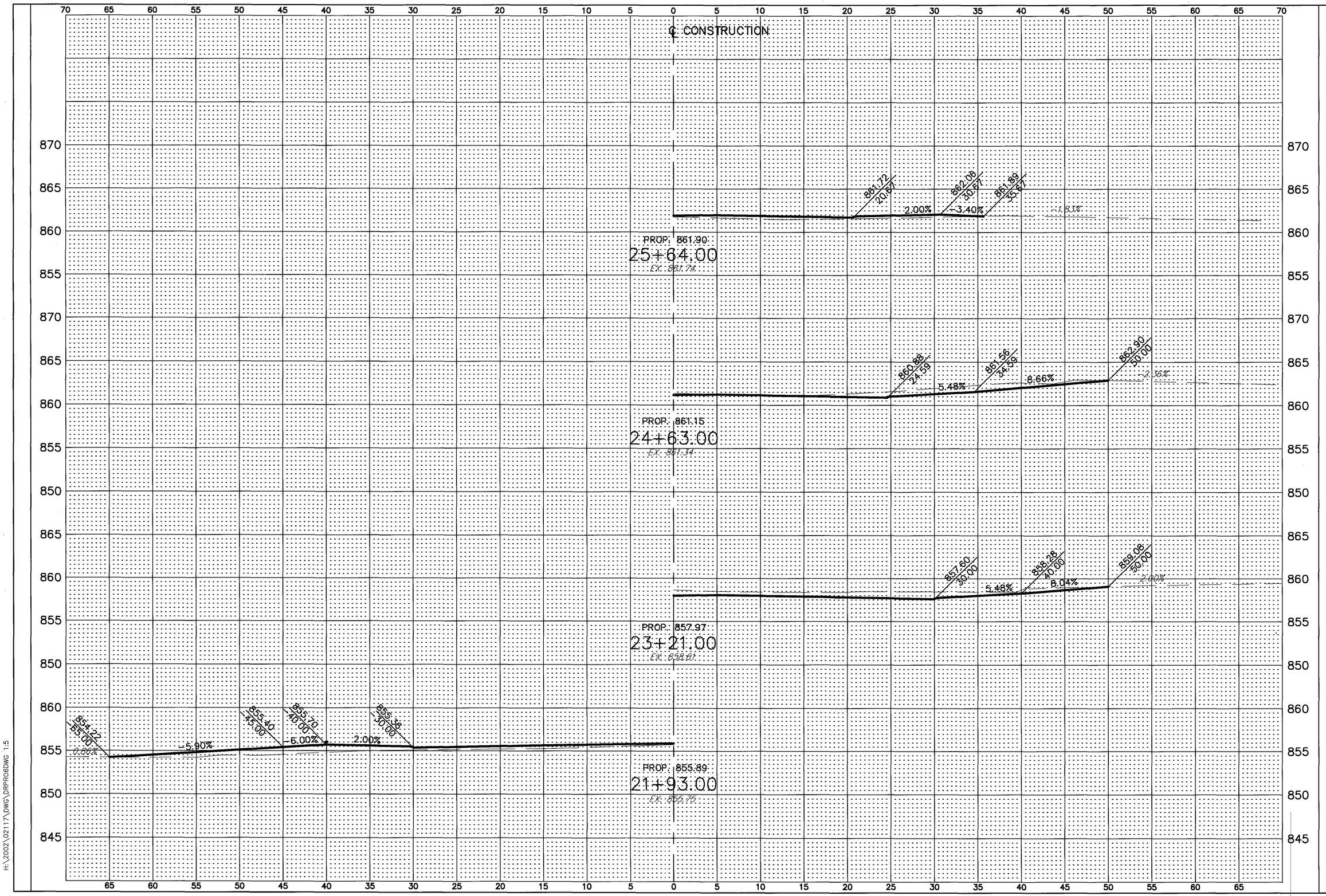
CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
DRIVE PROFILES STA. 18+51 TO STA. 21+12

LAK – 90/84 – 0.54/0.43

212
369



CALCULATED M.L.M.
CHECKED W.D.B.

U.S. 6 – CHARDON ROAD
DRIVE PROFILES STA. 21+93 TO STA. 25+64

LAK – 90/84 – 0.54/0.43

213
369

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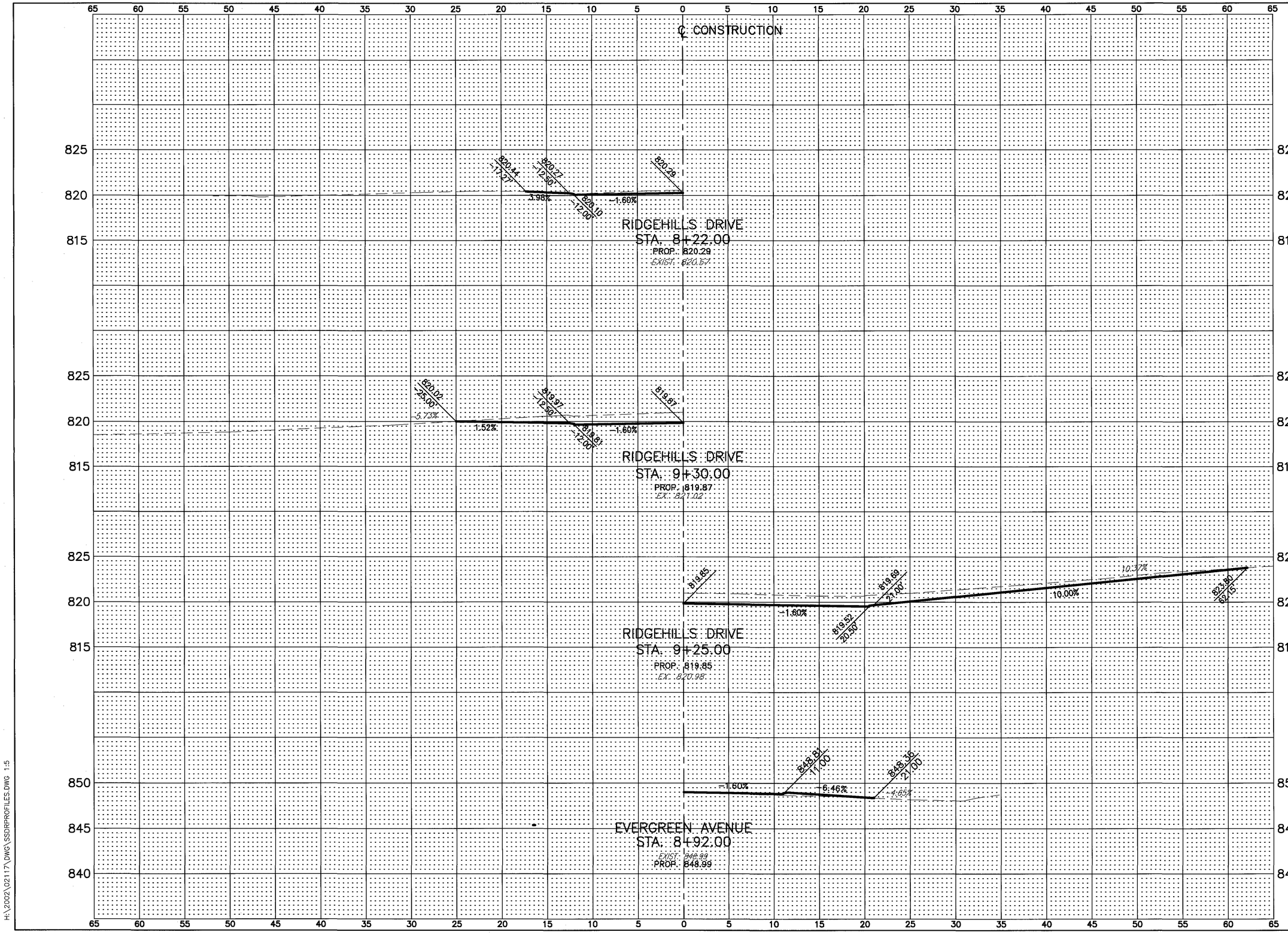

CALCULATED M.L.M.
CHECKED W.D.B.

SIDESTREET DRIVE PROFILES
EVERGREEN AVENUE & RIDGEHILLS DRIVE

LAK – 90/84 – 0.54/0.43

213A
369

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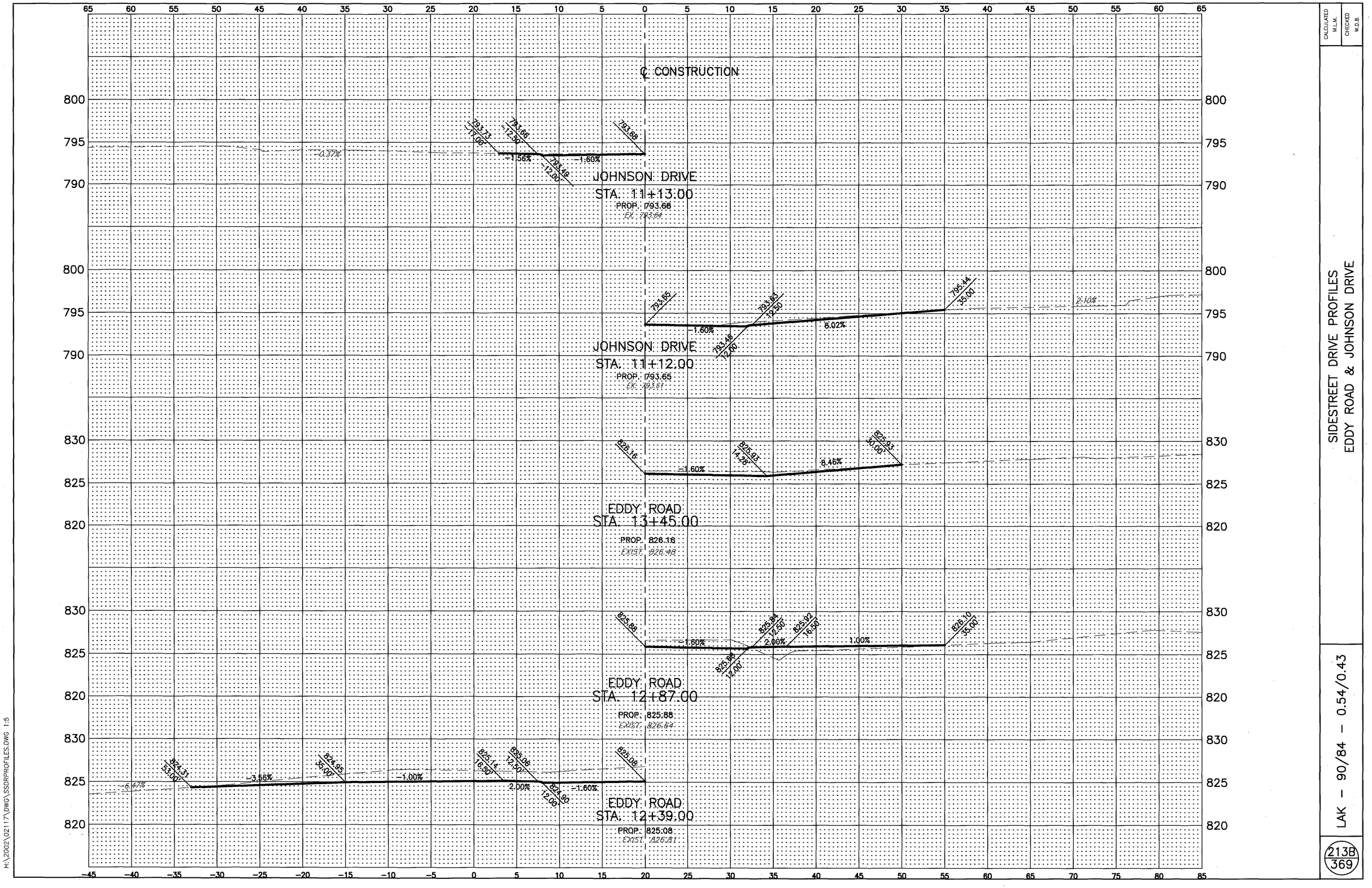

CALCULATED M.L.M.
CHECKED W.D.B.

SIDESTREET DRIVE PROFILES
EDDY ROAD & JOHNSON DRIVE

LAK - 90/84 - 0.54/0.43

213B
369

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PROFILE DRIVE LEFT

PROFILE DRIVE RIGHT

H:\2002\02117\DWG\DRIVE-INTDET.DWG

N

SCALE IN FEET
20 10 0 20

CALCULATED
CHECKED

BISHOP ROAD – 2721 BISHOP ROAD
DRIVE DETAIL

LAK – 90/84 – 0.54/0.43

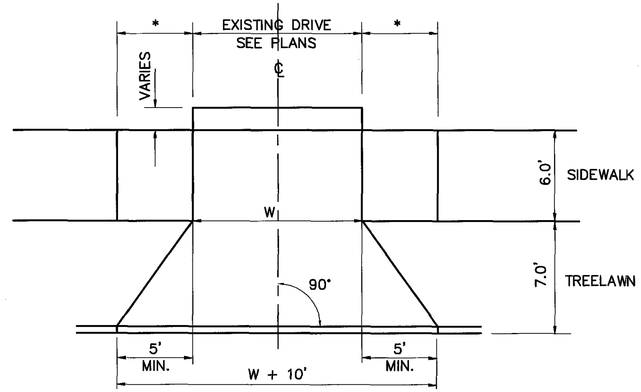
214
369

NOTE:

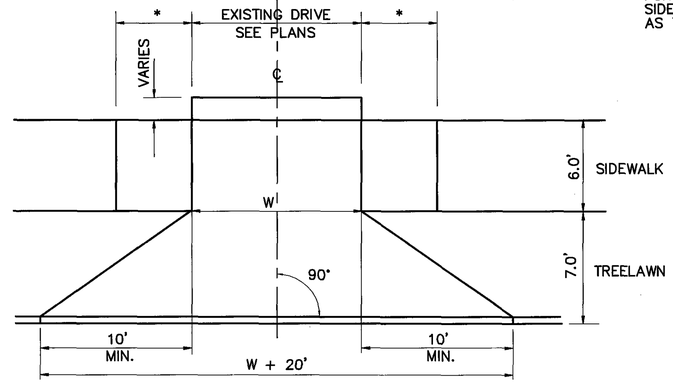
① DRIVEWAY REPLACEMENT FROM THE BACK OF THE PROPOSED CURB TO THE BACK OF THE PROPOSED SIDEWALK SHALL BE WITH CONCRETE PAVEMENT FOR ALL DRIVEWAYS. DRIVEWAY REPLACEMENT BEYOND SIDEWALK SHALL BE WITH THE SAME MATERIAL AS THE EXISTING DRIVEWAY.

FOR DRIVE PROFILES
SEE SHEETS 200–213

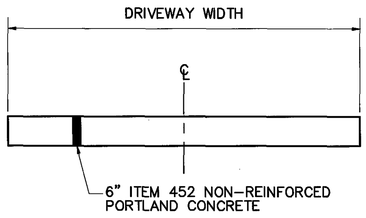
* 5' TRANSITION FOR 1" AND 2" DEPRESSED SIDEWALK



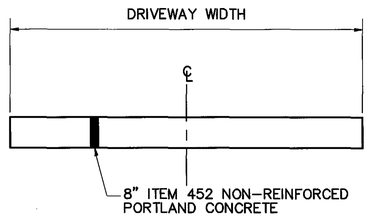
TYPICAL RESIDENTIAL DRIVE
SEE NOTE ①



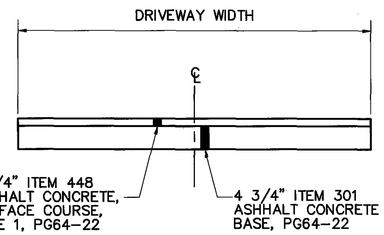
TYPICAL COMMERCIAL DRIVE
SEE NOTE ①



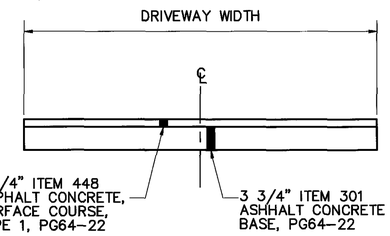
RESIDENTIAL CONCRETE DRIVE



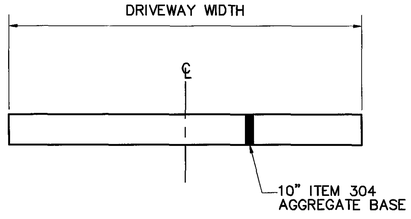
COMMERCIAL CONCRETE DRIVE



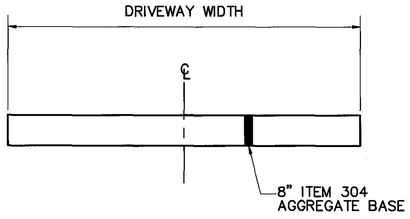
COMMERCIAL ASPHALT DRIVE



RESIDENTIAL ASPHALT DRIVE



COMMERCIAL STONE DRIVE



RESIDENTIAL STONE DRIVE

DRIVEWAY DETAILS

LAK – 90/84 – 0.54/0.43

215
369

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NOTE: ALL ELEVATIONS ALONG THE CURB ARE FACE OF CURB ELEVATIONS.

N

SCALE IN FEET
10 5 0 10

CALCULATED
CHECKED

EVERGREEN AVENUE AND PLAZA DRIVE INTERSECTION DETAIL

LAK – 90/84 – 0.54/0.43

216
369

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DETAIL A

S.R. 84 ℄ CONSTRUCTION

① CURVE DATA
P.I.=STA. 30+13.11
Δ =18°50'29" RT.
D_c=02°24'30"
R=2379.08'
T=394.74'
L=782.35'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

N 02°07'05" E
33+00
79°31'55"
N78°46'14"E
20+00
U.S. 6 ℄ CONST. & EX. R/W
N78°26'25"E
STA: 32+81.18 (S.R. 84)
STA: 20+03.08 (U.S. 6)
3.08'
U.S. 6 EX. ℄ R/W ANGLE POINT
STA. 20+00.00
00° 19' 50" RT.
N 02°09'35" W
S.R. 84 EX. ℄ R/W
S.R. 84 ℄ CONSTRUCTION

S.R. 84 BISHOP ROAD
PT = 34+00.73
N02°07'05"E

CURVE DATA
Δ = 102°52'26"
R = 50.0'
L = 89.77'
T = 62.72'
C = 78.19'
S 49°47'33" E

CURVE DATA
= 77°39'17"
R = 50.0'
L = 67.77'
T = 40.24'
C = 62.70'
S 39°36'46" W

STA. 21+01.28, 80.00' RT.
STA. 33+81.08, 80.00' RT.

CB-3A
STA. 20+80.0, 34.8' LT. (U.S. 6)=
STA. 33+30.8, 68.8' RT. (S.R. 84)
GRATE EL. 854.28

STA. 19+37.81, 80.00, LT.
STA. 33+45.40, 80.00' LT.

STA: 32+81.18 (S.R. 84)
STA: 20+03.08 (U.S. 6)
(SEE DETAIL "A")

U.S. 6 CHARDON ROAD

CROWN LINE

79°31'55"

33+00

20+00

22+00

21+00

N78°46'14"E
EX. ℄ R/W

℄ U.S. 6 ANGLE PT.
STA. 20+00
00° 19' 50" RT.

DETAIL A

U.S. 6 CHARDON ROAD
℄ CONST. & EX. R/W
18+00
N78°26'25"E
EX. ℄ R/W
19+00

CURVE DATA
Δ = 81°11'12"
R = 50.0'
L = 70.85'
T = 42.85'
C = 65.07'
S 38°10'38" W

CB-3
STA. 20+87.3, 30.0' LT. (U.S. 6)
GRATE EL. 854.84

CB-3A
STA. 20+38.9, 41.3' LT. (U.S. 6)=
STA. 32+46.4, 42.5' RT. (S.R. 84)
GRATE EL. 855.33

STA. 20+70.63, 80.00' RT.
STA. 32+12.46, 80.00' RT.

STA. 19+08.31, 80.00' RT.
STA. 31+87.97, 80.00' LT.

CURVE DATA
Δ = 98°33'13"
R = 50.0'
L = 86.00'
T = 58.08'
C = 75.79'
S 52°16'59" E

BISHOP ROAD
ANGLE PT.
EX. ℄ R/W
CROWN LINE
℄ CONST.

Ⓛ STANDARD LONGITUDINAL JOINT, PER BP-2.1
Ⓒ CONTRACTION JOINT, PER BP-2.2
Ⓔ EXPANSION JOINT, PER BP-2.2
Ⓢ LOGITUDINAL JOINT WITHOUT TIE BARS
Ⓑ BUTT JOINT

NOTE: ALL ELEVATIONS ALONG THE CURB ARE FACE OF CURB ELEVATIONS.

N

SCALE IN FEET
10 5 0 10

CALCULATED
CHECKED

S.R. 84 BISHOP ROAD – U.S. 6 CHARDON ROAD
INTERSECTION DETAIL

LAK – 90/84 – 0.54/0.43

217
369

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STA. 9+50.30, 52' LT.
STA. 48+18.92, 60' LT.

CURVE DATA
Δ = 86°00'38"
R = 30.0'
L = 45.03'
T = 27.98'
C = 40.92'
N 46°32'08" E

BISHOP PARK DRIVE

℄ CONST.

S89°32'27"W

9+00

10+00

48+00

47+00

℄ CONST.

826.33 826.32 826.17 826.91
13.00' 12.00' 10.00' 12.00' 13.00'
80.978

826.14 826.07 826.44 +25 826.51
826.05 826.57 826.76 826.41
825.96 826.31 826.88
825.87 825.76 825.36 825.71
826.65 826.84 826.76 +75 826.49
826.39 826.83 10+06.82
826.46 826.11
826.74 826.93 826.58 826.32
826.48 826.85 +50
826.65 826.84 826.49 826.23
826.33 826.70 826.30 826.04
826.46 826.65 826.57 826.20

11.26' 11.25' 11.26' 11.26'
11.00' 11.00' 11.00' 11.00' 11.00'
17.50' 17.50'
7.3' 13.00'
15.00' 15.00'
12.3' 12.3' 12.3' 12.31'
12' 12' 12' 14' 14' 14'

93°59'22"

STA: 47+70.98 (S.R. 84)
STA: 10+06.82 (BISHOP PARK DRIVE)

CROWN LINE

S.R. 84 (BISHOP ROAD)

NO3°31'50"E

CURVE DATA
Δ = 93°59'23"
R = 30.0'
L = 49.21'
T = 32.17'
C = 43.88'
S 43°27'52" E

STA. 9+43.05, 52' RT.
STA. 47+14.67, 60' LT.

Ⓛ STANDARD LONGITUDINAL JOINT, PER BP-2.1
Ⓒ CONTRACTION JOINT, PER BP-2.2
Ⓔ EXPANSION JOINT, PER BP-2.2
Ⓢ LOGITUDINAL JOINT WITHOUT TIE BARS
Ⓑ BUTT JOINT

NOTE: ALL ELEVATIONS ALONG THE CURB ARE FACE OF CURB ELEVATIONS.

STATION EQUATION
PT STA. 61+06.98 (BACK)=
PT STA. 61+06.46 (AHEAD)

S.R. 84 BISHOP ROAD

℄ CONST. & EX. R/W

N00°27'02"W

STA. 10+48.63, 47.00' LT.
STA. 61+54.04, 48.06' RT.

CURVE DATA
Δ = 88°34'06"
R = 35.0'
L = 54.10'
T = 34.14'
C = 48.88'
S 46°52'02" E

CB-3A
STA. 10+51.4, 12.0' LT.
GRATE EL. 790.96

JOHNSON DR.

℄ CONST. & EX. R/W

N88°50'55"E

89°17'57"

10+00

61+00

11+

789.42 789.21 789.67 790.14 790.60 791.07
789.55 +50 790.36 +25 791.17 790.92 791.13 791.26 791.37 791.24 790.94
13.33' 13.53' 13.52' 13.52'
11.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0'
10.0' 11.5' 14.16' 14.16' 14.17' 14.17'

CB-3
STA. 10+55.9, 12.0' RT.
GRATE EL. 790.93

CURVE DATA
Δ = 92°45'07"
R = 35.0'
L = 56.66'
T = 36.72'
C = 50.67'
S 42°28'21" W

791.55 791.85 792.06 +75 792.45 792.16 792.60 +50

STA. 10+51.93, 47.00' RT.
STA. 60+58.86, 51.72' RT.

CB-3A
STA. 60+50.0, 17.0' RT.
GRATE EL. 792.11

13.0' 13.0'

EX. ℄ R/W

S.R. 84 ℄ CONST.

N00°27'02"W

CROWN LINE

60+00

PC = 59+97.80

② S.R. 84 ℄ CURVE DATA
P.I.=STA. 60+52.41
Δ =03°58'52" RT.
D =04°00'00"
R=1432.40'
T=54.61'
L=109.15'
E=1.04'
emax= N/A
P.C.=STA. 59+97.80
P.T.=STA. 61+06.98

④ GUTTER/ F.O.C. CURVE DATA
P.I.=STA. 60+33.51, 17.15' RT.
Δ =02°28'44" LT.
D =04°10'21"
R=2037.57'
T=29.71'
L=59.41'
E=0.32'
emax= N/A
P.C. = 59+97.80, 18.9' RT.
P.C.C. = 60+57.92, 16.72' RT.

N

SCALE IN FEET 10 5 0 10

CALCULATED
CHECKED

BISHOP PARK DRIVE AND JOHNSON DRIVE
INTERSECTION DETAIL

LAK - 90/84 - 0.54/0.43

218
369

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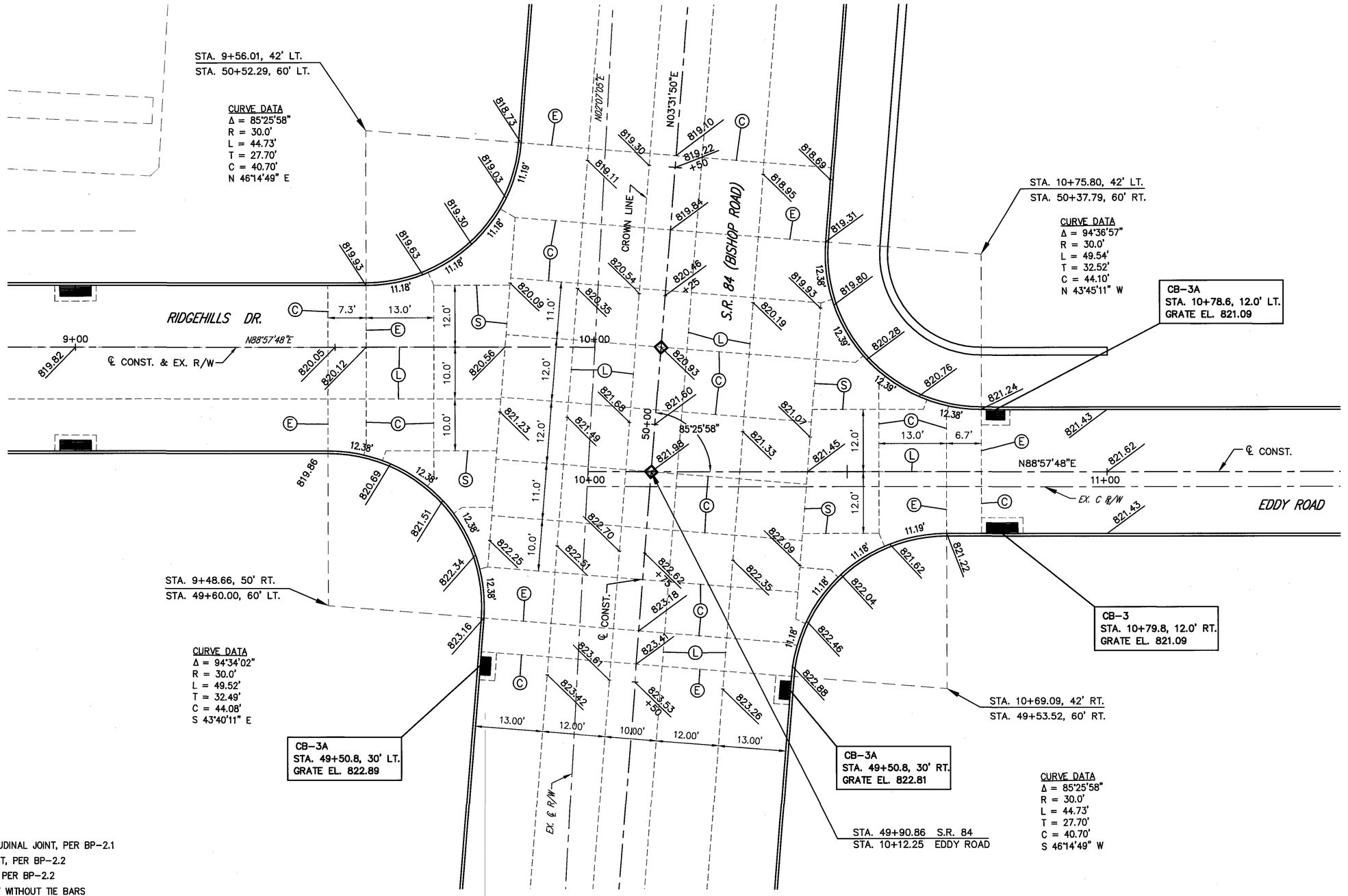

Ⓛ STANDARD LONGITUDINAL JOINT, PER BP-2.1
Ⓒ CONTRACTION JOINT, PER BP-2.2
Ⓔ EXPANSION JOINT, PER BP-2.2
Ⓢ LOGITUDINAL JOINT WITHOUT TIE BARS
Ⓑ BUTT JOINT

NOTE: ALL ELEVATIONS ALONG THE CURB ARE FACE OF CURB ELEVATIONS.

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SCALE IN FEET 10 5 0 10

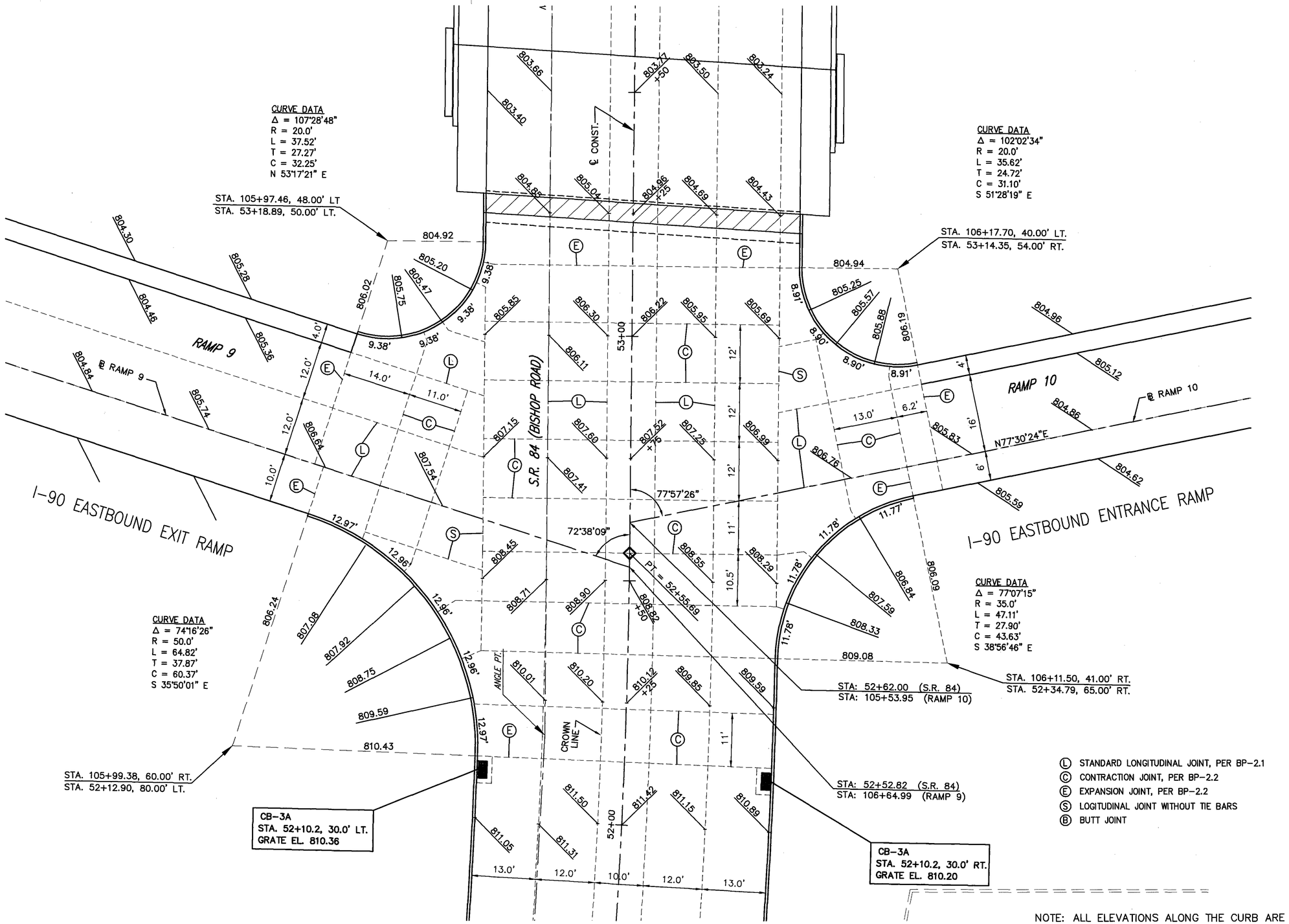
CALCULATED

CHECKED

RIDGEHILLS DRIVE AND EDDY ROAD
INTERSECTION DETAIL

LAK - 90/84 - 0.54/0.43

219
369



SCALE IN FEET
10 5 0 10

CALCULATED
CHECKED

S.R. 84 BISHOP ROAD – RAMP 9 & 10
INTERSECTION DETAIL

LAK – 90/84 – 0.54/0.43

220
369

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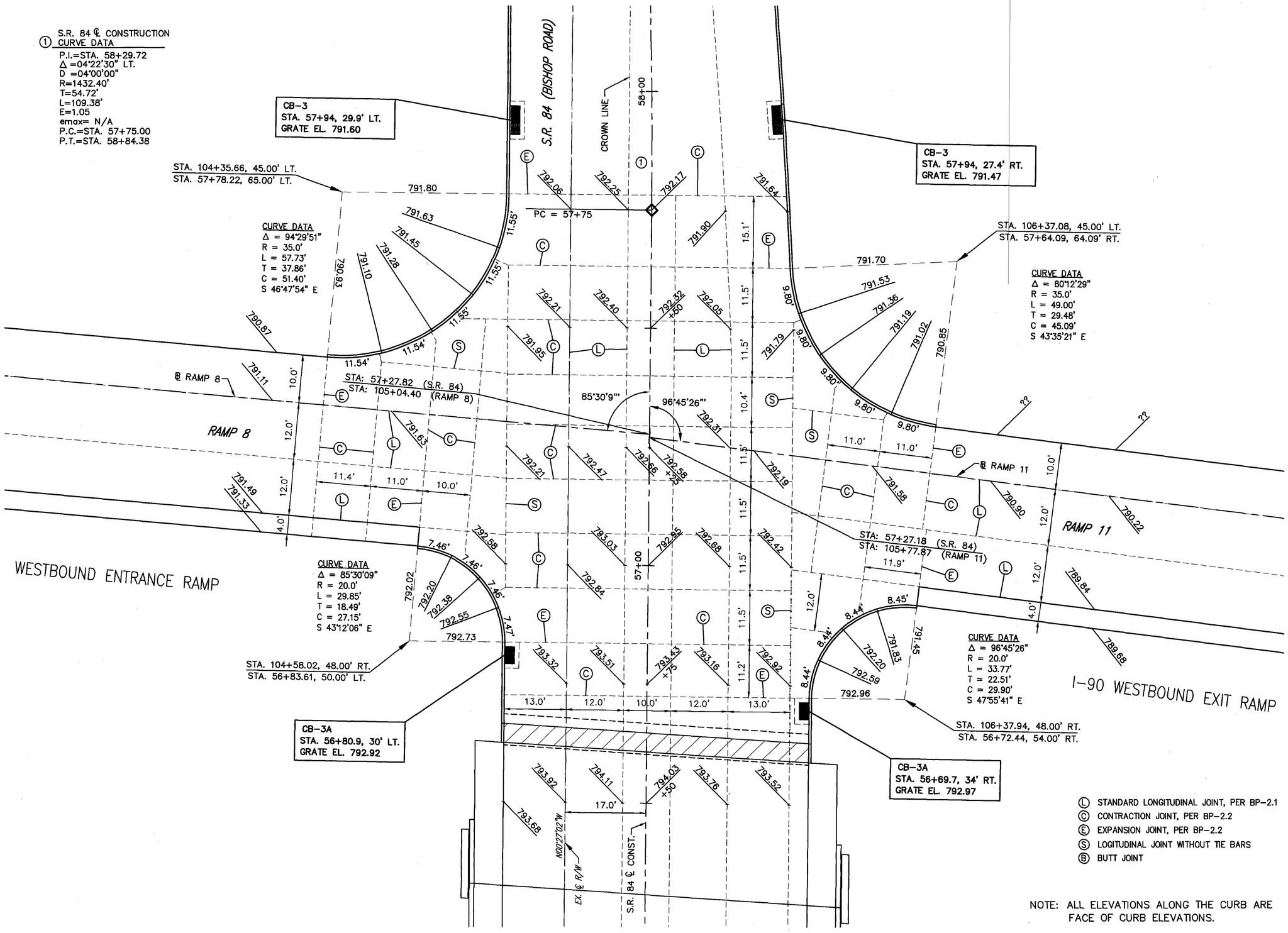

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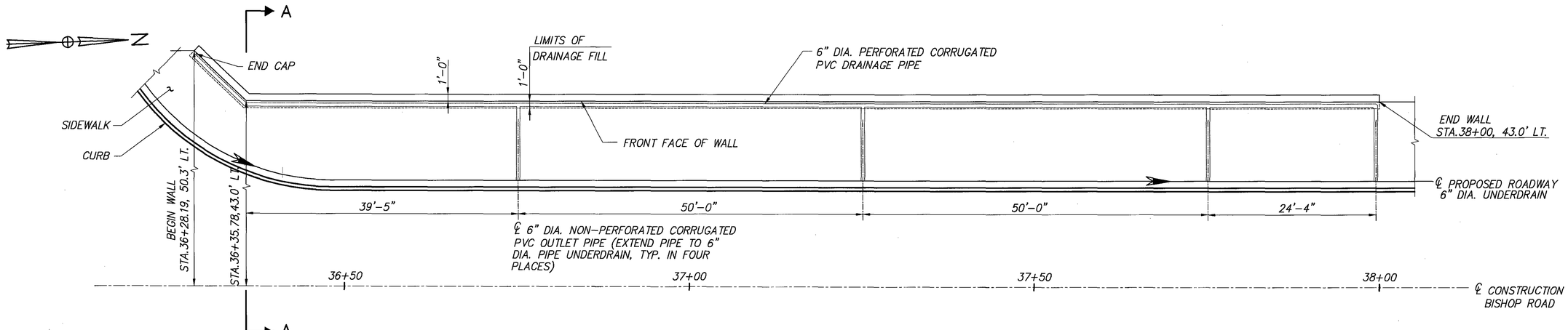
CALCULATED | CHECKED

SCALE IN FEET 10 5 0 10

S.R. 84 BISHOP ROAD – RAMP 8 & 11
INTERSECTION DETAIL

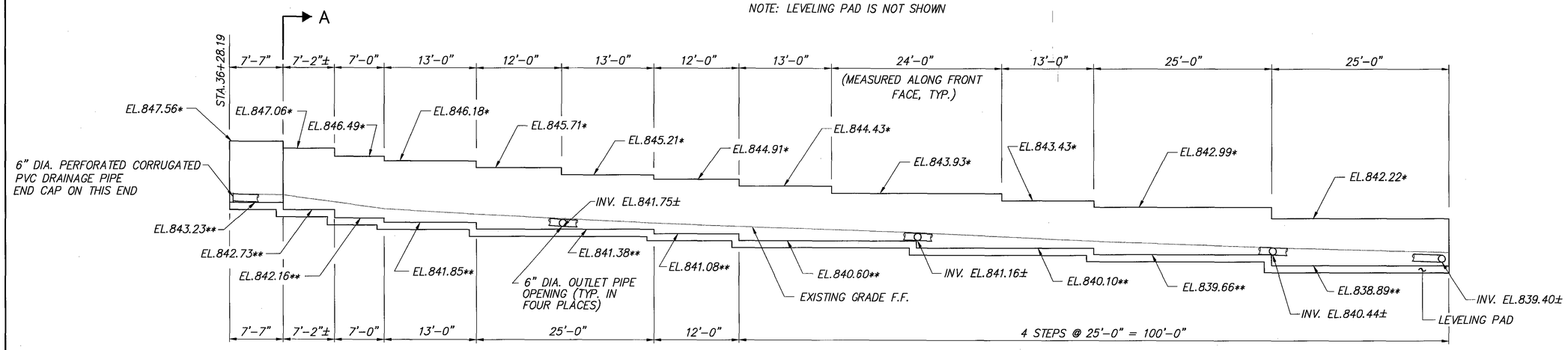
LAK – 90/84 – 0.54/0.43

221
369



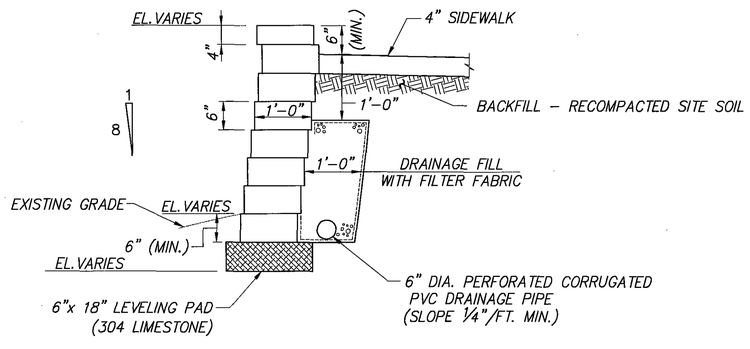
PLAN

NOTE: LEVELING PAD IS NOT SHOWN



* – ELEVATIONS ARE GIVEN AT T.O.W.
** – ELEVATIONS ARE GIVEN AT B.O.W.

ELEVATION



SECTION A–A

NOTES:

1. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE GENERAL NOTE ON SHEET 17.

   FOR RETAINING WALL SPECIFICATIONS, SEE SHEETS 224 AND 225.

2. ABBREVIATIONS: TYP.–TYPICAL; EL.–ELEVATION; T.O.W.–TOP OF WALL; B.O.W.–BOTTOM OF WALL; F.F.–FAR FACE; MIN.–MINIMUM; DIA.–DIAMETER.

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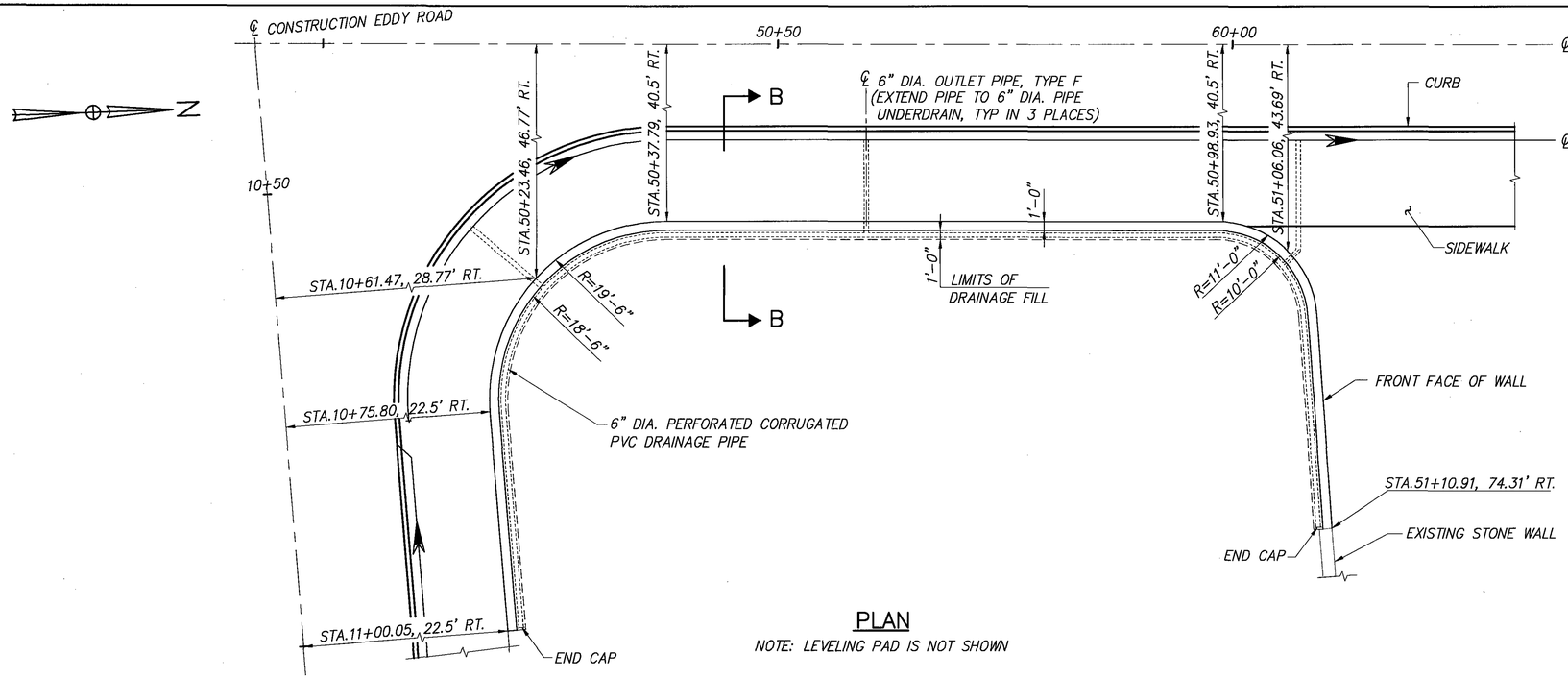
440.951.9000 www.ctconsultants.com

DESIGNED R.R.C. | DRAWN R.R.C. | CHECKED R.J.C. | REVISED | REVIEWED W.D.B. 10/29/04 | DATE | STRUCTURE FILE NUMBER N/A

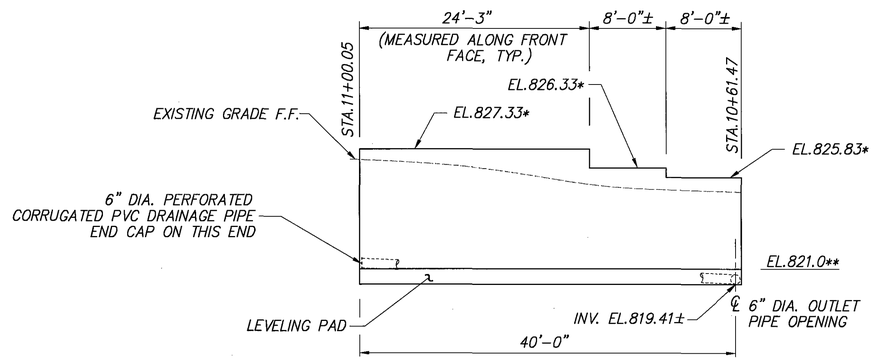
RETAINING WALL – PLAN AND ELEVATION
STA.36+28.19 TO STA.38+00.00

LAK-90/84-0.54/0.43



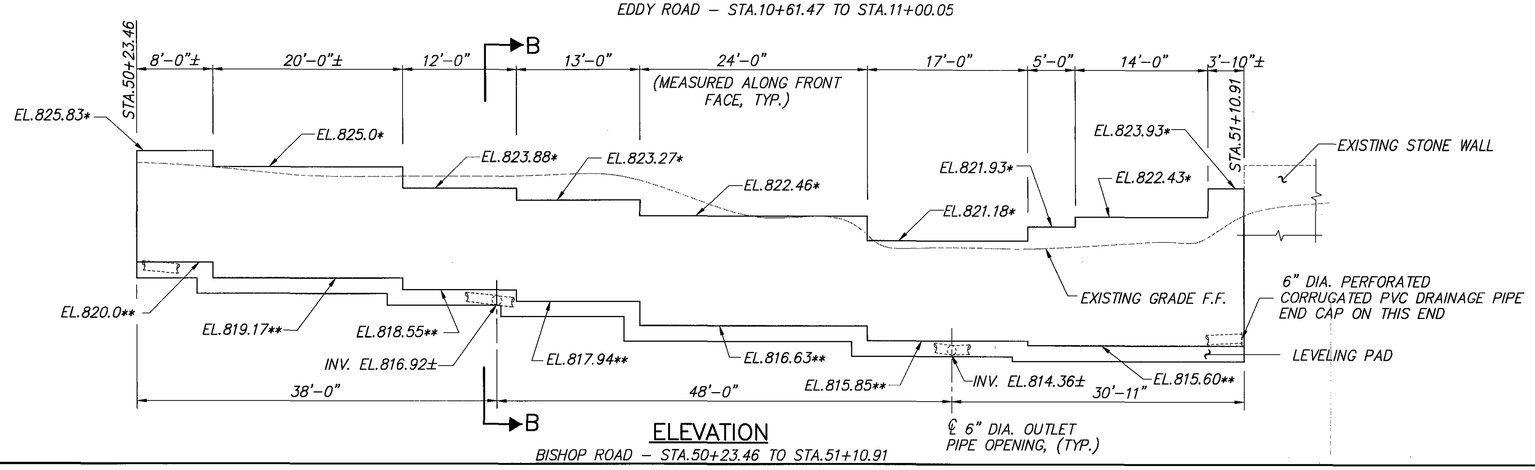
PLAN

NOTE: LEVELING PAD IS NOT SHOWN



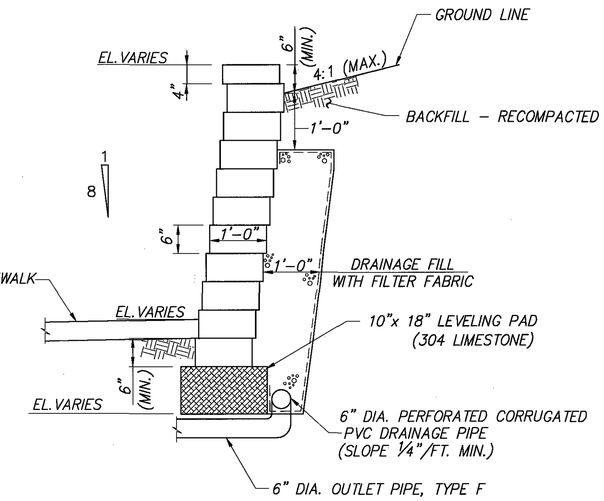
ELEVATION

EDDY ROAD – STA.10+61.47 TO STA.11+00.05



ELEVATION

BISHOP ROAD – STA.50+23.46 TO STA.51+10.91



SECTION B–B

* – ELEVATIONS ARE GIVEN AT T.O.W.
** – ELEVATIONS ARE GIVEN AT B.O.W.

NOTES:

1. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE GENERAL NOTE ON SHEET 17.

   FOR RETAINING WALL SPECIFICATIONS, SEE SHEETS 224 AND 225.

2. ABBREVIATIONS: TYP.–TYPICAL; EL.–ELEVATION; T.O.W.–TOP OF WALL; B.O.W.–BOTTOM OF WALL; F.F.–FAR FACE; MIN.–MINIMUM. MAX.–MAXIMUM; DIA.–DIAMETER.

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DESIGNED	DRAWN	REVIEWED	DATE
R.R.C.	R.R.C.	W.D.B.	10/29/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
R.J.C.		N/A	

RETAINING WALL – PLAN AND ELEVATION

EDDY ROAD–STA.10+61.47 TO STA.11+00.05 &
BISHOP ROAD–STA.50+23.46 TO STA.51+10.91

LAK–90/84–0.54/0.43

223
369

H:\2002\02117\dwg\Strcrw2.dwg PLOT SCALE 1:96

ITEM SPECIAL – MISCELLANEOUS: RETAINING WALL – SEGMENTAL CONCRETE UNIT (MANUFACTURED BLOCK) RETAINING WALL SYSTEM

SECTION 1 – SCOPE

1.1 WORK IN THIS SECTION INCLUDES FURNISHING AND INSTALLING SEGMENTAL CONCRETE UNITS, WALL FILL AND BACKFILL TO THE LINES AND GRADES DESIGNATED.

1.2 THIS SPECIFICATION COVERS MORTARLESS, SEGMENTAL RETAINING WALL SYSTEMS WHICH ARE MADE UP OF SOLID CONCRETE STRUCTURAL RETAINING WALL UNITS, MACHINE MADE FROM PORTLAND CEMENT, WATER AND MINERAL AGGREGATES.

1.3 VALUES STATED IN INCH–POUND UNITS ARE TO BE REGARDED AS THE STANDARD. METRIC EQUIVALENTS OF INCH–POUND UNITS MAY BE APPROXIMATE.

SECTION 2 – REFERENCED STANDARD AND APPLICABLE PUBLICATIONS

THE REFERENCES AND PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED. THE REFERENCES AND PUBLICATIONS ARE REFERRED TO IN THE TEXT BY THE BASIC DESIGNATION ONLY.

2.1 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).

ASTM C–33	SPECIFICATION FOR CONCRETE AGGREGATES
ASTM C–90	STANDARD SPECIFICATION FOR LOAD–BEARING CONCRETE MASONRY UNITS
ASTM C–140	METHODS OF SAMPLING AND TESTING CONCRETE MASONRY UNITS
ASTM C–150	SPECIFICATION FOR PORTLAND CEMENT
ASTM C–331	SPECIFICATION FOR LIGHTWEIGHT AGGREGATES FOR CONCRETE MASONRY UNITS
ASTM C–595	SPECIFICATION FOR BLENDED HYDRAULIC CEMENTS
ASTM C–618	SPECIFICATION FOR FLY ASH AND RAW OR CALCINED NATURAL POZZOLAN FOR USE AS A MINERAL ADMIXTURE IN PORTLAND CEMENT CONCRETE
ASTM C–989	SPECIFICATION FOR GROUND BLAST FURNACE SLAG CEMENT
ASTM D–638	TEST METHOD FOR TENSILE PROPERTIES OF PLASTIC
ASTM D–1248	SPECIFICATION FOR POLYETHYLENE PLASTICS MOLDING AND EXTRUSION MATERIALS
ASTM D–1785	SPECIFICATION FOR POLYVINYL CHLORIDE (PVC) PLASTIC PIPE, SCHEDULES 20, 40, 80 AND 120
ASTM D–4218	TEST METHOD FOR CARBON BLACK CONTENT IN POLYETHYLENE COMPOUNDS BY THE MUFFLE FURNACE TECHNIQUE

2.2 DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR CONSTRUCTION (ODOT):

203	EMBANKMENT GRANULAR
304	AGGREGATE BASE

SECTION 3 – GENERAL

3.1 MODULAR CONCRETE RETAINING WALL UNITS ARE MANUFACTURED AS STAND ALONE RETAINING WALLS. UNITS SHALL MEET OR EXCEED THE SPECIFIC REQUIREMENTS STATED WITHIN THESE SPECIFICATIONS.

3.2 DRAINAGE FILL IS A FREE DRAINING GRANULAR MATERIAL USED BEHIND THE CONCRETE UNITS TO COLLECT AND DISPOSE OF THE WATER WITHIN THE SYSTEM.

3.3 FOUNDATION SOIL IS THE IN–SITU SOIL UPON WHICH THE WALL SYSTEM WILL BE FOUNDED.

SECTION 4 – SUBMITTALS

THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR APPROVAL TO THE CITY OF WILLOUGHBY HILLS ENGINEER:

4.1 LITERATURE DEPICTING THE WALL SYSTEM UNIT A MINIMUM OF 30 DAYS PRIOR TO CONSTRUCTION FOR CONSIDERATION OF APPROVAL. THE COLOR OF THE MANUFACTURED BLOCKS WILL BE APPROVED BY THE OHIO DEPARTMENT OF TRANSPORTATION AND A REPRESENTATIVE FROM WILLOUGHBY HILLS.

4.2 EVIDENCE THAT THE MODULAR WALL SYSTEM PROPOSED HAS BEEN USED SUCCESSFULLY ON OTHER PROJECTS.

4.3 CALCULATIONS AND SIGNED DRAWINGS FROM A REGISTERED ENGINEER WHERE THE UNITS TO BE USED DO NOT CONFORM TO THE SPECIFICATION HEREIN. CALCULATIONS SHALL BE PREPARED SHOWING THE CHANGES TO THE ORIGINAL DESIGN INCORPORATING THE SUBMITTED PRODUCTS' DEVIATIONS FROM THE ABOVE REQUIREMENTS.

4.4 ONE SAMPLE WITH SPECIFICATIONS (GRADATION) WHERE ADDITIONAL FILL IS REQUIRED TO THE ENGINEER FOR APPROVAL.

SECTION 5 – MATERIALS

5.1 CEMENTITIOUS MATERIALS – MATERIALS SHALL CONFORM TO THE FOLLOWING APPLICABLE SPECIFICATIONS

5.1.1 PORTLAND CEMENT – SPECIFICATION ASTM C–150

5.1.2 MODIFIED PORTLAND CEMENT – PORTLAND CEMENT CONFORMING TO ASTM C–150, MODIFIED AS FOLLOWS: LIMESTONE – CALCIUM CARBONATE WITH A MINIMUM 85% ($CaCO_3$) CONTENT, MAY BE ADDED TO THE CEMENT, PROVIDED THESE REQUIREMENTS OF ASTM C–150 AS MODIFIED ARE MET:

(1) LIMITATION ON INSOLUBLE RESIDUE – 1.5%
(2) LIMITATION OF AIR CONTENT OF MORTAR – VOLUME PERCENT, 22 MAX.
(3) LIMITATION ON LOSS OF IGNITION – 7%

5.1.3 BLENDED CEMENTS – ASTM C–595

5.1.4 POZZOLANS – ASTM C–618

5.1.5 BLAST FURNACE SLAG CEMENT – ASTM C–989

5.2 AGGREGATES SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS, EXCEPT THAT GRADATION REQUIREMENTS SHALL NOT NECESSARILY APPLY:

5.2.1 NORMAL WEIGHT AGGREGATES – ASTM C–33

5.2.2 LIGHTWEIGHT AGGREGATES – ASTM C–331

5.3 OTHER CONSTITUENTS – AIR–ENTRAINING AGENTS, COLOR PIGMENTS, INTEGRAL WATER REPELLENTS, FINELY GROUND SILICA AND OTHER CONSTITUENTS SHALL CONFORM TO APPLICABLE ASTM STANDARDS AND/OR SHALL BE SHOWN BY CERTIFIED TESTING THAT THE CONSTITUENT IS NOT DETRIMENTAL TO THE DURABILITY OF THE CONCRETE SEGMENTAL RETAINING WALL UNITS OR ANY MATERIAL CUSTOMARILY USED IN MASONRY CONSTRUCTION.

5.4 ACCEPTABLE SYSTEM – UNILOCK RETAINING WALL SYSTEM, ANCHOR WALL SYSTEMS, VERSA–LOK, VSL CORP.–RETAINED EARTH, OR APPROVED EQUAL.

5.5 BASE MATERIAL:

5.5.1 LEVELING PAD SHALL BE INSTALLED AS SHOWN IN THE PLANS.

5.6 DRAINAGE FILL:

5.6.1 FILL BETWEEN THE UNITS SHALL CONSIST OF FREE–DRAINING, SOUND, DURABLE PARTICLES OF WELL GRADED GRAVEL OR CRUSHED STONE CONFORMING TO THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT PASSING
2"	75–100
1"	35–100
No. 4	10–40
No. 10	5–25
No. 40	0–10
No. 200	0–5

5.6.2 A MINIMUM OF TWELVE (12) INCHES OF DRAINAGE FILL MUST EXTEND BEHIND THE WALL TO WITHIN ONE (1) FOOT OF FINAL GRADE. CAP DRAINAGE FILL WITH ONE (1) FOOT OF RECOMPACTED SITE SOIL. FILTER FABRIC SHALL BE ODOT TYPE A.

5.7 BACKFILL:

5.7.1 MATERIAL SHALL BE ODOT ITEM No. 304, CRUSHED LIMESTONE.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PLACING THE BACKFILL TO VERIFY THAT IT IS ACCEPTABLE. UNSUITABLE SOILS FOR BACKFILL INCLUDING ORGANIC SOILS, SHALL NOT BE USED.

SECTION 6 – PHYSICAL REQUIREMENTS

6.1 AT THE TIME OF DELIVERY TO THE WORK SITE, THE UNITS SHALL CONFORM TO THE PHYSICAL REQUIREMENTS PRESENTED IN TABLE 1 AND 2.

TABLE 1 – STRENGTH REQUIREMENTS
28 DAY–COMPRESSIVE STRENGTH, MIN., PSI 3000

TABLE 2 – ABSORPTION REQUIREMENTS
WATER ABSORPTION, MAX., lb/cf (kg.cubic m)

8%

6.2 RETAINING WALL UNITS SHALL BE 6" HIGH BY 12" DEEP.

6.3 UNITS, WHEN PLACED IN THE FINAL WALL CONFIGURATION, SHALL PROVIDE A MINIMUM SETBACK FROM VERTICAL OF 7° AND A MAXIMUM SETBACK FROM VERTICAL OF 12°.

6.4 PERMISSIBLE VARIATIONS IN DIMENSIONS. OVERALL DIMENSIONS, AS DEFINED BY THE MANUFACTURER, SHALL NOT VARY MORE THAN ± 1/8–INCH (3.2mm) IN THE DEPTH OR LENGTH OF THE UNITS, AND NOT MORE THAN 1/16–INCH (1.6mm) IN HEIGHT FROM THE SPECIFIED DIMENSION.

6.5 FINISH AND APPEARANCE:

6.5.1 ALL UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPACT THE STRENGTH OR PERMANENCE OF THE CONSTRUCTION. MINOR CRACKS INCIDENTAL TO THE USUAL METHOD OF MANUFACTURE, OR MINOR CHIPPING RESULTING FROM SHIPMENT AND DELIVERY, ARE NOT GROUNDS FOR REJECTION. UNITS SHOWING CRACKS LARGER THAN 1/2–INCH MEASURED ALONG THEIR LENGTH SHALL NOT BE USED WITHIN THE WALL.

6.5.2 THE FACE OR FACES OF THE UNITS THAT ARE TO BE EXPOSED SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 30 FEET.

SECTION 7 – SAMPLING AND TESTING

7.1 THE PURCHASER OR AUTHORIZED REPRESENTATIVE SHALL BE ACCORDED PROPER FACILITIES TO INSPECT AND SAMPLE UNITS FROM LOTS READY FOR DELIVERY. THE CONTRACTOR SHALL NOTIFY THE AUTHORIZED REPRESENTATIVE IN WRITING A MINIMUM OF FIVE (5) CALENDAR DAYS PRIOR TO SHIPMENT OF MATERIALS.

7.2 SAMPLE AND TEST UNITS FOR COMPRESSIVE STRENGTH AND ABSORPTION IN ACCORDANCE WITH ASTM C–140. COMPRESSIVE STRENGTH TEST SPECIMENS SHALL CONFORM TO THE SAW–CUT COUPON PROVISIONS OF SECTION 5.2.4 OF ASTM C–140 WITH THE FOLLOWING EXCEPTIONS:

COUPON SHALL BE TAKEN FROM THE LEAST DIMENSION OF THE UNIT OF A SIZE AND SHAPE REPRESENTING THE GEOMETRY OF THE UNIT IN WHOLE.

SECTION 8 – DELIVERY, STORAGE AND HANDLING

8.1 THE CONTRACTOR SHALL CHECK THE MATERIALS UPON DELIVERY TO ASSURE THAT PROPER MATERIAL HAS BEEN RECEIVED.

8.2 THE CONTRACTOR SHALL PREVENT EXCESSIVE MUD, WET CEMENT, EPOXY AND LIKE MATERIAL WHICH MAY AFFIX THEMSELVES FROM COMING IN CONTACT WITH THE MATERIALS UNTIL THE COMPLETED WALL IS ACCEPTED.

8.3 THE CONTRACTOR SHALL PROTECT THE MATERIALS FROM DAMAGE. DAMAGED MATERIAL SHALL NOT BE INCORPORATED INTO THE RETAINING WALLS.

SECTION 9 – REJECTION

IN THE SHIPMENT FAILS TO CONFORM TO THE SPECIFIED REQUIREMENT, NEW SPECIMENS SHALL BE SELECTED BY THE PURCHASER FROM THE RETAINED LOT AT THE EXPENSE OF THE MANUFACTURER. IF THE SECOND SET OF SPECIMENS FAILS TO CONFORM TO THE TEST REQUIREMENTS, THE ENTIRE LOT SHALL BE REJECTED.

CALCULATED R.R.C. | CHECKED R.J.C.

RETAINING WALL SPECIFICATIONS

LAK–90/84–0.54/0.43

224
369

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SECTION 10 – INSTALLATION

10.1 EXCAVATION – THE CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES AS SHOWN.

OVER–EXCAVATION WILL NOT BE PAID FOR, AND REPLACEMENT WITH COMPACTED FILL AND/OR WALL SYSTEM COMPONENTS WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE CAREFUL NOT TO DISTURB BASE BEYOND THE LINES SHOWN. EMBANKMENT EXCAVATION SHALL BE BENCH CUT.

10.2 FOUNDATION SOIL PREPARATION:

10.2.1 FOUNDATION SOIL SHALL BE EXCAVATED AS REQUIRED FOR FOOTING DIMENSIONS SHOWN, OR AS DIRECTED BY THE ENGINEER.

10.2.2 THE CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN STRENGTH OF 1500 PSF. SOIL NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL. THE FOUNDATION SOIL (SUBGRADE) SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY PRIOR TO PLACING THE BASE.

10.2.3 OVER EXCAVATED AREAS SHALL BE FILLED WITH COMPACTED BACKFILL MATERIAL.

10.3 BASE: (LEVELING PAD)

10.3.1 BASE SHALL BE PLACED AS SHOWN ON DRAWING WITH A MINIMUM THICKNESS OF SIX (6) INCHES.

10.3.2 BASE MATERIALS SHALL BE INSTALLED UPON UNDISTURBED NATIVE SOILS, OR COMPACTED FILL SOILS.

10.3.3 MATERIAL SHALL BE COMPACTED SO AS TO PROVIDE A HARD, LEVEL SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTOR TO 95% OF STANDARD PROCTOR DENSITY.

10.3.4 BASE SHALL BE PREPARED TO INSURE COMPLETE CONTACT OF RETAINING WALL UNITS WITH THE BASE. GAPS BETWEEN THE UNIT AND BASE SHALL NOT BE ALLOWED.

10.3.5 BASE MATERIALS SHALL BE TO THE DEPTHS AND WIDTHS SHOWN. THE BASE SHALL BE OF CONSISTENT MATERIAL THROUGHOUT THE LENGTH OF THE WALL TO ELIMINATE THE DIFFERENTIAL MOVEMENT OF THE BASE.

10.4 UNIT INSTALLATION:

10.4.1 THE FIRST COURSE OF CONCRETE WALL UNITS SHALL BE PLACED ON THE PREPARED BASE. THE UNITS SHALL BE CHECKED FOR LEVEL AND ALIGNMENT. THE FIRST COURSE IS THE MOST IMPORTANT TO INSURE ACCURATE AND ACCEPTABLE RESULTS.

10.4.2 INSURE THAT THE UNITS ARE IN FULL CONTACT WITH THE BASE.

10.4.3 UNITS ARE PLACED TIGHT SIDE BY SIDE FOR THE FULL LENGTH OF THE WALL ALIGNMENT (DO NOT GAP). ALIGNMENT SHALL BE DONE BY USING A STRING LINE OR OFFSET FROM A BASE LINE.

10.4.4 PLACE DRAINAGE FILL A MINIMUM OF TWELVE (12) INCHES THICK DIRECTLY BEHIND THE BACK OF AND BETWEEN THE UNITS. PLACE BACKFILL AGAINST DRAINAGE FILL AND COMPACT. PLACE GEOTEXTILE FABRIC BETWEEN THE DRAINAGE FILL AND BACKFILL TO KEEP THE DRAINAGE FILL CLEAN OF FINES. FILL SHOULD BE PLACED IN SIX (6) INCH LIFTS AND COMPACTED TO ACHIEVE 95% STANDARD PROCTOR DENSITY COMPACTION.

10.4.5 SWEEP ALL EXCESS MATERIAL FROM THE TOP OF THE UNITS AND INSTALL THE NEXT COURSE OF WALL UNITS, DRAINAGE FILL AND BACKFILL. LAY UP EACH COURSE, INSURING A POSITIVE CONNECTION BETWEEN ADJACENT COURSES IS ACHIEVED, BY INSTALLING PINS THROUGH THE HOLES IN THE TOP OF THE UNIT AND INTERLOCKING WITH SLOTS IN THE PREVIOUS COURSE. BACKFILL AND COMPACT. REPEAT PROCEDURE TO THE EXTENT OF THE WALL HEIGHT.

10.5 COMPLETION:

10.5.1 WITHIN TWELVE (12) INCHES OF THE TOP OF THE WALL, PLACE RECOMPACTED SITE SOIL OVER THE DRAINAGE FILL AND THROUGHOUT THE EXCAVATED AREA. IMPERVIOUS FILL CAP SHALL BE GRADED TO DRAIN RUNOFF LATERALLY ALONG THE WALL ALIGNMENT.

10.5.2 INSTALL CAP UNITS ON THE FINISHED WALL. CAP UNITS SHALL BE ADHERED TO THE TOP UNITS USING MANUFACTURER–SUPPLIED ADHESIVE, BY PLACING TWO (2) 1/4–INCH BEADS OF ADHESIVE ALONG THE FULL LENGTH OF THE WALL. CARE SHALL BE TAKEN TO KEEP ADHESIVE FROM COMING INTO CONTACT WITH THE FACE OF WALL UNITS. PRESS THE CAPS FIRMLY INTO ADHESIVE AND AND ALLOW TO CURE.

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CALCULATED R.R.C. | CHECKED R.J.C.

RETAINING WALL SPECIFICATIONS

LAK–90/84–0.54/0.43

225
369

WATER WORK NOTES

ITEM SPECIAL – WATER MAIN AND SERVICE BRANCHES

A. DESCRIPTION. THIS WORK CONSISTS OF CONSTRUCTING AND RECONSTRUCTING WATER MAINS AND SERVICE BRANCHES, INCLUDING FIRE HYDRANTS, WATER METERS, SERVICE STOPS, VALVES, FITTINGS AND BOXES. THE WORK ALSO INCLUDES FURNISHING ALL MATERIALS, EXCAVATION, BEDDING, LAYING PIPE, HORIZONTAL BORING, JOINTING, HYDROSTATIC TESTING, STERILIZING, BACKFILLING, RESTORATION OF DISTURBED FACILITIES AND SURFACES, DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIALS, AND OTHER ITEMS NECESSARY TO COMPLETE THE WORK.

B. CONSTRUCTION AND MATERIAL SPECIFICATIONS. ALL WATER MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH "COUNTY OF LAKE, OHIO – LAKE COUNTY REGIONAL SEWER DISTRICT NO. 1 – STANDARD WATERLINE CONSTRUCTION AND MATERIAL SPECIFICATIONS, " (FEBRUARY 15, 1983 OR THE MOST CURRENT SPECIFICATION REVISION) AND AS MODIFIED HEREIN. A COPY OF THE SPECIFICATIONS IS ON FILE IN THE OFFICE OF THE LAKE COUNTY SANITARY ENGINEER, LAKE COUNTY ADMINISTRATION CENTER, 105 MAIN ST., PAINESVILLE, OHIO.

C. OWNERSHIP. ALL WATER MAINS, SERVICE CONNECTIONS AND APPURTENANCES WITHIN THE DEDICATED RIGHT–OF–WAY ARE OWNED, OPERATED AND MAINTAINED BY THE LAKE COUNTY DEPARTMENT OF UTILITIES.

D. INSPECTION. ALL WORK ON WATER MAINS AND APPURTENANCES SHALL BE INSPECTED BY, APPROVED BY, AND COORDINATED WITH THE LAKE COUNTY DEPARTMENT OF UTILITIES PRIOR TO BEING PLACED IN SERVICE. THE CONTRACTOR SHALL NOTIFY THE LAKE COUNTY DEPARTMENT OF UTILITIES AT LEAST THREE WORKING DAYS PRIOR TO INITIATING ANY WORK ON THE WATER MAINS AND APPURTENANCES.

E. BACTERIOLOGICAL TESTING AND STERILIZATION. THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO STERILIZE THE PROPOSED WATER MAINS AND APPURTENANCES FOR SAMPLE COLLECTION IN ACCORDANCE WITH THE WATER MAIN CONSTRUCTION AND MATERIAL SPECIFICATIONS AND AWWA STANDARD C650 SECTION 7.3. BACTERIOLOGICAL SAMPLES SHALL BE COLLECTED BY THE LAKE COUNTY DEPARTMENT OF UTILITIES IN AN APPROVED CONTAINER.
WATER IN THE MAIN TO BE DISINFECTED SHOULD HAVE A TURBIDITY ACCEPTABLE TO THE LAKE COUNTY DEPARTMENT OF UTILITIES. ALL TESTS ARE TO BE PERFORMED BY THE LAKE COUNTY LABORATORY OR A LAKE COUNTY DEPARTMENT OF UTILITIES – APPROVED LABORATORY.

THE PROCEDURES FOR BACTERIOLOGICAL TESTING ARE AS FOLLOWS:

1. BACTERIOLOGICAL TESTING TO BE PERFORMED BY LAKE COUNTY PERSONNEL ONLY AFTER PRESSURE TEST AND ALL OTHER TEST REQUIREMENTS ARE COMPLETED SATISFACTORILY.
2. DISINFECTION OF WATER MAINS PER LAKE COUNTY "RULES AND REGULATIONS" IS FIFTY PARTS PER MILLION (50 P.P.M.) CHLORINE FOR 24 HOURS.
3. CONTRACTOR SHALL SCHEDULE WITH LAKE COUNTY TO FLUSH MAIN UNTIL THE SYSTEM WATER AND SYSTEM CHLORINE RESIDUAL ARE PRESENT AT THE CHECK POINT TO THE SATISFACTION OF THE DEPARTMENT OF UTILITIES. THE RESIDUAL SHOULD BE 0.2 MG/L CHLORINE OR HIGHER.
4. CONTRACTOR SHALL SCHEDULE WITH LAKE COUNTY LABORATORY AFTER STEP 3 AND THEN LET THE WATER STAND IN THE MAIN UNDISTURBED FOR 24 HOURS WITH NO ACTIVITY ON THE MAIN.
5. AFTER 24 HOURS, LAKE COUNTY PERSONNEL CHECK CHLORINE RESIDUAL.
6. IF CHLORINE RESIDUAL IS STILL SATISFACTORY, THEN LAKE COUNTY PERSONNEL WILL TAKE THE FIRST (OF TWO) BACTERIOLOGICAL SAMPLES AND FORWARD TO LAKE COUNTY LABORATORY FOR ACCEPTABILITY.
7. CHECK WITH LAKE COUNTY LABORATORY AFTER THIS TIME PERIOD (24 HOURS) FOR THE FIRST SAMPLE ACCEPTABILITY, AND IF APPROVED, PROCEED WITH STEP #8. (CONTACT LAKE COUNTY DEPARTMENT OF UTILITIES FOR REMEDIAL PROCEDURE IF DISAPPROVED).
8. LAKE COUNTY PERSONNEL WILL CHECK WATER MAIN AGAIN TO SEE IF CHLORINE RESIDUAL IS STILL PRESENT.
9. IF CHLORINE RESIDUAL IS STILL PRESENT, PROCEED WITH STEP #10.
10. LAKE COUNTY PERSONNEL WILL TAKE SECOND BACTERIOLOGICAL SAMPLE AND FORWARD TO LAKE COUNTY LABORATORY.
11. WAIT ANOTHER 24 HOURS AND CHECK WITH LAKE COUNTY LABORATORY FOR SECOND SAMPLE ACCEPTABILITY. (CONTACT LAKE COUNTY DEPARTMENT OF UTILITIES FOR REMEDIAL PROCEDURE IF DISAPPROVED).
12. IF SECOND SAMPLE IS APPROVED BY LAKE COUNTY LABORATORY, PROCEED WITH STEP #13.
13. LAKE COUNTY LABORATORY WILL ISSUE A WRITTEN REPORT THAT WATER MAIN IS SAFE AND ACCEPTABLE FOR SERVICE.
14. NEW WATER MAIN WILL BE MADE OPERATIONAL ONLY BY LAKE COUNTY DEPARTMENT OF UTILITIES PERSONNEL.

F. SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL SCHEDULE THE WORK ON THE WATER MAINS AND APPURTENANCES TO MINIMIZE THE NUMBER AND DURATION OF INTERRUPTIONS TO WATER SERVICE. ALL WATER SERVICE INTERRUPTIONS SHALL BE SCHEDULED WITH THE LAKE COUNTY DEPARTMENT OF UTILITIES DURING OFF PEAK WATER DEMAND PERIODS AND SHALL NOT EXCEED A PERIOD OF TWO HOURS THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION PLANS TO THE LAKE COUNTY DEPARTMENT OF UTILITIES FOR REVIEW AND APPROVAL PRIOR TO ANY WORK ON THE WATER MAINS.
THE CONTRACTOR SHALL NOTIFY ALL CUSTOMERS AFFECTED BY THE WATER MAIN SHUT DOWN TWO (2) WORKING DAYS PRIOR TO THE PROPOSED SHUT DOWN.

G. METHOD OF MEASUREMENT:

1. WATER MAIN AND FITTINGS. THE UNIT PRICE PER FOOT OF WATER MAIN AND FITTINGS (DUCTILE IRON PIPE) SHALL INCLUDE THE COST OF CLEARING AND GRUBBING, EXCAVATION, REMOVING ROCK AND WATER, SHEETING AND SHORING, BEDDING, BACKFILLING, DISPOSAL OF WATER MATERIALS, PROTECTION OF STRUCTURES, UTILITIES OR OTHER FACILITIES AND FOR FURNISHING, LAYING, CUTTING, JOINT RESTRAINT, TESTING, CORROSION PROTECTION, STERILIZING, IDENTIFICATION TAPE, GASKETS, JOINTING MATERIALS, NUTS, BOLTS, ZINC PROTECTO CAPS, MECHANICAL JOINT GLANDS OR ANY OTHER SIMILAR ACCESSORIES, LIMESTONE BEDDING FOR PIPE AND BLOCKING SUPPORT FOR FITTINGS, FLUSHING AND PAINTING AL DUCTILE IRON PIPE AND FITTINGS FURNISHED UNDER THIS CONTRACT IN ACCORDANCE WITH ALL LAKE COUNTY RULES AND REGULATIONS.

   EACH WATER MAIN FITTING SHALL BE RESTRAINED USING EBAA IRON MEGALUG JOINT RESTRAINT SYSTEM OR APPROVED EQUAL. THRUST BLOCKING WILL BE USED IN CONJUNCTION WITH RESTRAINT SYSTEM AT ALL HYDRANTS AT THE DIRECTION OF THE LAKE COUNTY DEPARTMENT OF UTILITIES.

   HYDRANT FITTINGS INCLUDING HYDRANT TEES AND BENDS SHALL BE PAID FOR IN THE UNIT PRICE BID FOR "HYDRANT ASSEMBLIES" AND NO SEPARATE PAYMENT SHALL BE MADE FOR THESE FITTINGS.

   PAYMENT FOR WATER MAINS WILL BE MADE ON A LINEAL FOOT BASIS AS MEASURED HORIZONTALLY ALONG THE CENTERLINE OF THE WATER MAIN, COMPLETE, TESTED AND READY FOR SERVICE.

   PAYMENT FOR HORIZONTAL BORING WILL BE MADE ON A LINEAL FOOT BASIS AS MEASURED HORIZONTALLY ALONG THE CENTERLINE OF THE CASING PIPE, INCLUDING BORING PITS, CASING BORING BORING AND JACKING, INSTALLATION OF THE WATER MAIN, COMPLETE, TESTED AND READY FOR SERVICE.

2. HYDRANT ASSEMBLIES. THE UNIT PRICE BID FOR HYDRANT ASSEMBLIES OF THE TYPES NOTED ON THE PLANS SHALL INCLUDE THE NECESSARY EXCAVATION AND BACKFILL INCLUDING GRANULAR BACKFILL WHEN REQUIRED. THE FURNISHING AND PLACING OF EACH HYDRANT ASSEMBLY, TOGETHER WITH THE NECESSARY FITTINGS, NUTS, BOLTS, ZINC PROTECTO CAPS, GATE VALVE AND BOX, HYDRANT INLET PIPE AND EXTENSION, DEWATERING, SHEETING OR SHORING, PIPE BEDDING AND PIPE BACKFILL, DISPOSAL OF WASTE MATERIALS, PROTECTION OF STRUCTURES, UTILITIES, SERVICE CONNECTIONS OR OTHER FACILITIES, THRUST BLOCKING, JOINT RESTRAINTS, CRUSHED STONE FILL, TESTING, FLUSHING, STERILIZING AND PAINTING OF ALL HYDRANT ASSEMBLIES, TOGETHER WITH ALL LABOR, EQUIPMENT, TOOLS, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SHOWN, SPECIFIED OR AS DIRECTED BY THE ENGINEER.

   PAYMENT FOR HYDRANT ASSEMBLIES WILL BE MADE ON A UNIT BASIS FOR THE VARIOUS TYPES OF HYDRANT ASSEMBLIES COMPLETE, TESTED AND READY FOR SERVICE.

3. VALVES. THE UNIT PRICE FOR BUTTERFLY VALVES, TAPPING SLEEVE AND VALVE, AND GATE VALVES SHALL INCLUDE THE FURNISHING, PLACING, TESTING AND PAINTING OF VARIOUS VALVES, COMPLETE WITH VALVE BOXES OR VALVE CHAMBERS, BYPASS VALVES, BOLTS, NUTS, ZINC PROTECTO CAPS, GASKETS, JOINTING MATERIALS, CORPORATION STOPS, STERILIZATION AND TESTING CONNECTIONS, AND OTHER ACCESSORIES TOGETHER WITH ALL LABOR, EQUIPMENT, TOOLS AND MATERIALS NECESSARY TO INSTALL ALL THE VARIOUS SIZES AND TYPES OF VALVES SHOWN ON THE PLANS, AS SPECIFIED OR AS DIRECTED BY THE ENGINEER.

   PAYMENT WILL BE MADE ON A UNIT BASIS FOR EACH VARIOUS TYPE OF VALVE INSTALLED AS DIRECTED BY THE ENGINEER.

4. LONG AND SHORT SERVICE CONNECTIONS. PAYMENT FOR "LONG SERVICE CONNECTION" WILL BE ON A UNIT BASIS INCLUDING FURNISHING ALL LABOR, MATERIAL AND EQUIPMENT TO TAP THE NEW WATER MAIN, INSTALL NEW CORPORATION STOP, INSTALL NEW COPPER WATER SERVICE LINE UNDER ROADWAY, INSTALL NEW CURB STOP AND CURB BOX AND CONNECT THE NEW COPPER SERVICE LINE TO THE EXISTING OR RELOCATED WATER METER, INCLUDING A NEW METER VAULT. THIS ITEM SHALL APPLY TO SERVICE CONNECTIONS WHICH ARE ON THE OPPOSITE SIDE OF THE ROADWAY FROM THE WATER MAIN.

   PAYMENT FOR "SHORT SERVICE CONNECTION" WILL BE ON A UNIT BASIS SIMILAR TO THE PROCEEDING PARAGRAPH ABOVE EXCEPT THIS ITEM SHALL APPLY TO SERVICE CONNECTIONS ON THE SAME SIDE OF THE ROADWAY AS THE WATER MAIN.

5. WATER METER AND BOX RELOCATED. THIS ITEM SHALL INCLUDE FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT TO RELOCATE THE EXISTING WATER METER AND PROVIDE NEW WATER METER BOXES IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, INCLUDING EXCAVATION, DEWATERING, SHEETING, BACKFILL, NEW CAST IRON FRAMES AND COVERS ALL OTHER MATERIALS AND/OR EXPENSE WHETHER SPECIFICALLY MENTIONED OR NOT.

   PAYMENT WILL BE MADE ON A UNIT BASIS FOR EACH METER AND BOX RELOCATED, TESTED AND READY FOR SERVICE.

6. HYDRANTS REMOVED AND DISPOSED OF. THE UNIT PRICE BID FOR REMOVING AND DISPOSING OF EXISTING HYDRANTS SHALL INCLUDE ALL EXCAVATION, BACKFILLING, DISPOSING HYDRANTS AND PLUGGING THE EXISTING WATER MAINS IF THE WATER MAIN IS NOT BEING ABANDONED.
7. VALVE ADJUSTED TO BELOW GRADE. THE UNIT PRICE BID FOR ADJUSTING EXISTING VALVES TO BELOW GRADE FOR WATER MAINS TO BE ABANDONED SHALL INCLUDE ALL EXCAVATION, BACKFILL, COMPACTION AND LABOR DEEMED NECESSARY FOR REMOVING THE VALVE BOX AND ADJUSTING THE VALVE STEM TO THREE FEET BELOW FINISHED GRADE.
8. METER BOX ADJUSTED TO GRADE INCLUDES ALL EQUIPMENT, MATERIAL, LABOR, EST. TO ADJUST TO GRADE ALL EXISTING WATER METER BOXES NOT BEING RELOCATED.

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SCALE IN FEET
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CALCULATED
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– WATERLINE NOTES –

BISHOP ROAD

LAK – 90/84 – 0.54/0.43

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WATER WORK NOTES

ITEM SPECIAL – WATER MAIN AND SERVICE BRANCHES (CONT'D)

H. BASIS OF PAYMENT. THE ACCEPTED QUANTITIES OF WATER MAINS AND APPURTENANCES WILL BE PAID FOR AT THE CONTRACT PRICE DESIGNATED FOR EACH OF THE PAY ITEMS LISTED BELOW AND INCLUDES IN THE PROPOSAL. THE PRICES SHALL BE FULL COMPENSATION FOR ALL MATERIALS INCLUDING EXCAVATION, BACKFILL, DISPOSAL OF SURPLUS MATERIALS, REINFORCING STEEL WHERE SPECIFIED AND FOR OTHER INCIDENTALS NECESSARY FOR THE COMPLETION OF THE ITEMS.

I. QUANTITIES. THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY TO BE USED AS SHOWN ON THE DETAILED DRAWINGS AND AS DIRECTED BY THE ENGINEER.

J. WATER MAIN MUST BE STAKED OUT BY A PROFESSIONAL SURVEYOR AND CUT SHEETS UTILIZED. NEW AND RELOCATED SERVICE LINES MUST HAVE A MINIMUM 5' – 0" COVER AND PROVIDE MINIMUM 18" VERTICAL SEPARATION FROM ALL STORM/SANITARY SEWERS, GAS LINES AND OTHER WATERLINES. PROVIDE CONCRETE CRADLES WHERE THE 18" VERTICAL SEPARATION CAN NOT BE PROVIDED TO A POINT 5' EITHER SIDE OF CROSSING.

K. THE CONTRACTOR SHALL NOTIFY THE LAKE COUNTY DEPARTMENT OF UTILITIES AT THE FOLLOWING LOCATION AT LEAST THREE WORKING DAYS PRIOR TO THE START OF THE WATER MAIN RELOCATION WORK:

LAKE COUNTY DEPARTMENT OF UTILITIES
LAKE COUNTY ADMINISTRATION CENTER
105 MAIN STREET
PAINESVILLE, OHIO 44077
(440) 350–2652

L. CONNECTION SEQUENCE OF CONSTRUCTION SHALL BE SUBMITTED TO LAKE COUNTY UTILITIES FOR APPROVAL BY THE CONTRACTOR. THE WATER MAIN SHALL BE COMPLETELY LAID, TESTED AND ACCEPTED BEFORE ANY BRANCH CONNECTIONS AND/OR INTERRUPTIONS IN SERVICE OCCUR.

SERVICE INTERRUPTIONS SHALL BE KEPT TO A MINIMUM FOR WATER MAIN CONNECTIONS. FOR PROJECT CONSTRUCTION RESTRICTION LIST, SEE MAINTENANCE OF TRAFFIC NOTES, SHEET 22.

THE EXISTING WATER SERVICE MAY BE TAKEN OFF SERVICE FOR 2 HOURS MAXIMUM, COORDINATED WITH LAKE COUNTY. IF THE EXISTING WATER SERVICE MUST BE TAKEN OFF LINE FOR GREATER THAN 2 HOURS WITHOUT THE PROPOSED WATER MAIN BEING OPERATIONAL, THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE USING CERTAIN TEED YELOMINE OR APPROVED EQUAL. SUBMIT PLAN TO ENGINEER. THE PERMANENT WATER MAIN SHALL BE MADE OPERATIONAL WITHIN 12 HOURS AFTER EXISTING WATER MAIN IS SHUT DOWN. THE COST SHALL BE INCLUDED IN THE UNIT BID FOR WATER MAIN INSTALLATION.

ALL WATER SERVICE CONNECTIONS WHICH ARE BROKEN BY THE CONTRACTOR SHALL BE REPAIRED BY THE LAKE COUNTY WATER DEPARTMENT OR THE CONTRACTOR, ALL AT THE CONTRACTOR'S EXPENSE. ALL RECONNECTED WATER SERVICE CONNECTIONS SHALL BE TAPPED INTO THE NEW WATER MAIN AND DOCUMENTED AS SUCH. ALL NEW SERVICE CONNECTIONS SHALL BE MINIMUM 3/4" TYPE K COPPER, REGARDLESS OF THE BROKEN SERVICE CONNECTION MATERIAL. ALL EXISTING WATER SERVICE CONNECTIONS SHALL BE REPLACED WITH NEW TYPE K COOPER FROM PROPOSED MAIN TO CURB BOX OR OUTSIDE WATER METER.

M. HYDRANTS DESIGNATED FOR REMOVAL SHALL BE REMOVED UNDER LAKE COUNTY WATER DEPARTMENT SUPERVISION. SPECIAL CARE IN REMOVAL AND HANDLING OF EXISTING HYDRANTS SHALL BE MAINTAINED AT ALL TIMES AND REMOVAL OF EXISTING HYDRANTS SHALL BE DONE BY EXCAVATION OF HYDRANT ASSEMBLY ONLY. ALL REMOVED HYDRANTS SHALL BECOME THE PROPERTY OF THE LAKE COUNTY WATER DEPARTMENT. REMOVED HYDRANTS ARE TO BE STORED ON JOB SITE FOR PICK UP BY THE LAKE COUNTY WATER DEPARTMENT. THE EXISTING HYDRANTS AND WATER MAIN SHALL NOT BE TAKEN OUT OF SERVICE UNTIL ALL THE PROPOSED HYDRANTS AND WATER MAIN FOR A GIVEN STREET ARE OPERATIONAL.

CONTRACTOR SHALL SUBMIT FOR APPROVAL TO LAKE COUNTY DEPARTMENT OF UTILITIES MEANS AND METHOD TO RESTRAIN EXISTING HYDRANTS DURING INSTALLATION OF PROPOSED WATER MAIN PRIOR TO EXCAVATION.

N. WATER MAIN PIPE REMOVAL SHALL BE USED TO REMOVE ANY EXISTING WATERLINE THAT IS MARKED TO BE ABANDONED BUT CONFLICTS WITH THE LOCATION OF THE PROPOSED WATERLINE ALONG BISHOP ROAD AND EDDY ROAD.

EXCAVATION, BACKFILL AND COMPACTION

ALL EXCAVATION WILL BE CONSIDERED UNCLASSIFIED, NO COMPENSATION WILL BE ALLOWED THE CONTRACTOR FOR ROCK OR SHALE EXCAVATION.

ALL BACKFILL WILL BE AS DESCRIBED IN SPECIFICATION SECTION 02234 "COMPACTED BACKFILL", USING MACHINE MOUNTED COMPACTION EQUIPMENT TO MEET THE COMPACTION REQUIREMENT OF 100% OF MAXIMUM LABORATORY DRY DENSITY PER ASTM D 698.

THE OWNER AND THE ENGINEER DO NOT GUARANTEE NOR SUGGEST THE IN–SITU MATERIAL TO BE EXCAVATED WILL BE SUITABLE OR IN ITS PRESENT STATE WILL CONSIST OF THE PROPER MOISTURE CONTENT TO ACHIEVE THE COMPACTION REQUIREMENTS. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE BACKFILL MATERIAL HE WILL USE. UPON REQUEST, THE OWNER WILL PROVIDE ACCESS TO THE SITE FOR THE CONTRACTOR TO CONDUCT SUCH INVESTIGATION AND TESTS DEEMED NECESSARY TO MAKE HIS DETERMINATION. NO EXTRA PAYMENT WILL BE MADE TO DISPOSE OF UNSUITABLE MATERIAL OR FURNISH AND PLACE SUITABLE MATERIAL MEETING THE REQUIREMENTS OF SECTION 02234 "COMPACTED BACKFILL".

BACKFILLING OF ANY TRENCHES OR EXCAVATIONS WILL NOT BE PERMITTED WITHOUT MACHINE MOUNTED COMPACTION EQUIPMENT BEING USED.

SLAG PRODUCTS WILL NOT BE PERMITTED FOR BEDDING, BACKFILL, OR TRAFFIC COMPACTED SURFACE.

ALL UTILITY LINES CROSSING THE NEW WATERLINE TRENCH, (i.e. STORM SEWERS, STORM LATERALS, SANITARY SEWERS, SANITARY LATERALS, WATER MAINS, WATER SERVICE CONNECTIONS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND OCT CONDUITS, CABLE T.V. LINES) SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS OR REMOVED AND REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ABOVE WORK UNLESS ANY OF THE ABOVE UTILITIES ARE ENCOUNTERED AND NOT SHOWN ON THE DRAWINGS.

WATER WORKS

EACH PROPOSAL MUST BE ACCOMPANIED BY A COPY OF THE BIDDERS CURRENT SEWER/WATER BUILDERS LICENSE WHICH HAS BEEN ISSUED BY THE LAKE COUNTY DEPARTMENT OF UTILITIES.

WATER MAINS WITHIN THE PROJECT AREA BELONG TO THE LAKE COUNTY DEPARTMENT OF UTILITIES AND FALL UNDER THE CONTROL OF THEIR WATER DEPARTMENT.

ANY AND ALL CONSTRUCTION OF WATER MAIN FACILITIES REQUIRED BY THIS PROJECT IS TO BE GOVERNED BY THE DRAWINGS AND SPECIFICATIONS FOR THIS JOB WHICH, IN THE EVENT OF A DISCREPANCY, SUPERSEDE THE LAKE COUNTY STANDARD WATERLINE SPECIFICATIONS.

THE CONTRACTOR WILL SCHEDULE WITH THE LAKE COUNTY WATER DEPARTMENT, AT LEAST FORTY–EIGHT (48) HOURS IN ADVANCE OF ANY WORK ON THEIR SYSTEMS.

ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR PRELIMINARY CHECKING. THE ENGINEER SHALL FORWARD CHECKED SHOP DRAWINGS TO THE LAKE COUNTY WATER DEPARTMENT FOR FINAL CHECKING AND APPROVAL.

A REPRESENTATIVE OF THE LAKE COUNTY DEPARTMENT OF UTILITIES SHALL BE PRESENT AT ALL TIMES FOR INSTALLATION AND TESTING OF ANY WATERLINE ITEMS. THE VARIOUS WATERLINE PAY ITEMS SHALL INCLUDE INSPECTION COSTS TO THE LAKE COUNTY DEPARTMENT OF UTILITIES AT THIRTY DOLLARS PER HOUR ($30.00/HR.) FOR HOURS WORKED 7:30 A.M. TO 4:00 P.M. MONDAY THROUGH FRIDAY AND FORTY–FIVE DOLLARS ($45.00/HR.) FOR ALL OTHER HOURS WORKED MONDAY THROUGH FRIDAY AND ANY HOURS WORKED ON SATURDAY, SUNDAY AND LEGAL HOLIDAYS. PRIOR TO ANY WATERLINE WORK, THE CONTRACTOR SHALL POST A DEPOSIT WITH THE LAKE COUNTY DEPARTMENT OF UTILITIES FOR THE ESTIMATED INSPECTION COST BASED ON NUMBER OF DAYS AND HOURS TO BE WORKED.

ALL WATER MAINS ON THIS PROJECT WILL BE LAID AT THE ELEVATIONS AND GRADES SHOWN ON THE DRAWINGS.

ALL WATER MAIN PIPE WILL BE DUCTILE IRON PIPE, ANSI A21.51, THICKNESS CLASS 53, WITH PUSH–ON JOINTS, CEMENT LINED ANSI A21.4. ALL FITTINGS WILL BE DUCTILE IRON MECHANICAL JOINTS ANSI 21.11 UNLESS OTHERWISE SHOWN ON THE PLANS. ALL DUCTILE IRON FITTINGS SHALL BE STANDARD FULL BODY LENGTH.

ALL FITTINGS, INCLUDING BENDS, TEES OFFSETS, REDUCERS, AND PLUGS WILL BE RESTRAINED WITH MEGALUG SERIES 1100 MECHANICAL JOINT RESTRAINS OR APPROVED EQUAL. ALL PIPE JOINTS WITHIN THE RESTRAINING DISTANCES SHOWN ON THE PLANS WILL BE MECHANICAL JOINT ANSI A21.11 AND WILL BE RESTRAINED IN THE SAME MANNER. THRUST BLOCKS WILL NOT BE PERMITTED.

ALL BOLTS UTILIZED ON WATER MAIN IMPROVEMENTS WILL HAVE THREADED, 14–OUNCE ZINC ANODE CAPS. COST OF FURNISHING AND PLACING ZINC ANODE CAPS WILL BE INCLUDED IN THE UNIT BID PRICES FOR OTHER WATER MAIN ITEMS OF WORK.

ALL WATER SERVICE CONNECTIONS WHICH ARE BROKEN BY THE CONTRACTOR WILL BE REPAIRED BY THE LAKE COUNTY WATER DEPARTMENT OR THE CONTRACTOR, ALL AT THE CONTRACTOR'S EXPENSE.

THE DUCTILE IRON PIPE, FITTING AND APPURTENANCES BURIED UNDERGROUND, SHALL BE ENCASED WITH 8 MIL POLYETHYLENE FILM CONFORMING TO AWWA C105, METHOD B, UNLESS OTHERWISE NOTED.

THE LAKE COUNTY WATER DEPARTMENT SHALL PROVIDE WATER FOR FILLING THE NEW WATER MAIN WITHOUT COST TO THE CONTRACTOR FOR THE INITIAL FILLING OPERATION. ALL WATER FOR ANY FLUSHING OPERATIONS WILL BE PAID FOR BY THE CONTRACTOR AT A RATE OF $2.60 PER 100 CUBIC FEET OF WATER USED.

AFTER SATISFACTORY HYDROSTATIC TESTING, THE COMPLETED WATER WORK SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C 651.

LOCATION OF STERILIZATION AND TESTING CONNECTIONS AT VALVES SHALL BE AS DIRECTED BY THE LAKE COUNTY WATER DEPARTMENT AND ALL COSTS ASSOCIATED WITH PLACING AND UTILIZING SAID STERILIZATION AND TESTING CONNECTIONS WILL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF THE WATER MAINS.

THE PROPOSED WATER MAIN WILL HAVE 5'–0" MINIMUM COVER OR COVER AS INDICATED ON THE PLANS OVER THE TOP OF PIPE AT ALL PLACES, UNLESS OTHERWISE SPECIFICALLY SHOWN ON THE PLANS.

ALL VALVE BOXES, ETC. WILL BE SET AS SHOWN ON THE PLANS. RIMS WILL BE RAISED OR LOWERED AND BOXES PLUMBED BY THE CONTRACTOR AS REQUIRED PRIOR TO PAVEMENT REPLACEMENT.

ALL VALVES SHALL BE OPERATED BY THE LAKE COUNTY UTILITIES DEPARTMENT ONLY. THE CONTRACTOR SHALL SCHEDULE WITH THE LAKE COUNTY UTILITIES DEPARTMENT 24 HOURS IN ADVANCE.

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

BISHOP ROAD – WATERLINE NOTES

LAK – 90/84 – 0.54/0.43

227
369

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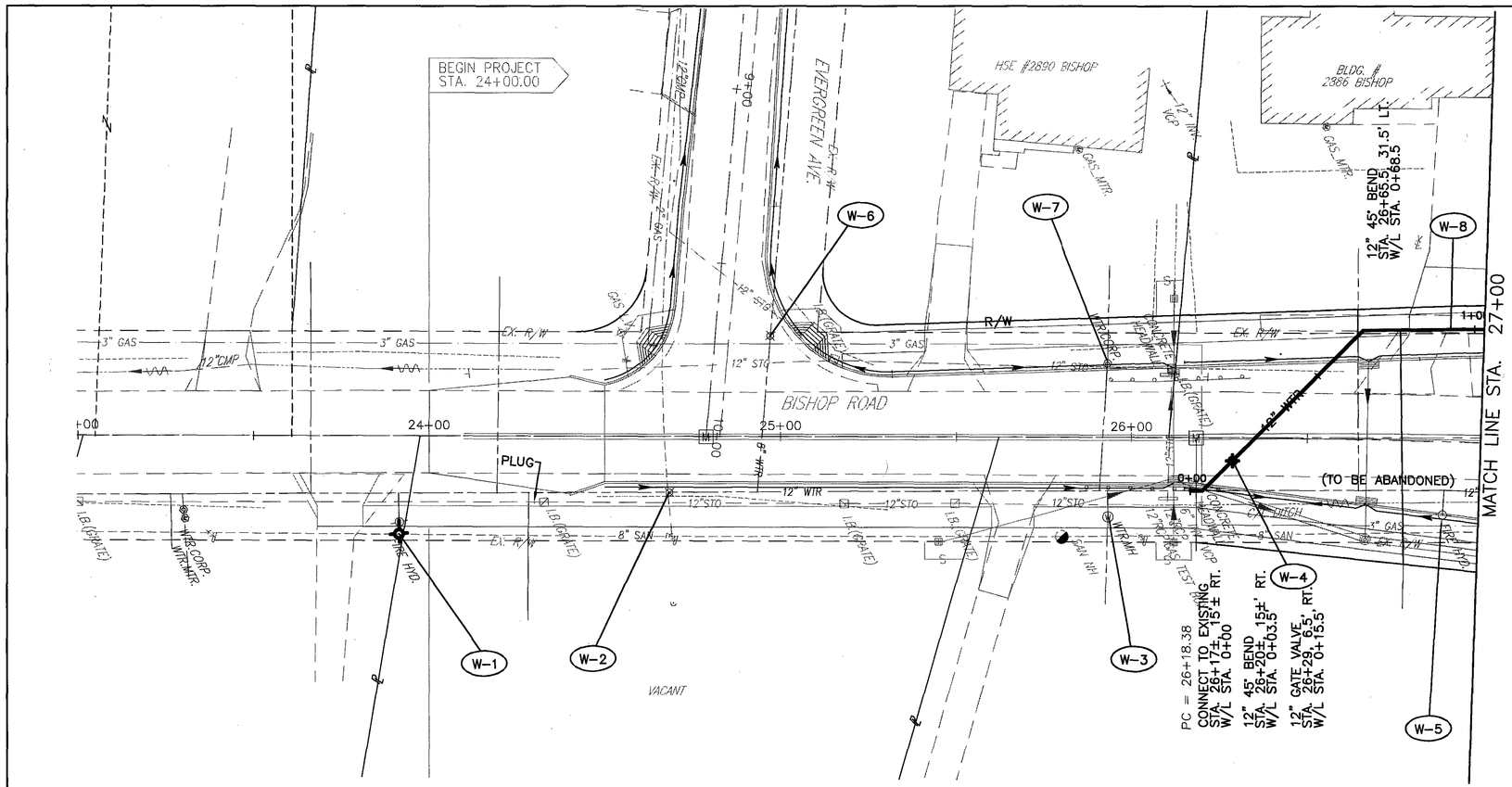

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

	638	638	638	638	638	638	638	638	638
	CODE 1	CODE 1	CODE 1	CODE 2	CODE 2	CODE 1	CODE 1	CODE 2	CODE 1
WATER WORKS	CORP STOP ADJUSTED TO GRADE	METER & CHAMBER REMOVED AND RESET	VALVE BOX ADJUSTED TO GRADE	FIRE HYDRANT REMOVED AND RESET	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	12" GATE VALVE AND VALVE BOX	FIRE HYDRANT REMOVED AND DISPOSED OF
	EACH	EACH	EACH	EACH	FEET	EACH	EACH
REF. LOCATION							
W-1 STA. 24+91, 28' RT.				1			
W-2 STA. 24+68, 16' RT.		1	1				
W-3 STA. 25+93, 23' RT.						1	1
W-4 STA. 26+29, 6.5' RT.			1				
W-5 STA. 26+89, 21' RT.					103		
W-6 STA. 24+97, 29' LT.							
W-7 STA. 25+93, 21' LT.	1						
W-8 STA. 26+17, 15' RT. TO 27+00, 33 LT.		1	2	1	103	1	1
TOTALS	1	1	3	1	103	1	1

MEGALUG MECHANICAL JOINT RESTRAINT
ALL PIPES AND FITTINGS

* W/L STA. 0–11 TO 0+18
** W/L STA. 0+54 TO 0+83

CALCULATED
CHECKED

SCALE IN FEET
20 10 0 20

WATERMAIN RELOCATION PLAN
BISHOP ROAD – STA. 23+00 TO STA. 27+00

LAK – 90/84 – 0.54/0.43

228
369

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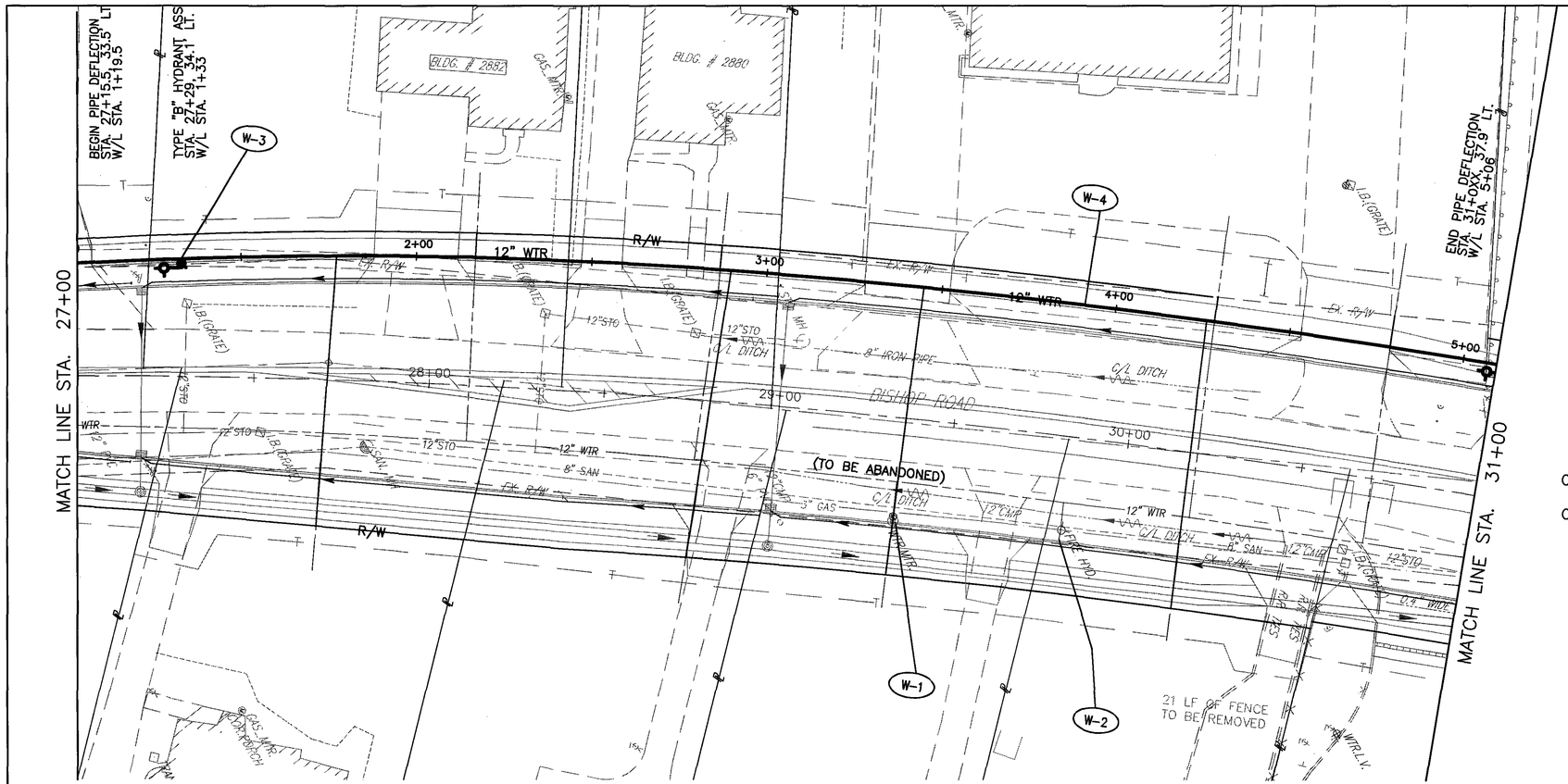

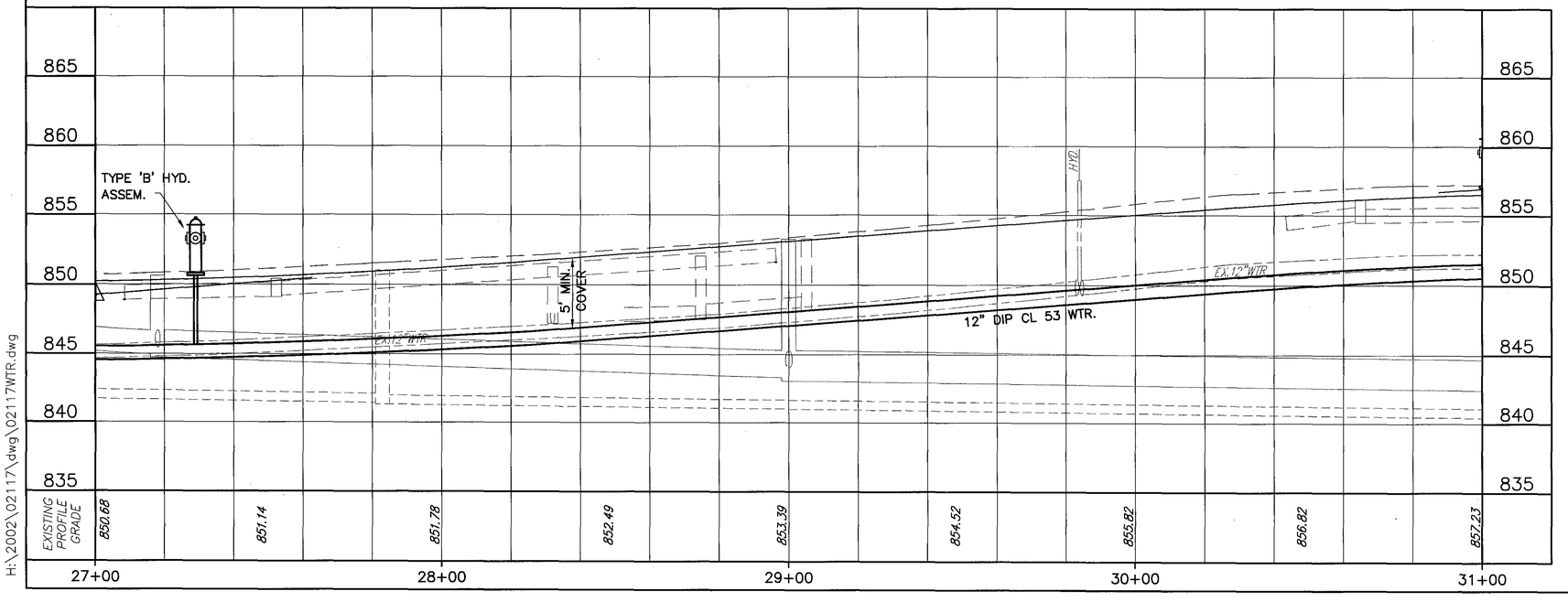

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

WATER WORKS								
REF.	LOCATION	EACH	METER & CHAMBER REMOVED AND RESET	TYPE 'B' HYDRANT ASSEMBLY	FIRE HYDRANT REMOVED AND DISPOSED OF	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS		
			638 CODE 1	638 CODE 1	638 CODE 1	638 CODE 2		
W-1	STA. 29+35, 28' RT.	1	1					
W-2	STA. 29+84, 27' RT.	1			1			
W-3	STA. 27+29, 34' LT.	1		1				
W-4	STA. 27+00, 33'LT TO 31+00, 38' LT.					407		
	TOTALS	1	1	1	1	407		

N

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 27+00 TO STA. 31+00

LAK – 90/84 – 0.54/0.43

229
369

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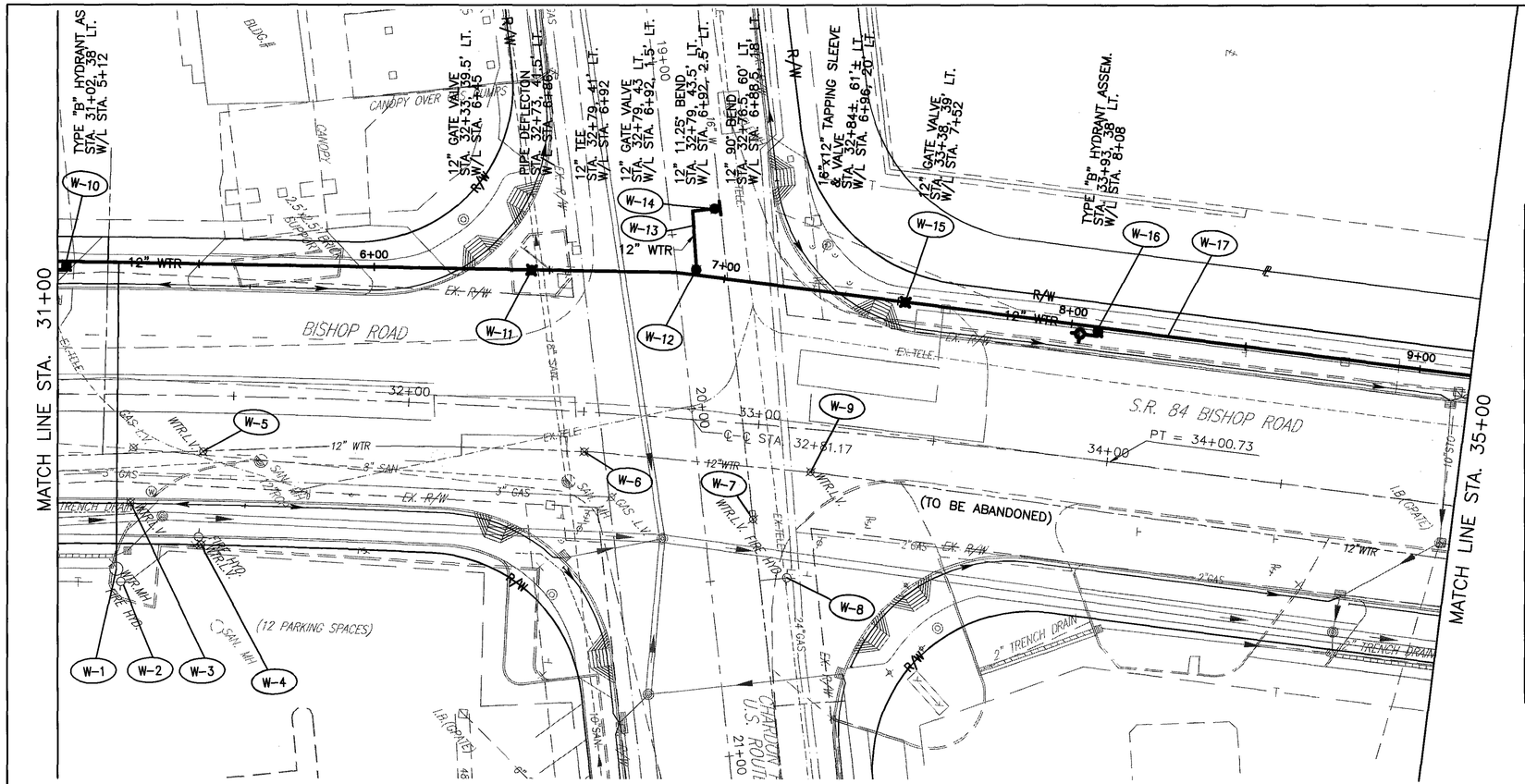

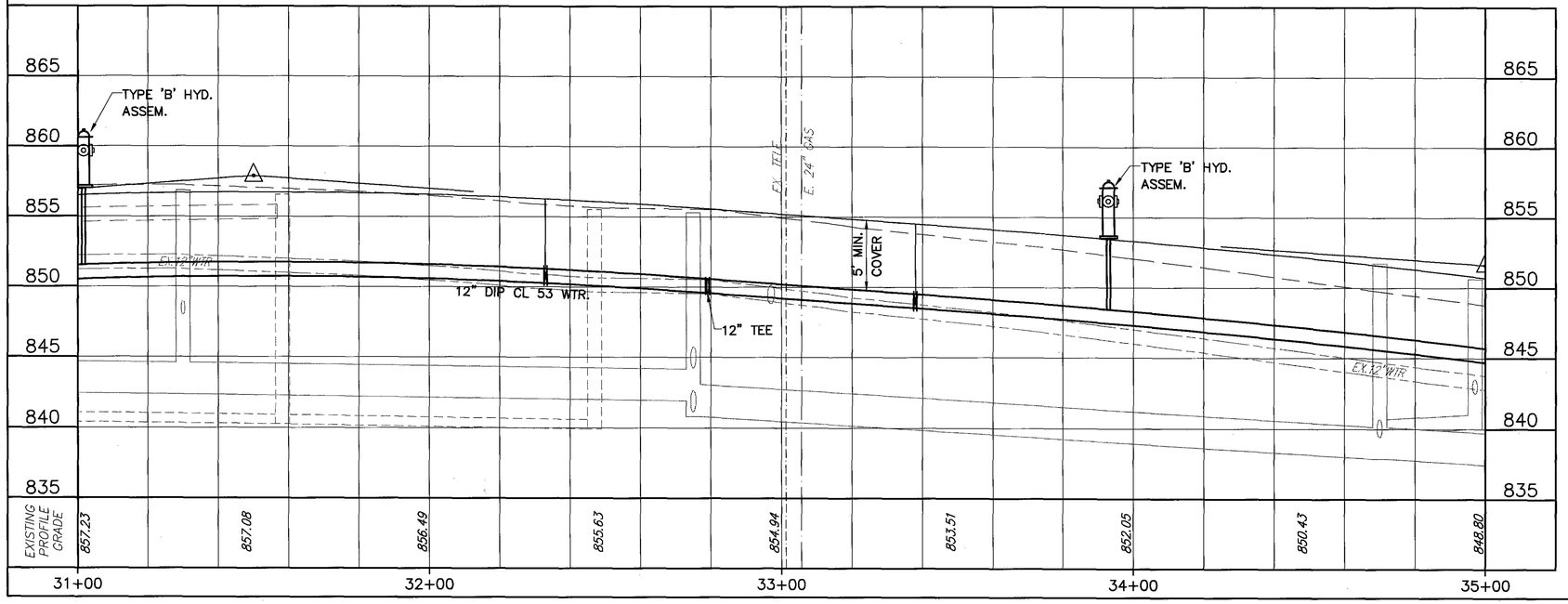

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

WATER WORKS			METER & CHAMBER REMOVED AND RESET		TYPE 'B' HYDRANT ASSEMBLY		FIRE HYDRANT REMOVED AND DISPOSED OF		FIRE HYDRANT ADJUST TO GRADE		VALVE BOX ADJUSTED TO GRADE		12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS		12" GATE VALVE AND VALVE BOX		CLOSE EXISTING VALVE AND REMOVE VALVE BOX	
REF.	LOCATION		638 CODE 1		638 CODE 1		638 CODE 1		638 CODE 1		638 CODE 1		638 CODE 2		638 CODE 2		638 CODE 2	
			EACH		EACH		EACH		EACH		EACH		FEET		EACH		FEET	
W-1	STA. 31+17, 50' RT.		1															
W-2	STA. 31+18, 54' RT.								1									
W-3	STA. 31+21, 31' RT.						1				1						1	
W-4	STA. 31+40, 41' RT.														1			
W-5	STA. 31+42, 16' RT.						1				1						1	
W-6	STA. 31+42, 16' RT.														1			
W-7	STA. 32+51, 12' RT.												26					
W-8	STA. 33+01, 27' RT.														1			
W-9	STA. 33+11, 43' RT.														1			
W-10	STA. 31+02, 38' LT.				1								405					
W-11	STA. 32+33, 39' LT.																	
W-12	STA. 32+79, 41' LT.		1		2		2		1		2		431		4		3	
W-13	STA. 32+79, 41' LT. TO 32+84, 61' LT																	
W-14	STA. 32+84, 61' LT																	
W-15	STA. 33+38, 39' LT.																	
W-16	STA. 33+93, 38' LT.																	
W-17	STA. 31+00, 38' LT. TO 35+00, 38' LT.																	
	TOTALS		1		2		2		1		2		431		4		3	

NOTE:
ALL SIDE STREET PIPE JOINTS SHALL BE RESTRAINED.

CALCULATED

CHECKED

SCALE IN FEET

0 10 20

BISHOP ROAD – WATERMAIN RELOCATION PLAN STA. 31+00 TO STA. 35+00

LAK – 90/84 – 0.54/0.43

230
369

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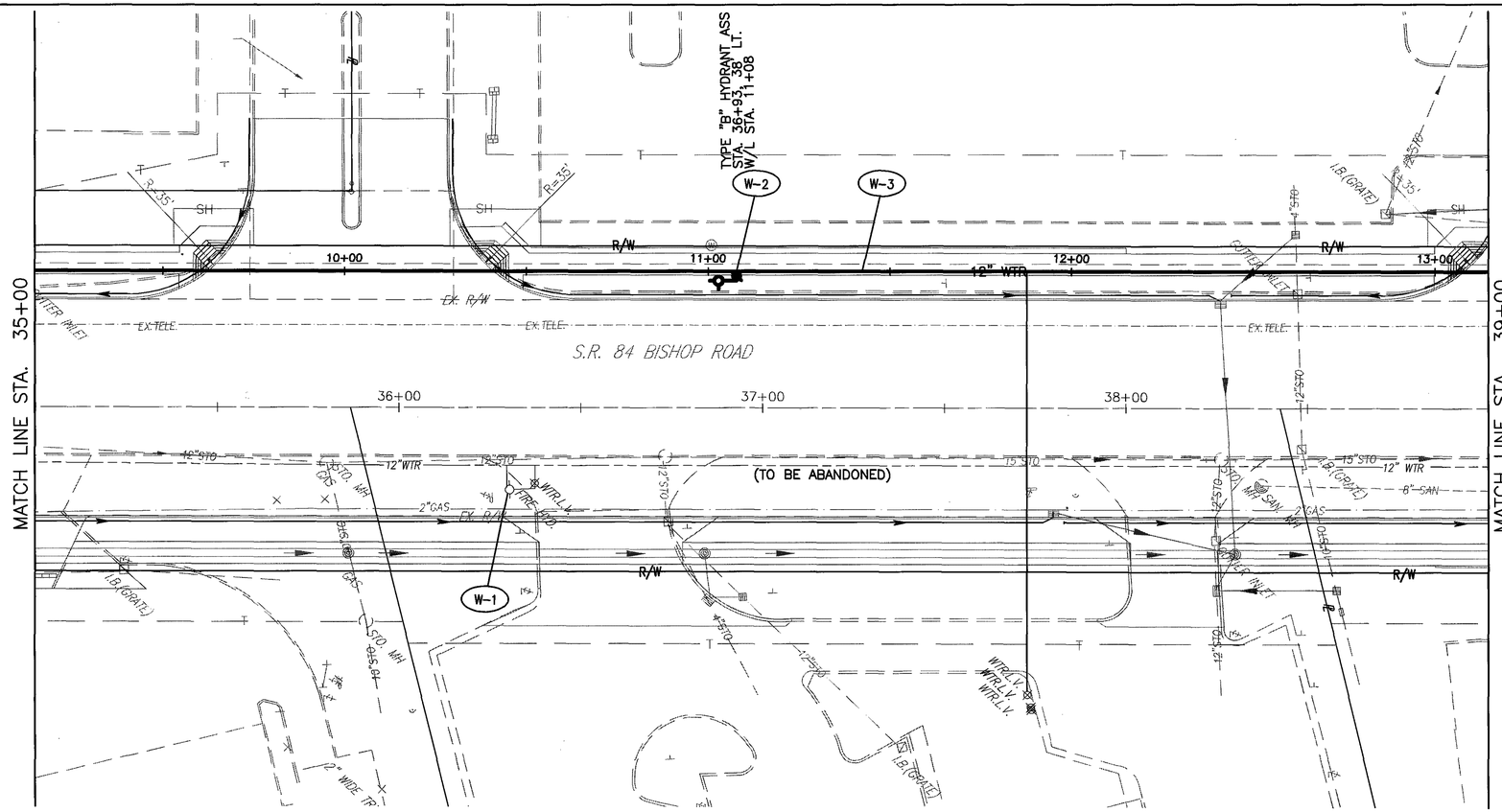

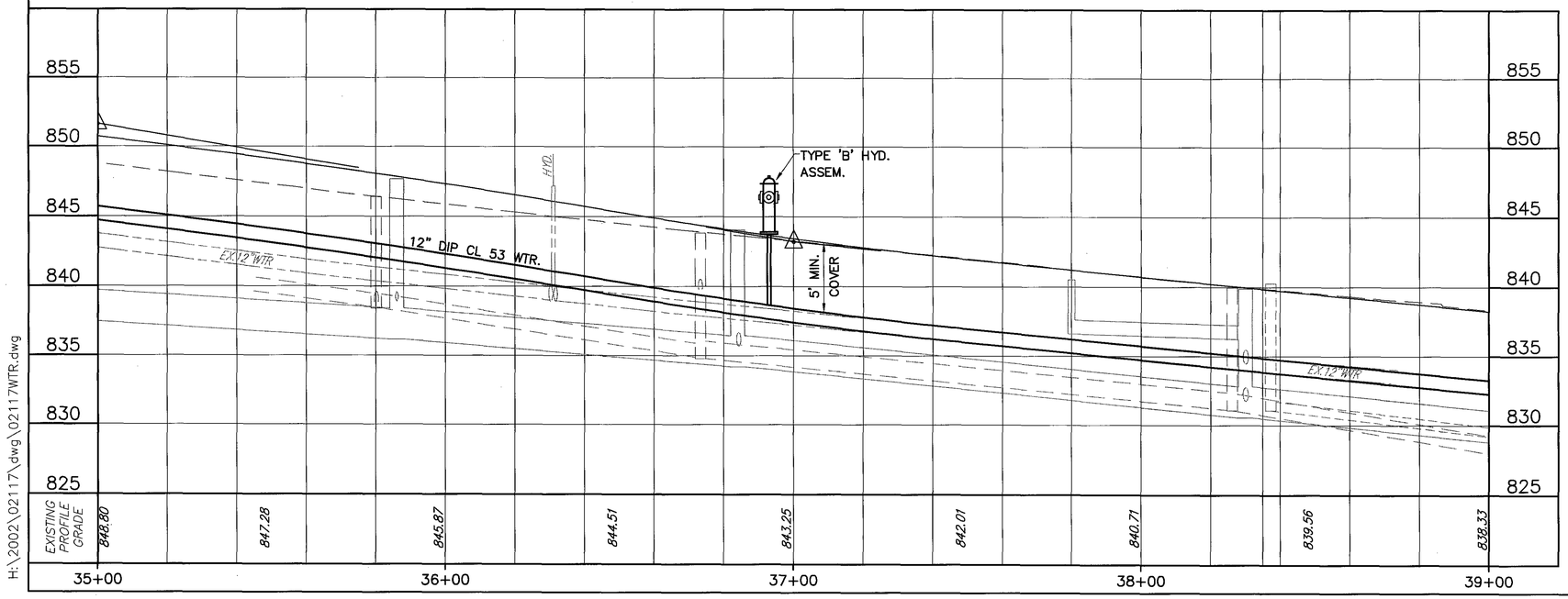

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

638	CODE 1	TYPE 'B' HYDRANT ASSEMBLY	EACH	1	1	1
638	CODE 1	FIRE HYDRANT REMOVED AND DISPOSED OF	EACH	1	1	1
638	CODE 2	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	FEET		400	400

WATER WORKS

REF.	LOCATION
W-1	STA. 36+30, 23' RT.
W-2	STA. 36+93, 38' LT.
W-3	STA. 35+00, 38' LT. TO 39+00, 38' LT.
	TOTALS

SCALE IN FEET 20 10 0 10 20

CALCULATED

CHECKED

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 35+00 TO STA. 39+00

LAK – 90/84 – 0.54/0.43

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369

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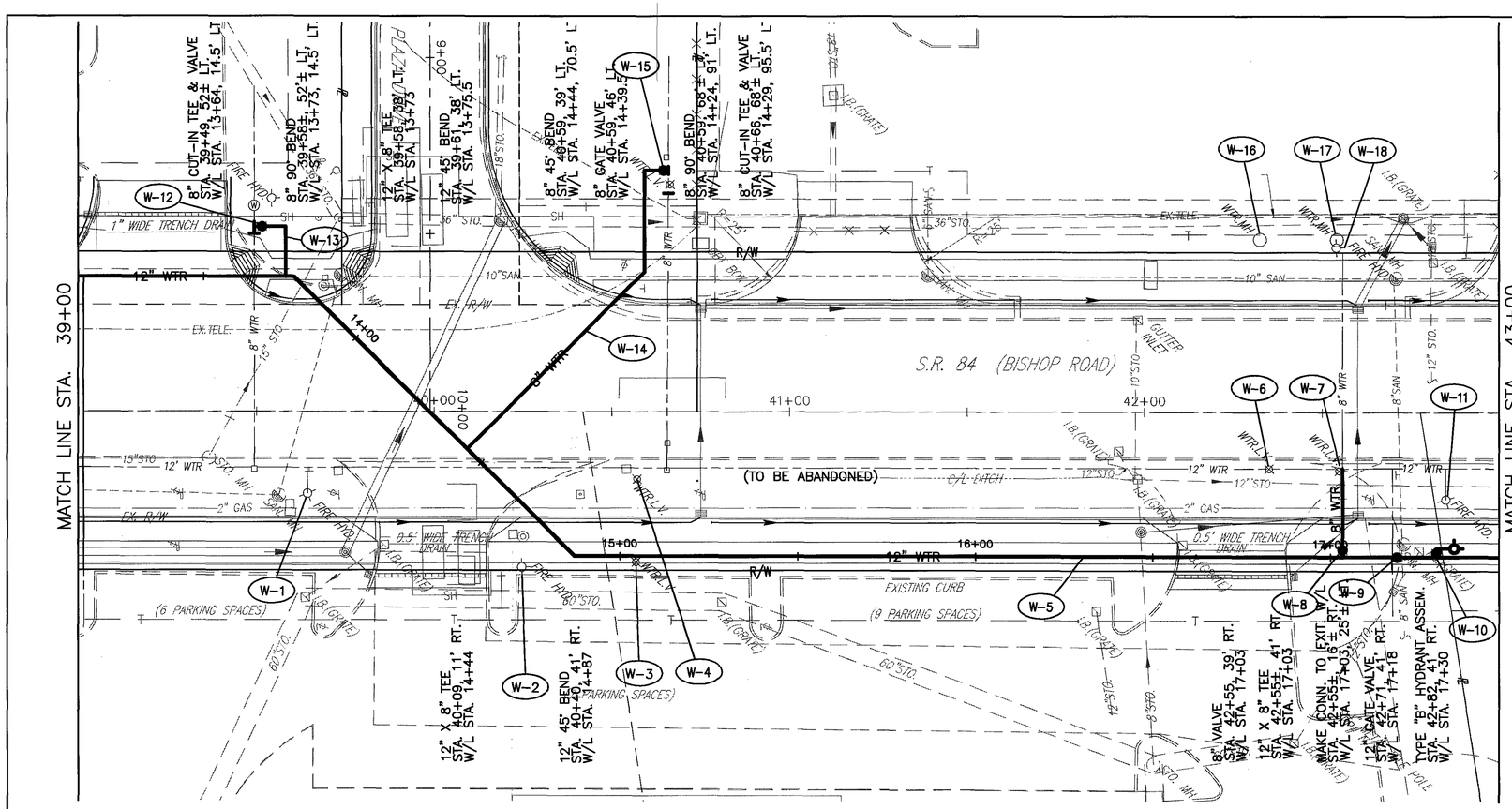

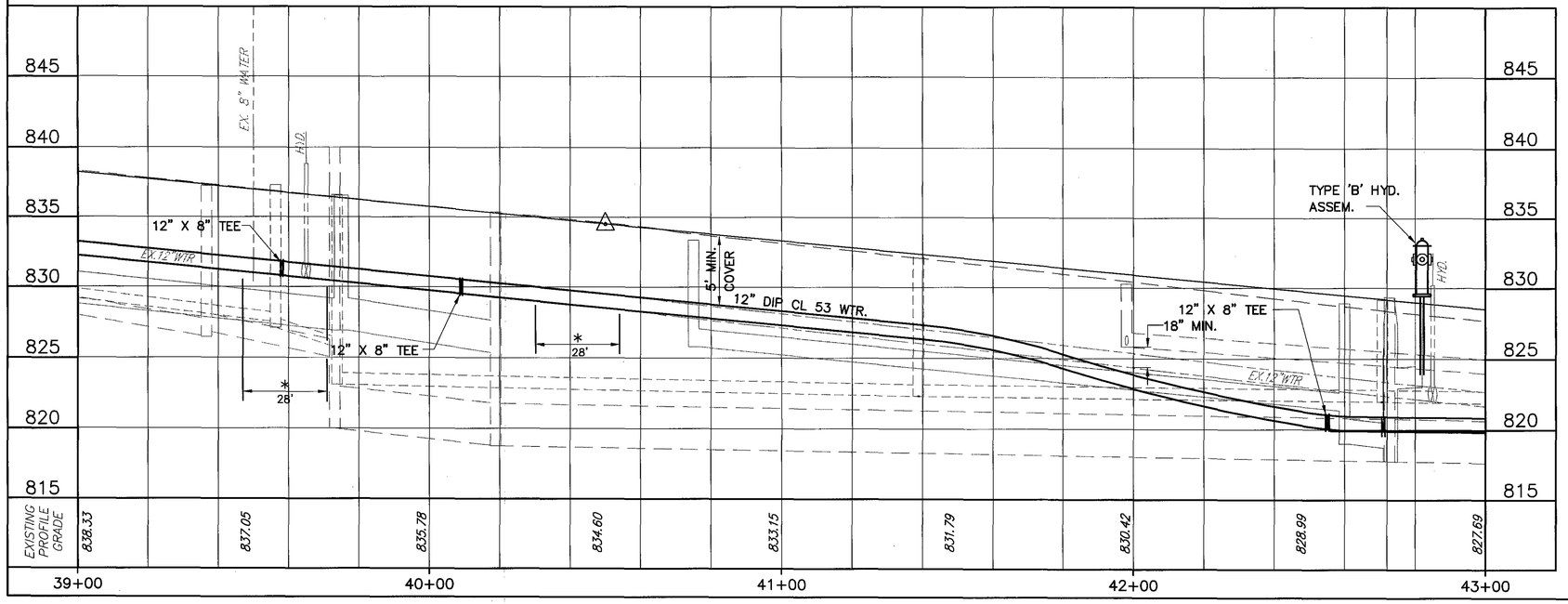

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

	METER & CHAMBER REMOVED AND RESET	TYPE 'B' HYDRANT ASSEMBLY	VALVE BOX ADJUSTED TO GRADE	FIRE HYDRANT REMOVED AND DISPOSED OF	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	CLOSE EXISTING VALVE AND REMOVE VALVE BOX	12" GATE VALVE AND VALVE BOX	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	8" GATE VALVE AND VALVE BOX
	CODE 1	CODE 1	CODE 1	CODE 1	CODE 2	CODE 2	CODE 2	CODE 2	CODE 2
	638	638	638	638	638	638	638	638	638
	EACH	EACH	EACH	EACH	FEET	EACH	EACH	FEET	EACH
				1	1				
				1					
			1			1			
		1			432				
			1			1			
				1			1		
		1						23	1
								106	
	1								1
	1								
	2	1	2	4	432	2	1	129	3

WATER WORKS

REF.	LOCATION
W-1	STA. 39+64, 23' RT.
W-2	STA. 40+25, 44' RT.
W-3	STA. 40+57, 43' RT.
W-4	STA. 40+57, 19' RT.
W-5	STA. 39+00, 38' LT. TO 43+00, 41'RT.
W-6	STA. 42+35, 16' RT.
W-7	STA. 42+55, 17' RT.
W-8	STA. 42+56, 39' RT.
W-9	STA. 42+71, 41' RT.
W-10	STA. 42+82, 41' RT.
W-11	STA. 42+84, 25' RT.
W-12	STA. 39+49, 52' LT.
W-13	STA. 39+52, 52' LT. TO 39+58, 38' LT.
W-14	STA. 40+09, 11' LT. TO 40+66, 68' LT.
W-15	STA. 40+65, 68' LT.
W-16	STA. 42+33, 49' LT.
W-17	STA. 42+54, 49' LT.
W-18	STA. 42+55, 46' LT.
	TOTALS

NOTE:
ALL SIDE STREET PIPE JOINTS SHALL BE RESTRAINED.

MEGALUG MECHANICAL JOINT RESTRAINT ALL PIPES AND FITTINGS

* W/L STA. 13+47 TO 13+75
** W/L STA. 14+73 TO 15+01

N

CALCULATED
CHECKED

SCALE IN FEET
0 10 20

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 39+00 TO STA. 43+00

LAK – 90/84 – 0.54/0.43

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369

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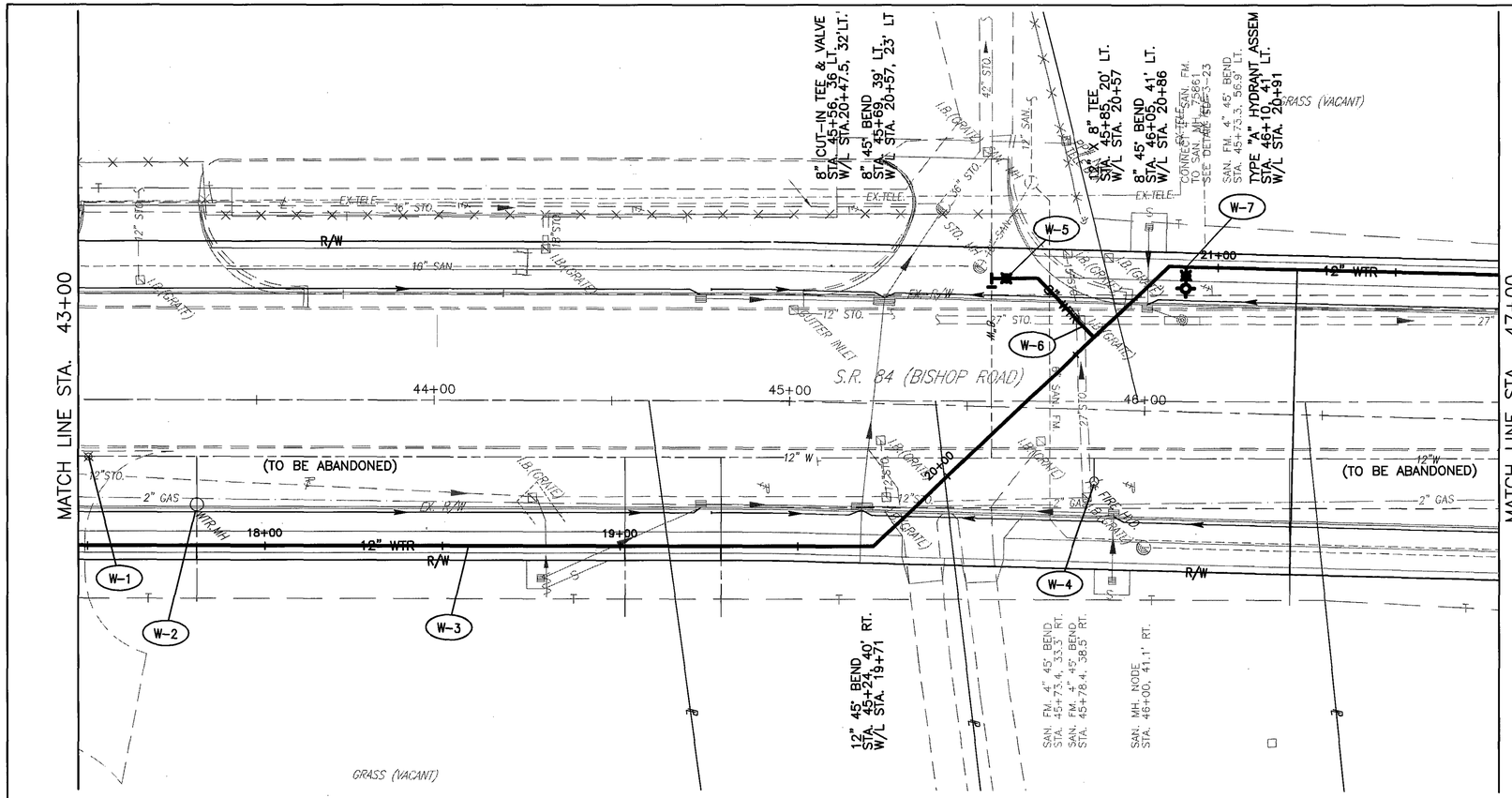

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

CODE										
1	638	METER & CHAMBER REMOVED AND RESET	EACH	1						1
1	638	TYPE 'A' HYDRANT ASSEMBLY	EACH			1				1
1	638	FIRE HYDRANT REMOVED AND DISPOSED OF	EACH		1					1
2	638	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	FEET			432				432
2	638	CLOSE EXISTING VALVE AND REMOVE VALVE BOX	EACH	1						1
2	638	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	FEET				30			30
2	638	8" GATE VALVE AND VALVE BOX	EACH				1			1

WATER WORKS

REF.	LOCATION
W-1	STA. 43+02, 16' RT.
W-2	STA. 43+33, 29' RT.
W-3	STA. 43+00, 41' RT. TO 47+00, 41' LT.
W-4	STA. 45+86, 20' RT.
W-5	STA. 45+60, 36' LT.
W-6	STA. 45+56, 36' LT. TO 45+85, 20' LT.
W-7	STA. 46+10, 41' LT.
	TOTALS

NOTE:
ALL SIDE STREET PIPE JOINTS SHALL BE RESTRAINED.

MEGALUG MECHANICAL JOINT RESTRAINT ALL PIPES AND FITTINGS

* W/L STA. 19+57 TO 21+10

N

SCALE IN FEET
20 10 0 20

CALCULATED

CHECKED

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 43+00 TO STA. 47+00

LAK – 90/84 – 0.54/0.43

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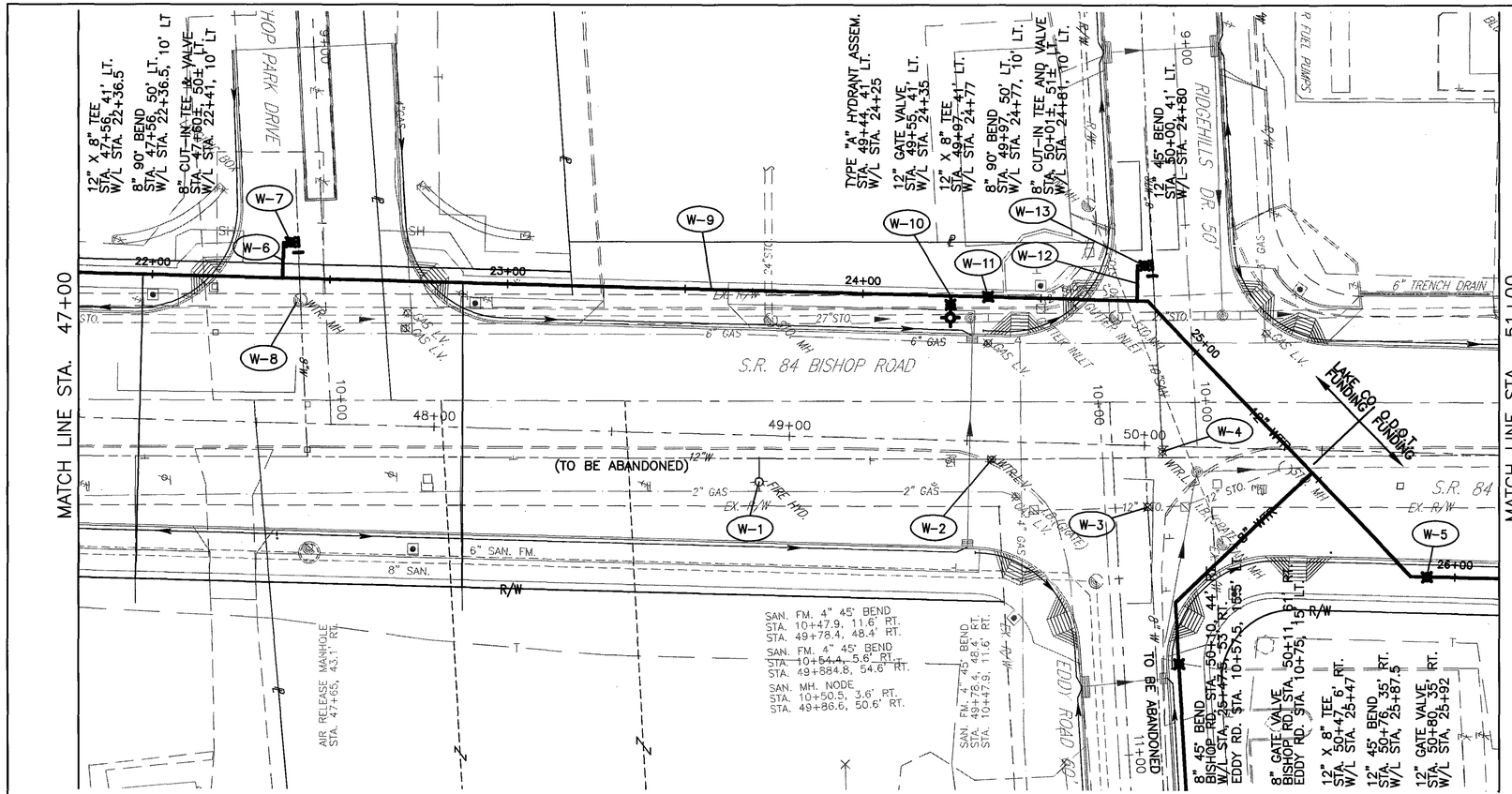

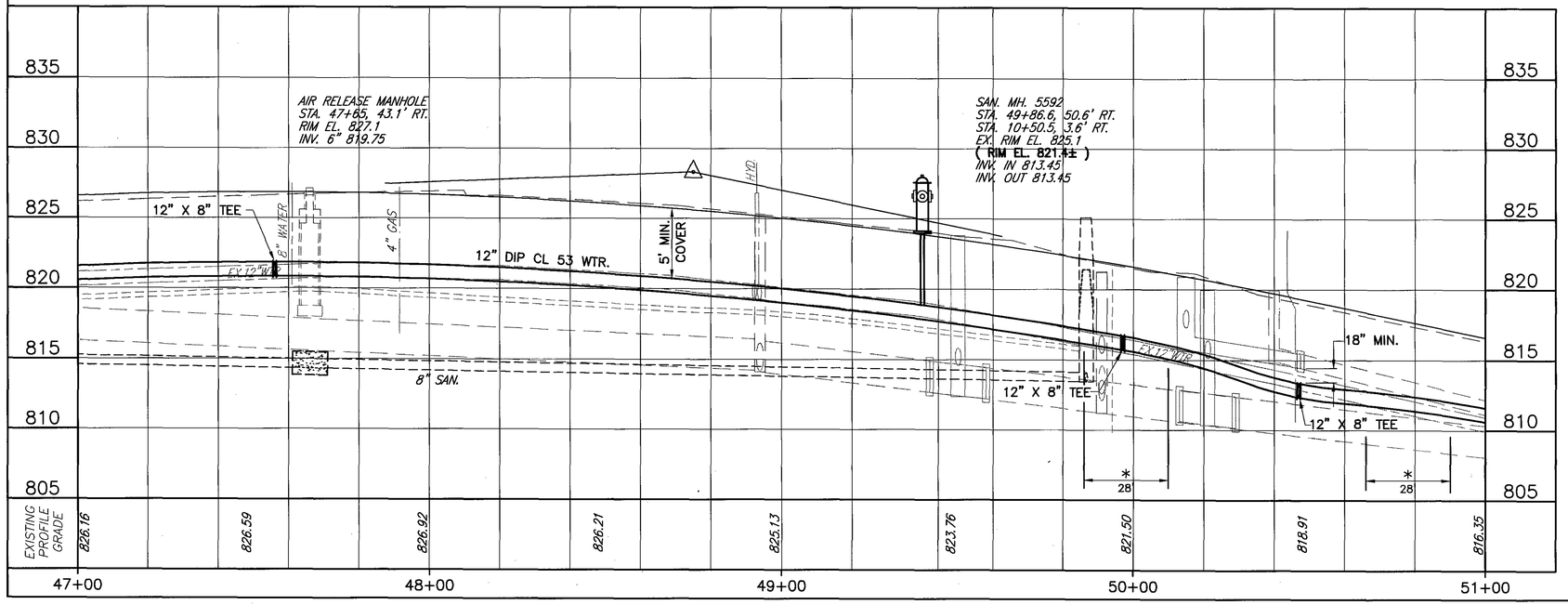

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

WATER WORKS			638	638	638	638	638	638	638	638	638	638	638
REF.	LOCATION		CODE 1	CODE 1	CODE 2	CODE 1	CODE 2	CODE 1	CODE 2	CODE 1	CODE 2	CODE 1	CODE 2
			TYPE 'A' HYDRANT ASSEMBLY	FIRE HYDRANT REMOVED AND DISPOSED OF	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	WATER MANHOLE REMOVE AND DISPOSED OF	12" GATE VALVE AND VALVE BOX	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	12" GATE VALVE AND VALVE BOX	8" GATE VALVE AND VALVE BOX	CLOSE EXISTING VALVE AND REMOVE VALVE BOX
			EACH	EACH	FEET	FEET	EACH	EACH	FEET	EACH	EACH	EACH	EACH
W-1	STA. 48+92, 13' RT			1									1
W-2	STA. 49+57, 5' RT.												1
W-3	STA. 50+01, 17' RT.				367	66	1						
W-4	STA. 50+05, 1' RT.							1					
W-5	STA. 50+80, 35' RT.		1							1			
W-6	STA. 47+56, 41' LT TO 47+60, 51' LT.								14		1		
W-7	STA. 47+58, 51' LT.												
W-8	STA. 47+61, 35' LT.												
W-9	STA. 47+00, 41' LT. TO 51+00, 35' LT.				367	66	1	1	28	1	1	1	3
W-10	STA. 49+44, 41' LT.		1										
W-11	STA. 49+55, 41' LT.												
W-12	STA. 49+97, 41' LT. TO 50+01, 51' LT.								14	1	1		2
W-13	STA. 49+99, 51' LT.												
	TOTALS		1	1	367	66	1	1	28	1	1	1	3

NOTE:
ALL SIDE STREET PIPE JOINTS SHALL BE RESTRAINED.

MEGALUG MECHANICAL JOINT RESTRAINT
ALL PIPES AND FITTINGS

* W/L STA. 24+66 TO 24+94
** W/L STA. 25+73.5 TO 26+01.5

CALCULATED
CHECKED
20 10 0 20
SCALE IN FEET

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 47+00 TO STA. 51+00

LAK – 90/84 – 0.54/0.43

234
369

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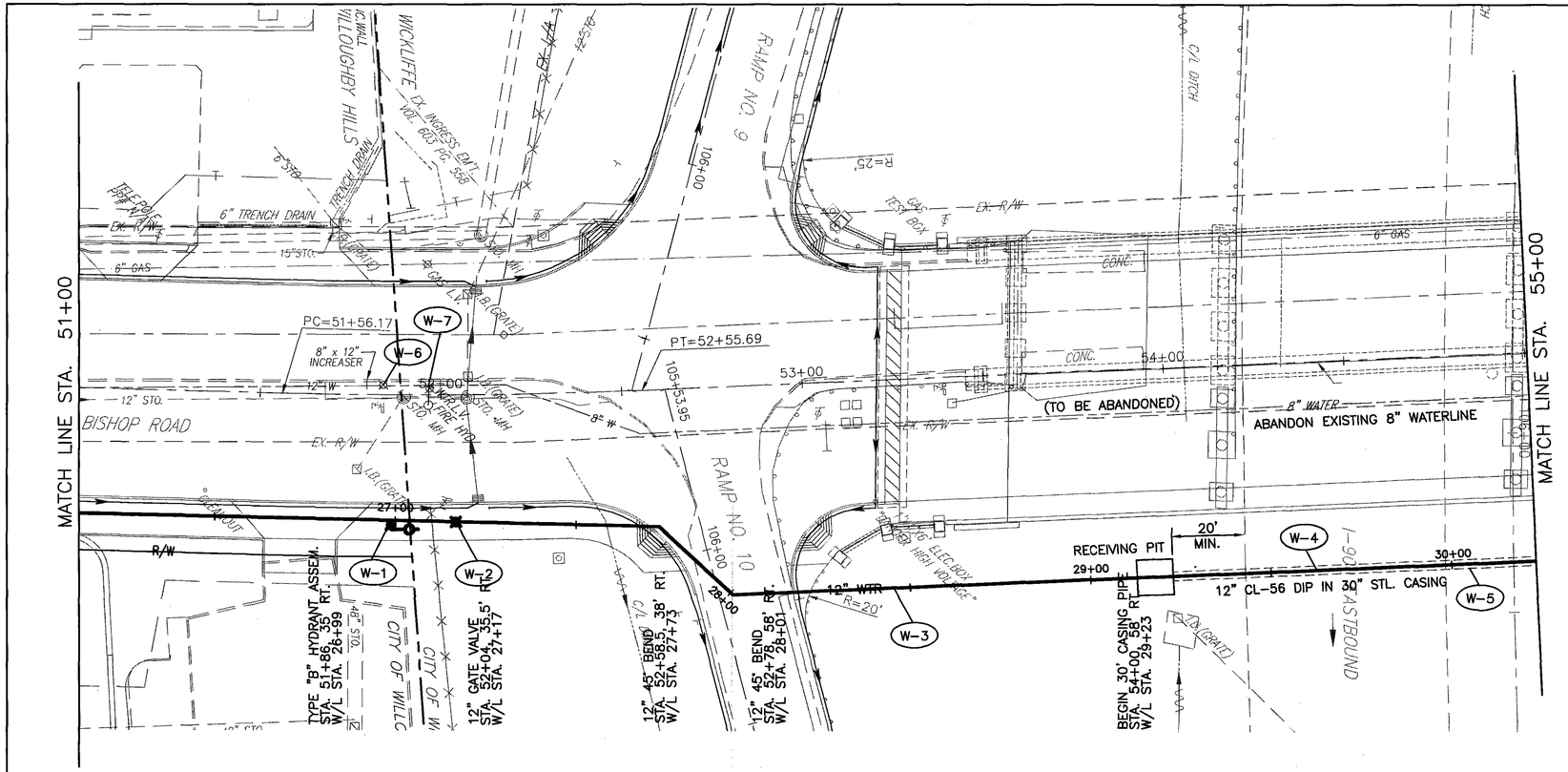

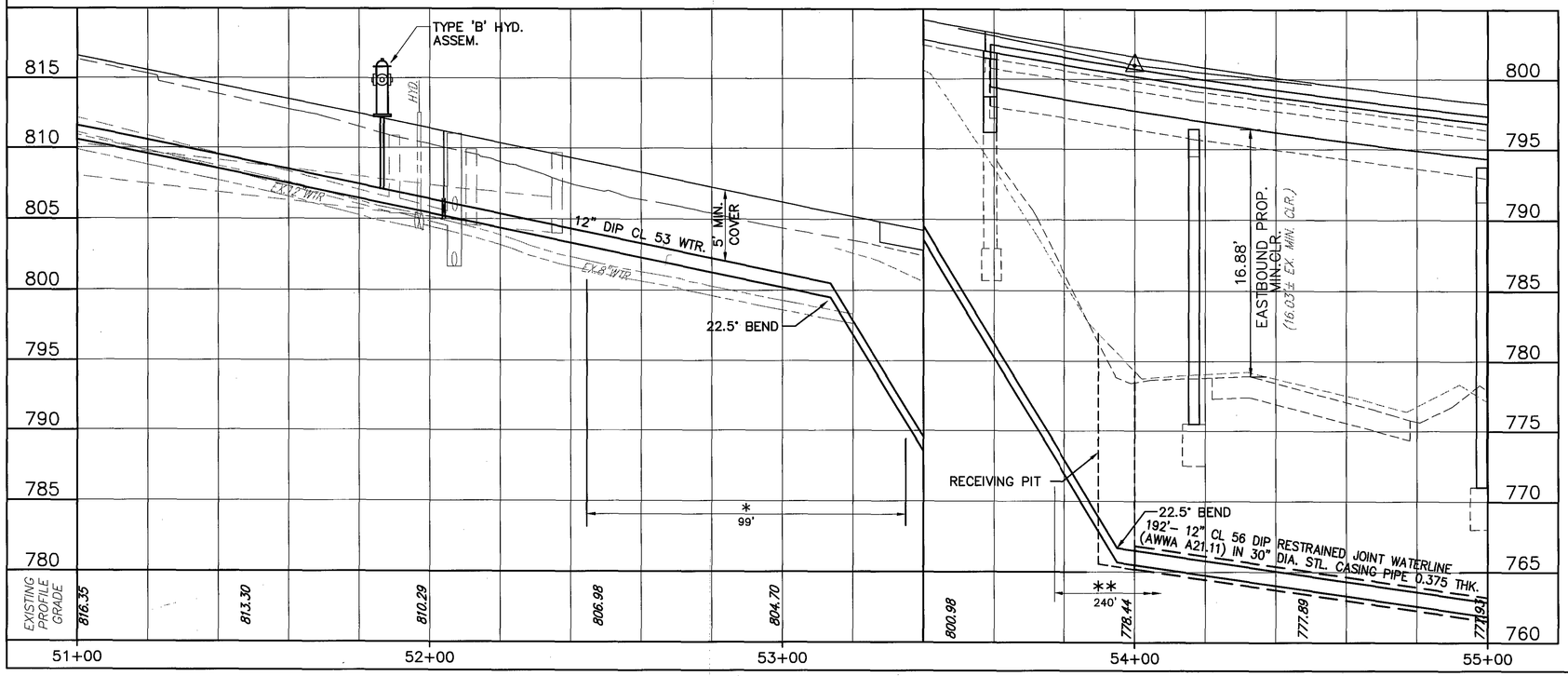

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

638 CODE 1	TYPE 'B' HYDRANT ASSEMBLY	EACH	1												1	1
638 CODE 1	FIRE HYDRANT REMOVED AND DISPOSED OF	EACH											1		1	1
638 CODE 1	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	FEET				310									310	310
638 CODE 1	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 56, BOLTLESS-RESTRAINED JOINTS AND FITTINGS	FEET					100								100	100
638 CODE 1	12" GATE VALVE AND VALVE BOX	EACH		1											1	1
638 CODE 1	30" STEEL PIPE ENCASEMENT, BORED OR JACKED	FEET					100								100	100
638 CODE 1	CLOSE EXISTING VALVE AND REMOVE VALVE BOX	EACH											1		1	1

WATER WORKS												
REF.	LOCATION											
W-1	STA. 51+86, 35' RT.											
W-2	STA. 52+04, 35.5' RT.											
W-3	STA. 51+00, 35' RT. TO 54+00, 58' RT.											
W-4	STA. 54+00, 58' RT. TO 55+00, 58' RT.											
W-5	STA. 54+00, 58' RT. TO 55+00, 58' RT.											
W-6	STA. 51+84, 3' LT.											
W-7	STA. 51+97, 2.5' LT.											
	TOTALS											

MEGALUG MECHANICAL JOINT RESTRAINT
ALL PIPES AND FITTINGS

* W/L STA. 27+59 TO 28+58
** W/L STA. 29+00 TO 31+40

NOTE:
JOINT RESTRAINT WITHIN CASING SHALL BE BOLTLESS TYPE. (ANSI/AWWA C111/A21.11)

N

SCALE IN FEET
0 10 20

CALCULATED
CHECKED

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 51+00 TO STA. 55+00

LAK – 90/84 – 0.54/0.43

235
369

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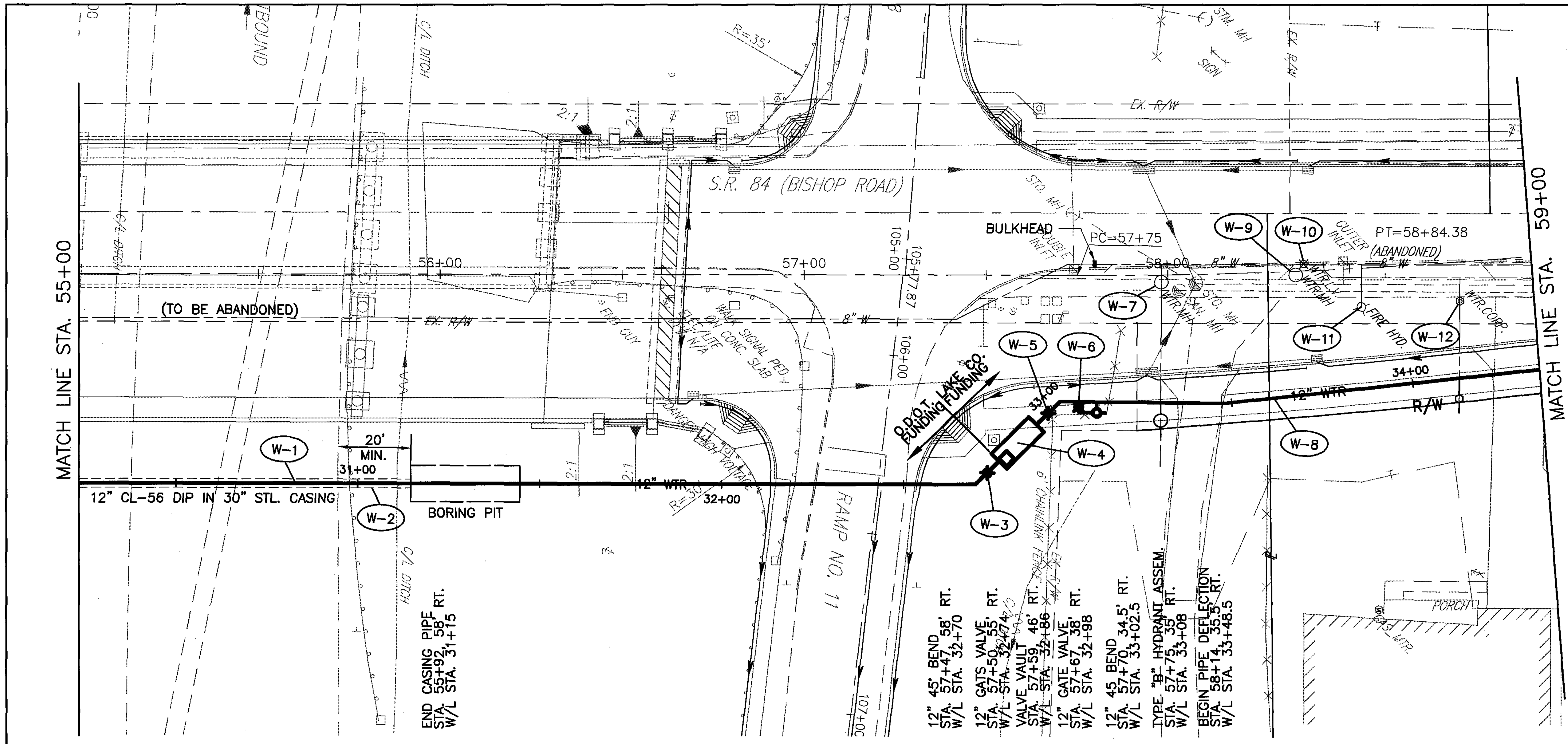

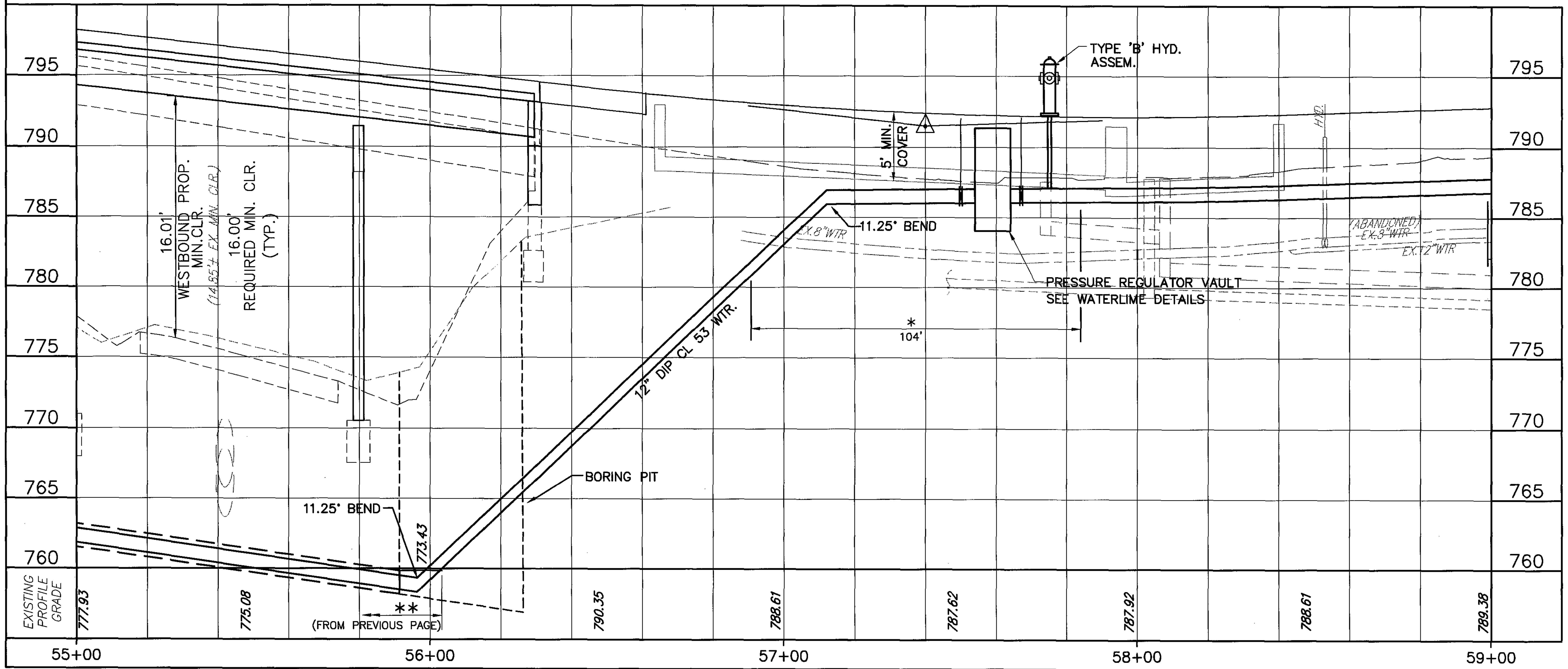

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

		638	638	638	638	638	638	638	638	638	638	638	202	638
		CODE 1	CODE 1	CODE 1	CODE 1	CODE 1	CODE 2	CODE 1	CODE 1	CODE 2	CODE 1	CODE 2	CODE 2	CODE 2
WATER WORKS		CORP STOP REMOVE AND RESET	METER & CHAMBER REMOVED AND RESET	TYPE 'B' HYDRANT ASSEMBLY	FIRE HYDRANT REMOVED AND DISPOSED OF	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 56, BOLTLESS-RESTRAINED JOINTS AND FITTINGS	12" GATE VALVE AND VALVE BOX	12" GATE VALVE AND VALVE BOX	30" STEEL PIPE ENCASEMENT, BORED OR JACKED	WATER METER VAULT	REMOVE EXISTING WATER METER VAULT	CLOSE EXISTING VALVE AND REMOVE VALVE BOX
REF.	LOCATION	EACH	EACH	EACH	EACH	FEET	FEET	FEET	EACH	EACH	FEET	EACH	EACH	EACH
W-1	STA. 55+00, 58' RT. TO 55+92, 58' RT.							92						
W-2	STA. 55+00, 58' RT. TO 55+92, 58' RT.										92			
W-3	STA. 57+50, 55' RT.								1					
W-4	STA. 57+59, 46' RT.											1		
W-5	STA. 57+67, 38' RT.									1				
W-6	STA. 57+75, 35' RT.			1										
W-7	STA. 57+98, 2' RT.		1											
W-8	STA. 55+92, 58' RT. TO 59+00, 31' RT.					173	147							
W-9	STA. 58+35, 1' RT.												1	
W-10	STA. 58+38, 2' LT.													1
W-11	STA. 58+53, 11' RT				1									
W-12	STA. 58+80, 11' RT.	1												
TOTALS		1	1	1	1	173	147	92	1	1	92	1	1	1

MEGALUG MECHANICAL JOINT RESTRAINT ALL PIPES AND FITTINGS

* W/L STA. 32+13 TO 33+17

** W/L STA. 29+00 TO 31+40 (FROM PREVIOUS PAGE)

NOTE:
JOINT RESTRAINT WITHIN CASING SHALL BE BOLTLESS TYPE. (ANSI/AWWA C111/A21.11)

20 10 0 20
SCALE IN FEET

CALCULATED
CHECKED

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 55+00 TO STA. 59+00

LAK – 90/84 – 0.54/0.43

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CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

WATER WORKS REF.	LOCATION	CORP STOP ADJUST TO GRADE 638 CODE 1 EACH	CORP STOP REMOVE AND RESET 638 CODE 1 EACH	METER & CHAMBER REMOVED AND RESET 638 CODE 1 EACH	HYDRANT ASSEMBLY TYPE B 638 CODE 1 EACH	VALVE BOX ADJUSTED TO GRADE 638 CODE 1 EACH	FIRE HYDRANT REMOVED AND DISPOSED OF 638 CODE 1 EACH	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS 638 CODE 2 FEET	12" GATE VALVE AND VALVE BOX 638 CODE 2 EACH	CLOSE EXISTING VALVE AND REMOVE AND VALVE BOX 638 CODE 2 EACH
W-1	STA. 59+53, 16' RT.	1	1							
W-2	STA. 60+11, 21' RT.		1			1				
W-3	STA. 60+15, 22' RT.	1								1
W-4	STA. 61+15, 31' RT.			1		1				
W-5	STA. 61+09, 14' RT.					1				
W-6	STA. 61+18, 34' RT.						1			
W-7	STA. 61+24, 41' RT.			1						
W-8	STA. 62+42, 25' RT.				1					
W-9	STA. 62+43, 16' RT.						1			
W-10	STA. 59+16, 26' LT.							257		
W-11	STA. 59+76, 22' LT.								1	
W-12	STA. 59+00, 31' RT. TO 61+30, 21' LT.							7		
W-13	STA. 60+26, 19' LT.					1				
W-14	STA. 60+67, 17' LT.				1					
W-15	STA. 60+91, 24' LT.							264	1	1
W-16	STA. 61+21, 24' LT.					1				
W-17	STA. 61+25, 24' LT. TO 61+25, 17' LT.	1	1							
W-18	STA. 61+35, 21' LT.		1							
W-19	STA. 61+45, 16' LT.									
W-20	STA. 61+61, 17' LT.									
W-21	STA. 62+13, 16' LT.	1								
W-22	STA. 62+99, 17' LT.	1								
	TOTALS	4	1	1	1	5	1	264	1	1

NOTE:
ALL SIDE STREET PIPE JOINTS SHALL BE RESTRAINED.

MEGALUG MECHANICAL JOINT RESTRAINT
ALL PIPES AND FITTINGS

* W/L STA. 34+34 TO 34+62
** W/L STA. 35+26 TO 35+54
*** W/L STA. 36+72 TO 37+05

CALCULATED
CHECKED
SCALE IN FEET 0 10 20

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 59+00 TO STA. 63+00

LAK – 90/84 – 0.54/0.43

237
369

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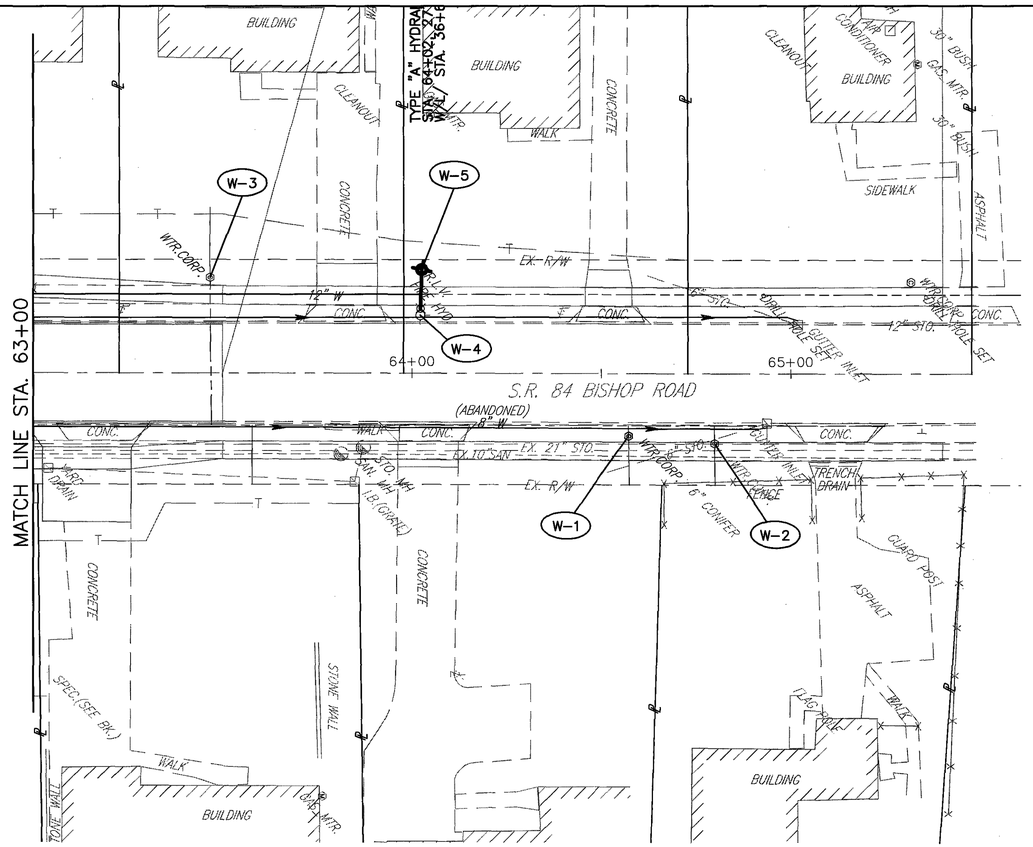

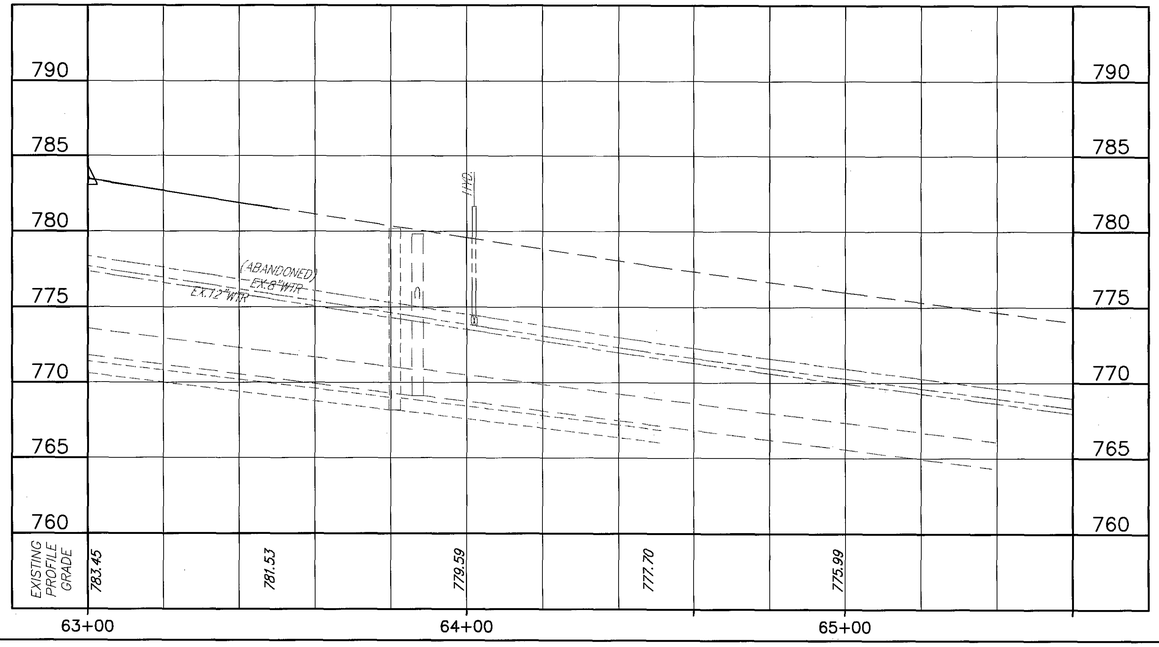

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

CORP STOP ADJUSTED TO GRADE	EACH			1			1
CODE 1							
638							
CORP STOP REMOVED AND RESET	EACH	1					2
CODE 1							
638							
TYPE 'A' HYDRANT ASSEMBLY	EACH				1		1
CODE 1							
638							
FIRE HYDRANT REMOVED AND DISPOSED OF	EACH			1			1
CODE 1							
638							

WATER WORKS

REF.	LOCATION						
W-1	STA. 64+57, 17' RT.						
W-2	STA. 64+80, 19' RT.						
W-3	STA. 63+47, 25' LT.				1		
W-4	STA. 64+02, 15' LT.					1	
W-5	STA. 64+02, 27' LT.						
	TOTALS				1	1	1

CALCULATED

CHECKED

SCALE IN FEET 20 10 0 20

BISHOP ROAD – WATERMAIN RELOCATION PLAN
STA. 59+00 TO STA. 63+00

LAK – 90/84 – 0.54/0.43

237A
369

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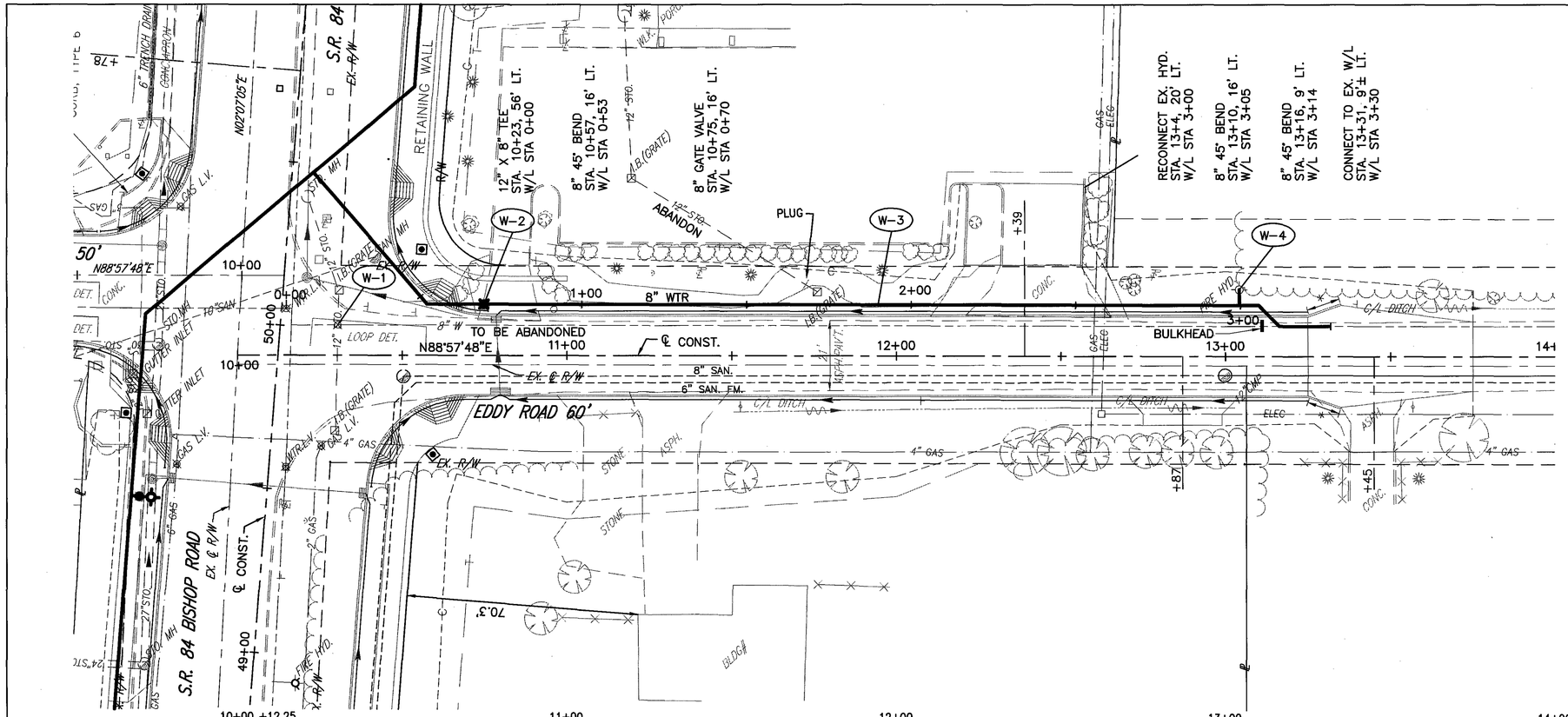
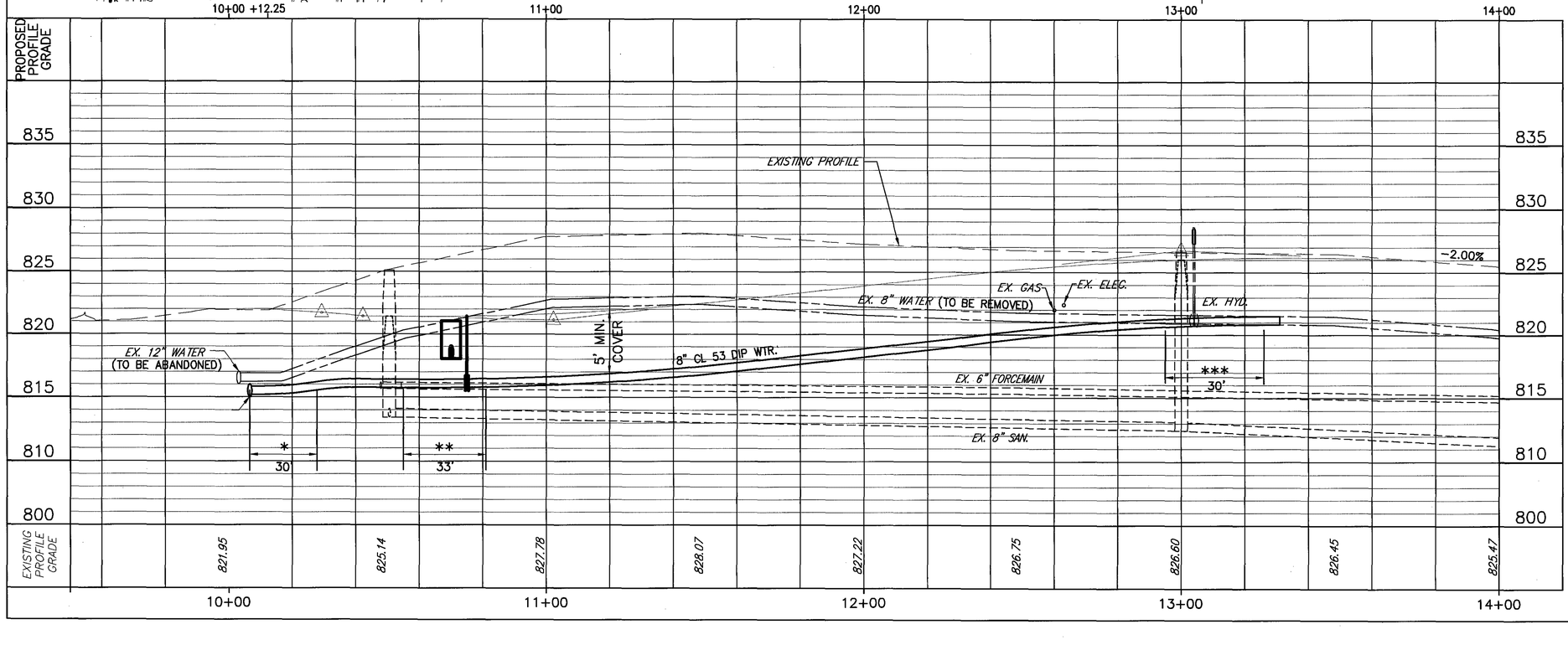


CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNTY DEPARTMENT OF UTILITIES)

638	CODE 1	CLOSE EXISTING VALVE AND REMOVE AND VALVE BOX	EACH	1		
638	CODE 1	8" GATE VALVE AND VALVE BOX	EACH		1	1
638	CODE 1	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINT AND FITTINGS	FEET		330	330
638	CODE 1	FIRE HYDRANT ADJUST TO GRADE	EACH		1	1

WATER WORKS				
REF.	LOCATION			
W-1	STA. 59+53, 16' RT.			
W-2	STA. 60+11, 21' RT.		1	
W-3	STA. 60+15, 22' RT.			
W-4	STA. 61+15, 31' RT.	1		
	TOTALS	1	1	1



MEGALUG MECHANICAL JOINT RESTRAINT
ALL PIPES AND FITTINGS

* W/L STA. 0+00 TO 0+30
** W/L STA. 0+43 TO 0+76
*** W/L STA. 2+95 TO 3+25

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

EDDY ROAD – WATERLINE RELOCATION PLAN
STA. 10+00 TO 14+00

LAK – 90/84 – 0.54/0.43

238
369

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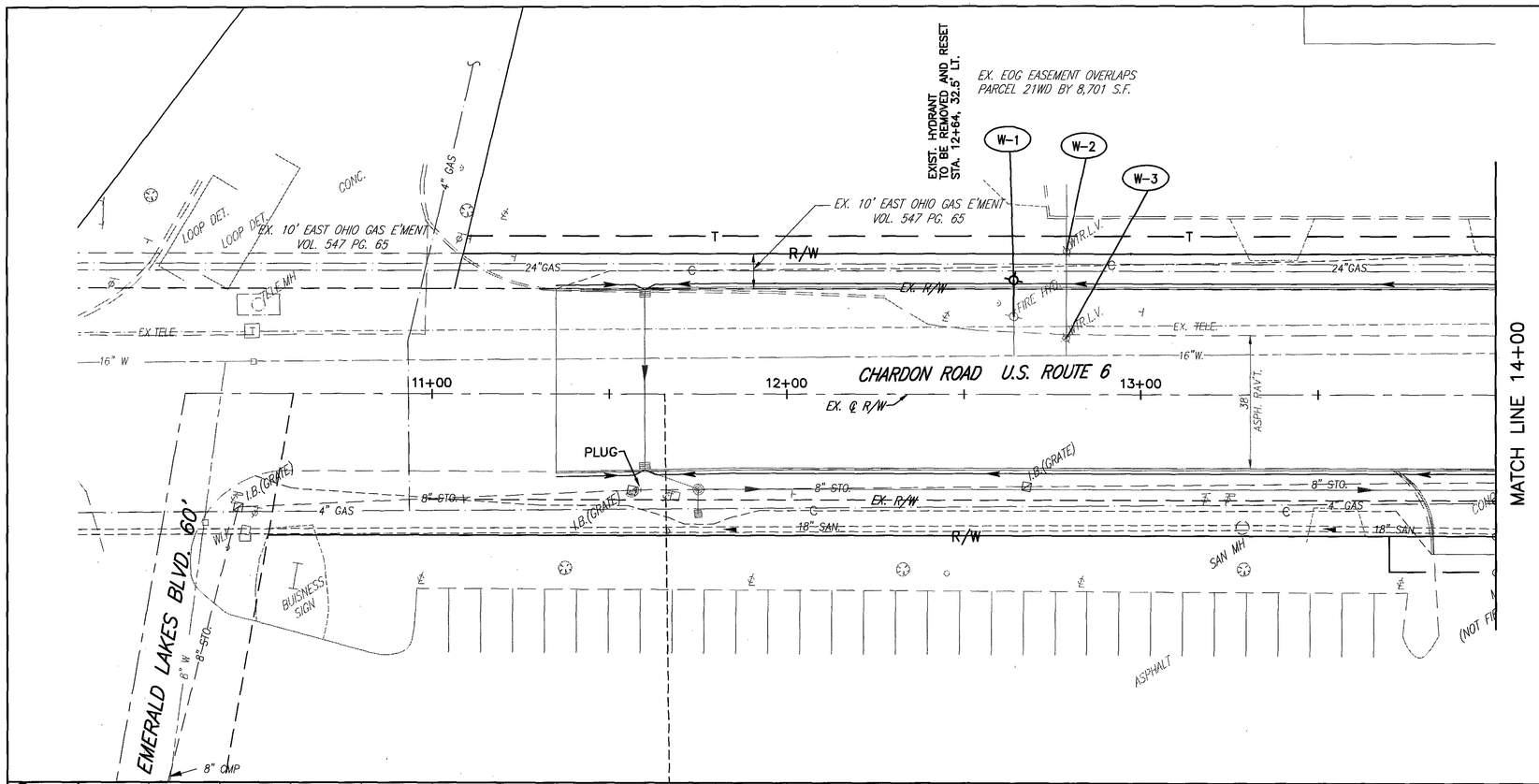

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNT DEPARTMENT OF UTILITIES)

WATER WORKS					
REF.	LOCATION				
W-1	STA. 12+64, 32.5' LT.	638 CODE 1	VALVE BOX ADJUSTED TO GRADE	EACH	1
W-2	STA. 12+79, 41' LT.	638 CODE 1	VALVE BOX ADJUSTED TO GRADE	EACH	1
W-3	STA. 12+79, 16' LT.	638 CODE 1	FIRE HYDRANT REMOVED AND RESET	EACH	1
	TOTALS				3

SCALE IN FEET 20 10 0 20

CALCULATED

CHECKED

U.S. 6 – CHARDON ROAD – WATER MAIN IMPROVEMENTS
STA. 11+35 TO STA. 14+00

LAK – 90/84 – 0.54/0.43

238A
369

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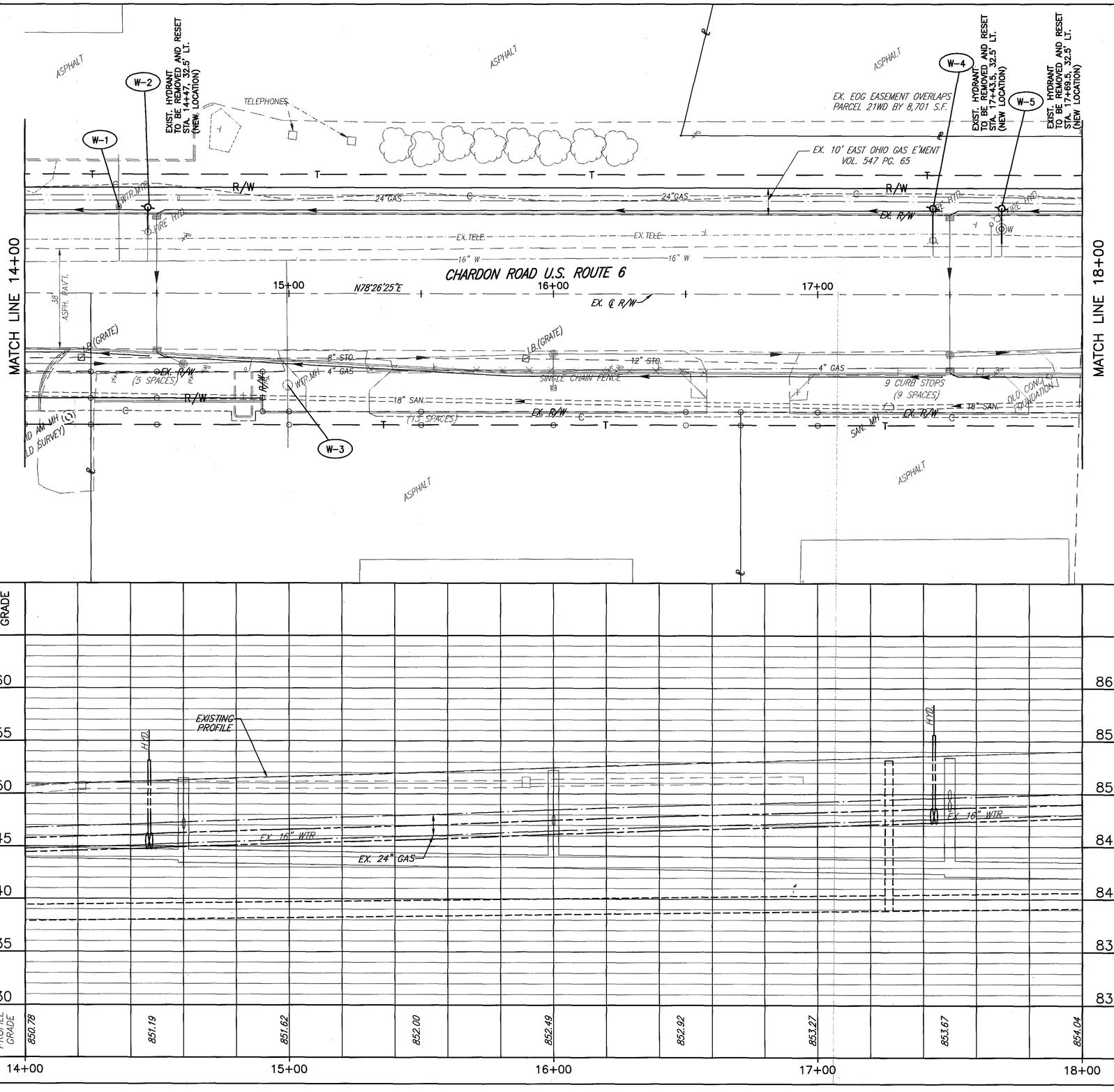

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNT DEPARTMENT OF UTILITIES)

WATER WORKS			CORP STOP ADJUSTED TO GRADE			METER & CHAMBER REMOVED AND RESET			FIRE HYDRANT REMOVED AND RESET		
REF.	LOCATION		EACH	638	CODE 1	EACH	638	CODE 1	EACH	638	CODE 1
W-1	STA. 14+36, 33' LT.		1								
W-2	STA. 14+47, 32.5' LT.								1		
W-3	STA. 14+99, 35' RT.					1					
W-4	STA. 17+44, 32.5' LT.								1		
W-5	STA. 17+70, 32.5' LT.								1		
	TOTALS		1			1			3		

N

SCALE IN FEET
0 10 20

CALCULATED

CHECKED

U.S. 6 – CHARDON ROAD – WATER MAIN IMPROVEMENTS
STA. 14+00 TO STA. 18+00

LAK – 90/84 – 0.54/0.43

238B
369

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CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNT DEPARTMENT OF UTILITIES)

638 CODE 1	TYPE "A" HYDRANT ASSEMBLY	EACH	1

WATER WORKS		
REF.	LOCATION	
W-1	STA. 21+47, 33.5' LT.	1
	TOTALS	1

CALCULATED

CHECKED

SCALE IN FEET 20 10 0 10 20

U.S. 6 – CHARDON ROAD – WATER MAIN IMPROVEMENTS
STA. 18+00 TO STA. 22+00

LAK – 90/84 – 0.54/0.43

2380
369

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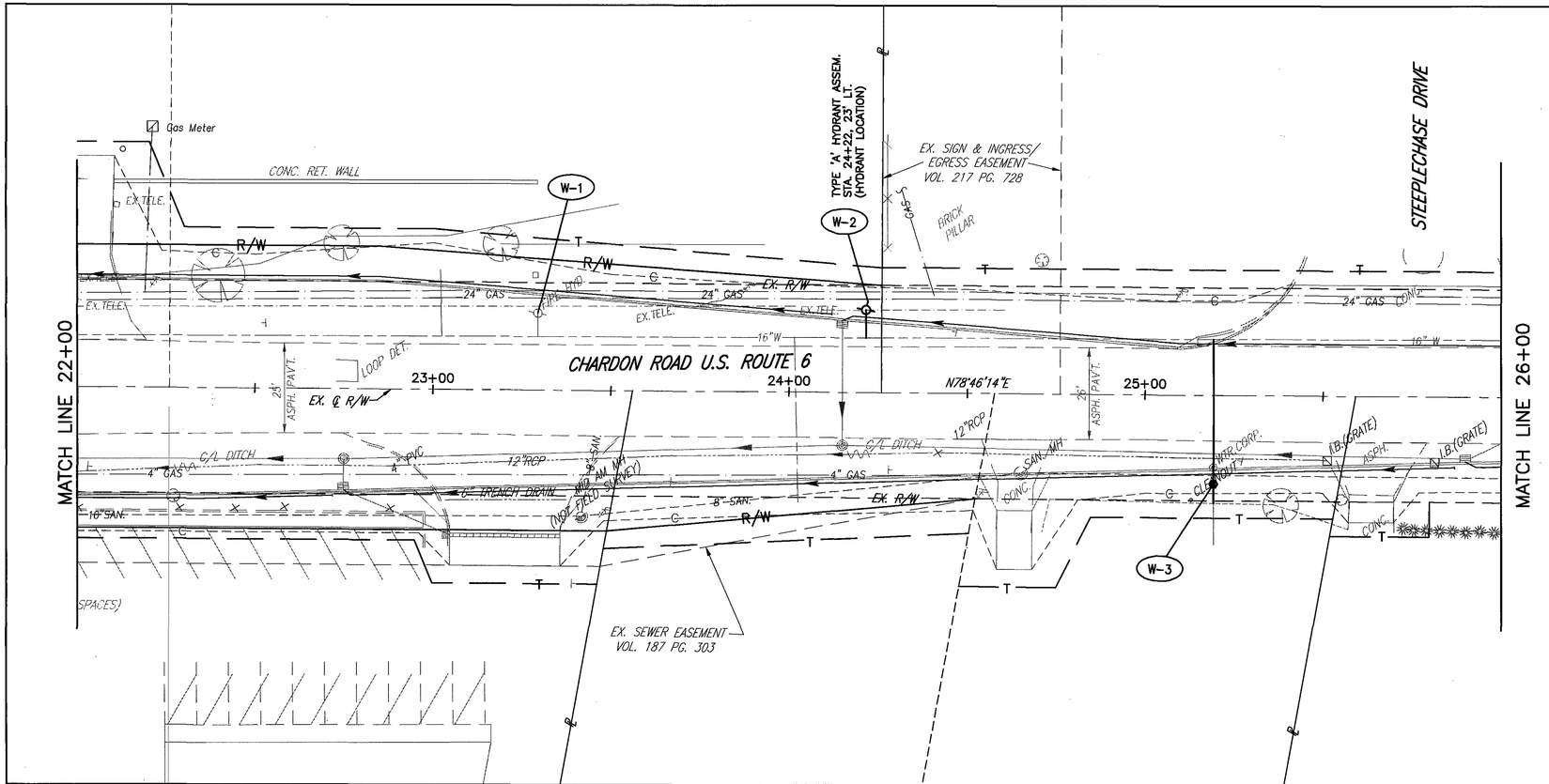

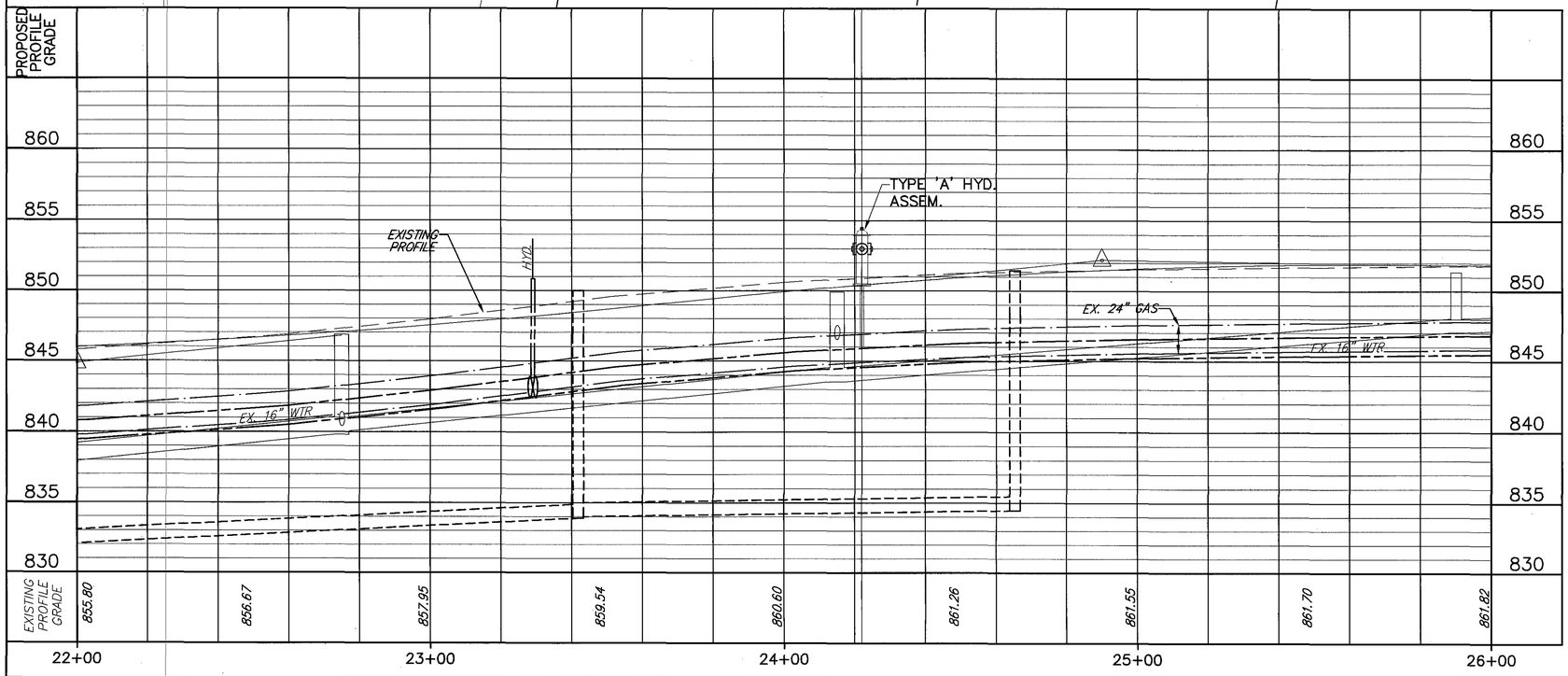

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNT DEPARTMENT OF UTILITIES)

WATER WORKS							
REF.	LOCATION						
W-1	STA. 23+29, 22' LT.						
W-2	STA. 24+22, 23' LT.						
W-3	STA. 25+19, 25' RT.						
	TOTALS	1	1	1			1

CORP STOP ADJUSTED TO GRADE	EACH	1		1
638 CODE 1				
TYPE "A" HYDRANT ASSEMBLY	EACH		1	1
638 CODE 1				
FIRE HYDRANT REMOVED AND DISPOSED OF	EACH	1		1
638 CODE 1				

SCALE IN FEET: 20 10 0 20

CALCULATED

CHECKED

U.S. 6 – CHARDON ROAD – WATER MAIN IMPROVEMENTS
STA. 22+00 TO STA. 26+00

LAK – 90/84 – 0.54/0.43

238D
369

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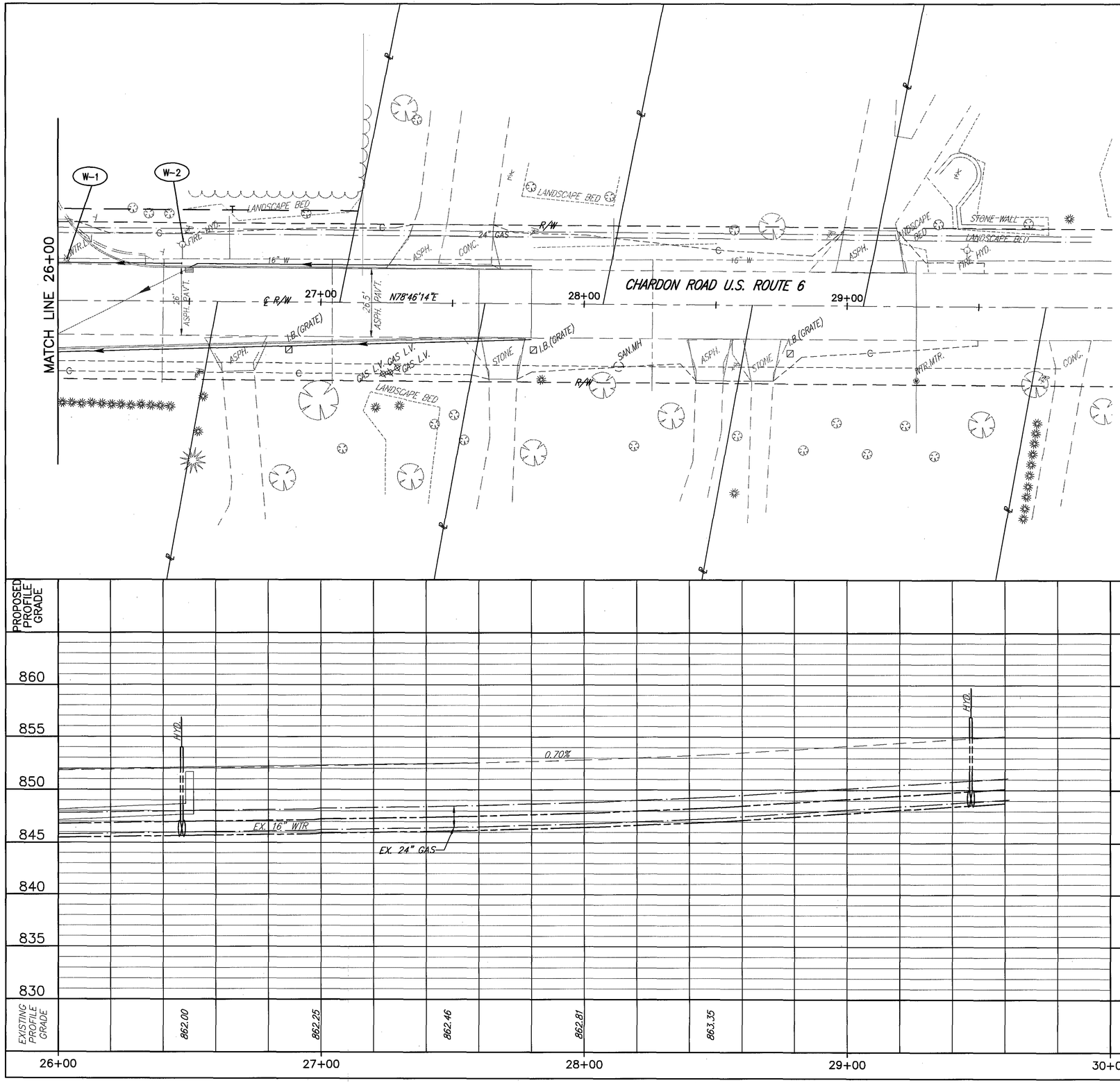

CODE 1 = NORMAL PARTICIPATION

CODE 2 = 100% LOCAL PARTICIPATION (LAKE COUNT DEPARTMENT OF UTILITIES)

WATER WORKS					
REF.	LOCATION		EACH		
W-1	STA. 26+03, 16' LT.		1		
W-2	STA. 26+47, 22' LT.			1	
	TOTALS		1	1	
638	CODE 1	VALVE BOX ADJUSTED TO GRADE	EACH		
638	CODE 1	FIRE HYDRANT ADJUST TO GRADE	EACH		

N

SCALE IN FEET
20 10 0 20

CALCULATED
CHECKED

U.S. 6 – CHARDON ROAD – WATER MAIN IMPROVEMENTS
STA. 26+00 TO STA. 29+00

LAK – 90/84 – 0.54/0.43

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369

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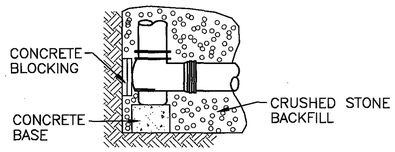
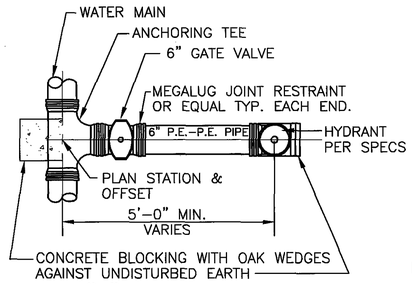
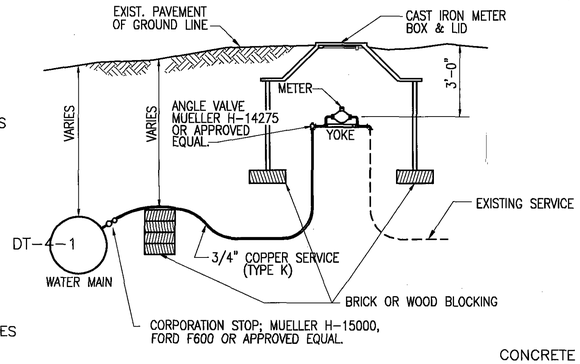


HYDRANT BLOCKING

NOTE:
CLEVELAND STANDARD HYDRANTS WITH FROST CASE SHALL BE USED. HYDRANTS SHALL HAVE CLEVELAND STANDARD THREAD NOZZLES OF 2–2 1/2" HOSE AND ONE 4" PUMPER SIZE.

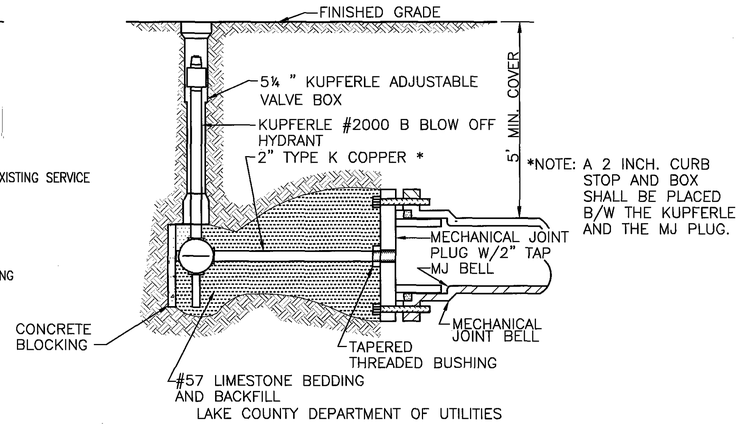


TYPE "A" HYDRANT ASSEMBLY



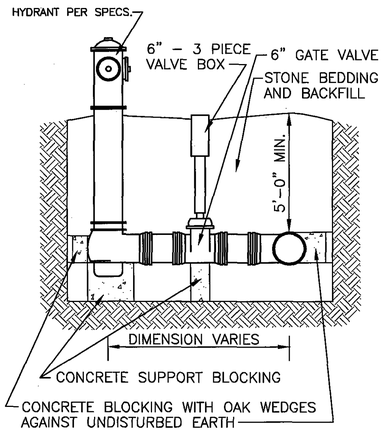
SERVICE TIE IN FOR OUTSIDE METER DETAIL

MAXIMUM VERTICAL DISTANCE BETWEEN TOP OF KUPFERLE AND TOP OF BOX SHALL BE 6 INCHES.

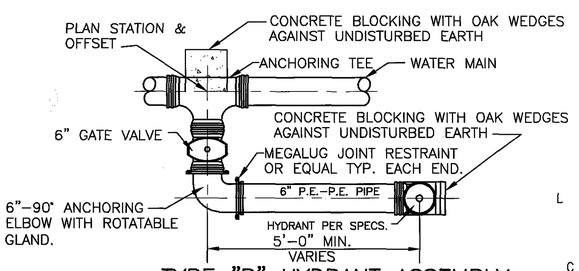


BLOW–OFF HYDRANT

NO SCALE



TYPICAL HYDRANT ASSEMBLY ELEVATION

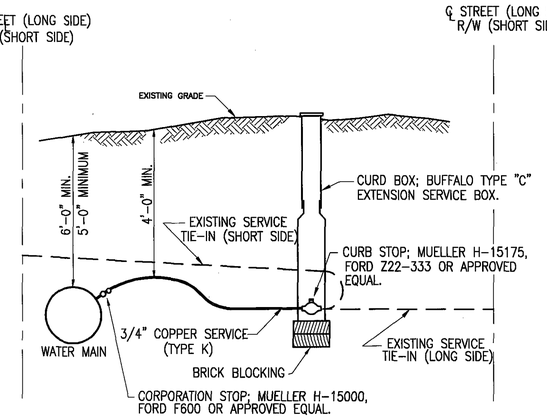


TYPE "B" HYDRANT ASSEMBLY

TYPE "C" HYDRANT ASSEMBLY

LAKE COUNTY WATER DEPARTMENT HYDRANT ASSEMBLY DETAIL

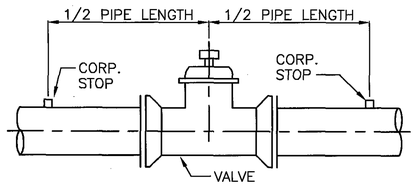
NO SCALE



NOTE: IF CURB STOP AND BOX FALL IN DITCH LINE MOVE BOTH TOWARD BUILDING OUT OF DITCH, BUT KEEP BOTH INSIDE THE RIGHT–OF–WAY. CURB STOP AND BOX TO BE A MINIMUM OF 5'–0" FROM BACK OF CURB OR EDGE OF PAVEMENT.

SERVICE TIE–IN FOR INSIDE METER

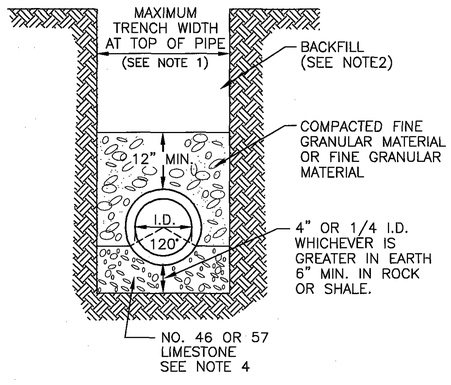
NOTE:
CORPORATION STOPS TO BE PLUGGED AFTER STERILIZATION AND TESTING.



1"ø CORPORATION STOPS ON ALL LINES 12"ø & LESS

STERILIZATION AND TESTING CONNECTIONS AT VALVES

NO SCALE



TRENCH AND BEDDING NOTES

1. MAXIMUM TRENCH WIDTH AT TOP OF PIPE SHALL BE O.D. PLUS 24" FOR ALL PIPE SIZES UP TO AND INCLUDING 24" I.D. AND O.D. PLUS 30" FOR PIPE SIZES LARGER THAN 24" I.D.
2. PIPE BACKFILL UNDER PAVEMENT AND STRUCTURES SHALL BE No. 46 OR 57 LIMESTONE COMPACTED TO TOP OF TRENCH. THE BACKFILL MATERIAL SHALL EXTEND A MINIMUM OF 3 FEET BEYOND EACH EDGE OF PAVEMENT OR STRUCTURE. IN AREAS OUTSIDE OF PAVEMENT, SELECT ON–SITE GRANULAR MATERIAL APPROVED BY LAKE COUNTY SANITARY ENGINEER MAY BE USED IN LIFTS NOT TO EXCEED 6" FOR PIPE BACKFILL ABOVE BEDDING.
3. ALL BEDDING SHALL BE CLASS "B" UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER.
4. SLAG BEDDING SHALL NOT BE USED.
5. WATERLINE BEDDING SHALL BE CLASS "C".
6. CLAY DAMS SHALL BE REQUIRED WHEN AND WHERE NECESSARY PER THE SOLE DISCRETION OF THE ENGINEER.

TRENCH & BEDDING DETAILS

NO SCALE

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CALCULATED

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BISHOP ROAD – WATERLINE DETAILS

LAK – 90/84 – 0.54/0.43

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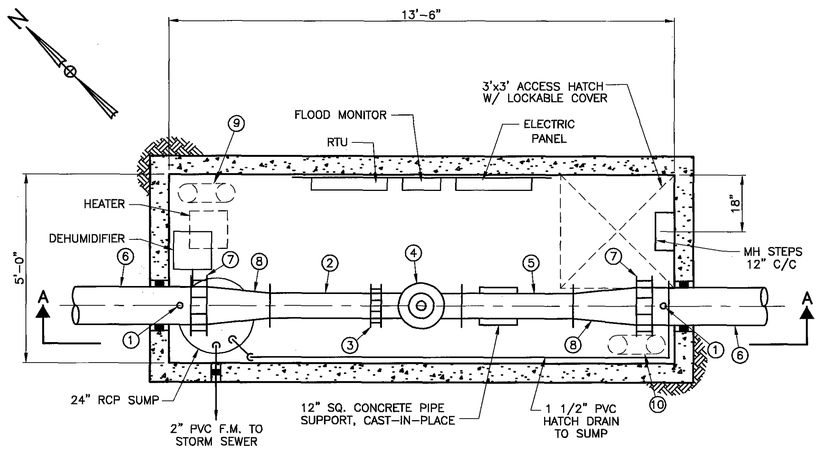


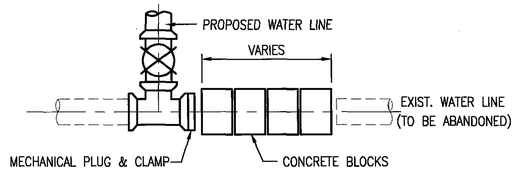
PLAN

PRESSURE REGULATOR VAULT

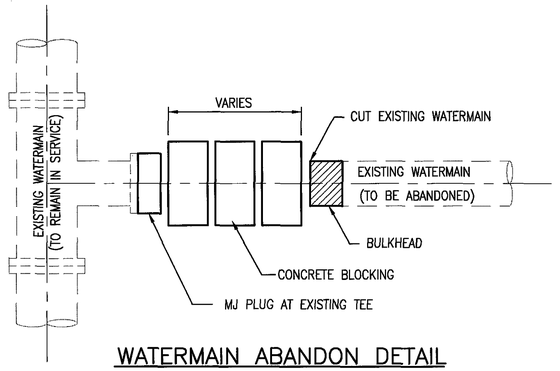
N.T.S.

VAULT PIPING SCHEDULE

1. 5/8" CORP. STOP FOR PRESSURE TAP
2. 8" DIP FL/PE
3. 8" DIP FLANGE COUPLING ADAPTER
4. 8" ELECTRONIC ACTUATED PRESSURE SUSTAINING VALVE
5. 8" DIP FL/FL
6. 12" DIP PE/PE
7. 12" DIP FLANGE COUPLING ADAPTER
8. 12"x8" DIP REDUCER
9. 4" DIP VENT, OUTLET, w/ SS INSECT SCREEN, 6'-10" FRO
10. 4" DIP VENT, INLET, w/ SS INSECT SCREEN, 8" FROM FLO

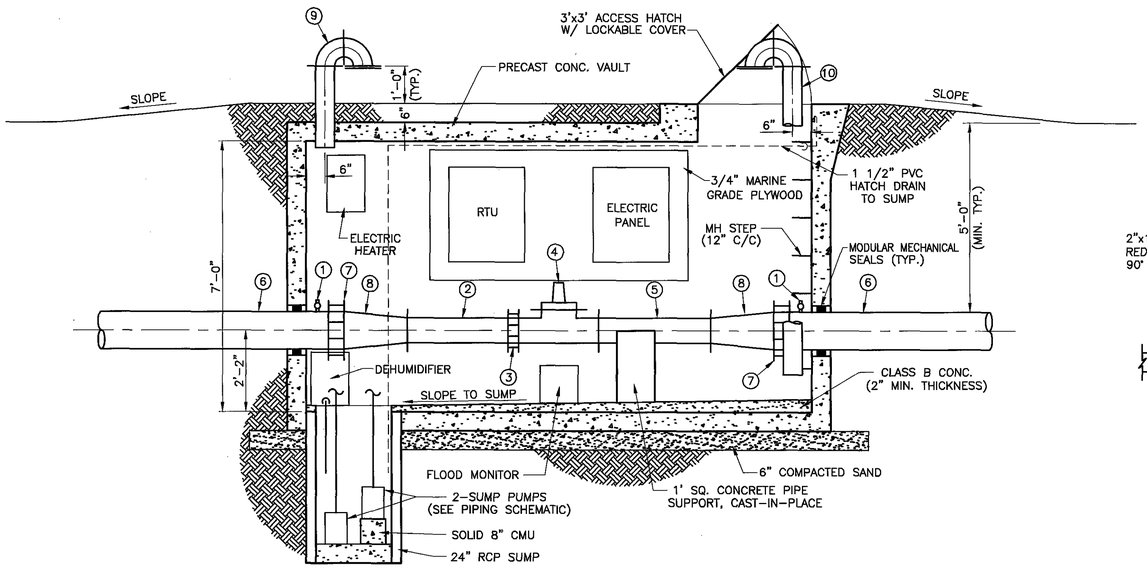


SOLID BLOCKING DETAIL

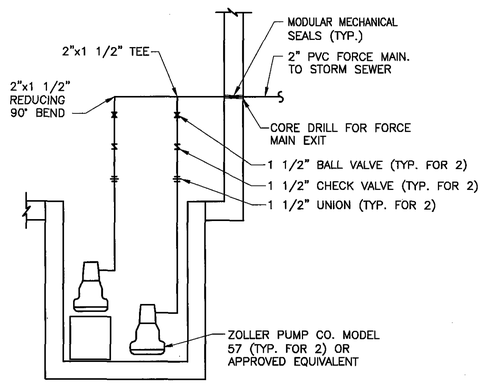


WATERMAIN ABANDON DETAIL

LAKE COUNTY DEPARTMENT OF UTILITIES



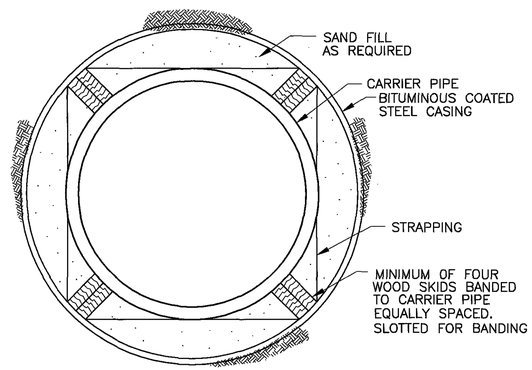
SECTION A -A



SUMP PUMP PIPING SCHEMATIC

N.T.S.

CARRIER PIPE	STEEL CASING PIPE			
DIA.	DIA.	THICK.	MATERIAL GRADE	TYPE OF FILL
12"	30"	.375	ASTM A-139 GRADE B	SAND



SECTION "A-A"

LAKE COUNTY BORING DETAIL

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BISHOP ROAD - WATERLINE DETAILS

LAK - 90/84 - 0.54/0.43

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CONTRACTORS RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

AT POINTS WHERE THE CONTRACTOR'S OPERATIONS ARE ADJACENT TO PROPERTIES OF TELEGRAPH, TELEPHONE AND POWER COMPANIES, OR ARE ADJACENT TO OTHER PROPERTY, DAMAGE TO WHICH MIGHT RESULT IN CONSIDERABLE EXPENSE, LOSS, OR INCONVENIENCE, WORK SHALL NOT BE COMMENCED UNTIL ALL ARRANGEMENTS NECESSARY FOR THE PROTECTION THEREOF HAVE BEEN MADE.

THE CONTRACTOR SHALL COOPERATE WITH THE OWNERS OF ANY UNDERGROUND OR OVERHEAD UTILITY LINES IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS MAY PROGRESS IN A REASONABLE MANNER, THAT DUPLICATION OF REARRANGEMENT WORK MAY BE REDUCED TO A MINIMUM, AND THAT SERVICES RENDERED BY THOSE PARTIES WILL NOT BE UNNECESSARILY INTERRUPTED.

IN THE EVENT OF INTERRUPTION TO UNDERGROUND OR OVERHEAD UTILITY SERVICES AS A RESULT OF ACCIDENTAL BREAKAGE OR AS A RESULT OF BEING EXPOSED OR UNSUPPORTED, THE CONTRACTOR SHALL IMMEDIATELY ALERT THE OCCUPANTS OF NEARBY PREMISES AS TO ANY EMERGENCY AND/OR INTERRUPTION OF SERVICE THAT THE CONTRACTOR MAY CREATE OR DISCOVER AT OR NEAR SUCH PREMISES. THE CONTRACTOR SHALL THEN NOTIFY THE ENGINEER AND THE OWNER OR OPERATOR OF THE UTILITY FACILITY OF THE DISRUPTION AND SHALL COOPERATE WITH SAID UTILITY OWNER OR OPERATOR IN THE RESTORATION OF SERVICE. IF WATER SERVICE IS INTERRUPTED, REPAIR WORK SHALL BE CONTINUOUS UNTIL THE SERVICE IS RESTORED. NO WORK SHALL BE UNDERTAKEN AROUND FIRE HYDRANTS UNTIL PROVISIONS FOR CONTINUED SERVICE HAVE BEEN APPROVED BY THE LOCAL FIRE AUTHORITY.

PROTECTION AND RESTORATION OF PROPERTY

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY AND/OR PERSONS DURING THE PROSECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLECT OR MISCONDUCT IN HIS MANNER OR METHOD OF EXECUTING THE WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY WILL NOT BE RELEASED UNTIL THE PROJECT SHALL HAVE BEEN COMPLETED AND ACCEPTED.

DUST NUISANCE ORIGINATING FROM ANY OPERATIONS EITHER INSIDE OR OUTSIDE THE RIGHT-OF-WAY SHALL BE CONTROLLED BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL ORDINANCES AND REGULATIONS AT THE SOLE EXPENSE OF THE CONTRACTOR.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLECT OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NONEXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER.

WHEN MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS INTERFERE WITH CONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND ERECT THEM IN A TEMPORARY LOCATION DURING CONSTRUCTION IN A MANNER SATISFACTORY TO AND AS DIRECTED BY THE ENGINEER. AFTER COMPLETION OF THE CONSTRUCTION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL ERECT THE MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS IN THEIR ORIGINAL LOCATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

FAILURE TO COMPLY

FOR ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES OR WITH THE PROVISIONS OF THE MANUAL, THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL BE CONSIDERED IN A CONDITION UNACCEPTABLE FOR THE SAFETY AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORKING AREA IN A CONDITION ACCEPTABLE FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

SIGNS

SIGN DIMENSION AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE AS PROVIDED IN THE MANUAL OR SIGN DESIGN DRAWINGS PROVIDED IN THESE PLANS. THE SIGNS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO THE START OF THE PROJECT. ALL COST FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID SIGNS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR 180 DAYS FOLLOWING COMPLETION OF THE TEN (10) DAY PERFORMANCE TEST SPECIFIED IN 632.27 AND 633.05. IN THE EVENT OF UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER ALL THE ITEMS MAKING UP THE TRAFFIC CONTROL SYSTEM: THE CONTROLLER, CABINET, DETECTOR AMPLIFIERS, PRE-EMPTION AND CONFLICT MONITOR.

CUSTOMARY MANUFACTURERS' GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE FOLLOWING ACCEPTANCE OF THE EQUIPMENT. THE FULL MANUFACTURERS' GUARANTEES (MINIMUM 12 MONTHS) SHALL GO INTO EFFECT ON THE DATE OF ACCEPTANCE BY THE STATE.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

PAVEMENT MARKING INSTALLATION

THE SIGNAL CONTRACTOR SHALL CONTACT THE ENGINEER BEFORE INSTALLATION OF VEHICLE DETECTION LOOPS FOR ASSISTANCE IN LOCATION MARKING PRIOR TO PLACEMENT OF PAVEMENT.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, POLES, MAST ARMS, PULL BOXES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH 632.25 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE. ALL STANDARD TRAFFIC SIGNS NOT SHOWN ON THE PLANS ARE TO REMAIN IN PLACE.

NON-STANDARD TRAFFIC SIGNS SHALL BE REMOVED AND RETURNED TO THE STATE AT THE ENGINEER'S DIRECTION. REMOVAL OF NON-STANDARD SIGNS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

A) NEW SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

B) EXISTING SIGNAL INSTALLATIONS OR DEVICES, INSTALLED OR MODIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INITIAL MODIFICATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE STATE AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR (4) HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. THE SIGNAL SHALL BE BACK IN SERVICE WITHIN EIGHT (8) HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE OR MALFUNCTION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE SERVICE AND MAINTENANCE SERVICES SHALL BE DEDUCTED FROM MONEYS DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF OPERATION BY THE CONTRACTOR DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 6 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM. ANY SIGNALIZED INTERSECTION WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED BY THE CONTRACTOR BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING, WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN SECTION 632.24.

THIS ITEM SHALL BE CONSIDERED A SUBSIDIARY WORK ITEM AND THE COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE VARIOUS ITEMS MAKING UP THE SIGNAL SYSTEM.

LOOP DETECTOR INSTALLATION

THE SIGNAL CONTRACTOR SHALL CONTACT TRAVIS BONNETT AT (216) 584-2220 OR JEFF FOX AT (216) 312-0084 BEFORE INSTALLATION OF VEHICLE DETECTION LOOPS AT THE RAMPS FOR ASSISTANCE IN LOCATION MARKING.

LOOP DETECTOR INSTALLATION SHALL OCCUR AFTER THE PAVMENT MARKINGS ARE INSTALLED OR LAID OUT.

THE FOLLOWING ITEMS HAVE BEEN INCLUDED FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 632-26501 - DETECTOR LOOP, AS PER PLAN - 5 EACH

ITEM 632-27005 - LOOP DETECTOR UNIT, AS PER PLAN - 5 EACH

ITEM 632-65200 - LOOP DETECTOR LEAD-IN CABLE - 500 LIN. FEET

UNDER DRAINS FOR PULL BOXES

UNDER DRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHEN THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 40 FEET. AN ESTIMATED QUANTITY OF 200 LINEAR FEET OF ITEM 603 - 4" CONDUIT TYPE E, 707.45, IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 625 - SPECIAL - PLASTIC CAUTION TAPE

THE LOCATION OF CONDUIT IN TRENCH SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THAT TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL APPROXIMATELY 6" WIDE COMPOSED OF POLYETHYLENE PLASTIC AND SHALL BE HIGHLY RESISTANT TO ALKALIS, ACIDS OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TYPE SHALL BE RED WITH THE WORDS "ELECTRIC LINE BURIED BELOW" PRINTED IN BLACK LETTERS ON ONE SIDE ONLY. IT SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED FOR THE FULL LENGTH OF THE TAPE. THE CONTRACTOR SHALL BURY THE TAPE IN THE TRENCH WITH ONE STRIP PLACED APPROXIMATELY DOWN THE CENTER LINE AND 8" TO 12" BELOW THE FINAL GRADE. IT SHALL BE PLACED IN THE TRENCH WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL TO THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE ANY NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED, DISTORTED OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILLING. THE TAPE SHALL BE "TERRA TAPE", "ALLEN SYSTEM'S" OR AN EQUAL AS APPROVED BY THE ENGINEER IN ADVANCE. THE TAPE SHALL BE PAID FOR PER LINEAR FOOT OF ITEM SPECIAL - "PLASTIC CAUTION TAPE" COMPLETE AND IN PLACE.

RESTORATION OF DISTURBED AREAS

THE CONTRACTOR SHALL RESTORE ALL DISTURBED LANDSCAPE AREAS, PAVEMENT SURFACES, SIDEWALKS (INCLUDING CURB RAMPS) AND DRIVEWAYS TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING BEFORE THE WORK WAS STARTED. ALL RESTORATION SHALL BE PERFORMED WITH MATERIALS IDENTICAL TO THE EXISTING SURFACE INCLUDING BUT NOT LIMITED TO BITUMINOUS AND CONCRETE PAVEMENT, CONCRETE, SANDSTONE AND BRICK SIDEWALK, INTEGRAL CURB AND SPECIAL SURFACES (COLORED TEXTURED) AS ENCOUNTERED. CONCRETE SIDEWALK AND DRIVEWAYS SHALL NOT BE PATCHED, BUT SHALL BE REPLACED IN ENTIRE ORIGINAL SLAB SECTIONS.

ALL RESTORATION WORK SHALL BE DONE IN ACCORDANCE WITH THE PERTINENT SPECIFICATION ITEMS AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR ALL RESTORATION WORK, INCLUDING MATERIALS, EQUIPMENT, LABOR, INCIDENTALS AND DISPOSAL OF ALL SURPLUS MATERIALS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF UNDERGROUND WORK AND, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

ITEM 632 - SIGNALIZATION, MISC. FOUNDATION TEST HOLES, AS PER PLAN

IF UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED THAT PRECLUDE USE OF THE STANDARD OR ALTERNATE FOUNDATION DESIGNS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COMPLETE INFORMATION REGARDING THE OBSTRUCTION INCLUDING TYPE (I.E. UTILITY). SIZE, DEPTH AND LATERAL CLEARANCES TO THE SIDES OF THE FOUNDATION EXCAVATION. THE FOUNDATION HOLE SHALL BE COVERED WITH A STEEL PLATE (3/4" PLYWOOD IN PEDESTRIAN ACCESSIBLE AREAS) UNTIL THE ENGINEER DETERMINES IF A NEW FOUNDATION LOCATION WILL BE REQUIRED. IF SUBSEQUENTLY DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL BACKFILL AND COMPACT THE HOLE AND RESTORE THE SURFACE AS DESCRIBED IN "RESTORATION OF DISTURBED AREAS."

THE CONTRACTOR SHALL BE COMPENSATED FOR EACH FOUNDATION HOLE THAT MUST BE ABANDONED. PAYMENT FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS, INCLUDING BACK FILL COMPACTING AND SURFACE RESTORATION, SHALL BE AT THE CONTRACT UNIT PRICE BID FOR ITEM "632 - SIGNALIZATION, MISC. FOUNDATION TEST HOLES" FOR THE NUMBER EXCAVATED AND BACKFILLED. AN ESTIMATED QUANTITY OF FIVE (5) HAS BEEN RESERVED AS A CONTINGENCY QUANTITY FOR THE USE AS DESCRIBED, HEREIN.

ITEM 632 - POWER SERVICE (FOR TRAFFIC SIGNALS)

ELECTRIC POWER SHALL BE OBTAINED FROM CEI AT THE LOCATIONS INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS. POWER SERVICE SHALL INCLUDE A 2" CONDUIT RISER AND A SEPARATE AND INDIVIDUAL CONDUIT TO THE CONTROLLER (2" MINIMUM.)

THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR POWER SERVICE HOOKUP. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNALS ARE ACCEPTED BY THE MAINTAINING AGENCY.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE POWER SERVICE FROM THE UTILITY POLE POWER SOURCE, AS COORDINATED BY THE ENGINEER AND CEI, TO THE CONTROLLERS AT EACH INTERSECTION SHOWN IN THE PLANS.

MISCELLANEOUS CONSTRUCTION NOTES

1) CONTRACTOR SHALL HAVE AN IMSA LEVEL 2 CERTIFIED TRAFFIC SIGNAL TECHNICIAN ON THE JOB SITE DURING PERFORMANCE OF ANY SIGNAL RELATED CONSTRUCTION OPERATIONS.

POLE FOUNDATIONS

NOTE: THE EXACT LOCATIONS OF POLE AND PEDESTAL FOUNDATIONS ARE TO BE LAYED OUT AND STAKED BY THE CONTRACTOR AND CHECKED BY THE ENGINEER PRIOR TO PLACEMENT TO VERIFY CLEARANCE OF UNDERGROUND FACILITIES AND ANY ABOVE GROUND OBSTRUCTIONS. IF THERE ARE ANY CONFLICTS, THEY ARE TO BE ADJUSTED AS DIRECTED BY THE ENGINEER, PAYMENT FOR THIS IS INCIDENTAL TO ALL 632 ITEMS.

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL GENERAL NOTES

LAK - 90/84 - 0.54/0.43

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DATE: 08-17-05 - H:\2002\02117\DWG\02117TGNnts.DWG (PLOT 1)

ITEM 633 - CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN

THE CONTROLLER SUPPLIED SHALL BE COMPLETE WITH THE SPECIFIED CABINET INCLUDING ALL NECESSARY COMPONENTS AND CABLES NOT SPECIFICALLY MENTIONED BELOW. ALL EQUIPMENT AND CABINETS SHALL CONFORM TO ODOT SPECIFICATIONS 633, 733 AND THE FOLLOWING:

MODEL 170E CONTROLLERS:

SPECIFICATIONS FOR THESE CONTROLLERS SHALL BE "TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATIONS", CALIFORNIA DEPARTMENT OF TRANSPORTATION, NOVEMBER 19, 1998, INCLUDING ALL ADDENDA. THE CONTROLLER UNITS SHALL CURRENTLY BE LISTED ON THE CALTRANS "QUALIFIED PRODUCTS LIST".

IN ADDITION:

1. THE CONTROLLER UNIT SHALL NOT BE SUPPLIED WITH THE M170E BOARD.

2. FOR CABINETS THAT ARE TO BE INCLUDED IN A HARDWIRE (TWISTED PAIR) INTERCONNECTED SIGNAL SYSTEM, THE CONTROLLER UNIT SHALL INCLUDE A MODEL 400 MODEM AND COMMUNICATION SYSTEM INTERFACE AS SPECIFIED IN THE CALTRANS SPECIFICATIONS. IN ADDITION TO THE CALTRANS SPECIFICATION, MODEMS SHALL BE DESIGNED SUCH THAT IF ONE MODEM LOSES COMMUNICATION WITH THE MASTER, SUBSEQUENT MODEMS SHALL STILL BE ABLE TO COMMUNICATE.

3. THE 412C PROM MODULE FOR THE LOCAL CONTROLLER SHALL BE SUPPLIED WITHOUT CONTROLLER SOFTWARE TO THE ODOT DISTRICT OFFICE 14 DAYS IN ADVANCE OF WHEN THE SOFTWARE IS NEEDED. THE PROM MODULES SHALL BE CONFIGURED FOR WAPITI SOFTWARE AND INCLUDE A BLANK EPROM FOR PROGRAM INSTALLATION. ODOT WILL INSTALL THE LOCAL CONTROLLER SOFTWARE PROGRAM. THE CONTRACTOR SHALL PICK UP THE PROM MODULES WITH THE INSTALLED SOFTWARE FROM DISTRICT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO USE THE RETURNED PROM MODULES TO PROGRAM THE SIGNAL CONTROLLERS PER THE PLANS.

4. AS PER CALTRANS REQUIREMENTS, ALL MEMORY, MICROPROCESSOR AND ACIA DEVICES SHALL BE SOCKET MOUNTED. SOCKETS SHALL HAVE MACHINED BERYLLIUM COPPER CONTACTS WITH GOLD PLATING.

5. A CABLE HARNESS, APPROXIMATELY 4 FT. LONG, SHALL BE SUPPLIED TO CONNECT A LAPTOP COMPUTER WITH THE CONTROLLER FOR THE TRANSFER OF DATA. THE CABLE SHALL HAVE A DB-9 CONNECTOR ON ONE END, AND A CONNECTOR ON THE OTHER END TO MATE WITH THE C2 ON THE BACK OF THE CONTROLLER.

6. ALL CIRCUIT BOARDS SHALL BE VERTICALLY MOUNTED.

7. THE POWER SUPPLY SHALL BE MODULAR AND EASILY REMOVABLE FROM THE CHASSIS.

8. THE UNIT SHALL CONTAIN SEPARATE INPUT AND OUTPUT MODULES.

9. IF A TELEPHONE DROP IS SHOWN IN THE PLANS, ALL NECESSARY COMMUNICATION MODULES, MODEM, LIGHTNING PROTECTION AND CABLES FOR AUTO DIAL/ANSWER TELEPHONE CONNECTION SHALL BE PROVIDED.

10. IF THE CONTROLLER IS PART OF AN INTERCONNECTED SIGNAL SYSTEM, THE CONTROLLER SHALL INCLUDE MODEMS, PORTS AND CABLES FOR SYSTEM COMMUNICATION.

11. THE CONTRACTOR SHALL NOT REASSIGN THE DETECTOR INPUTS IN ORDER TO REDUCE THE NUMBER OF 2-CHANNEL DETECTOR UNITS SUPPLIED, BUT SHALL USE THE STANDARD CALTRANS INPUT FILE DESIGNATIONS.

2 SETS OF CONTROLLER SCHEMATICS AND SERVICE MANUALS SHALL BE SUPPLIED WITH EACH CONTROLLER.

CONFLICT MONITORS, TYPE 2010:

CONFLICT MONITORS SHALL BE ON THE ODOT PRE-APPROVED LIST (S.S. 962). TWO SETS OF OPERATIONS INSTRUCTIONS AND MONITOR SCHEMATICS SHALL BE SUPPLIED WITH EACH MONITOR. PERMISSIVE CHANNELS SHALL BE PROGRAMMED WITH THE USE OF A DIODE CARD (CALTRANS STANDARD) WHICH SHALL BE INCLUDED WITH THE MONITOR.

CABINET, MODEL 332:

MODEL 332 CABINETS SHALL MEET THE SPECIFICATIONS "TRAFFIC SIGNAL CONTROL EQUIPMENT SPECIFICATIONS", CALIFORNIA DEPARTMENT OF TRANSPORTATION, JANUARY 1989, OR LATEST EDITION, AND SHALL CURRENTLY BE ON THE CALTRANS "QUALIFIED PRODUCTS LIST" (QPL) FOR 332 CABINETS.

CABINETS SHALL BE CONSTRUCTED OF ALUMINUM AND SHALL BE SUPPLIED UNPAINTED. ANODIC COATING IS NOT REQUIRED. CABINETS SHALL BE FULLY EQUIPPED WITH CONFLICT MONITOR, FLASHERS, AC ISOLATORS, DC ISOLATORS, AND FLASH TRANSFER RELAYS. THE APPROPRIATE NUMBER OF SWITCH PACKS AND MODEL 222 LOOP DETECTOR SENSOR UNITS SHALL BE SUPPLIED TO OPERATE THE INTERSECTION AS SHOWN IN THE PLANS. ALL COMPONENTS SHALL MEET CALTRANS SPECIFICATIONS AND SHALL BE ON THE QPL AS APPLICABLE.

CABINETS SHALL BE FITTED WITH A PDA-2 POWER DISTRIBUTION ASSEMBLY. CABINETS SHALL BE EQUIPPED WITH AN EDCO SHA12-10 OR APPROVED EQUAL SURGE PROTECTOR IN LIEU OF THE CALTRANS SPECIFIED SURGE PROTECTION. THE SHA12-10 UNIT SHALL BE INSTALLED IN AN ENCLOSURE WITHIN THE CABINET.

THE FRONT OF THE INPUT AND OUTPUT FILES SHALL BE LABELED USING A WRITABLE TAPE. IN THE CASE OF THE OUTPUT FILE, THE TAPE SHALL CLEARLY DESIGNATE THE PURPOSE OF THE CORRESPONDING SWITCH PACK. AN EXAMPLE OF SWITCH PACK LABELING IS "PHASE 2" OR "PHASE 2 PED". IN THE CASE OF THE INPUT FILE, THE TAPE SHALL CLEARLY DESIGNATE THE PURPOSE OF THE CORRESPONDING DETECTOR UNIT. EVERY USED CHANNEL OF THE 222 DETECTOR SHALL BE LABELED. AN EXAMPLE OF DETECTOR UNIT LABELING IS "PHASE 2 C" OR "PHASE 2 EC" OR "PHASE 2 EXT" WHERE:

C - IS A CALL INPUT ONLY DURING RED
EC - IS EXTEND AND CALL DURING RED, YELLOW AND GREEN
EXT - IS AN EXTENSION ONLY DURING GREEN

CABINET WIRING SHALL COMPLY WITH THE FOLLOWING:

1. OUTPUT FILES SHALL BE "HARDWIRED". NO PRINTED CIRCUIT WIRING SHALL BE USED IN THE OUTPUT FILE EXCEPT FOR THE RED MONITOR BOARD.

2. CABINETS SHALL HAVE RED MONITOR CABLING INSTALLED. A PROGRAM BOARD SHALL BE INSTALLED TO ENABLE/DISABLE RED MONITORING. CABINETS SHALL BE SHIPPED WITH THE RED MONITOR JUMPERS SET IN THE "ENABLE" POSITION.

3. PEDESTRIAN YELLOW LOADSWITCH OUTPUTS SHALL NOT BE CONNECTED TO THE CONFLICT MONITOR CARD-EDGE CONNECTOR.

4. FIELD WIRING FOR LOOP DETECTOR LEAD-IN CABLES AND PEDESTRIAN DETECTORS SHALL BE TERMINATED ON A LOWER LOOP INPUT PANEL. EDCO MODEL SRA-6LCA, SRA-6LCB OR SRA-6LC SURRESTORS SHALL BE PROVIDED ON THE LOWER INPUT PANEL FOR PROTECTION AGAINST INCOMING ELECTRICAL SURGES AND LIGHTNING. FIELD WIRING TERMINALS ON THE LOWER INPUT PANEL SHALL BE LABELED BY A PERMANENT SCREENING PROCESS TO IDENTIFY THE INPUT FILE (I OR J), THE INPUT FILE SLOT NUMBER (1-14) AND THE CHANNEL TERMINAL (D, E, J OR K). AN EXAMPLE IS "14-K" STANDING FOR INPUT FILE "I", SLOT 4, CHANNEL TERMINAL "K". ALL TERMINALS ON THESE DETECTOR PANELS SHALL BE EASILY ACCESSIBLE WITHOUT REMOVING EQUIPMENT FROM THE MOUNTING RACK. TAGGING OF WIRES SHALL NOT BE CONSIDERED ACCEPTABLE TO SATISFYING TERMINAL LABELING.

5. FOR CABINETS THAT ARE TO BE INCLUDED IN A HARDWIRE (TWISTED PAIR) INTERCONNECTED SIGNAL SYSTEM, INCOMING INTERCONNECT CABLE SHALL BE TERMINATED ON AN APPROPRIATE TERMINAL BASE THAT IS MOUNTED ON THE SIDE OF THE CABINET. PROTECTION FROM INCOMING ELECTRICAL SURGES/LIGHTNING ON INTERCONNECT PAIRS SHALL BE PROVIDED BY INSTALLATION OF EDCO PC642 SURGE ARRESTORS ON THE TERMINAL BASE. THE PROTECTED OUTPUTS FROM THE TERMINAL BASE SHALL THEN BE ROUTED THROUGH TO THE CONTROLLER.

6. ON THE OUTPUT FILE, PIN NUMBER 11 OF EACH SWITCHPACK SHALL BE WIRED TO AC-, SO THAT THE OUTPUT INDICATORS ON DUAL INDICATOR SWITCHPACKS WILL DISPLAY PROPERLY. SWITCHPACKS SHALL HAVE BOTH INPUT AND OUTPUT INDICATORS FOR EACH SWITCH.

THE FOLLOWING AUXILIARY ITEMS SHALL BE SUPPLIED:

1. CABINETS SHALL HAVE TWO FLUORESCENT LIGHTS (FRONT AND REAR) WITH DOOR SWITCHES.

2. A RACK MOUNTED DETECTOR TEST PANEL SHALL BE FURNISHED WITH SEPARATE TEST SWITCHES FOR ALL POSSIBLE VEHICLE AND PEDESTRIAN PHASES. THE SWITCHES SHALL BE THREE (3) POSITION "ON/OFF/MOMENTARY ON" SWITCHES.

3. EACH CABINET SHALL BE PROVIDED WITH A POLICE PANEL WHICH WILL INCLUDE A PUSHBUTTON WITH CORD AND THREE SWITCHES LABELED AUTO/FLASH, SIGNALS ON/OFF, AND AUTO/MANUAL. THE PUSHBUTTON CORD SHALL NOT BE WIRED THROUGH AN AC ISOLATOR, BUT SHALL BE CONNECTED TO THE CONTROLLER HARNESS WIRING BY A MOLEX PLUG CONNECTION. WHEN PLACED IN THE MANUAL POSITION, MANUAL CONTROL ENABLE SHALL BE APPLIED TO THE CONTROLLER AND "RECALL" SHALL BE APPLIED TO ALL PHASES. ACTIVATION OF THE PUSHBUTTON SHALL "ADVANCE" THE CONTROLLER EXCEPT THAT MANUAL ADVANCEMENT WILL BE PROHIBITED IN THE MINIMUM GREEN, YELLOW AND RED INTERVALS.

4. AN ALUMINUM SHELF WITH INTEGRAL STORAGE COMPARTMENT SHALL BE PROVIDED IN THE RACK BELOW THE CONTROLLER. THE STORAGE COMPARTMENT WILL HAVE TELESCOPING DRAWER GUIDES FOR FULL EXTENSION. THE COMPARTMENT TOP SHALL HAVE A NON-SLIP PLASTIC LAMINATE ATTACHED.

5. CABINETS SHALL BE SUPPLIED WITH GALVANIZED ANCHOR BOLTS WITH NUTS AN WASHERS. ANCHOR BOLTS SHALL BE 3/4" (19mm) DIAM. BY 16" (406mm) MINIMUM LENGTH WITH AN "L" BEND ON THE UNTHREADED END.

TWO SETS OF CABINET WIRING DIAGRAMS, SERVICE MANUALS, PROGRAMING AND MAINTENANCE INSTRUCTIONS AND TWO SETS OF AS-BUILT DRAWINGS SHALL BE FURNISHED FOR EACH CABINET AND EQUIPMENT ITEM. THE CABINET WIRING DIAGRAMS SHALL BE SUPPLIED IN A CLEAR PLASTIC POUCH FASTENED TO THE INSIDE OF THE CONTROLLER CABINET.

THE PREEMPT SYSTEM SUPPLIED SHALL BE PROPRIETARY AND SHALL BE OPTICOM MODEL 754 AS MANUFACTURED BY 3M COMPANY. THE PREEMPT PANEL SHALL BE SUPPLIED AND COMPATIBLE WITH OPTICOM MODEL 754.

GENERATOR POWER PANEL:

THIS ITEM SHALL ALLOW SIGNAL ELECTRICIANS TO OPERATE THE TRAFFIC SIGNAL DURING POWER OUTAGES, WITHOUT OPENING THE CABINET DOOR OR CONNECTING OR DISCONNECTING PERMANENT POWER CABLES. THE ENCLOSURE SHALL BE INSTALLED ON THE POWER PANEL SIDE OF THE CONTROLLER CABINET. DESIGN AND LAYOUT OF THE CONTROLLER CABINET SHALL DETERMINE EXACT PLACEMENT OF THE ENCLOSURE BUT IT SHOULD BE PLACED NEAR THE TOP OF GROUND MOUNTED CABINETS AND ABOUT 5 FEET FROM THE GROUND ON POLE MOUNTED CABINETS. THE ENCLOSURE SHALL BE SEALED WITH A HIGH QUALITY SILICON CAULK AND ALL HOLES DRILLED INTO THE SIDE OF THE CONTROLLER CABINET SHALL BE CAULKED AND SEALED AFTER THE ELECTRICAL EQUIPMENT IS INSTALLED. ALL ELECTRICAL CONNECTIONS, SOLDERED OR SCREW TYPE TERMINALS, SHALL BE COVERED WITH A CLEAR SILICON CAULK.

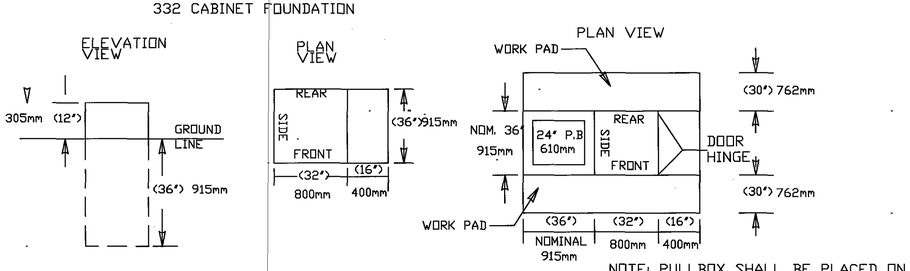
THE GENERATOR INLET SHALL BE 30 AMP, LOCKING, FOUR WIRE GROUNDING AND MEET THE NEMA 114-30-P 30A 125/250V SPECIFICATION. THE INLET SHALL BE A HUBBLE CATALOG #2715.

THE LINE VOLTAGE GENERATOR SWITCH SHALL BE 30 AMP, 125/250V AC, TWO (2) POLE, THREE (3) POSITION, (ON, OFF, ON HUBBLE #1368).
THE LINE VOLTAGE INDICATOR LIGHT SHALL BE 125V AC LIGHT EMITTING DIODE WITH A RED LENS.
THE LINE VOLTAGE CIRCUIT BREAKER SHALL BE SINGLE POLE SINGLE THROW AND A MINIMUM OF 30 AMPS. THE AMPERAGE SHALL BE INCREASED TO ACCOMMODATE GREATER LOADS, IF NECESSARY. THE GAUGE OF THE POWER CABLE SHALL BE OF PROPER SIZE PER THE NATIONAL ELECTRICAL CODE (NEC).

CABINET RISER:
AN ALUMINUM RISER SHALL BE PROVIDED WITH EACH BASE MOUNTED CABINET WHICH WILL RAISE THE CABINET APPROXIMATELY 8" (203mm) ABOVE THE CONCRETE FOUNDATION. THE BOTTOM OF THE RISER SHALL BOLT TO THE STANDARD CABINET FOUNDATION ANCHOR BOLTS AND THE TOP OF THE RISER SHALL BOLT TO THE BOTTOM OF THE CABINET. ALL NECESSARY BOLTS, WASHERS AND NUTS SHALL BE SUPPLIED.

PAYMENT:
COST FOR ALL OF THE ABOVE INCLUDING LABOR, MATERIAL, TOOLS AND EQUIPMENT TO PROVIDE AND INSTALL A COMPLETELY OPERATIONAL CABINET AND CONTROLLER SHALL BE INCLUDED IN THE BID ITEM PRICE FOR ITEM 633 - CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN

332 CABINET FOUNDATION



332 CONTROLLER WORK PAD

NOTE: PULLBOX SHALL BE PLACED ON OPPOSITE SIDE OF DOOR HINGE

INPUT FILE ASSIGNMENT FOR 332 CABINET

	SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10	SLOT 11	SLOT 12	SLOT 13	SLOT 14
Channel #1	1 EC	2 EC	2 EC	2 C	3 EC	4 EC	4 EC	4 C	1 EC	SPARE	MAN. CTRL. ADV.	2 PPB	6 PPB	FLSH
Field Term.	I 1-D,E	I 2-D,E	I 3-D,E	I 4-D,E	I 5-D,E	I 6-D,E	I 7-D,E	I 8-D,E	I 9-D,E	I 10-D,E	I 11-D,E	I 12-D,E	I 13-D,E	I 14-D,E
Channel #2	(1 EC)	2 EC	2 EXT	(2 C)	(3 EC)	4 EC	4 EXT	(4 C)	3 EC	SPARE	ADV. ENAB.	4 PPB	8 PPB	STOP TIME
Field Term.	I 1-J,K	I 2-J,K	I 3-J,K	I 4-J,K	I 5-J,K	I 6-J,K	I 7-J,K	I 8-J,K	I 9-J,K	I 10-J,K	I 11-J,K	I 12-J,K	I 13-J,K	I 14-J,K

SEPARATE BID ITEMS:
625 PULLBOX, 725.08, 24"
633 CONTROLLER WORK PAD
633 CONC. FOR CAB. FOUNDATION

FRONT VIEW OF TOP INPUT FILE I

	SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10	SLOT 11	SLOT 12	SLOT 13	SLOT 14
Channel #1	5 EC	6 EC	6 EC	6 C	7 EC	8 EC	8 EC	8 C	5 EC	SPARE	SPARE	EV-A	EV-B	RR-1
Field Term.	J 1-D,E	J 2-D,E	J 3-D,E	J 4-D,E	J 5-D,E	J 6-D,E	J 7-D,E	J 8-D,E	J 9-D,E	J 10-D,E	J 11-D,E	J 12-D,E	J 13-D,E	J 14-D,E
Channel #2	(5 EC)	6 EC	6 EXT	(6 C)	(7 EC)	8 EC	8 EXT	(8 C)	7 EC	SPARE	SPARE	EV-C	EV-D	RR-2
Field Term.	J 1-J,K	J 2-J,K	J 3-J,K	J 4-J,K	J 5-J,K	J 6-J,K	J 7-J,K	J 8-J,K	J 9-J,K	J 10-J,K	J 11-J,K	J 12-J,K	J 13-J,K	J 14-J,K

FRONT VIEW OF BOTTOM INPUT FILE J

INPUT FILE TERMINAL ASSIGNMENT

TERM.	PIN	FUNCTION
1	SP	SPARE
2	F	CHANNEL 1 OUTPUT
3	W	CHANNEL 2 OUTPUT
4	D	CHANNEL 1 INPUT
5	E	CHANNEL 1 INPUT
6	J	CHANNEL 2 INPUT
7	K	CHANNEL 2 INPUT
8	L	EQUIPMENT GROUND

( ) - JUMPERED TO UPPER CHANNEL
C - INPUT ONLY DURING RED
EC - EXTEND AND CALL (RED, YELLOW, GREEN)
EXT - INPUT ONLY DURING GREEN

TERMINATION OF FIELD WIRING SHALL CONFORM TO THE ABOVE CHART. THE CONTRACTOR SHALL DUPLICATE THE INPUT ASSIGNMENT CHART AND INCLUDE IT IN THE CABINET DOCUMENTATION. THE CHART SHALL CLEARLY INDICATE WHICH INPUT FILE SLOTS AND CHANNEL TERMINALS ARE USED IN THE CABINET. A RED PEN SHALL BE USED TO CIRCLE SLOT NUMBERS AND CHANNEL TERMINALS THAT ARE USED.

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL GENERAL NOTES

LAK - 90/84 - 0.54/0.43

242
369

DATE: 08-17-05 - H:\2002\02117\DWG\02117TGN.DWG (PLOT 2)

ITEN 632 - SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138

THE PREEMPT DETECTOR CABLE SHALL BE A MODEL OPTICOM 138 AS MANUFACTURED BY 3M COMPANY AND SHALL INCORPORATE, OR BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT, ACCESSORIES AND CABINET FEATURES AS REQUIRED.

PAYMENT WILL BE MADE AT THE CONTRACTOR UNIT PRICE BID PER LINEAR FOOT, COMPLETE IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

ITEM 632 - LOOP DETECTOR UNITS, (BY TYPE), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732.07 OR 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OR FEATURES:

- THE OUTPUT DEVICE SHALL BE A RELAY, AND ALL CONTACTS SHALL BE INCLUDED IN THE WIRING HARNESS.
- THE UNIT SHALL BE SELF TUNING.
- THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY PLACEMENT WITH A SINGLE CHANNEL AMPLIFIER, AS DESCRIBED IN THE FINAL PARAGRAPH OF 732.07.
- EACH UNIT SHALL BE LABELED TO CORRESPOND TO ITS PHASE AND DIRECTION.
- DELAY INHIBIT SHALL BE CONNECTED ON ALL DETECTOR HARNESSES FOR THEIR RESPECTIVE PHASE GREENS.

ITEM 632 - DETECTOR LOOP, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632.10, THE CONTRACTOR SHALL PROVIDE A POSITIVE AND EFFECTIVE MEANS FOR REMOVAL OF SOLID RESIDUE RESULTING FROM THE DRY BLADE CUTTING OF LOOP DETECTOR SLOTS IN THE PAVEMENT. THE RESIDUE SHALL BE REMOVED BY VACUUM OR OTHER EFFECTIVE MEANS, BEFORE IT IS BLOWN BY TRAFFIC ACTION OR WIND. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH.

ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPT DETECTOR

THE PREEMPT DETECTOR SHALL BE A MODEL(S) OPTICOM 711, AS MANUFACTURED BY 3M COMPANY AND SHALL INCORPORATE, OR BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT, ACCESSORIES AND CABINET FEATURES AS REQUIRED.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

ITEM 632 - VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:
LAMPS
LED, LIGHT EMITTING DIODE, SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 872. ALL LAMP UNITS SHALL BE THE 12 INCH (300 MILLIMETER) SIZE. LED SIGNAL LAMP UNITS SHALL BE PROVIDED FOR THE FOLLOWING LENS TYPES: CIRCULAR RED, CIRCULAR YELLOW, CIRCULAR GREEN, YELLOW ARROW, GREEN ARROW. SIGNAL SECTIONS, POLYCARBONATE:
1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
3. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING. SIGNAL HEADS SHALL BE BLACK BODY, BLACK FACE AND VISORS.
SIGNAL SECTIONS, ALUMINUM
GLASS LENSES SHALL BE USED FOR ANY LENSES NOT USING AN LED LAMP.
MOUNTING HARDWARE
1. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE RED LENS LOCATED IN FRONT OF THE MAST ARM.
2. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
3. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
4. WHEN SIGNAL HEADS ARE SUSPENDED FROM SPAN WIRES OR MAST ARMS AND NOT RIGIDLY MOUNTED THEY SHALL BE PROVIDED WITH A PIVOT AND LOCK BALANCE ADJUSTER. ALL BALANCE ADJUSTERS SHALL HAVE A MINIMUM THREE-QUARTER INCH (19 MILLIMETER) EYE BOLT AND THREE-QUARTER INCH (19 MILLIMETER) WIDE SLOT. EYE BOLTS ARE CAST FROM 316 STAINLESS STEEL AND PROVIDED WITH A SATIN FINISH. THREE-QUARTER INCH (19 MILLIMETER) BODY HALVES ARE CAST FROM AN MINIMUM 65-45-12 DUCTILE IRON AND PROVIDED WITH A BRIGHT ZINC FINISH (ZN1). BALANCE ADJUSTERS SHALL ONLY BE USED WHERE NECESSARY. BALANCE ADJUSTERS SHALL BE USED ON ONE-WAY HEADS.
THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS TO BE USED IN THE TRAFFIC 400 TRAFFIC SIGNALS TRAFFIC ENGINEERING MANUAL OCTOBER 23, 2002 REVISED APRIL 18, 2003 4-65 SIGNAL HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. THE INFORMATION SHALL BE SENT TO THE FOLLOWING LOCATION:
ODOT DISTRICT # 12
ATTN: TRAVIS BONNETT, DISTRICT 12 TRAFFIC ENGINEER
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125
THE DEPARTMENT WILL MEASURE 'VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), AS PER PLAN' BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS AS SPECIFIED.

ITEM 632 - PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN

REMOVE EXISTING PEDESTRIAN SIGNAL HEADS REGARDLESS OF TYPE, AND INSTALL NEW PEDESTRIAN SIGNAL HEADS WITH LED LAMP UNITS, TYPE D2, AS PER PLAN. USE BLACK POLYCARBONATE HEADS FOR ALL PEDESTRIAN SIGNAL HEADS. IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:
1. LED, LIGHT EMITTING DIODE, SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 872. ALL LAMP UNITS SHALL BE THE 12 INCH (300 MILLIMETER) SIZE.
2. THE LED LAMP UNIT SHALL DISPLAY THE SYMBOLS FOR THE UPRAISED HAND OR THE WALKING PERSON.
3. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
4. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
5. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
6. FURNISH 1-SECTION 12" SIGNAL HEAD HOUSING CAPABLE OF DISPLAYING TWO INDICATIONS SEPARATELY AS SHOWN BELOW:


WALK

AND


DON'T WALK

ALTHOUGH THE ABOVE INDICATIONS ARE SHOWN AS CONTINUOUS LINES, IT IS UNDERSTOOD THE PERIMETER OF THE DISPLAYS WILL BE COMPOSED OF APPROPRIATELY COLORED LED'S. USE WHITE FOR 'WALK' INDICATIONS AND PORTLAND ORANGE FOR 'DON'T WALK' INDICATIONS.
THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS TO BE USED IN THE TRAFFIC SIGNAL HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. THE INFORMATION SHALL BE SENT TO THE FOLLOWING LOCATION:
ODOT DISTRICT #12
ATTN: TRAVIS BONNETT, DISTRICT 12 TRAFFIC ENGINEER
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125
THE DEPARTMENT WILL MEASURE 'PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN' BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, CLOSURE CAPS, AND LAMPS AS SPECIFIED.

ITEM 632 - SIGNAL SUPPORT, (BY TYPE AND DESIGN), AS PER PLAN

DUE TO THE POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATIONS FOR THESE ITEMS, AND CONSEQUENTLY, THE DESIGN OF THE VARIOUS SUPPORTS, AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THESE ITEMS UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED, AND HE HAS RECEIVED, FROM THE ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THESE ITEMS.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, WHO WILL DETERMINE THE REVISED LOCATIONS AND IF ANY SUPPORT DESIGN CHANGES ARE NECESSARY, IN CONSULTATION WITH THE MAINTAINING AGENCY. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL SUBSEQUENTLY INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY, AND AUTHORIZE HIM TO ORDER THE SUPPORTS.

THE CONTRACTOR SHALL, WHEN DEVELOPING HIS PROGRESS SCHEDULE, AND THOSE OF HIS SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR THE ORDERING, MANUFACTURE, DELIVERY, AND INSTALLATION OF THESE ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THESE ITEMS WILL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THESE ITEMS ARE REQUIRED, NO PAYMENTS WILL BE MADE FOR ITEMS MANUFACTURED TO THE ORIGINAL DESIGNS.

THE CONTRACTOR SHALL PROTECT PEDESTRIANS AND VEHICLES FROM EXPOSED ANCHOR BOLTS AT ALL TIMES UNTIL THE ASSOCIATED SIGNAL SUPPORT IS ERECTED. THE METHOD OF COVERING THE ANCHOR BOLTS SHALL BE APPROVED BY THE ENGINEER.

ALL COSTS ASSOCIATED WITH THE PROCEDURES AS OUTLINED ABOVE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE UNIT PRICE BID (EACH) FOR ITEM 632 - SIGNAL SUPPORT, (BY TYPE AND DESIGN), AS PER PLAN.

ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT CONFIRMATION LIGHT INCLUDING MOUNTING HARDWARE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL BE SUPPLIED FOR EACH INTERSECTION TO INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL.

THE CONFIRMATION LIGHT SHALL BE A VAPOR TIGHT ALUMINUM LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A WHITE-COLORED GLOBE, 150 WATT INCANDESCENT LAMP AND MOUNTING HARDWARE TO ATTACH TO THE MAST ARM. THE CONFIRMATION LIGHT SHALL BE POWERED BY A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER AND PRODUCE A STEADY GLOWING LIGHT.

PAYMENT FOR ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH LIGHT IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM MODEL 754

THE PREEMPT PHASE SELECTOR SHALL BE A MODEL(S) OPTICOM 754 AS MANUFACTURED BY 3M COMPANY AND SHALL INCORPORATE, OR BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT, ACCESSORIES AND CABINET FEATURES AS REQUIRED.

THE ITEM SHALL BE MEASURED AS ONE ITEM PER INTERSECTION EVEN THOUGH MULTIPLE SELECTORS MAY BE NEEDED TO FULFILL THE REQUIREMENTS OF THE PLANS FOR THE PROPER OPERATION OF THE INTERSECTION.

ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPTION, OPTICOM

THE PREEMPTION SHALL BE AN OPTICOM PREEMPTION EQUIPMENT, AS MANUFACTURED BY THE 3M COMPANY OF MINNEAPOLIS, MINNESOTA, AND SHALL INCORPORATE OR BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT AND ACCESSORIES AS REQUIRED.

THE PREEMPTION SHALL CONFORM TO ODOT SPECIFICATION 633.
THE PREEPTION SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED PREEMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE COMMUNICATIONS MEDIUM SHALL EMPLOY LIGHT DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH AN EMITTING DEVICE LOCATED ON THE EMERGENCY VEHICLE.

THE SYSTEM SHALL ACTIVATE THE PREEMPTION SEQUENCE BY APPLYING A SIGNAL TO ONE OF THE CONTROLLER'S PREEMPT DISCRETE INPUTS. THE SYSTEM SHALL BE COMPLETELY COMPATIBLE WITH THE 170-TYPE CONTROLLER.

THE EQUIPMENT SHALL BE SHELF-MOUNTED AND EASILY REMOVABLE AND RECEIVING PRIORITY FOR EACH APPROACH TO THE INTERSECTION. IT SHALL BE POSSIBLE TO DETECT THE EMERGENCY VEHICLE UP TO 1,000 FEET FROM THE INTERSECTION.

EACH INTERSECTION SHOWN IN THE PLANS SHALL BE SUPPLIED WITH THE FOLLOWING COMPONENTS, EACH BID SEPARATELY:

1. PREEMPT DETECTORS
2. PREEMPTION DETECTOR CABLE
3. PREEMPT PHASE SELECTOR ASSEMBLY
4. CONFIRMATION LIGHT

THE CITIES SHALL BE SUPPLIED WITH THE EMITTERS, TRANSMITTERS, SWITCHES, WIRING AND ALL REQUIRED VEHICLE EQUIPMENT FOR THE FOLLOWING EMERGENCY FRONT LINE VEHICLES. THE CITIES SHALL BE RESPONSIBLE FOR INSTALLING ALL VEHICLE EQUIPMENT.
THE FOLLOWING WILLOUGHBY HILLS VEHICLES SHALL BE EQUIPPED WITH THE EQUIPMENT:

1.	FIRE	10	VEHICLES
1.	POLICE	15	VEHICLES

(WICKLIFFE VEHICLES ARE PRESENTLY EQUIPPED WITH OPTICOM EQUIPMENT.)

THE CITIES SHALL BE SUPPLIED WITH SOFTWARE REQUIRED TO CALIBRATE, LOG, AND OPERATE THE SYSTEM. THE SOFTWARE SHALL BE CAPABLE OF OPERATING ON AN IBM OR IBM-COMPATIBLE PERSONAL COMPUTER WITH WIN 98 OR HIGHER OPERATING SYSTEM. TWO (2) OPERATING AND INSTRUCTION MANUALS SHALL BE SUPPLIED WITH THE SOFTWARE. REVISIONS AND UPDATES TO THE SOFTWARE SHALL BE AT NO COST TO EACH CITY FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF INSTALLATION OF THE SYSTEM.

THE CONTRACTOR SHALL THOROUGHLY CHECK OUT THE INSTALLED SYSTEM. AS A MINIMUM, THE THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER FOR EACH INTERSECTION. THE CONTRACTOR SHALL DETERMINE THAT ALL PHASE SELECTORS ARE SELECTING THE PROPER PHASE AND TIMING ACCURATELY. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

THE CONTRACTOR SHALL PROVIDE TRAINING FOR UP TO FIFTEEN (15) PERSONS IN THE OPERATION OF THE SYSTEM. IT SHALL BE PROVIDED WITH 48 HOURS OF THE INSTALLATION OF THE SYSTEM. IT SHALL CONSIST OF HANDS-ON INSTRUCTIONS FOR A MINIMUM OF SIXTEEN (16) HOURS.

ALL TRAINING SHALL BE HELD IN A CITY SUPPLIED LOCATION. TRAINING SHALL BE CONDUCTED BY SOMEONE WHO HAS PERFORMED THIS WITHIN THE LAST YEAR, AND DOES IT ON A REGULAR BASIS. THE COST OF TRAINING, INCLUDING COURSE MATERIAL, TRAVEL SUBSISTENCE AND RELATED COSTS, SHALL BE ENTIRELY BORN BY THE CONTRACTOR AND SHALL BE INCIDENTAL TO THE PREEMPTION EQUIPMENT.

PAYMENT FOR ITEM 633 - CONTROLLER ITEM MISC.: PREEMPTION OPTICOM WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS EXCEPT FOR THOSE ITEMS BID SEPARATELY.

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL GENERAL NOTES

LAK - 90/84 - 0.54/0.43

243
369

DATE: 08-17-05 - H:\2002\02117\DWG\02117TGN.DWG (PLOT 3)

NEW OVERHEAD SIGN AND SIGNAL SUPPORTS

ALL SIGNAL SUPPORTS, CONTROLLERS, MAST ARMS AND APPURTENANCES SHALL BE PAINTED GLOSS BLACK.

GENERAL

OVERHEAD SIGN AND SIGNAL SUPPORTS CAN BE SEPARATED INTO MAJOR SECTIONS SUCH AS END FRAMES, TRUSSES, VERTICAL POLES AND CANTILEVER ARMS. FOR THE IMPLEMENTATION OF THIS WORK ITEM IT WILL BE BENEFICIAL TO REFER TO THE MAJOR SECTIONS OF THE OVERHEAD SIGN AND SIGNAL SUPPORTS RATHER THAN THE WHOLE SUPPORT. MORE SPECIFIC INSTRUCTIONS AND FLEXIBILITY CAN BE GIVEN BASED UPON THE UNIT OF MEASURE AND PAYMENT PER MAJOR SUPPORT SECTION.

THE PROTECTIVE COATING OF OVERHEAD SIGN AND SIGNAL SUPPORT SECTIONS SHALL BE A FOUR PART PROCESS TO INCLUDE SURFACE PREPARATION FOLLOWED BY A THREE COAT PAINT SYSTEM. THIS THREE COAT SYSTEM SHALL CONSIST OF AN ORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT AND AN URETHANE TOP COAT WITH EACH COAT BEING A DIFFERENT COLOR. THE PURPOSE OF THIS COATING IS TO PROVIDE PROTECTION FOR NEW (UNWEATHERED) AND OLDER (WEATHERED) GALVANIZED STEEL SUPPORT SECTIONS FROM CORROSIVE ELEMENTS IN THE ATMOSPHERE. COATING AND SURFACE PREPARATION OF NEW GALVANIZED SUPPORT SECTIONS SHOULD BE DONE BY THE MANUFACTURER.

IN THE FIELD, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION LAWS, RULES AND REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES. THE COATING MATERIALS SPECIFIED FOR THE WORK CAN BE HAZARDOUS TO THE HEALTH OF THE APPLICATOR IF NOT APPLIED AS PER MANUFACTURER'S INSTRUCTION. THE CONTRACTOR SHALL FOLLOW THE DATA SHEET AND THE LABEL ON THE PAINT CONTAINERS. THESE PRECAUTIONS SHALL INCLUDE THE USE OF RESPIRATORS AND EYE AND SKIN PROTECTION AS SPECIFIED. THE CONTRACTOR SHALL ALSO INSURE THAT HIS PAINTING OPERATIONS AND LOCATIONS WILL NOT ENDANGER OR ADVERSELY AFFECT THE PUBLIC IN GENERAL.

THE PROPOSED CLEANING AND COATING OPERATIONS SHALL BE PERFORMED ONLY WHEN THE AMBIENT TEMPERATURE IS 50 DEGREES F (10 DEGREES C) OR ABOVE. PAINT SHALL NOT BE APPLIED DURING RAIN, FOG OR MIST, OR WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREES F (3 DEGREES C) ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES OR ON FROSTED OR ICE-COATED SURFACES. PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85 %. ALL STEEL SURFACES OF TRUSSES AND END FRAMES INCLUDING THE WELDED AREAS, BALLAST ENCLOSURE MOUNTING BRACKET AND BASE PLATES ARE TO BE CLEANED AND COATED. BEFORE EACH COATING IS APPLIED, IT SHALL BE MIXED WITH AN APPROVED POWER MECHANICAL MIXER TO A UNIFORM CONSISTENCY WHICH SHALL BE MAINTAINED DURING ITS APPLICATION. EACH COAT SHALL BE APPLIED IN A WORKMANLIKE MANNER AS A CONTINUOUS FILM OF UNIFORM THICKNESS WHICH IS FREE OF HOLIDAYS, PORES, RUNS OR SAGS. ALL COATS SHALL BE APPLIED BY BRUSH OR ROLLER. THINNING OF PAINT IS STRICTLY PROHIBITED. PAINT NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED. THE COATING SHALL PENETRATE ALL JOINTS AND CONNECTIONS. THE ENGINEER SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CLEANING OR COATING OPERATIONS SO THAT INSPECTION SERVICES CAN BE PROVIDED.

COATING SYSTEM

THE COATING SYSTEM SHALL BE A THREE COAT PAINT SYSTEM CONFORMING TO 708.02. SUPPLY THE PRIMER, INTERMEDIATE AND TOP COATS FROM THE SAME MANUFACTURER.

SURFACE PREPARATION, NEW SUPPORT SECTION

NEW, UNWEATHERED GALVANIZED SUPPORT SECTIONS SHOULD HAVE THEIR SURFACE PREPARATION AS WELL AS THEIR PROTECTIVE COATING DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS.

THE SUPPORT SECTIONS SHALL BE PREPARED FOR COATING BY SSPC-SP1 (SOLVENT CLEANING) (DO NOT USE ALKALINE CLEANERS) FOLLOWED BY SSPC-SP7 (100% BRUSH-OFF BLAST OF SURFACE).

BEFORE THE PREPARED SURFACE DE-GRADES FROM THE PRESCRIBED STANDARDS, THE PRIME COAT SHALL BE APPLIED. IN EVERY CASE, THE SURFACE SHALL BE COATED WITH THE ORGANIC ZINC PRIME COAT ON THE SAME DAY OF SURFACE PREPARATION. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING, OR OTHER SURFACE DAMAGE TO THE PREPARED SURFACE.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING, TRANSPORTATION COSTS AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK PER MAJOR SUPPORT SECTION.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL - SURFACE PREPARATION, NEW SUPPORT SECTION AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTION

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF AN ORGANIC ZINC PRIMER TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL BE BETWEEN 1.5 AND 2.0 MILS (38 TO 51 MICROMETERS). IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COST SHALL BE BORNE BY THE CONTRACTOR. THE COLOR OF THIS COAT SHALL BE NOTICEABLY DIFFERENT FROM THE BASE MATERIAL AND OTHER PROPOSED COATS.

THIS COAT SHALL IN ALL CASES BE APPLIED OVER SURFACES THAT WERE PREPARED EARLIER THAT SAME DAY. THE THINNING OF THE MATERIALS IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED 1.5 TO 2.0 MILS (38 TO 51 MICROMETERS) BUT IS AT LEAST 1.25 MILS (32 MICROMETERS), THE CONTRACT BID PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 16-2/3%. IF THE DEFICIENCY OF COATING IS MORE THAN 16-2/3% (I.E. THE AVERAGE DRY FILM THICKNESS IS LESS THAN 1.25 MILS (32 MICRMETERS)) THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL.

FOR NEW SUPPORT SECTIONS THE PRIME COAT SHOULD BE DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS. VERIFICATION BY THE MANUFACTURER OF THE COATING MATERIAL FOR THE PRIME COAT WILL BE REQUIRED. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE PRIME COAT.

THE PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COSTS, AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS PRIME COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE INTERMEDIATE AND TOP COATS. A PROPERLY CALIBRATED DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL - COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTION AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTION

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF EPOXY TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN 6.0 MILS (152 MICROMETERS). IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COST SHALL BE BORNE BY THE CONTRACTOR. THINNING OF THE MATERIAL IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED 6.0 MILS (152 MICROMETERS), BUT IS AT LEAST 5.0 MILS (127 MICROMETERS), THE CONTRACT PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 16-2/3%. IF THE DEFICIENCY OF COATING IS MORE THAN 16-2/3 %, (I.E. THE AVERAGE DRY FILM THICKNESS IS LESS THAN 5.0 MILS (127 MICROMETERS)), THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIAL.

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE ORGANIC ZINC PRIME COAT AND BEFORE THE APPLICATION OF THE EPOXY INTERMEDIATE COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE INTERMEDIATE COAT IS APPLIED.

FOR NEW SUPPORT SECTIONS, THIS INTERMEDIATE COAT SHOULD BE DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS. VERIFICATION BY THE MANUFACTURER FOR THE INTERMEDIATE COAT WILL BE REQUIRED. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE INTERMEDIATE COAT.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COSTS AND MATERIAL NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS INTERMEDIATE COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE PRIME AND TOP COATS. A PROPERLY CALIBRATED DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL - COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTION AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

COATING, URETHANE TOP COAT, SUPPORT SECTION

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF URETHANE TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN 1.5 MILS (38 MICROMETERS). IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COST SHALL BE BORNE BY THE CONTRACTOR. THINNING OF THE MATERIAL IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED. THE COLOR OF THIS COAT SHALL BE GLOSS BLACK.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED 1.5 MILS (38MICROMETERS) BUT IS AT LEAST 1.0 MIL (25 MICROMETERS), THE CONTRACT PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 33 1/3%. IF THE DEFICIENCY OF COATING IS MORE THAN 33 1/3%, (I.E. THE AVERAGE DRY FILM THICKNESS IS LESS THAN 1.0 MIL (25 MICROMETERS)), THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL.

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE EPOXY INTERMEDIATE COAT AND BEFORE THE APPLICATION OF THE URETHANE TOP COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE TOP COAT IS APPLIED.

FOR NEW SUPPORT SECTIONS, THIS TOP COAT SHOULD BE DONE BY THE MANUFACTURER OF THE SUPPORT SECTIONS. VERIFICATION BY THE MANUFACTURER FOR THE TOP COAT WILL BE REQUIRED. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE TOP COAT.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COST AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS TOP COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE PRIME AND INTERMEDIATE COATS. A PROPERLY CALIBRATED DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL - COATING, URETHANE TOP COAT, SUPPORT SECTION AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

LOCATIONS

THE FOLLOWING SUMMARY OF MAJOR SUPPORT SECTIONS TO HAVE A PROTECTIVE COATING APPLIED IS NOTED BELOW:

POLE NO.	LOCATION	SECTIONS
P1	CHARDON & BISHOP	1 VERTICAL POLE, 1 ARM
P2	CHARDON & BISHOP	1 VERTICAL POLE, 1 ARM
P3	CHARDON & BISHOP	1 VERTICAL POLE, 1 ARM
P4	CHARDON & BISHOP	1 VERTICAL POLE, 1 ARM
P5	CHARDON & BISHOP	1 VERTICAL POLE
P1	PLAZA & BISHOP	1 VERTICAL POLE, 1 ARM
P2	PLAZA & BISHOP	1 VERTICAL POLE, 1 ARM
P3	PLAZA & BISHOP	1 VERTICAL POLE, 2 ARMS
P4	PLAZA & BISHOP	1 VERTICAL POLE
P1	BISHOP PARK & BISHOP	1 VERTICAL POLE, 1 ARM
P2	BISHOP PARK & BISHOP	1 VERTICAL POLE
P3	BISHOP PARK & BISHOP	1 VERTICAL POLE, 2 ARMS
P4	RIDGEHILLS & BISHOP	1 VERTICAL POLE, 2 ARMS
P5	RIDGEHILLS & BISHOP	1 VERTICAL POLE
P6	RIDGEHILLS & BISHOP	1 VERTICAL POLE, 2 ARMS
P7	RIDGEHILLS & BISHOP	1 VERTICAL POLE
P1	RAMPS 9 & 10 & BISHOP	1 VERTICAL POLE, 1 ARM
P2	RAMPS 9 & 10 & BISHOP	1 VERTICAL POLE
P3	RAMPS 9 & 10 & BISHOP	1 VERTICAL POLE, 2 ARMS
P4	RAMPS 9 & 10 & BISHOP	1 VERTICAL POLE, 1 ARM
P1	RAMPS 8 & 11 & BISHOP	1 VERTICAL POLE
P2	RAMPS 8 & 11 & BISHOP	1 VERTICAL POLE, 1 ARM
P3	RAMPS 8 & 11 & BISHOP	1 VERTICAL POLE
P4	RAMPS 8 & 11 & BISHOP	1 VERTICAL POLE, 3 ARMS

SIGN NO.	LOCATION	SECTIONS
74	BISHOP PARK & BISHOP	1 VERTICAL POLE, 2 ARMS

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO PERFORM THIS WORK:

ITEM SPECIAL - SURFACE PREPARATION, NEW SUPPORT SECTION	50 EACH
ITEM SPECIAL - COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTION	50 EACH
ITEM SPECIAL - COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTION	50 EACH
ITEM SPECIAL - COATING, URETHANE TOP COAT, SUPPORT SECTION	50 EACH

ITEM 646 - EPOXY PAVEMENT MARKINGS, AS PER PLAN

THE EPOXY PAVEMENT MARKING MATERIAL FURNISHED UNDER THESE ITEMS SHALL BE EPOPLEX LS-60 AS FURNISHED BY EPOPLEX, MAPLE SHADE, NEW JERSEY.

ITEM 646 - EPOXY PAVEMENT MARKINGS, AS PER PLAN (POLYCARB) ALTERNATE BID

THE EPOXY PAVEMENT MARKING MATERIAL SHALL BE MARK 55.4 AS FURNISHED BY POLYCARB, CLEVELAND, OHIO.

PAYMENT WILL BE AT THE NORMAL CONTRACT UNIT PRICE AS SPECIFIED IN ITEM 646.

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL GENERAL NOTES

LAK - 90/84 - 0.54/0.43

244
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DATE: 08-17-05 - H:\2002\02117\DWG\02117TGN.DWG (PLOT 4)

TRAFFIC CONTROL GENERAL SUMMARY

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
39	241	244		251-252	256-257	263-264	265-266	270-271	275-276	278		293	317-318	321						
	200														603	00400	**200**	FT.	4" CONDUIT, TYPE E	241
				272	354	175	180	113	142	1543					625	25402	**2779**	FT.	CONDUIT, 2", 725.05	
				95	128	164	46	114	50						625	25502	**597**	FT.	CONDUIT, 3", 725.05	
				289	364	221	351	330	426						625	25600	**1981**	FT.	CONDUIT, 4", 725.04	
				641	671	402	407	348	353	1199					625	29000	**4021**	FT.	TRENCH	
				10	7	5	5	3	5	3					625	30700	**38**	EACH	PULL BOX, 725.08,18"	
				1	1	1	1	2	1						625	30706	**7**	EACH	PULL BOX, 725.08, 24"	
				6	5	4	5	5	5						625	32000	**30**	EACH	GROUND ROD	
				641	671	402	407	348	353	1199					SPECIAL	62536000	**4021**	FT.	PLASTIC CAUTION TAPE	241
65													1776		630	03100	**1841**	FT.	GROUND MOUNTED SUPPORT, NO. 3 POST	
													26		630	06400	**26**	FT.	GROUND MOUNTED SUPPORT, S4x7.7 BEAM	
													35		630	06500	**35**	FT.	GROUND MOUNTED SUPPORT, W6x9 BEAM	
													72		630	07600	**72**	FT.	GROUND MOUNTED SUPPORT, W10x12 BEAM	
													128		630	08004	**128**	FT.	ONE WAY SUPPORT, NO. 3 POST	
													34		630	08520	**34**	FT.	STREET NAME SIGN SUPPORT, NO. 3 POST	
													8		630	09000	**8**	EACH	BREAKAWAY BEAM CONNECTION	
		50													SPECIAL	63009102	**50**	EACH	SURFACE PREPARATION, NEW SUPPORT SECTION	
		50													SPECIAL	63009106	**50**	EACH	COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTION	
		50													SPECIAL	63009108	**50**	EACH	COATING, URETHANE TOP COAT, SUPPORT SECTION	
		50													SPECIAL	63009120	**50**	EACH	COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTION	
														1	630	20300	**1**	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 3	
													9		630	79101	**9**	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	
													34		630	79500	**34**	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
31													937		630	80100	**968**	SQ. FT.	SIGN, FLATSHEET	
													195		630	80200	**195**	SQ. FT.	SIGN, GROUND MOUNTED EXTRUSHEET	
														674	630	80224	**674**	SQ. FT.	SIGN, OVERHEAD EXTRUSHEET	
147															630	80300	**147**	SQ. FT.	SIGN, TEMPORARY OVERLAY	
													4		630	80500	**4**	EACH	SIGN, DOUBLE FACED, STREET NAME	
													8		630	84500	**8**	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
														3	630	84510	**3**	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
													121		630	84900	**121**	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
													5		630	85100	**5**	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
													8		630	85400	**8**	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
													104		630	86002	**104**	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
													14		630	86102	**14**	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
													2		630	86311	**2**	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN	244
													11		630	87500	**11**	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
													3		630	87520	**3**	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL GENERAL SUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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TRAFFIC CONTROL GENERAL SUMMARY

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
39	241	244		251-252	256-257	263-264	265-266	270-271	275-276	278		293	317-318	321						
				4	6	5	8	6	8						632	05001	**37**	EACH	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12"LENS, 1-WAY, AS PER PLAN	243
				4	2	1		1							632	05081	**8**	EACH	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	243
				8	4	2	8	6	6						632	20721	**34**	EACH	PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN	243
				8	8	6	8	7	8						632	25000	**45**	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
				8	4	2	8	6	6						632	25010	**34**	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
				8	4	2	8	6	6						632	26000	**34**	EACH	PEDESTRIAN PUSHBUTTON	
	5			10	10	11	7	11	10						632	26501	**64**	EACH	DETECTOR LOOP, AS PER PLAN	243
	5														632	27005	**5**	EACH	LOOP DETECTOR UNIT, AS PER PLAN	243
				10	10	11	7	11	10						632	27009	**59**	EACH	LOOP DETECTOR UNIT, DELAY & EXTENSION TYPE, AS PER PLAN	243
				1141	841	602	716	723	795						632	40200	**4818**	FT.	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	
				1645	379	170	1240	885	992						632	40300	**5311**	FT.	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
				1677	395	178	1272	909	1016						632	40500	**5447**	FT.	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
				2282	1213	856	716	843	1170						632	40700	**7080**	FT.	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
				1141	841	602	716	723	795						632	43300	**4818**	FT.	SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138	243
				28	588	314	369	424	182	1558					632	53202	**3463**	FT.	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)	
				4	3	2	2	2	1						632	64010	**14**	EACH	SIGNAL SUPPORT FOUNDATION	
				1	1	1	2	1	2						632	64020	**8**	EACH	PEDESTAL FOUNDATION	
	500			2373	1795	1219	906	1435	1691						632	65200	**9919**	FT.	LOOP DETECTOR LEAD-IN CABLE	
				45	214	203	209	208	212						632	68300	**1091**	FT.	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
				100	100	100	100	100	100						632	69800	**600**	FT.	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	
				1	1	1	1	1	1						632	70000	**6**	EACH	POWER SERVICE	241
							1								632	75101	**1**	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 2, AS PER PLAN	243
					1										632	75121	**1**	EACH	SIGNAL SUPPORT, TYPE TC-12.30, DESIGN 5 POLE, WITH MAST ARMS TC-81.20 DESIGN 4 AND DESIGN 4, AS PER PLAN	243
							1								632	75171	**1**	EACH	SIGNAL SUPPORT, TYPE TC-12.30, DESIGN 6 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 11, AS PER PLAN	243
						1		1							632	80201	**2**	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 2, AS PER PLAN	243
					2										632	80401	**2**	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN	243
								1							632	80501	**1**	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 11, AS PER PLAN	243
				4		1			1						632	80601	**6**	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN	243
				1	1	1	2	1	2						632	89600	**8**	EACH	PEDESTAL, 8'	
				1	1	1	1	1	1						632	90101	**6**	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	241
	5														632	90400	**5**	EACH	SIGNALIZATION, MISC.: FOUNDATION TEST HOLES	241
														1	632	90400	**1**	EACH	SIGNALIZATION, MISC.: SIGNAL AND OVERHEAD SIGN SUPPORT, TYPE TC-12.30 DESIGN 8 POLE, WITH MAST ARMS TC-12.30 DESIGN 8 AND TC-81.20 DESIGN 12	243
														1	632	90400	**1**	EACH	SIGNALIZATION, MISC.: SIGNAL AND OVERHEAD SIGN SUPPORT, TYPE TC-12.30 DESIGN 8 POLE, WITH MAST ARMS TC-12.30 DESIGN 8 AND TC-81.20 DESIGN 11 AND DESIGN 12	243

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL GENERAL SUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

246
369

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TRAFFIC CONTROL GENERAL SUMMARY

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
39	241	244		251-252	256-257	263-264	265-266	270-271	275-276	278		293	317-318	321						
				1	1	1	1	1	1						633	01601	**6**	EACH	CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332,	242
																			AS PER PLAN	
				1	1	1	1	1	1						633	67000	**6**	EACH	CABINET RISER	
				1	1	1	1	1	1						633	67100	**6**	EACH	CABINET FOUNDATION	
				1	1	1	1	1	1						633	67200	**6**	EACH	CONTROLLER WORK PAD	
				1	1	1	1	1	1						633	99000	**6**	EACH	CONTROLLER, MISC.: PREEMPT, OPTICOM	243
				4	4	3	4	3	3						633	99000	**21**	EACH	CONTROLLER, MISC.: PREEMPT CONFIRMATION LIGHT	243
				4	4	3	4	3	3						633	99000	**21**	EACH	CONTROLLER, MISC.: PREEMPT DETECTOR	243
				1	1	1	1	1	1						633	99000	**6**	EACH	CONTROLLER, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM	243
																			MODEL 754	
												1.33			646	10001	**1.33**	MILE	EDGE LINE, AS PER PLAN	244
												1.47			646	10101	**1.47**	MILE	LANE LINE, AS PER PLAN	244
												1.58			646	10201	**1.58**	MILE	CENTER LINE, AS PER PLAN	244
												3321			646	10301	**3321**	FT.	CHANNELIZING LINE, AS PER PLAN	244
												683			646	10401	**683**	FT.	STOP LINE, AS PER PLAN	244
												2297			646	10501	**2297**	FT.	CROSSWALK LINE, AS PER PLAN	244
												519			646	10601	**519**	FT.	TRANSVERSE/DIAGONAL LINE, AS PER PAN	244
												270			646	10801	**270**	SQ. FT.	ISLAND MARKING, AS PER PLAN	244
												86			646	20301	**86**	EACH	LANE ARROW, AS PER PLAN	244
												198			646	20501	**198**	FT.	DOTTED LINE, 4-INCH, AS PER PLAN	244
																			ALTERNATE BID	
												1.33			646	10001	**1.33**	MILE	EDGE LINE, AS PER PLAN (POLYCARB)	244
												1.47			646	10101	**1.47**	MILE	LANE LINE, AS PER PLAN (POLYCARB)	244
												1.58			646	10201	**1.58**	MILE	CENTER LINE, AS PER PLAN (POLYCARB)	244
												3321			646	10301	**3321**	FT.	CHANNELIZING LINE, AS PER PLAN (POLYCARB)	244
												683			646	10401	**683**	FT.	STOP LINE, AS PER PLAN (POLYCARB)	244
												2297			646	10501	**2297**	FT.	CROSSWALK LINE, AS PER PLAN (POLYCARB)	244
												519			646	10601	**519**	FT.	TRANSVERSE/DIAGONAL LINE, AS PER PAN (POLYCARB)	244
												270			646	10801	**270**	SQ. FT.	ISLAND MARKING, AS PER PLAN (POLYCARB)	244
												86			646	20301	**86**	EACH	LANE ARROW, AS PER PLAN (POLYCARB)	244
												198			646	20501	**198**	FT.	DOTTED LINE, 4-INCH, AS PER PLAN (POLYCARB)	244

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL GENERAL SUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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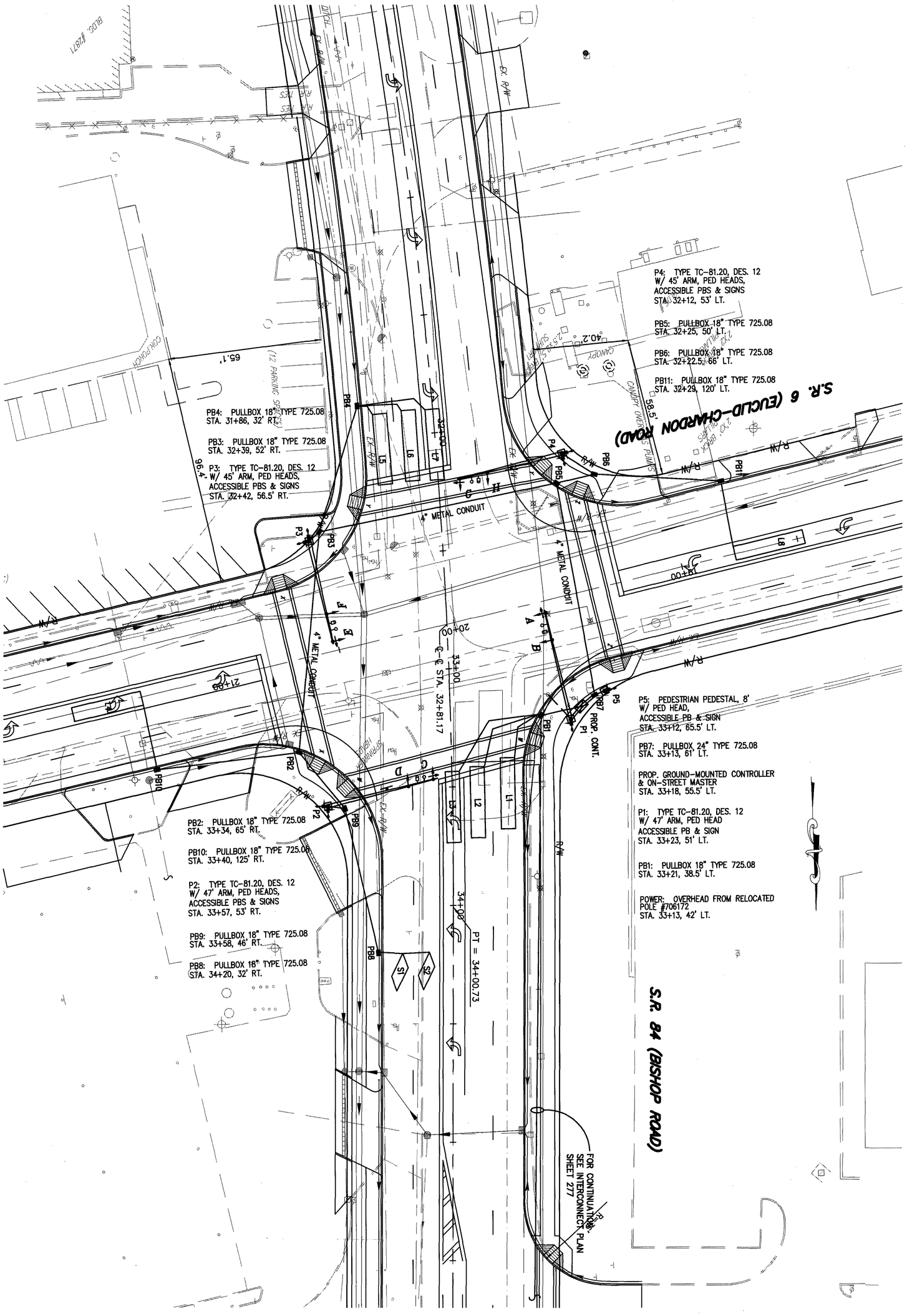


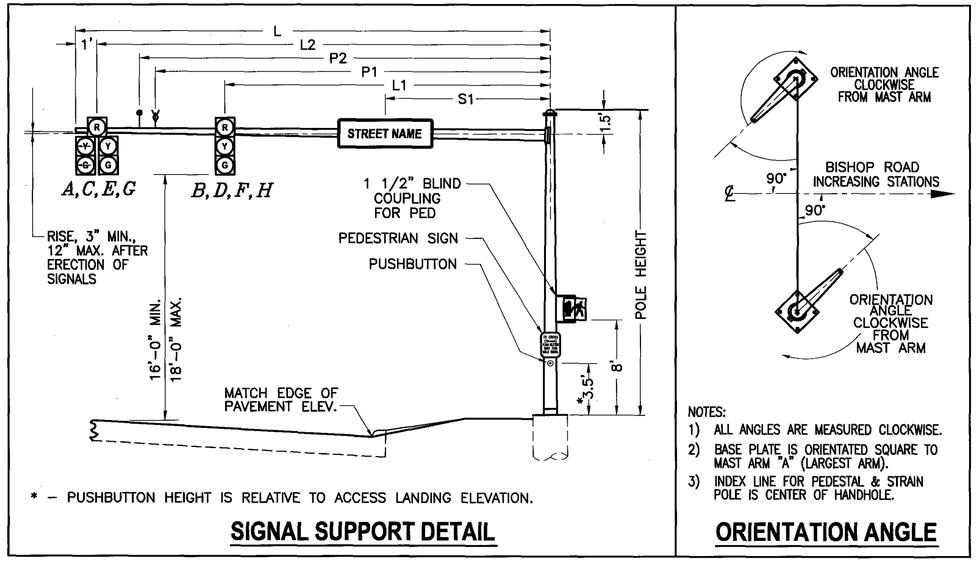
248 / 369	LAK – 90/84 – 0.54/0.43	TRAFFIC SIGNAL PLAN BISHOP ROAD (S.R. 84) – CHARDON ROAD (S.R. 6)	CALCULATED T.J.F. CHECKED G.L.B.	20 10 0 20 SCALE IN FEET

POLE NUMBER	COMBINATION POLE	LOCATION		SUPPORT TYPE & DESIGN NUMBER				POLE HEIGHT (FEET)	ARM ATTACHMENT HEIGHT (FEET)				MAST ARM				SIGNALS			SIGNS		PREEMPT		MAST ARM "A" ORIENTATION ANGLE (DEGREES)	ORIENTATION ANGLE FROM MAST ARM "A" (DEGREES)								
													ARM "A"		ARM "B"																	
		STATION	OFFSET	PEDESTAL	PUSHBUTTON POLE	TC-12.30	TC-81.20						LENGTH "L"	DESIGN	LENGTH "L"	DESIGN	L1	L2	L3	S1	S2	P1 (1-WAY PREEMPT)	P2 (CONFIRMATION LIGHT)		MAST ARM "B"	HANDHOLE (PED POLE ANGLE REFERENCE)	PEDESTRIAN SIGNALS	PEDESTRIAN PUSHBUTTON	POWER SERV., 1-1/2" BLIND HALF COUPLING 3' FROM BASE	CABLE ENTRANCE	LUMINAIRE BRACKET	2" CONDUIT ELL	2" CAPPED CONDUIT ELL (FOR FUTURE USE)
P1	NO	33+23	51' LT	–	–	–	12	23'	21.5'				47'	–	–	–	34'	46'	–	–	–	39'	41'	90°	–	180°	180°	180°	–	–	–	–	–
P2	NO	33+57	53' RT	–	–	–	12	23'	21.5'				47'	–	–	–	35'	46'	–	26'	–	39'	41'	0°	–	180°	90°/180°	90°/180°	–	–	–	–	–
P3	NO	32+42	56.5' RT	–	–	–	12	23'	21.5'				45'	–	–	–	32'	44'	–	–	–	37'	39'	90°	–	180°	90°/180°	90°/180°	–	–	–	–	–
P4	NO	32+12	53' LT	–	–	–	12	23'	21.5'				45'	–	–	–	33'	44'	–	22'	–	37'	39'	0°	–	180°	180°/270°	180°/270°	–	–	–	–	–
P5	NO	33+12	65.5' LT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	180°	270°	270°	–	–	–	–	–

TYPE TC-81.20 SIGNAL SUPPORT

LOOP	SIZE	TURNS	MODE	DELAY	PHASE	REMARK	INHIBITED DELAY	LOCATION 1st FRONT CORNER	LOCATION 2nd FRONT CORNER
L1	6X30	3	PRESENCE	8.0	ϕ8	STANDARD	ϕ8	STA. 33+38.5,20'LT	STA. 33+38.5,26'LT
L2	6X30	3	PRESENCE	–	ϕ8	STANDARD	–	STA. 33+41.5,8'LT	STA. 33+41.5,14'LT
L3	6X30	3	PRESENCE	–	ϕ7	STANDARD	–	STA. 33+44.5,3'RT	STA. 33+44.5,3'LT
L4	6X30	3	PRESENCE	–	ϕ5	STANDARD	–	STA. 33+04.5,131'RT	STA. 33+10.5,130'RT
L5	6X30	3	PRESENCE	8.0	ϕ4	STANDARD	ϕ4	STA. 32+20.5,20'RT	STA. 32+20.5,26'RT
L6	6X30	3	PRESENCE	–	ϕ4	STANDARD	–	STA. 32+19.5,8'RT	STA. 32+19.5,14'RT
L7	6X30	3	PRESENCE	–	ϕ7	STANDARD	–	STA. 32+18.5,3'LT	STA. 32+18.5,3'RT
L8	6X30	3	PRESENCE	–	ϕ1	STANDARD	–	STA. 32+61.5,124'LT	STA. 32+55.5,123'LT
S1	4X8	3	PULSE	–	–	ADD	–	STA. 34+20,22'RT	–
S2	4X8	3	PULSE	–	–	ADD	–	STA. 34+20,10'RT	–

LOOP DETECTOR CHART

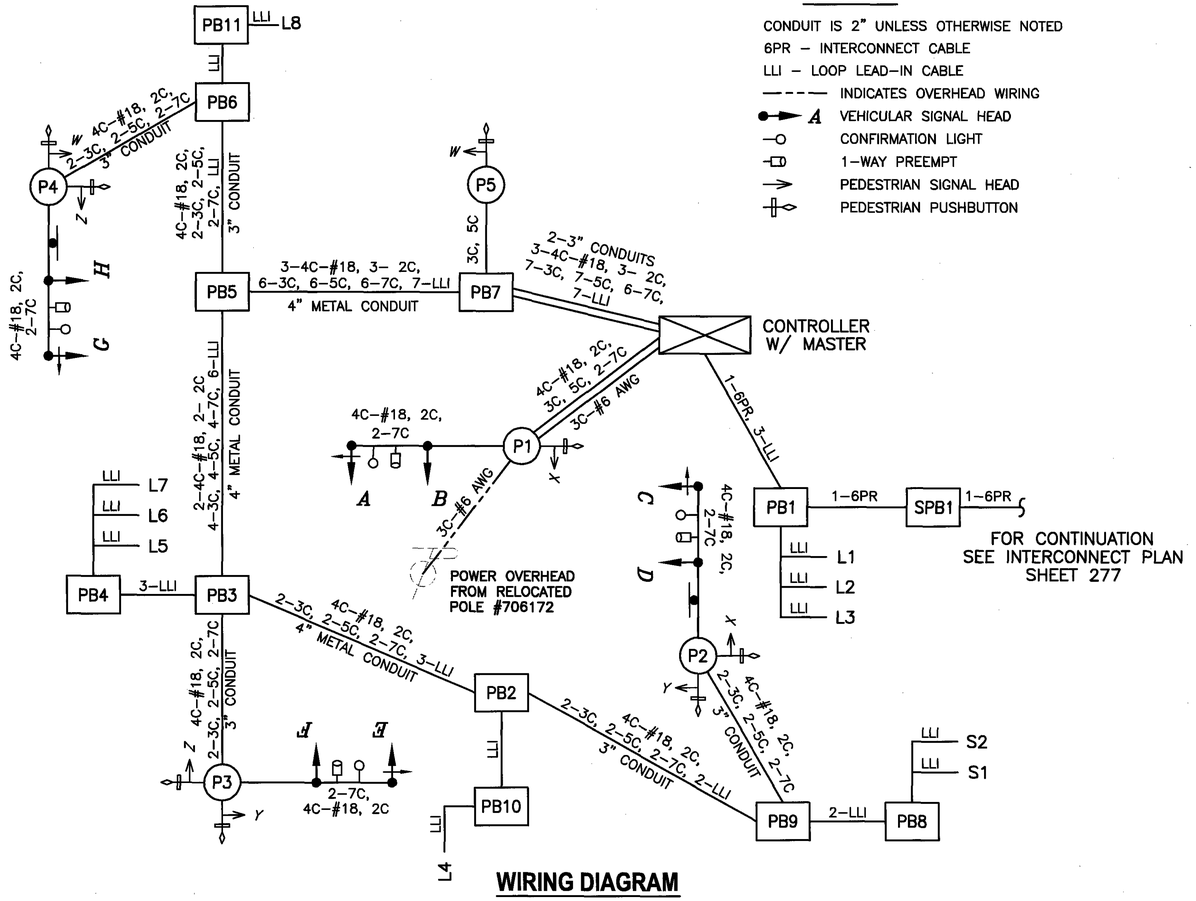


* – PUSHBUTTON HEIGHT IS RELATIVE TO ACCESS LANDING ELEVATION.

SIGNAL SUPPORT DETAIL

NOTES:
1) ALL ANGLES ARE MEASURED CLOCKWISE.
2) BASE PLATE IS ORIENTATED SQUARE TO MAST ARM "A" (LARGEST ARM).
3) INDEX LINE FOR PEDESTAL & STRAIN POLE IS CENTER OF HANDHOLE.

ORIENTATION ANGLE



WIRING DIAGRAM

LEGEND:

CONDUIT IS 2" UNLESS OTHERWISE NOTED
6PR – INTERCONNECT CABLE
LLI – LOOP LEAD–IN CABLE
– – – – INDICATES OVERHEAD WIRING
A VEHICULAR SIGNAL HEAD
CONFIRMATION LIGHT
1–WAY PREEMPT
PEDESTRIAN SIGNAL HEAD
PEDESTRIAN PUSHBUTTON

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – CHARDON ROAD (S.R. 6)
LAK – 90/84 – 0.54/0.43

249
369

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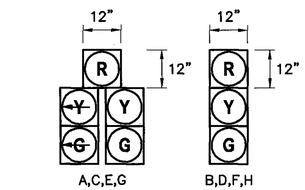
SIGNAL DIRECTION	SIGNAL HEAD	ϕ1&ϕ5 R/W	ϕ1&ϕ5 CLEAR			ϕ2&ϕ6 R/W	ϕ2&ϕ6 CLEAR			ϕ4&ϕ7 R/W	ϕ4&ϕ7 CLEAR			ϕ3&ϕ8 R/W	ϕ3&ϕ8 CLEAR			FLASH	DWELL
NORTHBOUND	C	R	R	R	R	R	R	R	R	G/⊖	G/⊖	Y	R	R	R	R	R	R	R
	D	R	R	R	R	R	R	R	R	G	G	Y	R	R	R	R	R	R	R
EASTBOUND	E	R/⊖	R/⊖	Y	G	G	G	Y	R	R	R	R	R	R	R	R	R	Y	G
	F	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	Y	G
WESTBOUND	A	R/⊖	R/⊖	Y	G	G	G	Y	R	R	R	R	R	R	R	R	R	Y	G
	B	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	Y	G
SOUTHBOUND	G	R	R	R	R	R	R	R	R	R	R	R	R	G/⊖	G/⊖	Y	R	R	R
	H	R	R	R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R	R
SOUTH	Y–Y	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK	DW
EAST	X–X	DW	DW	DW	DW	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW	DARK	DW
NORTH	W–W	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK	DW
WEST	Z–Z	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W*	FDW*	DW	DW	DARK	DW

* ONLY UPON PEDESTRIAN PUSHBUTTON ACTUATION

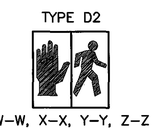
SIGNAL SEQUENCE CHART

FUNCTION	ϕ1&ϕ5	ϕ2&ϕ6	ϕ4&ϕ7	ϕ3&ϕ8
INITIAL GREEN	7	15	15	15
MINIMUM GREEN	–	–	–	–
VEHICLE EXTENSION	3.0	3.0	3.0	3.0
MAXIMUM GREEN	15	27	32	23
PEDESTRIAN WALK	7.0	7.0	7.0	7.0
PEDESTRIAN CLEARANCE	23	23	23	23
VEHICLE YELLOW CLEARANCE	3.0	3.0	3.0	3.0
VEHICLE ALL RED CLEARANCE	2.0	2.0	2.0	2.0
RECALL	OFF	MIN.	OFF	OFF
MEMORY	N.L.	N.L.	N.L.	N.L.

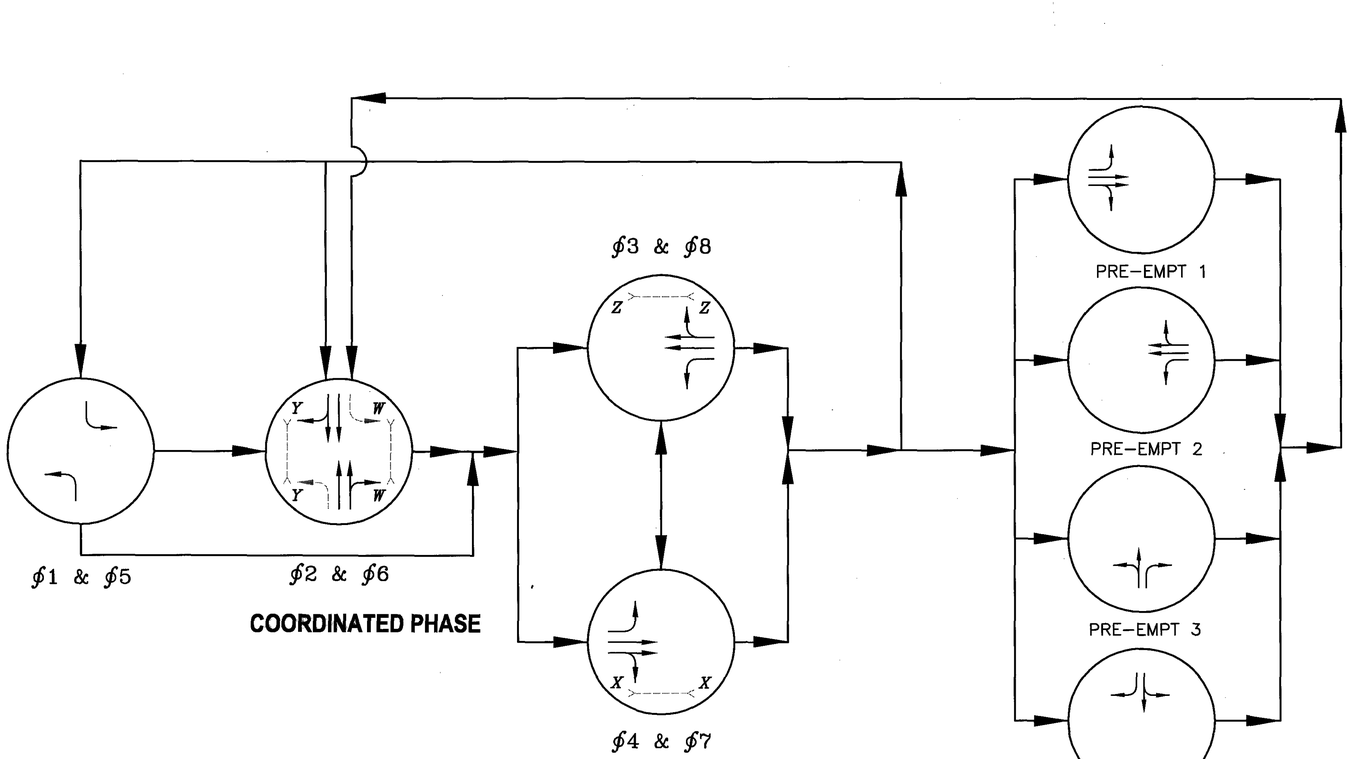
SIGNAL TIMING CHART



VEHICULAR POLYCARBONATE SIGNAL HEAD (LED)

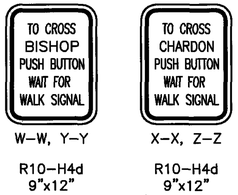


PEDESTRIAN SIGNAL (LED)

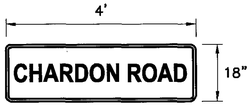


COORDINATED PHASE

PHASING DIAGRAM



PEDESTRIAN PUSHBUTTON SIGNS



STREET NAME SIGN MAST ARM MOUNTED AS PER TC-16.20

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – CHARDON ROAD (S.R. 6)

LAK – 90/84 – 0.54/0.43

250
369

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INTERSECTION - BISHOP ROAD & CHARDON ROAD

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES		ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES CHARDON STATION REFERENCE				DISTANCE
			FROM		FROM		TO		
			FROM	TO	STA	OFF	STA	OFF	FT
		248	CONTR	P1	33+18	55.5'LT	33+23	51'LT	7
		248	CONTR	PB1	33+18	55.5'LT	33+21	38.5'LT	18
		248	CONTR	PB7	33+18	55.5'LT	33+13	61'LT	8
		248	PB7	P5	33+13	61'LT	33+12	65.5'LT	5
		248	PB7	PB5	33+13	61'LT	32+25	50'LT	92
		248	PB5	PB6	32+25	50'LT	32+22.5	66'LT	17
		248	PB6	PB11	32+22.5	66'LT	32+29	120'LT	55
		248	PB6	P4	32+22.5	66'LT	32+12	53'LT	17
		248	PB5	PB3	32+25	50'LT	32+39	52'RT	103
		248	PB3	PB4	32+39	52'RT	31+86	32'RT	56
		248	PB3	P3	32+39	52'RT	32+42	56.5'RT	6
		248	PB3	PB2	32+39	52'RT	33+34	65'RT	94
		248	PB2	PB10	33+34	65'RT	33+40	125'RT	61
		248	PB2	PB9	33+34	65'RT	33+58	46'RT	31
		248	PB9	P2	33+58	46'RT	33+57	53'RT	8
		248	PB9	PB8	33+58	46'RT	34+20	32'RT	63
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246									

SIGNAL SUBSUMMARY

ITEM #	625										632					
EXT. #	25402	25502	25600		29000	30700	30706	32000		36000	05001	05081	20721		25000	25010
	CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	CONDUIT, 4", 725.04		TRENCH	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	GROUND ROD		SPECIAL - PLASTIC CAUTION TAPE	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN		COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD
UNITS	FT	FT	FT		FT	EACH	EACH	EACH		FT	EACH	EACH	EACH		EACH	EACH
-	14				7			1		7	1	1	1		2	1
-	18				18	1		1		18						
-		16			8		1			8						
-	5				5			1		5			1			1
-			92		92	1				92						
-		17			17	1				17						
-	55				55	1				55						
-		17			17			1		17	1	1	2		2	2
-			103		103	1				103						
-	56				56	1				56						
-		6			6			1		6	1	1	2		2	2
-			94		94	1				94						
-	61				61	1				61						
-		31			31	1				31						
-		8			8			1		8	1	1	2		2	2
-	63				63	1				63						
	272	**95**	**289**		**641**	**10**	**1**	**6**		**641**	**4**	**4**	**8**		**8**	**8**

INTERSECTION - BISHOP ROAD & CHARDON ROAD

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES		ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES CHARDON STATION REFERENCE				DISTANCE
			FROM		FROM		TO		
			FROM	TO	STA	OFF	STA	OFF	FT
		248	CONTR	P1	33+18	55.5'LT	33+23	51'LT	7
		248	CONTR	PB1	33+18	55.5'LT	33+21	38.5'LT	18
		248	CONTR	PB7	33+18	55.5'LT	33+13	61'LT	8
		248	PB7	P5	33+13	61'LT	33+12	65.5'LT	5
		248	PB7	PB5	33+13	61'LT	32+25	50'LT	92
		248	PB5	PB6	32+25	50'LT	32+22.5	66'LT	17
		248	PB6	PB11	32+22.5	66'LT	32+29	120'LT	55
		248	PB6	P4	32+22.5	66'LT	32+12	53'LT	17
		248	PB5	PB3	32+25	50'LT	32+39	52'RT	103
		248	PB3	PB4	32+39	52'RT	31+86	32'RT	56
		248	PB3	P3	32+39	52'RT	32+42	56.5'RT	6
		248	PB3	PB2	32+39	52'RT	33+34	65'RT	94
		248	PB2	PB10	33+34	65'RT	33+40	125'RT	61
		248	PB2	PB9	33+34	65'RT	33+58	46'RT	31
		248	PB9	P2	33+58	46'RT	33+57	53'RT	8
		248	PB9	PB8	33+58	46'RT	34+20	32'RT	63
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246									

SIGNAL SUBSUMMARY

ITEM #	632																
EXT. #	26000	26501	27009		40200	40300	40500	40700	43300	53202		64010	64020		65200	68300	69800	70000
	PEDESTRIAN PUSHBUTTON	DETECTOR LOOP, AS PER PLAN	LOOP DETECTOR UNIT, DELAY & EXTENSION TYPE, AS PER PLAN		SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)		SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION		LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE
UNITS	EACH	EACH	EACH		FT	FT	FT	FT	FT	FT		EACH	EACH		FT	FT	FT	EACH
-	1				108	26	30	216	108			1				45	100	1
-		3	3							28					84			
-					54	126	126	108	54						126			
-	1					19	23						1					
-					291	582	582	582	291						679			
-					22	44	44	44	22						22			
-		1	1												60			
-	2				111	62	70	222	111			1						
-					216	432	432	432	216						648	-		
-		3	3												183			
-	2				100	40	48	200	100			1						
-					99	198	198	198	99						297			
-		1	1												66			
-					36	72	72	72	36						72			
-	2				104	44	52	208	104			1						
-		2	2												136			
	8	**10**	**10**		**1141**	**1645**	**1677**	**2282**	**1141**	**28**		**4**	**1**		**2373**	**45**	**100**	**1**

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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INTERSECTION - BISHOP ROAD & CHARDON ROAD

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES CHARDON STATION REFERENCE

SIGNAL SUBSUMMARY

ITEM # 632

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT	UNITS	75101 SIGNAL SUPPORT, TYPE TC-81.20 DESIGN 12 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 2, AS PER PLAN EACH	75121 SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 5 POLE, WITH MAST ARMS TC-81.20 DESIGN 4 AND DESIGN 4, AS PER PLAN EACH	75171 SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 6 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 11, AS PER PLAN EACH		80201 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 2, AS PER PLAN EACH	80401 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN EACH	80501 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 11, AS PER PLAN EACH	80601 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN EACH		89600 PEDESTAL, 8' EACH		90101 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN EACH			
		248	CONTR	P1	33+18	55.5'LT	33+23	51'LT	7	-								1				1			
		248	CONTR	PB1	33+18	55.5'LT	33+21	38.5'LT	18	-															
		248	CONTR	PB7	33+18	55.5'LT	33+13	61'LT	8	-															
		248	PB7	P5	33+13	61'LT	33+12	65.5'LT	5	-										1					
		248	PB7	PB5	33+13	61'LT	32+25	50'LT	92	-															
		248	PB5	PB6	32+25	50'LT	32+22.5	66'LT	17	-															
		248	PB6	PB11	32+22.5	66'LT	32+29	120'LT	55	-															
		248	PB6	P4	32+22.5	66'LT	32+12	53'LT	17	-								1							
		248	PB5	PB3	32+25	50'LT	32+39	52'RT	103	-															
		248	PB3	PB4	32+39	52'RT	31+86	32'RT	56	-															
		248	PB3	P3	32+39	52'RT	32+42	56.5'RT	6	-								1							
		248	PB3	PB2	32+39	52'RT	33+34	65'RT	94	-															
		248	PB2	PB10	33+34	65'RT	33+40	125'RT	61	-															
		248	PB2	PB9	33+34	65'RT	33+58	46'RT	31	-															
		248	PB9	P2	33+58	46'RT	33+57	53'RT	8	-								1							
		248	PB9	PB8	33+58	46'RT	34+20	32'RT	63	-															
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246											0	0	0		0	0	0	4		1		1			

INTERSECTION - BISHOP ROAD & CHARDON ROAD

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES CHARDON STATION REFERENCE

SIGNAL SUBSUMMARY

ITEM # 633

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT	UNITS	01601 CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN EACH		67000 CABINET RISER EACH	67100 CABINET FOUNDATION EACH	67200 CONTROLLER WORK PAD EACH		99000 CONTROLLER ITEM, MISC.: PREEMPTION, OPTICOM EACH	99000 CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT EACH	99000 CONTROLLER ITEM, MISC.: PREEMPT DETECTOR EACH	99000 CONTROLLER ITEM, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM MODEL 754 EACH							
		248	CONTR	P1	33+18	55.5'LT	33+23	51'LT	7	-	1		1	1	1		1	4	4	1							
		248	CONTR	PB1	33+18	55.5'LT	33+21	38.5'LT	18	-																	
		248	CONTR	PB7	33+18	55.5'LT	33+13	61'LT	8	-																	
		248	PB7	P5	33+13	61'LT	33+12	65.5'LT	5	-																	
		248	PB7	PB5	33+13	61'LT	32+25	50'LT	92	-																	
		248	PB5	PB6	32+25	50'LT	32+22.5	66'LT	17	-																	
		248	PB6	PB11	32+22.5	66'LT	32+29	120'LT	55	-																	
		248	PB6	P4	32+22.5	66'LT	32+12	53'LT	17	-																	
		248	PB5	PB3	32+25	50'LT	32+39	52'RT	103	-																	
		248	PB3	PB4	32+39	52'RT	31+86	32'RT	56	-																	
		248	PB3	P3	32+39	52'RT	32+42	56.5'RT	6	-																	
		248	PB3	PB2	32+39	52'RT	33+34	65'RT	94	-																	
		248	PB2	PB10	33+34	65'RT	33+40	125'RT	61	-																	
		248	PB2	PB9	33+34	65'RT	33+58	46'RT	31	-																	
		248	PB9	P2	33+58	46'RT	33+57	53'RT	8	-																	
		248	PB9	PB8	33+58	46'RT	34+20	32'RT	63	-																	
TOTALS CARRIED TO GENERAL SUMMARY SHEET 247											1		1	1	1		1	4	4	1							

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK - 90/84 - 0.54/0.43

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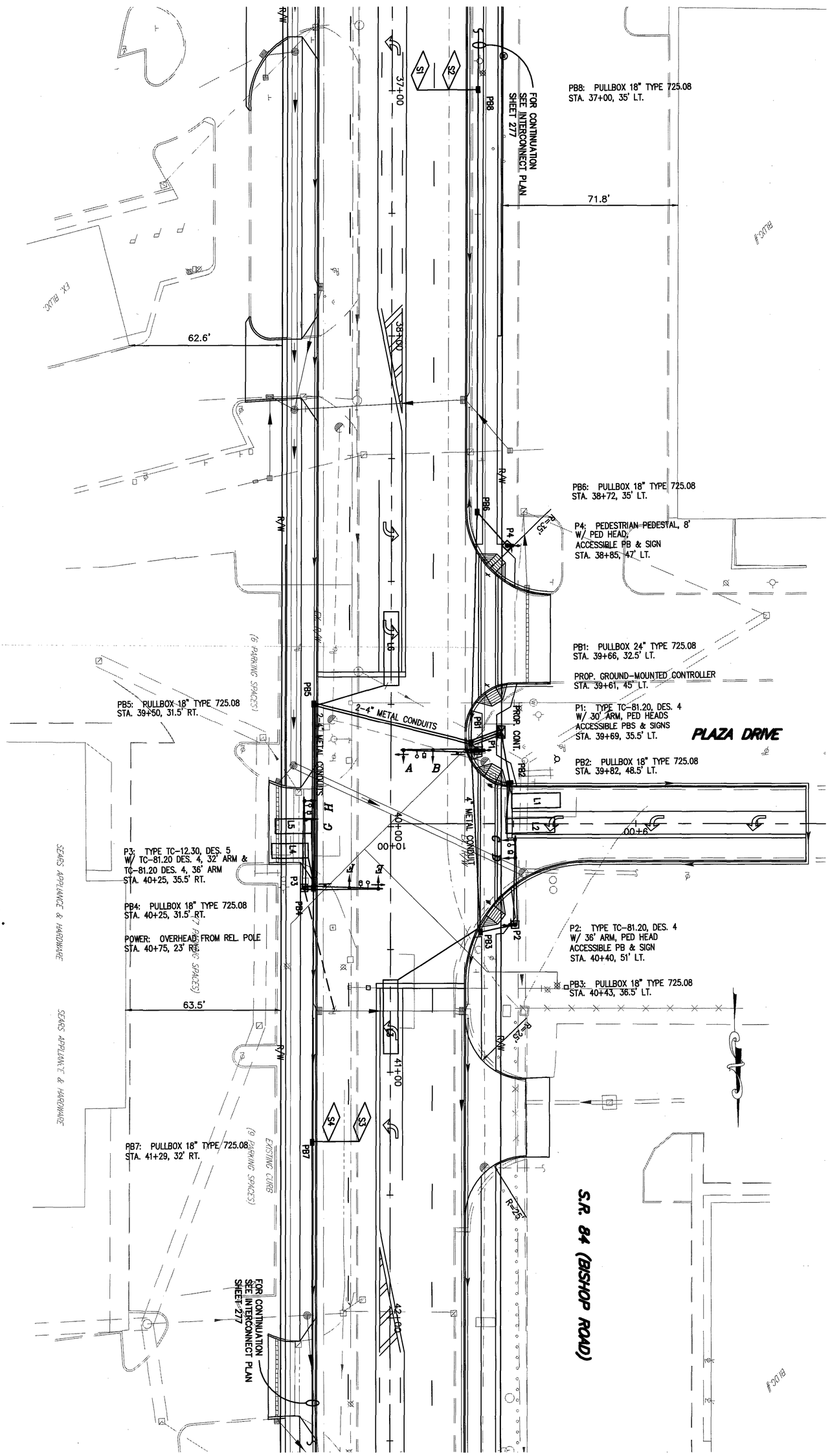


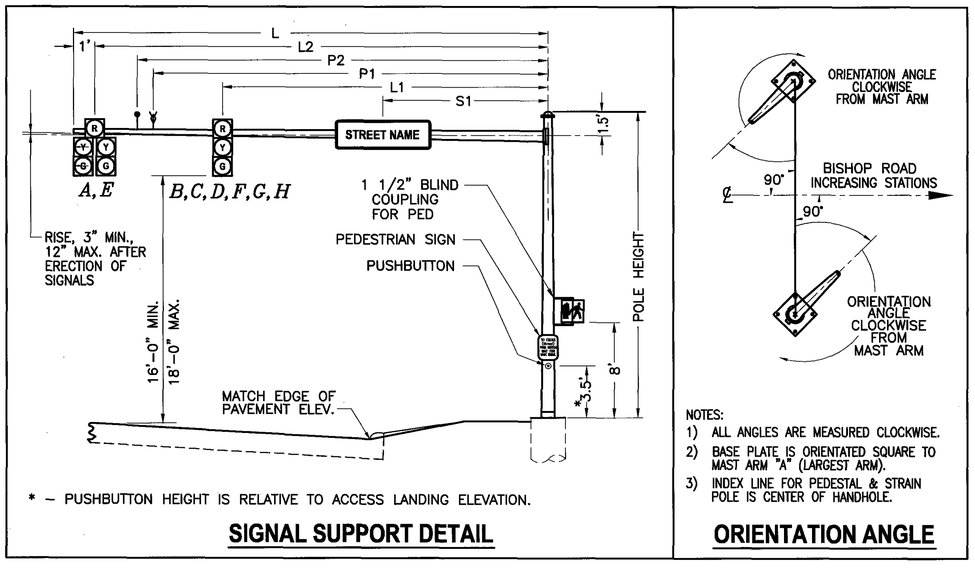
253 / 369	LAK – 90/84 – 0.54/0.43	TRAFFIC SIGNAL PLAN BISHOP ROAD (S.R. 84) – PLAZA DRIVE	CALCULATED T.J.F. CHECKED G.L.B.	20 10 0 20 SCALE IN FEET

POLE NUMBER	COMBINATION POLE	LOCATION STATION	LOCATION OFFSET	SUPPORT TYPE & DESIGN NUMBER: PEDESTAL	PUSHBUTTON POLE	TC-12.30	TC-81.20	POLE HEIGHT (FEET)	ARM ATTACHMENT HEIGHT (FEET)				MAST ARM: ARM "A" LENGTH "L"	ARM "A" DESIGN	ARM "B" LENGTH "L"	ARM "B" DESIGN	SIGNALS: L1	L2	L3	SIGNS: S1	S2	PREEMPT: P1 (1-WAY PREEMPT)	P2 (CONFIRMATION LIGHT)	MAST ARM "A" ORIENTATION ANGLE (DEGREES)	ORIENTATION ANGLE FROM MAST ARM "A" (DEGREES): MAST ARM "B"	HANDHOLE (PED POLE ANGLE REFERENCE)	PEDESTRIAN SIGNALS	PEDESTRIAN PUSHBUTTON	POWER SERV., 1-1/2" BLIND HALF COUPLING 3' FROM BASE	CABLE ENTRANCE	LUMINAIRE BRACKET	2" CONDUIT ELL	2" CAPPED CONDUIT ELL (FOR FUTURE USE)
P1	NO	39+69	35.5' LT	–	–	–	4	23'	21.5'				30'	–	–	–	19'	29'	–	9'	–	23'	25'	0°	–	180°	0°/270°	0°/270°	–	–	–	–	–
P2	NO	40+40	51' LT	–	–	–	4	23'	21.5'				36'	–	–	–	27'	35'	–	–	–	30'	32'	90°	–	180°	270°	270°	–	–	–	–	–
P3	NO	40+25	35.5' RT	–	–	5	–	23'	21.5'				32'	4	36'	4	19'/27'	31'/35'	–	9'/–	–	24'/30'	26'/32'	0°	–	270°	–	–	–	–	–	–	–
P4	NO	38+85	47' LT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	180°	0°	0°	–	–	–	–	–

TYPE TC-81.20 SIGNAL SUPPORT

LOOP	SIZE	TURNS	MODE	DELAY	PHASE	REMARK	INHIBITED DELAY	LOCATION 1st FRONT CORNER	LOCATION 2nd FRONT CORNER
L1	6X20	3	PRESENCE	8.0	ϕ6	STANDARD	ϕ6	STA. 39+92.5,49'LT	STA. 39+86.5,49'LT
L2	6X20	3	PRESENCE	–	ϕ1	STANDARD	–	STA. 40+02.5,47'LT	STA. 39+96.5,47'LT
L3	6X30	3	PRESENCE	–	ϕ3	STANDARD	–	STA. 40+62,3'RT	STA. 40+62,3'LT
L4	6X15	3	PRESENCE	8.0	ϕ2	STANDARD	ϕ2	STA. 40+07,34'RT	STA. 40+13,34'RT
L5	6X15	3	PRESENCE	–	ϕ5	STANDARD	–	STA. 39+97,32.5'RT	STA. 40+03,32.5'RT
L6	6X30	3	PRESENCE	–	ϕ7	STANDARD	–	STA. 39+42,3'LT	STA. 39+42,3'RT
S1	4X8	3	PULSE	–	–	ADD	–	STA. 37+00,10'LT	–
S2	4X8	3	PULSE	–	–	ADD	–	STA. 37+00,22'LT	–
S3	4X8	3	PULSE	–	–	ADD	–	STA. 41+29,12'RT	–
S4	4X8	3	PULSE	–	–	ADD	–	STA. 41+29,24'RT	–

LOOP DETECTOR CHART

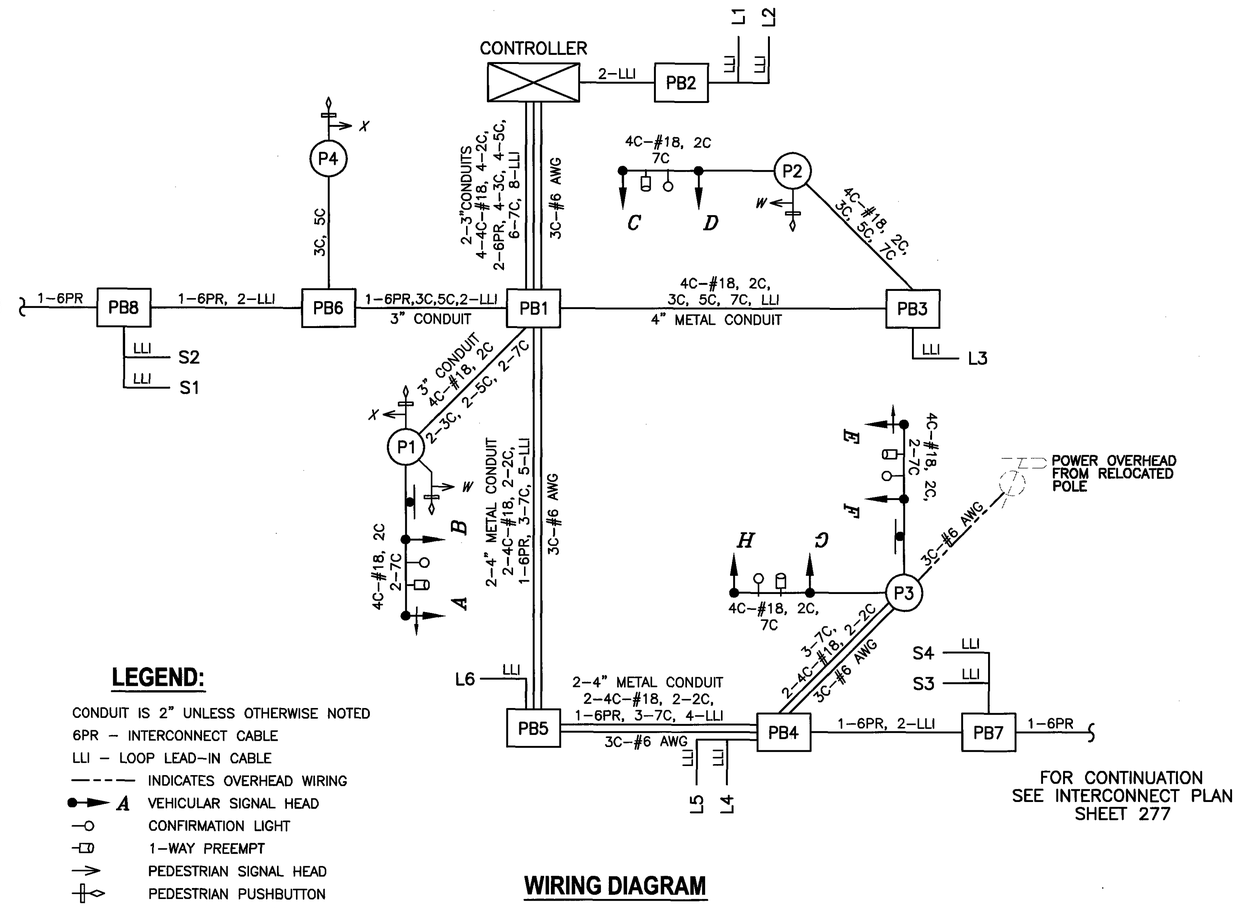


* – PUSHBUTTON HEIGHT IS RELATIVE TO ACCESS LANDING ELEVATION.

SIGNAL SUPPORT DETAIL

NOTES:
1) ALL ANGLES ARE MEASURED CLOCKWISE.
2) BASE PLATE IS ORIENTATED SQUARE TO MAST ARM "A" (LARGEST ARM).
3) INDEX LINE FOR PEDESTAL & STRAIN POLE IS CENTER OF HANDHOLE.

ORIENTATION ANGLE



LEGEND:

CONDUIT IS 2" UNLESS OTHERWISE NOTED
6PR – INTERCONNECT CABLE
LLI – LOOP LEAD-IN CABLE
– – – – INDICATES OVERHEAD WIRING
A VEHICULAR SIGNAL HEAD
CONFIRMATION LIGHT
1-WAY PREEMPT
PEDESTRIAN SIGNAL HEAD
PEDESTRIAN PUSHBUTTON

WIRING DIAGRAM

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – PLAZA DRIVE

LAK – 90/84 – 0.54/0.43

254
369

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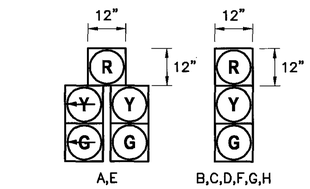
SIGNAL DIRECTION	SIGNAL HEAD	ϕ2&ϕ6				ϕ3&ϕ7				ϕ4&ϕ8				FLASH	DWELL
		R/W		CLEAR		R/W		CLEAR		R/W		CLEAR			
NORTHBOUND	E	R	R	Y	R	G	G	Y	R	R	R	R	R	R	R
	F	R	R	R	R	G	G	Y	R	R	R	R	R	R	R
EASTBOUND	G	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
	H	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
SOUTHBOUND	A	R	R	Y	R	G	G	Y	R	R	R	R	R	Y	G
	B	R	R	R	R	G	G	Y	R	R	R	R	R	Y	G
WESTBOUND	C	R	R	R	R	R	R	R	R	G	G	Y	R		
	D	R	R	R	R	R	R	R	R	G	G	Y	R		
WEST	X–X	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW	DARK	DW
	W–W	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW	DARK	DW

* ONLY UPON PEDESTRIAN PUSHBUTTON ACTUATION

SIGNAL SEQUENCE CHART

FUNCTION	ϕ2&ϕ6	ϕ3&ϕ7	ϕ4&ϕ8
INITIAL GREEN	10	7	30
MINIMUM GREEN	–	–	–
VEHICLE EXTENSION	3.0	3.0	3.0
MAXIMUM GREEN	17	10	83
PEDESTRIAN WALK	7.0	7.0	7.0
PEDESTRIAN CLEARANCE	16.0	16.0	16.0
VEHICLE YELLOW CLEARANCE	4.0	4.0	4.0
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	OFF	MIN.
MEMORY	N.L.	N.L.	N.L.

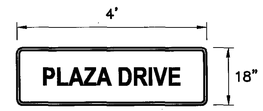
SIGNAL TIMING CHART



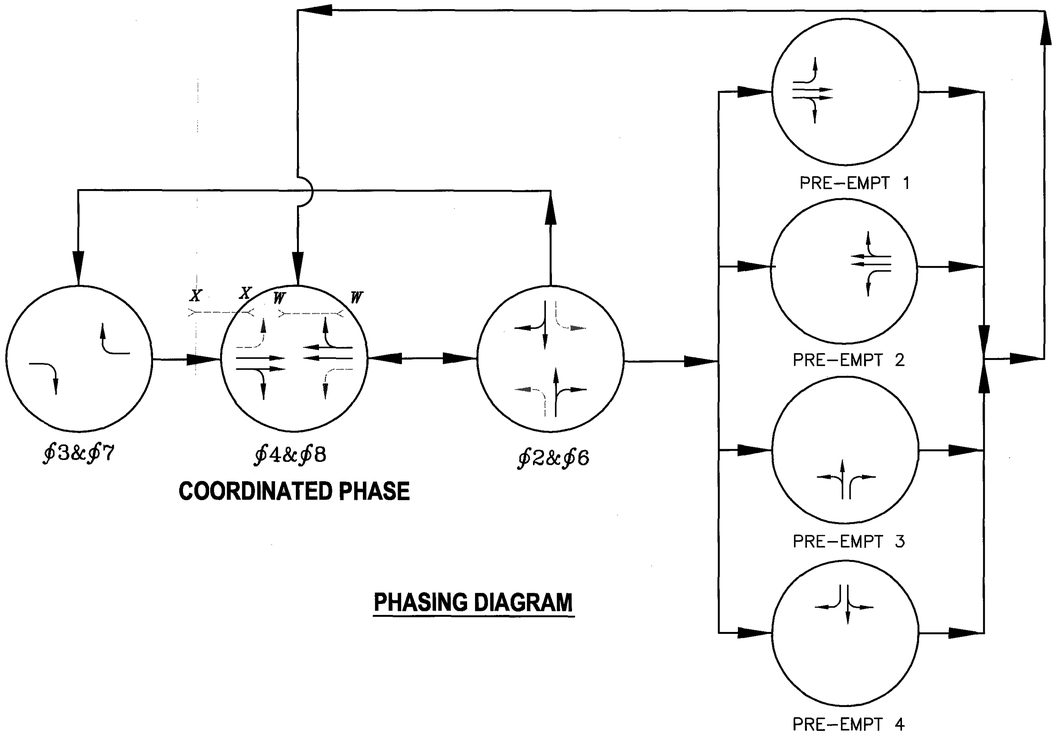
VEHICULAR POLYCARBONATE SIGNAL HEAD (LED)

PEDESTRIAN SIGNAL (LED)

PEDESTRIAN PUSHBUTTON SIGNS



STREET NAME SIGN MAST ARM MOUNTED AS PER TC-16.20



COORDINATED PHASE

PHASING DIAGRAM

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – PLAZA DRIVE

LAK – 90/84 – 0.54/0.43

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INTERSECTION - BISHOP ROAD & PLAZA DRIVE

SIGNAL SUBSUMMARY

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES PLAZA STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE
			FROM	TO	STA	OFF	STA	OFF	FT
		253	CONTR	PB2	39+61	45'LT	39+82	48.5'LT	21
		253	CONTR	PB1	39+61	45'LT	39+66	32.5'LT	14
		253	PB1	PB3	39+66	32.5'LT	40+43	36.5'LT	78
		253	PB3	P2	40+43	36.5'LT	40+40	51'LT	15
		253	PB1	P1	39+66	32.5'LT	39+69	35.5'LT	5
		253	PB1	PB6	39+66	32.5'LT	38+72	35'LT	95
		253	PB6	P4	38+72	35'LT	38+85	47'LT	19
		253	PB6	PB8	38+72	35'LT	37+00	35'LT	173
		253	PB1	PB5	39+66	32.5'LT	39+50	31.5'RT	67
		253	PB5	PB4	39+50	31.5'RT	40+25	31.5'RT	76
		253	PB4	P3	40+25	31.5'RT	40+25	35.5'RT	4
		253	PB4	PB7	40+25	31.5'RT	41+29	32'RT	104
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246									

ITEM #	625				625					632					
EXT. #	25402	25502	25600		29000	30700	30706	32000	36000	05001	05081	20721		25000	25010
	CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	CONDUIT, 4", 725.04		TRENCH	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	GROUND ROD	SPECIAL - PLASTIC CAUTION TAPE	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN		COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD
UNITS	FT	FT	FT		FT	EACH	EACH	EACH	FT	EACH	EACH	EACH		EACH	EACH
-	21				21	1		1	21						
-	14	28			14		1		14						
-			78		78	1			78						
-	15				15			1	15	2		1		2	1
-		5			5			1	5	1	1	2		2	2
-		95			95	1			95						
-	19				19			1	19			1			1
-	173				173	1			173						
-			134		67	1			67						
-			152		76	1			76						
-	8				4			1	4	3	1			4	
-	104				104	1			104						
-															
-															
-															
-															
	354	128	364		671	7	1	5	671	6	2	4		8	4

INTERSECTION - BISHOP ROAD & PLAZA DRIVE

SIGNAL SUBSUMMARY

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES PLAZA STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE
			FROM	TO	STA	OFF	STA	OFF	FT
		253	CONTR	PB2	39+61	45'LT	39+82	48.5'LT	21
		253	CONTR	PB1	39+61	45'LT	39+66	32.5'LT	14
		253	PB1	PB3	39+66	32.5'LT	40+43	36.5'LT	78
		253	PB3	P2	40+43	36.5'LT	40+40	51'LT	15
		253	PB1	P1	39+66	32.5'LT	39+69	35.5'LT	5
		253	PB1	PB6	39+66	32.5'LT	38+72	35'LT	95
		253	PB6	P4	38+72	35'LT	38+85	47'LT	19
		253	PB6	PB8	38+72	35'LT	37+00	35'LT	173
		253	PB1	PB5	39+66	32.5'LT	39+50	31.5'RT	67
		253	PB5	PB4	39+50	31.5'RT	40+25	31.5'RT	76
		253	PB4	P3	40+25	31.5'RT	40+25	35.5'RT	4
		253	PB4	PB7	40+25	31.5'RT	41+29	32'RT	104
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246									

ITEM #	632				632												
EXT. #	26000	26501	27009		40200	40300	40500	40700	43300	53202		64010	64020		65200	68300	69800	70000
	PEDESTRIAN PUSHBUTTON	DETECTOR LOOP, AS PER PLAN	LOOP DETECTOR UNIT, DELAY & EXTENSION TYPE, AS PER PLAN		SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)		SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION		LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE
UNITS	EACH	EACH	EACH		FT	FT	FT	FT	FT	FT		EACH	EACH		FT	FT	FT	EACH
-		2	2												62			
-					96	96	96	144	96	48					192	24		
-		1	1		83	83	83	83	83						83			
-	1				100	29	33	100	100			1						
-	2				84	38	46	168	84			1						
-						100	100			100					200			
-	1					33	37						1					
-		2	2							178					356			
-		1	1		144			216	144	72					360	72		
-		2	2		162			243	162	81					324	81		
-					172			259	172			1				37	100	1
-		2	2							109					218			
-																		
-																		
-																		
-																		
	4	10	10		841	379	395	1213	841	588		3	1		1795	214	100	1

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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INTERSECTION - BISHOP ROAD & PLAZA DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES PLAZA STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		253	CONTR	PB2	39+61	45'LT	39+82	48.5'LT	21
		253	CONTR	PB1	39+61	45'LT	39+66	32.5'LT	14
		253	PB1	PB3	39+66	32.5'LT	40+43	36.5'LT	78
		253	PB3	P2	40+43	36.5'LT	40+40	51'LT	15
		253	PB1	P1	39+66	32.5'LT	39+69	35.5'LT	5
		253	PB1	PB6	39+66	32.5'LT	38+72	35'LT	95
		253	PB6	P4	38+72	35'LT	38+85	47'LT	19
		253	PB6	PB8	38+72	35'LT	37+00	35'LT	173
		253	PB1	PB5	39+66	32.5'LT	39+50	31.5'RT	67
		253	PB5	PB4	39+50	31.5'RT	40+25	31.5'RT	76
		253	PB4	P3	40+25	31.5'RT	40+25	35.5'RT	4
		253	PB4	PB7	40+25	31.5'RT	41+29	32'RT	104
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246									

SIGNAL SUBSUMMARY

ITEM #	EXT. #	UNITS	632 75101 SIGNAL SUPPORT, TYPE TC-81.20 DESIGN 12 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 2, AS PER PLAN EACH	75121 SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 5 POLE, WITH MAST ARMS TC-81.20 DESIGN 4 AND DESIGN 4, AS PER PLAN EACH	75171 SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 6 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 11, AS PER PLAN EACH	80201 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 2, AS PER PLAN EACH	80401 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN EACH	80501 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 11, AS PER PLAN EACH	80601 SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN EACH	89600 PEDESTAL, 8' EACH	90101 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN EACH
		-									1
		-									
		-									
		-					1				
		-					1				
		-									
		-								1	
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		-									
		-		1							
		-									
		-									
		-									
		-									
		-									
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246			0	1	0	0	2	0	0	1	1

INTERSECTION - BISHOP ROAD & PLAZA DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES PLAZA STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		253	CONTR	PB2	39+61	45'LT	39+82	48.5'LT	21
		253	CONTR	PB1	39+61	45'LT	39+66	32.5'LT	14
		253	PB1	PB3	39+66	32.5'LT	40+43	36.5'LT	78
		253	PB3	P2	40+43	36.5'LT	40+40	51'LT	15
		253	PB1	P1	39+66	32.5'LT	39+69	35.5'LT	5
		253	PB1	PB6	39+66	32.5'LT	38+72	35'LT	95
		253	PB6	P4	38+72	35'LT	38+85	47'LT	19
		253	PB6	PB8	38+72	35'LT	37+00	35'LT	173
		253	PB1	PB5	39+66	32.5'LT	39+50	31.5'RT	67
		253	PB5	PB4	39+50	31.5'RT	40+25	31.5'RT	76
		253	PB4	P3	40+25	31.5'RT	40+25	35.5'RT	4
		253	PB4	PB7	40+25	31.5'RT	41+29	32'RT	104
TOTALS CARRIED TO GENERAL SUMMARY SHEET 247									

SIGNAL SUBSUMMARY

ITEM #	EXT. #	UNITS	633 01601 CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN EACH	67000 CABINET RISER EACH	67100 CABINET FOUNDATION EACH	67200 CONTROLLER WORK PAD EACH	99000 CONTROLLER ITEM, MISC.: PREEMPTION, OPTICOM EACH	99000 CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT EACH	99000 CONTROLLER ITEM, MISC.: PREEMPT DETECTOR EACH	99000 CONTROLLER ITEM, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM MODEL 754 EACH
		-	1	1	1	1	1	4	4	1
		-								
		-								
		-								
		-								
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		-								
		-								
		-								
		-								
		-								
		-								
		-								
		-								
		-								
TOTALS CARRIED TO GENERAL SUMMARY SHEET 247			1	1	1	1	1	4	4	1

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

257
369

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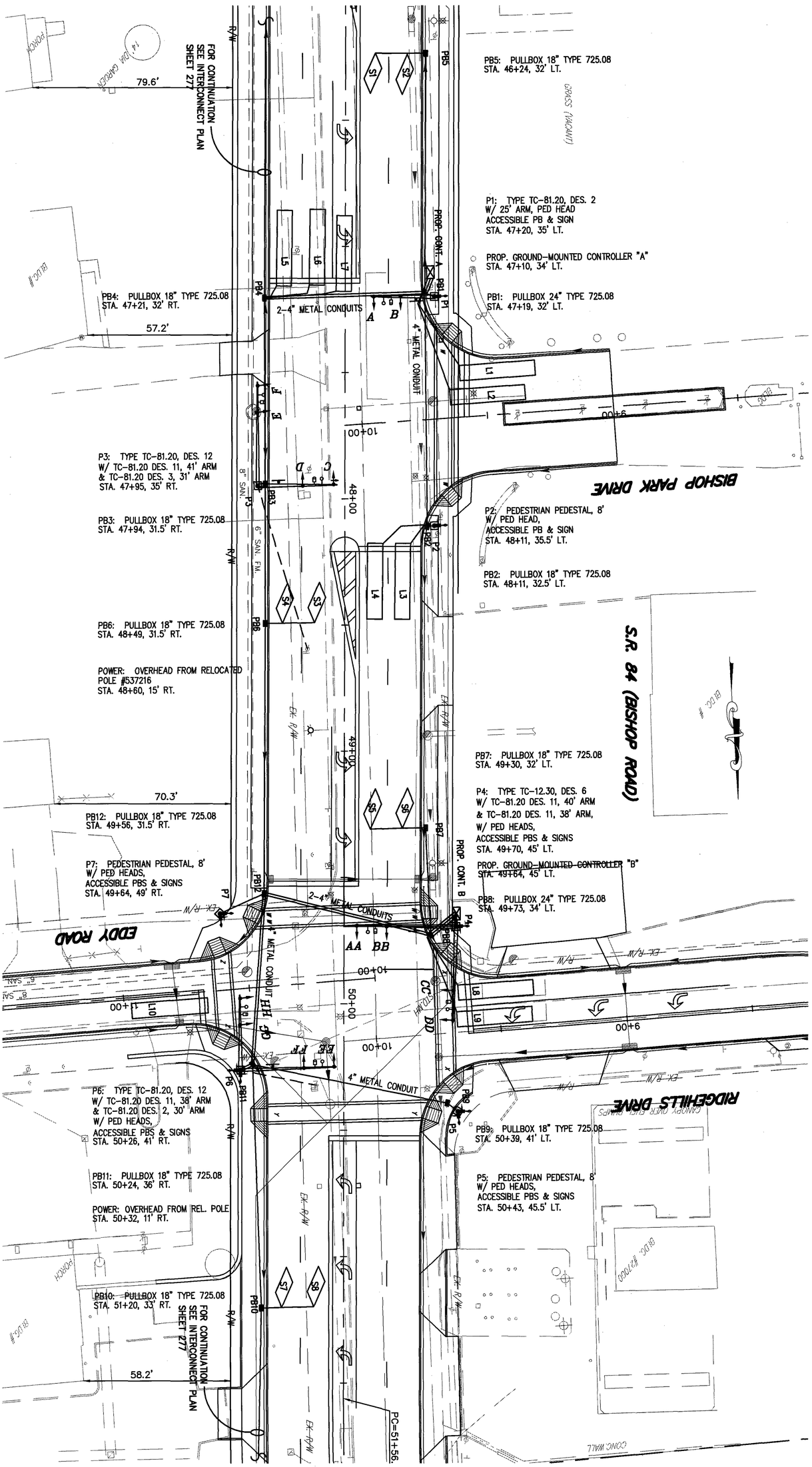
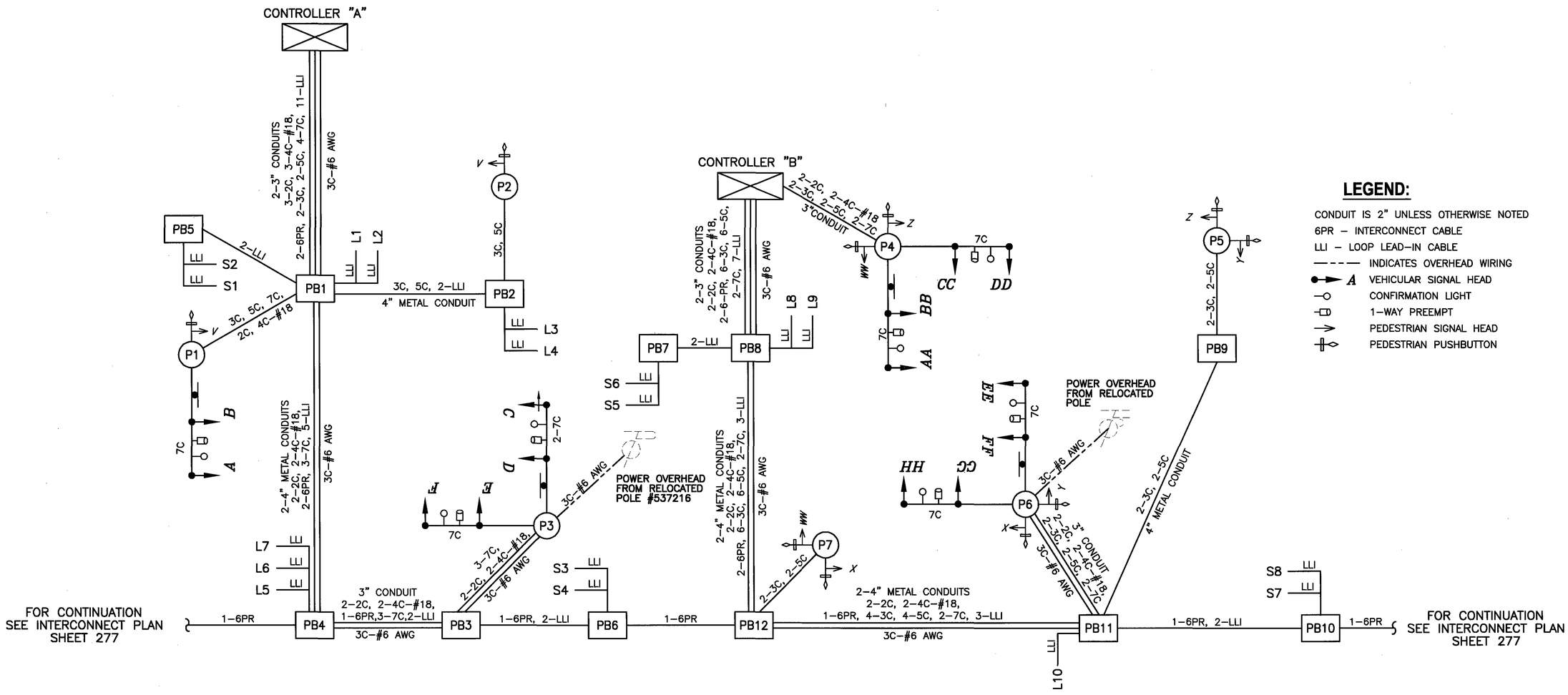


258/369	LAK – 90/84 – 0.54/0.43	TRAFFIC SIGNAL PLAN BISHOP ROAD (S.R. 84) – BISHOP PARK DRIVE & RIDGEHILLS DRIVE	CALCULATED T.J.F. CHECKED G.L.B.	20 10 0 20 SCALE IN FEET



LEGEND:

CONDUIT IS 2" UNLESS OTHERWISE NOTED
6PR – INTERCONNECT CABLE
LLI – LOOP LEAD-IN CABLE
– – – – INDICATES OVERHEAD WIRING
A VEHICULAR SIGNAL HEAD
CONFIRMATION LIGHT
1-WAY PREEMPT
PEDESTRIAN SIGNAL HEAD
PEDESTRIAN PUSHBUTTON

BISHOP PARK & RIDGEHILLS

WIRING DIAGRAM

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – BISHOP PARK DRIVE & RIDGEHILLS DRIVE

LAK – 90/84 – 0.54/0.43

259
369

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SIGNAL DIRECTION	SIGNAL HEAD	ϕ4&ϕ7 R/W		ϕ4&ϕ7 CLEAR		ϕ4&ϕ8 R/W		ϕ4&ϕ8 CLEAR		ϕ1&ϕ6 R/W		ϕ1&ϕ6 CLEAR				FLASH	DWELL
NORTHBOUND	C	R/G	R/G	Y	R	G	G	Y	R	R	R	R	R			R	R
	D	R/G	R/G	Y	R	G	G	Y	R	R	R	R	R			R	R
EASTBOUND	E	R	R	R	R	R	R	R	R	G	G	Y	R			Y	G
	F	R	R	R	R	R	R	R	R	G	G	Y	R			Y	G
SOUTHBOUND	A	R	R	R	R	G	G	Y	R	R	R	R	R			Y	G
	B	R	R	R	R	G	G	Y	R	R	R	R	R			Y	G
WEST	W–W	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW			DARK	DW

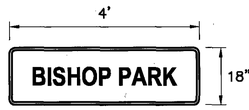
* ONLY UPON PEDESTRIAN PUSHBUTTON ACTUATION

SIGNAL SEQUENCE CHART

W–W

R10–H4d
9"x12"

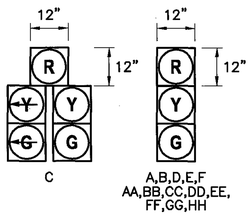
PEDESTRIAN PUSHBUTTON SIGNS



STREET NAME SIGN MAST ARM MOUNTED AS PER TC-16.20

FUNCTION	ϕ1&ϕ6	ϕ4&ϕ7	ϕ4&ϕ8
INITIAL GREEN	10	7	20
MINIMUM GREEN	–	–	–
VEHICLE EXTENSION	3.0	3.0	3.0
MAXIMUM GREEN	19	11	77
PEDESTRIAN WALK	–	–	7.0
PEDESTRIAN CLEARANCE	–	–	18.0
VEHICLE YELLOW CLEARANCE	4.0	4.0	4.0
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	OFF	MIN.
MEMORY	N.L.	N.L.	N.L.

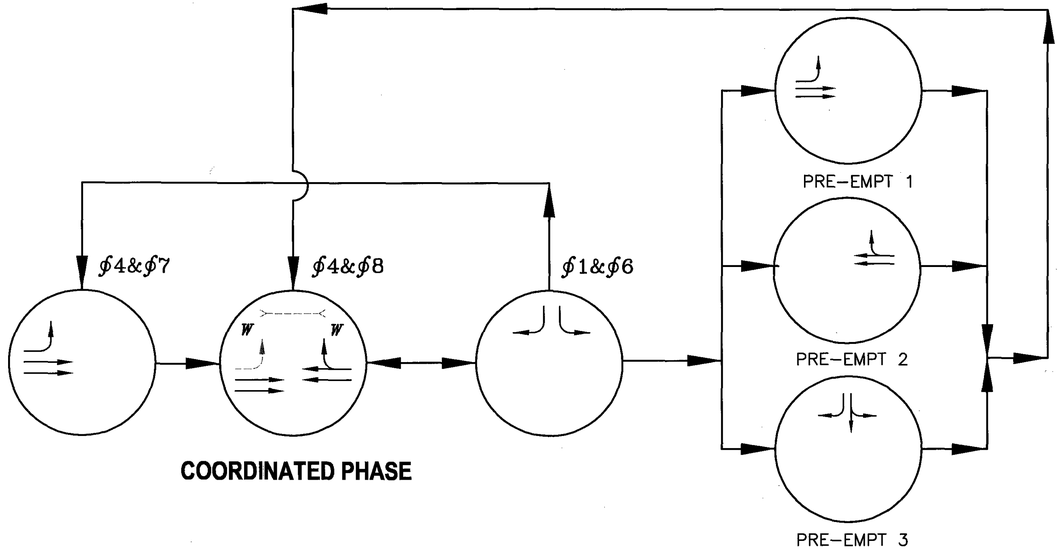
SIGNAL TIMING CHART



VEHICULAR POLYCARBONATE SIGNAL HEAD (LED)

W–W, X–X, Y–Y, Z–Z, WW–WW

PEDESTRIAN SIGNAL (LED)



COORDINATED PHASE

PHASING DIAGRAM

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – BISHOP PARK DRIVE

LAK – 90/84 – 0.54/0.43

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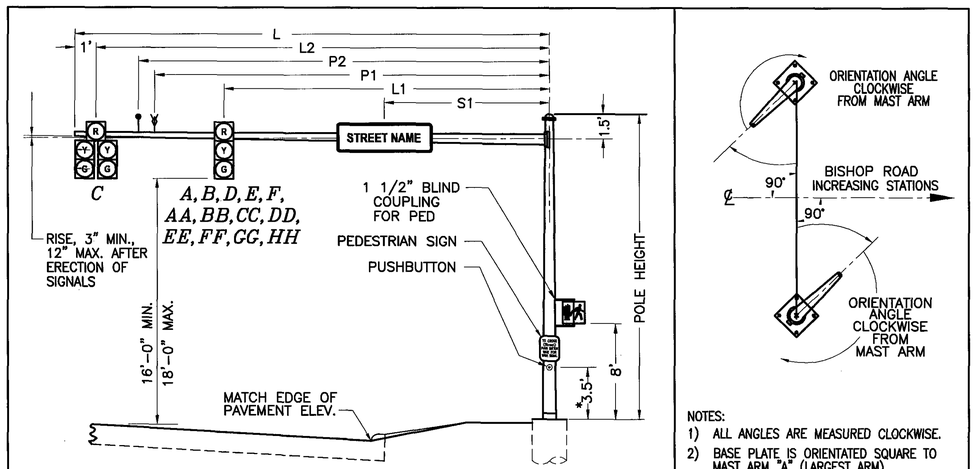
POLE NUMBER	COMBINATION POLE	LOCATION STATION	LOCATION OFFSET	SUPPORT TYPE & DESIGN NUMBER: PEDESTAL	PUSHBUTTON POLE	TC-12.30	TC-81.20	POLE HEIGHT (FEET)	ARM ATTACHMENT HEIGHT (FEET)				MAST ARM: ARM "A" LENGTH "L"	ARM "A" DESIGN	ARM "B" LENGTH "L"	ARM "B" DESIGN	SIGNALS: L1	L2	L3	SIGNS: S1	S2	PREEMPT: P1 (1-WAY PREEMPT)	P2 (CONFIRMATION LIGHT)	MAST ARM "A" ORIENTATION ANGLE (DEGREES)	ORIENTATION ANGLE FROM MAST ARM "A" (DEGREES): MAST ARM "B"	HANDHOLE (PED POLE ANGLE REFERENCE)	PEDESTRIAN SIGNALS	PEDESTRIAN PUSHBUTTON	POWER SERV., 1-1/2" BLIND HALF COUPLING 3' FROM BASE	CABLE ENTRANCE	LUMINAIRE BRACKET	2" CONDUIT ELL	2" CAPPED CONDUIT ELL (FOR FUTURE USE)
P1	NO	47+20	35' LT	–	–	–	2	23'	21.5'				25'	–	–	–	14'	24'	–	7'	–	18'	20'	0°	–	180°	180°	180°	–	–	–	–	–
P2	NO	48+11	35.5' LT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	180°	0°	0°	–	–	–	–	–
P3	NO	47+95	35' RT	–	–	–	12	23'	21.5'				41'	11	31'	3	29'/18'	40'/30'	–	–/9'	–	33'/23'	35'/25'	0°	270°	145°	–	–	–	–	–	–	–	–
P4	NO	49+70	45' LT	–	–	6	–	23'	21.5'				40'	11	38'	11	28'/25'	39'/37'	–	16'/–	–	32'/30'	34'/32'	0°	270°	145°	90°/180°	90°/180°	–	–	–	–	–
P5	NO	50+43	45.5' LT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	180°	0°/90°	0°/90°	–	–	–	–	–
P6	NO	50+26	41' RT	–	–	–	12	23'	21.5'				38'	11	30'	2	26'/18'	37'/29'	–	14'/–	–	30'/22'	32'/24'	0°	270°	145°	90°/180°	90°/180°	–	–	–	–	–
P7	NO	49+64	49' RT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	180°	180°/270°	180°/270°	–	–	–	–	–

TYPE TC-81.20 SIGNAL SUPPORT

LOOP	SIZE	TURNS	MODE	DELAY	PHASE	REMARK	INHIBITED DELAY	LOCATION 1st FRONT CORNER	LOCATION 2nd FRONT CORNER
L1	6X30	3	PRESENCE	8.0	ϕ6	STANDARD	–	STA. 47+53.5,46'LT	STA. 47+47.5,45.5'LT
L2	6X30	3	PRESENCE	–	ϕ1	STANDARD	–	STA. 47+62.5,42'LT	STA. 47+56.5,41.5'LT
L3	6X30	3	PRESENCE	–	ϕ8	STANDARD	–	STA. 48+17.5,20'LT	STA. 48+17.5,26'LT
L4	6X30	3	PRESENCE	–	ϕ8	STANDARD	–	STA. 48+17.5,8'LT	STA. 48+17.7,14'LT
L5	6X30	3	PRESENCE	–	ϕ4	STANDARD	–	STA. 47+16,20'RT	STA. 47+16,26'RT
L6	6X30	3	PRESENCE	–	ϕ4	STANDARD	–	STA. 47+16,8'RT	STA. 47+16,14'RT
L7	6X30	3	PRESENCE	–	ϕ7	STANDARD	–	STA. 47+18,3'LT	STA. 47+18,3'RT
L8	6X30	3	PRESENCE	8.0	ϕ6	STANDARD	–	STA. 49+99,45.5'LT	STA. 49+93,45'LT
L9	6X30	3	PRESENCE	–	ϕ6	STANDARD	–	STA. 50+09,45.5'LT	STA. 50+03,45'LT
L10	6X30	3	PRESENCE	8.0	ϕ2	STANDARD	–	STA. 49+97.5,54.5'RT	STA. 50+03.5,54'RT
S1	4X8	3	PULSE	–	–	ADD	–	STA. 46+24,12'LT	–
S2	4X8	3	PULSE	–	–	ADD	–	STA. 46+24,24'LT	–
S3	4X8	3	PULSE	–	–	ADD	–	STA. 48+49,12'RT	–
S4	4X8	3	PULSE	–	–	ADD	–	STA. 48+49,24'RT	–
S5	4X8	3	PULSE	–	–	ADD	–	STA. 49+30,10'LT	–
S6	4X8	3	PULSE	–	–	ADD	–	STA. 49+30,22'LT	–
S7	4X8	3	PULSE	–	–	ADD	–	STA. 51+20,24'RT	–
S8	4X8	3	PULSE	–	–	ADD	–	STA. 51+20,12'RT	–

LOOP DETECTOR CHART



* – PUSHBUTTON HEIGHT IS RELATIVE TO ACCESS LANDING ELEVATION.

SIGNAL SUPPORT DETAIL

NOTES:
1) ALL ANGLES ARE MEASURED CLOCKWISE.
2) BASE PLATE IS ORIENTATED SQUARE TO MAST ARM "A" (LARGEST ARM).
3) INDEX LINE FOR PEDESTAL & STRAIN POLE IS CENTER OF HANDHOLE.

ORIENTATION ANGLE

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – BISHOP PARK DRIVE & RIDGEHILLS DRIVE

LAK – 90/84 – 0.54/0.43

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SIGNAL DIRECTION	SIGNAL HEAD	ϕ2&ϕ6 R/W		ϕ2&ϕ6 CLEAR		ϕ4&ϕ8 R/W		ϕ4&ϕ8 CLEAR		FLASH	DWELL
NORTHBOUND	EE	G	G	Y	R	R	R	R	R	R	R
	FF	G	G	Y	R	R	R	R	R	R	R
EASTBOUND	GG	R	R	R	R	G	G	Y	R	Y	G
	HH	R	R	R	R	G	G	Y	R	Y	G
WESTBOUND	CC	R	R	R	R	G	G	Y	R	Y	G
	DD	R	R	R	R	G	G	Y	R	Y	G
SOUTHBOUND	AA	G	G	Y	R	R	R	R	R	R	R
	BB	G	G	Y	R	R	R	R	R	R	R
EAST	Z–Z	W*	FDW*	DW	DW	DW	DW	DW	DW	DARK	DW
SOUTH	WW–WW	DW	DW	DW	DW	W*	FDW*	DW	DW	DARK	DW
WEST	X–X	W*	FDW*	DW	DW	DW	DW	DW	DW	DARK	DW
NORTH	Y–Y	DW	DW	DW	DW	W*	FDW*	DW	DW	DARK	DW

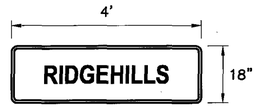
* ONLY UPON PEDESTRIAN PUSHBUTTON ACTUATION

SIGNAL SEQUENCE CHART

FUNCTION	ϕ2&ϕ6	ϕ4&ϕ8
INITIAL GREEN	10	20
MINIMUM GREEN	–	–
VEHICLE EXTENSION	3.0	3.0
MAXIMUM GREEN	23	89
PEDESTRIAN WALK	–	–
PEDESTRIAN CLEARANCE	20.0	15.0
VEHICLE YELLOW CLEARANCE	4.0	4.0
VEHICLE ALL RED CLEARANCE	1.0	1.0
RECALL	OFF	MIN.
MEMORY	N.L.	N.L.

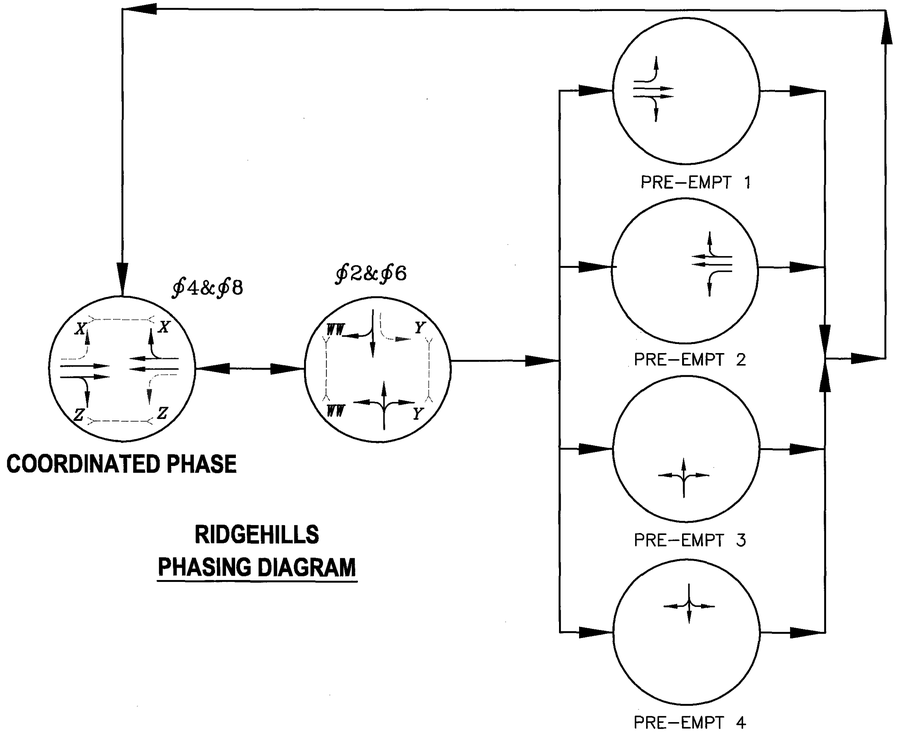
RIDGEHILLS

SIGNAL TIMING CHART



STREET NAME SIGN
MAST ARM MOUNTED
AS PER TC-16.20

PEDESTRIAN PUSHBUTTON SIGNS



RIDGEHILLS
PHASING DIAGRAM

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – RIDGEHILLS DRIVE

LAK – 90/84 – 0.54/0.43

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369

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INTERSECTION - BISHOP ROAD & BISHOP PARK DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES BISHOP PARK STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	PB1	47+10	34'LT	47+19	32'LT	8
		258	PB1	P1	47+19	32'LT	47+20	35'LT	4
		258	PB1	PB5	47+19	32'LT	46+24	32'LT	95
		258	PB1	PB2	47+19	32'LT	48+11	32.5'LT	93
		258	PB2	P2	48+11	32.5'LT	48+11	35.5'LT	4
		258	PB1	PB4	47+19	32'LT	47+21	32'RT	64
		258	PB4	PB3	47+21	32'RT	47+94	31.5'RT	74
		258	PB3	P3	47+94	31.5'RT	47+95	35'RT	4
		258	PB3	PB6	47+94	31.5'RT	48+49	31.5'RT	56
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246									

SIGNAL SUBSUMMARY

ITEM #	625				625	625	625	625		625	632	632	632		632	632
EXT. #	25402	25502	25600		29000	30700	30706	32000		36000	05001	05081	20721		25000	25010
	CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	CONDUIT, 4", 725.04		TRENCH	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	GROUND ROD		SPECIAL - PLASTIC CAUTION TAPE	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN		COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD
UNITS	FT	FT	FT		FT	EACH	EACH	EACH		FT	EACH	EACH	EACH		EACH	EACH
-	8	16			8		1	1		8						
-	4				4			1		4	2		1		2	1
-	95				95	1				95						
-			93		93	1				93						
-	4				4			1		4			1			1
-			128		64	1				64						
-		148			74	1				74						
-	8				4			1		4	3	1			4	
-	56				56	1				56						
-																
-																
-																
-																
-																
-																
-																
-																
	175	164	221		402	5	1	4		402	5	1	2		6	2

INTERSECTION - BISHOP ROAD & BISHOP PARK DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES BISHOP PARK STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	PB1	47+10	34'LT	47+19	32'LT	8
		258	PB1	P1	47+19	32'LT	47+20	35'LT	4
		258	PB1	PB5	47+19	32'LT	46+24	32'LT	95
		258	PB1	PB2	47+19	32'LT	48+11	32.5'LT	93
		258	PB2	P2	48+11	32.5'LT	48+11	35.5'LT	4
		258	PB1	PB4	47+19	32'LT	47+21	32'RT	64
		258	PB4	PB3	47+21	32'RT	47+94	31.5'RT	74
		258	PB3	P3	47+94	31.5'RT	47+95	35'RT	4
		258	PB3	PB6	47+94	31.5'RT	48+49	31.5'RT	56
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246									

SIGNAL SUBSUMMARY

ITEM #	632				632	632	632	632	632	632		632	632		632	632	632	632
EXT. #	26000	26501	27009		40200	40300	40500	40700	43300	53202		64010	64020		65200	68300	69800	70000
	PEDESTRIAN PUSHBUTTON	DETECTOR LOOP, AS PER PLAN	LOOP DETECTOR UNIT, DELAY & EXTENSION TYPE, AS PER PLAN		SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)		SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION		LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE
UNITS	EACH	EACH	EACH		FT	FT	FT	FT	FT	FT		EACH	EACH		FT	FT	FT	EACH
-		2	2		54	36	36	72	54	36					198	18		
-	1				78	18	22	78	78			1						
-		2	2												200			
-		2	2			98	98								196			
-	1					18	22						1					
-		3	3		138			207	138	138					345	69		
-					158			237	158	79					158	79		
-					174			262	174			1				37	100	1
-		2	2							61					122			
	2	11	11		602	170	178	856	602	314		2	1		1219	203	100	1

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

263
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INTERSECTION - BISHOP ROAD & BISHOP PARK DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	PB1	47+10	34'LT	47+19	32'LT	8
		258	PB1	P1	47+19	32'LT	47+20	35'LT	4
		258	PB1	PB5	47+19	32'LT	46+24	32'LT	95
		258	PB1	PB2	47+19	32'LT	48+11	32.5'LT	93
		258	PB2	P2	48+11	32.5'LT	48+11	35.5'LT	4
		258	PB1	PB4	47+19	32'LT	47+21	32'RT	64
		258	PB4	PB3	47+21	32'RT	47+94	31.5'RT	74
		258	PB3	P3	47+94	31.5'RT	47+95	35'RT	4
		258	PB3	PB6	47+94	31.5'RT	48+49	31.5'RT	56

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES BISHOP PARK STATION REFERENCE

TOTALS CARRIED TO GENERAL SUMMARY SHEET 246

SIGNAL SUBSUMMARY

ITEM #	632															
EXT. #	75101	75121	75171		80201	80401	80501	80601		89600		90101				
	SIGNAL SUPPORT, TYPE TC-81.20 DESIGN 12 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 5 POLE, WITH MAST ARMS TC-81.20 DESIGN 4 AND DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 6 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 11, AS PER PLAN		SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 11, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN		PEDESTAL, 8'		REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN				
UNITS	EACH	EACH	EACH		EACH	EACH	EACH	EACH		EACH		EACH				
-												1				
-					1											
-																
-																
-										1						
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-								1								
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-																
	0	0	0		1	0	0	1		1		1				

INTERSECTION - BISHOP ROAD & BISHOP PARK DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	PB1	47+10	34'LT	47+19	32'LT	8
		258	PB1	P1	47+19	32'LT	47+20	35'LT	4
		258	PB1	PB5	47+19	32'LT	46+24	32'LT	95
		258	PB1	PB2	47+19	32'LT	48+11	32.5'LT	93
		258	PB2	P2	48+11	32.5'LT	48+11	35.5'LT	4
		258	PB1	PB4	47+19	32'LT	47+21	32'RT	64
		258	PB4	PB3	47+21	32'RT	47+94	31.5'RT	74
		258	PB3	P3	47+94	31.5'RT	47+95	35'RT	4
		258	PB3	PB6	47+94	31.5'RT	48+49	31.5'RT	56

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES BISHOP PARK STATION REFERENCE

TOTALS CARRIED TO GENERAL SUMMARY SHEET 247

SIGNAL SUBSUMMARY

ITEM #	633															
EXT. #	01601		67000	67100	67200		99000	99000	99000	99000						
	CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN		CABINET RISER	CABINET FOUNDATION	CONTROLLER WORK PAD		CONTROLLER ITEM, MISC.: PREEMPTION, OPTICOM	CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT	CONTROLLER ITEM, MISC.: PREEMPT DETECTOR	CONTROLLER ITEM, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM MODEL 754							
UNITS	EACH		EACH	EACH	EACH		EACH	EACH	EACH	EACH						
-	1		1	1	1		1	3	3	1						
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-																
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-																
	1		1	1	1		1	3	3	1						

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK - 90/84 - 0.54/0.43

264
369

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INTERSECTION - BISHOP ROAD & RIDGEHILLS DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RIDGEHILLS STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	P4	49+64	45'LT	49+70	45'LT	6
		258	CONTR	PB8	49+64	45'LT	49+73	34'LT	14
		258	PB8	PB7	49+73	34'LT	49+30	32'LT	43
		258	PB8	PB12	49+73	34'LT	49+56	31.5'RT	68
		258	PB12	P7	49+56	31.5'RT	49+64	49'RT	20
		258	PB12	PB11	49+56	31.5'RT	50+24	36'RT	68
		258	PB11	P6	50+24	36'RT	50+26	41'RT	6
		258	PB11	PB9	50+24	36'RT	50+39	41'LT	79
		258	PB9	P5	50+39	41'LT	50+43	45.5'LT	6
		258	PB11	PB10	50+24	36'RT	51+20	33'RT	97
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246									

SIGNAL SUBSUMMARY

ITEM #	625				625	625	625	625		625	632	632	632		632	632
EXT. #	25402	25502	25600		29000	30700	30706	32000		36000	05001	05081	20721		25000	25010
	CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	CONDUIT, 4", 725.04		TRENCH	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	GROUND ROD		SPECIAL - PLASTIC CAUTION TAPE	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN		COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD
UNITS	FT	FT	FT		FT	EACH	EACH	EACH		FT	EACH	EACH	EACH		EACH	EACH
-		6			6			1		6	4		2		4	2
-	14	28			14		1	1		14						
-	43				43	1				43						
-			136		68	1				68						
-	20				20			1		20			2			2
-			136		68	1				68						
-		12			6			1		6	4		2		4	2
-			79		79	1				79						
-	6				6			1		6			2			2
-	97				97	1				97						
-																
-																
-																
-																
-																
-																
	180	46	351		407	5	1	5		407	8	0	8		8	8

INTERSECTION - BISHOP ROAD & RIDGEHILLS DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RIDGEHILLS STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	P4	49+64	45'LT	49+70	45'LT	6
		258	CONTR	PB8	49+64	45'LT	49+73	34'LT	14
		258	PB8	PB7	49+73	34'LT	49+30	32'LT	43
		258	PB8	PB12	49+73	34'LT	49+56	31.5'RT	68
		258	PB12	P7	49+56	31.5'RT	49+64	49'RT	20
		258	PB12	PB11	49+56	31.5'RT	50+24	36'RT	68
		258	PB11	P6	50+24	36'RT	50+26	41'RT	6
		258	PB11	PB9	50+24	36'RT	50+39	41'LT	79
		258	PB9	P5	50+39	41'LT	50+43	45.5'LT	6
		258	PB11	PB10	50+24	36'RT	51+20	33'RT	97
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246									

SIGNAL SUBSUMMARY

ITEM #	632				632	632	632	632	632	632		632	632		632	632	632	632
EXT. #	26000	26501	27009		40200	40300	40500	40700	43300	53202		64010	64020		65200	68300	69800	70000
	PEDESTRIAN PUSHBUTTON	DETECTOR LOOP, AS PER PLAN	LOOP DETECTOR UNIT, DELAY & EXTENSION TYPE, AS PER PLAN		SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)		SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION		LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE
UNITS	EACH	EACH	EACH		FT	FT	FT	FT	FT	FT		EACH	EACH		FT	FT	FT	EACH
-	2				198	50	58	198	198			1						
-		2	2		48	144	144	48	48	48					168	24		
-		2	2												96			
-					146	438	438	146	146	146					219	73		
-	2					68	76						1					
-		1	1		146	292	292	146	146	73					219	73		
-	2				178	40	48	178	178			1				39	100	1
-						168	168											
-	2					40	48						1					
-		2	2							102					204			
-																		
-																		
-																		
-																		
-																		
-																		
	8	7	7		716	1240	1272	716	716	369		2	2		906	209	100	1

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

LAK - 90/84 - 0.54/0.43

265
369

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INTERSECTION - BISHOP ROAD & RIDGEHILLS DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	P4	49+64	45'LT	49+70	45'LT	6
		258	CONTR	PB8	49+64	45'LT	49+73	34'LT	14
		258	PB8	PB7	49+73	34'LT	49+30	32'LT	43
		258	PB8	PB12	49+73	34'LT	49+56	31.5'RT	68
		258	PB12	P7	49+56	31.5'RT	49+64	49'RT	20
		258	PB12	PB11	49+56	31.5'RT	50+24	36'RT	68
		258	PB11	P6	50+24	36'RT	50+26	41'RT	6
		258	PB11	PB9	50+24	36'RT	50+39	41'LT	79
		258	PB9	P5	50+39	41'LT	50+43	45.5'LT	6
		258	PB11	PB10	50+24	36'RT	51+20	33'RT	97

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RIDGEHILLS STATION REFERENCE

TOTALS CARRIED TO GENERAL SUMMARY SHEET 246

SIGNAL SUBSUMMARY

ITEM # 632

EXT. #	75101	75121	75171		80201	80401	80501	80601		89600		90101			
	SIGNAL SUPPORT, TYPE TC-81.20 DESIGN 12 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 5 POLE, WITH MAST ARMS TC-81.20 DESIGN 4 AND DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 6 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 11, AS PER PLAN		SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 11, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN		PEDESTAL, 8'		REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN			
UNITS	EACH	EACH	EACH		EACH	EACH	EACH	EACH		EACH		EACH			
-			1									1			
-															
-															
-															
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-															
	1	0	1		0	0	0	0		2		1			

INTERSECTION - BISHOP ROAD & RIDGEHILLS DRIVE

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		258	CONTR	P4	49+64	45'LT	49+70	45'LT	6
		258	CONTR	PB8	49+64	45'LT	49+73	34'LT	14
		258	PB8	PB7	49+73	34'LT	49+30	32'LT	43
		258	PB8	PB12	49+73	34'LT	49+56	31.5'RT	68
		258	PB12	P7	49+56	31.5'RT	49+64	49'RT	20
		258	PB12	PB11	49+56	31.5'RT	50+24	36'RT	68
		258	PB11	P6	50+24	36'RT	50+26	41'RT	6
		258	PB11	PB9	50+24	36'RT	50+39	41'LT	79
		258	PB9	P5	50+39	41'LT	50+43	45.5'LT	6
		258	PB11	PB10	50+24	36'RT	51+20	33'RT	97

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RIDGEHILLS STATION REFERENCE

TOTALS CARRIED TO GENERAL SUMMARY SHEET 247

SIGNAL SUBSUMMARY

ITEM # 633

EXT. #	01601		67000	67100	67200		99000	99000	99000	99000							
	CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN		CABINET RISER	CABINET FOUNDATION	CONTROLLER WORK PAD		CONTROLLER ITEM, MISC.: PREEMPTION, OPTICOM	CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT	CONTROLLER ITEM, MISC.: PREEMPT DETECTOR	CONTROLLER ITEM, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM MODEL 754							
UNITS	EACH		EACH	EACH	EACH		EACH	EACH	EACH	EACH							
-	1		1	1	1		1	4	4	1							
-																	
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-																	
-																	
-																	
-																	
	1		1	1	1		1	4	4	1							

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

LAK – 90/84 – 0.54/0.43

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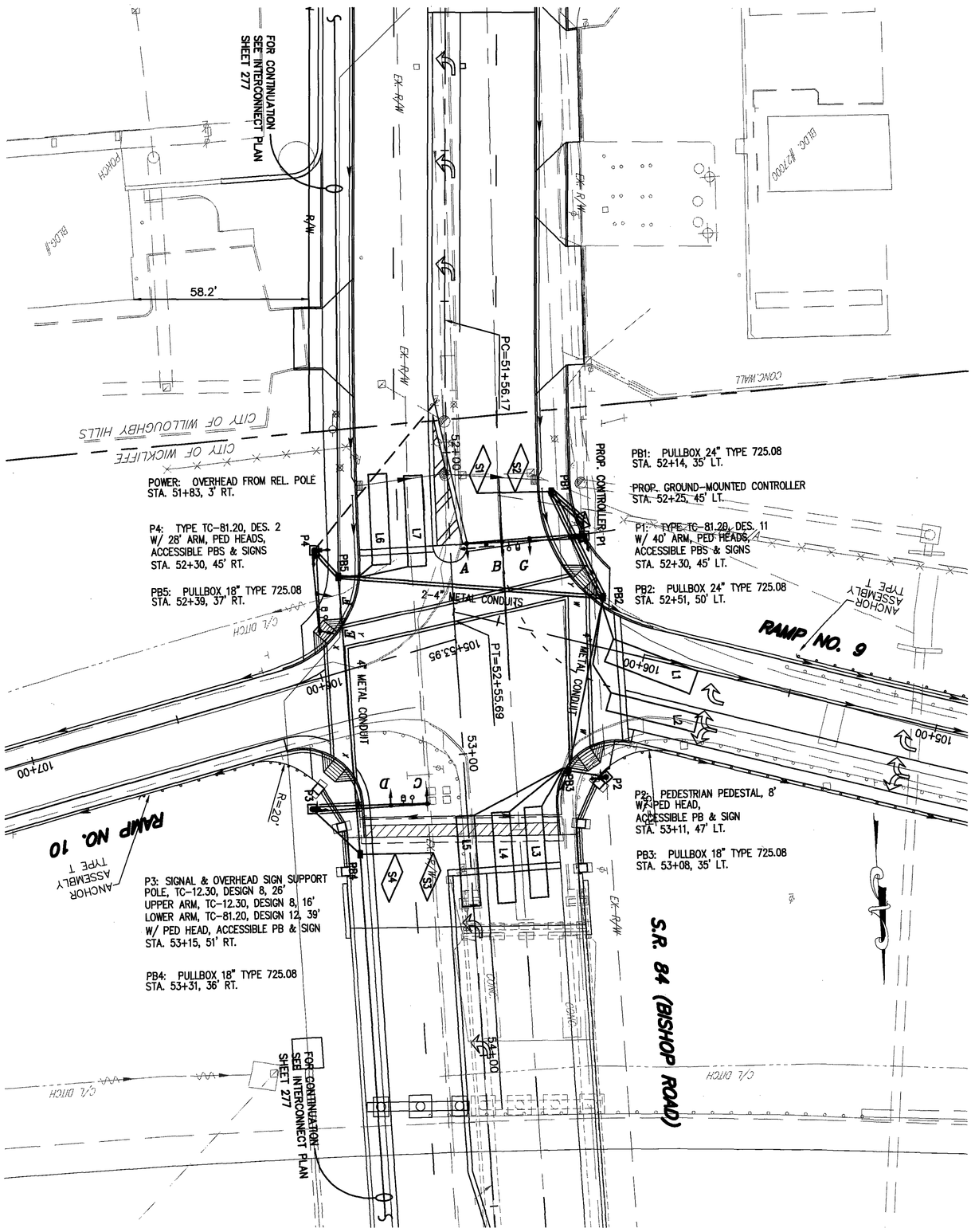


267 / 369	LAK – 90/84 – 0.54/0.43	TRAFFIC SIGNAL PLAN BISHOP ROAD (S.R. 84) – RAMPS NO. 9 & 10	CALCULATED T.J.F. CHECKED G.L.B.	20 10 0 20 SCALE IN FEET

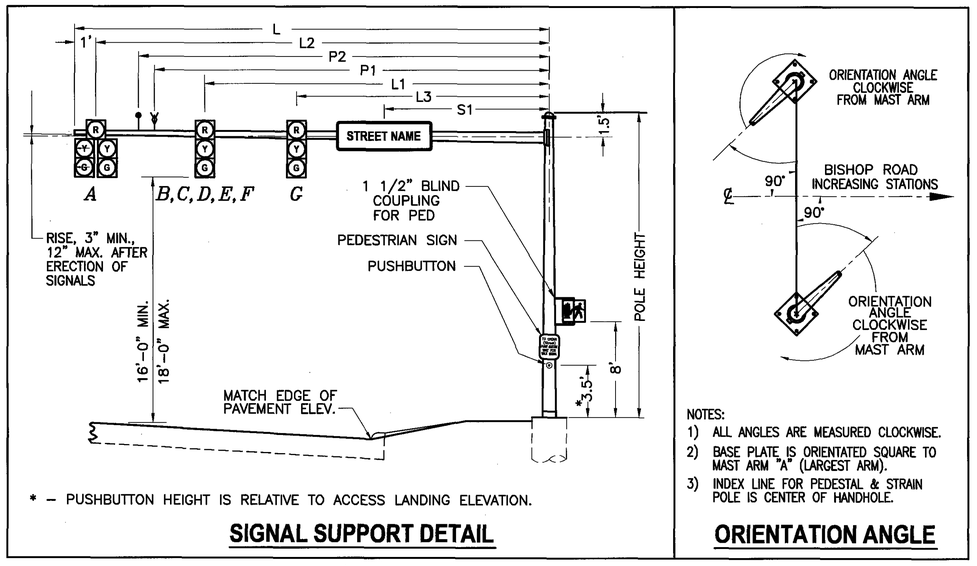
POLE NUMBER	COMBINATION POLE	LOCATION STATION	LOCATION OFFSET	SUPPORT TYPE & DESIGN NUMBER: PEDESTAL	PUSHBUTTON POLE	TC-12.30	TC-81.20	POLE HEIGHT (FEET)	ARM ATTACHMENT HEIGHT (FEET)				MAST ARM: ARM "A" LENGTH "L"	ARM "A" DESIGN	ARM "B" LENGTH "L"	ARM "B" DESIGN	SIGNALS: L1	L2	L3	SIGNS: S1	S2	PREEMPT: P1 (1-WAY PREEMPT)	P2 (CONFIRMATION LIGHT)	MAST ARM "A" ORIENTATION ANGLE (DEGREES)	ORIENTATION ANGLE FROM MAST ARM "A" (DEGREES): MAST ARM "B"	HANDHOLE (PED POLE ANGLE REFERENCE)	PEDESTRIAN SIGNALS	PEDESTRIAN PUSHBUTTON	POWER SERV., 1-1/2" BLIND HALF COUPLING 3' FROM BASE	CABLE ENTRANCE	LUMINAIRE BRACKET	2" CONDUIT ELL	2" CAPPED CONDUIT ELL (FOR FUTURE USE)
P1	NO	52+30	45' LT	–	–	–	11	23'	21.5'				40'	–	–	–	28'	39'	19'	33'	–	23'	25'	0°	–	180°	0°/270°	0°/270°	–	–	–	–	–
P2	NO	53+11	47' LT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	180°	180°	180°	–	–	–	–	–
P3	NO	53+15	51' RT	–	–	8*	–	26'	19'				39'	–	–	–	26'	38'	–	–	–	31'	33'	0°	–	180°	180°	0°	–	–	–	–	–
P4	NO	52+30	45' RT	–	–	–	2	23'	21.5'				28'	–	–	–	15'	27'	–	–	–	20'	22'	90°	–	180°	0°/270°	0°/270°	–	–	–	–	–

* SIGNAL & OVERHEAD SIGN SUPPORT, SIGN NO. 121, SEE ELEVATION VIEW SHEET 319 FOR DETAILS

TYPE TC-81.20 SIGNAL SUPPORT

LOOP	SIZE	MODE	DELAY	PHASE	REMARK	LOCATION 1st FRONT CORNER	LOCATION 2nd FRONT CORNER
L1	8X30	PRESENCE	8.0	ϕ6	STANDARD	STA. 52+73,49'LT	STA. 52+65.5,52'LT
L2	6X30	PRESENCE	–	ϕ1	STANDARD	STA. 52+89,48.5'LT	STA. 52+83.5,50.5'LT
L3	6X30	PRESENCE	–	ϕ8	STANDARD	STA. 53+19,20'LT	STA. 53+19,26'LT
L4	6X30	PRESENCE	–	ϕ8	STANDARD	STA. 53+20,8'LT	STA. 53+20,14'LT
L5	6X30	PRESENCE	8.0	ϕ3	STANDARD	STA. 53+21,4'RT	STA. 53+21,2'LT
L6	6X30	PRESENCE	8.0	ϕ4	STANDARD	STA. 52+36,20'RT	STA. 52+36,26'RT
L7	6X30	PRESENCE	–	ϕ4	STANDARD	STA. 52+37,8'RT	STA. 52+37,14'RT
S1	4X8	PULSE	–	–	ADD	STA. 52+14,10'LT	–
S2	4X8	PULSE	–	–	ADD	STA. 52+14,22'LT	–
S3	4X8	PULSE	–	–	ADD	STA. 53+31,12'RT	–
S4	4X8	PULSE	–	–	ADD	STA. 53+31,24'RT	–

LOOP DETECTOR CHART

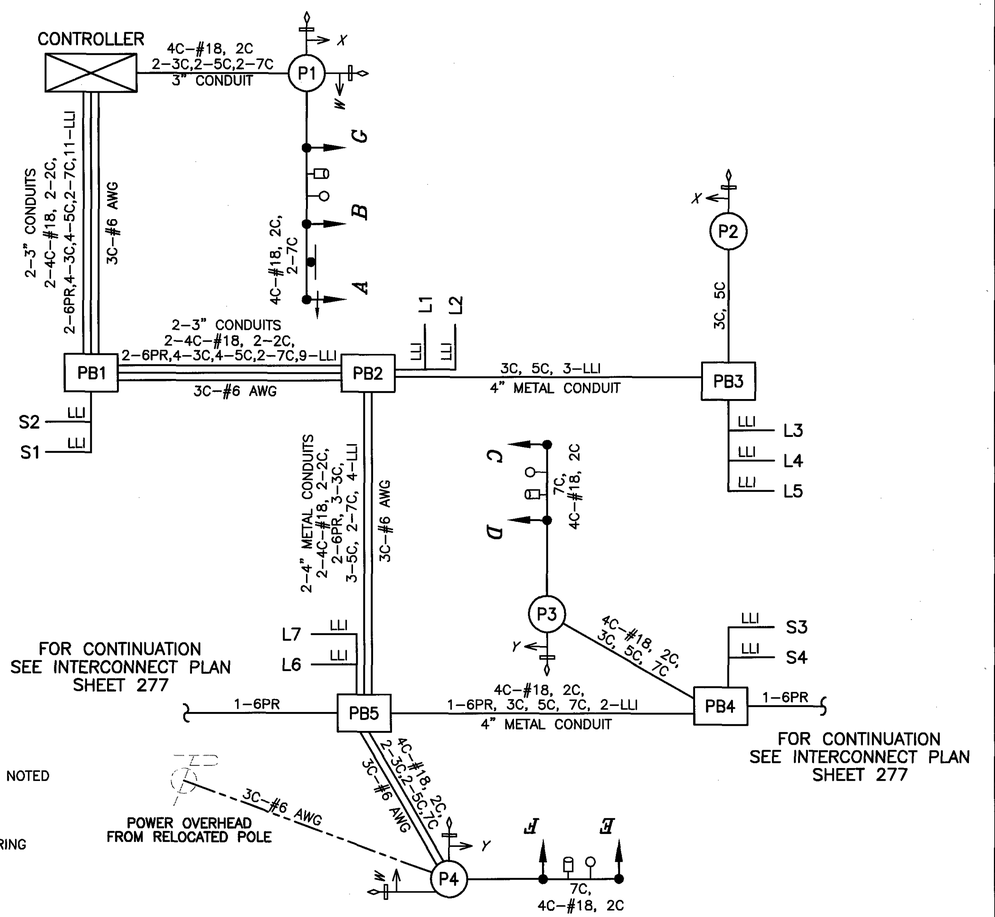


* – PUSHBUTTON HEIGHT IS RELATIVE TO ACCESS LANDING ELEVATION.

SIGNAL SUPPORT DETAIL

NOTES:
1) ALL ANGLES ARE MEASURED CLOCKWISE.
2) BASE PLATE IS ORIENTATED SQUARE TO MAST ARM "A" (LARGEST ARM).
3) INDEX LINE FOR PEDESTAL & STRAIN POLE IS CENTER OF HANDHOLE.

ORIENTATION ANGLE



WIRING DIAGRAM

LEGEND:

CONDUIT IS 2" UNLESS OTHERWISE NOTED
6PR – INTERCONNECT CABLE
LLI – LOOP LEAD–IN CABLE
INDICATES OVERHEAD WIRING
A VEHICULAR SIGNAL HEAD
CONFIRMATION LIGHT
1–WAY PREEMPT
PEDESTRIAN SIGNAL HEAD
PEDESTRIAN PUSHBUTTON

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – RAMPS NO. 9 & 10

LAK – 90/84 – 0.54/0.43

268
369

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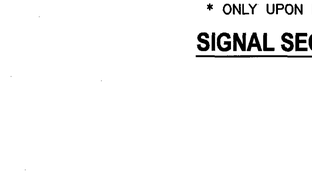
SIGNAL DIRECTION	SIGNAL HEAD	ϕ1&ϕ6				ϕ3&ϕ8				ϕ4&ϕ8				FLASH	DWELL
		R/W		CLEAR		R/W		CLEAR		R/W		CLEAR			
NORTHBOUND	C	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
	D	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
EASTBOUND	E	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
	F	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
SOUTHBOUND	A	R	R	R	R	R/G	R/G	Y	R	G	G	Y	R	Y	G
	B	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
	G	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
EAST	X–X	DW	DW	DW	DW	DW	DW	DW	DW	W*	FDW*	DW	DW	DARK	DW
SOUTH	Y–Y	W*	FDW*	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK	DW
WEST	W–W	DW	DW	DW	DW	DW	DW	DW	DW	W*	FDW*	DW	DW	DARK	DW

* ONLY UPON PEDESTRIAN PUSHBUTTON ACTUATION

SIGNAL SEQUENCE CHART

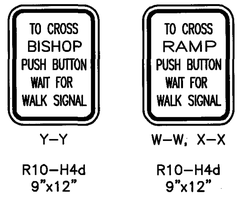
FUNCTION	ϕ1&ϕ6	ϕ3&ϕ8	ϕ4&ϕ8
INITIAL GREEN	7	10	20
MINIMUM GREEN	–	–	–
VEHICLE EXTENSION	3.0	3.0	3.0
MAXIMUM GREEN	15	26	59
PEDESTRIAN WALK	7.0	–	7.0
PEDESTRIAN CLEARANCE	26.0	–	15
VEHICLE YELLOW CLEARANCE	4.0	4.0	4.0
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	OFF	MIN.
MEMORY	N.L.	N.L.	N.L.

SIGNAL TIMING CHART

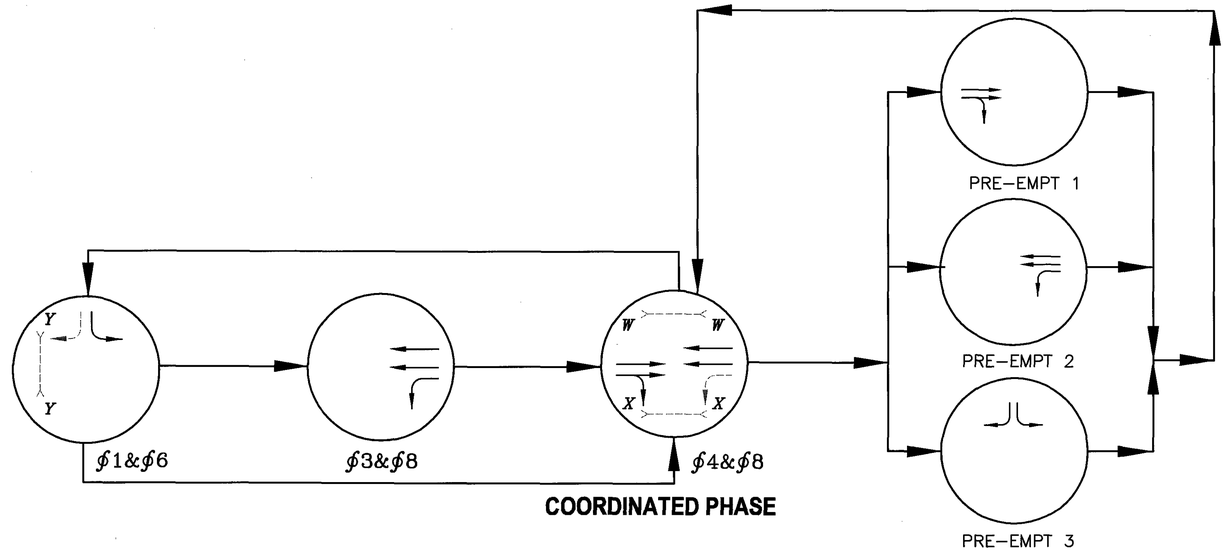


VEHICULAR POLYCARBONATE SIGNAL HEAD (LED)

PEDESTRIAN SIGNAL (LED)



PEDESTRIAN PUSHBUTTON SIGNS



PHASING DIAGRAM

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – RAMPS NO. 9 & 10

LAK – 90/84 – 0.54/0.43

269
369

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INTERSECTION - BISHOP ROAD & RAMPS NO. 9 & 10

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
					ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE				
		267	CONTR	P1	52+25	45'LT	52+30	45'LT	6
		267	CONTR	PB1	52+25	45'LT	52+14	35'LT	15
		267	PB1	PB2	52+14	35'LT	52+51	50'LT	39
		267	PB2	PB3	52+51	50'LT	53+08	35'LT	59
		267	PB3	P2	53+08	35'LT	53+11	47'LT	13
		267	PB2	PB5	52+51	50'LT	52+39	37'RT	89
		267	PB5	P4	52+39	37'RT	52+30	45'RT	12
		267	PB5	PB4	52+39	37'RT	53+31	36'RT	93
		267	PB4	P3	53+31	36'RT	53+15	51'RT	22
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246									

SIGNAL SUBSUMMARY

ITEM #	625				625					632					
EXT. #	25402	25502	25600		29000	30700	30706	32000	36000	05001	05081	20721		25000	25010
	CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	CONDUIT, 4", 725.04		TRENCH	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	GROUND ROD	SPECIAL - PLASTIC CAUTION TAPE	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN		COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD
UNITS	FT	FT	FT		FT	EACH	EACH	EACH	FT	EACH	EACH	EACH		EACH	EACH
-		6			6			1	6	2	1	2		3	2
-	15	30			15		1	1	15						
-	39	78			39		1		39						
-			59		59	1			59						
-	13				13			1	13			1			1
-			178		89	1			89						
-	24				12			1	12	2		2		2	2
-			93		93	1			93						
-	22				22			1	22	2		1		2	1
-															
-															
-															
-															
-															
-															
-															
TOTALS	**113**	**114**	**330**		**348**	**3**	**2**	**5**	**348**	**6**	**1**	**6**		**7**	**6**

INTERSECTION - BISHOP ROAD & RAMPS NO. 9 & 10

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
					ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE				
		267	CONTR	P1	52+25	45'LT	52+30	45'LT	6
		267	CONTR	PB1	52+25	45'LT	52+14	35'LT	15
		267	PB1	PB2	52+14	35'LT	52+51	50'LT	39
		267	PB2	PB3	52+51	50'LT	53+08	35'LT	59
		267	PB3	P2	53+08	35'LT	53+11	47'LT	13
		267	PB2	PB5	52+51	50'LT	52+39	37'RT	89
		267	PB5	P4	52+39	37'RT	52+30	45'RT	12
		267	PB5	PB4	52+39	37'RT	53+31	36'RT	93
		267	PB4	P3	53+31	36'RT	53+15	51'RT	22
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246									

SIGNAL SUBSUMMARY

ITEM #	632				632											
EXT. #	26000	26501	27009		40200	40300	40500	40700	43300	53202		64010	64020		65200	68300	69800	70000
	PEDESTRIAN PUSHBUTTON	DETECTOR LOOP, AS PER PLAN	LOOP DETECTOR UNIT, DELAY & EXTENSION TYPE, AS PER PLAN		SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)		SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION		LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE
UNITS	EACH	EACH	EACH		FT	FT	FT	FT	FT	FT		EACH	EACH		FT	FT	FT	EACH
-	2				100	50	58	220	100			1						
-		2	2		50	100	100	50	50	50					275	25		
-		2	2		88	176	176	88	88	88					396	44		
-		3	3			64	64								192			
-	1					27	31						1					
-		2	2		188	282	282	188	188	188					376	94		
-	2				89	52	60	89	89			1				45	100	1
-		2	2		98	98	98	98	98	98					196			
-	1				110	36	40	110	110									
-																		
-																		
-																		
-																		
-																		
-																		
-																		
TOTALS	**6**	**11**	**11**		**723**	**885**	**909**	**843**	**723**	**424**		**2**	**1**		**1435**	**208**	**100**	**1**

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

270
369

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INTERSECTION - BISHOP ROAD & RAMPS NO. 9 & 10

SIGNAL SUBSUMMARY

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES		ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE FROM		TO		DISTANCE	ITEM #	632														
										EXT. #	75101	75121	75171		80201	80401	80501	80601		89600		90101			
											SIGNAL SUPPORT, TYPE TC-81.20 DESIGN 12 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 5 POLE, WITH MAST ARMS TC-81.20 DESIGN 4 AND DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 6 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 11, AS PER PLAN		SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 11, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN		PEDESTAL, 8'		REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN			
			FROM	TO	STA	OFF	STA	OFF	FT	UNITS	EACH	EACH	EACH		EACH	EACH	EACH	EACH		EACH		EACH			
		267	CONTR	P1	52+25	45'LT	52+30	45'LT	6	-							1					1			
		267	CONTR	PB1	52+25	45'LT	52+14	35'LT	15	-															
		267	PB1	PB2	52+14	35'LT	52+51	50'LT	39	-															
		267	PB2	PB3	52+51	50'LT	53+08	35'LT	59	-															
		267	PB3	P2	53+08	35'LT	53+11	47'LT	13	-										1					
		267	PB2	PB5	52+51	50'LT	52+39	37'RT	89	-															
		267	PB5	P4	52+39	37'RT	52+30	45'RT	12	-					1										
		267	PB5	PB4	52+39	37'RT	53+31	36'RT	93	-															
		267	PB4	P3	53+31	36'RT	53+15	51'RT	22	-															
										-															
										-															
										-															
										-															
										-															
										-															
										-															
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246											**0**	**0**	**0**		**1**	**0**	**1**	**0**		**1**		**1**			

INTERSECTION - BISHOP ROAD & RAMPS NO. 9 & 10

SIGNAL SUBSUMMARY

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES		ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE FROM		TO		DISTANCE	ITEM #	633														
										EXT. #	01601		67000	67100	67200		99000	99000	99000	99000					
											CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN		CABINET RISER	CABINET FOUNDATION	CONTROLLER WORK PAD		CONTROLLER ITEM, MISC.: PREEMPTION, OPTICOM	CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT	CONTROLLER ITEM, MISC.: PREEMPT DETECTOR	CONTROLLER ITEM, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM MODEL 754					
			FROM	TO	STA	OFF	STA	OFF	FT	UNITS	EACH		EACH	EACH	EACH		EACH	EACH	EACH	EACH					
		267	CONTR	P1	52+25	45'LT	52+30	45'LT	6	-	1		1	1	1		1	3	3	1					
		267	CONTR	PB1	52+25	45'LT	52+14	35'LT	15	-															
		267	PB1	PB2	52+14	35'LT	52+51	50'LT	39	-															
		267	PB2	PB3	52+51	50'LT	53+08	35'LT	59	-															
		267	PB3	P2	53+08	35'LT	53+11	47'LT	13	-															
		267	PB2	PB5	52+51	50'LT	52+39	37'RT	89	-															
		267	PB5	P4	52+39	37'RT	52+30	45'RT	12	-															
		267	PB5	PB4	52+39	37'RT	53+31	36'RT	93	-															
		267	PB4	P3	53+31	36'RT	53+15	51'RT	22	-															
										-															
										-															
										-															
										-															
										-															
										-															
										-															
TOTALS CARRIED TO GENERAL SUMMARY SHEET 247											**1**		**1**	**1**	**1**		**1**	**3**	**3**	**1**					

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK - 90/84 - 0.54/0.43

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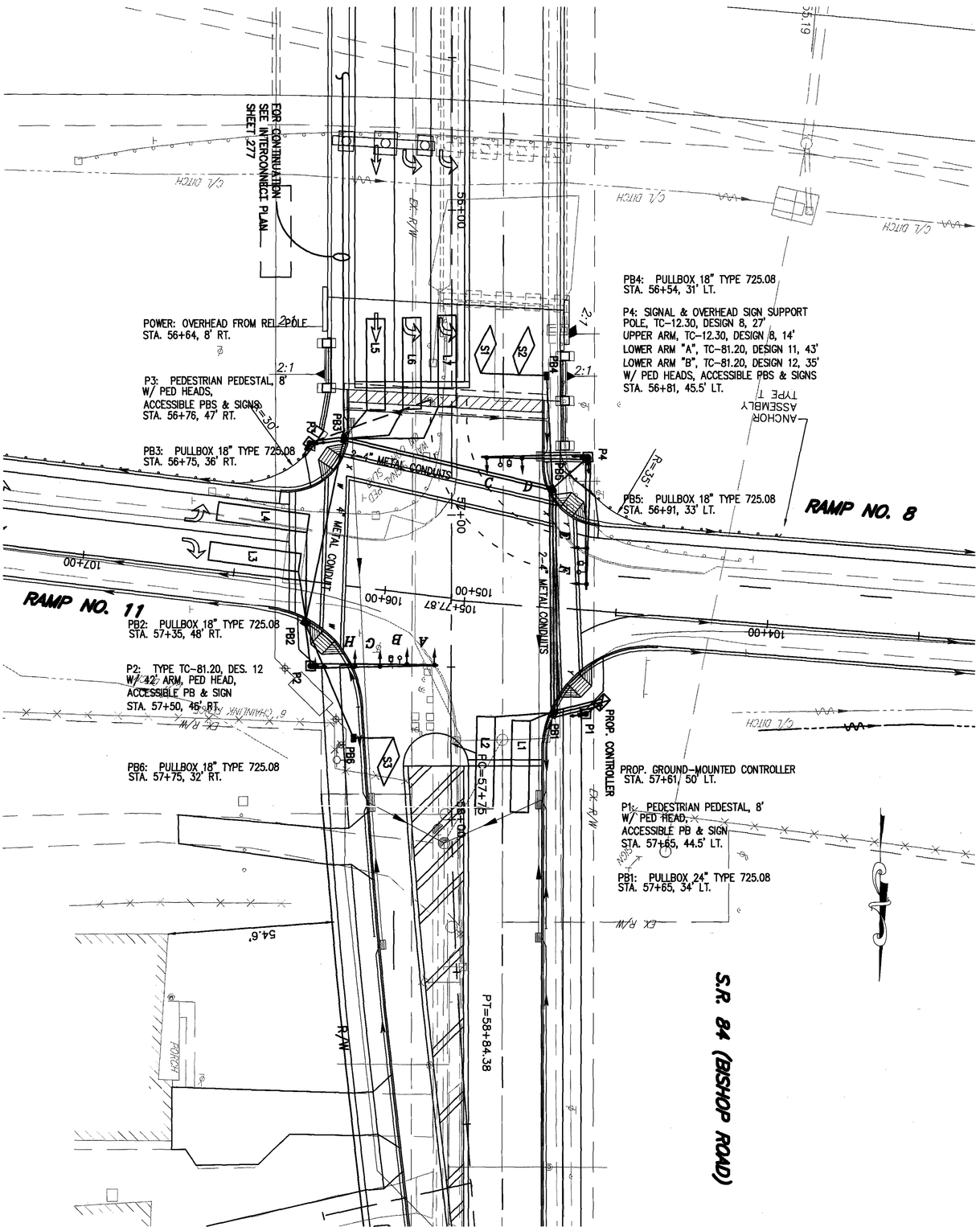


272 / 369	LAK – 90/84 – 0.54/0.43	TRAFFIC SIGNAL PLAN BISHOP ROAD (S.R. 84) – RAMPS NO. 8 & 11	CALCULATED T.J.F. CHECKED G.L.B.	20 10 0 20 SCALE IN FEET

POLE NUMBER	COMBINATION POLE	LOCATION STATION	LOCATION OFFSET	SUPPORT TYPE & DESIGN NUMBER: PEDESTAL	PUSHBUTTON POLE	TC-12.30	TC-81.20	POLE HEIGHT (FEET)	ARM ATTACHMENT HEIGHT (FEET)				MAST ARM: ARM "A" LENGTH "L"	ARM "A" DESIGN	ARM "B" LENGTH "L"	ARM "B" DESIGN	SIGNALS: L1	L2	L3	L4	SIGNS: S1	S2	PREEMPT: P1 (1-WAY PREEMPT)	P2 (CONFIRMATION LIGHT)	MAST ARM "A" ORIENTATION ANGLE (DEGREES)	ORIENTATION ANGLE FROM MAST ARM "A" (DEGREES): MAST ARM "B"	HANDHOLE (PED POLE ANGLE REFERENCE)	PEDESTRIAN SIGNALS	PEDESTRIAN PUSHBUTTON	POWER SERV., 1-1/2" BLIND HALF COUPLING 3' FROM BASE	CABLE ENTRANCE	LUMINAIRE BRACKET	2" CONDUIT ELL	2" CAPPED CONDUIT ELL (FOR FUTURE USE)
P1	NO	57+65	44.5' LT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	270°
P2	NO	57+50	46' RT	–	–	–	12	23'	21.5'				42'	–	–	–	14'	23'	32'	41'	–	–	18'	20'	0°	–	180°	0°	0°	–	–	–	–	270°
P3	NO	56+76	47' RT	Y	–	–	–	8'	–				–	–	–	–	–	–	–	–	–	–	–	–	–	–	180°	180°/270°	180°/270°	–	–	–	–	270°
P4	NO	56+81	45.5' LT	–	–	6*	–	27'	20'				43'	11	35'	12	30'/22'	42'/34'	–	–	–	–	35'/27'	37'/29'	0°	270°	135°	0°/270°	0°/270°	–	–	–	–	270°

* SIGNAL & OVERHEAD SIGN SUPPORT, SIGN NO. 133, SEE ELEVATION VIEW SHEET 319 FOR DETAILS

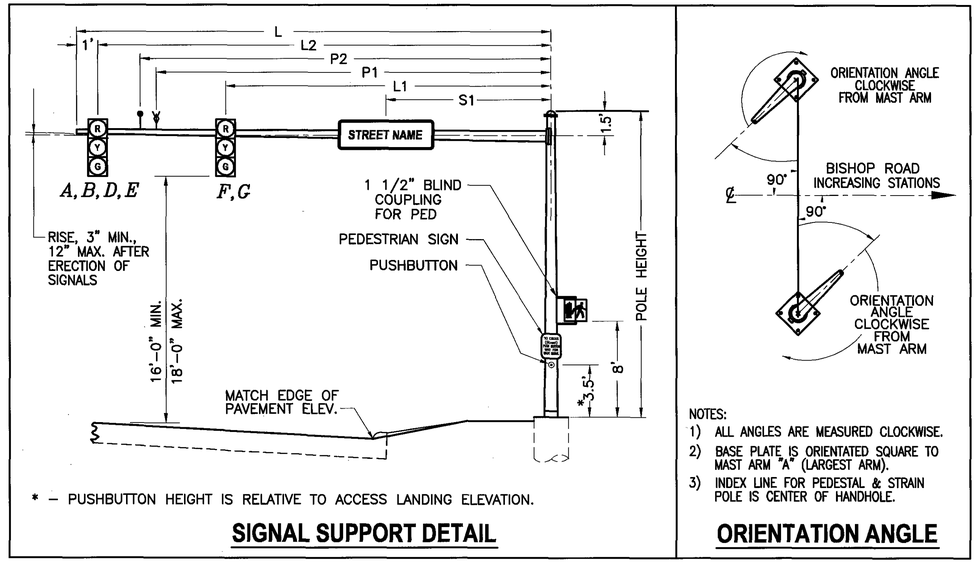
TYPE TC-81.20 SIGNAL SUPPORT

LOOP	SIZE	MODE	DELAY	PHASE	REMARK	LOCATION 1st FRONT CORNER	LOCATION 2nd FRONT CORNER
L1	6X30	PRESENCE	8.0	8	STANDARD	STA. 57+67.5,20'LT	STA. 57+67.5,26'LT
L2	6X30	PRESENCE	–	8	STANDARD	STA. 57+66.5,8'LT	STA. 57+66.5,14'LT
L3	6X30	PRESENCE	8.0	2	STANDARD	STA. 57+12,49.5'RT	STA. 57+18,50.5'RT
L4	6X30	PRESENCE	–	5	STANDARD	STA. 57+00,47'RT	STA. 57+06,48'RT
L5	6X30	PRESENCE	–	4	STANDARD	STA. 56+65.5,22'RT	STA. 56+65.5,28'RT
L6	6X30	PRESENCE	–	4	STANDARD	STA. 56+65,10'RT	STA. 56+65,16'RT
L7	6X30	PRESENCE	3.0	7	STANDARD	STA. 56+64.5,2'LT	STA. 56+64.5,4'RT
S1	4X8	PULSE	–	–	ADD	STA. 56+54,10'LT	–
S2	4X8	PULSE	–	–	ADD	STA. 56+54,22'LT	–
S3	4X8	PULSE	–	–	ADD	STA. 57+86,22'RT	–

LOOP DETECTOR CHART

LEGEND:

CONDUIT IS 2" UNLESS OTHERWISE NOTED
6PR – INTERCONNECT CABLE
LLI – LOOP LEAD-IN CABLE
– – – – INDICATES OVERHEAD WIRING
A VEHICULAR SIGNAL HEAD
CONFIRMATION LIGHT
1-WAY PREEMPT
PEDESTRIAN SIGNAL HEAD
PEDESTRIAN PUSHBUTTON

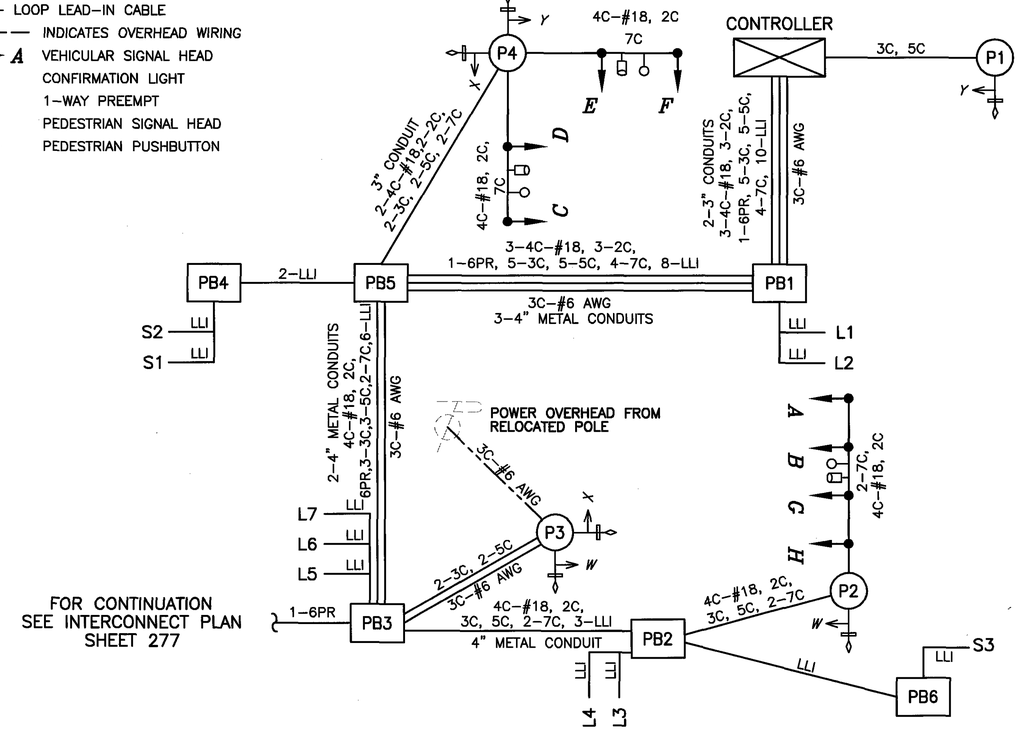


* – PUSHBUTTON HEIGHT IS RELATIVE TO ACCESS LANDING ELEVATION.

SIGNAL SUPPORT DETAIL

NOTES:
1) ALL ANGLES ARE MEASURED CLOCKWISE.
2) BASE PLATE IS ORIENTATED SQUARE TO MAST ARM "A" (LARGEST ARM).
3) INDEX LINE FOR PEDESTAL & STRAIN POLE IS CENTER OF HANDHOLE.

ORIENTATION ANGLE



FOR CONTINUATION SEE INTERCONNECT PLAN SHEET 277

WIRING DIAGRAM

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – RAMPS NO. 8 & 11
LAK – 90/84 – 0.54/0.43

273
369

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SIGNAL DIRECTION	SIGNAL HEAD	ϕ2&ϕ5				ϕ4&ϕ8				ϕ4&ϕ7				FLASH	DWELL
		R/W		CLEAR		R/W		CLEAR		R/W		CLEAR			
SOUTHBOUND	C	R	R	R	R	G	G	Y	R	R	R	R	R	Y	G
	D	R	R	R	R	G	G	Y	R	R	R	R	R	Y	G
WESTBOUND	E	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
	F	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
NORTHBOUND	A	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
	B	R	R	R	R	R	R	R	R	G	G	Y	R	Y	G
	G	R	R	R	R	G	G	Y	R[a]	G	G	Y	R	Y	G
	H	R	R	R	R	G	G	Y[a]	R	G	G	Y	R	Y	G
EAST	W–W	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW	DARK	DW
SOUTH	X–X	W*	FDW*	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK	DW
WEST	Y–Y	DW	DW	DW	DW	W*	FDW*	DW	DW	DW	DW	DW	DW	DARK	DW

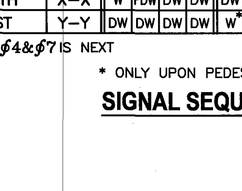
[a] G IF ϕ4&ϕ7 IS NEXT

* ONLY UPON PEDESTRIAN PUSHBUTTON ACTUATION

SIGNAL SEQUENCE CHART

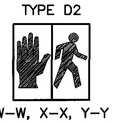
FUNCTION	ϕ2&ϕ5	ϕ4&ϕ8	ϕ4&ϕ7
INITIAL GREEN	10	10	15
MINIMUM GREEN	–	–	–
VEHICLE EXTENSION	3.0	3.0	3.0
MAXIMUM GREEN	20	26	54
PEDESTRIAN WALK	7.0	7.0	–
PEDESTRIAN CLEARANCE	26.0	15.0	–
VEHICLE YELLOW CLEARANCE	4.0	4.0	4.0
VEHICLE ALL RED CLEARANCE	1.0	1.0	1.0
RECALL	OFF	MIN.	OFF
MEMORY	N.L.	N.L.	N.L.

SIGNAL TIMING CHART



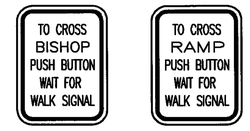
A,B C,D,E,F,G,H

VEHICULAR POLYCARBONATE SIGNAL HEAD (LED)



W–W, X–X, Y–Y

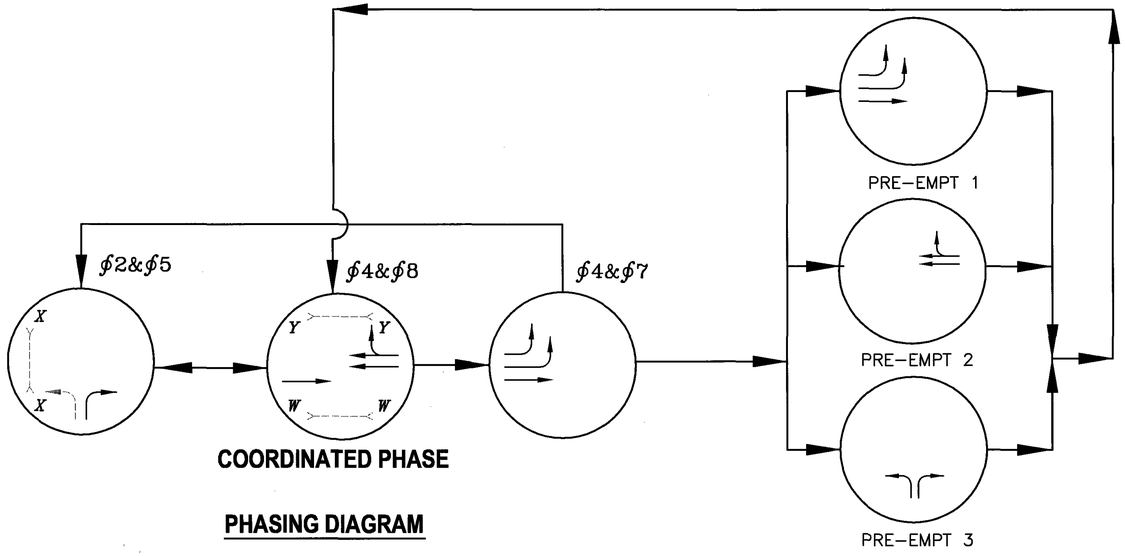
PEDESTRIAN SIGNAL (LED)



X–X Y–Y, W–W

R10–H4d 9"x12" R10–H4d 9"x12"

PEDESTRIAN PUSHBUTTON SIGNS



COORDINATED PHASE

PHASING DIAGRAM

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC SIGNAL PLAN
BISHOP ROAD (S.R. 84) – RAMPS NO. 8 & 11

LAK – 90/84 – 0.54/0.43

274
369

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INTERSECTION - BISHOP ROAD & RAMPS NO. 8 &11

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		272	CONTR	P1	57+61	50'LT	57+65	44.5'LT	7
		272	CONTR	PB1	57+61	50'LT	57+65	34'LT	17
		272	PB1	PB5	57+65	34'LT	56+91	33'LT	74
		272	PB5	P4	56+91	33'LT	56+81	45'LT	16
		272	PB5	PB4	56+91	33'LT	56+54	31'LT	38
		272	PB5	PB3	56+91	33'LT	56+75	36'RT	71
		272	PB3	P3	56+75	36'RT	56+76	47'RT	12
		272	PB3	PB2	56+75	36'RT	57+35	48'RT	62
		272	PB2	P2	57+35	48'RT	57+50	46'RT	15
		272	PB2	PB6	57+35	48'RT	57+75	32'RT	41
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246									

SIGNAL SUBSUMMARY

ITEM #	625				625					632					
EXT. #	25402	25502	25600		29000	30700	30706	32000	36000	05001	05081	20721		25000	25010
	CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	CONDUIT, 4", 725.04		TRENCH	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	GROUND ROD	SPECIAL - PLASTIC CAUTION TAPE	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, AS PER PLAN		COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD
UNITS	FT	FT	FT		FT	EACH	EACH	EACH	FT	EACH	EACH	EACH		EACH	EACH
-	7				7			1	7			1			1
-	17	34			17		1	1	17						
-			222		74	1			74						
-		16			16			1	16	4		2		4	2
-	38				38	1			38						
-			142		71	1			71						
-	24				12			1	12			2			2
-			62		62	1			62						
-	15				15			1	15	4		1		4	1
-	41				41	1			41						
-															
-															
-															
-															
-															
-															
	142	50	426		353	5	1	5	353	8	0	6		8	6

INTERSECTION - BISHOP ROAD & RAMPS NO. 8 &11

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT
		272	CONTR	P1	57+61	50'LT	57+65	44.5'LT	7
		272	CONTR	PB1	57+61	50'LT	57+65	34'LT	17
		272	PB1	PB5	57+65	34'LT	56+91	33'LT	74
		272	PB5	P4	56+91	33'LT	56+81	45'LT	16
		272	PB5	PB4	56+91	33'LT	56+54	31'LT	38
		272	PB5	PB3	56+91	33'LT	56+75	36'RT	71
		272	PB3	P3	56+75	36'RT	56+76	47'RT	12
		272	PB3	PB2	56+75	36'RT	57+35	48'RT	62
		272	PB2	P2	57+35	48'RT	57+50	46'RT	15
		272	PB2	PB6	57+35	48'RT	57+75	32'RT	41
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246									

SIGNAL SUBSUMMARY

ITEM #	632																
EXT. #	26000	26501	27009		40200	40300	40500	40700	43300	53202		64010	64020		65200	68300	69800	70000
	PEDESTRIAN PUSHBUTTON	DETECTOR LOOP, AS PER PLAN	LOOP DETECTOR UNIT, DELAY & EXTENSION TYPE, AS PER PLAN		SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE, OPTICOM MODEL 138	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)		SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION		LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE
UNITS	EACH	EACH	EACH		FT	FT	FT	FT	FT	FT		EACH	EACH		FT	FT	FT	EACH
-	1					26	30						1					
-		2	2		81	135	135	108	81	27					270	27		
-					237	395	395	316	237	79					632	79		
-	2				208	60	68	208	208									
-		2	2												86			
-		3	3		76	228	228	152	76	76					456	76		
-	2					52	60						1			30	100	1
-		2	2		67	67	67	134	67						201			
-	1				126	29	33	252	126			1						
-		1	1												46			
-																		
-																		
-																		
-																		
-																		
-																		
	6	10	10		795	992	1016	1170	795	182		1	2		1691	212	100	1

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

LAK – 90/84 – 0.54/0.43

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INTERSECTION - BISHOP ROAD & RAMPS NO. 8 &11

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE

SIGNAL SUBSUMMARY

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT		SIGNAL SUPPORT, TYPE TC-81.20 DESIGN 12 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 5 POLE, WITH MAST ARMS TC-81.20 DESIGN 4 AND DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 6 POLE, WITH MAST ARMS TC-81.20 DESIGN 11 AND DESIGN 11, AS PER PLAN		SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 11, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN		PEDESTAL, 8'		REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN			
										ITEM #	632														
										EXT. #	75101	75121	75171		80201	80401	80501	80601		89600		90101			
										UNITS	EACH	EACH	EACH		EACH	EACH	EACH	EACH		EACH		EACH			
		272	CONTR	P1	57+61	50'LT	57+65	44.5'LT	7	-										1		1			
		272	CONTR	PB1	57+61	50'LT	57+65	34'LT	17	-															
		272	PB1	PB5	57+65	34'LT	56+91	33'LT	74	-															
		272	PB5	P4	56+91	33'LT	56+81	45'LT	16	-												0			
		272	PB5	PB4	56+91	33'LT	56+54	31'LT	38	-															
		272	PB5	PB3	56+91	33'LT	56+75	36'RT	71	-															
		272	PB3	P3	56+75	36'RT	56+76	47'RT	12	-										1					
		272	PB3	PB2	56+75	36'RT	57+35	48'RT	62	-															
		272	PB2	P2	57+35	48'RT	57+50	46'RT	15	-								1							
		272	PB2	PB6	57+35	48'RT	57+75	32'RT	41	-															
										-															
										-															
										-															
										-															
										-															
										-															
TOTALS CARRIED TO GENERAL SUMMARY SHEET 246											0	0	0		0	0	0	1		2		1			

INTERSECTION - BISHOP ROAD & RAMPS NO. 8 &11

ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATES RAMP STATION REFERENCE

SIGNAL SUBSUMMARY

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES FROM	FEATURES TO	FROM STA	FROM OFF	TO STA	TO OFF	DISTANCE FT		CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN		CABINET RISER	CABINET FOUNDATION	CONTROLLER WORK PAD		CONTROLLER ITEM, MISC.: PREEMPTION, OPTICOM	CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT	CONTROLLER ITEM, MISC.: PREEMPT DETECTOR	CONTROLLER ITEM, MISC.: PREEMPTION PHASE SELECTOR, OPTICOM MODEL 754							
										ITEM #	633																
										EXT. #	01601		67000	67100	67200		99000	99000	99000	99000							
										UNITS	EACH		EACH	EACH	EACH		EACH	EACH	EACH	EACH							
		272	CONTR	P1	57+61	50'LT	57+65	44.5'LT	7	-	1		1	1	1		1	3	3	1							
		272	CONTR	PB1	57+61	50'LT	57+65	34'LT	17	-																	
		272	PB1	PB5	57+65	34'LT	56+91	33'LT	74	-																	
		272	PB5	P4	56+91	33'LT	56+81	45'LT	16	-																	
		272	PB5	PB4	56+91	33'LT	56+54	31'LT	38	-																	
		272	PB5	PB3	56+91	33'LT	56+75	36'RT	71	-																	
		272	PB3	P3	56+75	36'RT	56+76	47'RT	12	-																	
		272	PB3	PB2	56+75	36'RT	57+35	48'RT	62	-																	
		272	PB2	P2	57+35	48'RT	57+50	46'RT	15	-																	
		272	PB2	PB6	57+35	48'RT	57+75	32'RT	41	-																	
										-																	
										-																	
										-																	
										-																	
										-																	
										-																	
TOTALS CARRIED TO GENERAL SUMMARY SHEET 247											1		1	1	1		1	3	3	1							

CALCULATED T.J.F.
CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK - 90/84 - 0.54/0.43

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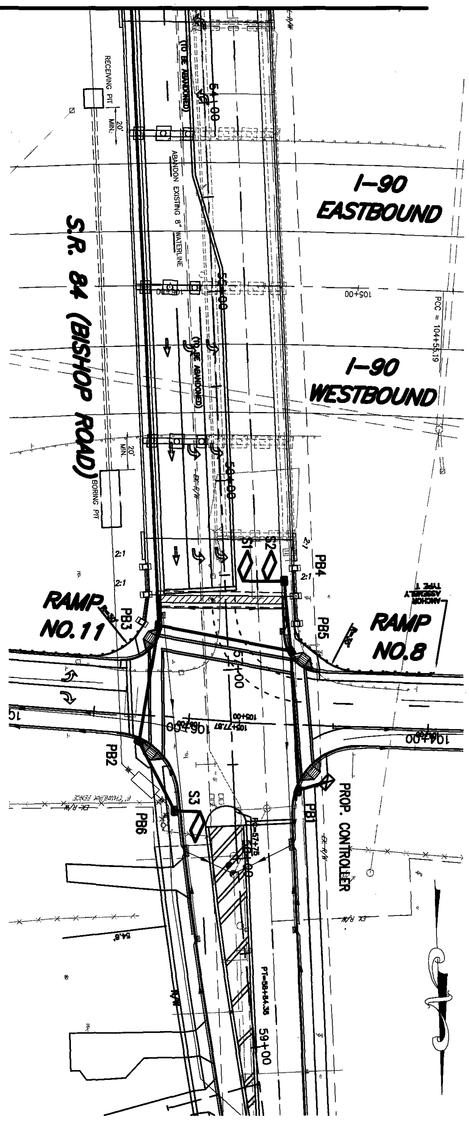
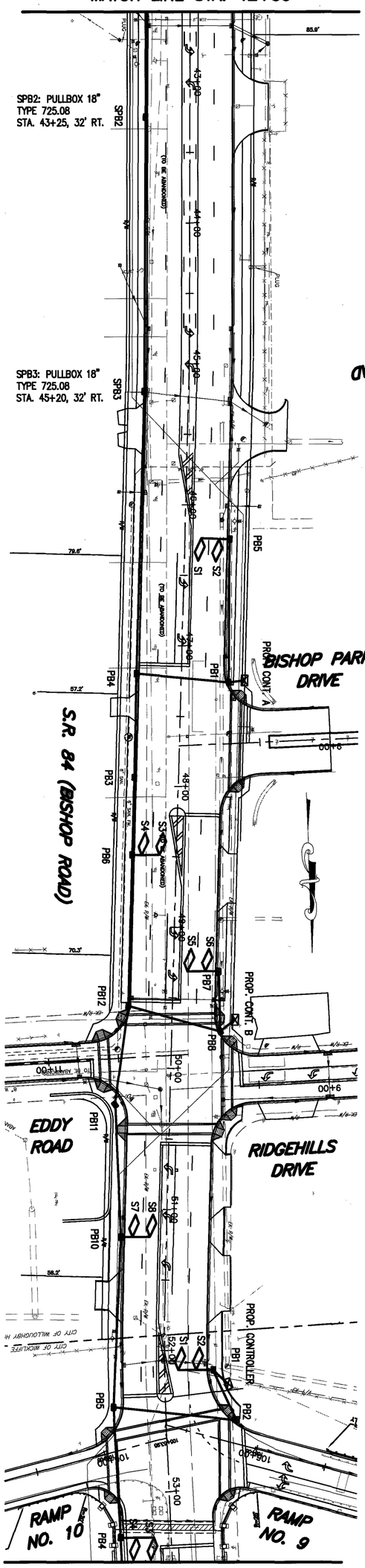
MATCH LINE STA. 53+50

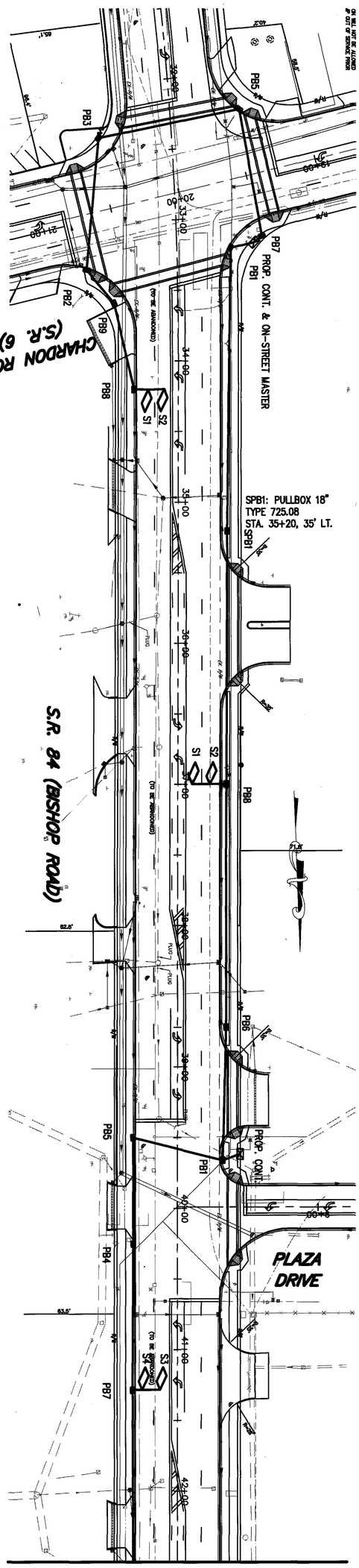


NOTE:
THE 2" CONDUIT ON THE BRIDGE WILL BE CONTAINED IN THE PARAPET.

MATCH LINE STA. 42+50



MATCH LINE STA. 53+50



MATCH LINE STA. 42+50

277/369	LAK – 90/84 – 0.54/0.43	TRAFFIC INTERCONNECT PLAN BISHOP ROAD (S.R.84)	CALCULATED T.J.F. CHECKED G.L.B.	40 20 0 40 SCALE IN FEET

INTERCONNECT - BISHOP ROAD (FROM CHARDON TO RAMP NO. 8 & 11)

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES		ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATE SIDE STREET STATION REFERENCE				DISTANCE
					FROM		TO		
			FROM	TO	STA	OFF	STA	OFF	FT
		CHARDON							
	277		PB1	SPB1	33+21	38.5'LT	35+20	35'LT	200
	277		SPB1	PB8	35+20	35'LT	37+00	35'LT	180
		PLAZA							
	277		PB7	SPB2	41+29	32'RT	43+25	32'RT	196
	277		SPB2	SPB3	43+25	32'RT	45+20	32'RT	195
	277		SPB3	PB4	45+20	32'RT	47+21	32'RT	201
		BISHOP PARK							
	277		PB6	PB12	48+49	31.5'RT	49+56	31.5'RT	107
		RIDGEHILLS							
	277		PB10	PB5	51+20	33'RT	52+39	37'RT	120
		RAMPS NO. 9 & 10							
	277		PB4	PB3	53+31	36'RT	56+75	36'RT	344
		RAMPS NO. 8 & 11							
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246									

SIGNAL SUBSUMMARY

ITEM #	625				632
EXT. #	25402	29000	30700	36000	53202
	CONDUIT, 2", 725.05	TRENCH	PULL BOX, 725.08, 18"	SPECIAL - PLASTIC CAUTION TAPE	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)
UNITS	FT	FT	EACH	FT	FT
	200	200	1	200	205
	180	180		180	180
	196	196	1	196	201
	195	195	1	195	200
	201	201		201	201
	107	107		107	107
	120	120		120	120
	344				344
	1543	1199	3	1199	1558

INTERCONNECT - BISHOP ROAD (FROM CHARDON TO RAMP NO. 8 & 11)

SIGNAL REFERENCE NO.	INTERCONNECT REFERENCE NO.	SHEET NO.	FEATURES		ALL STATION REFERENCE IS BISHOP, UNLESS NOTED OTHERWISE. * - INDICATE SIDE STREET STATION REFERENCE				DISTANCE
					FROM		TO		
			FROM	TO	STA	OFF	STA	OFF	FT
TOTALS CARRIED TO GENERAL SUMMARY SHEET ____									

SIGNAL SUBSUMMARY

ITEM #	632
EXT. #	
UNITS	

CALCULATED T.J.F. CHECKED G.L.B.

TRAFFIC CONTROL SIGNAL SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK - 90/84 - 0.54/0.43

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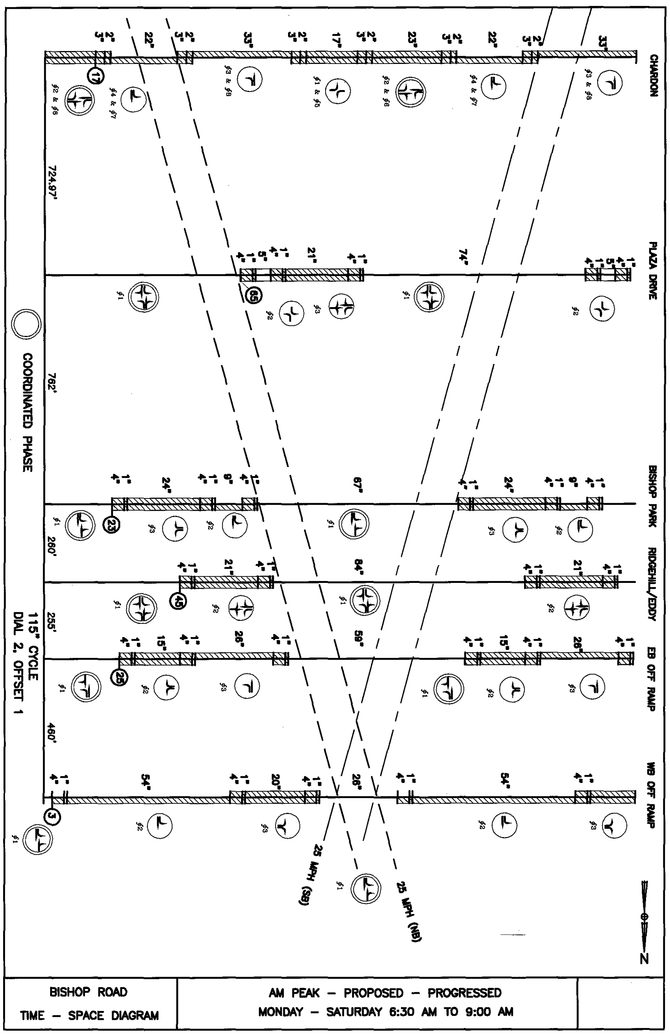
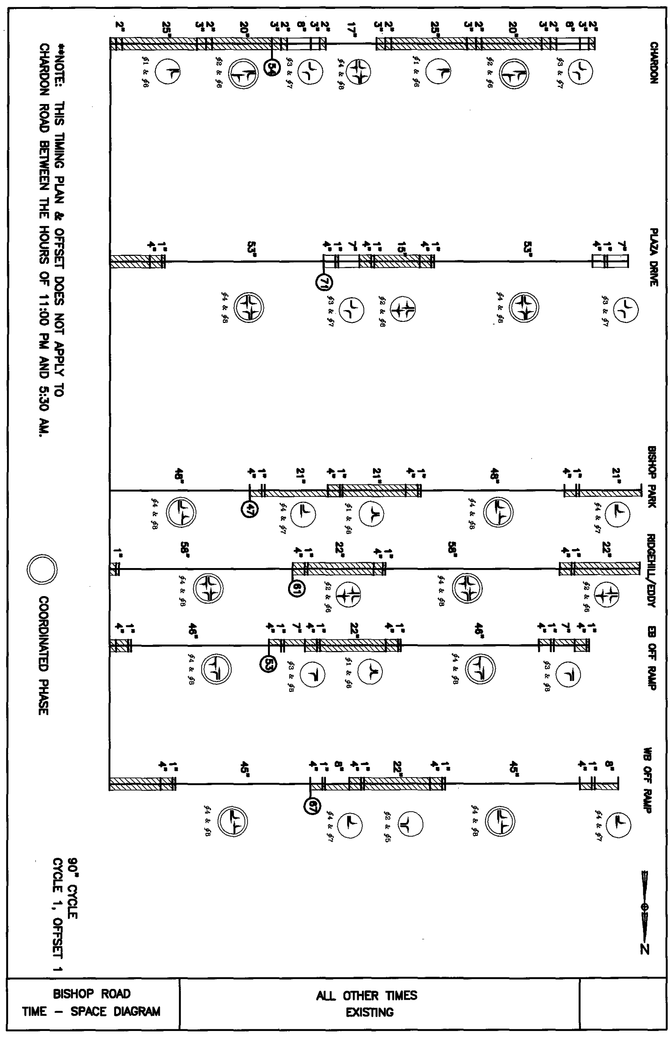


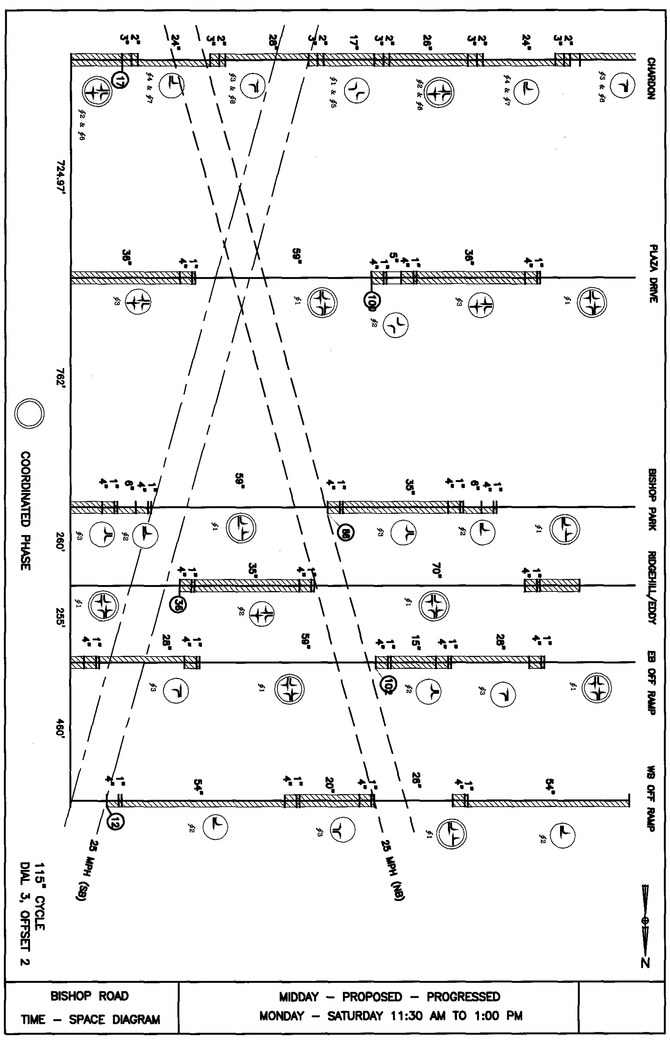
BISHOP ROAD
TIME – SPACE DIAGRAM

AM PEAK – PROPOSED – PROGRESSED
MONDAY – SATURDAY 6:30 AM TO 9:00 AM



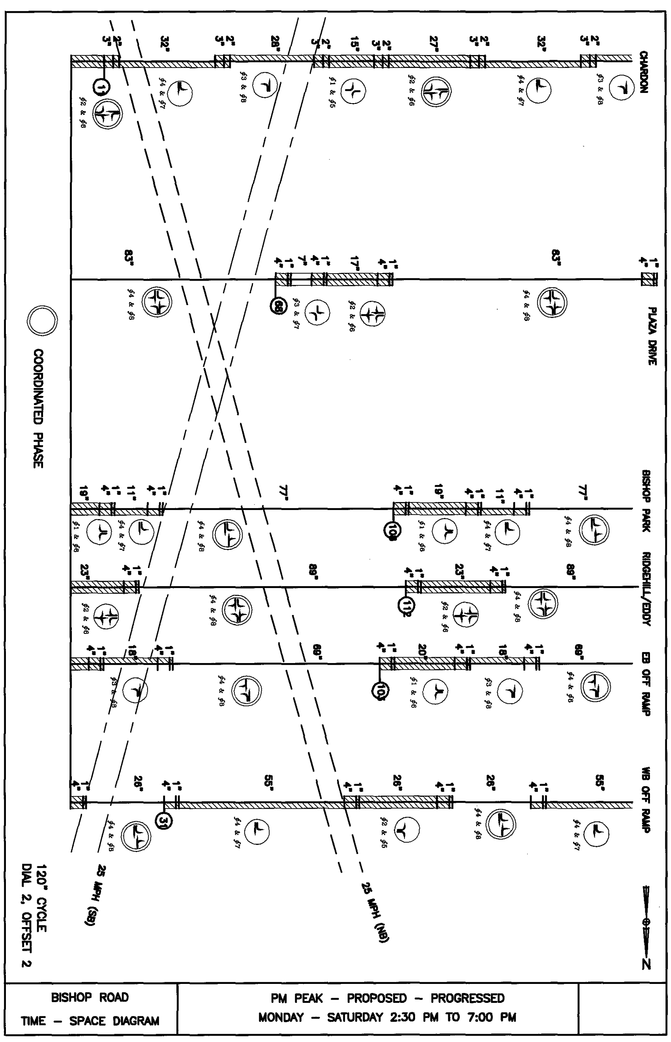
BISHOP ROAD
TIME – SPACE DIAGRAM

ALL OTHER TIMES
EXISTING



BISHOP ROAD
TIME – SPACE DIAGRAM

MIDDAY – PROPOSED – PROGRESSED
MONDAY – SATURDAY 11:30 AM TO 1:00 PM



BISHOP ROAD
TIME – SPACE DIAGRAM

PM PEAK – PROPOSED – PROGRESSED
MONDAY – SATURDAY 2:30 PM TO 7:00 PM

279
369

LAK – 90/84 – 0.54/0.43

TIME–SPACE DIAGRAM & SIGNAL TIMING CHART
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

E.B. OFF RAMP & BISHOP

	DIAL 2 OFFSET 1	DIAL 3 OFFSET 2	DIAL 4 OFFSET 1	DIAL 1 RETAIN EXISTING
TIME OF DAY	MON – SAT 6:30 AM – 9:00 AM	MON – SAT 11:30 AM – 1:00 PM	MON – SAT 2:30 PM – 7:00 PM	ALL OTHER TIMES *
CYCLE LENGTH	115 SEC.	115 SEC.	120 SEC.	*
PHASE 1 SPLIT	56%	55%	61%	*
PHASE 2 SPLIT	17%	17%	20%	*
PHASE 3 SPLIT	27%	28%	19%	*
OFFSET	22%	89%	91%	*

* NOTE THAT EXISTING LAGGING LEFT IS CHANGED TO LEADING LEFT.

RIDGEHILL/EDDY & BISHOP

	DIAL 2 OFFSET 1	DIAL 3 OFFSET 2	DIAL 4 OFFSET 1	DIAL 1 RETAIN EXISTING
TIME OF DAY	MON – SAT 6:30 AM – 9:00 AM	MON – SAT 11:30 AM – 1:00 PM	MON – SAT 2:30 PM – 7:00 PM	ALL OTHER TIMES *
CYCLE LENGTH	115 SEC.	115 SEC.	120 SEC.	*
PHASE 1 SPLIT	77%	65%	77%	*
PHASE 2 SPLIT	23%	35%	23%	*
OFFSET	39%	31%	27%	*

PLAZA DRIVE & BISHOP

	DIAL 2 OFFSET 1	DIAL 3 OFFSET 2	DIAL 4 OFFSET 1	DIAL 1 RETAIN EXISTING
TIME OF DAY	MON – SAT 6:30 AM – 9:00 AM	MON – SAT 11:30 AM – 1:00 PM	MON – SAT 2:30 PM – 7:00 PM	ALL OTHER TIMES *
CYCLE LENGTH	115 SEC.	115 SEC.	120 SEC.	*
PHASE 1 SPLIT	68%	55%	72%	*
PHASE 2 SPLIT	9%	9%	10%	*
PHASE 3 SPLIT	23%	36%	18%	*
OFFSET	57%	87%	57%	*

W.B. OFF RAMP & BISHOP

	DIAL 2 OFFSET 1	DIAL 3 OFFSET 2	DIAL 4 OFFSET 1	DIAL 1 RETAIN EXISTING
TIME OF DAY	MON – SAT 6:30 AM – 9:00 AM	MON – SAT 11:30 AM – 1:00 PM	MON – SAT 2:30 PM – 7:00 PM	ALL OTHER TIMES *
CYCLE LENGTH	115 SEC.	115 SEC.	120 SEC.	*
PHASE 1 SPLIT	27%	27%	25%	*
PHASE 2 SPLIT	22%	22%	25%	*
PHASE 3 SPLIT	51%	51%	50%	*
OFFSET	3%	10%	26%	*

BISHOP PARK & BISHOP

	DIAL 2 OFFSET 1	DIAL 3 OFFSET 2	DIAL 4 OFFSET 1	DIAL 1 RETAIN EXISTING
TIME OF DAY	MON – SAT 6:30 AM – 9:00 AM	MON – SAT 11:30 AM – 1:00 PM	MON – SAT 2:30 PM – 7:00 PM	ALL OTHER TIMES *
CYCLE LENGTH	115 SEC.	115 SEC.	120 SEC.	*
PHASE 1 SPLIT	63%	55%	68%	*
PHASE 2 SPLIT	12%	10%	12%	*
PHASE 3 SPLIT	25%	35%	20%	*
OFFSET	20%	75%	90%	*

CALCULATED T.J.F. CHECKED G.L.B.

TIME–SPACE DIAGRAM & SIGNAL TIMING CHART
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

280
369

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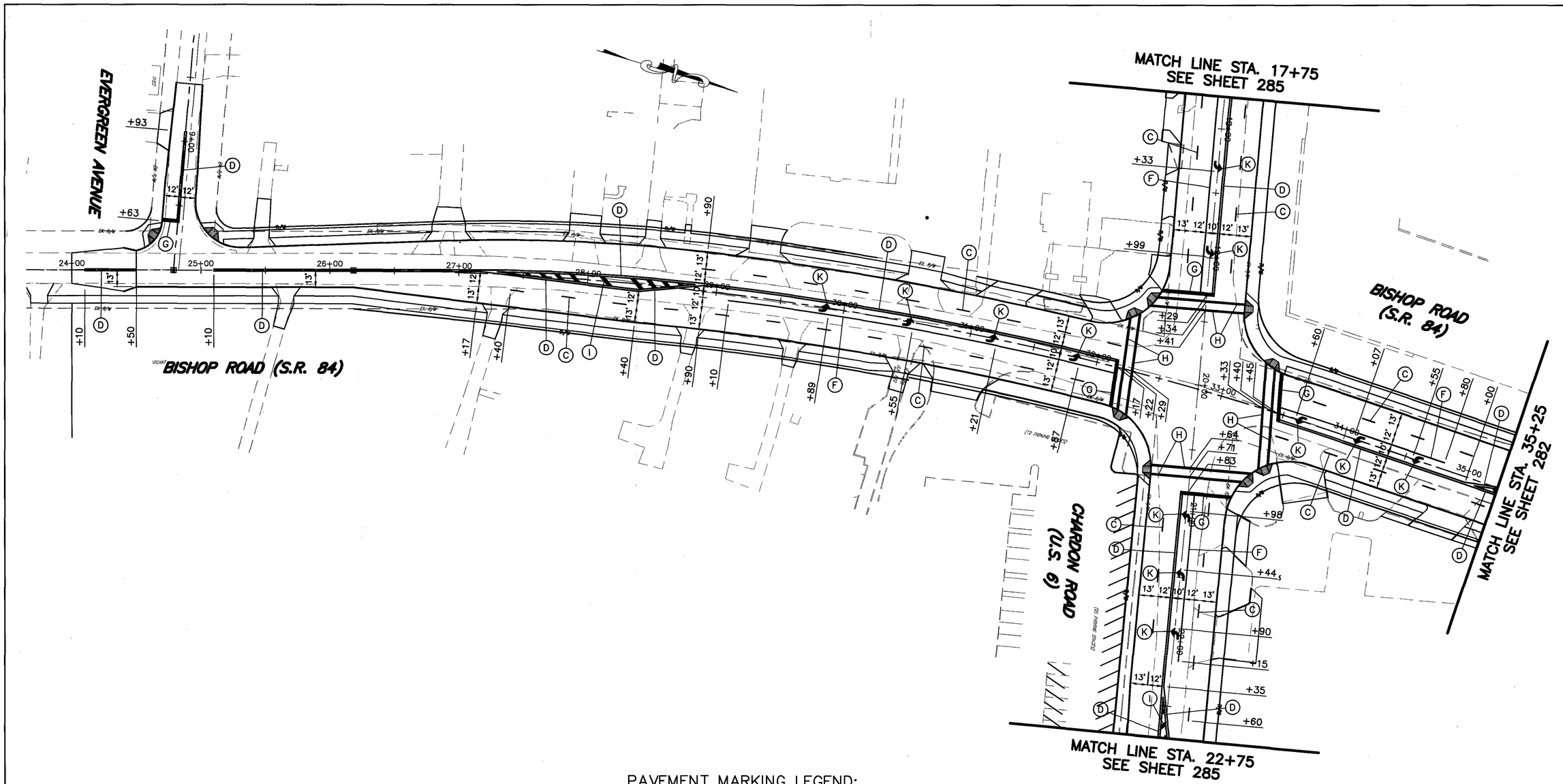

PAVEMENT MARKING LEGEND:

- (A) ITEM 646 – EDGE LINE (WHITE)
- (B) ITEM 646 – EDGE LINE (YELLOW)
- (C) ITEM 646 – LANE LINE
- (D) ITEM 646 – CENTER LINE: SOLID, DOUBLE
- (E) ITEM 646 – CENTER LINE: BROKEN & SOLID, DOUBLE
- (F) ITEM 646 – CHANNELIZING LINE
- (G) ITEM 646 – STOP LINE
- (H) ITEM 646 – CROSSWALK LINE
- (I) ITEM 646 – TRANSVERSE/DIAGONAL LINE (YELLOW)
- (J) ITEM 646 – ISLAND MARKING (YELLOW)
- (K) ITEM 646 – LANE ARROW
- (L) ITEM 646 – DOTTED LINE, 4 INCH

SCALE IN FEET: 40 0 20 40

CALCULATED T.J.F. CHECKED G.L.B.

PAVEMENT MARKING PLAN
BISHOP ROAD (S.R. 84) – CHARDON ROAD (U.S. 6)

LAK – 90/84 – 0.54/0.43

281
369

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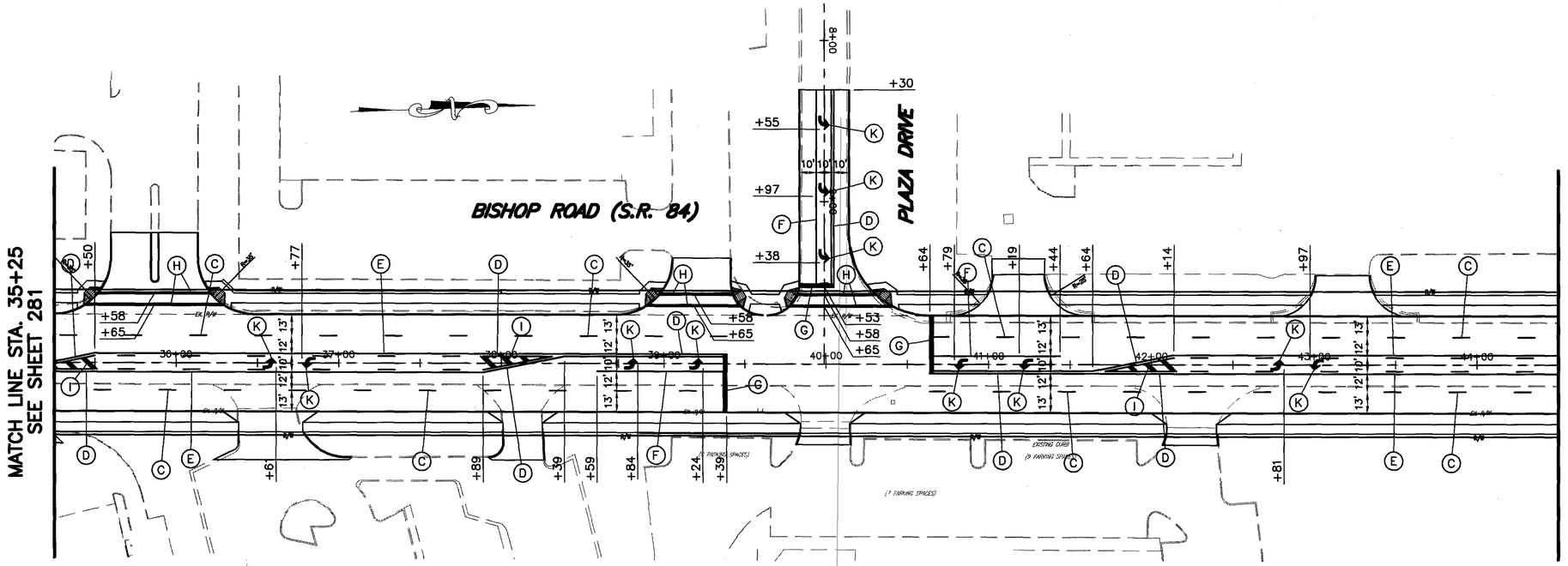

PAVEMENT MARKING LEGEND:

- (A) ITEM 646 – EDGE LINE (WHITE)
- (B) ITEM 646 – EDGE LINE (YELLOW)
- (C) ITEM 646 – LANE LINE
- (D) ITEM 646 – CENTER LINE: SOLID, DOUBLE
- (E) ITEM 646 – CENTER LINE: BROKEN & SOLID, DOUBLE
- (F) ITEM 646 – CHANNELIZING LINE
- (G) ITEM 646 – STOP LINE
- (H) ITEM 646 – CROSSWALK LINE
- (I) ITEM 646 – TRANSVERSE/DIAGONAL LINE (YELLOW)
- (J) ITEM 646 – ISLAND MARKING (YELLOW)
- (K) ITEM 646 – LANE ARROW
- (L) ITEM 646 – DOTTED LINE, 4 INCH

N

SCALE IN FEET 40 20 0 40

CALCULATED T.J.F.
CHECKED G.L.B.

PAVEMENT MARKING PLAN
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

282
369

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PAVEMENT MARKING LEGEND:

- (A) ITEM 646 – EDGE LINE (WHITE)
- (B) ITEM 646 – EDGE LINE (YELLOW)
- (C) ITEM 646 – LANE LINE
- (D) ITEM 646 – CENTER LINE: SOLID, DOUBLE
- (E) ITEM 646 – CENTER LINE: BROKEN & SOLID, DOUBLE
- (F) ITEM 646 – CHANNELIZING LINE
- (G) ITEM 646 – STOP LINE
- (H) ITEM 646 – CROSSWALK LINE
- (I) ITEM 646 – TRANSVERSE/DIAGONAL LINE (YELLOW)
- (J) ITEM 646 – ISLAND MARKING (YELLOW)
- (K) ITEM 646 – LANE ARROW
- (L) ITEM 646 – DOTTED LINE, 4 INCH

CALCULATED T.J.F.
CHECKED G.L.B.

SCALE IN FEET
40 20 0 40

PAVEMENT MARKING PLAN
BISHOP ROAD (S.R. 84) – RAMP NO. 9 & 10 (I-90)

LAK – 90/84 – 0.54/0.43

283
369

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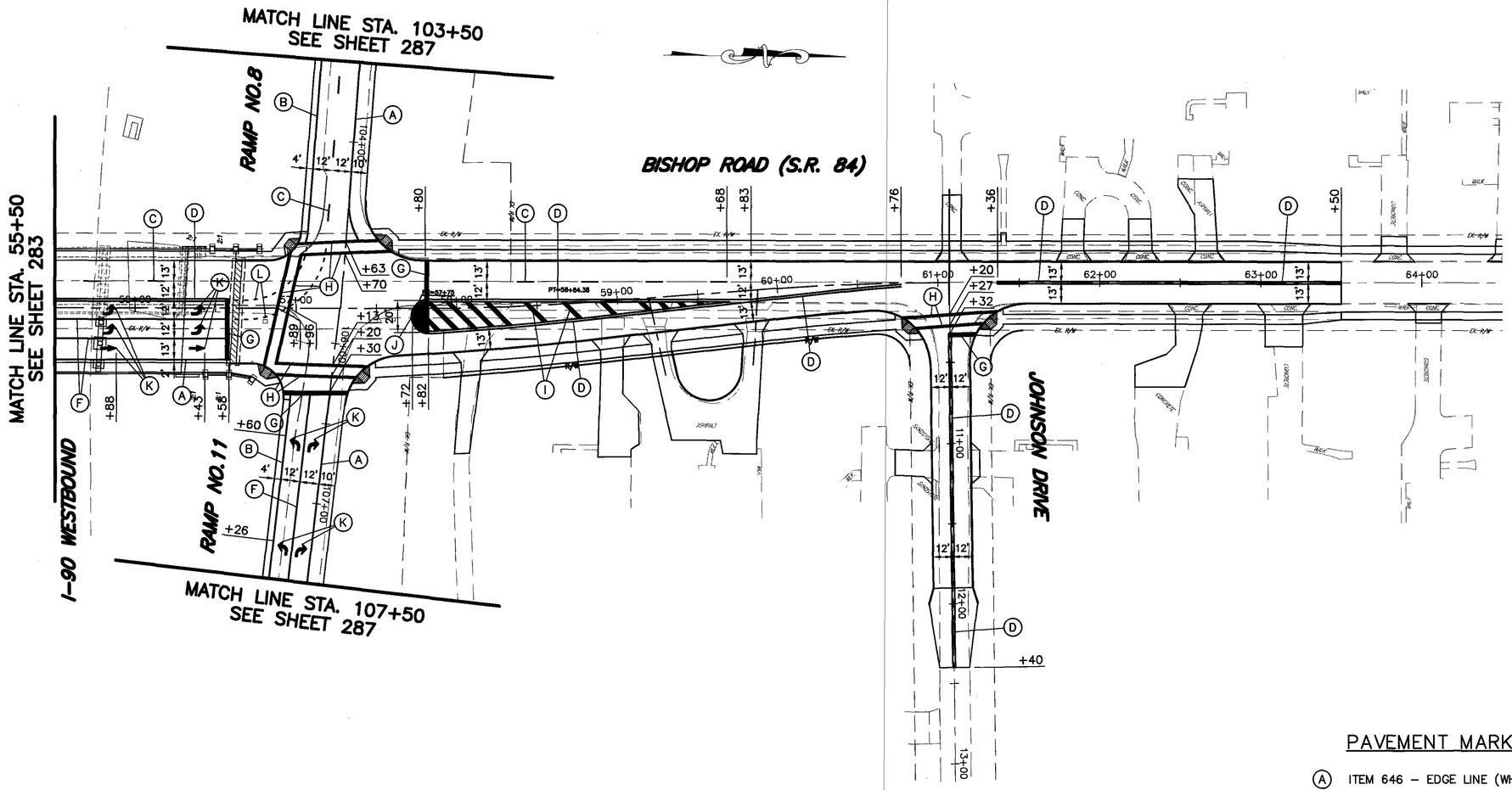

PAVEMENT MARKING LEGEND:

- (A) ITEM 646 – EDGE LINE (WHITE)
- (B) ITEM 646 – EDGE LINE (YELLOW)
- (C) ITEM 646 – LANE LINE
- (D) ITEM 646 – CENTER LINE: SOLID, DOUBLE
- (E) ITEM 646 – CENTER LINE: BROKEN & SOLID, DOUBLE
- (F) ITEM 646 – CHANNELIZING LINE
- (G) ITEM 646 – STOP LINE
- (H) ITEM 646 – CROSSWALK LINE
- (I) ITEM 646 – TRANSVERSE/DIAGONAL LINE (YELLOW)
- (J) ITEM 646 – ISLAND MARKING (YELLOW)
- (K) ITEM 646 – LANE ARROW
- (L) ITEM 646 – DOTTED LINE, 4 INCH

SCALE IN FEET 40 20 0 40

CALCULATED T.J.F.
CHECKED G.L.B.

PAVEMENT MARKING PLAN
BISHOP ROAD (S.R. 84) – RAMP NO. 8 & 11 (I–90)

LAK – 90/84 – 0.54/0.43

284
369

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PAVEMENT MARKING LEGEND:

- (A) ITEM 646 – EDGE LINE (WHITE)
- (B) ITEM 646 – EDGE LINE (YELLOW)
- (C) ITEM 646 – LANE LINE
- (D) ITEM 646 – CENTER LINE: SOLID, DOUBLE
- (E) ITEM 646 – CENTER LINE: BROKEN & SOLID, DOUBLE
- (F) ITEM 646 – CHANNELIZING LINE
- (G) ITEM 646 – STOP LINE
- (H) ITEM 646 – CROSSWALK LINE
- (I) ITEM 646 – TRANSVERSE/DIAGONAL LINE (YELLOW)
- (J) ITEM 646 – ISLAND MARKING (YELLOW)
- (K) ITEM 646 – LANE ARROW
- (L) ITEM 646 – DOTTED LINE, 4 INCH

SCALE IN FEET
40 20 0 40

CALCULATED T.J.F.
CHECKED G.L.B.

PAVEMENT MARKING PLAN
CHARDON ROAD (U.S. 6)

LAK – 90/84 – 0.54/0.43

285
369

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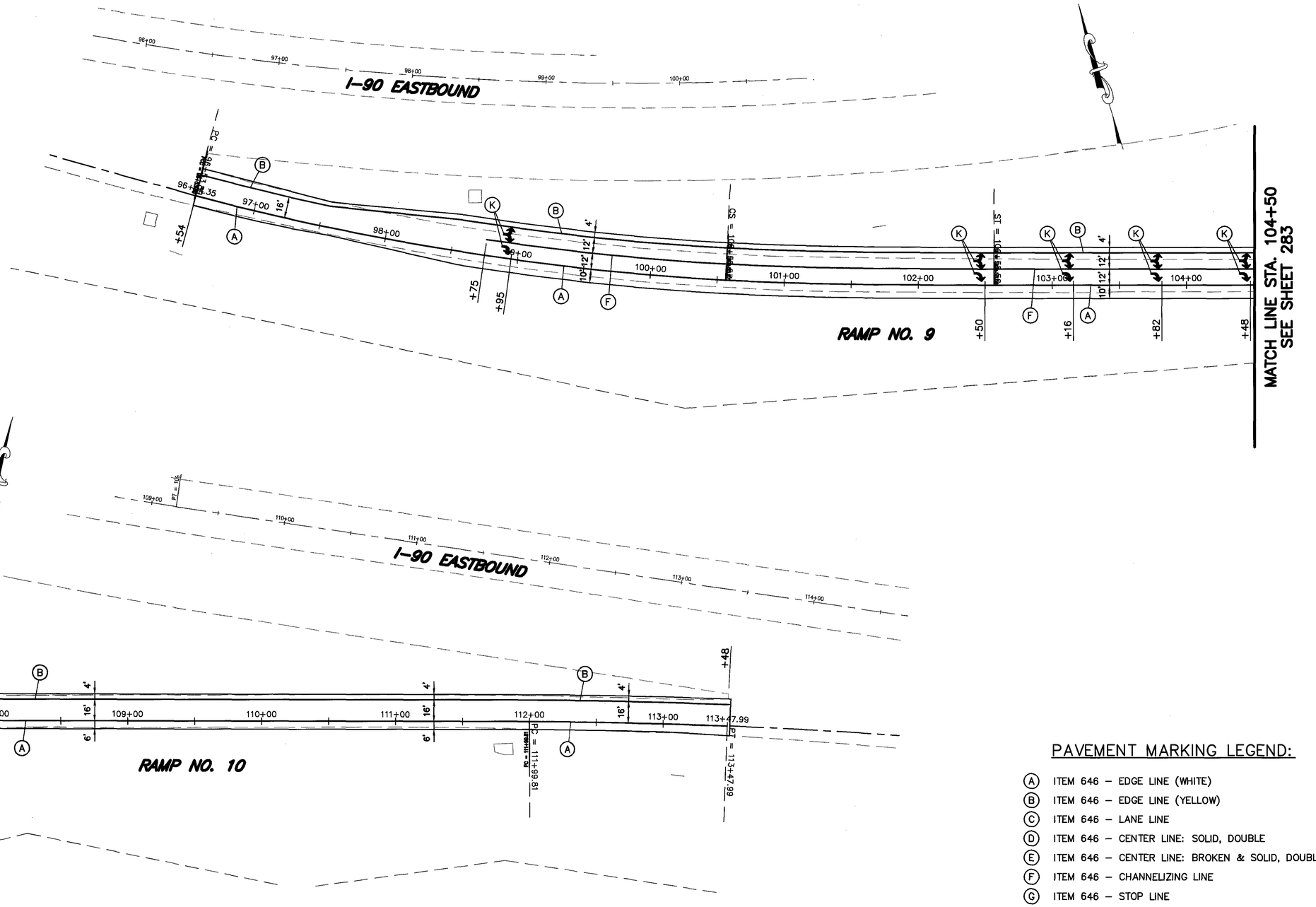

PAVEMENT MARKING LEGEND:

- (A) ITEM 646 – EDGE LINE (WHITE)
- (B) ITEM 646 – EDGE LINE (YELLOW)
- (C) ITEM 646 – LANE LINE
- (D) ITEM 646 – CENTER LINE: SOLID, DOUBLE
- (E) ITEM 646 – CENTER LINE: BROKEN & SOLID, DOUBLE
- (F) ITEM 646 – CHANNELIZING LINE
- (G) ITEM 646 – STOP LINE
- (H) ITEM 646 – CROSSWALK LINE
- (I) ITEM 646 – TRANSVERSE/DIAGONAL LINE (YELLOW)
- (J) ITEM 646 – ISLAND MARKING (YELLOW)
- (K) ITEM 646 – LANE ARROW
- (L) ITEM 646 – DOTTED LINE, 4 INCH

SCALE IN FEET 40 20 0 40

CALCULATED T.J.F.
CHECKED G.L.B.

PAVEMENT MARKING PLAN
RAMP NO. 9 & 10 (I-90)

LAK – 90/84 – 0.54/0.43

286
369

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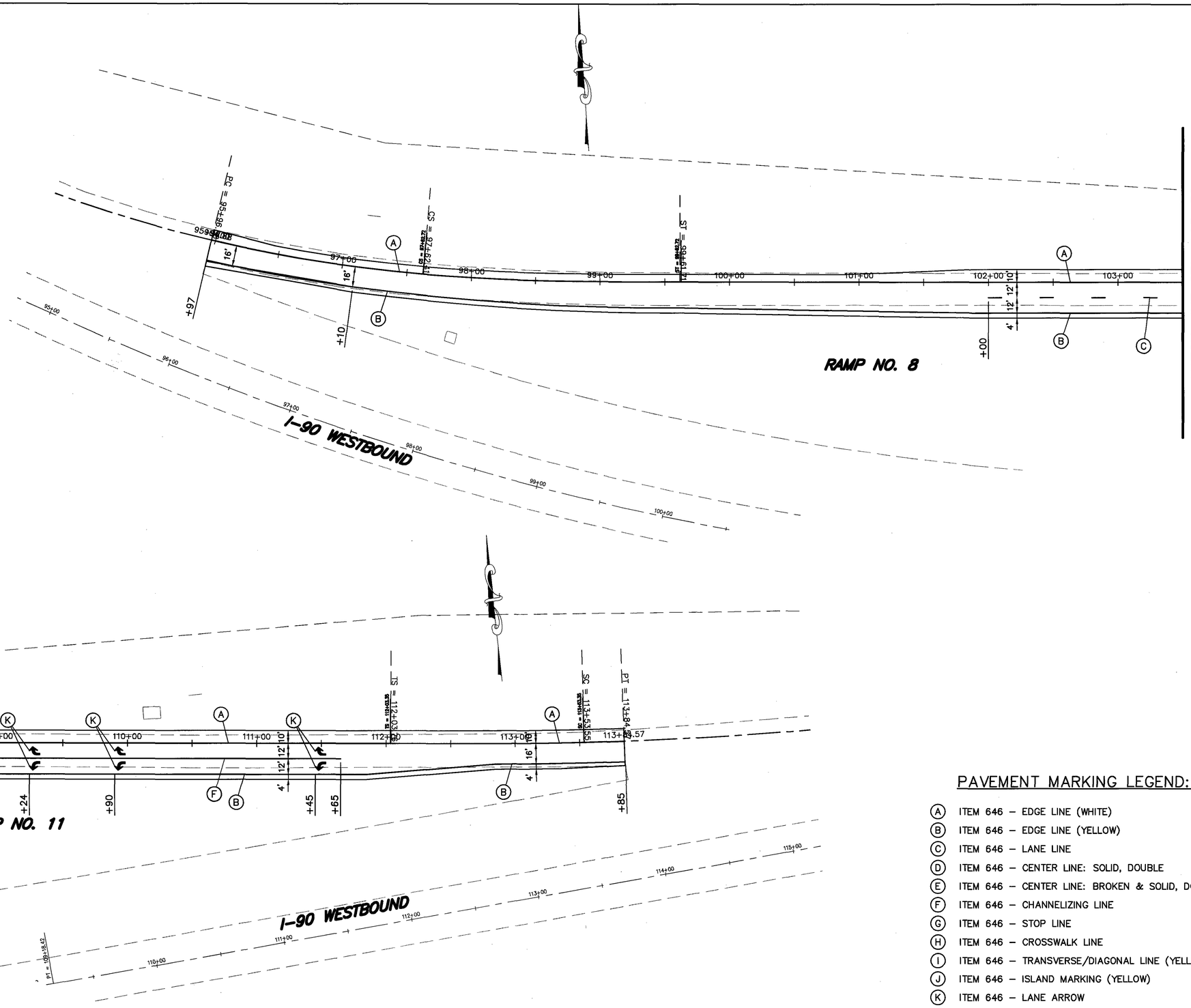

PAVEMENT MARKING LEGEND:

- (A) ITEM 646 – EDGE LINE (WHITE)
- (B) ITEM 646 – EDGE LINE (YELLOW)
- (C) ITEM 646 – LANE LINE
- (D) ITEM 646 – CENTER LINE: SOLID, DOUBLE
- (E) ITEM 646 – CENTER LINE: BROKEN & SOLID, DOUBLE
- (F) ITEM 646 – CHANNELIZING LINE
- (G) ITEM 646 – STOP LINE
- (H) ITEM 646 – CROSSWALK LINE
- (I) ITEM 646 – TRANSVERSE/DIAGONAL LINE (YELLOW)
- (J) ITEM 646 – ISLAND MARKING (YELLOW)
- (K) ITEM 646 – LANE ARROW
- (L) ITEM 646 – DOTTED LINE, 4 INCH

SCALE IN FEET 40 20 0 40

CALCULATED T.J.F.
CHECKED G.L.B.

PAVEMENT MARKING PLAN
RAMP NO. 8 & 11 (I-90)

LAK – 90/84 – 0.54/0.43

287
369

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PAVEMENT MARKINGS

LOCATION				646																				
SHEET NO.	ROADWAY	FROM STATION	TO STATION	EDGE LINE, AS PER PLAN (WHITE)	EDGE LINE, AS PER PLAN (YELLOW)	LANE LINE, AS PER PLAN	CENTER LINE: SOLID, DOUBLE, AS PER PLAN	CENTER LINE: SOLID & BROKEN, DOUBLE, AS PER PLAN		CHANNELIZING LINE, AS PER PLAN	STOP LINE, AS PER PLAN	CROSSWALK LINE, AS PER PLAN	TRANSVERSE/DIAGONAL LINE, AS PER PLAN (YELLOW)		ISLAND MARKING, AS PER PLAN (YELLOW)	LANE ARROW, AS PER PLAN	DOTTED LINE, 4 INCH, AS PER PLAN							
				FT	FT	FT	FT	FT		FT	FT	FT	FT		SQ FT	EACH	FT							
281	BISHOP	24+10	24+79				69																	
281	EVERGREEN	8+93	9+63				70																	
281	EVERGREEN	9+63									13													
281	BISHOP	24+79	32+81				802																	
281	BISHOP	27+17	28+90				173						70											
281	BISHOP	27+40	32+81			541																		
281	BISHOP	28+90	32+81			391																		
281	BISHOP	29+10	32+17							307														
281	BISHOP	29+89														1								
281	BISHOP	30+55														1								
281	BISHOP	31+21														1								
281	BISHOP	31+87														1								
281	BISHOP	32+17									37													
281	BISHOP	32+22										72												
281	BISHOP	32+29										80												
281	CHARDON	17+75	20+03			456	228																	
281	CHARDON	17+75	19+29							154														
281	CHARDON	18+33														1								
281	CHARDON	18+99														1								
281	CHARDON	19+29									40													
281	CHARDON	19+34										68												
281	CHARDON	19+41										73												
281	CHARDON	20+64										78												
281	CHARDON	20+71										71												
281	CHARDON	20+83									40													
281	CHARDON	20+03	22+75				272																	
281	CHARDON	20+03	22+35			232																		
281	CHARDON	20+03	22+60			257																		
281	CHARDON	20+83	22+15							132														
281	CHARDON	20+98														1								
281	CHARDON	21+44														1								
281	CHARDON	21+90														1								
281	CHARDON	22+35	22+75				40						9											
281	BISHOP	33+33										82												
281	BISHOP	33+40										74												
281	BISHOP	33+45									38													
281	BISHOP	32+81	35+25			488	244																	
281	BISHOP	33+45	34+80							135														
SUB-TOTALS CARRIED TO SHEET 293				0	0	2365	1898	0		728	168	598	79		0	9	0							

CALCULATED T.J.F. CHECKED G.L.B.

PAVEMENT MARKING SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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PAVEMENT MARKINGS

LOCATION				646																				
SHEET NO.	ROADWAY	FROM STATION	TO STATION	EDGE LINE, AS PER PLAN (WHITE)	EDGE LINE, AS PER PLAN (YELLOW)	LANE LINE, AS PER PLAN	CENTER LINE: SOLID, DOUBLE, AS PER PLAN	CENTER LINE: SOLID & BROKEN, DOUBLE, AS PER PLAN		CHANNELIZING LINE, AS PER PLAN	STOP LINE, AS PER PLAN	CROSSWALK LINE, AS PER PLAN	TRANSVERSE/DIAGONAL LINE, AS PER PLAN (YELLOW)		ISLAND MARKING, AS PER PLAN (YELLOW)	LANE ARROW, AS PER PLAN	DOTTED LINE, 4 INCH, AS PER PLAN							
				FT	FT	FT	FT	FT		FT	FT	FT	FT		SQ FT	EACH	FT							
281	BISHOP	33+60														1								
281	BISHOP	34+07														1								
281	BISHOP	34+55														1								
281	BISHOP	35+00	35+25				25						7											
282	BISHOP	35+25	39+99			948																		
282	BISHOP	35+25	35+50				25						19											
282	BISHOP	35+50	37+89					478																
282	BISHOP	36+61														1								
282	BISHOP	36+77														1								
282	BISHOP	37+89	39+99				210																	
282	BISHOP	37+89	38+39				50						26											
282	BISHOP	38+59	39+39							80														
282	BISHOP	38+84														1								
282	BISHOP	39+24														1								
282	BISHOP	39+39									36													
282	DRIVE @ STA. 35+87	9+58										69												
282	DRIVE @ STA. 35+87	9+65										84												
282	DRIVE @ STA. 39+23	9+58										45												
282	DRIVE @ STA. 39+23	9+65										57												
282	PLAZA	8+30	9+53				123			123														
282	PLAZA	8+55														1								
282	PLAZA	8+97														1								
282	PLAZA	9+38														1								
282	PLAZA	9+53									21													
282	PLAZA	9+58										48												
282	PLAZA	9+65										63												
282	BISHOP	40+64									36													
282	BISHOP	39+99	44+50			902																		
282	BISHOP	39+99	42+14				215																	
282	BISHOP	40+64	41+44							80														
282	BISHOP	40+79														1								
282	BISHOP	41+19														1								
282	BISHOP	41+64	42+14				50						26											
282	BISHOP	42+14	44+50					472																
282	BISHOP	42+81														1								
282	BISHOP	42+97														1								
283	BISHOP	44+50	47+71			642																		
SUB-TOTALS CARRIED TO SHEET 293				0	0	2492	698	950		283	93	366	78		0	14	0							

CALCULATED T.J.F. CHECKED G.L.B.

PAVEMENT MARKING SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

289
369

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PAVEMENT MARKINGS

LOCATION				646																				
SHEET NO.	ROADWAY	FROM STATION	TO STATION	EDGE LINE, AS PER PLAN (WHITE)	EDGE LINE, AS PER PLAN (YELLOW)	LANE LINE, AS PER PLAN	CENTER LINE: SOLID, DOUBLE, AS PER PLAN	CENTER LINE: SOLID & BROKEN, DOUBLE, AS PER PLAN		CHANNELIZING LINE, AS PER PLAN	STOP LINE, AS PER PLAN	CROSSWALK LINE, AS PER PLAN	TRANSVERSE/DIAGONAL LINE, AS PER PLAN (YELLOW)		ISLAND MARKING, AS PER PLAN (YELLOW)	LANE ARROW, AS PER PLAN	DOTTED LINE, 4 INCH, AS PER PLAN							
				FT	FT	FT	FT	FT		FT	FT	FT	FT		SQ FT	EACH	FT							
283	BISHOP	44+50	45+65					230																
283	BISHOP	44+82														1								
283	BISHOP	44+98														1								
283	BISHOP	45+65	47+71				206																	
283	BISHOP	45+65	46+15				50						26											
283	BISHOP	46+35	47+15							80														
283	BISHOP	46+60														1								
283	BISHOP	47+00														1								
283	BISHOP	47+15									36													
283	BISHOP PARK	9+59									26													
283	BISHOP PARK	9+64										56												
283	BISHOP PARK	9+71										69												
283	BISHOP	48+16	48+21												48									
283	BISHOP	48+19									25													
283	BISHOP	47+71	50+03			464	232																	
283	BISHOP	48+21	48+71				50						26											
283	BISHOP	48+91	49+54							63														
283	BISHOP	49+09														1								
283	BISHOP	49+39														1								
283	BISHOP	49+54									36													
283	BISHOP	49+62										62												
283	BISHOP	49+69										66												
283	EDDY	10+56										34												
283	EDDY	10+63										27												
283	EDDY	10+68									14													
283	EDDY	10+68	13+75				307																	
283	RIDGEHILLS	8+00	9+63				163																	
283	RIDGEHILLS	8+58	9+63							105														
283	RIDGEHILLS	8+83														1								
283	RIDGEHILLS	9+15														1								
283	RIDGEHILLS	9+48														1								
283	RIDGEHILLS	9+63									24													
283	RIDGEHILLS	9+70										43												
283	RIDGEHILLS	9+77										55												
283	BISHOP	50+39										64												
283	BISHOP	50+46										61												
283	BISHOP	50+52									36													
283	BISHOP	50+03	52+58			510	255																	
SUB-TOTALS CARRIED TO SHEET 293				0	0	974	1263	230		248	197	537	52		48	9	0							

CALCULATED T.J.F. CHECKED G.L.B.

PAVEMENT MARKING SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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PAVEMENT MARKINGS

LOCATION				646																				
SHEET NO.	ROADWAY	FROM STATION	TO STATION	EDGE LINE, AS PER PLAN (WHITE)	EDGE LINE, AS PER PLAN (YELLOW)	LANE LINE, AS PER PLAN	CENTER LINE: SOLID, DOUBLE, AS PER PLAN	CENTER LINE: SOLID & BROKEN, DOUBLE, AS PER PLAN		CHANNELIZING LINE, AS PER PLAN	STOP LINE, AS PER PLAN	CROSSWALK LINE, AS PER PLAN	TRANSVERSE/DIAGONAL LINE, AS PER PLAN (YELLOW)		ISLAND MARKING, AS PER PLAN (YELLOW)	LANE ARROW, AS PER PLAN	DOTTED LINE, 4 INCH, AS PER PLAN							
				FT	FT	FT	FT	FT		FT	FT	FT	FT		SQ FT	EACH	FT							
283	BISHOP	50+52	51+60							108														
283	BISHOP	50+67														1								
283	BISHOP	51+01														1								
283	BISHOP	51+35														1								
283	BISHOP	51+80	52+30				50						26											
283	BISHOP	52+30	52+35												48									
283	BISHOP	52+32									25													
283	BISHOP	52+50										78												
283	BISHOP	52+57										75												
283	RAMP NO. 9	104+50	106+10	160	152					156														
283	RAMP NO. 9	105+14														2								
283	RAMP NO. 9	105+80														2								
283	RAMP NO. 9	106+10									42													
283	RAMP NO. 9	106+20										50												
283	RAMP NO. 9	106+27										55												
283	RAMP NO. 10	105+90										44												
283	RAMP NO. 10	105+97										37												
283	RAMP NO. 10	105+97	107+50	153	149																			
283	BISHOP - RAMP NO. 9	52+39	106+10														56							
283	BISHOP	53+02	55+50	249																				
283	BISHOP	53+38									38													
283	BISHOP	52+58	55+50			292	292																	
283	BISHOP	52+58	55+03			245																		
283	BISHOP	53+38	54+18							80														
283	BISHOP	53+53														1								
283	BISHOP	53+93														1								
283	BISHOP	55+08	55+50							84														
283	BISHOP	55+33														3								
284	BISHOP	55+50	57+28			178	178																	
284	BISHOP	55+50	56+58	108						216														
284	BISHOP	55+88														3								
284	BISHOP	56+43														3								
284	BISHOP	56+58									38													
284	BISHOP	56+89										73												
284	BISHOP	56+96										70												
284	RAMP NO. 8	103+50	104+63	113	115	114																		
284	RAMP NO. 8	104+63										50												
284	RAMP NO. 8	104+70										56												
SUB-TOTALS CARRIED TO SHEET 293				783	416	829	520	0		644	143	588	26		48	18	56							

CALCULATED T.J.F. CHECKED G.L.B.

PAVEMENT MARKING SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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PAVEMENT MARKINGS

LOCATION				646																				
SHEET NO.	ROADWAY	FROM STATION	TO STATION	EDGE LINE, AS PER PLAN (WHITE)	EDGE LINE, AS PER PLAN (YELLOW)	LANE LINE, AS PER PLAN	CENTER LINE: SOLID, DOUBLE, AS PER PLAN	CENTER LINE: SOLID & BROKEN, DOUBLE, AS PER PLAN		CHANNELIZING LINE, AS PER PLAN	STOP LINE, AS PER PLAN	CROSSWALK LINE, AS PER PLAN	TRANSVERSE/DIAGONAL LINE, AS PER PLAN (YELLOW)		ISLAND MARKING, AS PER PLAN (YELLOW)	LANE ARROW, AS PER PLAN	DOTTED LINE, 4 INCH, AS PER PLAN							
				FT	FT	FT	FT	FT		FT	FT	FT	FT		SQ FT	EACH	FT							
284	RAMP NO. 11	106+13										57												
284	RAMP NO. 11	106+20										50												
284	RAMP NO. 11	106+30									40													
284	RAMP NO. 11	106+30	107+50	120	116					118														
284	RAMP NO. 11	106+60														2								
284	RAMP NO. 11	107+26														2								
284	BISHOP - RAMP NO. 8	56+12	104+68														142							
284	BISHOP	57+52	57+82												174									
284	BISHOP	57+80									25													
284	BISHOP	57+28	61+07				379																	
284	BISHOP	57+28	59+68			240																		
284	BISHOP	57+82	59+83				201						175											
284	JOHNSON	10+20										59												
284	JOHNSON	10+27										42												
284	JOHNSON	10+32									17													
284	JOHNSON	10+32	12+40				208																	
284	BISHOP	61+07	63+50				243																	
285	CHARDON	11+35	13+00				165																	
285	CHARDON	11+35	12+30							190														
285	CHARDON	11+45														3								
285	CHARDON	12+00														3								
285	CHARDON	12+35	17+75			540																		
285	CHARDON	12+50	13+00				50						26											
285	CHARDON	13+00	15+85					570																
285	CHARDON	13+74														1								
285	CHARDON	13+90														1								
285	CHARDON	14+95														1								
285	CHARDON	15+11														1								
285	CHARDON	15+85	17+75				190																	
285	CHARDON	15+85	16+35				50						26											
285	CHARDON	16+15	17+75			160																		
285	CHARDON	16+55	17+75							120														
285	CHARDON	17+01														1								
285	CHARDON	17+67														1								
285	CHARDON	22+75	27+60				485																	
285	CHARDON	22+75	25+10				235						57											
286	RAMP NO. 9	96+54	104+50	796	796																			
SUB-TOTALS CARRIED TO SHEET 293				916	912	940	2206	570		428	82	208	284		174	16	142							

CALCULATED T.J.F. CHECKED G.L.B.

PAVEMENT MARKING SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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PAVEMENT MARKINGS

LOCATION				646																				
SHEET NO.	ROADWAY	FROM STATION	TO STATION	EDGE LINE, AS PER PLAN (WHITE)	EDGE LINE, AS PER PLAN (YELLOW)	LANE LINE, AS PER PLAN	CENTER LINE: SOLID, DOUBLE, AS PER PLAN	CENTER LINE: SOLID & BROKEN, DOUBLE, AS PER PLAN		CHANNELIZING LINE, AS PER PLAN	STOP LINE, AS PER PLAN	CROSSWALK LINE, AS PER PLAN	TRANSVERSE/DIAGONAL LINE, AS PER PLAN (YELLOW)		ISLAND MARKING, AS PER PLAN (YELLOW)	LANE ARROW, AS PER PLAN	DOTTED LINE, 4 INCH, AS PER PLAN							
				FT	FT	FT	FT	FT		FT	FT	FT	FT		SQ FT	EACH	FT							
286	RAMP NO. 9	98+75	104+50							575														
286	RAMP NO. 9	98+95														2								
286	RAMP NO. 9	102+50														2								
286	RAMP NO. 9	103+16														2								
286	RAMP NO. 9	103+82														2								
286	RAMP NO. 9	104+48														2								
286	RAMP NO. 10	107+50	113+48	598	598																			
287	RAMP NO. 8	95+97	103+50	753	753																			
287	RAMP NO. 8	101+90	103+50			160																		
287	RAMP NO. 11	107+50	113+85	635	635																			
287	RAMP NO. 11	107+50	111+65							415														
287	RAMP NO. 11	107+92														2								
287	RAMP NO. 11	108+58														2								
287	RAMP NO. 11	109+24														2								
287	RAMP NO. 11	109+90														2								
287	RAMP NO. 11	111+45														2								
SUB-TOTALS				1986	1986	160	0	0		990	0	0	0		0	20	0							
SUB-TOTALS CARRIED FROM SHEET 288				0	0	2365	1898	0		728	168	598	79		0	9	0							
SUB-TOTALS CARRIED FROM SHEET 289				0	0	2492	698	950		283	93	366	78		0	14	0							
SUB-TOTALS CARRIED FROM SHEET 290				0	0	974	1263	230		248	197	537	52		48	9	0							
SUB-TOTALS CARRIED FROM SHEET 291				783	416	829	520	0		644	143	588	26		48	18	56							
SUB-TOTALS CARRIED FROM SHEET 292				916	912	940	2206	570		428	82	208	284		174	16	142							
TOTALS				3685	3314	7760	6585	1750		3321	683	2297	519		270	86	198							
				6999			8335																	
TOTALS CARRIED TO GENERAL SUMMARY SHEET 247				**1.33 MILES**		**1.47 MILES**	**1.58 MILES**			**3321**	**683**	**2297**	**519**		**270**	**86**	**198**							

CALCULATED T.J.F. CHECKED G.L.B.

PAVEMENT MARKING SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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SIGNING PLAN

BISHOP ROAD (S.R. 84) – CHARDON ROAD (U.S. 6)

SCALE IN FEET 0 20 40

CALCULATED T.J.F.

CHECKED G.L.B.

BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

294
369

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SIGN LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE RELOCATED
- EXISTING SIGN TO BE REPLACED
- EXISTING SIGN TO BE REMOVED

EVERGREEN AVENUE

BISHOP ROAD (S.R. 84)

CHARDON ROAD (U.S. 6)

MATCH LINE STA. 17+75
SEE SHEET 298

MATCH LINE STA. 22+75
SEE SHEET 298

MATCH LINE STA. 35+25
SEE SHEET 295

1 INSTALL R2-1 24"x30" W/1-#3 POST STA. 24+12

2 INSTALL D3 48"x8" W/STREET NAME SIGN SUPPORT STA. 24+53

3 INSTALL R1-1 36"x36" W/1-#3 POST STA. 9+61

4 NO THRU STREET

5 INSTALL W14-2 30"x30" W/1-#3 POST STA. 9+34

6 NO OUTLET

7 INSTALL W11-3 30"x30" W/1-#3 POST STA. 26+22

8 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 29+10

9 INSTALL R2-1 24"x30" W/1-#3 POST STA. 29+71

10 INSTALL R12-1 24"x30" W/1-#3 POST STA. 30+86

11 INSTALL M1-4 & M6-4 W/1-#3 POST STA. 32+06

12 INSTALL M1-4 & M6-4 W/1-#3 POST STA. 32+06

13 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 32+12

14 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 32+12

15 MOUNT D3 ON SIGNAL MAST ARM 48"x18" STA. 32+12

16 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 32+19

17 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 32+42

18 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 32+42

19 INSTALL W4-2 36"x36" W/1-#3 POST STA. 22+35

20 INSTALL W4-2 36"x36" W/1-#3 POST STA. 22+35

21 INSTALL M3-4 & M1-4 W/1-#3 POST STA. 18+40

22 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 19+29

23 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 19+29

24 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 20+85

25 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 20+85

26 INSTALL M1-5 & M6-1 W/1-#3 POST STA. 20+85

27 INSTALL W9-1 30"x30" W/1-#3 POST STA. 21+00

28 INSTALL M3-2 & M1-4 W/1-#3 POST STA. 21+75

29 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 22+35

30 INSTALL M3-2 & M1-4 W/1-#3 POST STA. 21+75

31 INSTALL W4-2 36"x36" W/1-#3 POST STA. 22+35

32 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 22+35

33 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 33+12

34 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 33+23

35 INSTALL D9-2 & M6-1 W/1-#3 POST STA. 33+45

36 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 33+45

37 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 33+57

38 MOUNT R10-H4d ON SIGNAL SUPPORT POLE 9"x12" STA. 33+57

39 MOUNT D3 ON SIGNAL MAST ARM 48"x18" STA. 33+57

40 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 34+00

41 INSTALL I-5 & M6-3 W/1-#3 POST STA. 34+25

42 INSTALL R3-H8cg 48"x30" W/2-#3 POSTS STA. 35+00

43 INSTALL M3-2 & M1-5 W/1-#3 POST STA. 34+50

44 INSTALL R2-1 24"x30" W/1-#3 POST STA. 34+00

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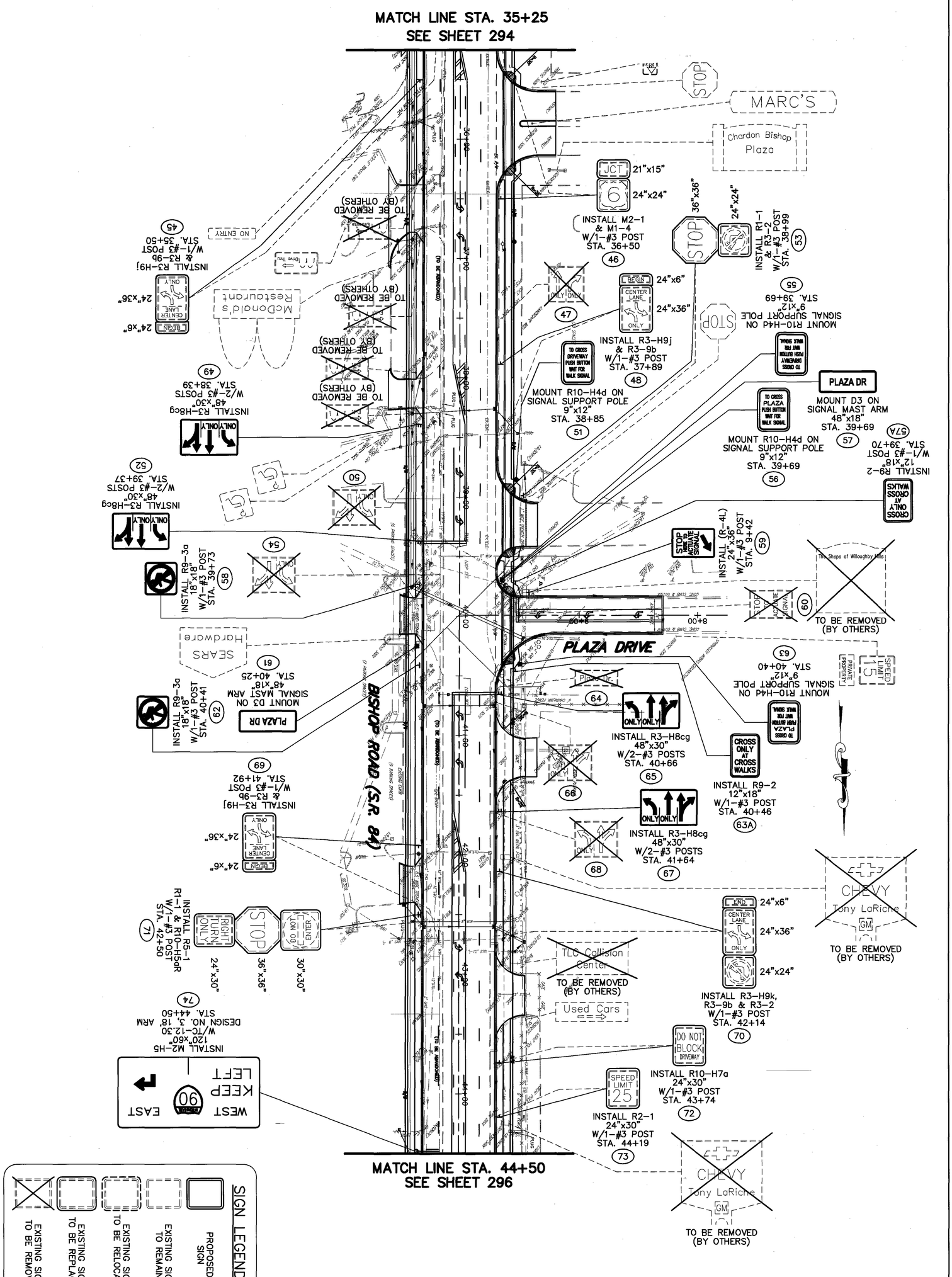

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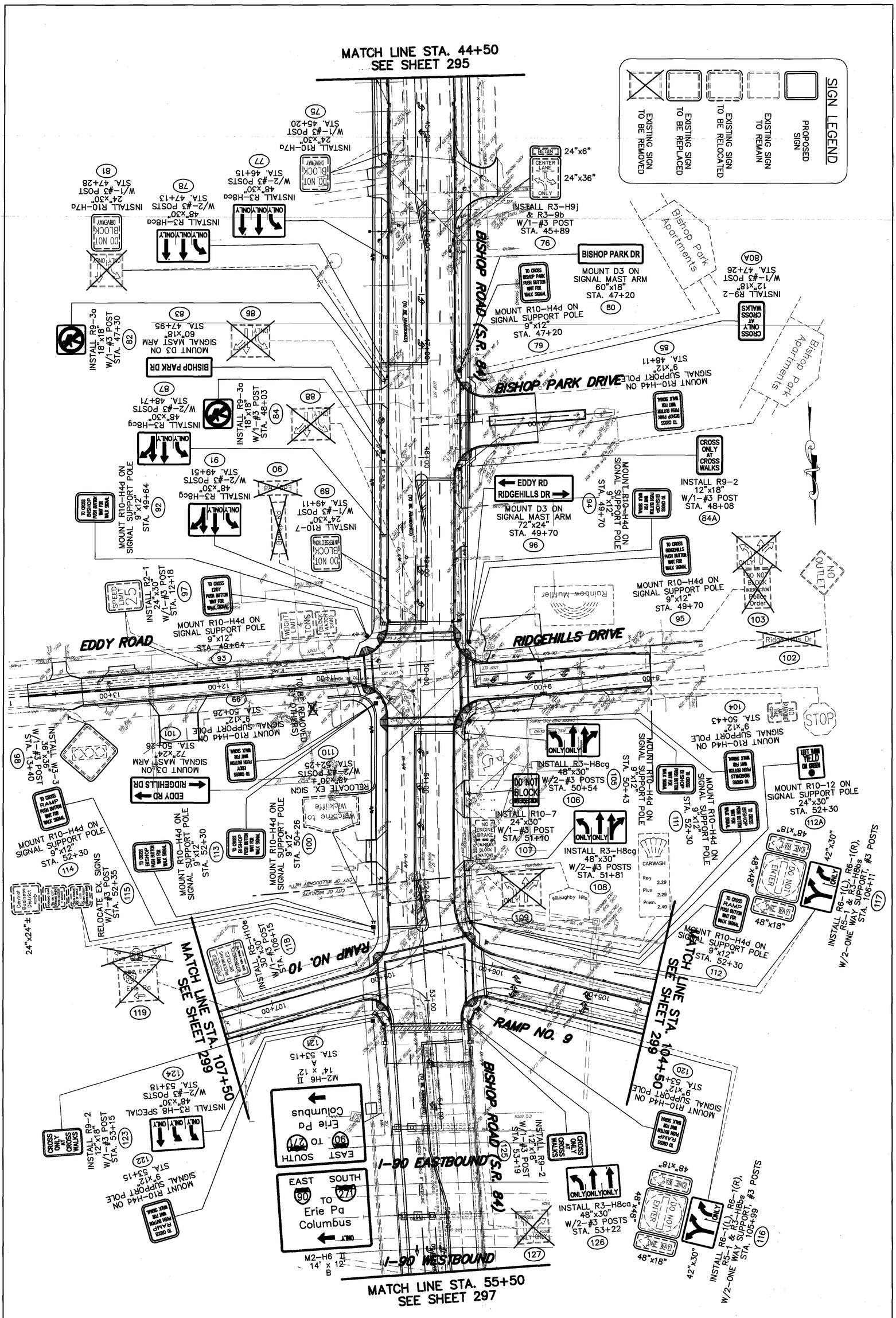

296 / 369	LAK – 90/84 – 0.54/0.43	SIGNING PLAN BISHOP ROAD (S.R. 84) – RAMP NO. 9 & 10 (I–90)	CALCULATED T.J.F. CHECKED G.L.B. 40 20 0 40 SCALE IN FEET

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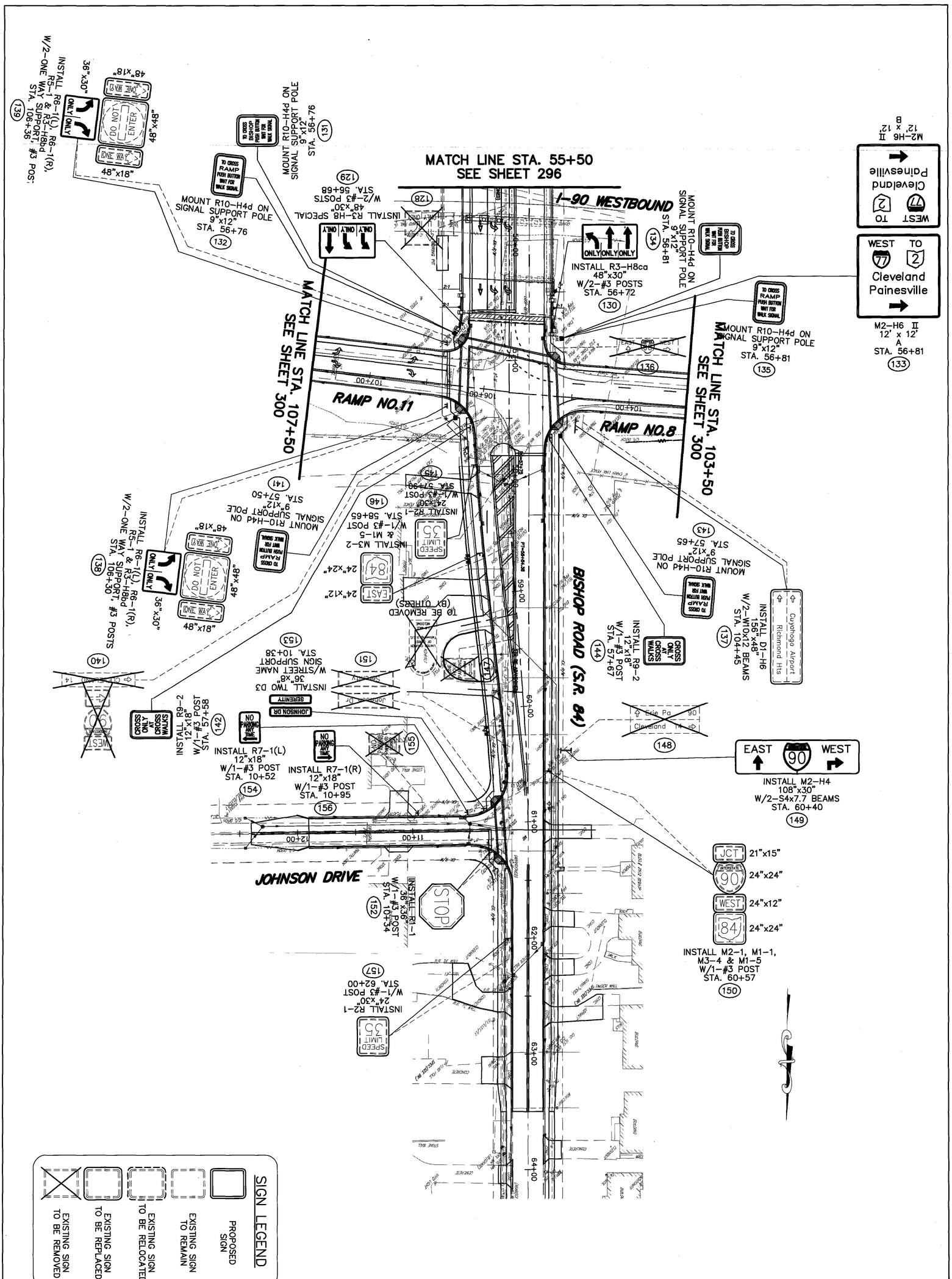

297 / 369	LAK – 90/84 – 0.54/0.43	SIGNING PLAN BISHOP ROAD (S.R. 84) – RAMP NO. 8 & 11 (I-90)	CALCULATED T.J.F. CHECKED G.L.B.	40 20 0 40 SCALE IN FEET

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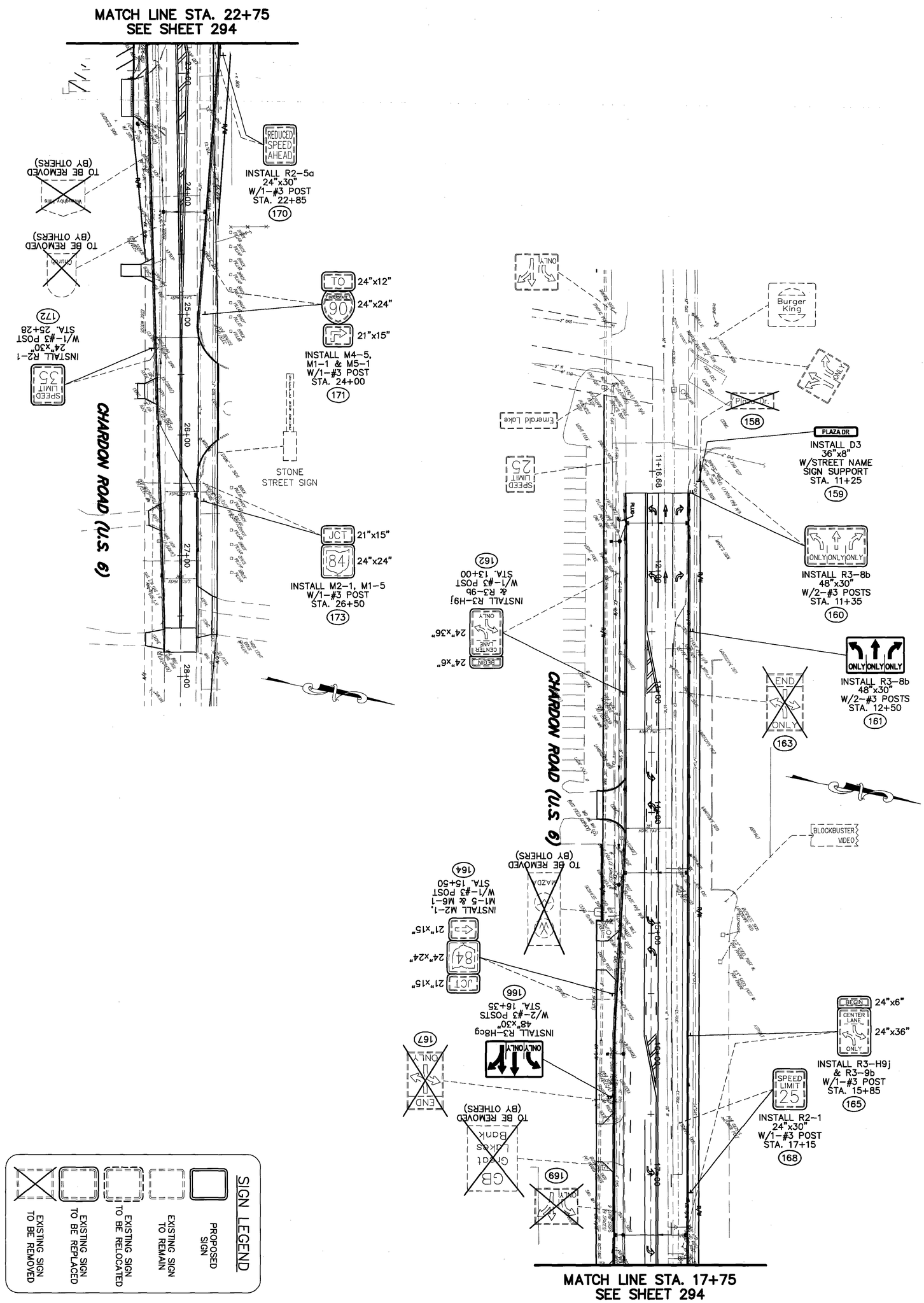

LAK – 90/84 – 0.54/0.43

SIGNING PLAN
CHARDON ROAD (U.S. 6)

CALCULATED T.J.F.
CHECKED G.L.B.

40 20 0 40
SCALE IN FEET

N

SIGN LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE RELOCATED
- EXISTING SIGN TO BE REPLACED
- EXISTING SIGN TO BE REMOVED

CALCULATED T.J.F.
CHECKED G.L.B.

SCALE IN FEET 40 20 0 40

SIGNING PLAN
RAMP NO. 9 & 10 (I-90)

LAK - 90/84 - 0.54/0.43

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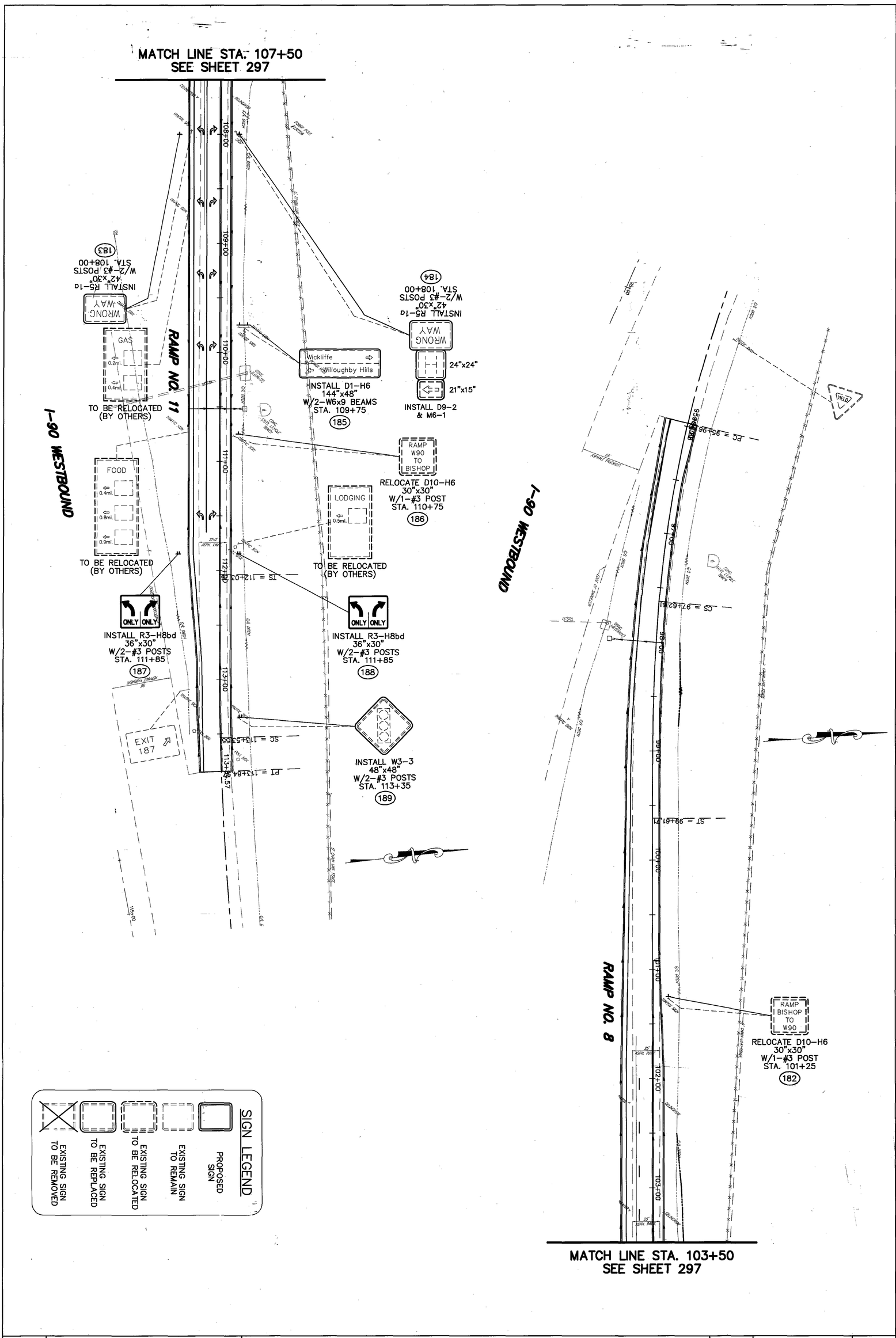

GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EACH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EACH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH
1	294	X	BISHOP																								
	294		BISHOP	24+12	R2-1	24x30	13															5					
2	294		BISHOP	24+53	D3	48x8								11.25										1			
3	294	X	BISHOP																								
4	294	X	EVERGREEN																								
5	294		EVERGREEN	9+34	W14-2	30x30	14.25															6.25					
6	294	X	EVERGREEN																								
	294		EVERGREEN	9+61	R1-1	36x36	13.5															9					
7	294	X	BISHOP																								
	294		BISHOP	26+22	W11-3	30x30	14.25															6.25					
8	294		BISHOP	29+10	R3-H8cg	48x30	26															10					
9	294	X	BISHOP																								
	294		BISHOP	29+71	R2-1	24x30	13															5					
10	294	X	BISHOP																								
	294		BISHOP	30+86	R12-1	24x30	13															5					
11	294	X	BISHOP																								
12	294	X	BISHOP																								
	294	X	BISHOP																								
	294		BISHOP	32+06	M1-4	24x24	13.75															4					
	294		BISHOP	32+06	M6-4	21x15																2.19					
13	294		BISHOP	32+12	R10-H4d	9x12														1		0.75					
14	294		BISHOP	32+12	R10-H4d	9x12														1		0.75					
15	294		BISHOP	32+12	D3	48x18												1				6					
16	294		BISHOP	32+19	R3-H8cg	48x30	26															10					
17	294		BISHOP	32+42	R10-H4d	9x12														1		0.75					
18	294		BISHOP	32+42	R10-H4d	9x12														1		0.75					
19	294	X	BISHOP																								
20	294	X	BISHOP																								
	294	X	BISHOP																								
21	294	X	CHARDON																								
	294	X	CHARDON																								
	294		CHARDON	18+40	M3-4	24x12	13.5															2					
	294		CHARDON	18+40	M1-4	24x24																4					
22	294		CHARDON	19+29	R3-H8cg	48x30	26															10					
23	294	X	CHARDON																								
24	294	X	CHARDON																								
25	294		CHARDON	20+85	R3-H8cg	48x30	26															10					
26	294	X	CHARDON																								
	294	X	CHARDON																								
SUB-TOTALS CARRIED TO SHEET 317							212.25		0	0	0		0	11.25		0		1	4			97.69	0	1			0

CALCULATED T.J.F.
CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK - 90/84 - 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630													DESCRIPTION
							REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL		REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION		REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			
							EA CH	EA CH	EA CH		EA CH	EA CH		EA CH	EA CH		EA CH			
1	294	X	BISHOP				1				1									EX. SPEED LIMIT 25
	294		BISHOP	24+12	R2-1	24x30														SPEED LIMIT 25
2	294		BISHOP	24+53	D3	48x8														EVERGREEN AV
3	294	X	BISHOP				1				1									EX. EVERGREEN AV
4	294	X	EVERGREEN				1				1									EX. NO THRU STREET
5	294		EVERGREEN	9+34	W14-2	30x30														NO OUTLET
6	294	X	EVERGREEN				1				1									EX. STOP
	294		EVERGREEN	9+61	R1-1	36x36														STOP
7	294	X	BISHOP				1				1									EX. DEER SYMBOL
	294		BISHOP	26+22	W11-3	30x30														DEER SYMBOL
8	294		BISHOP	29+10	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
9	294	X	BISHOP				1				1									EX. SPEED LIMIT 25
	294		BISHOP	29+71	R2-1	24x30														SPEED LIMIT 25
10	294	X	BISHOP				1				1									EX. LOAD LIMIT 6 TONS
	294		BISHOP	30+86	R12-1	24x30														LOAD LIMIT 6 TONS
11	294	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
12	294	X	BISHOP				1				1									EX U.S. 6 MARKER
	294	X	BISHOP				1													EX. DOUBLE HEADED HORIZONTAL ARROW
	294		BISHOP	32+06	M1-4	24x24														U.S. 6 MARKER
	294		BISHOP	32+06	M6-4	21x15														DOUBLE HEADED HORIZONTAL ARROW
13	294		BISHOP	32+12	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
14	294		BISHOP	32+12	R10-H4d	9x12														TO CROSS CHARDON PUSH BUTTON WAIT FOR WALK SIGNAL
15	294		BISHOP	32+12	D3	48x18														CHARDON RD
16	294		BISHOP	32+19	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
17	294		BISHOP	32+42	R10-H4d	9x12														TO CROSS CHARDON PUSH BUTTON WAIT FOR WALK SIGNAL
18	294		BISHOP	32+42	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
19	294	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
20	294	X	BISHOP											1						EX. CHARDON RD
	294	X	BISHOP											1						EX. BISHOP RD
21	294	X	CHARDON				1				1									EX. WEST
	294	X	CHARDON				1													EX U.S. 6 MARKER
	294		CHARDON	18+40	M3-4	24x12														WEST
	294		CHARDON	18+40	M1-4	24x24														U.S. 6 MARKER
22	294		CHARDON	19+29	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
23	294	X	CHARDON				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
24	294	X	CHARDON				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
25	294		CHARDON	20+85	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
26	294	X	CHARDON				1				1									EX. S.R. 84 MARKER
	294	X	CHARDON				1													EX. HORIZONTAL ARROW
SUB-TOTALS CARRIED TO SHEET 318							17	0	0		18	0		2	0		0			

CALCULATED T.J.F. CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

630

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EACH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EACH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH
26	294		CHARDON	20+85	M1-5	24x24	13.75															4					
	294		CHARDON	20+85	M6-1	21x15																2.19					
27	294		CHARDON	21+00	W9-1	30x30	14.25															6.25					
28	294	X	CHARDON																								
29	294	X	CHARDON																								
30	294	X	CHARDON																								
	294	X	CHARDON																								
	294		CHARDON	21+75	M3-2	24x12	13.5															2					
	294		CHARDON	21+75	M1-4	24x24																4					
31	294		CHARDON	22+35	W4-2	36x36	14.75															9					
32	294		CHARDON	22+35	R3-H8cg	48x30	26															10					
33	294		BISHOP	33+12	R10-H4d	9x12														1		0.75					
34	294		BISHOP	33+23	R10-H4d	9x12														1		0.75					
35	294	X	BISHOP																								
	294	X	BISHOP																								
	294	X	BISHOP																								
	294	X	BISHOP																								
	294	X	BISHOP																								
	294		BISHOP	33+45	D9-2	24x24	13.75															4					
	294	X	BISHOP																								
	294		BISHOP	33+45	M6-1	21x15																2.19					
36	294		BISHOP	33+45	R3-H8cg	48x30	26															10					
37	294		BISHOP	33+57	R10-H4d	9x12														1		0.75					
38	294		BISHOP	33+57	R10-H4d	9x12														1		0.75					
39	294		BISHOP	33+57	D3	48x18												1				6					
40	294	X	BISHOP																								
	294		BISHOP	34+00	R2-1	24x30	13															5					
41	294		BISHOP	34+25	I-5	24x24	13.75															4					
	294		BISHOP	34+25	M6-3	21x15																2.19					
42	294	X	BISHOP																								
	294	X	BISHOP																								
43	294	X	BISHOP																								
	294	X	BISHOP																								
	294		BISHOP	34+50	M3-2	24x12	13.5															2					
	294		BISHOP	34+50	M1-5	24x24																4					
44	294		BISHOP	35+00	R3-H8cg	48x30	26															10					
45	295	X	BISHOP																								
	295	X	BISHOP																								
	295		BISHOP	35+50	R3-H9j	24x6	14															1					
	295		BISHOP	35+50	R3-9b	24x36																6					
SUB-TOTALS CARRIED TO SHEET 317							202.25		0	0	0		0	0		0		1	4			96.82	0	0			0

CALCULATED T.J.F.
CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK - 90/84 - 0.54/0.43

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369

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL EACH	630	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	630	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN EACH	630	630	DESCRIPTION
26	294		CHARDON	20+85	M1-5	24x24														S.R. 84 MARKER
	294		CHARDON	20+85	M6-1	21x15														HORIZONTAL ARROW
27	294		CHARDON	21+00	W9-1	30x30														RIGHT LANE ENDS
28	294	X	CHARDON				1				1									EX. SPEED LIMIT 35
29	294	X	CHARDON				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
30	294	X	CHARDON				1				1									EX. EAST
	294	X	CHARDON				1													EX U.S. 6 MARKER
	294		CHARDON	21+75	M3-2	24x12														EAST
	294		CHARDON	21+75	M1-4	24x24														U.S. 6 MARKER
31	294		CHARDON	22+35	W4-2	36x36														LANE REDUCTION SYMBOL
32	294		CHARDON	22+35	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
33	294		BISHOP	33+12	R10-H4d	9x12														TO CROSS CHARDON PUSH BUTTON WAIT FOR WALK SIGNAL
34	294		BISHOP	33+23	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
35	294	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU, RIGHT
	294	X	BISHOP				1													EX I.R. 90 MARKER
	294	X	BISHOP				1													EX. DETOUR WITH ARROW SYMBOL
	294	X	BISHOP				1													EX. HOSPITAL
	294	X	BISHOP				1													EX. HOSPITAL SYMBOL
	294		BISHOP	33+45	D9-2	24x24														HOSPITAL SYMBOL
	294	X	BISHOP				1													EX. ARROW SYMBOL
	294		BISHOP	33+45	M6-1	21x15														ARROW SYMBOL
36	294		BISHOP	33+45	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
37	294		BISHOP	33+57	R10-H4d	9x12														TO CROSS CHARDON PUSH BUTTON WAIT FOR WALK SIGNAL
38	294		BISHOP	33+57	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
39	294		BISHOP	33+57	D3	48x18														CHARDON RD
40	294	X	BISHOP				1				1									EX. SPEED LIMIT 25
	294		BISHOP	34+00	R2-1	24x30														SPEED LIMIT 25
41	294		BISHOP	34+25	I-5	24x24														AIRPORT SYMBOL
	294		BISHOP	34+25	M6-3	21x15														THRU ARROW SYMBOL
42	294	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU, RIGHT
	294	X	BISHOP				1													EX. CUYAHOGA COUNTY AIRPORT
43	294	X	BISHOP											1						EX. EAST
	294	X	BISHOP											1						EX. S.R. 84 MARKER
	294		BISHOP	34+50	M3-2	24x12														EAST
	294		BISHOP	34+50	M1-5	24x24														S.R. 84 MARKER
44	294		BISHOP	35+00	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
45	295	X	BISHOP				1				1									EX. BEGIN
	295	X	BISHOP				1													EX. TWO WAY LEFT TURN ONLY
	295		BISHOP	35+50	R3-H9j	24x6														BEGIN
	295		BISHOP	35+50	R3-9b	24x36														TWO WAY LEFT TURN ONLY
SUB-TOTALS CARRIED TO SHEET 318							15	0	0		10	0		2	0		0			

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F. CHECKED G.L.B.

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EA CH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EA CH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EA CH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EA CH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EA CH
46	295	X	BISHOP																								
	295	X	BISHOP																								
	295		BISHOP	36+50	M2-1	21x15	13.75														2.19						
	295		BISHOP	36+50	M1-4	24x24															4						
47	295	X	BISHOP																								
48	295	X	BISHOP																								
	295	X	BISHOP																								
	295		BISHOP	37+89	R3-H9j	24x6	14														1						
	295		BISHOP	37+89	R3-9b	24x36															6						
49	295		BISHOP	38+39	R3-H8cg	48x30	26														10						
50	295	X	BISHOP																								
51	295		BISHOP	38+85	R10-H4d	9x12														1	0.75						
52	295		BISHOP	39+37	R3-H8cg	48x30	26														10						
53	295	X	BISHOP																								
	295	X	BISHOP																								
	295		BISHOP	38+99	R1-1	36x36	15.5														9						
	295		BISHOP	38+99	R3-2	24x24															4						
54	295	X	BISHOP																								
55	295		BISHOP	39+69	R10-H4d	9x12														1	0.75						
56	295		BISHOP	39+69	R10-H4d	9x12														1	0.75						
57	295		BISHOP	39+69	D3	48x18												1			6						
57A	295		BISHOP	39+70	R9-2	12x18	12														1.5						
58	295		BISHOP	39+73	R9-3a	18x18	12														2.25						
59	295		PLAZA	9+42	(R-4L)	24x36	13.5														6						
60	295	X	PLAZA																								
61	295		BISHOP	40+25	D3	48x18												1			6						
62	295		BISHOP	40+41	R9-3a	18x18	12														2.25						
63	295		BISHOP	40+40	R10-H4d	9x12														1	0.75						
63A	295		BISHOP	40+46	R9-2	12x18	12														1.5						
64	295	X	BISHOP																								
65	295		BISHOP	40+66	R3-H8cg	48x30	26														10						
66	295	X	BISHOP																								
67	295		BISHOP	41+64	R3-H8cg	48x30	26														10						
68	295	X	BISHOP																								
69	295	X	BISHOP																								
	295	X	BISHOP																								
	295		BISHOP	41+92	R3-H9j	24x6	14														1						
	295		BISHOP	41+92	R3-9b	24x36															6						
70	295	X	BISHOP																								
	295	X	BISHOP																								
	295	X	BISHOP																								
SUB-TOTALS CARRIED TO SHEET 317							222.75		0	0	0		0	0		0		2	4		101.69	0	0			0

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

LAK – 90/84 – 0.54/0.43

305
369

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630													DESCRIPTION
							REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL		REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION		REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			
							EACH	EACH	EACH		EACH	EACH		EACH	EACH		EACH			
46	295	X	BISHOP				1				1									EX. JCT
	295	X	BISHOP				1													EX. U.S. 6 MARKER
	295		BISHOP	36+50	M2-1	21x15														JCT
	295		BISHOP	36+50	M1-4	24x24														U.S. 6 MARKER
47	295	X	BISHOP				1				1									EX. LANE CONTROL - THRU, RIGHT
48	295	X	BISHOP				1				1									EX. BEGIN
	295	X	BISHOP				1													EX. TWO WAY LEFT TURN ONLY
	295		BISHOP	37+89	R3-H9j	24x6														BEGIN
	295		BISHOP	37+89	R3-9b	24x36														TWO WAY LEFT TURN ONLY
49	295		BISHOP	38+39	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
50	295	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
51	295		BISHOP	38+85	R10-H4d	9x12														TO CROSS DRIVEWAY PUSH BUTTON WAIT FOR WALK SIGNAL
52	295		BISHOP	39+37	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
53	295	X	BISHOP				1				1									EX. STOP
	295	X	BISHOP				1													EX. NO LEFT TURN SYMBOL
	295		BISHOP	38+99	R1-1	36x36														STOP
	295		BISHOP	38+99	R3-2	24x24														NO LEFT TURN SYMBOL
54	295	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
55	295		BISHOP	39+69	R10-H4d	9x12														TO CROSS DRIVEWAY PUSH BUTTON WAIT FOR WALK SIGNAL
56	295		BISHOP	39+69	R10-H4d	9x12														TO CROSS PLAZA PUSH BUTTON WAIT FOR WALK SIGNAL
57	295		BISHOP	39+69	D3	48x18														PLAZA DR
57A	295		BISHOP	39+70	R9-2	12x18														CROSS ONLY AT CROSS WALKS
58	295		BISHOP	39+73	R9-3a	18x18														NO PEDESTRIAN CROSSING SYMBOL
59	295		PLAZA	9+42	(R-4L)	24x36														STOP HERE TO ACTUATE SIGNAL W/ARROW
60	295	X	PLAZA				1				1									EX. STOP TO ACTUATE SIGNAL
61	295		BISHOP	40+25	D3	48x18														PLAZA DR
62	295		BISHOP	40+41	R9-3a	18x18														NO PEDESTRIAN CROSSING SYMBOL
63	295		BISHOP	40+40	R10-H4d	9x12														TO CROSS PLAZA PUSH BUTTON WAIT FOR WALK SIGNAL
63A	295		BISHOP	40+46	R9-2	12x18														CROSS ONLY AT CROSS WALKS
64	295	X	BISHOP				1				1									EX. BISHOP DR
65	295		BISHOP	40+66	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
66	295	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
67	295		BISHOP	41+64	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
68	295	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
69	295	X	BISHOP				1				1									EX. BEGIN
	295	X	BISHOP				1													EX. TWO WAY LEFT TURN ONLY
	295		BISHOP	41+92	R3-H9j	24x6														BEGIN
	295		BISHOP	41+92	R3-9b	24x36														TWO WAY LEFT TURN ONLY
70	295	X	BISHOP				1				1									EX. END
	295	X	BISHOP				1													EX. TWO WAY LEFT TURN ONLY
	295	X	BISHOP				1													EX. NO LEFT TURN SYMBOL
SUB-TOTALS CARRIED TO SHEET 318							18	0	0		16	0		0	0		0			

CALCULATED T.J.F. CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EACH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EACH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH
70	295		BISHOP	42+14	R3-H9k	24x6	16															1				
	295		BISHOP	42+14	R3-9b	24x36																6				
	295		BISHOP	42+14	R3-2	24x24																4				
71	295	X	BISHOP																							
	295	X	BISHOP																							
	295	X	BISHOP																							
	295		BISHOP	42+50	R5-1	30x30	16															6.25				
	295		BISHOP	42+50	R1-1	36x36																9				
	295		BISHOP	42+50	R10-H5aR	24x30																6				
72	295	X	BISHOP	43+74																						
	295		BISHOP	43+74	R10-H7a	24x30	13															6				
73	295	X	BISHOP																							
	295		BISHOP	43+74	R2-1	24x30	13															5				
75	296	X	BISHOP	45+20																						
	296		BISHOP	45+20	R10-H7a	24x30	13															6				
76	296	X	BISHOP																							
	296	X	BISHOP																							
	296		BISHOP	45+89	R3-H9j	24x6	14															1				
	296		BISHOP	45+89	R3-9b	24x36																6				
77	296		BISHOP	46+15	R3-H8ca	48x30	26															10				
78	296		BISHOP	47+13	R3-H8ca	48x30	26															10				
79	296		BISHOP	47+20	R10-H4d	9x12													1			0.75				
80	296		BISHOP	47+20	D3	60x18												1				7.5				
80A	296		BISHOP	47+26	R9-2	12x18	12															1.5				
81	296	X	BISHOP																							
	296	X	BISHOP																							
	296		BISHOP	47+28	R10-H7a	24x30	13															6				
82	296		BISHOP	47+30	R9-3a	18x18	12															2.25				
83	296		BISHOP	47+95	D3	60x18												1				7.5				
84	296		BISHOP	48+03	R9-3a	18x18	12															2.25				
84A	296		BISHOP	48+08	R9-2	12x18	12															1.5				
85	296		BISHOP	48+11	R10-H4d	9x12													1			0.75				
86	296	X	BISHOP																							
87	296		BISHOP	48+71	R3-H8cg	48x30	26															10				
88	296	X	BISHOP																							
89	296	X	BISHOP																							
	296		BISHOP	49+11	R10-7	24x30	13															6				
90	296	X	BISHOP																							
	296	X	BISHOP																							
91	296		BISHOP	49+51	R3-H8cg	48x30	26															10				
92	296		BISHOP	49+64	R10-H4d	9x12													1			0.75				
93	296		BISHOP	49+64	R10-H4d	9x12													1			0.75				
SUB-TOTALS CARRIED TO SHEET 317							263		0	0	0		0	0		0		2	4			133.75	0	0			0

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630													DESCRIPTION
							REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL		REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION		REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			
							EACH	EACH	EACH		EACH	EACH		EACH	EACH		EACH			
70	295		BISHOP	42+14	R3-H9k	24x6														END
	295		BISHOP	42+14	R3-9b	24x36														TWO WAY LEFT TURN ONLY
	295		BISHOP	42+14	R3-2	24x24														NO LEFT TURN SYMBOL
71	295	X	BISHOP				1				1									EX. DO NOT ENTER
	295	X	BISHOP				1													EX. STOP
	295	X	BISHOP				1													EX. RIGHT TURN ONLY
	295		BISHOP	42+50	R5-1	30x30														DO NOT ENTER
	295		BISHOP	42+50	R1-1	36x36														STOP
	295		BISHOP	42+50	R10-H5aR	24x30														RIGHT TURN ONLY
72	295	X	BISHOP	43+74			1				1									EX. DO NOT BLOCK DRIVEWAY
	295		BISHOP	43+74	R10-H7a	24x30														DO NOT BLOCK DRIVEWAY
73	295	X	BISHOP				1				1									EX. SPEED LIMIT 25
	295		BISHOP	43+74	R2-1	24x30														SPEED LIMIT 25
75	296	X	BISHOP	45+20			1				1									EX. DO NOT BLOCK DRIVEWAY
	296		BISHOP	45+20	R10-H7a	24x30														DO NOT BLOCK DRIVEWAY
76	296	X	BISHOP				1				1									EX. BEGIN
	296	X	BISHOP				1													EX. TWO WAY LEFT TURN ONLY
	296		BISHOP	45+89	R3-H9j	24x6														BEGIN
	296		BISHOP	45+89	R3-9b	24x36														TWO WAY LEFT TURN ONLY
77	296		BISHOP	46+15	R3-H8ca	48x30														LANE CONTROL - LEFT, THRU, THRU
78	296		BISHOP	47+13	R3-H8ca	48x30														LANE CONTROL - LEFT, THRU, THRU
79	296		BISHOP	47+20	R10-H4d	9x12														TO CROSS BISHOP PARK PUSH BUTTON WAIT FOR WALK SIGNAL
80	296		BISHOP	47+20	D3	60x18														BISHOP PARK DR
80A	296		BISHOP	47+26	R9-2	12x18														CROSS ONLY AT CROSS WALKS
81	296	X	BISHOP				1				1									EX. LANE CONTROL - LEFT, THRU
	296	X	BISHOP				1													EX. DO NOT BLOCK DRIVEWAY
	296		BISHOP	47+28	R10-H7a	24x30														DO NOT BLOCK DRIVEWAY
82	296		BISHOP	47+30	R9-3a	18x18														NO PEDESTRIAN CROSSING SYMBOL
83	296		BISHOP	47+95	D3	60x18														BISHOP PARK DR
84	296		BISHOP	48+03	R9-3a	18x18														NO PEDESTRIAN CROSSING SYMBOL
84A	296		BISHOP	48+08	R9-2	12x18														CROSS ONLY AT CROSS WALKS
85	296		BISHOP	48+11	R10-H4d	9x12														TO CROSS BISHOP PARK PUSH BUTTON WAIT FOR WALK SIGNAL
86	296	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
87	296		BISHOP	48+71	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
88	296	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
89	296	X	BISHOP											1						EX. DO NOT BLOCK INTERSECTION
	296		BISHOP	49+11	R10-7	24x30														DO NOT BLOCK INTERSECTION
90	296	X	BISHOP											1						EX. BISHOP RD
	296	X	BISHOP											1						EX. EDDY RD
91	296		BISHOP	49+51	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
92	296		BISHOP	49+64	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
93	296		BISHOP	49+64	R10-H4d	9x12														TO CROSS EDDY PUSH BUTTON WAIT FOR WALK SIGNAL
SUB-TOTALS CARRIED TO SHEET 318							12	0	0		10	0		3	0		0			

CALCULATED T.J.F. CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EACH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EACH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH
94	296		BISHOP	49+70	R10-H4d	9x12													1		0.75						
95	296		BISHOP	49+70	R10-H4d	9x12													1		0.75						
96	296		BISHOP	49+70	D3	72x24												1			12						
97	296	X	EDDY																								
	296		EDDY	12+18	R2-1	24x30	13														5						
98	296	X	EDDY																								
	296		EDDY	13+40	W3-3	36x36	14.75														9						
99	296		BISHOP	50+26	R10-H4d	9x12													1		0.75						
100	296		BISHOP	50+26	R10-H4d	9x12													1		0.75						
101	296		BISHOP	50+26	D3	72x24												1			12						
102	296	X	BISHOP																								
103	296	X	BISHOP																								
	296	X	BISHOP																								
104	296		BISHOP	50+43	R10-H4d	9x12													1		0.75						
105	296		BISHOP	50+43	R10-H4d	9x12													1		0.75						
106	296		BISHOP	50+54	R3-H8cg	48x30	26														10						
107	296		BISHOP	51+10	R10-7	24x30	13														6						
108	296		BISHOP	51+81	R3-H8cg	48x30	26														10						
109	296	X	BISHOP																								
110	296	X	BISHOP	52+25			26																				
111	296		BISHOP	52+30	R10-H4d	9x12													1		0.75						
112	296		BISHOP	52+30	R10-H4d	9x12													1		0.75						
112A	296		BISHOP	52+30	R10-12	24x30												1			5						
113	296		BISHOP	52+30	R10-H4d	9x12													1		0.75						
114	296		BISHOP	52+30	R10-H4d	9x12													1		0.75						
115	296	X	BISHOP	52+35			15.5																				
	296	X	BISHOP	52+35																							
	296	X	BISHOP	52+35																							
116	296	X	RAMP NO. 9																								
	296	X	RAMP NO. 9																								
	296	X	RAMP NO. 9																								
	296		RAMP NO. 9	105+99	R6-1(L)	48x18							32								6						
	296		RAMP NO. 9	105+99	R6-1(R)	48x18															6						
	296		RAMP NO. 9	105+99	R5-1	48x48															16						
	296		RAMP NO. 9	105+99	R3-H8bs	42x30															8.75						
117	296	X	RAMP NO. 9																								
	296	X	RAMP NO. 9																								
	296	X	RAMP NO. 9																								
SUB-TOTALS CARRIED TO SHEET 317							134.25		0	0	0		32	0		0		3	10		113.25	0	0			0	

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630													DESCRIPTION
							REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL		REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION		REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			
							EACH	EACH	EACH		EACH	EACH		EACH	EACH		EACH			
94	296		BISHOP	49+70	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
95	296		BISHOP	49+70	R10-H4d	9x12														TO CROSS RIDGEHILLS PUSH BUTTON WAIT FOR WALK SIGNAL
96	296		BISHOP	49+70	D3	72x24														EDDY RD W/ARROW, RIDGEHILLS DR W/ARROW
97	296	X	EDDY				1				1									EX. SPEED LIMIT 25
	296		EDDY	12+18	R2-1	24x30														SPEED LIMIT 25
98	296	X	EDDY				1				1									EX. SIGNAL AHEAD SYMBOL
	296		EDDY	13+40	W3-3	36x36														SIGNAL AHEAD SYMBOL
99	296		BISHOP	50+26	R10-H4d	9x12														TO CROSS EDDY PUSH BUTTON WAIT FOR WALK SIGNAL
100	296		BISHOP	50+26	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
101	296		BISHOP	50+26	D3	72x24														EDDY RD W/ARROW, RIDGEHILLS DR W/ARROW
102	296	X	BISHOP				1				1									EX. RIDGEHILLS DR
103	296	X	BISHOP				1				1									EX. LANE CONTROL - LEFT, THRU/RIGHT
	296	X	BISHOP				1													EX. DO NOT BLOCK INTERSECTION POLICE ORDER
104	296		BISHOP	50+43	R10-H4d	9x12														TO CROSS RIDGEHILLS PUSH BUTTON WAIT FOR WALK SIGNAL
105	296		BISHOP	50+43	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
106	296		BISHOP	50+54	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
107	296		BISHOP	51+10	R10-7	24x30														DO NOT BLOCK INTERSECTION
108	296		BISHOP	51+81	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
109	296	X	BISHOP				1				2									EX. LANE CONTROL - LEFT, THRU/RIGHT
110	296	X	BISHOP	52+25				1			2									EX. WELCOME TO WICKLIFFE
111	296		BISHOP	52+30	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
112	296		BISHOP	52+30	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
112A	296		BISHOP	52+30	R10-12	24x30														LEFT TURN YIELD ON GREEN W/GREEN BALL SYMBOL
113	296		BISHOP	52+30	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
114	296		BISHOP	52+30	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
115	296	X	BISHOP	52+35											1					EX. CENTRAL BUSINESS DISTRICT W/ARROW
	296	X	BISHOP	52+35											1					EX. PARKING BAN ON CITY STREETS WHEN SNOW EXCEEDS 2 INCHES
	296	X	BISHOP	52+35											1					EX. NO PARKING ON HYDRANT SIDE OF STREET, ON PUBLIC STREETS 2AM-5AM
116	296	X	RAMP NO. 9				1				2									EX. ONE WAY ENCLOSED IN ARROW
	296	X	RAMP NO. 9				1													EX. ONE WAY ENCLOSED IN ARROW
	296	X	RAMP NO. 9				1													EX. DO NOT ENTER
	296		RAMP NO. 9	105+99	R6-1(L)	48x18														ONE WAY ENCLOSED IN ARROW
	296		RAMP NO. 9	105+99	R6-1(R)	48x18														ONE WAY ENCLOSED IN ARROW
	296		RAMP NO. 9	105+99	R5-1	48x48														DO NOT ENTER
	296		RAMP NO. 9	105+99	R3-H8bs	42x30														LANE CONTROL - LEFT/RIGHT, RIGHT
117	296	X	RAMP NO. 9				1				2									EX. ONE WAY ENCLOSED IN ARROW
	296	X	RAMP NO. 9				1													EX. ONE WAY ENCLOSED IN ARROW
	296	X	RAMP NO. 9				1													EX. DO NOT ENTER
SUB-TOTALS CARRIED TO SHEET 318							12	1	0		12	0		0	3		0			

CALCULATED T.J.F. CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EA CH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EA CH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EA CH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EA CH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EA CH
117	296		RAMP NO. 9	106+11	R6-1(L)	48x18							32									6					
	296		RAMP NO. 9	106+11	R6-1(R)	48x18																6					
	296		RAMP NO. 9	106+11	R5-1	48x48																16					
	296		RAMP NO. 9	106+11	R3-H8bs	42x30																8.75					
118	296	X	RAMP NO. 10																								
	296		RAMP NO. 10	106+15	R5-H10e	30x30	13															6.25					
119	296	X	BISHOP																								
	296	X	BISHOP																								
120	296		BISHOP	53+11	R10-H4d	9x12														1		0.75					
122	296		BISHOP	53+15	R10-H4d	9x12														1		0.75					
123	296		BISHOP	53+15	R9-2	12x18	12															1.5					
124	296		BISHOP	53+18	R3-H8 SPEC	48x30	26															10					
125	296		BISHOP	53+19	R9-2	12x18	12															1.5					
126	296		BISHOP	53+22	R3-H8ca	48x30	26															10					
127	296	X	BISHOP																								
128	297	X	BISHOP																								
129	297		BISHOP	56+68	R3-H8 SPEC	48x30	26															10					
130	297		BISHOP	56+72	R3-H8ca	48x30	26															10					
131	297		BISHOP	56+76	R10-H4d	9x12														1		0.75					
132	297		BISHOP	56+76	R10-H4d	9x12														1		0.75					
134	297		BISHOP	56+81	R10-H4d	9x12														1		0.75					
135	297		BISHOP	56+81	R10-H4d	9x12														1		0.75					
136	297	X	BISHOP																								
137	297	X	RAMP NO. 8																								
	297		RAMP NO. 8	104+45	D1-H6	156x48					35.12					2							52				2
138	297	X	RAMP NO. 11																								
	297	X	RAMP NO. 11																								
	297	X	RAMP NO. 11																								
	297		RAMP NO. 11	106+30	R6-1(L)	48x18							32									6					
	297		RAMP NO. 11	106+30	R6-1(R)	48x18																6					
	297		RAMP NO. 11	106+30	R5-1	48x48																16					
	297		RAMP NO. 11	106+30	R3-H8bd	36x30																7.5					
139	297	X	RAMP NO. 11																								
	297	X	RAMP NO. 11																								
	297	X	RAMP NO. 11																								
SUB-TOTALS CARRIED TO SHEET 317							141		0	0	35.12		64	0		2		0	6			126	52	0			2

CALCULATED T.J.F.
CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630													DESCRIPTION
							REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL		REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION		REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			
							EACH	EACH	EACH		EACH	EACH		EACH	EACH		EACH			
117	296		RAMP NO. 9	106+11	R6-1(L)	48x18														ONE WAY ENCLOSED IN ARROW
	296		RAMP NO. 9	106+11	R6-1(R)	48x18														ONE WAY ENCLOSED IN ARROW
	296		RAMP NO. 9	106+11	R5-1	48x48														DO NOT ENTER
	296		RAMP NO. 9	106+11	R3-H8bs	42x30														LANE CONTROL - LEFT/RIGHT, RIGHT
118	296	X	RAMP NO. 10				1				1									EX. PROHIBITED PEDESTRIANS BICYCLES MOTORCYCLES (LESS
																				THAN 5 BRAKE HP)
	296		RAMP NO. 10	106+15	R5-H10e	30x30														PROHIBITED PEDESTRIANS BICYCLES MOTORCYCLES (LESS
																				THAN 5 BRAKE HP)
119	296	X	BISHOP						1			2								EX. WEST, I-90 MARKER, EAST
	296	X	BISHOP						1											EX. I-90 MARKER, EAST, ERIE PA.
120	296		BISHOP	53+11	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
122	296		BISHOP	53+15	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
123	296		BISHOP	53+15	R9-2	12x18														CROSS ONLY AT CROSS WALKS
124	296		BISHOP	53+18	R3-H8 SPEC	48x30														LANE CONTROL - LEFT, LEFT, THRU
125	296		BISHOP	53+19	R9-2	12x18														CROSS ONLY AT CROSS WALKS
126	296		BISHOP	53+22	R3-H8ca	48x30														LANE CONTROL - LEFT, THRU, THRU
127	296	X	BISHOP														1			EX. LANE CONTROL - THRU, RIGHT
128	297	X	BISHOP														1			EX. LANE CONTROL - THRU, RIGHT
129	297		BISHOP	56+68	R3-H8 SPEC	48x30														LANE CONTROL - LEFT, LEFT, THRU
130	297		BISHOP	56+72	R3-H8ca	48x30														LANE CONTROL - LEFT, THRU, THRU
131	297		BISHOP	56+76	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
132	297		BISHOP	56+76	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
134	297		BISHOP	56+81	R10-H4d	9x12														TO CROSS BISHOP PUSH BUTTON WAIT FOR WALK SIGNAL
135	297		BISHOP	56+81	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
136	297	X	BISHOP						1			2								EX. EAST, I-90 MARKER, WEST
137	297	X	RAMP NO. 8						1			2								EX. CUYAHOGA AIRPORT, RICHMOND HTS
	297		RAMP NO. 8	104+45	D1-H6	156x48														CUYAHOGA AIRPORT, RICHMOND HTS
138	297	X	RAMP NO. 11				1				2									EX. ONE WAY ENCLOSED IN ARROW
	297	X	RAMP NO. 11				1													EX. ONE WAY ENCLOSED IN ARROW
	297	X	RAMP NO. 11				1													EX. DO NOT ENTER
	297		RAMP NO. 11	106+30	R6-1(L)	48x18														ONE WAY ENCLOSED IN ARROW
	297		RAMP NO. 11	106+30	R6-1(R)	48x18														ONE WAY ENCLOSED IN ARROW
	297		RAMP NO. 11	106+30	R5-1	48x48														DO NOT ENTER
	297		RAMP NO. 11	106+30	R3-H8bd	36x30														LANE CONTROL - LEFT, RIGHT
139	297	X	RAMP NO. 11				1				2									EX. ONE WAY ENCLOSED IN ARROW
	297	X	RAMP NO. 11				1													EX. ONE WAY ENCLOSED IN ARROW
	297	X	RAMP NO. 11				1													EX. DO NOT ENTER
SUB-TOTALS CARRIED TO SHEET 318							7	0	4		5	6		0	0		2			

CALCULATED T.J.F. CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EACH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EACH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH
139	297		RAMP NO. 11	106+36	R6-1(L)	48x18							32									6					
	297		RAMP NO. 11	106+36	R6-1(R)	48x18																6					
	297		RAMP NO. 11	106+36	R5-1	48x48																16					
	297		RAMP NO. 11	106+36	R3-H8bd	36x30																7.5					
140	297	X	BISHOP																								
	297	X	BISHOP																								
	297	X	BISHOP																								
	297	X	BISHOP																								
141	297		BISHOP	57+50	R10-H4d	9x12														1		0.75					
142	297		BISHOP	57+58	R9-2	12x18	12															1.5					
143	297		BISHOP	57+65	R10-H4d	9x12														1		0.75					
144	297		BISHOP	57+67	R9-2	12x18	12															1.5					
145	297	X	BISHOP																								
	297		BISHOP	57+90	R2-1	24x30	13															5					
146	297	X	BISHOP																								
	297	X	BISHOP																								
	297		BISHOP	58+65	M3-2	24x12	13.5															2					
	297		BISHOP	58+65	M1-5	24x24																4					
147	297	X	BISHOP																								
148	297	X	BISHOP																								
149	297		BISHOP	60+40	M2-H4	108x30			25.4							2							22.5				2
150	297	X	BISHOP																								
	297	X	BISHOP																								
	297	X	BISHOP																								
	297	X	BISHOP																								
	297		BISHOP	60+57	M2-1	21x15	16.75															2.19					
	297		BISHOP	60+57	M1-1	24x24																4					
	297		BISHOP	60+57	M3-4	24x12																2					
	297		BISHOP	60+57	M1-5	24x24																4					
151	297	X	BISHOP																								
	297	X	BISHOP																								
152	297	X	JOHNSON																								
	297		JOHNSON	10+34	R1-1	36x36	13.5															9					
153	297		JOHNSON	10+38	D3	36x8								11.25										1			
	297		JOHNSON	10+38	D3	36x8																		1			
154	297		JOHNSON	10+52	R7-1(L)	12x18	12															1.5					
155	297	X	JOHNSON																								
156	297		JOHNSON	10+95	R7-1(R)	12x18	12															1.5					
SUB-TOTALS CARRIED TO SHEET 317							104.75		25.4	0	0		32	11.25		2		0	2		75.19	22.5	2			2

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

CALCULATED T.J.F.
CHECKED G.L.B.

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL EACH		REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH		REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN EACH			DESCRIPTION
139	297		RAMP NO. 11	106+36	R6-1(L)	48x18														ONE WAY ENCLOSED IN ARROW
	297		RAMP NO. 11	106+36	R6-1(R)	48x18														ONE WAY ENCLOSED IN ARROW
	297		RAMP NO. 11	106+36	R5-1	48x48														DO NOT ENTER
	297		RAMP NO. 11	106+36	R3-H8bd	36x30														LANE CONTROL - LEFT, RIGHT
140	297	X	BISHOP						1			2								EX. CLEVELAND 14
	297	X	BISHOP				1													EX. WEST
	297	X	BISHOP				1													EX. I-90 MARKER
	297	X	BISHOP				1													EX. HORIZONTAL ARROW
141	297		BISHOP	57+50	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
142	297		BISHOP	57+58	R9-2	12x18														CROSS ONLY AT CROSS WALKS
143	297		BISHOP	57+65	R10-H4d	9x12														TO CROSS RAMP PUSH BUTTON WAIT FOR WALK SIGNAL
144	297		BISHOP	57+67	R9-2	12x18														CROSS ONLY AT CROSS WALKS
145	297	X	BISHOP				1				1									EX. SPEED LIMIT 35
	297		BISHOP	57+90	R2-1	24x30														SPEED LIMIT 35
146	297	X	BISHOP				1				1									EX. EAST
	297	X	BISHOP				1													EX. S.R. 84 MARKER
	297		BISHOP	58+65	M3-2	24x12														EAST
	297		BISHOP	58+65	M1-5	24x24														S.R. 84 MARKER
147	297	X	BISHOP				1				1									ONE HOUR PARKING 1AM-6AM
148	297	X	BISHOP						1			2								EX. ERIE PA 90, CLEVELAND 14
149	297		BISHOP	60+40	M2-H4	108x30														EAST, I-90 MARKER, WEST
150	297	X	BISHOP											1						EX. JCT
	297	X	BISHOP											1						EX. I-90 MARKER
	297	X	BISHOP											1						EX. WEST
	297	X	BISHOP											1						EX. S.R. 84 MARKER
	297		BISHOP	60+57	M2-1	21x15														JCT
	297		BISHOP	60+57	M1-1	24x24														I-90 MARKER
	297		BISHOP	60+57	M3-4	24x12														WEST
	297		BISHOP	60+57	M1-5	24x24														S.R. 84 MARKER
151	297	X	BISHOP				1				1									EX. JOHNSON DR
	297	X	BISHOP				1													EX. SERENITY
152	297	X	JOHNSON				1				1									EX. STOP
	297		JOHNSON	10+34	R1-1	36x36														STOP
153	297		JOHNSON	10+38	D3	36x8														JOHNSON DR
	297		JOHNSON	10+38	D3	36x8														SERENITY
154	297		JOHNSON	10+52	R7-1(L)	12x18														NO PARKING ANYTIME W/ARROW
155	297	X	JOHNSON				1				1									EX. NO PARKING HERE TO CORNER W/ARROW
156	297		JOHNSON	10+95	R7-1(R)	12x18														NO PARKING ANYTIME W/ARROW
SUB-TOTALS CARRIED TO SHEET 318							11	0	2		6	4		4	0		0			

CALCULATED T.J.F.
CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		GROUND MOUNTED SUPPORT, S4x7.7 BEAM FT	GROUND MOUNTED SUPPORT, W6x9 BEAM FT	GROUND MOUNTED SUPPORT, W10x12 BEAM FT		ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT		BREAKAWAY BEAM CONNECTION EACH		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH		SIGN, FLAT SHEET SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME EACH			GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH
157	297	X	BISHOP																								
	297		BISHOP	62+00	R2-1	24x30	13															5					
158	298	X	CHARDON																								
159	298		CHARDON	11+25	D3	36x8								11.25									1				
160	298	X	CHARDON																								
	298		CHARDON	11+35	R3-8b	48x30	26															10					
161	298		CHARDON	12+50	R3-8b	48x30	26															10					
162	298	X	CHARDON																								
	298	X	CHARDON																								
	298		CHARDON	13+00	R3-H9j	24x6	14															1					
	298		CHARDON	13+00	R3-9b	24x36																6					
163	298	X	CHARDON																								
164	298	X	CHARDON																								
	298	X	CHARDON																								
	298	X	CHARDON																								
	298		CHARDON	15+50	M2-1	21x15	15															2.19					
	298		CHARDON	15+50	M1-5	24x24																4					
	298		CHARDON	15+50	M6-1	21x15																2.19					
165	298	X	CHARDON																								
	298	X	CHARDON																								
	298		CHARDON	15+85	R3-H9j	24x6	14															1					
	298		CHARDON	15+85	R3-9b	24x36																6					
166	298		CHARDON	16+35	R3-H8cg	48x30	26															10					
167	298	X	CHARDON																								
168	298	X	CHARDON																								
	298		CHARDON	17+15	R2-1	24x30	13															5					
169	298	X	CHARDON																								
170	298	X	CHARDON																								
	298		CHARDON	22+85	R2-5a	24x30	13															5					
171	298	X	CHARDON																								
	298	X	CHARDON																								
	298	X	CHARDON																								
	298		CHARDON	24+00	M4-5	24x12	14.75															2					
	298		CHARDON	24+00	M1-1	24x24																4					
	298		CHARDON	24+00	M5-1	21x15																2.19					
172	298	X	CHARDON																								
	298		CHARDON	25+28	R2-1	24x30	13															5					
173	298	X	CHARDON																								
	298	X	CHARDON																								
	298		CHARDON	26+50	M2-1	21x15	13.75															2.19					
	298		CHARDON	26+50	M1-5	24x24																4					
SUB-TOTALS CARRIED TO SHEET 317							201.5		0	0	0		0	11.25		0		0	0			86.76	0	1			0

CALCULATED T.J.F.
CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL EACH	630	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	630	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN EACH	630	630	DESCRIPTION
157	297	X	BISHOP				1				1									EX. SPEED LIMIT 35
	297		BISHOP	62+00	R2-1	24x30														SPEED LIMIT 35
158	298	X	CHARDON				1				1									EX. PLAZA DR
159	298		CHARDON	11+25	D3	36x8														PLAZA DR
160	298	X	CHARDON				1				2									EX. LANE CONTROL - LEFT, THRU, RIGHT
	298		CHARDON	11+35	R3-8b	48x30														LANE CONTROL - LEFT, THRU, RIGHT
161	298		CHARDON	12+50	R3-8b	48x30														LANE CONTROL - LEFT, THRU, RIGHT
162	298	X	CHARDON				1				1									EX. BEGIN
	298	X	CHARDON				1													EX. TWO WAY LEFT TURN ONLY
	298		CHARDON	13+00	R3-H9j	24x6														BEGIN
	298		CHARDON	13+00	R3-9b	24x36														TWO WAY LEFT TURN ONLY
163	298	X	CHARDON				1				1									EX. END TWO WAY LEFT TURN ONLY
164	298	X	CHARDON				1				1									EX. JCT
	298	X	CHARDON				1													EX. S.R. 84 MARKER
	298	X	CHARDON				1													EX. HORIZONTAL ARROW
	298		CHARDON	15+50	M2-1	21x15														JCT
	298		CHARDON	15+50	M1-5	24x24														S.R. 84 MARKER
	298		CHARDON	15+50	M6-1	21x15														HORIZONTAL ARROW
165	298	X	CHARDON				1				1									EX. BEGIN
	298	X	CHARDON				1													EX. TWO WAY LEFT TURN ONLY
	298		CHARDON	15+85	R3-H9j	24x6														BEGIN
	298		CHARDON	15+85	R3-9b	24x36														TWO WAY LEFT TURN ONLY
166	298		CHARDON	16+35	R3-H8cg	48x30														LANE CONTROL - LEFT, THRU, THRU/RIGHT
167	298	X	CHARDON				1				1									EX. END TWO WAY LEFT TURN ONLY
168	298	X	CHARDON				1				1									EX. SPEED LIMIT 25
	298		CHARDON	17+15	R2-1	24x30														SPEED LIMIT 25
169	298	X	CHARDON				1				1									EX. LANE CONTROL - LEFT, THRU/RIGHT
170	298	X	CHARDON				1				1									EX. REDUCED SPEED AHEAD
	298		CHARDON	22+85	R2-5a	24x30														REDUCED SPEED AHEAD
171	298	X	CHARDON				1				1									EX. TO
	298	X	CHARDON				1													EX. I-90 MARKER
	298	X	CHARDON				1													EX. ADVANCE TURN ARROW-HORIZONTAL
	298		CHARDON	24+00	M4-5	24x12														TO
	298		CHARDON	24+00	M1-1	24x24														I-90 MARKER
	298		CHARDON	24+00	M5-1	21x15														ADVANCE TURN ARROW-HORIZONTAL
172	298	X	CHARDON				1				1									EX. SPEED LIMIT 35
	298		CHARDON	25+28	R2-1	24x30														SPEED LIMIT 35
173	298	X	CHARDON				1				1									EX. JCT
	298	X	CHARDON				1													EX. S.R. 84 MARKER
	298		CHARDON	26+50	M2-1	21x15														JCT
	298		CHARDON	26+50	M1-5	24x24														S.R. 84 MARKER
SUB-TOTALS CARRIED TO SHEET 318							21	0	0		15	0		0	0		0			

CALCULATED T.J.F. CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

630

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	GROUND MOUNTED SUPPORT, NO. 3 POST		GROUND MOUNTED SUPPORT, S4x7.7 BEAM	GROUND MOUNTED SUPPORT, W6x9 BEAM	GROUND MOUNTED SUPPORT, W10x12 BEAM		ONE WAY SUPPORT, NO. 3 POST	STREET NAME SIGN SUPPORT, NO. 3 POST		BREAKAWAY BEAM CONNECTION		SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	SIGN SUPPORT ASSEMBLY, POLE MOUNTED		SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, DOUBLE FACED, STREET NAME			GROUND MOUNTED BEAM SUPPORT FOUNDATION
							FT		FT	FT	FT		FT	FT		EACH		EACH	EACH		SQ FT	SQ FT	EACH			EACH
174	299	X	RAMP NO. 9																							
	299		RAMP NO. 9	97+05	W3-3	48x48	16.25														16					
175	299		RAMP NO. 9	98+55	R3-H8bs	42x30	26														8.75					
176	299		RAMP NO. 9	98+55	R3-H8bs	42x30	26														8.75					
177	299	X	RAMP NO. 9	100+05			13																			
178	299	X	RAMP NO. 9																							
	299		RAMP NO. 9	101+65	D1-H7	144x72					36.49					2						72				2
179	299	X	RAMP NO. 9																							
	299		RAMP NO. 9	103+35	R5-1a	42x30	26														8.75					
180	299	X	RAMP NO. 9																							
	299		RAMP NO. 9	103+35	R5-1a	42x30	26														8.75					
181	299	X	RAMP NO. 10	108+60			13																			
182	300	X	RAMP NO. 8	101+25			13																			
183	300	X	RAMP NO. 11																							
	300		RAMP NO. 11	108+00	R5-1a	42x30	26														8.75					
184	300	X	RAMP NO. 11																							
	300	X	RAMP NO. 11																							
	300	X	RAMP NO. 11																							
	300		RAMP NO. 11	108+00	D9-2	24x24	27.5														4					
	300		RAMP NO. 11	108+00	M6-1	21x15															2.19					
	300		RAMP NO. 11	108+00	R5-1a	42x30															8.75					
185	300	X	RAMP NO. 11																							
	300		RAMP NO. 11	109+75	D1-H6	144x48				34.57						2						48				2
186	300	X	RAMP NO. 11	110+75			13																			
187	300		RAMP NO. 11	111+85	R3-H8bd	36x30	26														7.5					
188	300		RAMP NO. 11	111+85	R3-H8bd	36x30	26														7.5					
189	300	X	RAMP NO. 11																							
	300		RAMP NO. 11	113+35	W3-3	48x48	16.25														16					
SUB-TOTALS							294		0	34.57	36.49		0	0		4		0	0		105.69	120	0			4
SUB-TOTALS CARRIED FROM SHEET 301							212.25		0	0	0		0	11.25		0		1	4		97.69	0	1			0
SUB-TOTALS CARRIED FROM SHEET 303							202.25		0	0	0		0	0		0		1	4		96.82	0	0			0
SUB-TOTALS CARRIED FROM SHEET 305							222.75		0	0	0		0	0		0		2	4		101.69	0	0			0
SUB-TOTALS CARRIED FROM SHEET 307							263		0	0	0		0	0		0		2	4		133.75	0	0			0
SUB-TOTALS CARRIED FROM SHEET 309							134.25		0	0	0		32	0		0		3	10		113.25	0	0			0
SUB-TOTALS CARRIED FROM SHEET 311							141		0	0	35.12		64	0		2		0	6		126	52	0			2
SUB-TOTALS CARRIED FROM SHEET 313							104.75		25.4	0	0		32	11.25		2		0	2		75.19	22.5	2			2
SUB-TOTALS CARRIED FROM SHEET 315							201.5		0	0	0		0	11.25		0		0	0		86.76	0	1			0
TOTALS							1775.8		25.4	34.57	71.61		128	33.75		8		9	34		936.84	194.5	4			8
TOTALS CARRIED TO GENERAL SUMMARY SHT 245							**1776**		**26**	**35**	**72**		**128**	**34**		**8**		**9**	**34**		**937**	**195**	**4**			**8**

CALCULATED T.J.F.
CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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GROUND MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	CODE	SIZE (IN INCHES)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL EACH	630	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	630	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN EACH	630	630	DESCRIPTION
174	299	X	RAMP NO. 9				1				2									EX. SIGNAL AHEAD SYMBOL
	299		RAMP NO. 9	97+05	W3-3	48x48														SIGNAL AHEAD SYMBOL
175	299		RAMP NO. 9	98+55	R3-H8bs	42x30														LANE CONTROL - LEFT/RIGHT, RIGHT
176	299		RAMP NO. 9	98+55	R3-H8bs	42x30														LANE CONTROL - LEFT/RIGHT, RIGHT
177	299	X	RAMP NO. 9	100+05				1			1									EX. RAMP E90 TO BISHOP
178	299	X	RAMP NO. 9						1			2								EX. CUYAHOGA AIRPORT, RICHMOND HTS
	299		RAMP NO. 9	101+65	D1-H7	144x72														WICKLIFFE, WILLOUGHBY HILLS, RICHMOND HTS
179	299	X	RAMP NO. 9				1				1									EX. WRONG WAY
	299		RAMP NO. 9	103+35	R5-1a	42x30														WRONG WAY
180	299	X	RAMP NO. 9				1				1									EX. WRONG WAY
	299		RAMP NO. 9	103+35	R5-1a	42x30														WRONG WAY
181	299	X	RAMP NO. 10	108+60				1			1									EX. RAMP BISHOP TO E90
182	300	X	RAMP NO. 8	101+25				1			1									EX. RAMP BISHOP TO W90
183	300	X	RAMP NO. 11				1				1									EX. WRONG WAY
	300		RAMP NO. 11	108+00	R5-1a	42x30														WRONG WAY
184	300	X	RAMP NO. 11				1				1									EX. HOSPITAL SYMBOL
	300	X	RAMP NO. 11				1													EX. ARROW
	300	X	RAMP NO. 11				1													EX. WRONG WAY
	300		RAMP NO. 11	108+00	D9-2	24x24														HOSPITAL SYMBOL
	300		RAMP NO. 11	108+00	M6-1	21x15														ARROW
	300		RAMP NO. 11	108+00	R5-1a	42x30														WRONG WAY
185	300	X	RAMP NO. 11						1			2								EX. CUYAHOGA AIRPORT, RICHMOND HTS
	300		RAMP NO. 11	109+75	D1-H6	144x48														WICKLIFFE, WILLOUGHBY HILLS
186	300	X	RAMP NO. 11	110+75				1			1									EX. RAMP W90 TO BISHOP
187	300		RAMP NO. 11	111+85	R3-H8bd	36x30														EX. LANE CONTROL-LEFT,RIGHT
188	300		RAMP NO. 11	111+85	R3-H8bd	36x30														EX. LANE CONTROL-LEFT,RIGHT
189	300	X	RAMP NO. 11				1				2									EX. SIGNAL AHEAD SYMBOL
	300		RAMP NO. 11	113+35	W3-3	48x48														SIGNAL AHEAD SYMBOL
SUB-TOTALS							8	4	2		12	4		0	0		0			
SUB-TOTALS CARRIED FROM SHEET 302							17	0	0		18	0		2	0		0			
SUB-TOTALS CARRIED FROM SHEET 304							15	0	0		10	0		2	0		0			
SUB-TOTALS CARRIED FROM SHEET 306							18	0	0		16	0		0	0		0			
SUB-TOTALS CARRIED FROM SHEET 308							12	0	0		10	0		3	0		0			
SUB-TOTALS CARRIED FROM SHEET 310							12	1	0		12	0		0	3		0			
SUB-TOTALS CARRIED FROM SHEET 312							7	0	4		5	6		0	0		2			
SUB-TOTALS CARRIED FROM SHEET 314							11	0	2		6	4		4	0		0			
SUB-TOTALS CARRIED FROM SHEET 316							21	0	0		15	0		0	0		0			
TOTALS							121	5	8		104	14		11	3		2			
TOTALS CARRIED TO GENERAL SUMMARY SHT 245							**121**	**5**	**8**		**104**	**14**		**11**	**3**		**2**			

CALCULATED T.J.F. CHECKED G.L.B.

GROUND MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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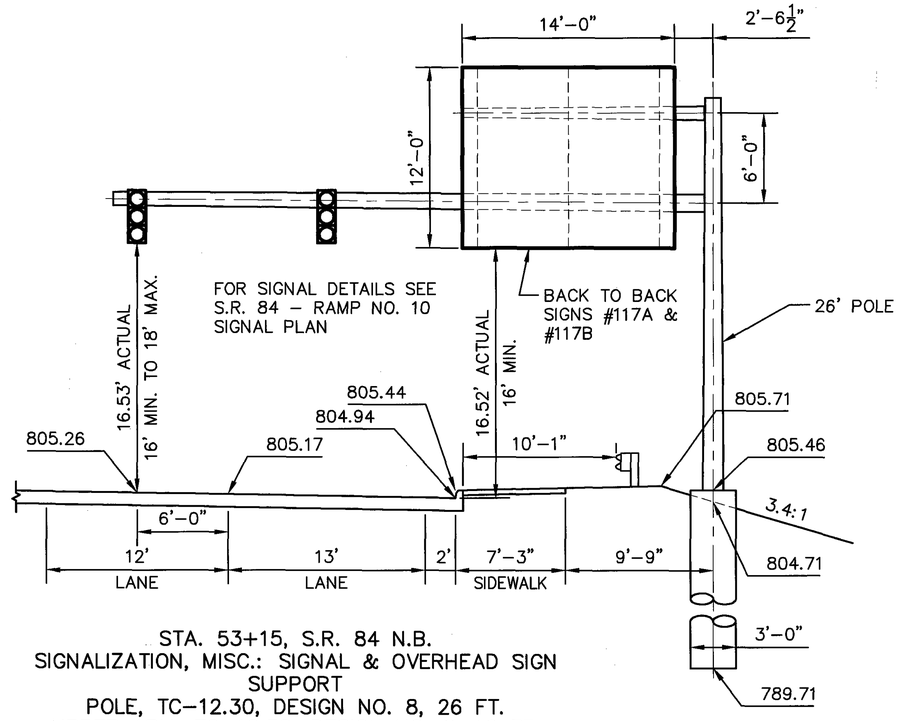
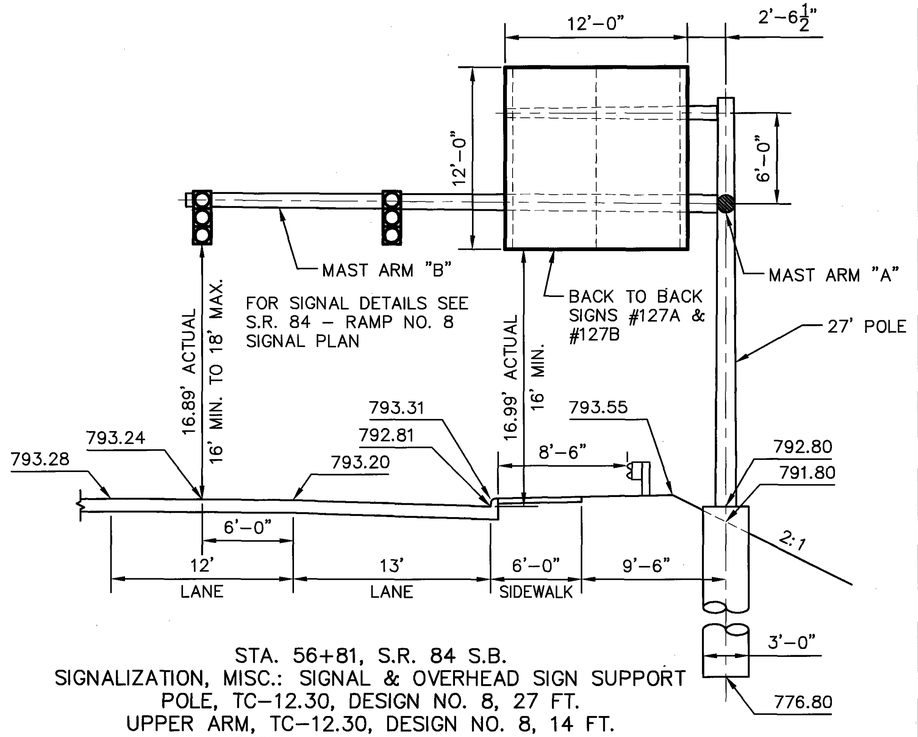


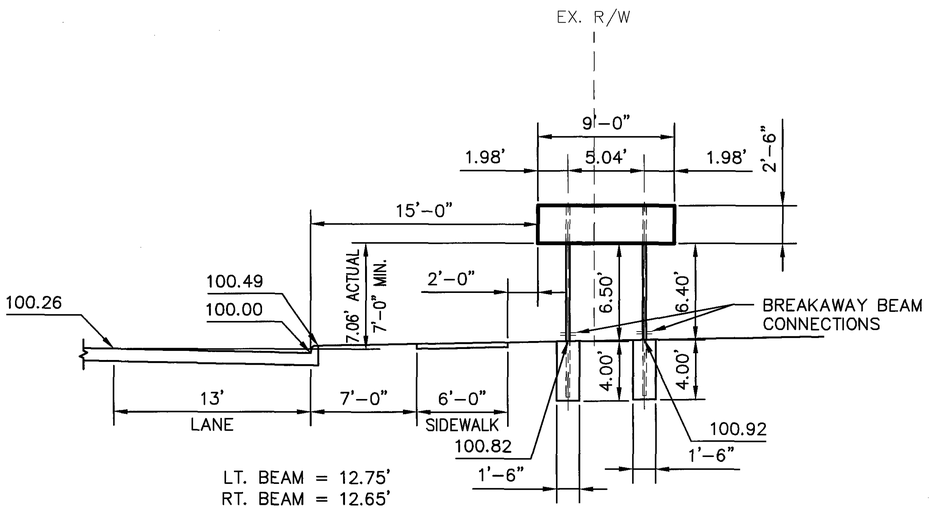
STA. 53+15, S.R. 84 N.B.
SIGNALIZATION, MISC.: SIGNAL & OVERHEAD SIGN SUPPORT
POLE, TC–12.30, DESIGN NO. 8, 26 FT.
UPPER ARM, TC–12.30, DESIGN NO. 8, 16 FT.
LOWER ARM, TC–81.20, DESIGN NO. 12, 39 FT.

(121)



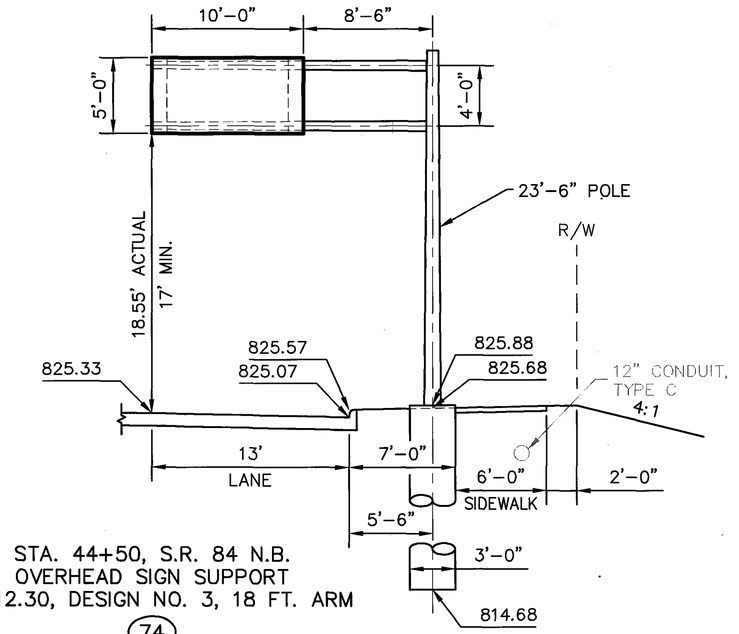
STA. 56+81, S.R. 84 S.B.
SIGNALIZATION, MISC.: SIGNAL & OVERHEAD SIGN SUPPORT
POLE, TC–12.30, DESIGN NO. 8, 27 FT.
UPPER ARM, TC–12.30, DESIGN NO. 8, 14 FT.
LOWER ARM "A", TC–81.20, DESIGN NO. 11, 43 FT.
LOWER ARM "B", TC–81.20, DESIGN NO. 12, 35 FT.

(133)



STA. 60+40, BISHOP ROAD S.B.
2 – S4x7.7 BEAM SUPPORTS

(149)



STA. 44+50, S.R. 84 N.B.
OVERHEAD SIGN SUPPORT
TC–12.30, DESIGN NO. 3, 18 FT. ARM

(74)

SCALE IN FEET 5 0 5

CALCULATED T.J.F. CHECKED G.L.B.

OVERHEAD AND GROUND MOUNTED SIGN ELEVATION VIEWS
BISHOP ROAD (S.R.84) – CHARDON ROAD (U.S. 6)

LAK – 90/84 – 0.54/0.43

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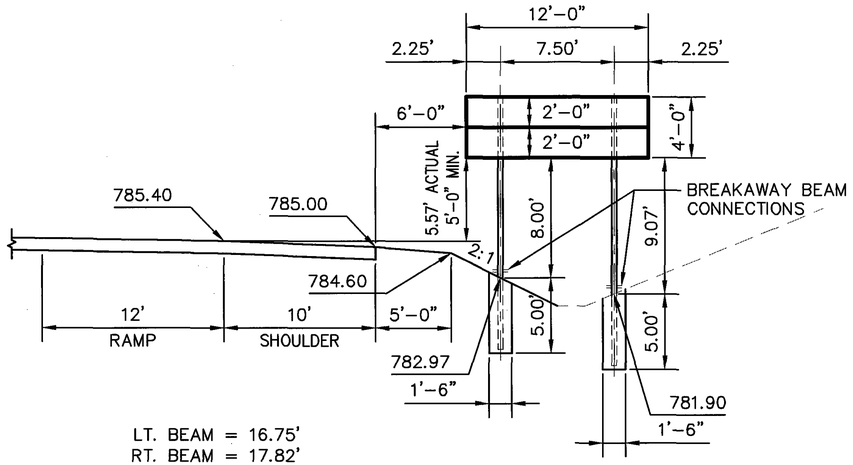
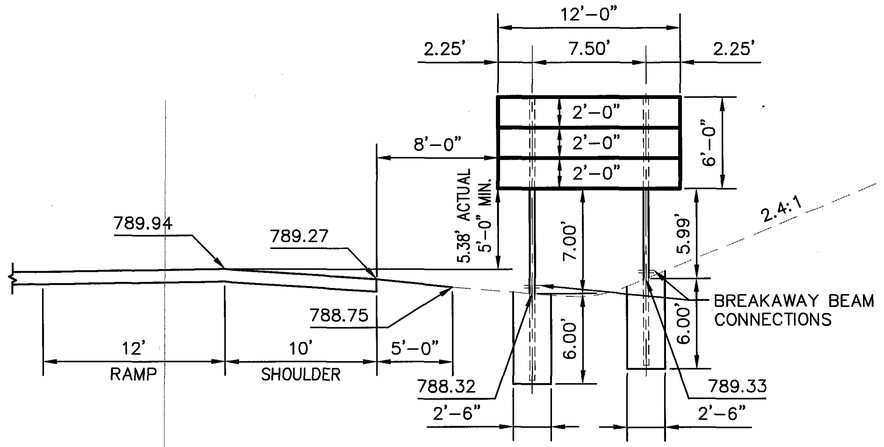


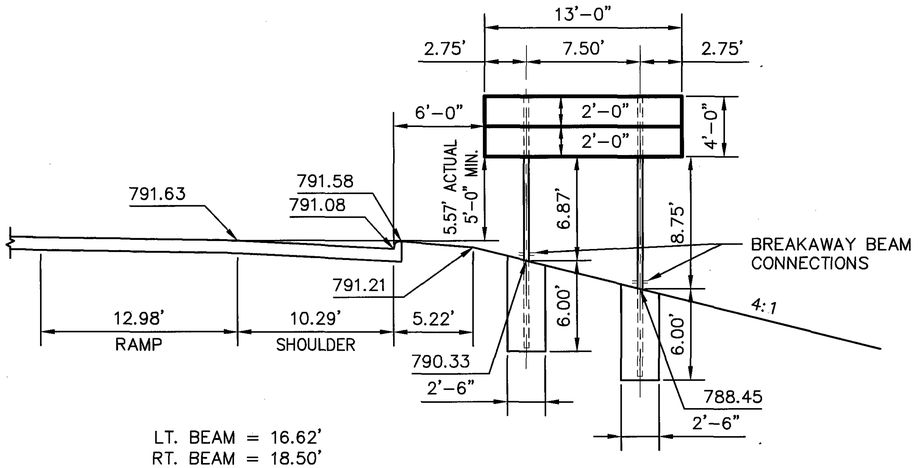
STA. 109+75, RAMP 11
2 – W6x9 BEAM SUPPORTS

(185)



STA. 101+65, RAMP 9
2 – W10x12 BEAM SUPPORTS

(178)



STA. 104+45, RAMP 8
2 – W10x12 BEAM SUPPORTS

(137)

N

SCALE IN FEET 5 0 5

CALCULATED T.J.F.
CHECKED G.L.B.

OVERHEAD AND GROUND MOUNTED SIGN ELEVATION VIEWS
BISHOP ROAD (S.R.84) – CHARDON ROAD (U.S. 6)

LAK – 90/84 – 0.54/0.43

320
369

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OVERHEAD MOUNTED SIGNS

PLAN REFERENCE #	SHEET NO.	EXISTING SIGN	LOCATION	STATION	SIDE	CODE	SIZE WITH ACTUAL SIGN HEIGTH (IN FEET)	630						632															
								OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 3, 18' ARM		SIGN, OVERHEAD EXTRUSHEET		RIGID OVERHEAD SIGN SUPPORT FOUNDATION		SIGNALIZATION, MISC.: SIGNAL AND OVERHEAD SIGN SUPPORT, TYPE TC-12.30 DESIGN 8 POLE, WITH MAST ARMS TC-12.30 DESIGN 8 AND TC-81-20 DESIGN12		SIGNALIZATION, MISC.: SIGNAL AND OVERHEAD SIGN SUPPORT, TYPE TC-12.30 DESIGN 8 POLE, WITH MAST ARMS TC-12.30 DESIGN 8 AND TC-81-20 DESIGN 11 AND DESIGN12												
								EACH		SQ FT		EACH		EACH		EACH													
74	295		BISHOP	44+50	RT	M2-H5	10x5	1		50		1																	
121	296		BISHOP	53+15	RT	M2-H6	14x12			168		1		1															
	296		BISHOP	53+15	RT	M2-H6	14x12			168																			
133	297		BISHOP	56+81	LT	M2-H6	12x12			144		1				1													
	297		BISHOP	56+81	LT	M2-H6	12x12			144																			
TOTALS								1		674		3		1		1													
TOTALS CARRIED TO GENERAL SUMMARY SHEET 245-246								**1**		**674**		**3**		**1**		**1**													

CALCULATED T.J.F.
CHECKED G.L.B.

OVERHEAD MOUNTED SIGN SUBSUMMARY
BISHOP ROAD (S.R. 84)

LAK – 90/84 – 0.54/0.43

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369

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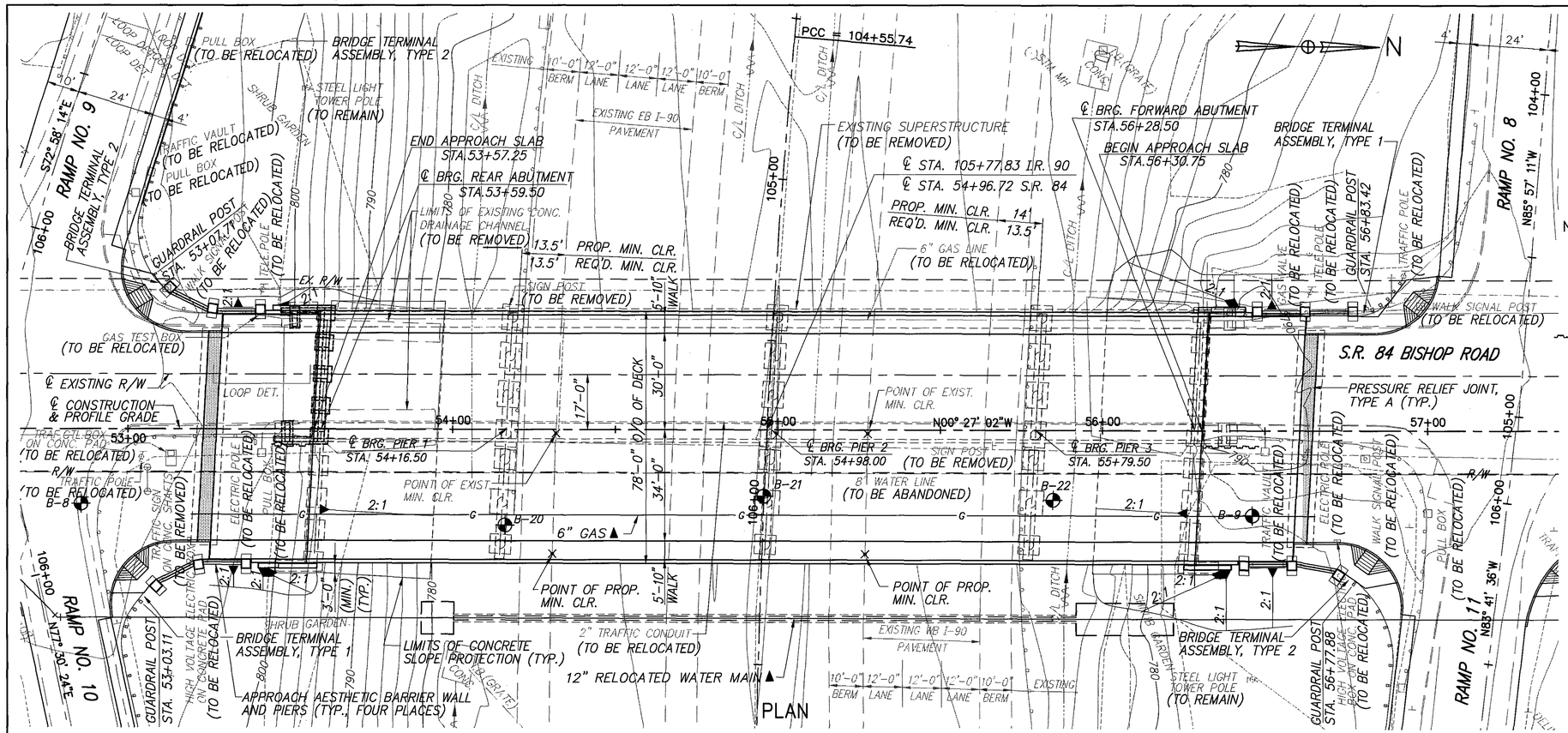

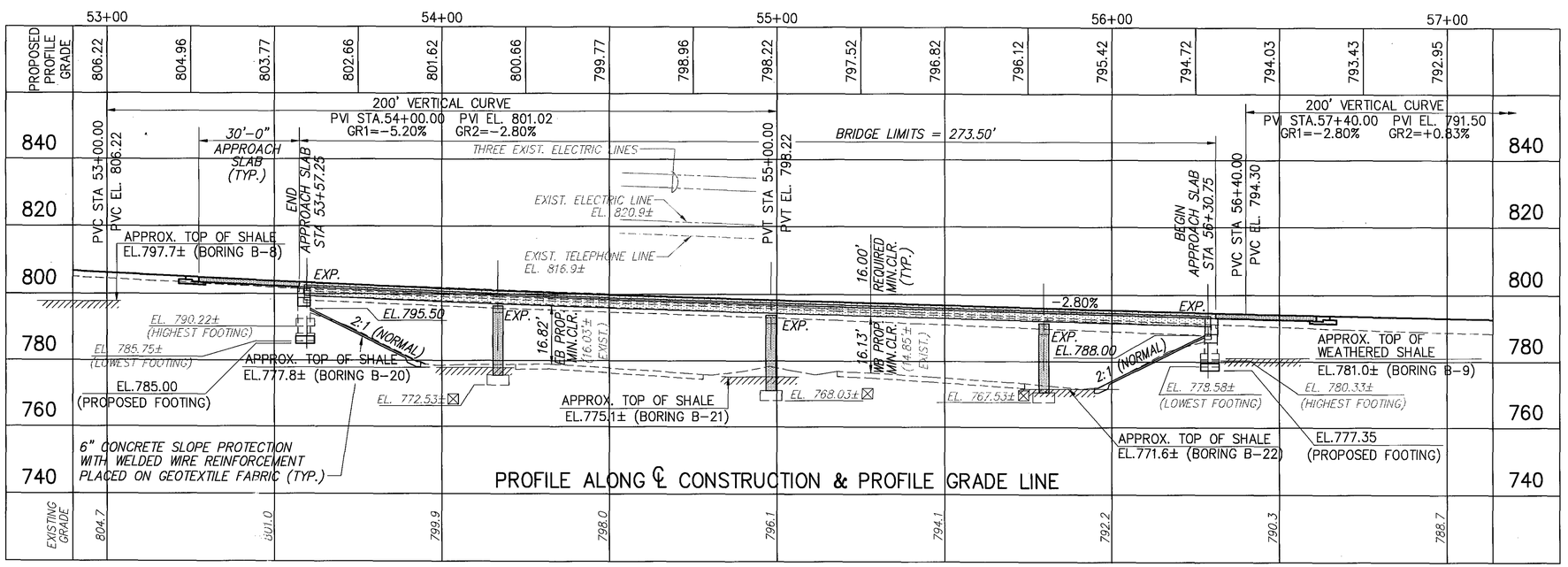

PROFILE ALONG ℄ CONSTRUCTION & PROFILE GRADE LINE

BENCHMARK: DRILL HOLE FOUND IN CONCRETE SIDEWALK. STA. 53+57.14, 17.68' LEFT OF CENTERLINE BISHOP ROAD ELEVATION 802.19

BENCHMARK: DRILL HOLE FOUND IN CONCRETE SIDEWALK. STA. 57+69.84, 20.56' LEFT OF CENTERLINE BISHOP ROAD ELEVATION 787.76

NOTE: EARTHWORK LIMITS ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

▲ GAS: REMOVAL AND RELOCATION BY DOMINION EAST OHIO GAS

▲ WATER: RELOCATION BY BRIDGE CONTRACTOR

INDICATES THE APPROXIMATE LOCATION AND LENGTH OF TEMPORARY SHORING REQUIRED FOR STAGE CONSTRUCTION.

⊠ INDICATES PROPOSED SPREAD FOOTING ELEVATION TO MATCH THIS EXISTING FOOTING ELEVATION

INDICATES THE TEST BORING LOCATION

DESIGN AVERAGE DAILY TRAFFIC: 26,891 (2025)
DESIGN AVERAGE DAILY TRUCK TRAFFIC: 807 (2025)

EXISTING STRUCTURE

TYPE: CONTINUOUS SPAN A7 STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES

SPAN: 57'-0"±, 81'-6"±, 81'-6"±, 49'-0±" C/C BEARINGS

ROADWAY: 30'-0" FACE TO FACE OF CURBS, 5'-0"± SIDEWALKS EACH SIDE

SKEW: 3° 10' L.F.

ALIGNMENT: TANGENT

LOAD FREQUENCY: C.F. = 400 (57)

WEARING SURFACE: LATEX MODIFIED CONCRETE OVERLAY

APPROACH SLABS: AS-1-54 MODIFIED (25'-0"± LONG)

CONDITION: POOR

DATE BUILT: 1963

STRUCTURE FILE NUMBER: 4303423

PROPOSED STRUCTURE

PROPOSED WORK: (TO BE COMPLETED IN STAGES) REMOVE EXISTING SUPERSTRUCTURE, APPROACH SLABS, PIER CAPS AND COLUMNS; REMOVE ABUTMENT BACKWALLS AND CONCRETE 12"± BELOW SEAT. CONSTRUCT NEW CAP AND COLUMN PIERS AND STUB-TYPE ABUTMENTS ON SPREAD FOOTINGS TO THE EAST. CONSTRUCT NEW COLUMNS AND PIER CAPS ON THE EXISTING SPREAD FOOTINGS. CAP THE EXISTING BREASTWALLS. ERECT NEW STEEL BEAMS. CONSTRUCT A WIDER COMPOSITE DECK HAVING SEMI-INTEGRAL DETAILS. CONSTRUCT FULL-WIDTH APPROACH SLABS. REMOVE CRUSHED AGGREGATE SLOPE PROTECTION AND PLACE CONCRETE SLOPE PROTECTION.

TYPE: CONTINUOUS SPAN A709 GRADE 50 STEEL BEAMS; ZINC PAINTED, COMPOSITE WITH REINFORCED CONCRETE DECK, AND REINFORCED CONCRETE SUBSTRUCTURES.

SPANS: 57'-0", 81'-6", 81'-6", 49'-0" C/C BEARINGS

ROADWAY: 64'-0" FACE-TO-FACE OF CURBS

SIDEWALKS: 5'-10" EACH SIDE

LOADING: HS25 (CASE II) AND THE ALTERNATE MILITARY LOADING

WEARING SURFACE: MONOLITHIC CONCRETE

SKEW: 3° 10' L.F.

ALIGNMENT: TANGENT

APPROACH SLABS: AS-1-81 (30'-0" LONG)

CT Consultants
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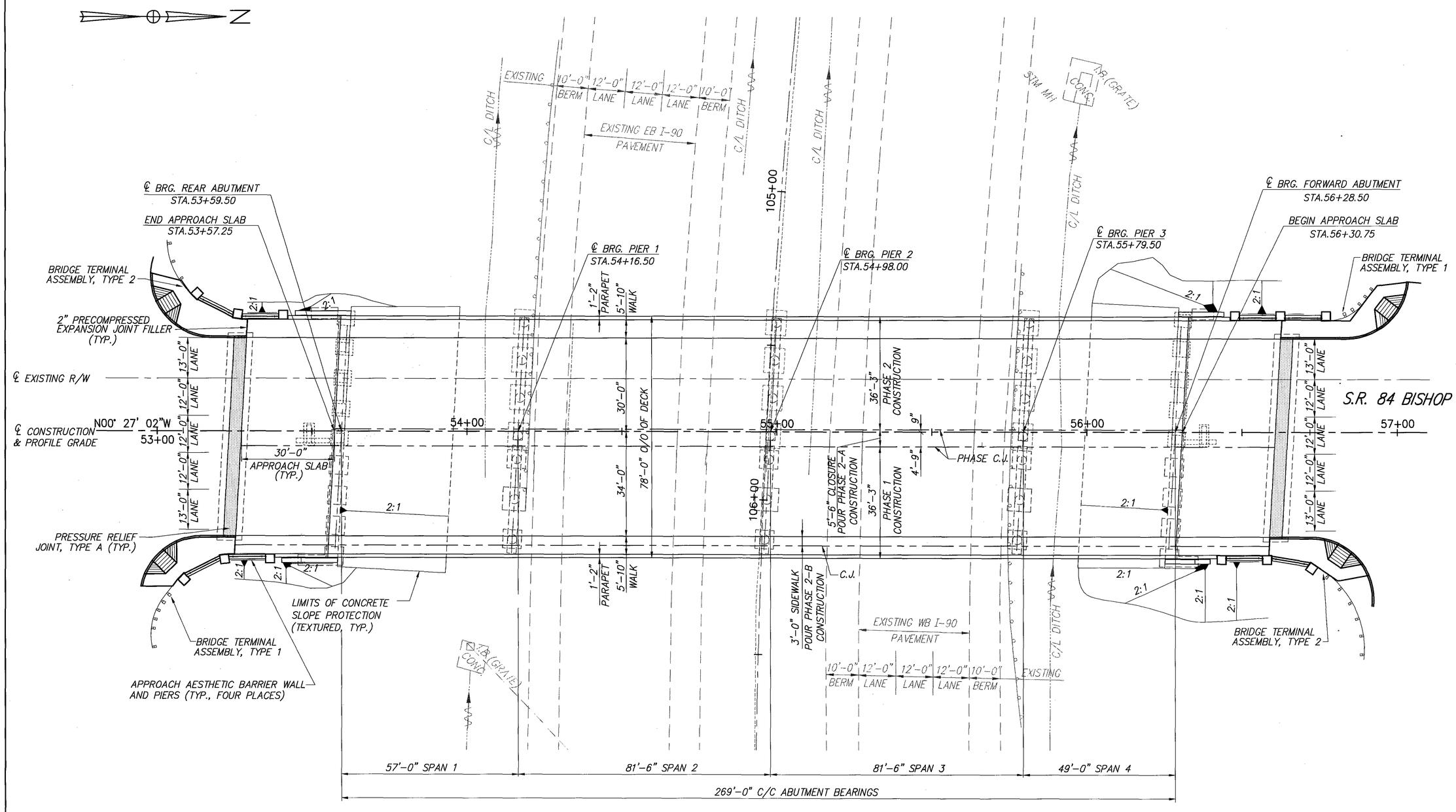
DESIGNED I.A.S. | DRAWN R.L.B. | REVIEWED W.D.B. | DATE 4/15/05
CHECKED J.P.R. | REVISED | STRUCTURE FILE NUMBER 4303423

LAKE COUNTY
STA. 53+57.25
STA. 56+30.75

SITE PLAN
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43



GENERAL PLAN

NOTES:

1. FOR PHASE CONSTRUCTION DETAILS, SEE SHEETS 11/45 AND 12/45.
2. ABBREVIATIONS: TYP.–TYPICAL; BRG.–BEARING; C.J.–CONSTRUCTION JOINT.

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GENERAL PLAN
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

STRUCTURE GENERAL NOTES

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL, JANUARY, 2004.

DESIGN DATA:

SUPERSTRUCTURE DESIGN LOADING: HS25, CASE II AND THE ALTERNATE MILITARY LOADING, AND A 60 PSF FUTURE WEARING SURFACE

HIGH PERFORMANCE CONCRETE – COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

HIGH PERFORMANCE CONCRETE – COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL – ASTM A615, OR A996
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

STRUCTURAL STEEL – ASTM A709 GRADE 50 – YIELD STRENGTH 50,000 PSI

REFERENCE SHALL BE MADE TO:

STANDARD DRAWINGS:

AS–1–81	REVISED	7–19–02	PCB–91	REVISED	7–19–02
BR–2–98	REVISED	7–19–02	SICD–1–96	REVISED	7–19–02
BS–1–93	REVISED	7–19–02	VPF–1–90	REVISED	7–19–02
GSD–1–96	REVISED	7–19–02			

SUPPLEMENTAL SPECIFICATIONS:

NO. 864 DATED 7–11–00
NO. 954 DATED 9–9–97

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL, 2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

UTILITY LINES

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

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE–BID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

PLANS OF THE EXISTING STRUCTURES ARE AVAILABLE FOR EXAMINATION AT: THE OHIO DEPARTMENT OF TRANSPORTATION; DISTRICT 12 OFFICE; 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OH 44125–5396

PROPOSED WORK

COMPLETE THE FOLLOWING WORK IN TWO CONSTRUCTION STAGES.

MAINTAIN ONE LANE OF NORTHBOUND TRAFFIC, ONE LANE OF SOUTHBOUND TRAFFIC, AND A LEFT TURN LANE ON S.R. 84 (BISHOP ROAD) AT ALL TIMES. SEE THE MAINTENANCE OF TRAFFIC PLANS FOR RAMP CLOSURE PERIODS DURING THIS PROJECT.

PHASE 1 CONSTRUCTION:

1. RELOCATE AN EXISTING 8" WATER LINE TO THE EAST AWAY FROM THE PROPOSED WIDER STRUCTURE. RELOCATE AERIAL ELECTRIC LINES.
2. CONSTRUCT THE RIGHT HALF OF THE PROPOSED STRUCTURE, EXCLUDING PART OF THE SIDEWALK ON THE BRIDGE DECK.
3. RELOCATE AN EXISTING 6" GAS LINE AND A TRAFFIC CONDUIT FROM THE EXISTING STRUCTURE TO THE RIGHT HALF OF THE NEW STRUCTURE.
4. CONSTRUCT THE RIGHT SIDE APPROACH AESTHETIC BARRIER WALLS.
5. CONSTRUCT PART–WIDTH APPROACH SLABS, EXCLUDING A PART OF THEIR SIDEWALKS. ATTACH A BRIDGE TERMINAL ASSEMBLY TO THE END PIER OF EACH APPROACH AESTHETIC BARRIER WALL.

PHASE 2 CONSTRUCTION:

1. RELOCATE EXISTING AERIAL TELEPHONE LINES.
2. INSTALL TEMPORARY SHORING BETWEEN THE EAST WINGWALLS OF THE EXISTING STRUCTURE AND THE PART–WIDTH APPROACH SLABS.
3. REMOVE THE SUPERSTRUCTURE OF THE EXISTING STRUCTURE AND PORTIONS OF ITS SUBSTRUCTURE TO THE LIMITS SHOWN ON THE "REMOVAL DETAILS" PLAN SHEET. REMOVE THE EXISTING APPROACH SLABS.
4. CONSTRUCT CAP AND COLUMN PIERS ON THE EXISTING SPREAD FOOTINGS.
5. EXCAVATE INTO SHALE THEN CONSTRUCT SPREAD FOOTINGS FOR NEW TURNED–BACK WINGWALLS.
6. COMPLETE ABUTMENT CONSTRUCTION BY PLACING CONCRETE CAPS ON THE EXISTING BREASTWALLS AND CONSTRUCTING TURNED–BACK WINGWALLS.
7. COMPLETE SUPERSTRUCTURE CONSTRUCTION EXCEPT FOR CLOSURE POURS IN THE ABUTMENT DIAPHRAGMS AND THE DECK SLAB.
8. CONSTRUCT THE LEFT SIDE APPROACH AESTHETIC BARRIER WALLS.
9. COMPLETE APPROACH SLAB CONSTRUCTION. ATTACH A BRIDGE TERMINAL ASSEMBLY TO THE END PIER OF EACH APPROACH AESTHETIC BARRIER WALL.
10. PROVIDE TOUCH–UP PAINTING ON THE SUPERSTRUCTURE STEEL.
11. SEAL CONCRETE SURFACES.
12. PLACE TEXTURED CONCRETE SLOPE PROTECTION.

PHASE 2–A CONSTRUCTION:

1. TIGHTEN CROSSFRAME CONNECTION BOLTS IN THE BAY BETWEEN BEAMS 5 AND 6.
2. PLACE A CLOSURE POUR FOR THE ABUTMENT DIAPHRAGMS AND DECK.
3. SEAL DECK CONSTRUCTION JOINTS.

PHASE 2–B CONSTRUCTION:

1. PLACE THE REMAINDER OF THE RIGHT SIDEWALK ON THE DECK AND APPROACH SLABS.
2. SEAL THE SIDEWALK SURFACE AND THE SIDEWALK CONSTRUCTION JOINT.

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DESIGNED J.P.R. | DRAWN R.R.C. | REVIEWED W.D.B. | DATE 4/15/05
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GENERAL NOTES
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43

DISPOSAL OF REMOVED MATERIAL

ALL CONCRETE, REINFORCING STEEL, RAILING, ETC. REMOVED FROM THE STRUCTURES, UNLESS OTHERWISE SPECIFIED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE SITE.

ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20–FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE–RAMS WILL NOT BE PERMITTED.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, TRAIN, PEDESTRIAN, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

FOR ABUTMENT BREASTWALL AND PIER COLUMN REMOVAL, FOLLOW NOTES A. AND B.

A. CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS ONE–INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

B. SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE–RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

THE ESTIMATED SUPERSTRUCTURE STEEL REMOVAL IS 387,750 POUNDS.
THE ESTIMATED SUPERSTRUCTURE CONCRETE REMOVAL IS 422 CUBIC YARDS.
THE ESTIMATED SUBSTRUCTURE CONCRETE REMOVAL IS 174 CUBIC YARDS.
THE ESTIMATED ALUMINUM BRIDGE RAILING REMOVAL IS 600 LINEAR FEET.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED OVER 20–FOOT SPAN, AS PER PLAN. ALL EXCAVATION ASSOCIATED WITH THIS REMOVAL WORK SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED OVER 20–FOOT SPAN, AS PER PLAN.

EXISTING APPROACH SLAB REMOVAL QUANTITIES ARE GIVEN IN THE ROADWAY GENERAL SUMMARY.

CONSTRUCTION CONSTRAINTS

AFTER THE ABUTMENT FOOTINGS, PEDESTALS AND BREASTWALL ARE COMPLETED AND PRIOR TO SETTING SUPERSTRUCTURE MEMBERS, CONSTRUCT THE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENT UP TO THE BEAM SEAT ELEVATION AND ON A 1:1 SLOPE UP TO THE SUBGRADE ELEVATION, WITH MATERIAL CONFORMING TO 703.17 (CMS 304 MATERIAL) AND MEETING THE COMPACTION REQUIREMENTS OF CMS 304.05.

FOUNDATION BEARING PRESSURE

ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 4.0 TONS PER SQUARE FOOT. THE ALLOWANCE BEARING PRESSURE IS 4 TONS PER SQUARE FOOT.

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 5.9 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 6 TONS PER SQUARE FOOT.

MECHANICAL CONNECTORS

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE AS GIVEN BY THE DIMENSION "L" SHOWN ON PLANS.

CONNECTORS AND DOWEL BARS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS.

CONNECTORS AND DOWEL BARS SHALL CONFORM WITH ITEM 509, AND THEIR WEIGHT SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID PER POUND FOR ITEM 509 – EPOXY COATED REINFORCING STEEL.

ITEM 509 – REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 510 – DOWEL HOLES WITH CEMENT GROUT, AS PER PLAN

FURNISH 1" DIAMETER WOOD DOWELS AND TIE THEM TO EVERY OTHER TOP TRANSVERSE REINFORCING BAR IN THE DECK SLAB AND (EVERY TOP TRANSVERSE BAR IN THE APPROACH SLABS) AT 4" INSIDE THE RIGHT SIDEWALK'S GUTTER LINE. CUT THE WOOD DOWELS FLUSH WITH THE DRIVING SURFACE BEFORE TRAFFIC IS PLACED ON THE NEW STRUCTURE DURING PHASE 2 CONSTRUCTION. DRILL THE WOOD DOWELS OUT DURING PHASE 2–B PART–WIDTH SIDEWALK CONSTRUCTION. REMOVE DEBRIS FROM THE HOLES. PLACE #5 VERTICAL DOWEL BARS IN THE HOLES AND FILL THEM WITH CEMENT GROUT CONFORMING TO CMS 510.02. PAYMENT FOR ALL MATERIALS, TOOLS AND LABOR TO COMPLTE THE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT "EACH" PRICE BID FOR ITEM 510–DOWEL HOLES WITH CEMENT GROUT, AS PER PLAN.

ITEM 513 – STRUCTURAL STEEL, MISC.: INSTALL SLEEVES AND ROLLER CHAIR SUPPORTS FOR 6" DIAMETER GAS LINE:

THIS ITEM SHALL INCLUDE THE INSTALLATION OF LINK–SEAL WALL SLEEVES, SEALS AND ROLLER CHAIR SUPPORTS. INSTALLATION OF ADDITIONAL REINFORCING STEEL IN THE ABUTMENT DIAPHRAGMS AROUND THE WALL SLEEVE SHALL ALSO BE INCLUDED IN THIS ITEM.

THE PIPE FOR THE GAS LINE SHALL BE INSTALLED BY DOMINION EAST OHIO GAS (DEOG). THE BRIDGE CONTRACTOR SHALL COORDINATE INSTALLATION OF THE GAS PIPE WITH DEOG PRIOR TO PLACING THE DECK CONCRETE.

THE FOLLOWING MATERIALS WILL BE PROVIDED BY DEOG AT ITS EXPENSE:

– ALL PIPE FOR THE GAS LINE

– 6⅝" O.D. LINK–SEAL WALL SLEEVE (MODEL CS–10 PLASTIC SLEEVE), 2 EACH

– WALL SLEEVE SEALS, 4 EACH

– LB&A, INC. ROLLER CHAIR (6H NON–CONDUCTIVE ROLLER), 17 EACH

THE FOLLOWING MATERIALS WILL BE PROVIDED BY THE CONTRACTOR AND BE PAID FOR UNDER THE LUMP SUM ITEM 513 – STRUCTURAL STEEL MISC,: INSTALL SLEEVES AND ROLLER CHAIR SUPPORTS FOR 6" DIA. GAS LINE:

EPOXY COATED REINFORCING STEEL	27 POUNDS

ITEM 602 – MASONRY, MISC.: APPROACH AESTHETIC BARRIER WALLS AND PIERS INCLUDING DECORATIVE RAILING

DESCRIPTION: THIS WORK CONSISTS OF CONSTRUCTING AESTHETIC BARRIER WALLS, MASONRY PIERS AND REINFORCED CONCRETE FOUNDATIONS ON BOTH APPROACH EMBANKMENTS OF THE LAK–084R–0082 STRUCTURE. SEE SHEETS 38–A, 38–B AND 38–C/45 OF THE BRIDGE PLANS FOR DETAILS. IT ALSO INCLUDES SUPPLYING AND INSTALLING DECORATIVE METAL RAILING ON THE BARRIER WALLS.

THE FOLLOWING ESTIMATED MATERIAL QUANTITIES ARE GIVEN FOR INFORMATION ONLY:

CLASS C CONCRETE (FOOTING)	18.5 CU.YD.
CLASS C CONCRETE (PIER STEMS)	23 CU.YD.
CLASS C CONCRETE (BARRIER WALLS)	34 CU.YD.
EPOXY COATED REINFORCING STEEL	6,386 POUNDS
FORMLINER	372 SQ.FT.
¼" PREFORMED EXPANSION JOINT FILLER	132 SQ.FT.
SEALING OF CONCRETE SURFACES (EPOXY–URETHANE)	126 SQ.YD.
MASONRY (BLOCKS AND BRICKS)	11 CU.YD.
PRECAST CONCRETE CAPS AND SILLS	5.5 CU.YD.
4"x16"x16" CUT ARCHITECTURAL STONE	12 EACH
DECORATIVE METAL RAILING	93 FT.

METHOD OF MEASUREMENT: LUMP SUM

BASIS OF PAYMENT: PAYMENT FOR ALL EXCAVATION, BACKFILL, LABOR, MATERIALS AND INCIDENTALS NEEDED FOR CONSTRUCTING THE ITEMS DESCRIBED IN THIS NOTE SHALL BE 100% LOCAL PARTICIPATION AND INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 602 – MASONRY, MISC.: APPROACH AESTHETIC BARRIER WALLS AND PIERS INCLUDING DECORATIVE RAILING.

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GENERAL NOTES
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43

ITEM SPECIAL – VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING A 6' STRAIGHT STEEL FENCE ON A CONCRETE PARAPET ACROSS THE STRUCTURE PER PLAN DETAILS. ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO FABRICATE, GALVANIZE, CLEAN, SURFACE PROFILE, AND APPLY PVC COATING TO ALL FENCE ELEMENTS, INCLUDING THE STEEL FABRIC SHALL BE INCLUDED. THE FENCE SHALL CONFORM TO CMS ITEM 607 AND STANDARD DRAWING VPF–1–90 (PS–4–POST SECTION BUT WITH A BP–5 BASE PLATE), EXCEPT AS SPECIFIED HEREIN AND AS MODIFIED BY THE DETAILS PROVIDED ON SHEETS 40/45 AND 41/45. ANCHOR BOLT INSERTS SHALL BE CAST–IN–PLACE.

PRIOR TO GALVANIZING, ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES SHALL HAVE A 1/16 INCH RADIUS.

MATERIALS FOR FENCE POSTS AND RAILS SHALL BE IN ACCORDANCE WITH AASHTO M181 FOR TYPE 1 (ZINC–COATED) GRADE 2 STEEL, EXCEPT THE EXTERIOR COATING SHALL BE HOT–DIP ZINC WITHOUT AN ORGANIC TOPCOAT. GALVANIZING OF OTHER FENCE ELEMENTS SHALL BE IN ACCORDANCE WITH THE NOTES ON STANDARD DRAWING VPF–1–90. IN ADDITION, ALL FENCE ELEMENTS TO BE PVC COATING SHALL NOT BE POST–TREATED WITH WATER QUENCHING NOR CHROMATE CONVERSION COATED, SINCE THEY WILL ADVERSELY AFFECT THE BOND BETWEEN THE GALVANIZED STEEL AND THE PVC COATING. THE CONTRACTOR SHALL VERIFY THEY HAVE NOT BEEN PERFORMED BY THE GALVANIZING SHOP, AND SHALL PERFORM A SPOT TEST PER ASTM B201 FOR CHECKING THE PRESENCE OF A CHROMATE CONVERSION COATING.

AFTER GALVANIZING, ZINC HIGH SPOTS SUCH AS METAL DRIP LINES AND OTHERS THAT WOULD DETRACT FROM THE PVC COATING APPEARANCE SHALL BE MADE FLUSH WITH THE SURROUNDING SURFACE BY SSPC–SP2 OR SP3. CARE SHALL BE TAKEN THAT THE BASE GALVANIZED COATING IS NOT REMOVED. REPAIRED AREAS SHALL BE CHECKED FOR REQUIRED COATING THICKNESS.

GALVANIZED COATINGS DAMAGED IN THE SHOP SHALL BE REPAIRED PER ASTM A780 METHOD A3.

AFTER REMOVING HIGH SPOTS THE GALVANIZED COATING SHALL BE CLEANED PER SSPC–SP1. THE CLEANING SOLUTION SHALL BE AN ALKALINE SOLUTION WITH A PH RANGING FROM A MINIMUM OF 11 TO A MAXIMUM OF 12. THIS SOLUTION CAN BE APPLIED BY IMMERSION, SPRAY OR SOFT NYLON BRUSH. IF IMMERSING OR SPRAYING, MAINTAIN A SOLUTION TEMPERATURE OF 140° F TO 180° F. FOLLOW CLEANING WITH A HOT WATER OR HOT PRESSURE WASH RINSE NOT EXCEEDING 1450 PSI. INDIVIDUAL PIECES SHALL BE SEPARATED AND POSITIONED TO FACILITATE DRAINAGE AND DRYING. THE PIECES SHALL BE COMPLETELY DRY BEFORE PROCEEDING.

AFTER CLEANING, THE PIECES SHALL BE ABRASIVE BLASTED PER SSPC–SP7 BRUSH–OFF BLAST CLEANING. THE BLASTING OPERATION SHALL ROUGHEN THE GALVANIZED SURFACE TO AN ANGULAR SURFACE PROFILE OF 0.25 TO 0.50 MILS. THE BLASTING EQUIPMENT, TECHNIQUE AND ABRASIVE MATERIAL SHALL BE SELECTED TO PROVIDE FOR THE SPECIFIED SURFACE PROFILE WITHOUT REMOVAL OF ZINC LAYERS. THE FINAL ZINC MILLAGE SHALL NOT BE LESS THAN 3.0 MILS, AND SHALL BE MEASURED PRIOR TO PVC COATING APPLICATION. ALL ABRASIVE RESIDUE SHALL BE REMOVED WITH CLEAN COMPRESSED AIR OR OTHER METHODS ACCEPTABLE TO THE DEPARTMENT. FIELD CONNECTION AREAS SHALL HAVE A UNIFORM GALVANIZED COATING FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT THE FIELD CONNECTIONS FROM MAKING INTIMATE CONTACT.

ALL GALVANIZED PARTS OF THE FENCE SHALL THEN BE PVC COATED COLOR TO MATCH FEDERAL STANDARD FS–595B COLOR NO. 27040 (BLACK) IN ACCORDANCE WITH ASTM F668, CLASS 2A OR 2B WITH THE FOLLOWING CHANGE:

THE COATING SHALL BE VIRGIN PVC OF 22 MILS THICKNESS FOR CLASS 2A AND 7 MILS FOR CLASS 2B.

THE 11 GAGE (0.120") CORE WIRES OF THE STEEL FABRIC SHALL BE UNIFORMLY GALVANIZED WITH ZINC METAL OF 0.30 OZ/SQ. FT. MINIMUM WEIGHT IN ACCORDANCE WITH ASTM A641. THE GALVANIZED WIRE SHALL THEN BE PVC COATED TO MATCH FEDERAL STANDARD FS–595B COLOR NO. 27040 (BLACK) IN ACCORDANCE WITH ASTM F668, CLASS 2A OR 2B WITH THE FOLLOWING CHANGES:

A. THE COATING SHALL BE VIRGIN PVC OF 22 MILS THICKNESS FOR CLASS 2A AND 7 MILS FOR CLASS 2B.

B. THE FINISHED FABRIC SHALL BE COMPOSED OF A 1–INCH DIAMOND PATTERN IN WHICH THE INDIVIDUAL PICKETS ARE HELICALLY WOVEN AND INTERWOVEN IN THE FORM OF A CONTINUOUS CHAIN LINK MESH WITH KNUCKLED SELVAGES.

ALL PVC COATED FABRIC AND FENCE ELEMENTS SHALL BE HANDLED WITH CARE. IF THE PVC COATING IS DAMAGED, THE CONTRACTOR SHALL REPLACE THE PIECE OR REPAIR THE PVC COATING AS DIRECTED BY THE PROJECT ENGINEER AT NO COST TO THE DEPARTMENT.

EXPOSED SURFACES OF ALL NUTS, BOLTS, AND ANCHOR BOLTS USED TO ASSEMBLE THE FENCE SHALL BE GALVANIZED AND PVC COATED TO MATCH THE FENCE COMPONENTS.

ALL LABOR, EQUIPMENT AND MATERIALS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE LINEAR FOOT PRICE BID FOR ITEM SPECIAL – VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.

CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAW CUT CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. SAW CUT VERTICAL SURFACES 2 1/4" DEEP AND SAW CUT THE HORIZONTAL (TOP) SURFACE 1 1/4" DEEP. PLACE THE SAWCUTS AT THE LOCATIONS SHOWN IN THE PLAN. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4 INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO 1/4 INCH LESS THAN THE DEPTH OF THE SAW CUT WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 519 – PATCHING CONCRETE STRUCTURES, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH–PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 864–SEALING OF CONCRETE SURFACES (EPOXY–URETHANE)

FOR SUBSTRUCTURE CONCRETE, THE SECOND SEALING COAT ONLY SHALL BE TINTED TO FEDERAL COLOR STANDARD NUMBER 17778 (LIGHT NEUTRAL).

FOR SUPERSTRUCTURE CONCRETE, TINT THE SECOND SEALING COAT ONLY TO THE COLORS SPECIFIED IN THE STRUCTURE PLANS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

ITEM 516 – SEMI–INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN

INSTALL A 3–FEET WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼ INCHES X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1–INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, +/–, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS, SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, +/–, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32 INCHES THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN–0003" BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094"±.01
BREAKING STRENGTH, GRAB, LBS. MINIMUM (LONG. X TRANS.)	D 751	700 X 700
ADHESIVE STRIP, 1" WIDE x 2" LONG LBS. MINIMUM	D 751	9
BURST STRENGTH, PSI, MINIMUM	D 751	1400
HEAT AGING, 70 HOURS, 212° F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS, 1 HOUR, –40° F, BEND AROUND ¼" MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI–INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ITEM 503–UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL SHALL BE MATERIAL CONFORMING TO CMS 703.17 (CMS 304 MATERIAL) AND MEET THE COMPACTION REQUIREMENTS OF CMS 304.05. IN ADDITION, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.

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DESIGNED J.P.R. | DRAWN R.R.C. | REVIEWED W.D.B. | DATE 4/15/05
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GENERAL NOTES
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43

ITEM 526 – REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN

DESCRIPTION: THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS WITH SIDEWALKS ON THEM IN ACCORDANCE WITH THE DETAILS IN THE STRUCTURE PLANS AND ODOT STANDARD DRAWING AS–1–81.

MATERIALS: THE CONCRETE MIX FOR THIS ITEM SHALL BE THE SAME AS THE MIX USED FOR THE BRIDGE DECK CONCRETE.

THE FOLLOWING ESTIMATED CONCRETE QUANTITY IS GIVEN FOR INFORMATION ONLY:

18 CU. YD. (SIDEWALKS)

THIS CONCRETE AND ITS REINFORCING STEEL SHALL BE INCIDENTAL IN THE PRICE BID FOR THE APPROACH SLAB CONCRETE.

METHOD OF MEASUREMENT:
THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT:

ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, REINFORCING STEEL, 1" PREFORMED EXPANSION MATERIAL, JOINTS (WITH HMWM SEALER) AND OTHER MATERIALS AND INCIDENTALS, LABOR AND EQUIPMENT.

PAYMENT WILL BE MADE UNDER ITEM 526 – REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN.

ITEM 601 – CONCRETE SLOPE PROTECTION, AS PER PLAN

DESCRIPTION: REMOVE TWO EXISTING 6'–0"± WIDE CONCRETE DRAINAGE CHANNELS FROM THE SLOPE BETWEEN THE REAR ABUTMENT AND PIER 1 (APPROXIMATELY 80 SQUARE YARDS). REPAIR ERODED/DEPRESSED AREAS IN BOTH ABUTMENT SLOPES BY REGRADING THE EXISTING CRUSHED AGGREGATE. FURNISH, PLACE AND COMPACT 703.16 EMBANKMENT MATERIAL TO RAISE THE SLOPES TO A PLANAR SURFACE THAT IS 6" BELOW THE FINISHED FACE OF THE PROPOSED CONCRETE SLOPE PROTECTION.

EXCAVATE THE TOE OF SLOPE TO ACHIEVE A THICKENED SLAB, INSTALL DOWELS AT THE ABUTMENTS, PLACE GEOTEXTILE FABRIC AND WELDED WIRE FABRIC THEN PLACE AND TEXTURE THE CONCRETE SLAB AS SPECIFIED ON "CONCRETE SLOPE PROTECTION" SHEET 42/45. REMOVE ANY MATERIAL THAT FALLS INTO THE DITCHES AT THE TOE OF THE SLOPE.

METHOD OF MEASUREMENT: SQUARE YARDS, COMPLETED IN–PLACE AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS NEEDED TO COMPLETE THE REMOVAL, REGRADING, EMBANKMENT CONSTRUCTION, EXCAVATION AND CONCRETE SLOPE PROTECTION INSTALLATION WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT SQUARE YARD PRICE BID FOR ITEM 601 – CONCRETE SLOPE PROTECTION, AS PER PLAN.

ITEM SPECIAL– SHOP PAINTING AND FIELD TOUCH–UP OF STRUCTURAL STEEL

DESCRIPTION

THIS SPECIFICATION COVERS SHOP CLEANING AND SHOP APPLICATION OF A 3 COAT PAINT SYSTEM ON ITEM 863 – STRUCTURAL STEEL, AND THE FIELD CLEANING AND REPAIR OF SURFACES DAMAGED IN SHIPPING, HANDLING, AND ERECTING THE STRUCTURAL STEEL AND ANY OTHER DAMAGES DURING CONSTRUCTION.

THIS SPECIFICATION SHALL ALSO INCLUDE THE GALVANIZING AS PER 711.02 OF ALL NUTS, WASHERS, BOLTS, ANCHOR BOLTS, AND ALL OTHER STRUCTURAL MEMBERS DESIGNATED IN THE PLANS.

MATERIAL

A. A THREE COAT PAINT SYSTEM CONSISTING OF AN

ORGANIC ZINC PRIME COAT
EPOXY INTERMEDIATE COAT
URETHANE FINISH COAT

AND MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 910 ENTITLED "OZEU STRUCTURAL STEEL PAINT".

B. INORGANIC ZINC SILICATE PRIMER PAINT, FOR THE BOLTED FAYING SURFACES, MEETING THE REQUIREMENTS OF CMS 708.17.

C. A TIE COAT. CONSISTING OF AN EPOXY INTERMEDIATE COAT, MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 910, "EPOXY INTERMEDIATE COAT" AND THINNED 50% BY VOLUME, WITH A THINNER AS RECOMMENDED BY THE PAINT MANUFACTURER.

APPROVED PAINT, ITEMS A AND C, SHALL BE FROM ONE MANUFACTURER, REGARDLESS OF SHOP OR FIELD APPLICATION.

APPROVED PAINT, ITEM B, MAY BE FROM A DIFFERENT MANUFACTURER THAN ITEMS A AND C. ITEM B PAINT USED SHALL BE FROM THE SAME MANUFACTURER FOR BOTH SHOP APPLICATION AND FIELD TOUCH–UP.

PRE–PAINT CONFERENCE

IF DESIGNATED ON THE PLAN A PRE–PAINT CONFERENCE SHALL BE HELD SEPARATELY FROM THE PRE–CONSTRUCTION MEETING. ATTENDEES TO THIS MEETING SHALL INCLUDE THE GENERAL CONTRACTOR, PAINT CONTRACTOR, STRUCTURAL STEEL ERECTOR, FABRICATOR, QUALITY CONTROL SPECIALIST, ENGINEER, STRUCTURAL STEEL ENGINEER, AND OTHERS IF REQUIRED IN THE PLAN.

THE MEETING SHALL TAKE PLACE BEFORE THE STEEL IS FABRICATED OR PAINTED.

QUALITY CONTROL SPECIALISTS

THIS PERSON WILL NOT BE A FOREMAN OR MEMBER OF THE CONTRACTOR'S OR FABRICATOR'S PRODUCTION STAFF (I.E. HE WILL NOT ABRASIVE BLAST, PAINT, RECOVER SPENT ABRASIVES, ETC.). HE WILL NOT BE INVOLVED IN ANY OTHER MISCELLANEOUS TASK (I.E. MIXING PAINT, RUNNING ERRANDS, RUNNING OR WORKING ON EQUIPMENT, ETC.). DOCUMENTATION THAT PERSONNEL PERFORMING QUALITY CONTROL RELATED FUNCTIONS ARE QUALIFIED SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ALLOWING THE QUALITY CONTROL SPECIALIST (QSC) TO BEGIN WORK. DOCUMENTATION/VERIFICATION SHALL BE PROVIDED TO THE ENGINEER THAT THE QCS HAS RECEIVED FORMAL TRAINING FROM ONE OF THE FOLLOWING: KTA TATOR, S.G. PINNEY, OR CORROSION CONTROL CONSULTANTS. HE SHALL BE EQUIPPED WITH MATERIAL SAFETY DATA SHEETS, TOOLS AND EQUIPMENT TO PROVIDE QUALITY CONTROL ON ALL FACETS OF THE WORK AND SHALL HAVE A THOROUGH UNDERSTANDING OF THE PLANS AND SPECIFICATIONS PERTAINING TO THIS PROJECT. HE SHALL BE RESPONSIBLE FOR VERIFYING THAT ALL WORK IS DONE WITHIN THE SPECIFIED WORK LIMITATION. HE SHALL COOPERATE WITH THE INSPECTOR AND COMPARE AND DOCUMENT QUALITY CONTROL READINGS. HE SHALL HAVE THE AUTHORITY TO STOP WORK AND THE RESPONSIBILITY TO INFORM THE CONTRACTOR'S OR FABRICATOR'S FOREMAN OF NON–CONFORMING WORK.

QUALITY CONTROL SPECIALISTS WILL BE REQUIRED IN THE SHOP AND IN THE FIELD. BEFORE FABRICATION THE FABRICATOR SHALL DESIGNATE ONE INDIVIDUAL FOR EACH SHOP AS A QUALITY CONTROL SPECIALIST.

AT THE PRE–CONSTRUCTION OR PRE–PAINT MEETING, THE CONTRACTOR SHALL ALSO DESIGNATE ONE INDIVIDUAL ON EACH PROJECT AS A QUALITY CONTROL SPECIALIST (ONLY ONE PERSON PER PROJECT WILL BE NECESSARY UNLESS THE CONTRACTOR IS WORKING AT MORE THAN THREE (3) SITES SIMULTANEOUSLY). IT WILL THEN BE NECESSARY TO PROVIDE AN ADDITIONAL QUALITY CONTROL SPECIALIST AND A SET OF TESTING EQUIPMENT AS DESCRIBED IN THE EQUIPMENT SECTION FOR EACH ADDITIONAL THREE (3) SITES BEING PAINTED SIMULTANEOUSLY.

QUALITY CONTROL POINTS

QUALITY CONTROL POINTS (QCP) ARE POINTS IN TIME WHEN ONE PHASE OF THE WORK IS COMPLETE AND READY FOR INSPECTION BY THE CONTRACTOR OR FABRICATOR AND THE STRUCTURAL STEEL ENGINEER OR THE ENGINEER PRIOR TO CONTINUING WITH THE NEXT OPERATIONAL STEP. AT THESE POINTS: THE CONTRACTOR OR FABRICATOR SHALL AFFORD ACCESS TO INSPECT ALL AFFECTED SURFACES. IF INSPECTION INDICATES A DEFICIENCY, THAT PHASE OF THE WORK SHALL BE CORRECTED IN ACCORDANCE WITH THESE SPECIFICATIONS PRIOR TO BEGINNING THE NEXT PHASE OF WORK. DISCOVERY OF DEFECTIVE WORK OR MATERIAL AFTER A QUALITY CONTROL POINT IS PAST OR FAILURE OF THE FINAL PRODUCT BEFORE FINAL ACCEPTANCE, SHALL NOT IN ANY WAY PREVENT REJECTION OR OBLIGATE THE STATE OF OHIO TO FINAL ACCEPTANCE.

QUALITY CONTROL POINTS (QCP)	(PURPOSE)
1.) WASHING	REMOVE WATER SOLUBLE OIL, GREASE, SALT, DIRT, ETC.
2.) SOLVENT CLEANING	REMOVE ASPHALTIC CEMENT, OIL, GREASE, SALT, DIRT, ETC., NOT REMOVED DURING WASHING
3.) GRINDING EDGES	GRINDING EDGES REQUIRED.
4.) ABRASIVE BLASTING	BLAST SURFACE TO RECEIVE PAINT
5.) PRIME COAT APPLICATION	CHECK SURFACE CLEANLINESS, APPLY PRIME COAT, CHECK COATING THICKNESS
6.) INTERMEDIATE COAT	CHECK SURFACE CLEANLINESS, APPLY INTERMEDIATE COAT, CHECK COATING THICKNESS
7.) FINISH COAT APPLICATION	CHECK SURFACE CLEANLINESS, APPLY FINISH COAT, CHECK COATING THICKNESS
8.) VISUAL INSPECTION	VISUALLY INSPECT PAINT BEFORE SHIPMENT OF STEEL AND CHECK TOTAL SYSTEM THICKNESS
9.) REPAIR OF DAMAGED AREAS	CHECK FOR DAMAGED AREAS AFTER COMPLETION OF STRUCTURE AND REPEAT QCP 1–7 FOR DAMAGED AREAS
10.) FINAL REVIEW	WASH STRUCTURE AS PER QCP #1. VISUALLY INSPECT SYSTEM FOR ACCEPTANCE AND CHECK TOTAL SYSTEM THICKNESS

SURFACE PREPARATION

THIS ITEM SHALL CONSIST OF WASHING, SOLVENT CLEANING, AND ABRASIVE CLEANING OF STRUCTURAL STEEL MEMBERS.

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WASHING (QCP #1)

PRIOR TO ABRASIVE BLASTING, ALL SURFACES TO BE PAINTED SHALL BE WASHED WITH POTABLE WATER HAVING A NOZZLE PRESSURE OF AT LEAST 1000 PSI AND A DELIVERY RATE OF NOT LESS THAN 4 GALLONS PER MINUTE. (QCP #1) THE CONTRACTOR OR FABRICATOR SHALL PROVIDE EQUIPMENT SPECIFICATIONS TO VERIFY THE ABOVE. THE EQUIPMENT SHALL ALSO BE EQUIPPED WITH GAUGES TO VERIFY THE PRESSURE. THE WATER SHALL CONTAIN TRI-SODIUM PHOSPHATE DETERGENT AT A RATE OF 2 OUNCES (BY WEIGHT) PER GALLON OF TECHNICAL GRADE, HYDRATED WATER (MINIMUM) TO REMOVE WATER SOLUBLE OIL, GREASE, SALT AND DIRT. BEFORE THE SURFACES DRY, THE BRIDGE OR STRUCTURAL STEEL MEMBER SHALL BE RINSED TO REMOVE ALL REMAINING DETERGENT. THE NOZZLE SHALL BE HELD AT A MAXIMUM OF TWELVE (12) INCHES FROM THE SURFACE BEING WASHED OR RINSED. SURFACES SHALL NOT BE CONSIDERED AS CLEAN UNTIL CLEAR RINSE WATER RUNS OFF THE STRUCTURE. AFTER THE SURFACE IS RINSED AND ALLOWED TO DRY, IT SHALL BE CHECKED FOR REMAINING VISIBLE DIRT. SURFACES SHALL BE REWASHED AND RINSED AS NECESSARY TO REMOVE ALL REMAINING DIRT. THE FINISH COAT SHALL BE APPLIED WITHIN THREE (3) MONTHS OF WASHING THE STRUCTURE OR STRUCTURAL STEEL MEMBER.

SOLVENT CLEANING (QCP #2)

AFTER WASHING, ALL TRACES OF ASPHALTIC CEMENT, OIL, GREASE, DIESEL FUEL DEPOSITS, AND OTHER SOLUBLE CONTAMINANTS WHICH REMAIN, SHALL BE REMOVED BY SOLVENT CLEANING (QCP #2) (SEE SSPC-SP 1 SOLVENT CLEANING FOR RECOMMENDED PRACTICES). UNDER NO CIRCUMSTANCES SHALL ANY ABRASIVE BLASTING BE DONE TO AREAS WITH ASPHALTIC CEMENT, OIL, GREASE, OR DIESEL FUEL DEPOSITS. ALL SOLVENT CLEANED AREAS SHALL BE REWASHED AS PREVIOUSLY NOTED.

GRINDING EDGES (QCP #3)

THE EDGES OF ALL STEEL SHALL BE ROUNDED IN ACCORDANCE WITH AWS D1.5 SECTION 3.2.9 BEFORE ABRASIVE BLASTING.

ABRASIVE BLASTING (QCP #4)

ALL STEEL TO BE PAINTED SHALL BE BLAST CLEANED ACCORDING TO SSPC-SP10 (NEAR-WHITE BLAST) AS SHOWN IN SSPC-VIS 1-89 (PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES). STEEL SHALL BE MAINTAINED IN A BLAST CLEANED CONDITION UNTIL IT HAS RECEIVED A PRIME COAT OF PAINT.

DURING SHOP APPLICATION AND FIELD TOUCH-UP, GALVANIZED STEEL (INCLUDING CORRUGATED STEEL BRIDGE FLOORING), ADJACENT CONCRETE, EXISTING PAINTED SURFACE AND OTHER SURFACES NOT INTENDED TO BE PAINTED, SHALL BE MASKED TO PREVENT DAMAGE FROM ABRASIVE BLASTING AND PAINTING OPERATIONS.

THE ABRASIVE SHALL BE A RECYCLABLE STEEL GRIT. AFTER EACH USE AND PRIOR TO EACH REUSE, THE STEEL GRIT SHALL BE CLEANED OF PAINT CHIPS, RUST, MILL SCALE AND OTHER FOREIGN MATERIAL BY EQUIPMENT SPECIFICALLY DESIGNED FOR SUCH CLEANING.

THE SURFACE PROFILE SHALL BE A MINIMUM OF ONE (1) MILS AND A MAXIMUM OF THREE AND ONE-HALF (3.5) MILS. ABRASIVES OF A SIZE SUITABLE TO DEVELOP THE REQUIRED SURFACE PROFILE SHALL BE USED. ANY ABRASIVE BLASTING WHICH IS DONE WHEN THE STEEL TEMPERATURE IS LESS THAN FIVE (5) DEGREES ABOVE THE DEW POINT SHALL BE REBLASTED WHEN THE STEEL TEMPERATURE IS FIVE (5) DEGREES ABOVE THE DEW POINT. DEW POINT SHALL BE DEFINED AS THE TEMPERATURE AT WHICH MOISTURE CONDENSES ON THE STEEL SURFACES.

ALL FINS, TEARS, SLIVERS, AND BURRED OR SHARP EDGES THAT ARE PRESENT ON ANY STEEL MEMBER AFTER BLASTING SHALL BE REMOVED BY GRINDING AND THE AREA REBLASTED.

ALL ABRASIVES AND RESIDUE SHALL BE REMOVED FROM SURFACES TO BE PAINTED WITH A VACUUM SYSTEM EQUIPPED WITH A BRUSH-TYPE CLEANING TOOL. ALL STEEL BLAST CLEANED IN ANY ONE DAY SHALL BE KEPT DUST FREE AND PRIME COATED THE SAME DAY. FAILURE TO PRIME COAT THE SAME DAY WILL REQUIRE REBLASTING BEFORE PRIME COATING. NO DUST OR ABRASIVES FROM ADJACENT WORK SHALL BE LEFT ON THE FINISH COAT.

THE QUALITY CONTROL SPECIALIST SHALL PERFORM THE FOLLOWING TEST (AND THE INSPECTOR WILL VERIFY) TO ENSURE THAT THE AIR IS NOT CONTAMINATED: BLOW AIR FROM THE NOZZLE FOR THIRTY (30) SECONDS ONTO A WHITE CLOTH OR BLOTTER HELD IN A RIGID FRAME. IF ANY OIL OR OTHER CONTAMINANTS ARE PRESENT ON THE CLOTH OR BLOTTER, ABRASIVE BLASTING SHALL BE SUSPENDED UNTIL THE PROBLEM IS CORRECTED AND VERIFIED BY ANOTHER TEST. THIS TEST SHALL BE DONE AT THE START OF EACH SHIFT AND AT FOUR (4) HOUR INTERVALS.

ABRASIVE BLASTING AND PAINTING MAY TAKE PLACE SIMULTANEOUSLY ON ANY ONE BRIDGE AS LONG AS ABRASIVE BLASTING DEBRIS AND/OR DUST CREATED BY THE BLOWING OPERATION DOES NOT COME IN CONTACT WITH FRESHLY PAINTED SURFACES.

THE CONTRACTOR SHALL REMOVE ALL BLASTING RESIDUES FROM THE ROADWAY, PEDESTRIAN WALKWAYS, GUTTERS AND OTHER DRAINAGE FACILITIES AT THE END OF EACH DAY'S WORK. CARE SHALL BE TAKEN TO KEEP ALL BLASTING RESIDUES OUT OF DRAINS OR CATCH BASINS. NEARBY DRAINS AND CATCH BASINS SHALL BE COVERED DURING BLASTING OPERATIONS. BLASTING RESIDUE SHALL NOT BE PERMITTED ON SURFACES WHICH ARE BEING USED BY VEHICLES OR PEDESTRIANS. THE BLASTING RESIDUES SHALL BE DISPOSED OF OUTSIDE THE HIGHWAY RIGHT-OF-WAY.

TESTING EQUIPMENT

BOTH THE CONTRACTOR FOR THE FIELD APPLICATION AND THE FABRICATOR FOR SHOP APPLICATION, SHALL PROVIDE AND ASSIGN TO THE ENGINEER THE FOLLOWING TESTING EQUIPMENT IN GOOD WORKING ORDER, FOR THE DURATION OF THE PROJECT, ONE (1) SET OF TESTING EQUIPMENT FOR EACH QUALITY CONTROL SPECIALIST. THESE SHALL BE SEPARATE SETS FROM THOSE THE CONTRACTOR OR FABRICATOR PROVIDES FOR THE QUALITY CONTROL SPECIALIST.

EACH QUALITY CONTROL SPECIALIST SHALL HAVE HIS OWN TESTING EQUIPMENT. WHEN NO TEST EQUIPMENT IS AVAILABLE, NO WORK SHALL BE PERFORMED.

1. ONE (1) SPRING MICROMETER AND 1 ROLL OF COARSE AND 3 (UNLESS OTHERWISE SPECIFIED ON THE PLANS) ROLLS OF EXTRA-COARSE REPLICA TAPE.

2. ONE (1) POSITECTOR 2000-6000, QUANIX 2200, OR ELCOMETER (A345FBI1) AND THE CALIBRATION PLATES AS PER THE NBS CALIBRATION STANDARDS IN ACCORDANCE WITH ASTM D-1186.

3. ONE (1) SLING PSYCHROMETER INCLUDING PSYCHOMETRIC TABLES USED TO CALCULATE RELATIVE HUMIDITY AND DEW POINT TEMPERATURES.

4. TWO (2) STEEL SURFACE THERMOMETERS ACCURATE WITHIN 2 DEGREES.

5. FLASHLIGHT 2-D CELL.

6. SSPC VISUAL STANDARD FOR ABRASIVE BLAST CLEANED STEEL SSPC-VIS 1-89.

7. ONE (1) RECORDER THERMOMETER CAPABLE OF RECORDING THE DATE, TIME, AND TEMPERATURE OVER A PERIOD OF AT LEAST 12 HOURS.

HANDLING

ALL PAINT AND THINNER SHALL BE DELIVERED TO THE PROJECT SITE OR FABRICATOR'S SHOP IN ORIGINAL, UNOPENED CONTAINERS WITH LABELS INTACT. MINOR DAMAGE TO CONTAINERS IS ACCEPTABLE PROVIDED THE CONTAINER HAS NOT BEEN PUNCTURED. THINNER CONTAINERS SHALL BE A MAXIMUM OF FIVE (5) GALLONS.

PAINT SHALL BE STORED AT THE TEMPERATURE RECOMMENDED BY THE MANUFACTURER TO PREVENT PAINT DETERIORATION.

EACH CONTAINER OF PAINT AND THINNER SHALL BE CLEARLY MARKED OR LABELED TO SHOW PAINT IDENTIFICATION, COMPONENT, COLOR, LOT NUMBER, STOCK NUMBER, DATE OF MANUFACTURE, AND INFORMATION AND WARNINGS AS MAY BE REQUIRED BY FEDERAL AND STATE LAWS.

ALL CONTAINERS OF PAINT AND THINNER SHALL REMAIN UNOPENED UNTIL REQUIRED FOR USE. THE LABEL INFORMATION SHALL BE LEGIBLE AND SHALL BE CHECKED AT TIME OF USE.

SOLVENT USED FOR CLEANING EQUIPMENT IS EXEMPT FROM THE ABOVE REQUIREMENTS.

PAINT WHICH HAS LIVERED, GELLED OR OTHERWISE DETERIORATED DURING STORAGE SHALL NOT BE USED. HOWEVER, THIXOTROPIC MATERIALS WHICH CAN BE STIRRED TO ATTAIN NORMAL CONSISTENCY MAY BE USED.

THE OLDEST PAINT OF EACH KIND SHALL BE USED FIRST. NO PAINT SHALL BE USED WHICH HAS SURPASSED ITS SHELF LIFE.

PAINT MAY BE CONSIDERED AS ELIGIBLE FOR PAYMENT FOR MATERIAL ON HAND AS SPECIFIED IN CMS 109.07. HOWEVER, ONLY PAINT WHICH THE CONTRACTOR CAN PROVE TO THE ENGINEER WILL BE USED DURING THE CONSTRUCTION SEASON SHALL BE ELIGIBLE FOR PAYMENT. THE CONTRACTOR SHALL PROVIDE THE ENGINEER CALCULATIONS INDICATING THE TOTAL SQUARE FEET OF STEEL TO BE PAINTED DURING THE CONSTRUCTION SEASON. HE SHALL ALSO PROVIDE CALCULATIONS SHOWING THE TOTAL NUMBER OF GALLONS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE TO STORE THE PAINT ON THE PROJECT IN SUCH MANNER TO PREVENT THEFT AND ADVERSE TEMPERATURES. HE SHALL PROVIDE THERMOMETERS CAPABLE OF MONITORING THE MAXIMUM HIGH AND LOW TEMPERATURES WITHIN THE STORAGE FACILITY. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL UNUSED PAINT AND PAINT CONTAINERS.

THE CONTRACTOR SHALL FURNISH SHIPPING INVOICES FOR ALL MATERIALS USED ON THE PROJECT TO THE ENGINEER PRIOR TO USE.

MIXING AND THINNING

ALL INGREDIENTS IN ANY CONTAINER OF PAINT SHALL BE THOROUGHLY MIXED IMMEDIATELY BEFORE USE AND SHALL BE AGITATED OFTEN ENOUGH DURING APPLICATION TO MAINTAIN A UNIFORM COMPOSITION; HOWEVER, THE PRIMER SHALL BE CONTINUOUSLY MIXED BY AN AUTOMATED AGITATION SYSTEM (HAND HELD MIXERS ARE NOT ALLOWED). PAINT SHALL BE CAREFULLY EXAMINED AFTER MIXING FOR UNIFORMITY AND TO VERIFY THAT NO UNMIXED PIGMENT REMAINS ON THE BOTTOM OF THE CONTAINER. THE PAINT SHALL BE MIXED WITH A HIGH SHEAR MIXER (SUCH AS A JIFFY MIXER). PADDLE MIXERS OR PAINT SHAKERS ARE NOT ALLOWED. PAINT SHALL NOT BE MIXED OR KEPT IN SUSPENSION BY MEANS OF AN AIR STREAM BUBBLING UNDER THE PAINT SURFACE.

ALL PAINT SHALL BE STRAINED AFTER MIXING. STRAINERS SHALL BE OF A TYPE TO REMOVE ONLY SKINS AND UNDESIRABLE MATTER, BUT NOT THE PIGMENT.

NO THINNER SHALL BE ADDED TO THE PAINT WITHOUT THE ENGINEER'S APPROVAL, AND ONLY IF NECESSARY FOR PROPER APPLICATION AS RECOMMENDED BY THE MANUFACTURER. WHEN THE USE OF THINNER IS PERMISSIBLE, THINNER SHALL BE ADDEND SLOWLY TO THE PAINT DURING THE MIXING PROCESS. ALL THINNING SHALL BE DONE UNDER SUPERVISION OF THE ENGINEER. IN NO CASE SHALL MORE THINNER BE ADDED THAN THAT RECOMMENDED BY THE MANUFACTURER'S PRINTED INSTRUCTIONS. ONLY THINNERS RECOMMENDED AND SUPPLIED BY THE PAINT MANUFACTURER MAY BE ADDED TO THE PAINT. NO OTHER ADDITIVES SHALL BE ADDED TO THE PAINT.

CATALYSTS, CURING AGENTS, OR HARDENERS WHICH ARE IN SEPARATE PACKAGES SHALL BE ADDED TO THE BASE PAINT ONLY AFTER THE BASE PAINT HAS BEEN THOROUGHLY MIXED. THE PROPER VOLUME OF THE CATALYST SHALL THEN BE SLOWLY POURED INTO THE REQUIRED VOLUME OF BASE WITH CONSTANT AGITATION. LIQUID WHICH HAS SEPARATED FROM THE PIGMENT SHALL NOT BE POURED OFF PRIOR TO THE MIXING. THE MIXTURE SHALL BE USED WITHIN THE POT LIFE SPECIFIED BY THE MANUFACTURER. THEREFORE ONLY ENOUGH PAINT SHALL BE CATALYZED FOR PROMPT USE. MOST MIXED, CATALYZED PAINTS CANNOT BE STORED, AND UNUSED PORTIONS OF THESE SHALL BE DISCARDED AT THE END OF EACH WORKING DAY.

COATING APPLICATION

GENERAL

ALL STRUCTURAL STEEL, SCUPPERS, BULB ANGLES, EXPANSION JOINTS, STEEL RAILING, EXPOSED STEEL PILING, DRAIN TROUGHS, GALVANIZED SURFACES AND OTHER AREAS INDICATED ON THE PLANS SHALL BE PAINTED UNLESS OTHERWISE NOTED IN THE PLANS.

GALVANIZED SURFACES TO BE EMBEDDED IN CONCRETE AND SURFACES IN CONTACT WITH SEALS, SHALL BE MASKED AND RECEIVED NO PAINT.

ALL AREAS WHERE FIELD WELDING IS REQUIRED SHALL BE MASKED PRIOR TO SHOP COATING AND RECEIVE NO PAINT.

THE TOP OF FLANGES SHALL RECEIVE THE PRIME COAT ONLY.

AREAS TO RECEIVE STUDS SHALL NOT BE MASKED BUT PAINT SHALL BE REMOVED BEFORE STUDS ARE APPLIED.

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GENERAL NOTES
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

TREATMENT OF FAYING SURFACES

SURFACES INDICATED BELOW SHALL BE TREATED ACCORDING TO METHOD A OR METHOD B AS DESCRIBED IN THIS SPECIFICATION:

1. FAYING SURFACES OF MAIN BEAM OR GIRDER BOLTED FIELD SPLICES.
2. ALL INTERNAL CONTACT SURFACES OF FILLER AND SPLICE PLATES.
3. OTHER SURFACES INDICATED IN THE PLANS.

METHOD A

THE FAYING SURFACES SHALL BE COATED WITH INORGANIC ZINC PRIMER.

THE COATING OF THESE FAYING SURFACES WITH THE INORGANIC ZINC-RICH PRIMER SHALL BE DONE BY USING A DOUBLE MASKING TECHNIQUE. FIRST, THE AREAS ADJACENT TO THE FAYING SURFACES SHALL BE TIGHTLY MASKED AND THE INORGANIC ZINC PRIMER APPLIED. AFTER THIS PRIMER HAS DRIED SUFFICIENTLY ENOUGH TO AVOID DAMAGE, THE FAYING SURFACES SHALL BE MASKED AND THE REMAINDER OF THE GIRDER SHALL BE COATED WITH THE ORGANIC ZINC-RICH PRIMER AND SUBSEQUENT COATS MASKED AND STEPPED BACK AT A ½ INCH OFFSET PER COAT.

ALL BOLTED SHOP CONNECTIONS AND BOLTED CROSS FRAMES SHALL BE REMOVED AND DISASSEMBLED PRIOR TO THE BLASTING AND COATING OF THE GIRDERS OR BEAMS. THE PARTS SHALL BE BLASTED SEPARATELY AND PRIMED, THEN REASSEMBLED AND THE BOLTS FULLY TIGHTENED USING THE TURN OF THE NUT METHOD.

METHOD B

THE FAYING SURFACES SHALL BE COATED WITH ORGANIC ZINC PRIMER ONLY PER THIS SPECIFICATION. SUBSEQUENT COATS SHALL BE MASKED AND STEPPED BACK AT A ½ INCH OFFSET PER COAT. IN ORDER TO USE METHOD B, THE PRIMER SHALL BE TESTED IN ACCORDANCE WITH THE METHODS DESCRIBED IN "ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". TESTING SHALL INCLUDE SLIP TESTS AND TENSION CREEP TESTS. A MINIMUM SLIP COEFFICIENT OF 0.33 SHALL BE ATTAINED.

TESTING SHALL BE PERFORMED BY AN ACCREDITED LABORATORY AT THE CONTRACTOR'S EXPENSE. CERTIFIED TEST RESULTS SHALL BE FURNISHED TO THE ENGINEER. DOCUMENTATION SHALL ALSO INCLUDE CERTIFICATION THAT THE ESSENTIAL VARIABLES (DEFINED IN SECTION 1.2, APPENDIX A, OF THE STRUCTURAL JOINTS SPECIFICATION) USED IN THE TESTING ARE THE SAME AS THOSE USED IN THE PAINT PROVIDED FOR THE STRUCTURE.

ALL GALVANIZED COMPONENTS, INCLUDING GALVANIZED NUTS, BOLTS, AND WASHERS, SHALL BE SOLVENT CLEANED AFTER INSTALLATION. THE EPOXY TIE-COAT, EPOXY COAT AND THE URETHANE PROTECTIVE COAT SHALL THEN BE APPLIED.

TEMPORARY ERECTION MARKS ADDED BY THE FABRICATOR TO HIGHLIGHT OR ENHANCE THE REQUIRED STEEL STAMPED ERECTION MARKS SHALL BE MADE WITHOUT DAMAGING THE PAINT SYSTEM. TEMPORARY ERECTION MARKS SHALL BE APPLIED ONLY AFTER THE FINISH COAT IS CURED AND SHALL BE REMOVED AT THE END OF THE PROJECT.

UNLESS OTHERWISE SPECIFIED, ALL COATS SHALL BE APPLIED BY SPRAY.

THE CONTRACTOR FOR FIELD APPLICATION AND THE FABRICATOR FOR SHOP APPLICATION, SHALL SUPPLY THE ENGINEER WITH THE PRODUCT DATA SHEETS BEFORE ANY COATING IS DONE. THE PRODUCT DATA SHEETS SHALL INDICATE THE MIXING AND THINNING DIRECTIONS, THE RECOMMENDED SPRAY NOZZLES AND PRESSURES AND THE MINIMUM DRYING TIME FOR SHOP APPLIED COATS.

THESE PRODUCT DATA SHEETS SHALL BE FOLLOWED EXCEPT WHEN THEY CONFLICT WITH THESE SPECIFICATIONS, IN WHICH CASE THE SPECIFICATIONS SHALL GOVERN.

IF THE SURFACE IS DEGRADED OR CONTAMINATED AFTER SURFACE PREPARATION AND BEFORE PAINTING, THE SURFACE SHALL BE RESTORED BEFORE PAINTING APPLICATION. IN ORDER TO PREVENT DEGRADATION OR CONTAMINATION OF CLEANED SURFACE, THE PRIME COAT OF PAINT SHALL BE APPLIED WITHIN TWENTY-FOUR (24) HOURS AFTER BLAST CLEANING WITH METHOD A, AND WITHIN EIGHT (8) HOURS AFTER BLAST CLEANING WITH METHOD B, AS REQUIRED IN SURFACE PREPARATION ABOVE.

CLEANING AND PAINTING SHALL BE SCHEDULED SO THAT DUST OR OTHER CONTAMINANTS DO NOT FALL ON WET, NEWLY-PAINTED SURFACES. SURFACES NOT INTENDED TO BE PAINTED SHALL BE SUITABLY PROTECTED FROM THE EFFECTS OF CLEANING AND PAINTING OPERATIONS. OVERSPRAY SHALL BE REMOVED WITH A STIFF BRISTLE BRUSH, WIRE SCREEN, OR A WATER WASH WITH SUFFICIENT PRESSURE TO REMOVE OVERSPRAY WITHOUT DAMAGING THE PAINT. THE OVERSPRAY MUST BE REMOVED BEFORE APPLYING THE NEXT COAT. ALL ABRASIVES AND RESIDUE SHALL BE REMOVED FROM PAINTED SURFACES BEFORE RECOATING, WITH A VACUUM SYSTEM EQUIPPED WITH A BRUSH-TYPE CLEANING TOOL.

NO VISIBLE ABRASIVES FROM ADJACENT WORK SHALL BE LEFT ON ANY COAT. ABRASIVES SHALL BE REMOVED.

SPRAY APPLICATION FOR THE INTERMEDIATE COAT (EPOXY) SHALL NOT BE USED WHERE TRAFFIC (INCLUDING RAILROAD, HIGHWAY AND RIVER TRAFFIC, PUBLIC AND PRIVATE PROPERTY) IS AFFECTED UNLESS THE OPERATION IS TOTALLY CONTAINED TO PREVENT OVERSPRAY. IF BRUSHED, MORE THAN ONE COAT MAY BE NECESSARY TO PRODUCE THE REQUIRED MILLAGE.

SPRAY APPLICATION (GENERAL)

ALL SPRAY APPLICATION OF PAINT SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

PRIMER INGREDIENTS SHALL BE KEPT UNIFORMLY MIXED IN THE SPRAY EQUIPMENT SHALL BE KEPT CLEAN SO THAT DIRT, DRIED PAINT AND OTHER FOREIGN MATERIALS ARE NOT DEPOSITED IN THE PAINT FILM. ANY SOLVENT LEFT IN THE EQUIPMENT SHALL BE COMPLETELY REMOVED BEFORE USING.

PAINT SHALL BE APPLIED IN A UNIFORM LAYER WITH OVERLAPPING AT THE EDGES OF THE SPRAY PATTERN. THE BORDER OF THE SPRAY PATTERN SHALL BE PAINTED FIRST; WITH THE PAINTING OF THE INTERIOR OF THE SPRAY PATTERN TO FOLLOW, BEFORE MOVING TO THE NEXT SPRAY PATTERN AREA. A SPRAY PATTERN AREA IS SUCH THAT THE GUN SHALL BE HELD PERPENDICULAR TO THE SURFACE AND AT A DISTANCE WHICH WILL ENSURE THAT A WET LAYER OF PAINT IS DEPOSITED ON THE SURFACE. THE TRIGGER OF THE GUN SHOULD BE RELEASED AT THE END OF EACH STROKE. ALL BOLTS AND RIVET HEADS SHALL BE SPRAYED FROM AT LEAST TWO (2) DIRECTIONS OR BRUSHED TO INSURE COVERAGE.

EACH SPRAY OPERATOR SHALL DEMONSTRATE TO THE ENGINEER HIS ABILITY TO APPLY THE PAINT AS SPECIFIED. ANY OPERATOR WHO DOES NOT DEMONSTRATE THIS ABILITY SHALL NOT SPRAY.

IF MUD CRACKING OCCURS, THE AFFECTED AREA SHALL BE CLEANED TO BARE METAL IN ACCORDANCE WITH SURFACE PREPARATION ABOVE AND REPAINTED.

ALL SPRAY EQUIPMENT USED SHALL BE SUITABLE FOR USE WITH THE SPECIFIED PAINT. PAINT MANUFACTURER'S EQUIPMENT RECOMMENDATIONS SHALL BE CONSULTED IN THE EVENT OF PAINT APPLICATION PROBLEMS.

IF AIR SPRAY IS USED, TRAPS OR SEPARATORS SHALL BE PROVIDED TO REMOVE OIL AND CONDENSED WATER FROM THE AIR. THE TRAPS OR SEPARATORS MUST BE OF ADEQUATE SIZE AND MUST BE DRAINED PERIODICALLY DURING OPERATIONS. THE FOLLOWING TEST SHALL BE DONE BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER TO INSURE THAT THE TRAPS OR SEPARATORS ARE WORKING PROPERLY. BLOW AIR FROM THE SPRAY GUN FOR THIRTY (30) SECONDS ONTO A WHITE CLOTH OR BLOTTER HELD IN A RIGID FRAME. IF ANY OIL, WATER OR OTHER CONTAMINANTS ARE PRESENT ON THE CLOTH OR BLOTTER, PAINTING SHALL BE SUSPENDED UNTIL THE PROBLEM IS CORRECTED AND VERIFIED BY ANOTHER TEST. THIS TEST SHALL BE DONE AT THE START OF EACH SHIFT AND AT FOUR (4) HOUR INTERVALS. THIS IS NOT REQUIRED FOR AND AIRLESS SPRAYER.

APPLICATION APPROVAL

THE BEGINNING OF THE APPLICATION OF EACH OF THE THREE DIFFERENT COATS SHALL BE SUBJECT TO INSPECTION AND APPROVAL. THE PURPOSE OF THIS INSPECTION IS TO DETECT ANY DEFECTS WHICH MIGHT RESULT FROM THE CONTRACTOR'S METHOD OF APPLICATION. IF ANY DEFECTS ARE DISCOVERED, THE CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS TO HIS METHOD OF APPLICATION TO ELIMINATE THESE DEFECTS BEFORE PROCEEDING WITH APPLICATION.

TEMPERATURE

PAINT SHALL NOT BE APPLIED WHEN THE TEMPERATURE OF THE AIR, STEEL, OR PAINT IS BELOW 50 DEGREES F. PAINT SHALL NOT BE APPLIED WHEN THE STEEL SURFACE TEMPERATURE IS EXPECTED TO DROP BELOW 50 DEGREES F BEFORE THE PAINT HAS CURED FOR THE MINIMUM TIMES SPECIFIED BELOW:

	50^F	60^F	70^F
PRIMER	4 HRS.	3 HRS.	2 HRS.
INTERMEDIATE	6 HRS.	5 HRS.	4 HRS.
FINISH	8 HRS.	6 HRS.	4 HRS.

THE ABOVE TEMPERATURES AND TIMES SHALL BE MONITORED WITH THE RECORDING THERMOMETER.

MOISTURE

PAINT SHALL NOT BE APPLIED WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREES F ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES OR ON FROSTED OR ICE-COATED SURFACES. PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85%. PAINT SHALL NOT BE APPLIED DURING RAIN, FOG OR MIST UNLESS THE ABOVE MOISTURE CRITERIA IS MET.

CONTINUITY

EACH COAT OF PAINT SHALL BE APPLIED AS A CONTINUOUS FILM OF UNIFORM THICKNESS FREE OF ALL DEFECTS SUCH AS HOLIDAYS, RUNS, SAGS, ETC. ALL THIN SPOTS OR AREAS MISSED SHALL BE REPAINTED AND PERMITTED TO DRY BEFORE THE NEXT COAT OF PAINT IS APPLIED.

DRY FILM THICKNESS

PRIME THICKNESS, CUMULATIVE PRIME AND INTERMEDIATE THICKNESS AND CUMULATIVE PRIME, INTERMEDIATE AND FINISH THICKNESS SHALL BE DETERMINED BY USE OF A TYPE 2 MAGNETIC GAGE IN ACCORDANCE WITH THE FOLLOWING:

FIVE (5) SEPARATE SPOT MEASUREMENT SPACED EVENLY OVER EACH 100 SQUARE FEET OF AREA TO BE MEASURED. FOR FIELD MEASUREMENTS THESE MEASUREMENTS SHALL BE TAKEN ON FLANGES, WEBS, CROSS BRACING, STIFFENERS, ETC. THREE (3) GAGE READINGS SHALL BE MADE FOR EACH SPOT MEASUREMENT OF EITHER THE SUBSTRATE OR THE PAINT. MOVE THE PROBE A DISTANCE OF ONE TO THREE INCHES FOR EACH NEW GAGE READING. DISCARD ANY UNUSUALLY HIGH OR LOW GAGE READING THAT CANNOT BE REPEATED CONSISTENTLY. TAKE THE AVERAGE (MEAN) OF THE THREE GAGE READINGS AS THE SPOT MEASUREMENT. THE AVERAGE OF FIVE SPOT MEASUREMENTS FOR EACH SUCH 100 SQUARE FOOT AREA SHALL NOT BE LESS THAN THE SPECIFIED THICKNESS. NO SINGLE SPOT MEASUREMENT IN ANY 100 SQUARE FOOT AREA SHALL BE LESS THAN 80% OF THE SPECIFIED THICKNESS. ANY ONE OF THREE READINGS WHICH ARE AVERAGE TO PRODUCE EACH SPOT MEASUREMENT, MAY UNDER-RUN BY A GREATER AMOUNT. THE FIVE SPOT MEASUREMENTS SHALL BE MADE FOR EACH 100 SQUARE FEET OF AREA AS FOLLOWS:

1. FOR STRUCTURES OR BATCH OF STRUCTURAL STEEL NOT EXCEEDING 300 SQUARE FEET IN AREA, EACH 100 SQUARE FOOT AREA SHALL BE MEASURED.
2. FOR STRUCTURES OR BATCH OF STRUCTURAL STEEL NOT EXCEEDING 1000 SQUARE FEET IN AREA, THREE 100 SQUARE FOOT AREAS SHALL BE RANDOMLY SELECTED AND MEASURED.
3. FOR STRUCTURES OR BATCH OF STRUCTURAL STEEL EXCEEDING 1000 SQUARE FEET IN AREA, THE FIRST 1000 SQUARE FEET SHALL BE MEASURED AS STATED IN SECTION 2 AND FOR EACH ADDITIONAL 1000 SQUARE FEET, OR INCREMENT THEREOF, ONE 100 SQUARE FOOT AREA SHALL BE RANDOMLY SELECTED AND MEASURED.
4. IF THE DRY FILM THICKNESS FOR ANY 100 SQUARE FOOT AREA (SECTIONS 2 & 3 IS NOT IN COMPLIANCE WITH THE REQUIREMENTS OF PARAGRAPH 1 ON THIS SECTION, THEN EACH 100 SQUARE FOOT AREA SHALL BE MEASURED.
5. OTHER SIZE AREAS OR NUMBER OF SPOT MEASUREMENTS MAY BE SPECIFIED IN THE CONTRACT PLANS AS APPROPRIATE FOR THE SIZE AND SHAPE OF THE STRUCTURE TO BE MEASURED.

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GENERAL NOTES
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

EACH COAT OF PAINT SHALL HAVE THE FOLLOWING MIL THICKNESS MEASURED ABOVE THE PEAKS:

	MIN. SPEC. THICKNESS	MAX. SPEC. THICKNESS	MIN. SPOT	MAX. SPOT
PRIME	3.0	5.0	2.5	7.5
INTERMEDIATE	5.0	7.0	4.0	10.5
SUB TOTAL	8.0	12.0	6.4	18.0
FINISH	2.0	4.0	1.6	6.0
TOTAL	10.0	16.0	8.0	24.0

FILM THICKNESSES GREATER THAN THE MAXIMUM SPECIFIED THICKNESSES THAT DO NOT EXHIBIT DEFECTS (SUCH AS RUNS, SAGS, BUBBLES, MUDCRACKING, ETC.) AND FOR WHICH THE CONTRACTOR HAS RECEIVED A WRITTEN STATEMENT FROM THE COATING MANUFACTURER STATING THAT THIS EXCESSIVE THICKNESS IS NOT DETRIMENTAL, MAY REMAIN IN PLACE AT THE DISCRETION OF THE DIRECTOR.

FOR ANY SPOT OR MAXIMUM AVERAGE THICKNESS OVER 24 MILS, IT WILL BE NECESSARY FOR THE CONTRACTOR TO PROVE TO THE DEPARTMENT THAT THE EXCESS THICKNESS WILL NOT BE DETRIMENTAL TO THE COATING SYSTEM. THIS SHALL BE ACCOMPLISHED BY PROVIDING THE DIRECTOR, FOR APPROVAL, CERTIFIED TEST DATA PROVING THAT THE EXCESSIVE THICKNESS WILL ADEQUATELY BOND TO THE STEEL WHEN SUBJECTED TO THERMAL EXPANSION AND CONTRACTION. THIS THERMAL EXPANSION AND CONTRACTION AND EXPANSION CYCLES HAVE TAKEN PLACE, THE TESTED SYSTEM SHALL BE SUBJECTED TO PULL OFF TESTS WHICH HAVE BEEN PERFORMED ON A PAINT SYSTEM WITH THE PROPER THICKNESSES. IN ADDITION TO THE CERTIFIED TEST RESULTS, IT WILL ALSO BE NECESSARY FOR THE CONTRACTOR TO PROVIDE THE DIRECTOR A WRITTEN STATEMENT FROM THE PAINT MANUFACTURER STATING THAT THIS EXCESSIVE THICKNESS IS NOT DETRIMENTAL.

IF THE DIRECTOR DOES NOT APPROVE THE EXCESSIVE COATING THICKNESSES OR THE CONTRACTOR ELECTS NOT TO PROVIDE THE REQUIRED WRITTEN STATEMENT FROM THE PLANT MANUFACTURER AND THE CERTIFIED TEST RESULTS WHEN REQUIRED, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL REMOVE AND REPLACE THE COATING. THE REMOVAL AND REPLACEMENT OF THE COATING SHALL BE DONE AS SPECIFIED IN THE SECTION OF THIS SPECIFICATION TITLED REPAIR PROCEDURES.

PRIME, INTERMEDIATE AND FINISH COAT APPLICATION
(QCP #5, #6 & #7)

EACH COAT OF PAINT SHALL BE IN A PROPER STATE OF CURE OR DRYNESS BEFORE THE APPLICATION OF THE SUCCEEDING COAT. PAINT SHALL BE CONSIDERED READY FOR RECOATING WHEN AN ADDITIONAL COAT CAN BE APPLIED WITHOUT THE DEVELOPMENT OF ANY DETRIMENTAL FILM IRREGULARITIES, SUCH AS LIFTING, WRINKLING OR LOSS OF ADHESION OF THE UNDERCOAT. THE TIME INTERVAL BETWEEN COATING APPLICATIONS SHALL BE IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND NO MORE THAN THIRTY (30) DAYS BETWEEN THE PRIME AND INTERMEDIATE COATS AND THIRTEEN (13) DAYS BETWEEN THE INTERMEDIATE AND FINISH COATS. THESE MAXIMUM RECOAT TIMES INCLUDE WEATHER RELATED DAYS.

NO ADDITIONAL TIME FOR WEATHER DELAYS WILL BE ALLOWED. ANY COAT WHICH HAS CURED MORE THAN THE ABOVE ALLOTTED TIME WITHOUT RECOATING SHALL BE REMOVED AND THE STEEL REBLASTED TO SSPC–SP10.

THE COMPLETION DATE (MONTH AND YEAR) OF THE FINISH COAT AND THE LETTERS OZEU SHALL BE STENCILED ON THE STEEL IN 4" LETTERS WITH A BLACK URETHANE PAINT. THIS DATE SHALL BE APPLIED AT FOUR (4) LOCATIONS NEAR THE END OF EACH OUTSIDE BEAM ON THE OUTSIDE WEB VISIBLE FROM THE ROAD OR AS DIRECTED BY THE ENGINEER.

HANDLING AND SHIPPING

EXTREME CARE SHALL BE EXERCISED IN HANDLING THE STEEL IN THE SHOP, DURING SHIPPING, DURING ERECTION, AND DURING SUBSEQUENT CONSTRUCTION OF THE BRIDGE. PAINTED STEEL SHALL NOT BE MOVED OR HANDLED UNTIL SUFFICIENT CURE TIME HAS ELAPSED AND APPROVAL HAS BEEN OBTAINED FROM THE INSPECTOR. THE STEEL SHALL BE INSULATED FROM THE BINDING CHAINS BY SOFTENERS APPROVED BY THE ENGINEER. HOOKS AND SLINGS USED TO HOIST STEEL SHALL BE PADDED. DIAPHRAGMS AND SIMILAR PIECES SHALL BE SPACED IN SUCH A WAY THAT NO RUBBING WILL OCCUR DURING SHIPMENT THAT MAY DAMAGE THE COATINGS. THE STEEL SHALL BE STORED ON PALLETS AT THE JOB SITE, OR BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT IT DOES NOT REST ON THE GROUND OR SO THAT IT DOES NOT REST ON THE GROUND OR SO THAT COMPONENTS DO NOT FALL OR REST ON EACH OTHER. ALL SHIPPING AND JOB SITE STORAGE DETAILS SHALL BE PRESENTED TO THE ENGINEER PRIOR TO FABRICATION IN WRITING AN BE APPROVED PRIOR TO SHIPPING THE STEEL. APPROVAL OF THE ABOVE DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF SHIPPING OR STORAGE DAMAGE.

REPAIR OF DAMAGED AREAS (QCP #9)

DAMAGED AREAS OF PAINT AND AREAS WHICH DO NOT COMPLY WITH THE REQUIREMENTS OF THIS SPECIFICATION, SHALL HAVE THE PAINT REMOVED AND ALL DEFECTS CORRECTED. THE STEEL SHALL THEN BE RETEXTURED TO A NEAR WHITE CONDITION TO PRODUCE A PROFILE BETWEEN 1 TO 3 1/2MILS. THIS PROFILE SHALL BE MEASURED IMMEDIATELY PRIOR TO THE APPLICATION OF THE PRIME COAT TO INSURE THAT THE PROFILE IS NOT DESTROYED DURING THE FEATHERING PROCEDURE.

THE EXISTING PAINT SHALL BE FEATHERED TO EXPOSE A MINIMUM 1/2 INCH OF EACH COAT.

DURING THE REAPPLICATION OF THE PAINT, CARE SHALL BE USED TO INSURE THAT EACH COAT OF PAINT IS ONLY APPLIED WITHIN THE FOLLOWING AREAS. THE PRIME COAT SHALL ONLY BE APPLIED TO THE SURFACE OF THE BARE STEEL AND THE EXISTING PRIME COAT, WHICH HAS BEEN EXPOSED BY FEATHERING. THE PRIME COAT SHALL NOT BE APPLIED TO THE ADJACENT INTERMEDIATE COAT. THE INTERMEDIATE COAT SHALL ONLY BE APPLIED TO THE NEW PRIME COAT AND THE EXISTING FEATHERED INTERMEDIATE COAT. THE INTERMEDIATE COAT AND THE EXISTING FINISH COAT WHICH HAS BEEN FEATHERED OR LIGHTLY SANDED. THE FINISH COAT SHALL NOT EXTEND BEYOND THE AREAS WHICH HAS BEEN FEATHERED OR LIGHTLY SANDED.

THE FIRST TWO COATS SHALL BE APPLIED BY BRUSH. THE FINISH COAT SHALL BE APPLIED BY EITHER BRUSH OR SPRAY.

IT MAY BE NECESSARY TO MAKE SEVERAL APPLICATIONS IN ORDER TO ACHIEVE THE PROPER THICKNESS FOR EACH COAT.

DURING THE APPLICATION OF THE PRIME COAT, THE PAINT SHOULD BE CONTINUOUSLY MIXED.

ALL ABRASIVE BLASTING AND PAINTING SHALL STILL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS.

ALL REPAIRS SHOULD BE MADE IN A MANNER TO BLEND THE PATCHED ARE WITH THE ADJACENT COATING. THE FINISHED SURFACE OF THE PATCHED AREA SHALL HAVE A SMOOTH EVEN PROFILE WITH THE ADJACENT SURFACE.

THE FIRST REPAIR AREA SHALL BE USED AS A TEST SECTION AND NO MORE REPAIRS MADE UNTIL THE METHODS ARE APPROVED BY THE ENGINEER.

THE CONTRACTOR OR FABRICATOR SHALL SUBMIT HIS METHOD OF CORRECTING RUNS IN WRITING TO THE DIRECTOR FOR APPROVAL.

DAMAGED PAINT WHICH WILL BE INACCESSIBLE FOR COATING AFTER ERECTION SHALL BE REPAIRED AND RECOATED PRIOR TO ERECTION.

IN ORDER TO MINIMIZE DAMAGE TO THE PAINTED STEEL, CONCRETE SPLATTER AND FORM LEAKAGE SHALL BE WASHED FROM THE SURFACE OF THE STEEL SHORTLY AFTER THE CONCRETE IS PLACED AND BEFORE IT IS DRY. IF CONCRETE DRIES IT SHALL BE REMOVED AND PAINT REPAIRED.

TEMPORARY ATTACHMENTS, SUPPORTS FOR SCAFFOLDING AND FINISHING MACHINE OR FORMS SHALL NOT DAMAGE THE COATING SYSTEM. (IN PARTICULAR, ON THE FASCIAS WHERE BRACING IS USED, SUFFICIENT SIZE SUPPORT PADS SHALL BE USED.)

AFTER THE ERECTION WORK HAS BEEN COMPLETED, INCLUDING ALL CONNECTIONS AND THE APPROVED REPAIR OF ANY DAMAGED BEAMS, GIRDERS OR OTHER STEEL MEMBERS, AND THE DECK HAS BEEN PLACED, THE CONTRACTOR AND ENGINEER SHALL INSPECT THE STRUCTURE FOR DAMAGED PAINT. (QCP #10). DAMAGED AREAS SHALL BE REPAIRED BY REPEATING QCP #1 TO #8. THE CONTRACTOR SHALL WASH THE STRUCTURE AS PER QCP #1 AFTER ALL WORK TO THE STRUCTURE IS COMPLETED.

SAFETY REQUIREMENTS AND PRECAUTIONS

THE CONTRACTOR SHALL MEET THE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), IN ADDITION TO THE SCAFFOLDING REQUIREMENTS BELOW.

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION IN ADDITION TO THE SCAFFOLDING REQUIREMENTS BELOW.

THE MATERIAL SAFETY DATA SHEETS (MSDS) SHALL BE PROVIDED AT THE PRECONSTRUCTION MEETING FOR ALL PAINT, THINNERS AND ABRASIVES USED ON THIS PROJECT. NO WORK SHALL START UNTIL THE MSDS HAS BEEN SUBMITTED.

THE FABRICATOR SHALL ALSO PROVIDE MSDS FOR ALL ABRASIVES TO BE USED ON THIS PROJECT TO THE SHOP INSPECTOR. NO WORK SHALL START UNTIL MSDS HAS BEEN SUBMITTED.

SCAFFOLDING

RUBBER ROLLERS, OR OTHER PROTECTIVE DEVICES MEETING THE APPROVAL OF THE ENGINEER, SHALL BE USED ON SCAFFOLD FASTENINGS. METAL ROLLERS OR CLAMPS AND OTHER TYPES OF FASTENINGS WHICH WILL MAR OR DAMAGE COATED SURFACES SHALL NOT BE USED.

INSPECTION ACCESS FOR FIELD TOUCH–UP

IN ADDITION TO THE REQUIREMENT OF CMS 105.11, THE CONTRACTOR SHALL FURNISH, ERECT, AND MOVE SCAFFOLDING AND OTHER APPROPRIATE EQUIPMENT, TO PERMIT THE INSPECTOR THE OPPORTUNITY TO INSPECT (CLOSELY OBSERVE), ALL AFFECTED SURFACES. THIS OPPORTUNITY SHALL BE PROVIDED TO THE INSPECTOR DURING ALL PHASES OF THE WORK AND CONTINUE FOR A PERIOD OF AT LEAST TEN (10) WORKING DAYS AFTER THE TOUCH–UP WORK HAS BEEN COMPLETED. WHEN SCAFFOLDING IS USED, IT SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

WHEN SCAFFOLDING, OR THE HANGERS ATTACHED TO THE SCAFFOLDING ARE SUPPORTED BY HORIZONTAL WIRE ROPES, OR WHEN SCAFFOLDING IS PLACED DIRECTLY UNDER THE SURFACE TO BE PAINTED, THE FOLLOWING REQUIREMENTS SHALL BE COMPLIED WITH:

WHEN SCAFFOLDING IS SUSPENDED FORTY THREE (43) INCHES OR MORE BELOW THE SURFACE TO BE PAINTED, TWO ROWS OF GUARDRAIL SHALL BE PLACED ON ALL SIDES OF THE SCAFFOLDING. ONE ROW OF GUARDRAIL SHALL BE PLACED AT FORTY–TWO (42) INCHES ABOVE THE SCAFFOLDING AND THE OTHER ROW AT TWENTY–TWO (22) INCHES ABOVE THE SCAFFOLDING.

WHEN THE SCAFFOLDING IS SUSPENDED AT LEAST TWENTY–ONE (21) INCHES, BUT LESS THAN FORTY–THREE (43) INCHES BELOW THE SURFACE TO BE PAINTED, A ROW OF GUARDRAIL SHALL BE PLACED ON ALL SIDES OF THE SCAFFOLDING AT TWENTY (20) INCHES ABOVE THE SCAFFOLDING.

TWO ROWS OF GUARDRAIL SHALL BE PLACED ON ALL SIDES OF SCAFFOLDING NOT PREVIOUSLY MENTIONED. THE ROWS OF GUARDRAIL SHALL BE PLACED AT FORTY–TWO (42) AND TWENTY (20) INCHES ABOVE SCAFFOLDING, AS PREVIOUSLY MENTIONED.

ALL SCAFFOLDING MUST BE AT LEAST TWENTY–FOUR (24) INCHES WIDE WHEN GUARDRAIL IS USED AND TWENTY–EIGHT (28) INCHES WIDE WHEN THE SCAFFOLDING IS SUSPENDED LESS THAN TWENTY–ONE (21) INCHES BELOW THE SURFACE TO BE PAINTED AN GUARDRAIL IS NOT USED. IF TWO OR MORE SCAFFOLDING ARE LAID PARALLEL TO ACHIEVE PROPER WIDTH, THEY MUST BE RIGIDLY ATTACHED TO EACH OTHER TO PRECLUDE ANY DIFFERENTIAL MOVEMENT.

ALL GUARDRAIL SHALL BE CONSTRUCTED AS A SUBSTANTIAL BARRIER WHICH IS SECURELY FASTENED IN PLACE AND IS FREE FROM PROTRUDING OBJECTS SUCH AS NAILS, SCREWS AND BOLTS. THERE SHALL BE AN OPENING IN THE GUARDRAIL, PROPERLY LOCATED, TO ALLOW THE INSPECTOR ACCESS ONTO THE SCAFFOLDING.

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I.A.S.		4303423	

GENERAL NOTES
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43

THE RAILS AND UPRIGHTS SHALL BE EITHER METAL OR WOOD. IF PIPE RAILING IS USED, THE RAILING SHALL HAVE A NOMINAL DIAMETER OF NO LESS THAN ONE AND ONE–HALF (1 1/2) INCHES. IF STRUCTURAL STEEL RAILING IS USED, THE RAILS SHALL BE 2 X 2 X 3/8 INCH STEEL ANGLES OR OTHER METAL SHAPES OF EQUAL OR GREATER STRENGTH. IF WOOD RAILING IS USED, THE RAILING SHALL BE 2 X 4 INCH (NOMINAL) STOCK. ALL UPRIGHTS SHALL BE SPACED AT NO MORE THAN EIGHT (8) FEET ON CENTER. IF WOOD UPRIGHTS ARE USED, THE UPRIGHTS SHALL BE 2 X 4 INCHES (NOMINAL) STOCK.

WHEN THE SURFACE TO BE INSPECTED IS MORE THAN FIFTEEN (15) FEET ABOVE THE GROUND OR WATER, AND THE SCAFFOLDING IS SUPPORTED FROM THE STRUCTURE BEING PAINTED, THE CONTRACTOR SHALL PROVIDE THE INSPECTOR WITH A SAFETY BELT AND LIFELINE. THE LIFELINE SHALL NOT ALLOW A FALL GREATER THAN SIX (6) FEET. THE CONTRACTOR SHALL PROVIDE A METHOD OF ATTACHING A LIFELINE TO THE STRUCTURE INDEPENDENT OF THE SCAFFOLDING, CABLES OR BRACKETS SUPPORTING THE SCAFFOLDING.

WHEN SCAFFOLDING IS MORE THAN TWO AND ONE–HALF (2 1/2) FEET ABOVE THE GROUND, THE CONTRACTOR SHALL PROVIDE A LADDER FOR ACCESS ONTO THE SCAFFOLDING. THE LADDER AND ANY EQUIPMENT USED TO ATTACH THE LADDER TO THE STRUCTURE SHALL BE CAPABLE OF SUPPORTING 250 POUNDS WITH A SAFETY FACTOR OF AT LEAST FOUR (4). ALL RUNGS, STEPS, CLEATS, OR TREADS SHALL HAVE UNIFORM SPACING AND SHALL NOT EXCEED TWELVE INCHES ON CENTER. AT LEAST ONE SIDE RAIL SHALL EXTEND AT LEAST THIRTY–SIX (36) INCHES ABOVE THE LANDING NEAR THE TOP OF THE LADDER.

AN ADDITIONAL LANDING SHALL BE REQUIRED WHEN THE DISTANCE FROM THE LADDER TO THE POINT WHERE THE SCAFFOLDING MAY BE ACCESSED, EXCEEDS TWELVE (12) INCHES. THE LANDING SHALL BE A MINIMUM OF AT LEAST TWENTY–FOUR (24) INCHES WIDE AND TWENTY–FOUR (24) INCHES LONG. IT SHALL ALSO BE OF ADEQUATE SIZE AND SHAPE SO THAT THE DISTANCE FROM THE LANDING TO THE POINT WHERE THE SCAFFOLDING IS ACCESSED DOES NOT EXCEED TWELVE (12) INCHES. THE LANDING SHALL BE RIGID AND FIRMLY ATTACHED TO THE LADDER; HOWEVER, IT SHALL NOT BE SUPPORTED BY THE LADDER. THE SCAFFOLDING SHALL BE CAPABLE OF SUPPORTING A MINIMUM OF ONE THOUSAND (1000) POUNDS.

IN ADDITION TO THE AFOREMENTIONED REQUIREMENTS, THE CONTRACTOR IS STILL RESPONSIBLE TO OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS, ORDERS AND DECREES.

THE CONTRACTOR SHALL FURNISH ALL NECESSARY TRAFFIC CONTROL TO PERMIT INSPECTION DURING AND AFTER ALL PHASES OF THE PROJECT.

PROTECTION OF PERSONS AND PROPERTY

THE CONTRACTOR SHALL COLLECT, REMOVE AND DISPOSE OF ALL BUCKETS, RAGS OR OTHER DISCARDED MATERIALS AND SHALL LEAVE THE JOB SITE IN A CLEAN CONDITION.

THE CONTRACTOR SHALL PROTECT ALL PORTIONS OF THE STRUCTURE WHICH ARE NOT TO BE PAINTED, AGAINST DAMAGE OR DISFIGUREMENT BY SPLASHES, SPLATTERS, AND SMIRCHES OF PAINT.

THE CONTRACTOR SHALL INSTALL AND MAINTAIN SUITABLE SHIELDS OR ENCLOSURES TO PREVENT DAMAGE TO ADJACENT BUILDINGS, PARKED CARS, TRUCKS, BOATS, OR OTHER VEHICLES TRAVELING ON, OVER, OR UNDER STRUCTURES BEING PAINTED. THEY SHALL BE SUITABLY ANCHORED AND REINFORCED TO PREVENT INTERFERING WITH NORMAL TRAFFIC OPERATIONS IN THE OPEN LANES. PAYMENT FOR THE SHIELDS SHALL BE INCLUDED AS INCIDENTAL TO THE APPLICABLE FIELD COATING OPERATION. WORK SHALL BE SUSPENDED WHEN DAMAGE TO ADJACENT BUILDINGS, MOTOR VEHICLES, BOATS OR OTHER PROPERTY IS OCCURRING.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY, TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE.

POLLUTION CONTROL

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES.

WORK LIMITATIONS

ABRASIVE BLASTING AND PAINTING DONE IN THE FIELD SHALL BE PERFORMED BETWEEN APRIL 15 AND OCTOBER 15. EVEN THOUGH THE CONTRACTOR IS PERMITTED TO WORK PRIOR TO MAY 1, APRIL IS CONSIDERED A WINTER MONTH AND NO EXTENSION DUE TO ADVERSE WEATHER CONDITIONS WILL BE GRANTED FOR THIS PERIOD. ADDITIONAL WORK LIMITATIONS ON SPECIFIC BRIDGES/PROJECTS MAY BE REQUIRED BY PLAN NOTE.

METHOD OF MEASUREMENT

THE METHOD OF MEASUREMENTS SHALL BE ACCORDING TO THE PERTINENT OF 513, 514 AND 516 OF THE CURRENT CONSTRUCTION AND MATERIALS SPECIFICATIONS.

COLOR OF FINISH COAT

FINISH COAT SHALL BE TRUE BLUE MATCHING FEDERAL COLOR STANDARD NO. 15180.

METHOD OF PAYMENT

THE AREA OF THE TOP OF THE TOP FLANGE WHICH SHALL RECEIVE THE PRIME COAT ONLY SHALL NOT BE INCLUDED IN THE MEASUREMENT FOR THE PAY ITEM.

THE COST OF THE ABOVE INCLUDING LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EACH ITEM AS LISTED BELOW.

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, SURFACE PREPARATION, MATERIALS, INSPECTION AND EQUIPMENT TO SHOP APPLY A PRIME, INTERMEDIATE AND FINISH PAINT COAT AT THE ITEM 863 STRUCTURAL STEEL FABRICATOR'S SHOP FACILITIES. ALSO INCLUDED IN THIS ITEM IS ALL REQUIRED FIELD SITE SURFACE PREPARATION, CLEANING, PAINTING AND/OR REPAIR OF DAMAGED SHOP PAINT CAUSED DURING SHIPPING, ERECTION OR CONSTRUCTION PROCEDURES.

THE COST OF THE SURFACE PREPARATION AND PRIME COAT TO THE TOP OF THE TOP FLANGE SHALL BE INCLUDED AS AN INCIDENTAL FOR PAYMENT UNDER SHOP PAINTING AND FIELD TOUCH–UP OF STRUCTURAL STEEL.

SHOP PAINTING PER CMS 513.222 SHALL NOT BE INCLUDED WITH THE PRICE BID FOR STRUCTURAL STEEL, BUT SHALL BE INCLUDED WITH ITEM SPECIAL – SHOP PAINTING AND FIELD TOUCH–UP OF STRUCTURAL STEEL FOR PAYMENT.

ITEM	UNIT	DESCRIPTION
SPECIAL	LB.	SHOP PAINTING AND FIELD TOUCH–UP OF STRUCTURAL STEEL

ITEM 511 – CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
ITEM 511 – CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
ITEM 511 – CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN
ITEM 511 – CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN
ITEM 511 – CLASS HP CONCRETE, SIDEWALK, AS PER PLAN

(FOR BRIDGE LAK–084R–0082 STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90)

GENERAL REQUIREMENTS

THE PROVISIONS OF CMS ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

SLIPFORMING

SLIPFORMING SHALL NOT BE ALLOWED FOR THIS PROJECT.

MIX OPTIONS

ALL SUPERSTRUCTURE, BRIDGE DECK, SIDEWALK AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	*#8 COARSE AGGRE. (LB)	*#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO–SILICA (LB)	WATER TO CEMENTITIOUS RATIO +/–0.01	AIR CONTENT ±2%
GRAVEL	1245	360	1315	2920	400	170	30	0.43	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.43	7
SLAG	1245	315	1155	2715	400	170	30	0.43	7

* ALL COURSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED)

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.
THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

CRACK CONTROL JOINTS

FOR FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 2¼"DEEP AND ¼" WIDE CRACK CONTROL JOINTS ON VERTICAL SURFACES AND 1¼" DEEP AND ¼" WIDE CRACK CONTROL JOINTS ON THE HORIZONTAL (TOP) SURFACE SPACED AT THE LOCATIONS SHOWN IN THE PLANS. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO ¼" LESS THAN THE DEPTH OF THE SAW CUT WITH POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S.

BASIS OF PAYMENT: PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	EXTENSION	UNITS	DESCRIPTION
511	50001	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511	50101	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
511	50201	CU. YD.	CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN
511	51001	CU. YD.	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN
511	51501	CU. YD.	CLASS HP CONCRETE, SIDEWALK, AS PER PLAN

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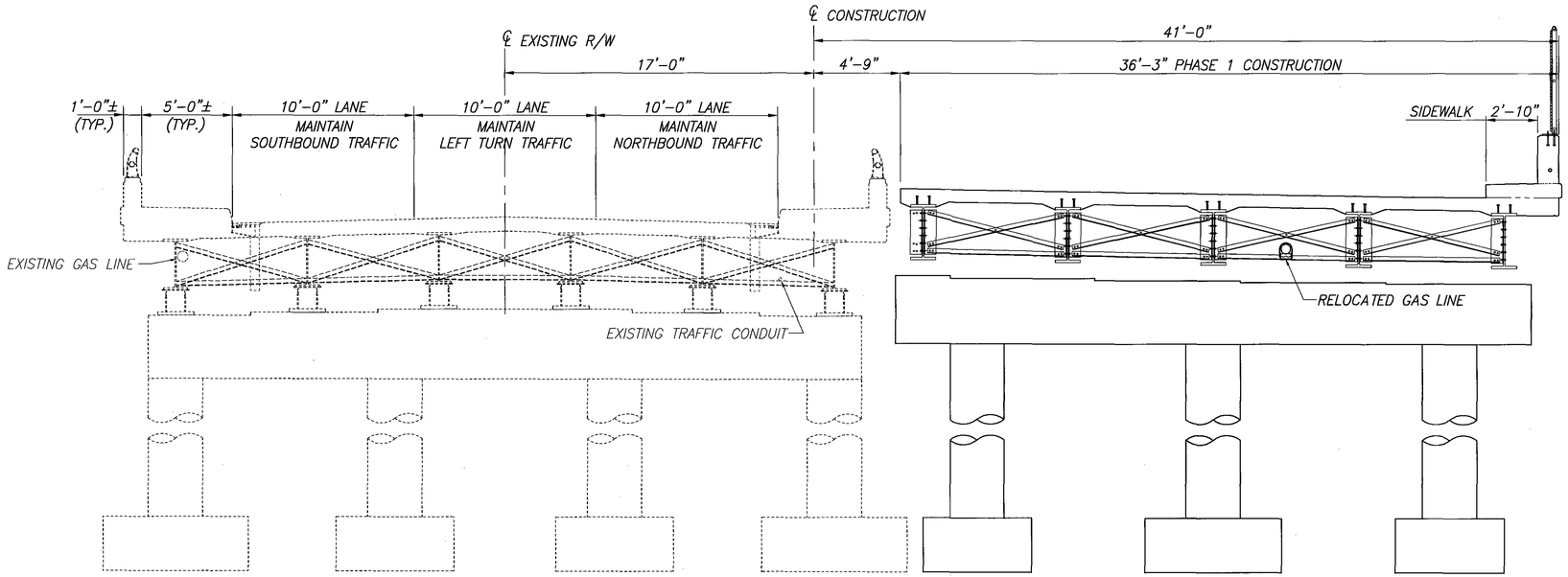
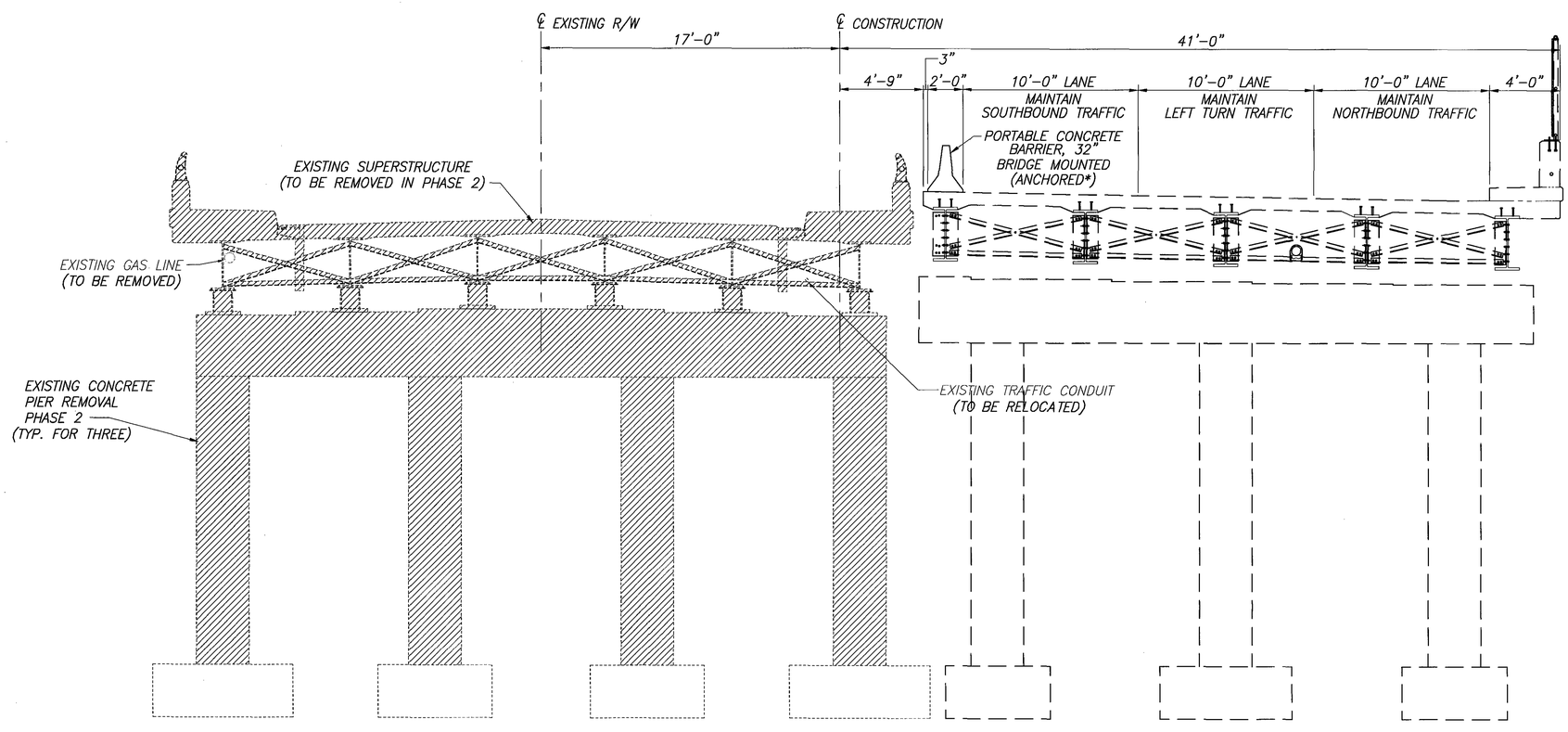
GENERAL NOTES
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43



PHASE 1 CONSTRUCTION



PHASE 2 REMOVAL

* FOUR ANCHORS PER BARRIER SEGMENT.
ANCHORS SHALL BE PLACED ON TRAFFIC SIDE OF BARRIER.
SEE ODOT STANDARD DRAWING PCB–91 FOR ANCHORAGE DETAILS.
USE PARTIAL DEPTH BOLTS FOR ANCHORED BARRIERS ON NEW DECK SLABS.

NOTES:

1. ABBREVIATIONS: TYP.–TYPICAL.

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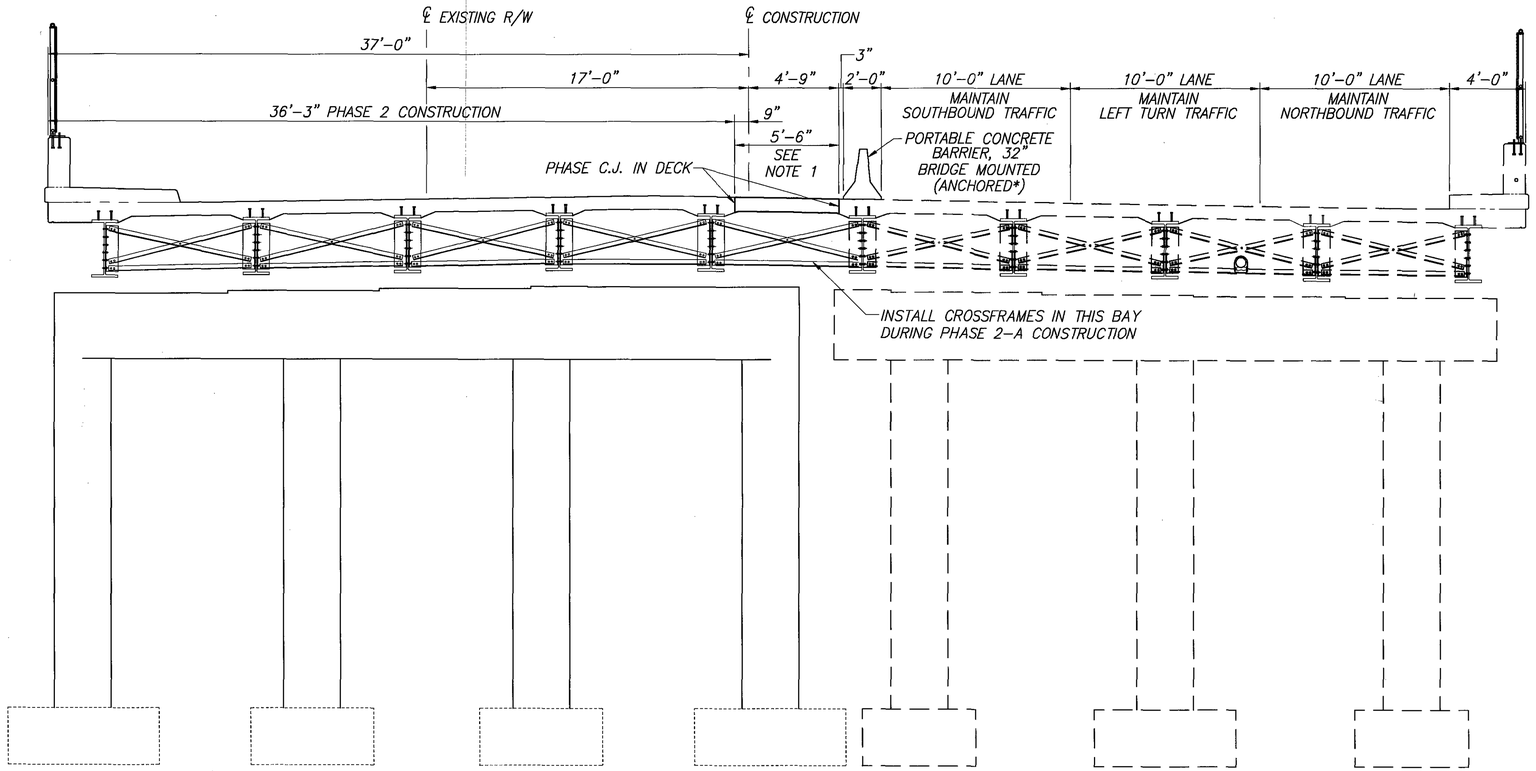
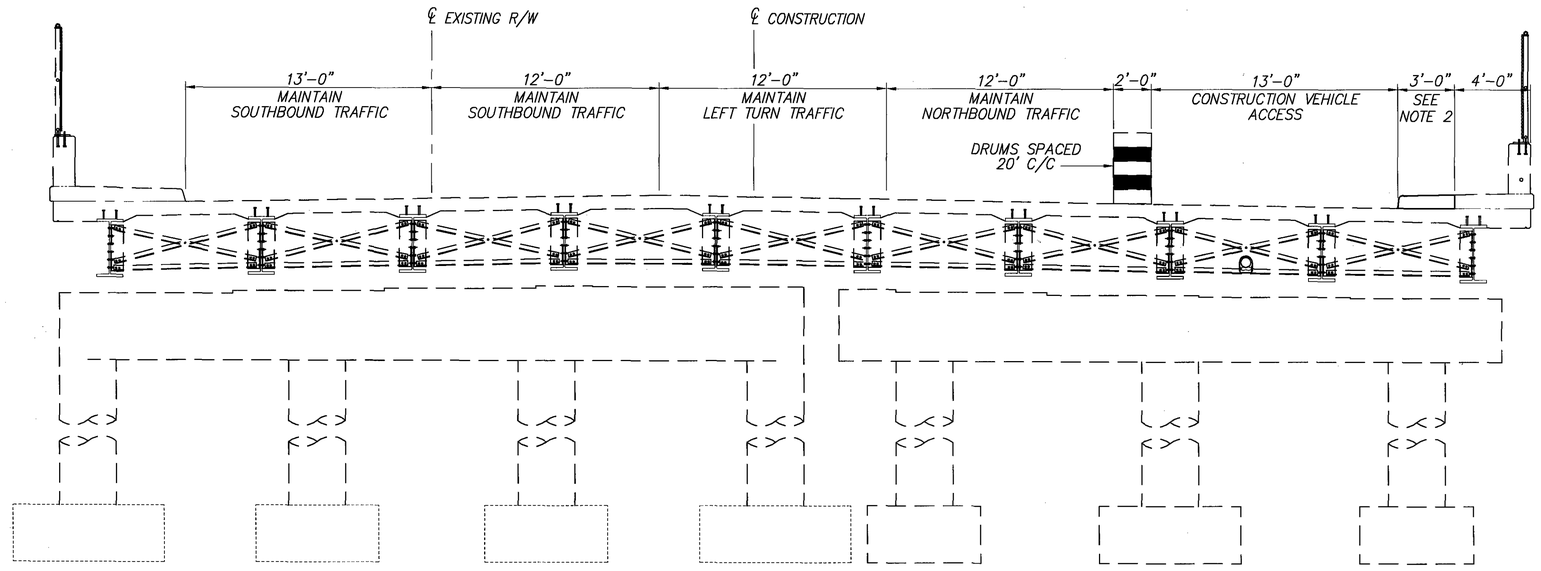
PHASE 1 CONSTRUCTION & PHASE 2 REMOVAL DETAILS

BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43



PHASE 2 AND PHASE 2–A CONSTRUCTION



PHASE 2–B CONSTRUCTION

* FOUR ANCHORS PER BARRIER SEGMENT.
ANCHORS SHALL BE PLACED ON
TRAFFIC SIDE OF BARRIER.
SEE ODOT STANDARD DRAWING PCB–91
FOR ANCHORAGE DETAILS.
USE PARTIAL DEPTH BOLTS FOR
ANCHORED BARRIERS ON NEW DECK SLABS.

NOTES:

1. CLOSURE POUR PHASE 2–A CONSTRUCTION. THE CLOSURE POUR AREA SHALL BE CONSTRUCTED AFTER ALL BEAMS OBTAIN THE DEAD LOAD DEFLECTION FROM THE DECK SLAB WEIGHT.
2. PHASE 2–B PART–WIDTH SIDEWALK CONSTRUCTION.
3. ABBREVIATIONS: C.J.–CONSTRUCTION JOINT.

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PHASE 2, 2–A AND 2–B CONSTRUCTION DETAILS
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL	ABUT.	PIER	SUPER.	MISC. & AS PER PLAN REFERENCE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN #	LUMP				4, 18, 21/45
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	LUMP				
503	21101	272	CU.YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN		181	91		5/45
503	31120	147	CU.YD.	SHALE EXCAVATION		57	90		
509	10000	246,402	POUND	EPOXY COATED REINFORCING STEEL	741**	13,457	43,890	188,314	
509	20001	1,000	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN †			1,000		4/45
510	09951	355	EACH	DOWEL HOLES WITH CEMENT GROUT, AS PER PLAN	42 ▲			313	4/45
510	10000	324	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		204	120		
511	50001	625	CU.YD.	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN				625	10/45
511	50101	70	CU.YD.	CLASS HP CONCRETE, BRIDGE DECK (PARAPET) ,AS PER PLAN	7 ▲			63	10/45
511	50201	423	CU.YD.	CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN		185	238		10/45
511	51001	66	CU.YD.	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN				66	10, 29, 30/45
511	51501	110	CU.YD.	CLASS HP CONCRETE, SIDEWALK, AS PER PLAN				110	10/45
511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB	LUMP				
511	52500	LUMP		CLASS HP CONCRETE, TESTING	LUMP				
512	10050	537	SQ.YD.	SEALING OF CONCRETE SURFACES (NON-EPOXY)	96 ▲			441	
512	10100	825	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) *	55 ▲	81	552	137	
512	44400	10	SQ.YD.	TYPE B WATERPROOFING		10			
513	10240	533,183	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 2, A709, GRADE 50				533,183	
513	20000	7,060	EACH	WELDED STUD SHEAR CONNECTORS				7,060	
513	95020	LUMP		STRUCTURAL STEEL, MISC.: INSTALL SLEEVES AND ROLLER CHAIR SUPPORTS FOR 6" DIAMETER GAS LINE (SEE NOTE 2)	LUMP				10,28,30/45
SPECIAL	51480010	533,183	POUND	SHOP PAINTING AND FIELD TOUCH-UP OF STRUCTURAL STEEL				533,183	6,7,8,9,10/45
516	14000	140	SQ.FT.	PREFORMED EXPANSION JOINT FILLER, MISC.: 2" SELF EXPANDING CORK, AASHTO M153, TYPE III		140			
516	14021	175	FT.	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN		175			5/45
516	44000	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (13"x20"x1 15/16" NEOPRENE)			10		
516	44100	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (12"x19"x2 11/16" NEOPRENE)			20		
516	44200	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (9"x14"x3 3/16" NEOPRENE)		10			
516	44200	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (9"x12½"x3 5/16" NEOPRENE)		10			
518	21201	125	CU.YD.	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN		125			18, 21/45
518	40000	182	FT.	6" PERFORATED CORRUGATED PLASTIC PIPE		182			
518	40010	49	FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		49			
519	11101	56	SQ. FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN		56			5/45
526	30001	507	SQ.YD.	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN	507				6,36,37,38/45
SPECIAL	53013000	2,431	SQ.FT.	FORM LINER	243▲			2,188	
601	20000	6	SQ.YD.	CRUSHED AGGREGATE SLOPE PROTECTION	6				
601	21001	708	SQ.YD.	CONCRETE SLOPE PROTECTION, AS PER PLAN	708				6,14,42/45
602	98000	LUMP		MASONRY, MISC.: APPROACH AESTHETIC BARRIER WALLS AND PIERS INCLUDING DECORATIVE RAILING (SEE NOTE 7.)	LUMP				4/45
SPECIAL	60739900	600	FT.	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	53 ▲			547	5,40,41/45

CALC. BY: R.R.C. CHECKED BY: J.P.R.
DATE: 3/25/05 DATE: 4/8/05

NOTES:

1. # – THE ESTIMATED REMOVAL QUANTITIES GIVEN IN THE "REMOVAL OF EXISTING STRUCTURE" GENERAL NOTE ON SHEET 4/45 ARE GIVEN FOR INFORMATION ONLY. THE CONTRACTOR SHALL OBTAIN HIS OWN QUANTITIES TO BE USED AS A BASIS FOR DETERMINING HIS BID PRICE FOR ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
2. TO BE PAID 100% BY THE DOMINION EAST OHIO GAS COMPANY TO THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION.
3. ▲ – QUANTITY TO BE PLACED ON APPROACH SLABS.
4. * – SEE GENERAL NOTE ON SHEET 5/45.
5. † – TO BE USED AS DIRECTED BY THE ENGINEER.
6. ** – QUANTITY OF REINFORCING STEEL IN THE APPROACH SLAB PARAPETS.
7. TO BE PAID 100% BY THE CITY OF WICKLIFFE TO THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION.

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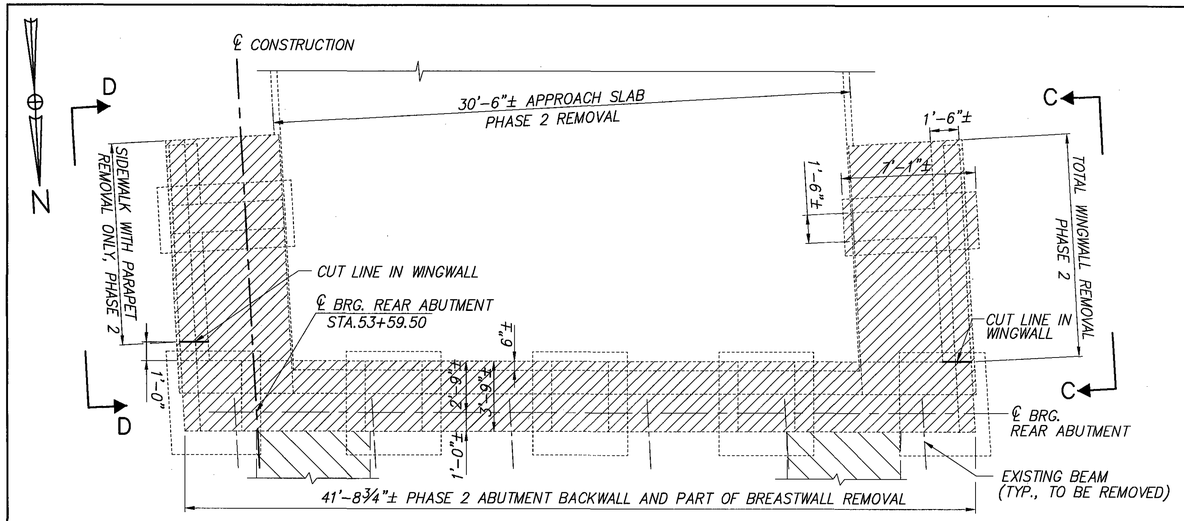
ESTIMATED QUANTITIES
BRIDGE NO. LAK-084R-0082
STATE ROUT 84 (BISHOP ROAD) OVER INTERSTATE 90

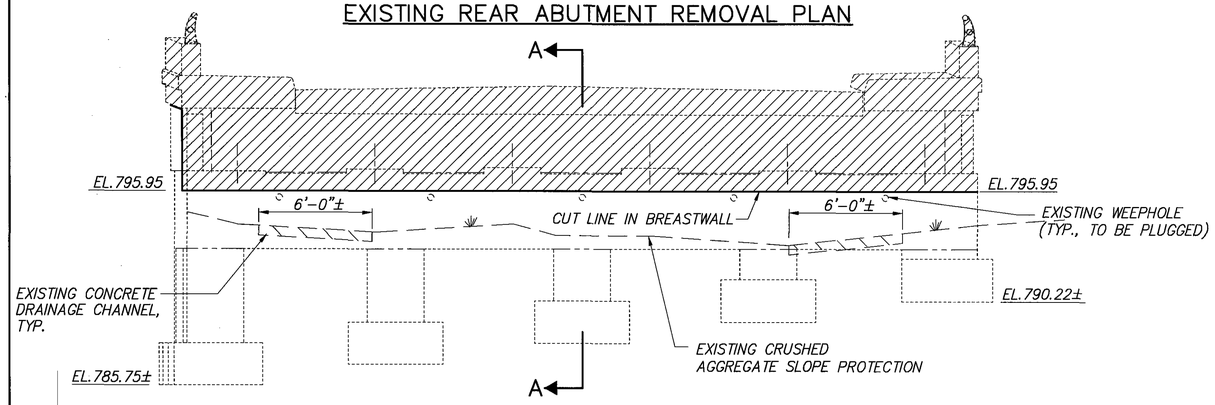
LAK-90/84-0.54/0.43

13 / 45

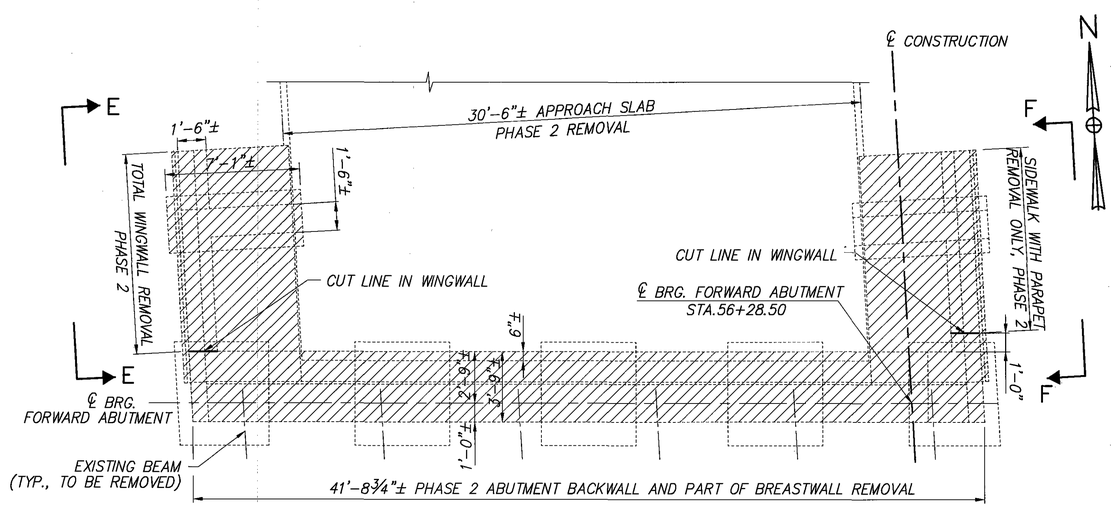
334 / 369



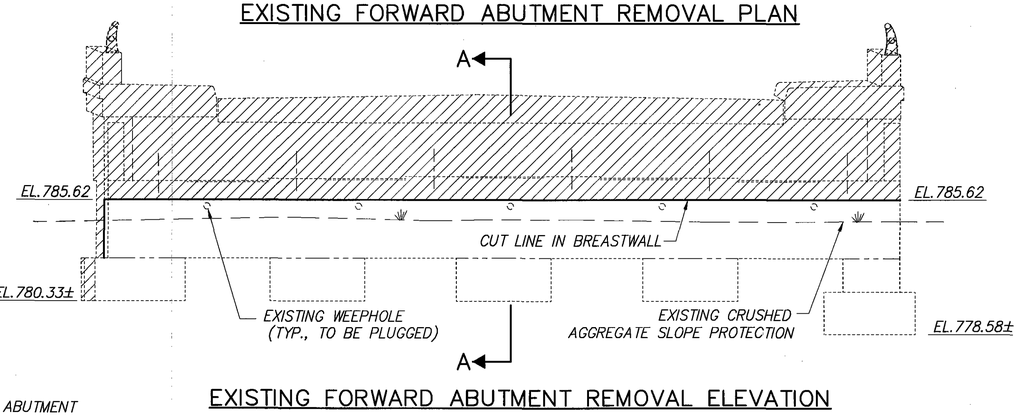
EXISTING REAR ABUTMENT REMOVAL PLAN



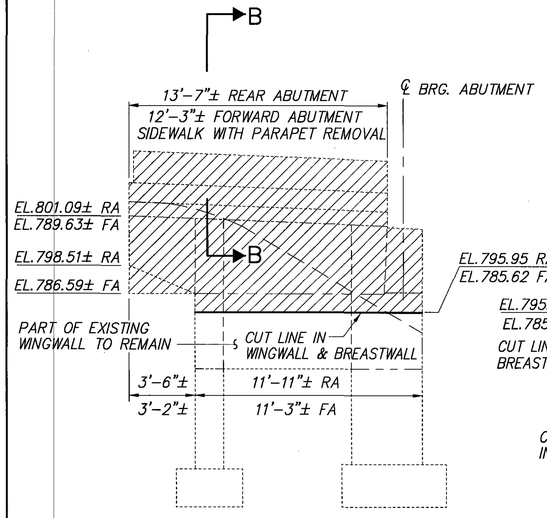
EXISTING REAR ABUTMENT REMOVAL ELEVATION



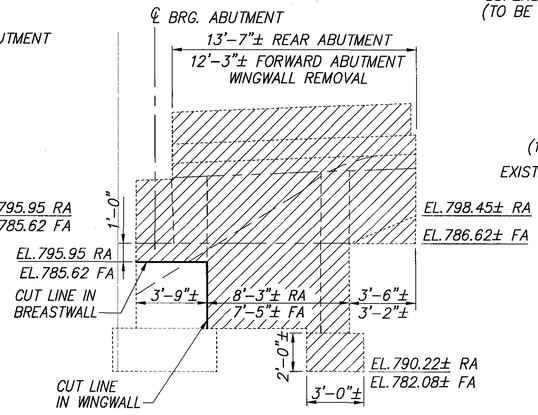
EXISTING FORWARD ABUTMENT REMOVAL PLAN



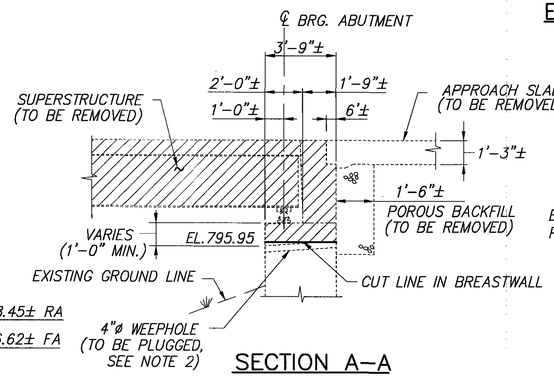
EXISTING FORWARD ABUTMENT REMOVAL ELEVATION



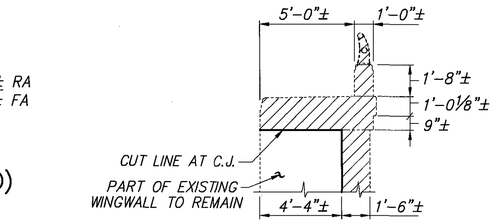
VIEW D–D
(VIEW F–F SIMILAR, OPPOSITE HAND)



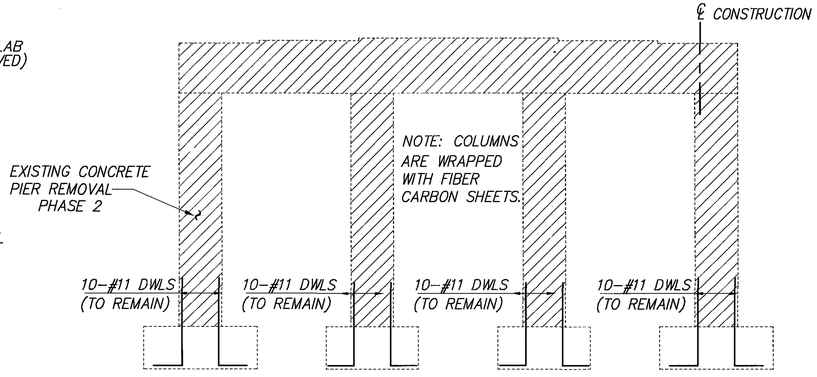
VIEW C–C
(VIEW E–E SIMILAR, OPPOSITE HAND)



SECTION A–A



SECTION B–B



TYPICAL PIER REMOVAL
(TYP. FOR THREE)

LEGEND

INDICATES PORTIONS OF STRUCTURE TO BE REMOVED INCLUDED WITH ITEM 202–PORTIONS OF STRUCTURE REMOVED, OVER 20–FOOT SPAN, AS PER PLAN FOR PAYMENT.

INDICATES EXISTING CONCRETE DRAINAGE CHANNEL TO BE REMOVED. INCLUDED WITH ITEM 601 – CONCRETE SLOPE PROTECTION, AS PER PLAN FOR PAYMENT.

NOTES: 1. FOR PHASE CONSTRUCTION AND MAINTANANCE OF TRAFFIC, SEE SHEETS 11/45 AND 12/45.
2. FOR INFORMATION ON PLUGGING WEEPHOLES, SEE SHEET 18/45.
3. ABBREVIATIONS: TYP.–TYPICAL; BRG.–BEARING; C.J.–CONSTRUCTION JOINT; DWLS.–DOWELS.

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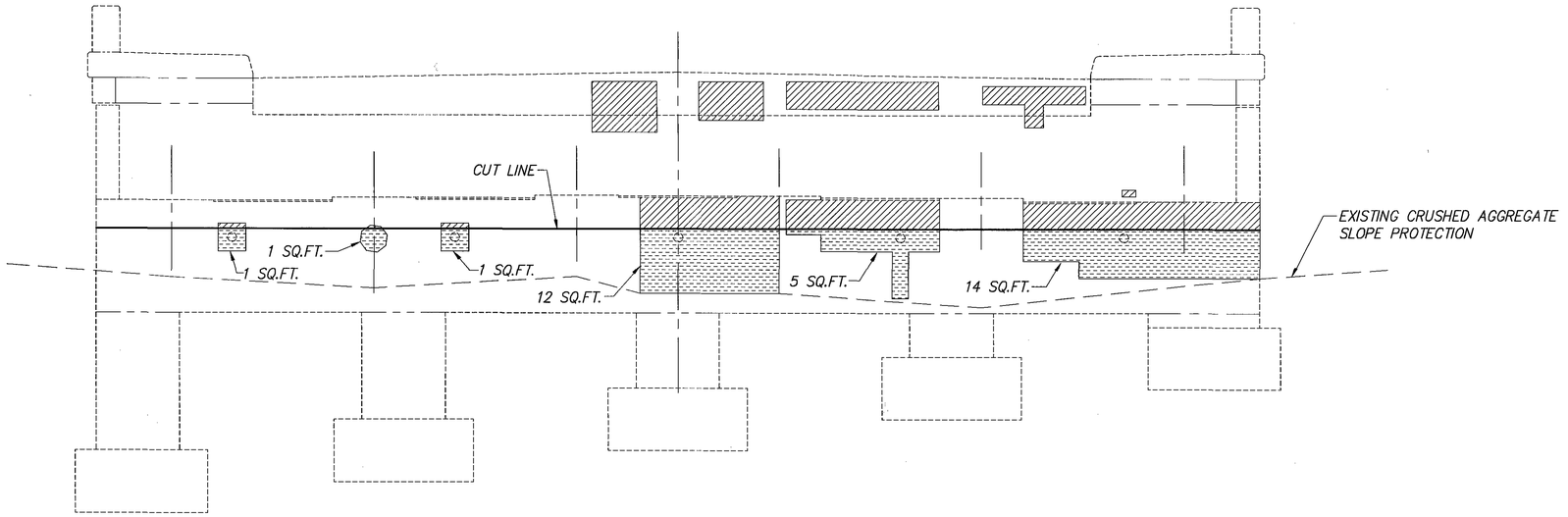
REMOVAL DETAILS

BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

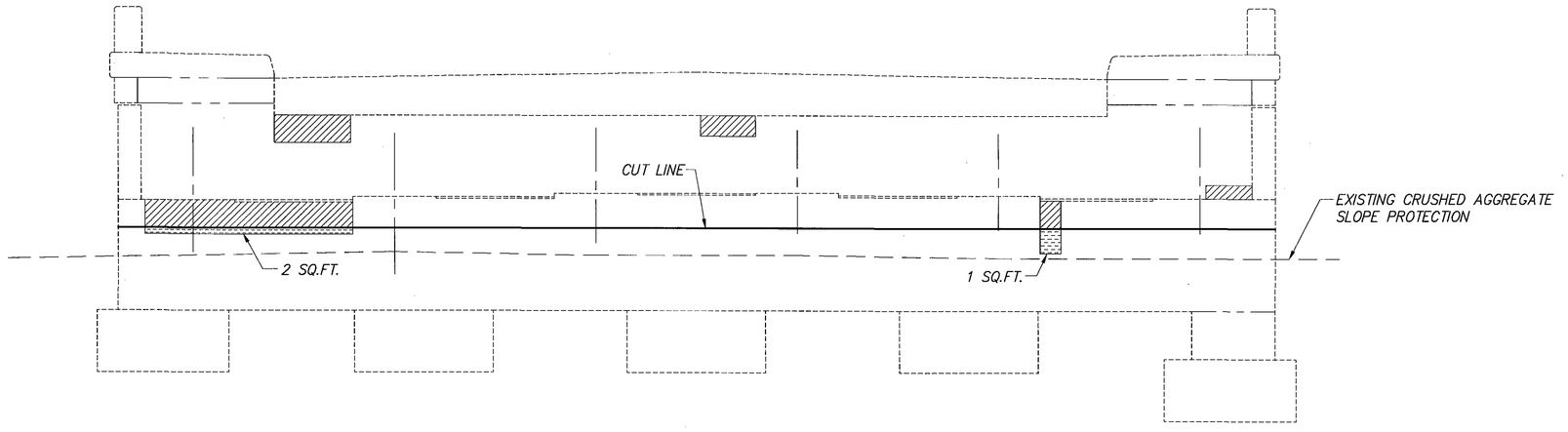
LAK-90/84-0.54/0.43

14 / 45

335 / 369



EXISTING REAR ABUTMENT ELEVATION



EXISTING FORWARD ABUTMENT ELEVATION

SUMMARY OF ITEM 519 REPAIR QUANTITY			
SUBSTRUCTURE UNIT	UNIT	MEASURED QUANTITY	ESTIMATED QUANTITY
REAR ABUTMENT	SQ. FT.	34	51
FORWARD ABUTMENT	SQ. FT.	3	5
		TOTAL	56*

*THIS QUANTITY IS CARRIED TO THE ESTIMATED QUANTITY TABLE ON SHEET 13/45.

NOTES:

1. ITEM 519 – PATCHING CONCRETE STRUCTURES, AS PER PLAN: PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN OCTOBER 2002.

   ESTIMATED QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

   EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITIES.

LEGEND:

EXISTING AREAS TO BE REPAIRED PER ITEM 519 – PATCHING CONCRETE STRUCTURE, AS PER PLAN.

EXISTING AREAS OF DELAMINATED CONCRETE TO BE REMOVED WITH THE BACKWALL AND PART OF THE BREASTWALL.

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REVIEWED W.D.B. 4/15/05 | STRUCTURE FILE NUMBER 4.303423

REAR AND FORWARD ABUTMENT REPAIR DETAILS

BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

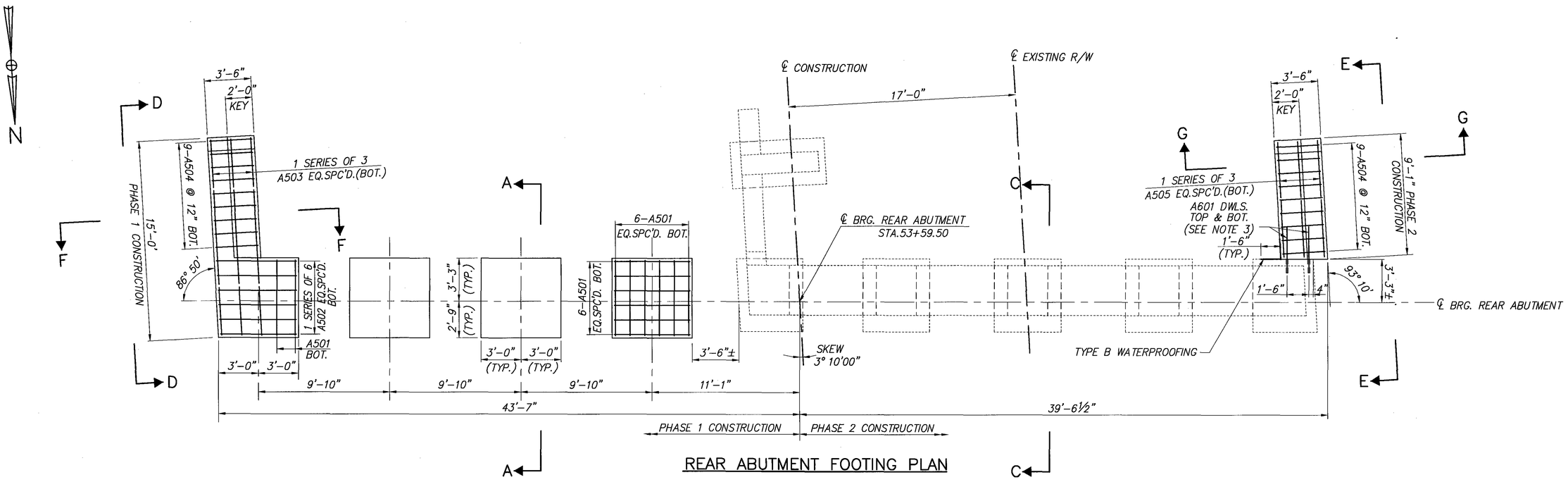
LAK-90/84-0.54/0.43

15 / 45

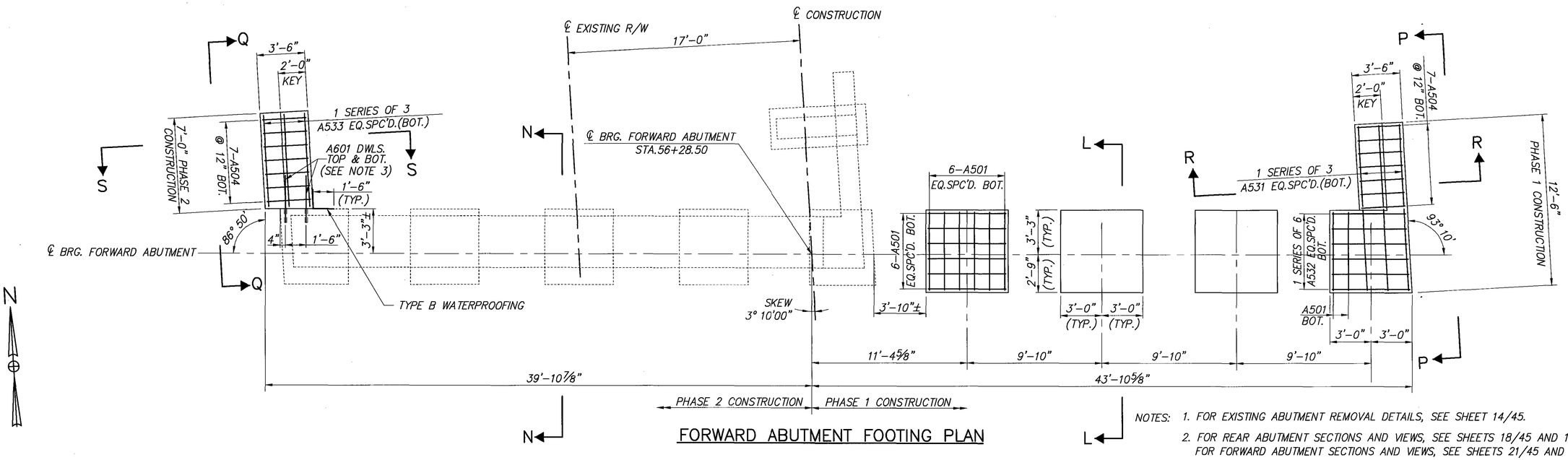
336
369

H:\2002\02117\DWG\BRIDGE\02117B07.DWG PLOT SCALE 1:32

H:\2002\02117\Dwg\BRIDGE\02117b07.dwg, Model, 8/8/2005 8:23:38 AM, cvampli, 1:32, - Copyright CT Consultants, Inc.



REAR ABUTMENT FOOTING PLAN



FORWARD ABUTMENT FOOTING PLAN

NOTES:

1. FOR EXISTING ABUTMENT REMOVAL DETAILS, SEE SHEET 14/45.
2. FOR REAR ABUTMENT SECTIONS AND VIEWS, SEE SHEETS 18/45 AND 19/45; FOR FORWARD ABUTMENT SECTIONS AND VIEWS, SEE SHEETS 21/45 AND 22/45.
3. DRILL DOWEL HOLES INTO THE EXISTING FOOTING 1'-0" DEEP. DRILL THEM 5"± CLEAR OF THE FOOTING TOP AND BOTTOM SURFACES. MOVE THE DOWEL HOLES AS REQUIRED TO AVOID DRILLING THROUGH EXISTING REINFORCING STEEL.
4. ABBREVIATIONS: BRG.–BEARING; TYP.–TYPICAL; DWLS.–DOWELS; C.J.–CONSTRUCTION JOINT; EQ.SPC'D.–EQUALLY SPACED; BOT.–BOTTOM.

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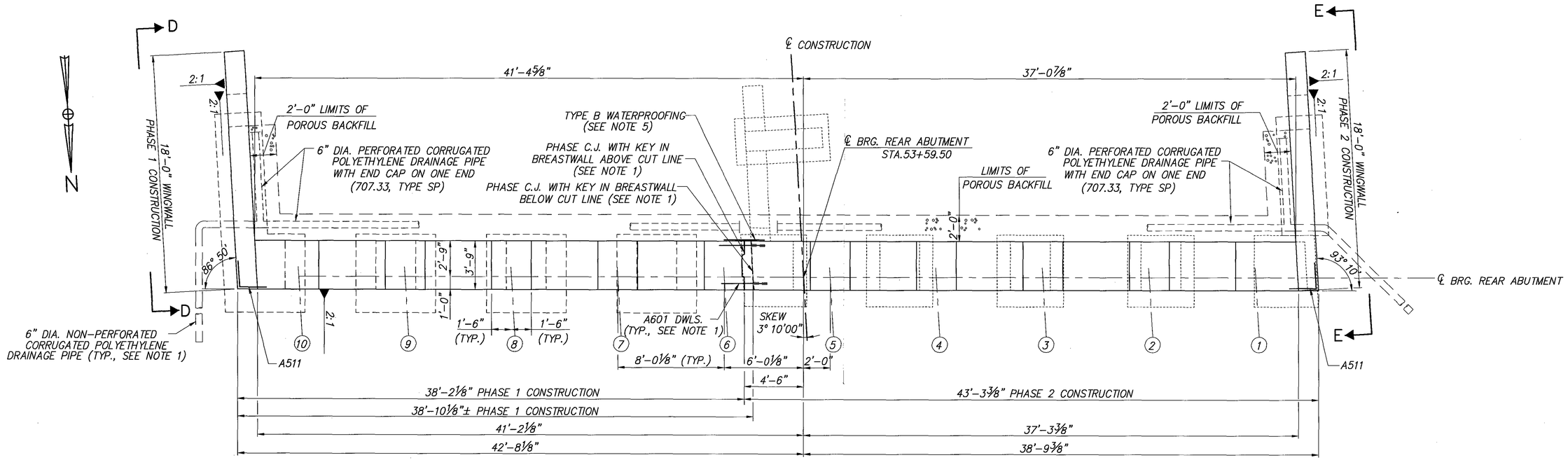
ABUTMENT FOOTING PLAN

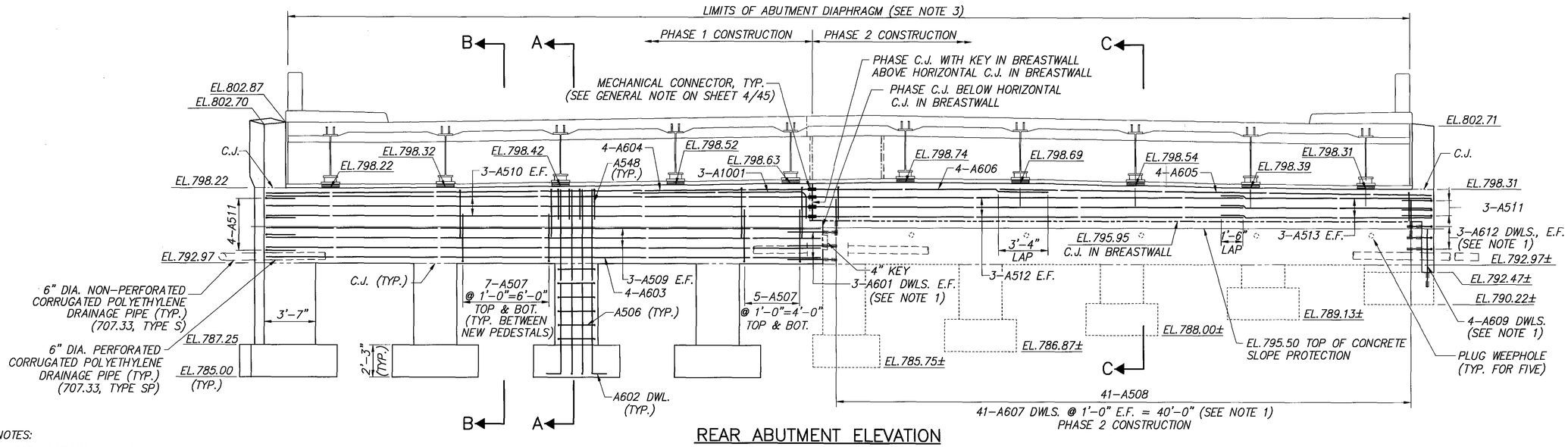
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43



REAR ABUTMENT PLAN

(ABUTMENT DIAPHRAGM AND APPROACH SLAB ARE NOT SHOWN)



REAR ABUTMENT ELEVATION

NOTES:

1. FOR SECTIONS A-A, B-B AND C-C, DOWEL LAYOUT AND NOTES, PIPE TERMINATION AND CONSTRUCTION JOINT DETAILS, SEE SHEET 18/45. FOR VIEW D-D AND VIEW E-E, SEE SHEET 19/45.
2. FOR EXISTING REAR ABUTMENT REMOVAL LIMITS, SEE SHEET 14/45.
3. FOR REAR ABUTMENT DIAPHRAGM PLAN AND ELEVATION, SEE SHEET 29/45.
4. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 35/45.
5. TYPE B WATERPROOFING, 3'-0" WIDE SHALL BE CENTERED OVER AND EXTENDS THE FULL LENGTH OF THE JOINT FROM THE BOTTOM OF BREASTWALL TO THE TOP OF DIAPHRAGM SEAT. TYPE B WATERPROOFING SHALL BE INSTALLED UNDER PHASE 2 CONSTRUCTION PRIOR INSTALLING THE NEOPRENE SHEETING.
6. ABBREVIATIONS: BRG.-BEARING; TYP.-TYPICAL; DWLS.-DOWELS; C.J.-CONSTRUCTION JOINT; E.F.-EACH FACE; EL.-ELEVATION.

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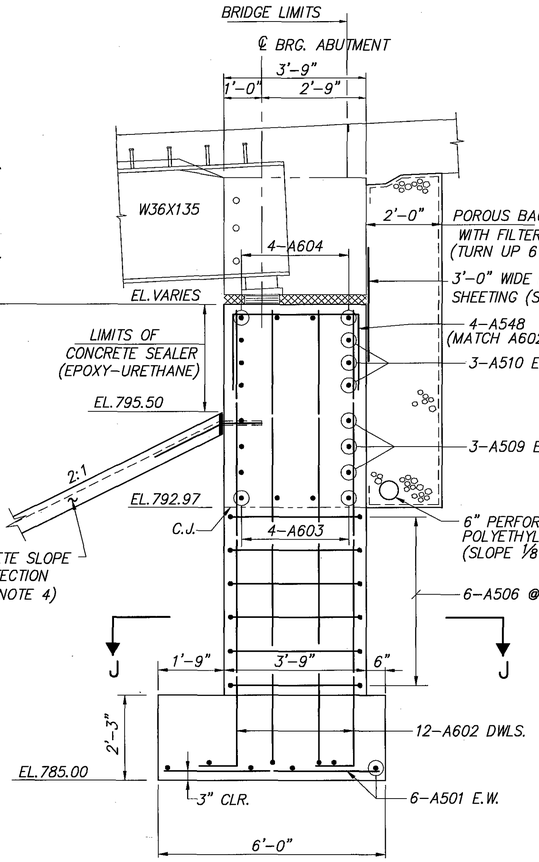
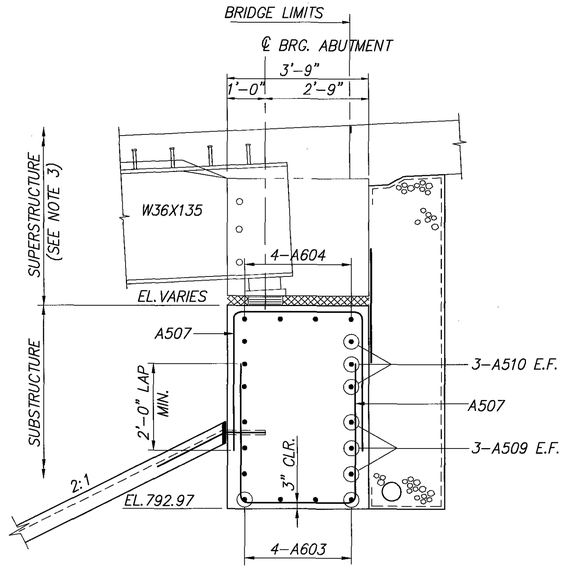
REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

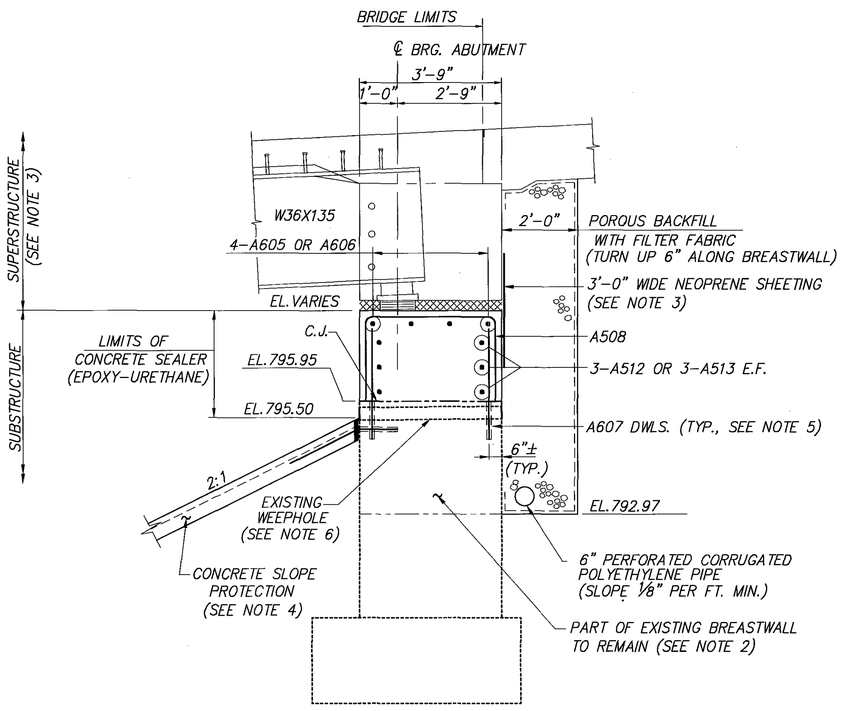
LAK-90/84-0.54/0.43



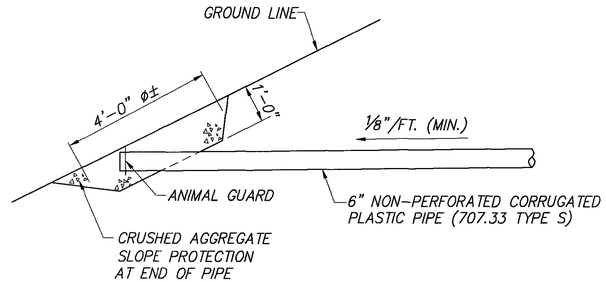
SECTION A-A
(PHASE 1 CONSTRUCTION)



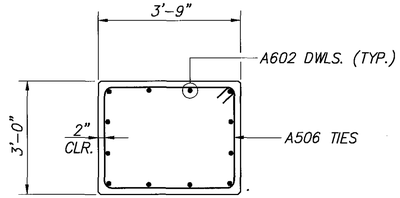
SECTION B-B
(PHASE 1 CONSTRUCTION)



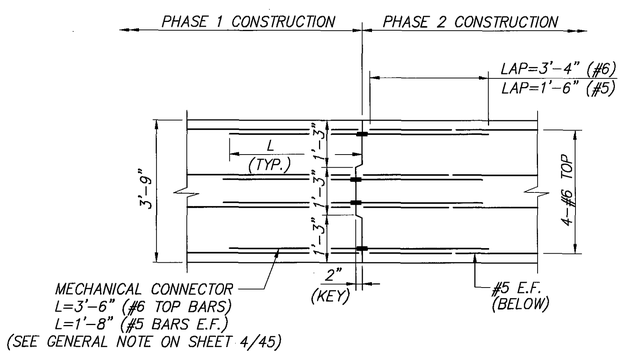
SECTION C-C
(PHASE 2 CONSTRUCTION)



PIPE TERMINATION DETAIL

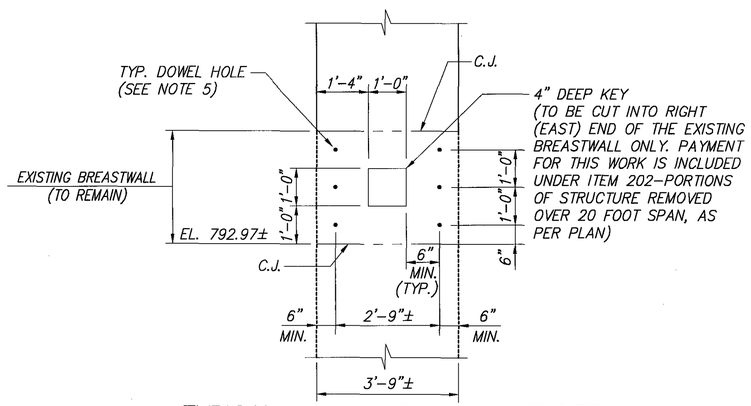


SECTION J-J
(TYP. FOR 3 AT THE REAR ABUTMENT)
(PHASE 1 CONSTRUCTION)



ABUTMENT BREASTWALL CONSTRUCTION JOINT DETAIL

EL. 777.8±
APPROXIMATE TOP OF SHALE (BORING B-20)



TYPICAL DOWEL HOLE LAYOUT DETAIL AT EXISTING BREASTWALL ENDS

NOTES:

1. FOR REAR ABUTMENT PLAN AND ELEVATION, SEE SHEET 17/45.
2. FOR REAR AND FORWARD ABUTMENT REMOVAL DETAILS, SEE SHEET 14/45.
3. FOR FORWARD ABUTMENT DIAPHRAGM PLAN AND ELEVATION, SEE SHEET 29/45.
4. FOR CONCRETE SLOPE PROTECTION DETAILS, SEE SHEET 42/45.
5. DOWEL HOLES INTO EXISTING CONCRETE SHALL BE 1'-0" DEEP. DOWEL HOLES MAY BE MOVED FURTHER IN AS REQUIRED TO AVOID DRILLING THROUGH EXISTING REINFORCING STEEL. A REINFORCING STEEL LOCATOR SHALL BE USED PRIOR TO DRILLING ANY HOLES TO ENSURE THE EXISTING STEEL IS NOT DAMAGED.
6. PLUG ALL FIVE WEEPHOLES FROM THE BACK FACE OF THE BREASTWALL USING CEMENT GROUT COMPOSED OF ONE PART OF HYDRAULIC CEMENT AND THREE PARTS OF SAND, BY VOLUME, AND WATER. MATERIALS AND LABOR FOR PLUGGING WEEPHOLES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN.
7. ABBREVIATIONS: C.J.-CONSTRUCTION JOINT; CLR.-CLEARANCE; MIN.-MINIMUM; BRG.-BEARING; DWLS.-DOWELS; E.F.-EACH FACE TYP.-TYPICAL; E.W.-EACH WAY.

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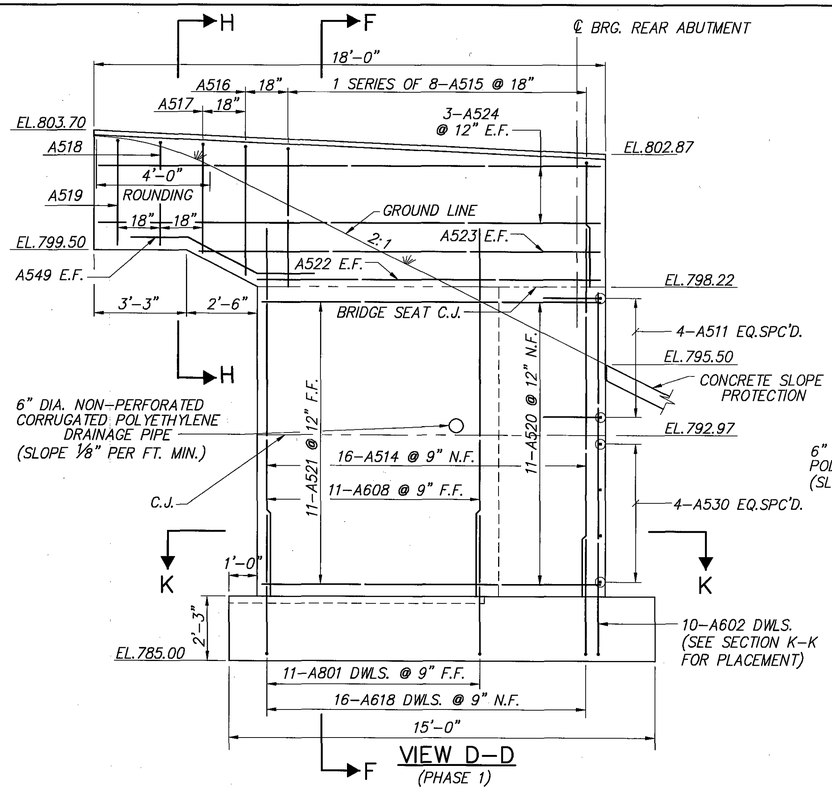
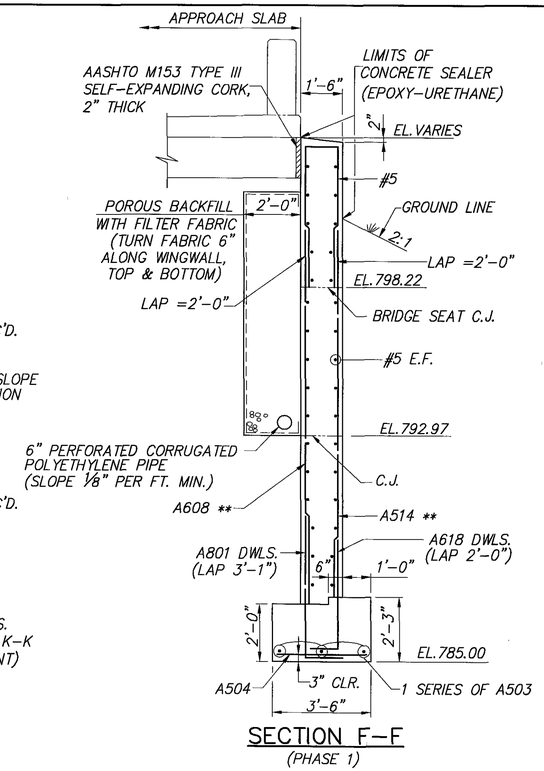
REAR ABUTMENT DETAILS
BRIDGE NO. LAK-0848R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

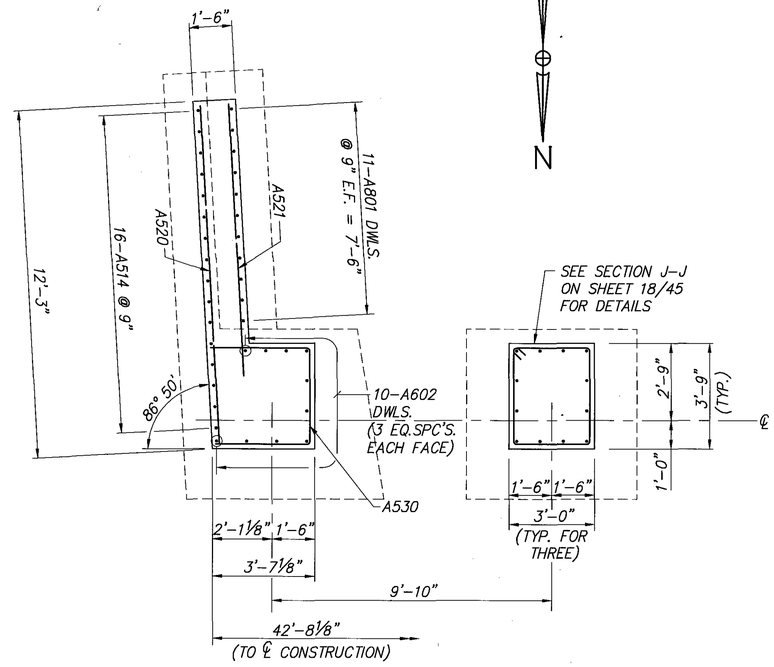
18 / 45

339
369

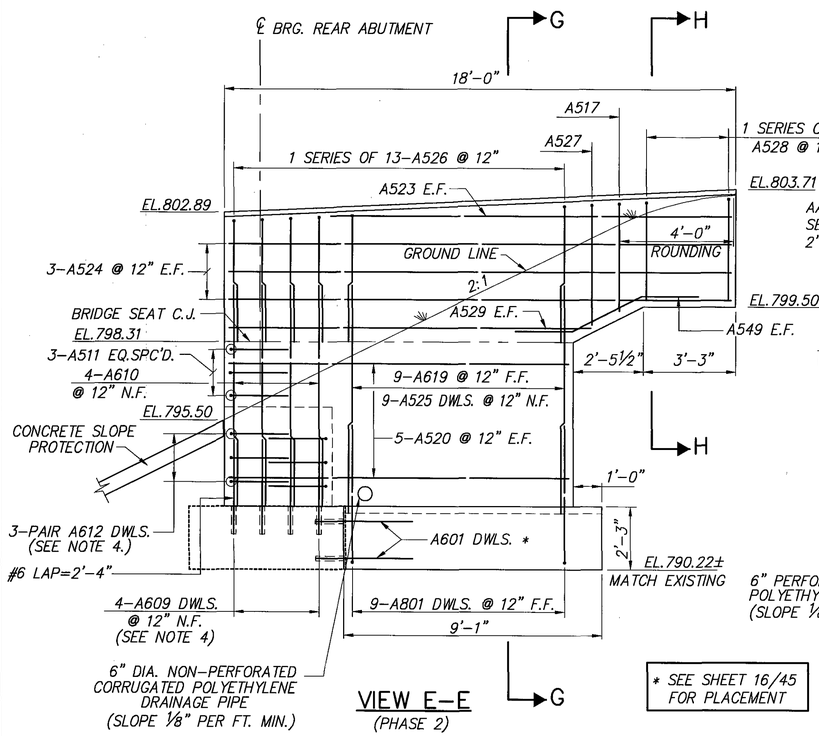




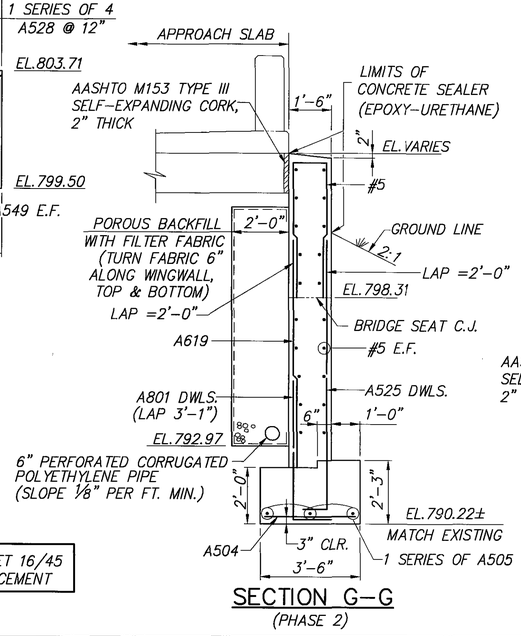
** FIRMLY SECURE THESE BARS AT THEIR TOPS TO PREVENT THEM FROM BEING BENT BY A DROP CHUTE WHILE PLACING THE CONCRETE.

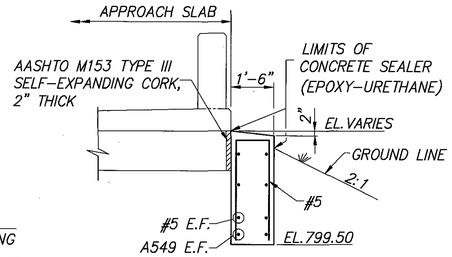


SECTION K-K
(PHASE 1)



* SEE SHEET 16/45 FOR PLACEMENT





NOTES:

1. FOR REAR ABUTMENT PLAN AND ELEVATION, SEE SHEET 17/45.
2. FOR REAR AND FORWARD ABUTMENT REMOVAL DETAILS, SEE SHEET 14/45.
3. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
4. DOWEL HOLES INTO EXISTING CONCRETE SHALL BE 1'-0" DEEP. DOWEL HOLES MAY BE MOVED FURTHER IN AS REQUIRED TO AVOID DRILLING THROUGH EXISTING REINFORCING STEEL. SEE SHEET 18/45 FOR DOWEL HOLE LAYOUT DETAIL AT EXISTING BREASTWALL ENDS.
5. ABBREVIATIONS: C.J.-CONSTRUCTION JOINT; BRG.-BEARING; DWLS.-DOWELS; TYP.-TYPICAL, MIN.-MINIMUM, EQ.SPC'D.-EQUALLY SPACED, N.F.-NEAR FACE, F.F.-FAR FACE, EL.-ELEVATION, E.F.-EACH FACE; EQ. SPA'S.-EQUAL SPACES.

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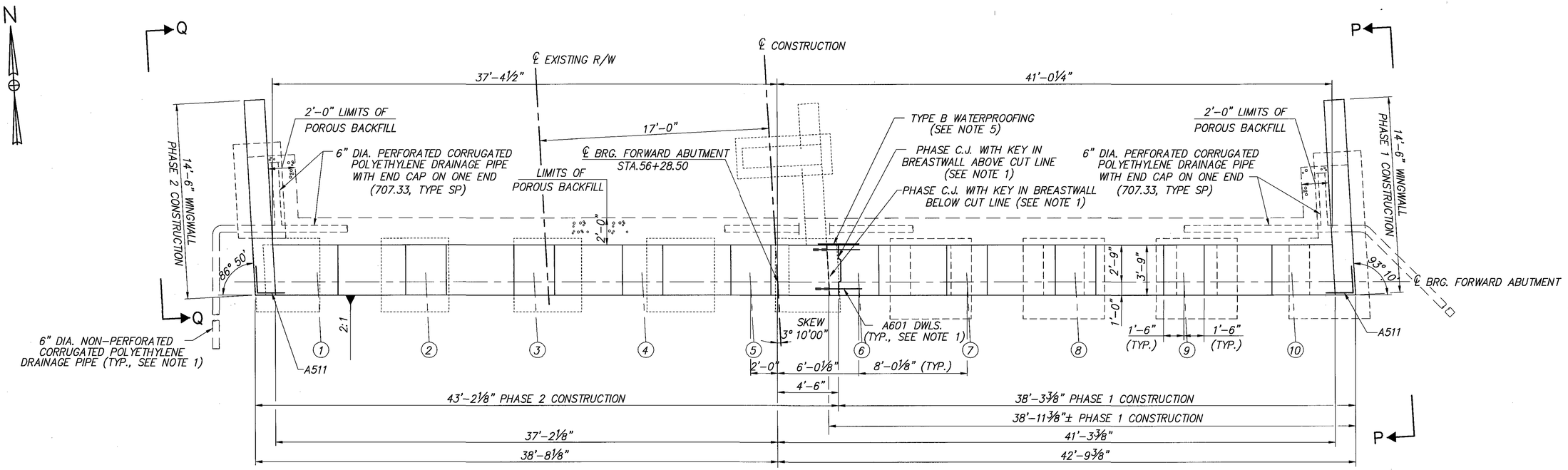
REAR ABUTMENT DETAILS

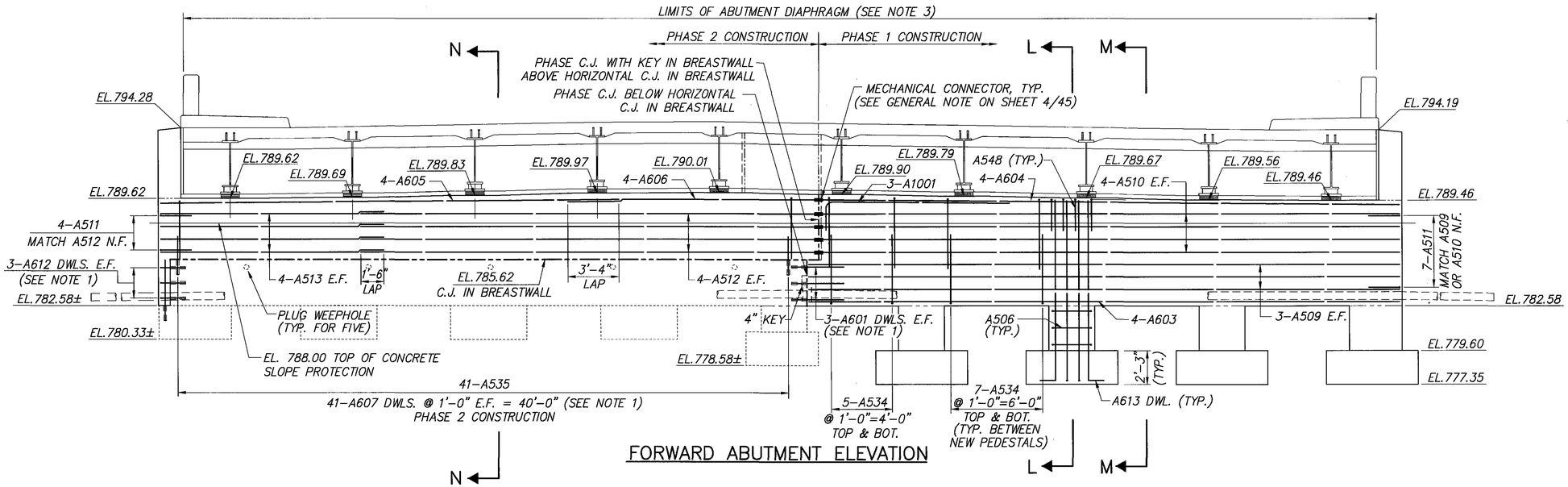
BRIDGE NO. LAK-0841R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43



FORWARD ABUTMENT PLAN

(ABUTMENT DIAPHRAGM AND APPROACH SLAB ARE NOT SHOWN)



FORWARD ABUTMENT ELEVATION

NOTES:

1. FOR SECTIONS L-L, M-M AND N-N, DOWEL LAYOUT AND NOTES; PIPE TERMINATION AND CONSTRUCTION JOINT DETAILS, SEE SHEET 21/45. FOR VIEW Q-Q AND VIEW P-P, SEE SHEET 22/45.
2. FOR EXISTING FORWARD ABUTMENT REMOVAL LIMITS, SEE SHEET 14/45.
3. FOR FORWARD ABUTMENT DIAPHRAGM PLAN AND ELEVATION, SEE SHEET 30/45.
4. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 35/45.
5. TYPE B WATERPROOFING, 3'-0" WIDE SHALL BE CENTERED OVER AND EXTENDS THE FULL LENGTH OF THE JOINT FROM THE BOTTOM OF BREASTWALL TO THE TOP OF DIAPHRAGM SEAT. TYPE B WATERPROOFING SHALL BE INSTALLED UNDER PHASE 2 CONSTRUCTION PRIOR INSTALLING THE NEOPRENE SHEETING.
6. ABBREVIATIONS: BRG.-BEARING; TYP.-TYPICAL; DWLS.-DOWELS; C.J.-CONSTRUCTION JOINT; E.F.-EACH FACE; N.F.-NEAR FACE; EL.-ELEVATION.

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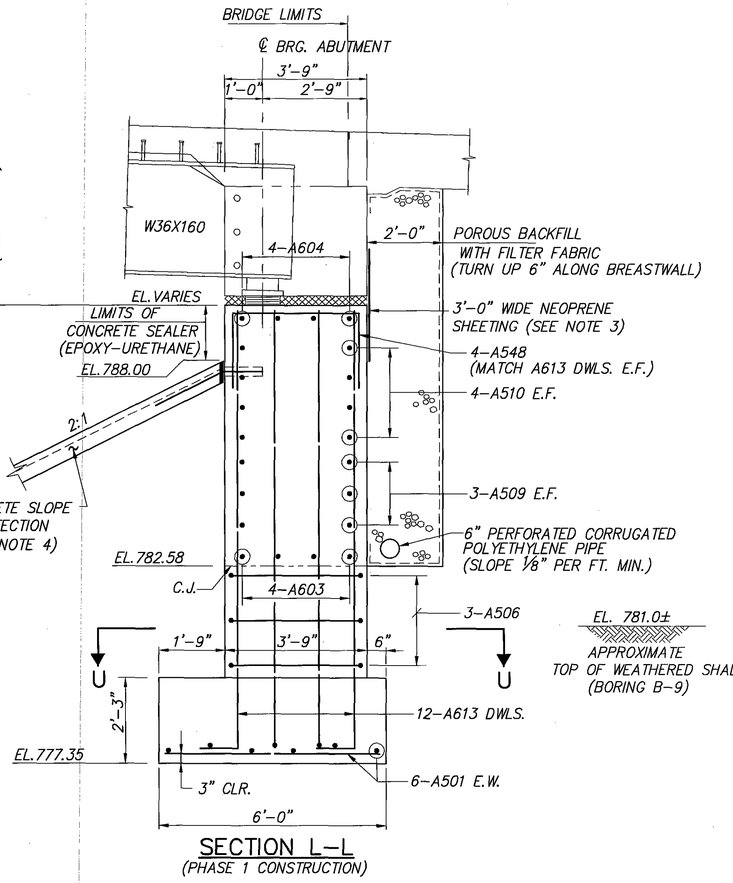
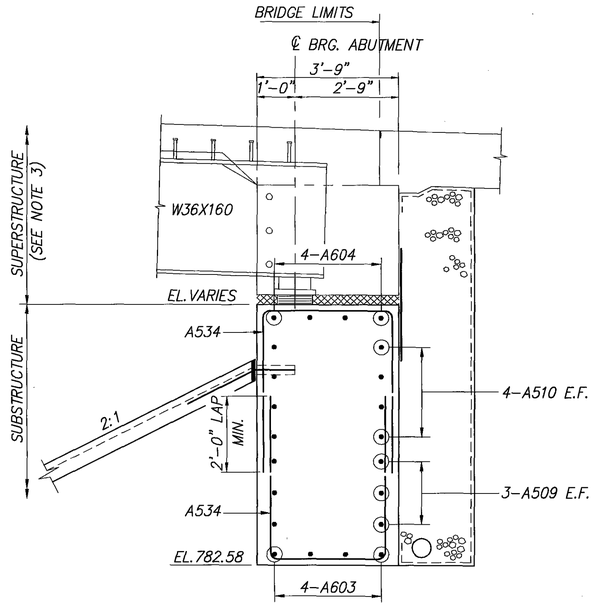
FORWARD ABUTMENT PLAN AND ELEVATION
BRIDGE NO. LAK-0844R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

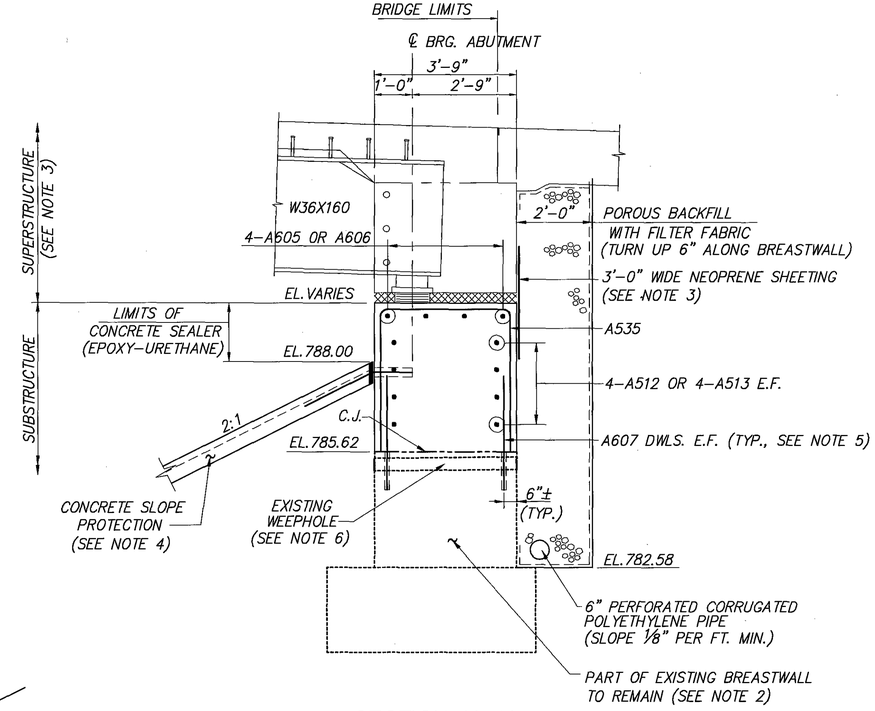
LAK-90/84-0.54/0.43



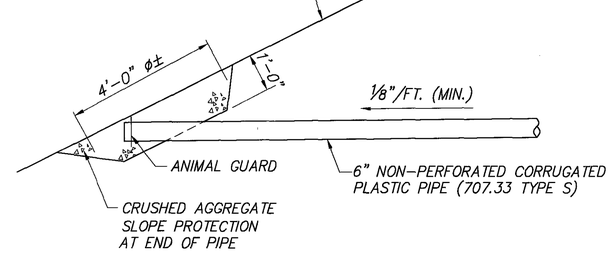
SECTION L–L
(PHASE 1 CONSTRUCTION)



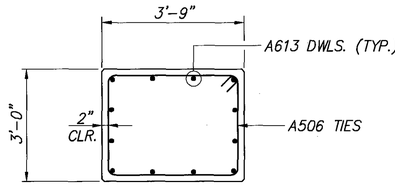
SECTION M–M
(PHASE 1 CONSTRUCTION)



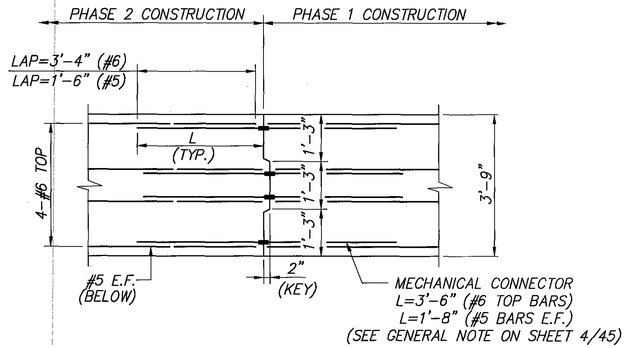
SECTION N–N
(PHASE 2 CONSTRUCTION)



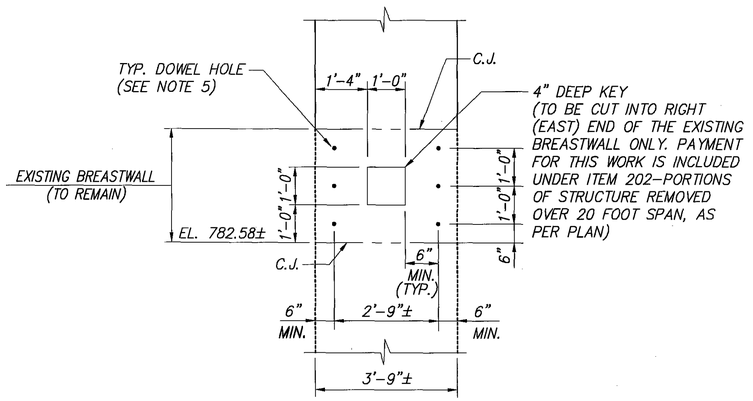
PIPE TERMINATION DETAIL



SECTION U–U
(TYP. FOR 3 AT THE FORWARD ABUTMENT)
(PHASE 1 CONSTRUCTION)



ABUTMENT BREASTWALL
CONSTRUCTION JOINT DETAIL



TYPICAL DOWEL HOLE LAYOUT DETAIL
AT EXISTING BREASTWALL ENDS

NOTES:

1. FOR FORWARD ABUTMENT PLAN AND ELEVATION, SEE SHEET 20/45.
2. FOR REAR AND FORWARD ABUTMENT REMOVAL DETAILS, SEE SHEET 14/45.
3. FOR FORWARD ABUTMENT DIAPHRAGM PLAN AND ELEVATION, SEE SHEET 30/45.
4. FOR CONCRETE SLOPE PROTECTION DETAILS, SEE SHEET 42/45.
5. DOWEL HOLES INTO EXISTING CONCRETE SHALL BE 1'-0" DEEP. DOWEL HOLES MAY BE MOVED FURTHER IN AS REQUIRED TO AVOID DRILLING THROUGH EXISTING REINFORCING STEEL. A REINFORCING STEEL LOCATOR SHALL BE USED PRIOR TO DRILLING ANY HOLES TO ENSURE THE EXISTING STEEL IS NOT DAMAGED.
6. PLUG ALL FIVE WEEPHOLES FROM THE BACK FACE OF THE BREASTWALL USING CEMENT GROUT COMPOSED OF ONE PART OF HYDRAULIC CEMENT AND THREE PARTS OF SAND, BY VOLUME, AND WATER. MATERIALS AND LABOR FOR PLUGGING WEEPHOLES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 518 – POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN.
7. ABBREVIATIONS: C.J.–CONSTRUCTION JOINT; CLR.–CLEARANCE; MIN.–MINIMUM; BRG.–BEARING; DWLS.–DOWELS; E.F.–EACH FACE TYP.–TYPICAL; E.W.–EACH WAY.

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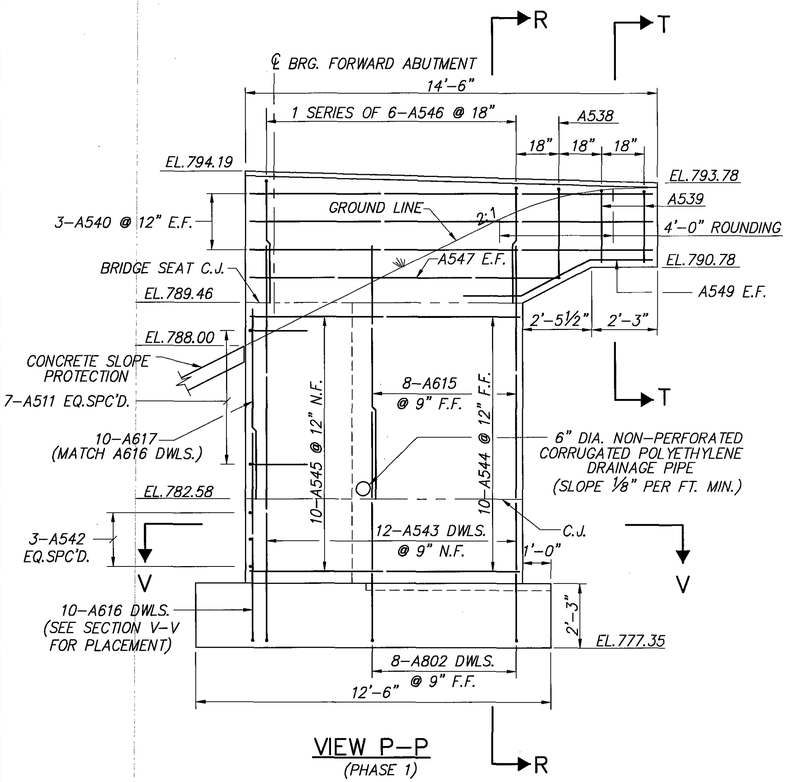
CHECKED J.P.R. | REVISED | STRUCTURE FILE NUMBER 4303423

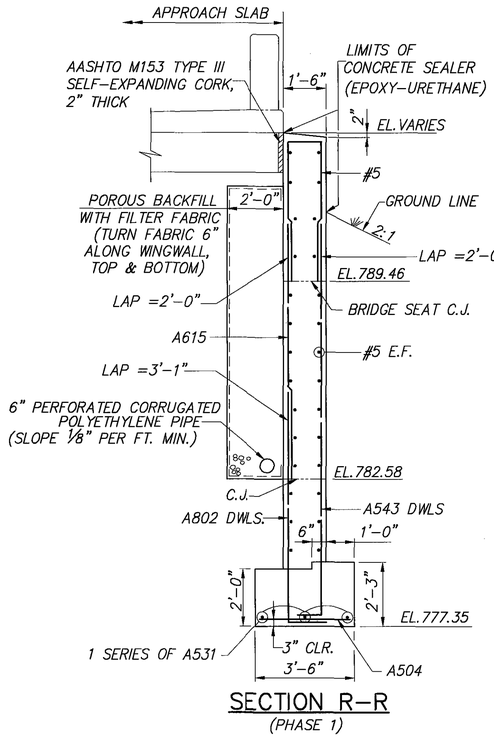
FORWARD ABUTMENT DETAILS

BRIDGE NO. LAK-0841R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

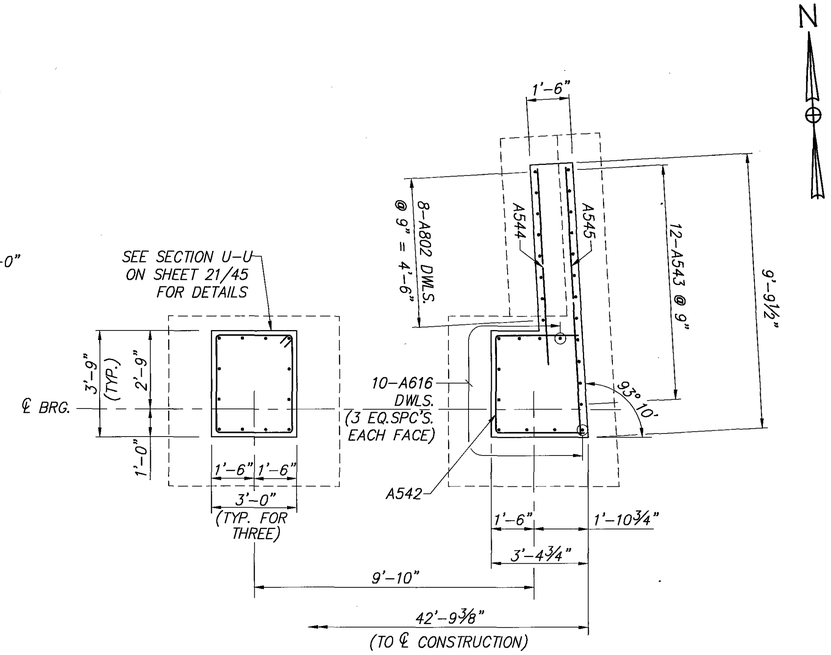
LAK-90/84-0.54/0.43



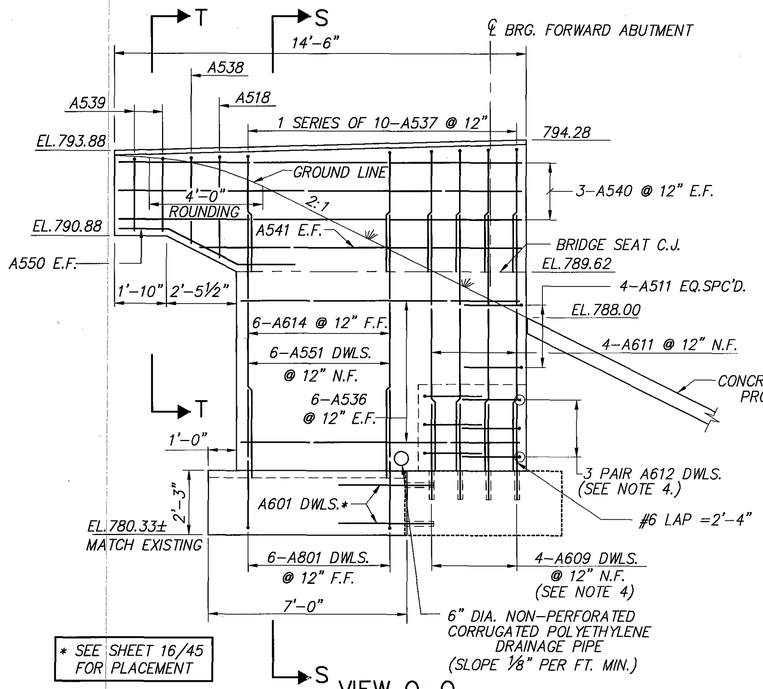
VIEW P-P
(PHASE 1)



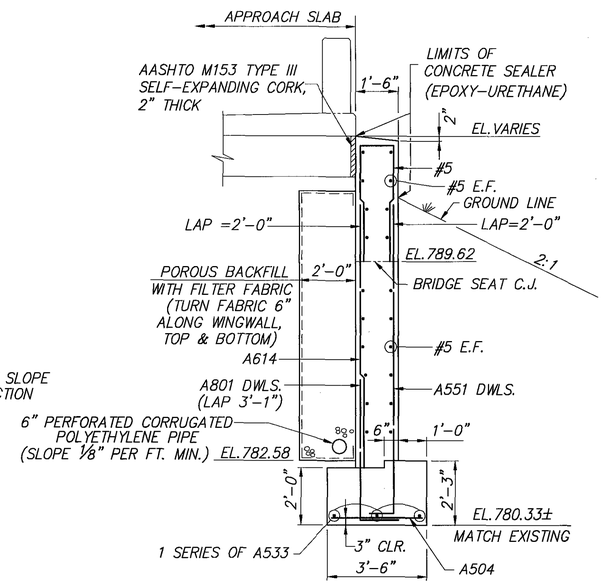
SECTION R-R
(PHASE 1)



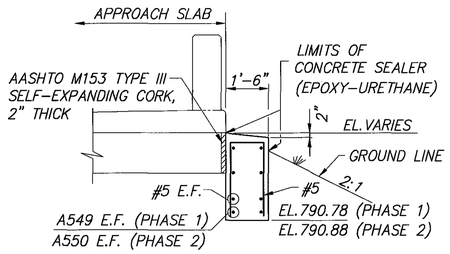
SECTION V-V
(PHASE 1)



VIEW Q-Q
(PHASE 2)



SECTION S-S
(PHASE 2)



SECTION T-T
(PHASE 1 OR PHASE 2)

NOTES:

1. FOR FORWARD ABUTMENT PLAN AND ELEVATION, SEE SHEET 20/45.
2. FOR REAR AND FORWARD ABUTMENT REMOVAL DETAILS, SEE SHEET 14/45.
3. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
4. DOWEL HOLES INTO EXISTING CONCRETE SHALL BE 1'-0" DEEP. DOWEL HOLES MAY BE MOVED FURTHER IN AS REQUIRED TO AVOID DRILLING THROUGH EXISTING REINFORCING STEEL. SEE SHEET 21/45 FOR DOWEL HOLE LAYOUT DETAIL AT EXISTING BREASTWALL ENDS.
5. ABBREVIATIONS: C.J.-CONSTRUCTION JOINT; BRG.-BEARING; DWLS.-DOWELS; TYP.-TYPICAL, MIN.-MINIMUM, EQ.SPC'D.-EQUALLY SPACED, N.F.-NEAR FACE, F.F.-FAR FACE, EL.-ELEVATION, E.F.-EACH FACE; EQ.SPA'S.-EQUAL SPACES.

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I.A.S.	R.L.B.	W.D.B.	4/15/05
CHECKED	REVISED	STRUCTURE FILE NUMBER	
J.P.R.		4303423	

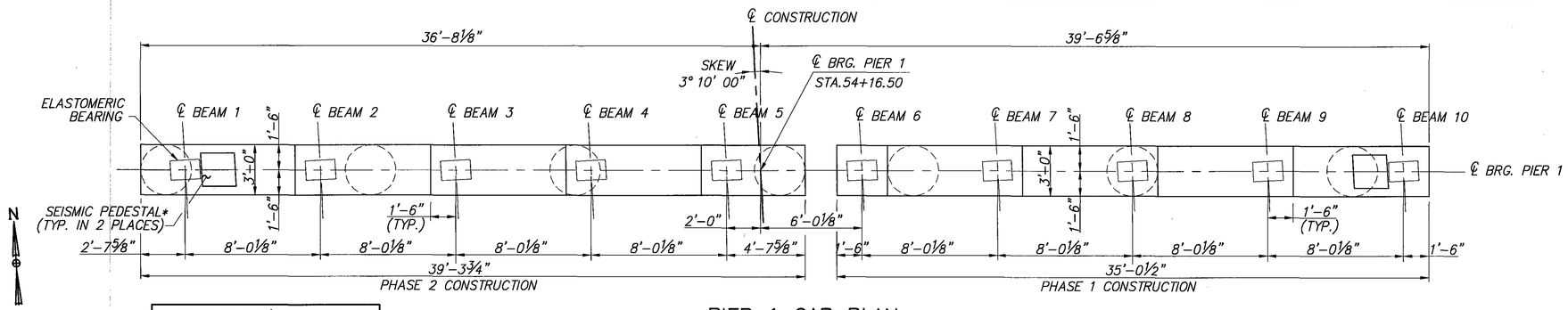
FORWARD ABUTMENT DETAILS
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

22 / 45

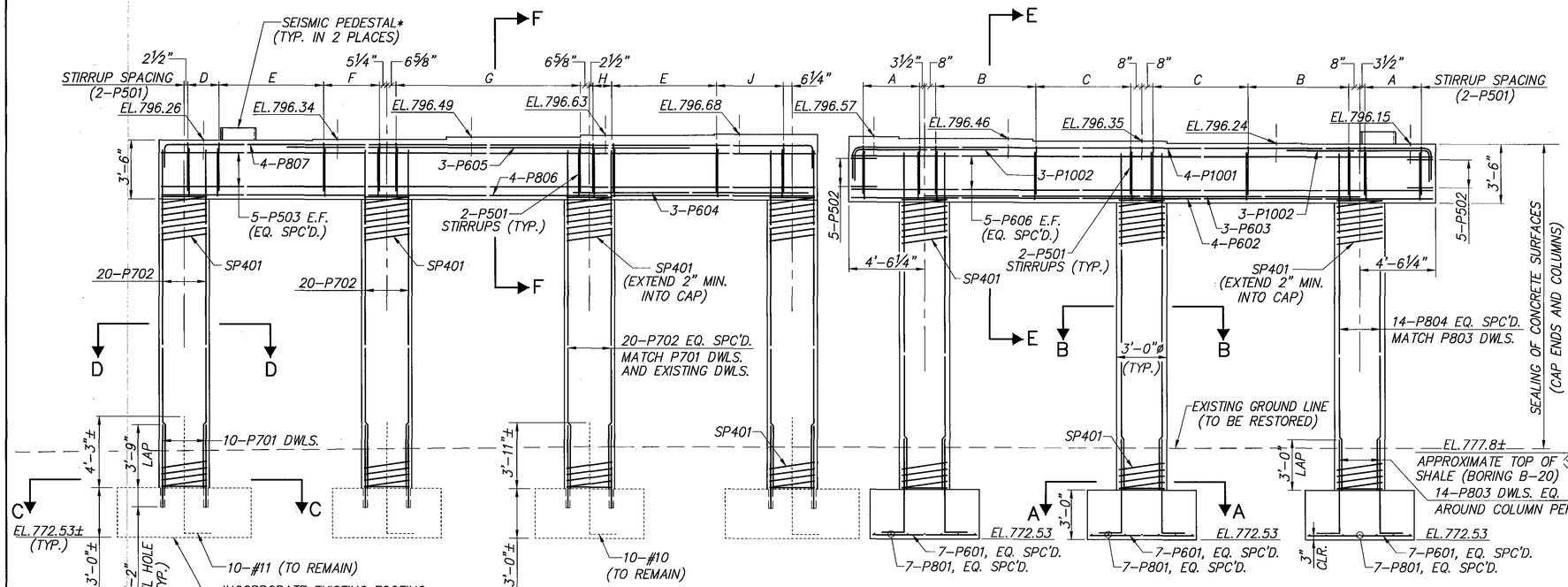
343 / 369

H: \2002\02117\DWG\BRIDGE\02117b25.DWG PLOT SCALE 1:32



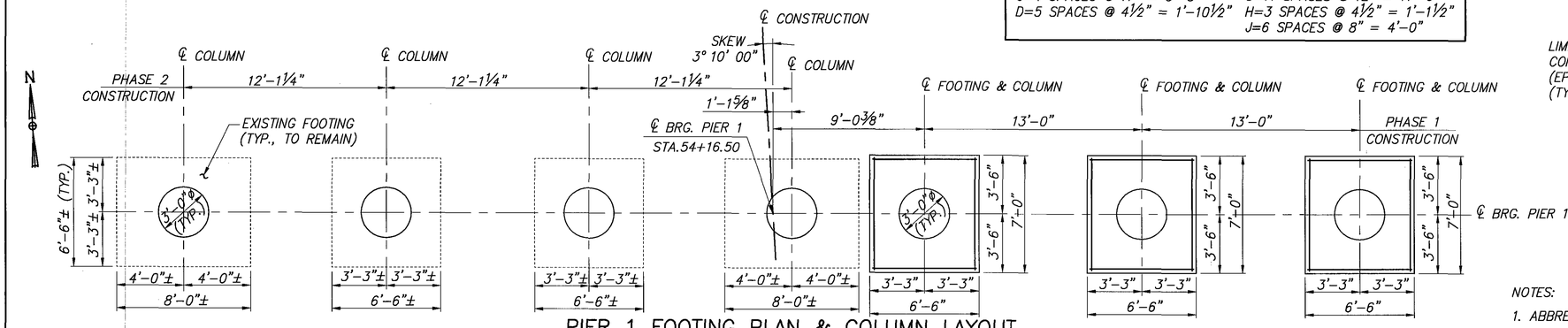
* SEE SHEET 26/45 FOR DETAILS

PIER 1 CAP PLAN

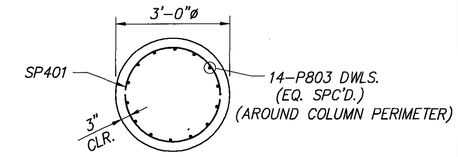


PIER 1 ELEVATION

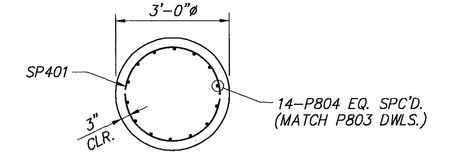
STIRRUP SPACING:	
A=9 SPACES @ 4½" = 3'-4½"	E=5 SPACES @ 1'-3" = 6'-3"
B=9 SPACES @ 8" = 6'-0"	F=8 SPACES @ 5" = 3'-4"
C=4 SPACES @ 17" = 5'-8"	G=11 SPACES @ 12" = 11'-0"
D=5 SPACES @ 4½" = 1'-10½"	H=3 SPACES @ 4½" = 1'-1½"
	J=6 SPACES @ 8" = 4'-0"



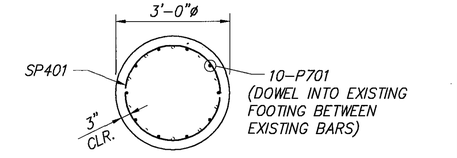
PIER 1 FOOTING PLAN & COLUMN LAYOUT



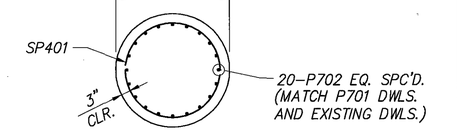
SECTION A–A
(TYPICAL FOR THREE, PHASE 1)



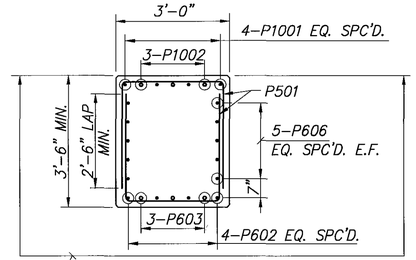
SECTION B–B
(TYPICAL FOR THREE, PHASE 1)



SECTION C–C
(TYPICAL FOR FOUR, PHASE 2)

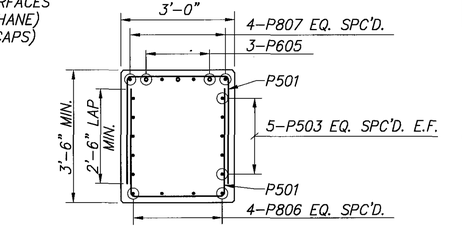


SECTION D–D
(TYPICAL FOR FOUR, PHASE 2)



SECTION E–E
(PHASE 1)

LIMITS OF SEALING CONCRETE SURFACES (EPOXY–URETHANE) (TYP. ,BOTH CAPS)



SECTION F–F
(PHASE 2)

NOTES:

1. ABBREVIATIONS: EL.–ELEVATION; TYP.–TYPICAL; MIN.–MINIMUM; BRG.–BEARING CLR.–CLEAR, EQ. SPC'D.–EQUALLY SPACED, E.W.–EACH WAY.

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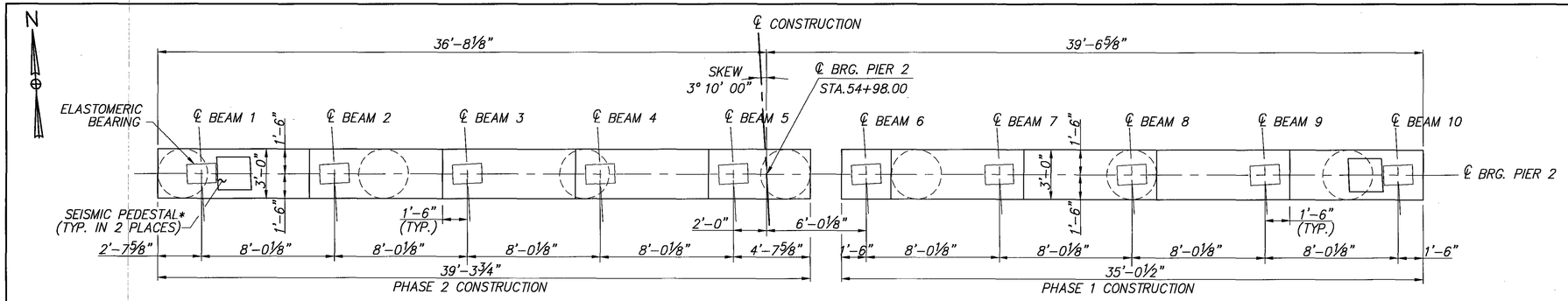
PIER 1 PLAN AND ELEVATION

BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

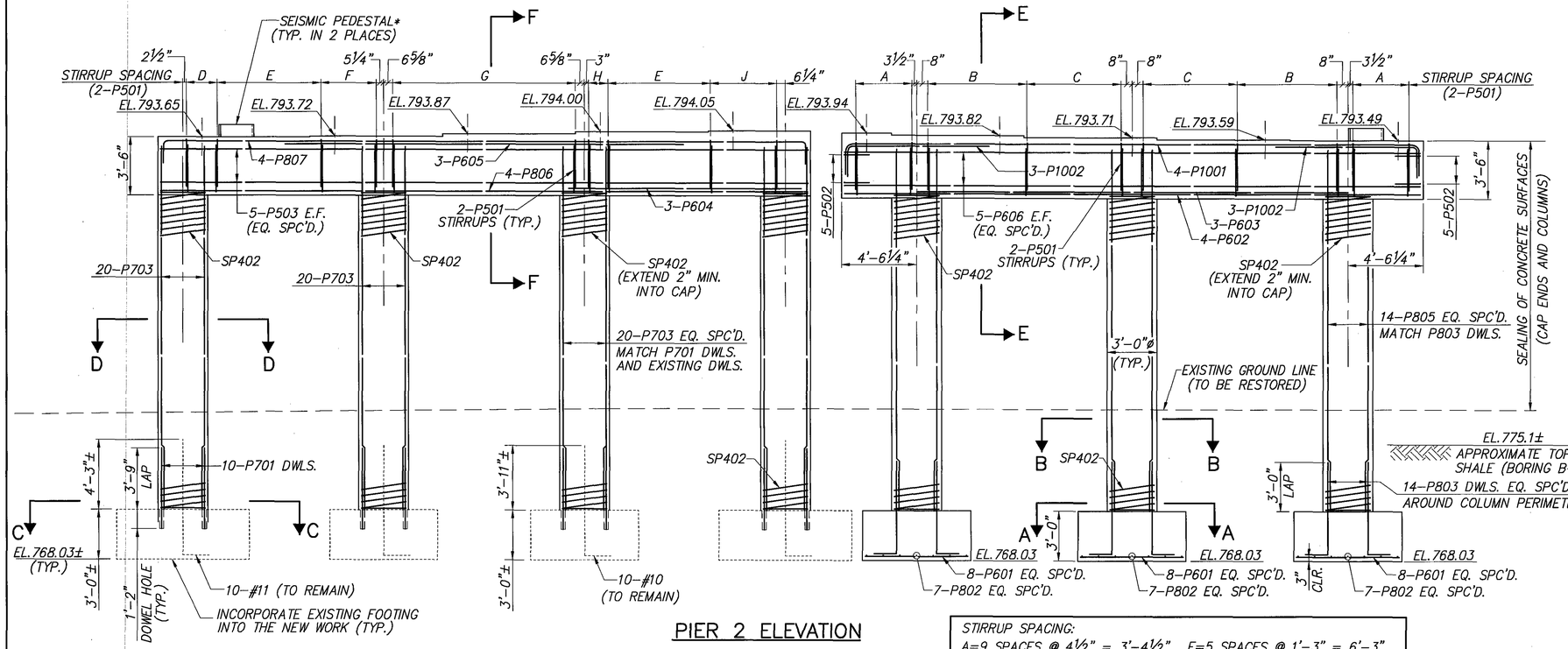
23 / 45

344 / 369



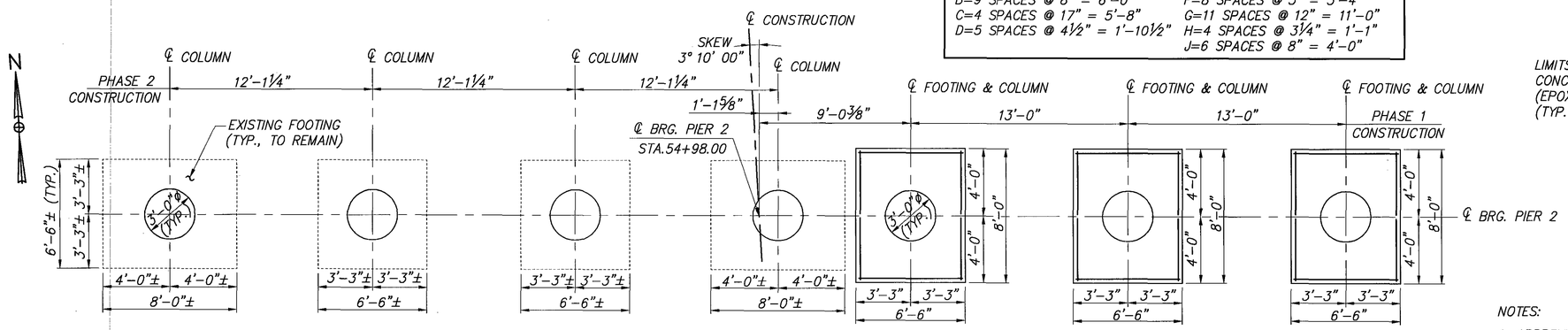
* SEE SHEET 26/45 FOR DETAILS

PIER 2 CAP PLAN

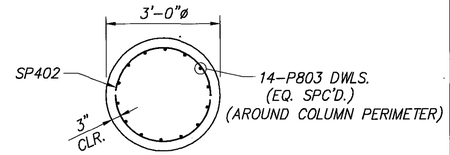


PIER 2 ELEVATION

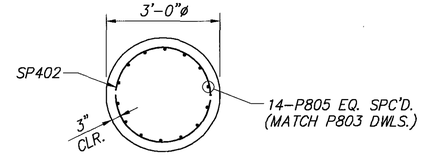
STIRRUP SPACING:	
A=9 SPACES @ 4½" = 3'-4½"	E=5 SPACES @ 1'-3" = 6'-3"
B=9 SPACES @ 8" = 6'-0"	F=8 SPACES @ 5" = 3'-4"
C=4 SPACES @ 17" = 5'-8"	G=11 SPACES @ 12" = 11'-0"
D=5 SPACES @ 4½" = 1'-10½"	H=4 SPACES @ 3¼" = 1'-1"
	J=6 SPACES @ 8" = 4'-0"



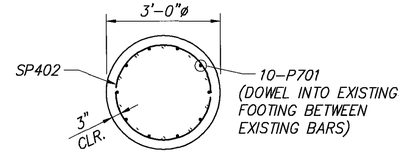
PIER 2 FOOTING PLAN & COLUMN LAYOUT



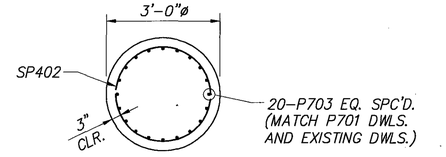
SECTION A-A
(TYPICAL FOR THREE, PHASE 1)



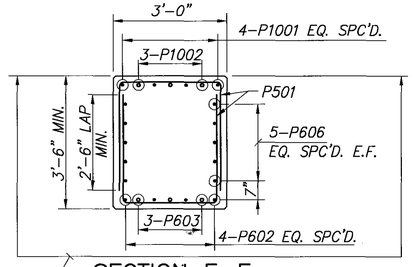
SECTION B-B
(TYPICAL FOR THREE, PHASE 1)



SECTION C-C
(TYPICAL FOR FOUR, PHASE 2)

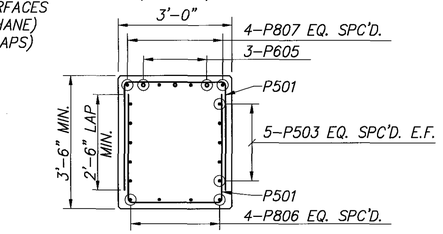


SECTION D-D
(TYPICAL FOR FOUR, PHASE 2)



SECTION E-E
(PHASE 1)

LIMITS OF SEALING CONCRETE SURFACES (EPOXY-URETHANE) (TYP. ,BOTH CAPS)



SECTION F-F
(PHASE 2)

NOTES:

1. ABBREVIATIONS: EL.-ELEVATION; TYP.-TYPICAL; MIN.-MINIMUM; BRG.-BEARING CLR.-CLEAR, EQ. SPC'D.-EQUALLY SPACED, E.W.-EACH WAY.

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DESIGNED I.A.S. | DRAWN I.A.S. | REVIEWED W.D.B. | DATE 4/15/05
CHECKED J.P.R. | REVISED | STRUCTURE FILE NUMBER 4303423

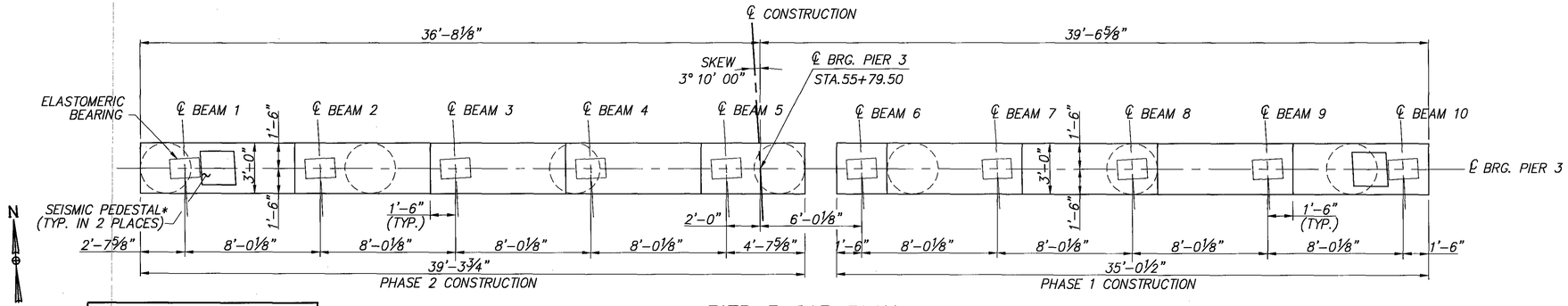
PIER 2 PLAN AND ELEVATION

BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

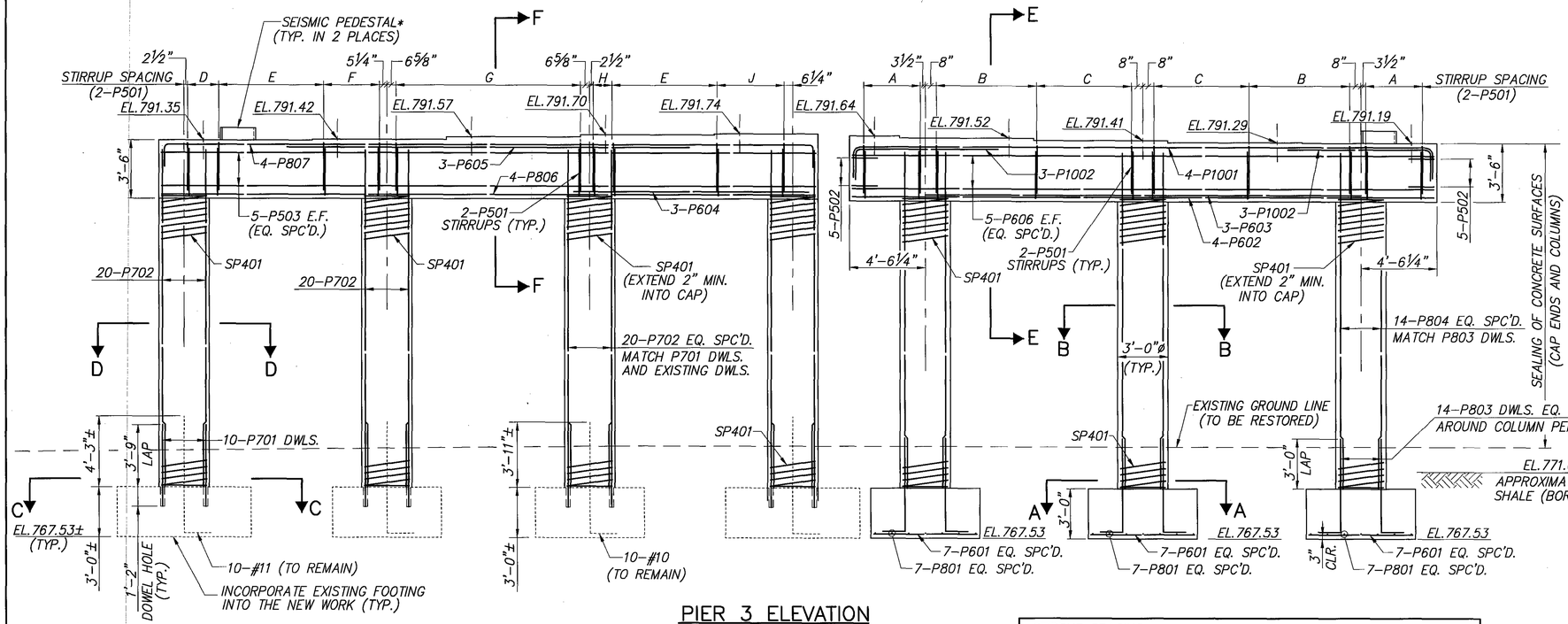
24 / 45

345
369



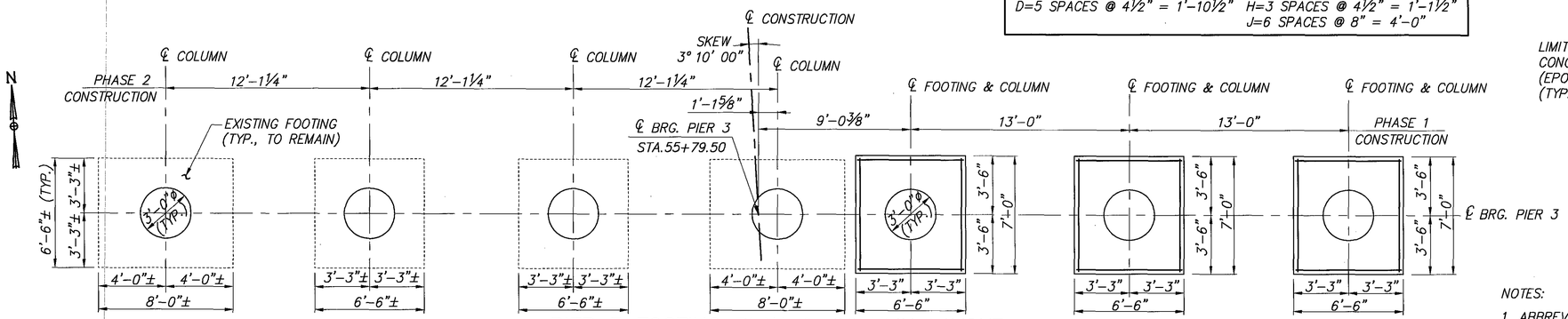
* SEE SHEET 26/45 FOR DETAILS

PIER 3 CAP PLAN

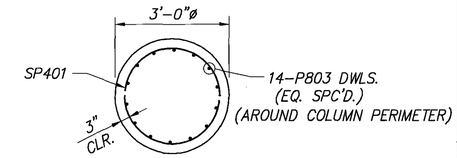


PIER 3 ELEVATION

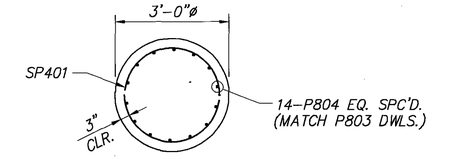
STIRRUP SPACING:	
A=9 SPACES @ 4½" = 3'-4½"	E=5 SPACES @ 1'-3" = 6'-3"
B=9 SPACES @ 8" = 6'-0"	F=8 SPACES @ 5" = 3'-4"
C=4 SPACES @ 17" = 5'-8"	G=11 SPACES @ 12" = 11'-0"
D=5 SPACES @ 4½" = 1'-10½"	H=3 SPACES @ 4½" = 1'-1½"
	J=6 SPACES @ 8" = 4'-0"



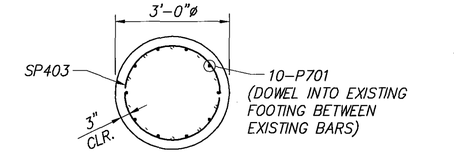
PIER 3 FOOTING PLAN & COLUMN LAYOUT



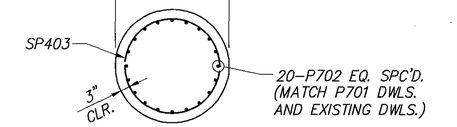
SECTION A–A
(TYPICAL FOR THREE, PHASE 1)



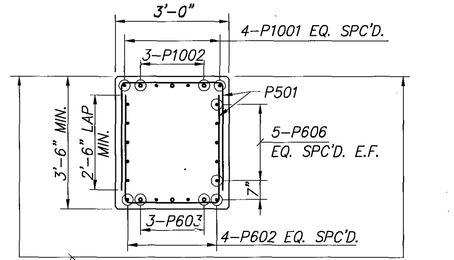
SECTION B–B
(TYPICAL FOR THREE, PHASE 1)



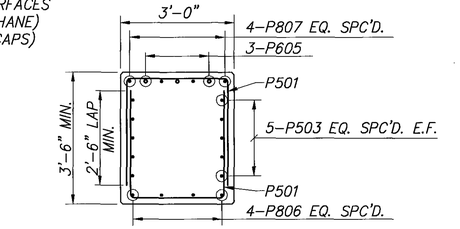
SECTION C–C
(TYPICAL FOR FOUR, PHASE 2)



SECTION D–D
(TYPICAL FOR FOUR, PHASE 2)



SECTION E–E
(PHASE 1)



SECTION F–F
(PHASE 2)

NOTES:

1. ABBREVIATIONS: EL.–ELEVATION; TYP.–TYPICAL; MIN.–MINIMUM; BRG.–BEARING CLR.–CLEAR, EQ. SPC'D.–EQUALLY SPACED, E.W.–EACH WAY.

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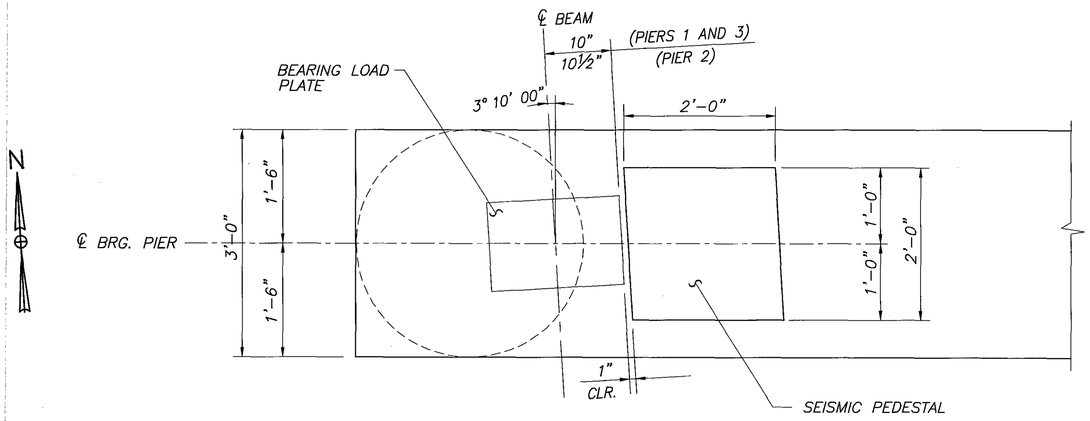
I.A.S.	R.L.B.	W.D.B.	4/15/05
CHECKED	REVISED	STRUCTURE FILE NUMBER	
J.P.R.		4303423	

PIER 3 PLAN AND ELEVATION
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

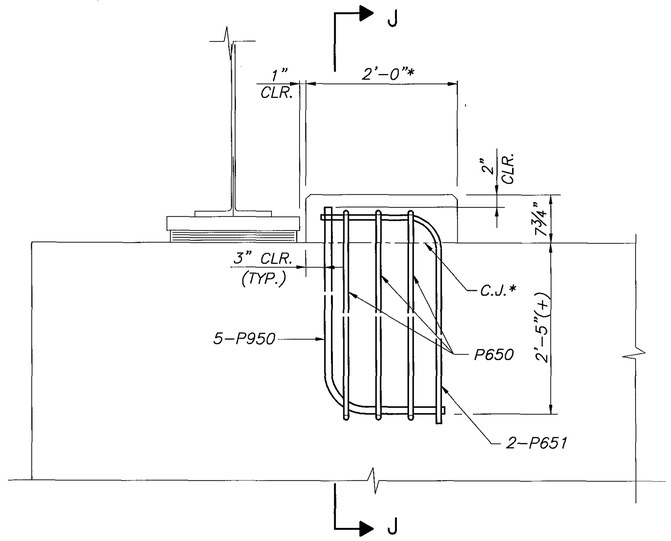
25 / 45

346 / 369

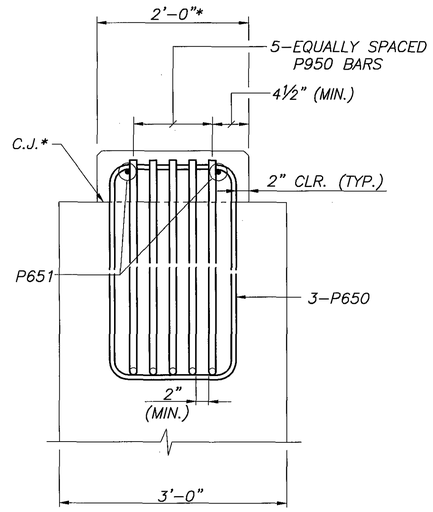


PLAN VIEW

(FOR SEISMIC PEDESTAL LOCATION, SEE PIER PLANS)



FRONT VIEW OF SEISMIC PEDESTAL



SECTION J-J

THE 2'-0" WIDTH OF THE PEDESTAL SHALL BE MEASURED PARALLEL TO THE CENTERLINE OF BEARING. THE P950 & P651 BARS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF BEARING. THE P650 BARS SHALL BE PLACED PARALLEL TO THE BEAMS.

THE LOCATION OF THE MAIN REINFORCEMENT IN THE PIER CAP MAY BE ADJUSTED HORIZONTALLY ±1" TO ACCOMMODATE THE P950 BARS.

** – THE SURFACE OF THE PIER CAP IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.*

NOTES:

1. *FOR PIER 1, PIER 2 AND PIER 3 PLAN AND ELEVATION, SEE SHEETS 23, 24 AND 25/45, RESPECTIVELY.*
2. *ABBREVIATIONS: TYP.–TYPICAL; CLR.–CLEAR; MIN.–MINIMUM; C.J.–CONSTRUCTION JOINT.*

SEISMIC PEDESTAL DETAILS

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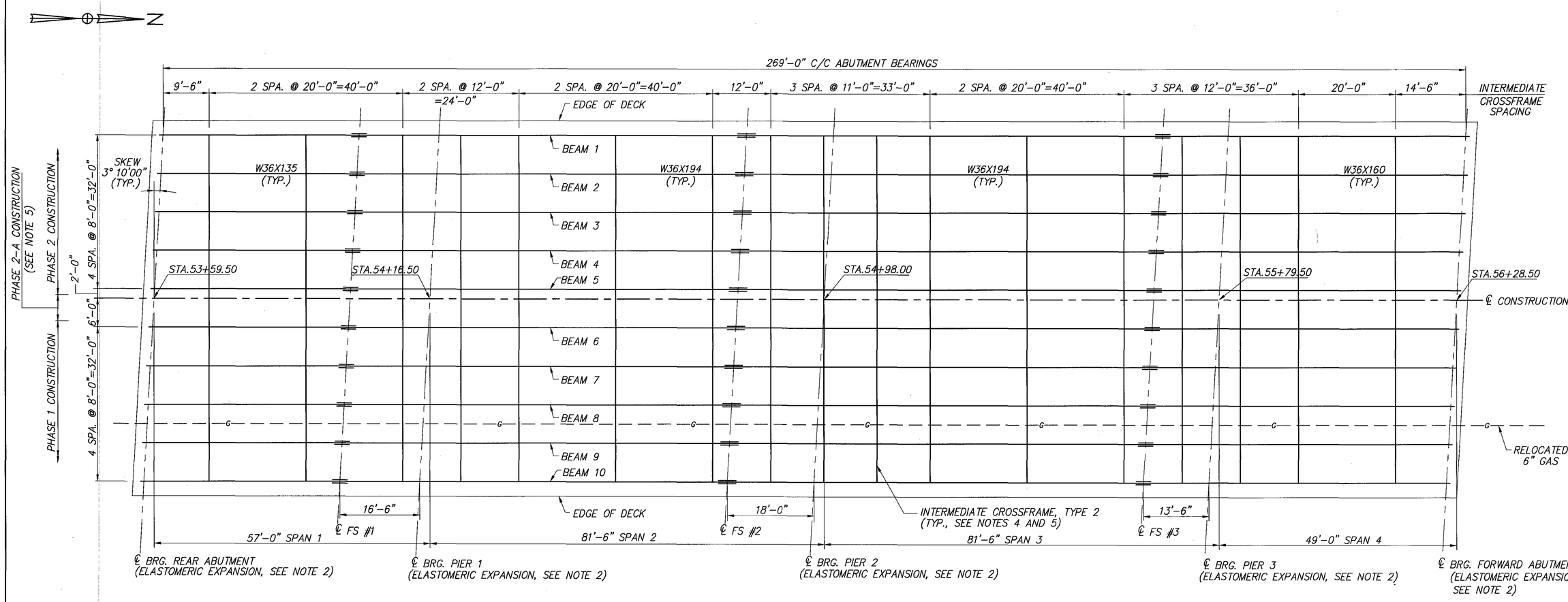
J.P.R.		4303423	

PIER DETAILS
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

26 / 45

347
369



FRAMING PLAN

NOTES:
1. FOR BRIDGE TRANSVERSE SECTION, SEE SHEET 31/45.
2. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 35/45.
3. FOR FIELD SPLICE DETAILS, SEE ODOT STANDARD DRAWING BS-1-93 SHEETS 1 AND 3 OF 3.
4. FOR INTERMEDIATE CROSSFRAME TYPE 2 DETAILS, SEE ODOT STANDARD DRAWING GSD-1-96 SHEET 1 OF 3.
5. FOR STEEL DETAILS AND ADDITIONAL NOTES, SEE SHEET 28/45.
6. DO NOT PERMANENTLY ATTACH CROSSFRAMES BETWEEN BEAMS 5 AND 6 UNTIL ALL SUPERSTRUCTURE CONCRETE HAS BEEN PLACED IN PHASE 2, BUT TIGHTEN CONNECTIONS PRIOR TO THE CLOSURE POUR, PHASE 2-A CONSTRUCTION.
7. ABBREVIATIONS: BRG.-BEARING; TYP.-TYPICAL; SPA.-SPACING; FS-FIELD SPLICE.

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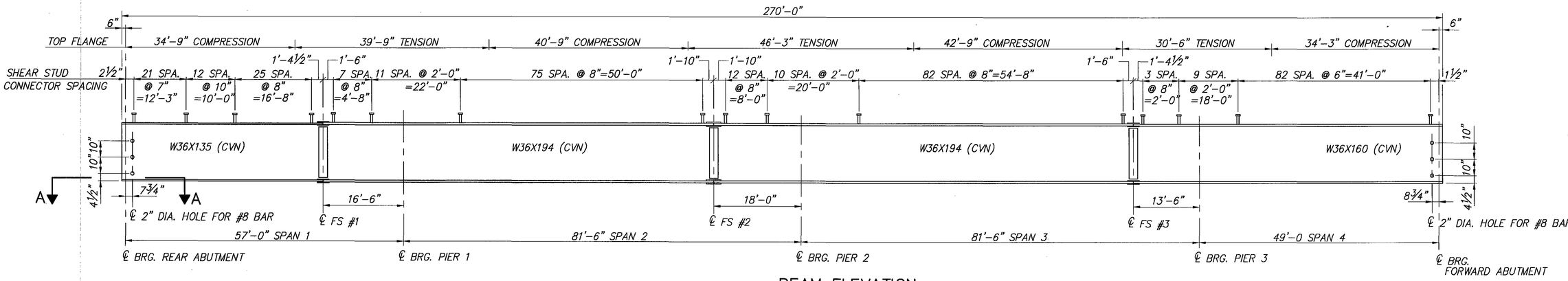
FRAMING PLAN
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

27/45

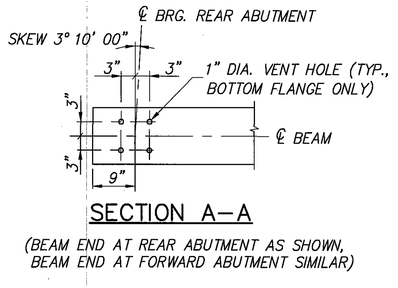
348/369

H:\2002\02117\DWG\BRIDGE\02117B09.DWG PLOT SCALE 1:128



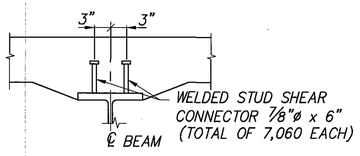
BEAM ELEVATION

(HOLES FOR INTERMEDIATE CROSSFRAMES ARE NOT SHOWN)

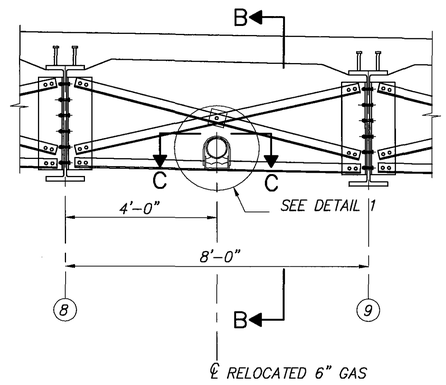


SECTION A–A

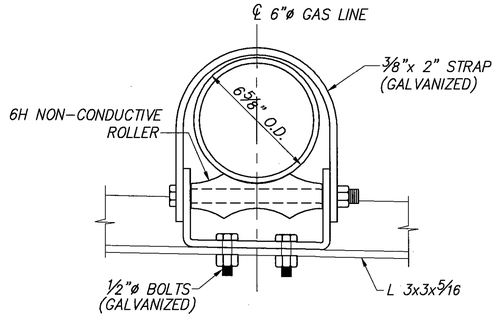
(BEAM END AT REAR ABUTMENT AS SHOWN, BEAM END AT FORWARD ABUTMENT SIMILAR)



TYPICAL STUD SHEAR CONNECTOR DETAIL



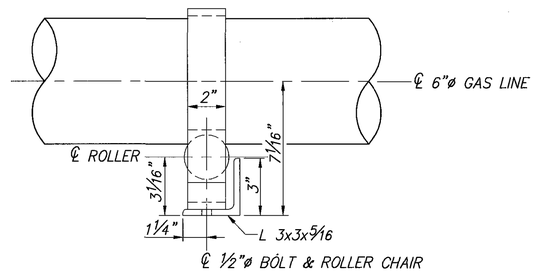
GAS LINE ROLLER CHAIR



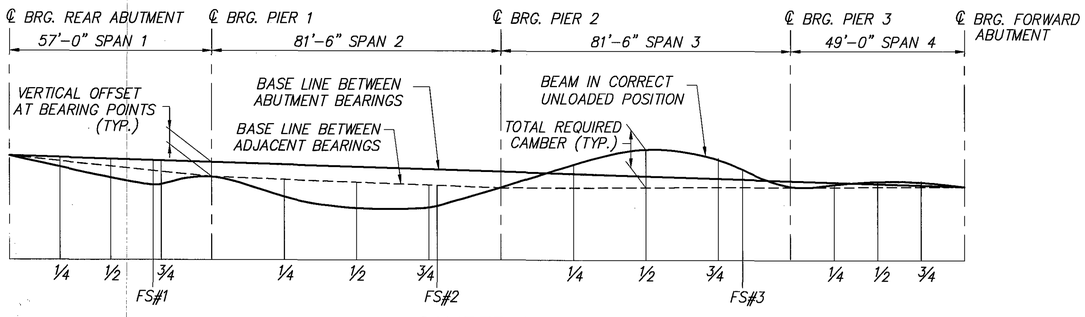
DETAIL 1

LB & A, INC. ROLLER CHAIR DETAIL FOR GAS LINE

(CONNECTED TO EACH HORIZONTAL CROSSFRAME ANGLE BETWEEN BEAMS 8 AND 9.



VIEW B–B



CAMBER DIAGRAM

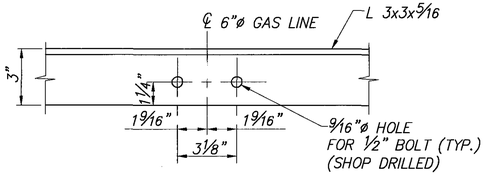
STRUCTURAL STEEL DEFLECTION AND CAMBER TABLE FOR BEAMS 1 THROUGH 10 (IN INCHES)

POINT	SPAN 1				SPAN 2				SPAN 3				SPAN 4		
	¼	½	FS#1	¾	¼	½	¾	FS#2	¼	½	¾	FS#3	¼	½	¾
DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	⅛	3/16	1/16	1/16	1/16	3/16	⅛	1/16	0	0	0
DEFLECTION DUE TO REMAINING DEAD LOAD	5/16	5/16	⅛	⅛	⅜	9/16	⅜	¼	7/16	¾	½	5/16	0	⅛	⅛
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	-7/16	-9/16	-7/16	-7/16	-15/16	-1 3/16	-15/16	-1 3/16	0	0	0	0	0	0	0
REQUIRED SHOP CAMBER	-⅛	-¼	-5/16	-5/16	-7/16	-7/16	-½	-½	½	15/16	⅝	⅜	0	⅛	⅛

NOTE: DEFLECTIONS, CAMBER AND OFFSETS ARE GIVEN TO THE NEAREST 1/16 INCH.

VERTICAL OFFSET AT BEARING POINTS

PIER 1	6 3/16"
PIER 2	6⅞"
PIER 3	2 9/16"



VIEW C–C

STEEL NOTES:

ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50, UNLESS NOTED OTHERWISE.

WELDING OF ATTACHMENTS FOR SUPPORTS OF THE CONCRETE DECK FINISHING MACHINE TO THE TOP FLANGE IS NOT PERMITTED, EVEN IN COMPRESSION AREAS. THE CONTRACTOR MAY WELD SHEAR CONNECTORS AT LOCATIONS OF NECCESSARY SUPPORT AT ANY LOCATION ALONG THE CENTERLINE OF A FLANGE, INCLUDING TENSION AREAS AND THE FASICA BEAMS. THE CONTRACTOR MAY THEN WELD ATTACHMENTS FOR SUPPORTS OF THE CONCRETE DECK FINISHING MACHINE TO THE SHEAR CONNECTORS.

WELDED SHEAR CONNECTORS SHALL NOT BE PLACED WITHIN TWO INCHES OF FIELD SPLICE PLATES NOR WITHIN FOUR DIAMETERS, MEASURED CENTER TO CENTER, OF ANOTHER SHEAR CONNECTOR.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

HIGH STRENGTH BOLTS SHALL BE FOR FIELD SPLICES: 1 1/8" DIA. A325 TYPE I; FOR INTERMEDIATE CROSSFRAME CONNECTIONS: 7/8" DIA. A325 TYPE I.

NOTES:
1. FOR FRAMING PLAN, SEE SHEET 27/45.
2. FOR BRIDGE TRANSVERSE SECTION, SEE SHEET 32/45.
2. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 35/45.
3. FOR FIELD SPLICE DETAILS, SEE ODOT STANDARD DRAWING BS-1-93 SHEETS 1 AND 3 OF 3.
4. ABBREVIATIONS: BRG.-BEARING; TYP.-TYPICAL; SPA.-SPACING; FS-FIELD SPLICE; CVN-CHARPY V-NOTCH.

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STEEL DETAILS
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

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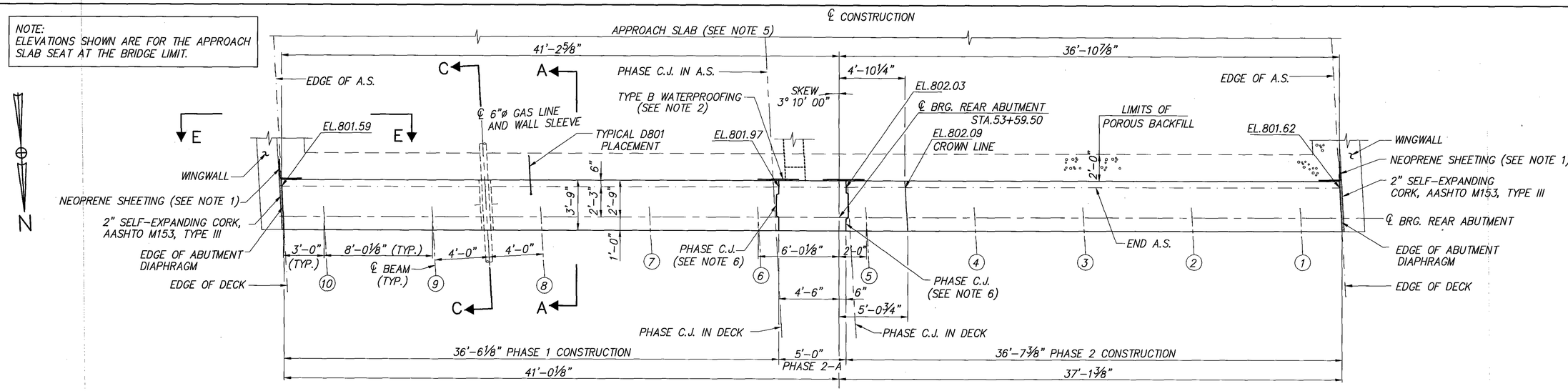
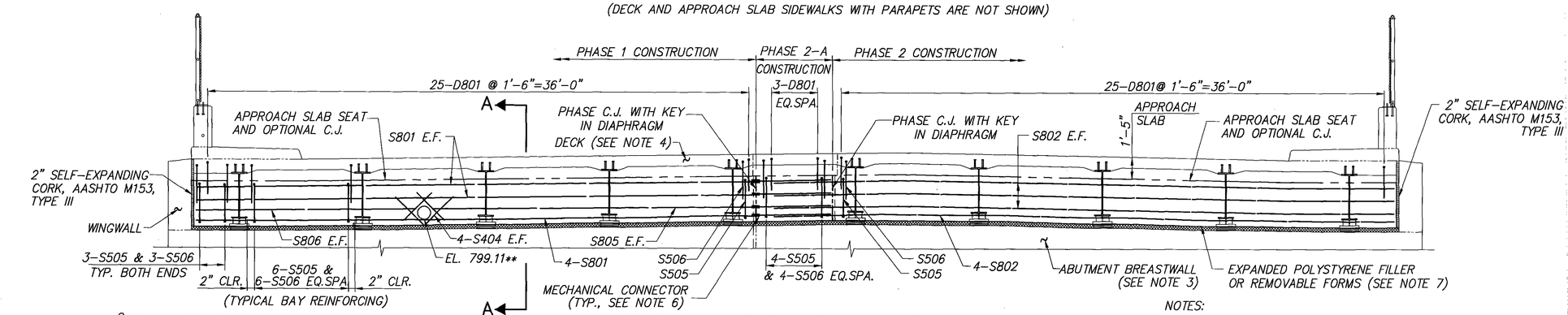
NOTE:
ELEVATIONS SHOWN ARE FOR THE APPROACH SLAB SEAT AT THE BRIDGE LIMIT.



REAR ABUTMENT DIAPHRAGM PLAN

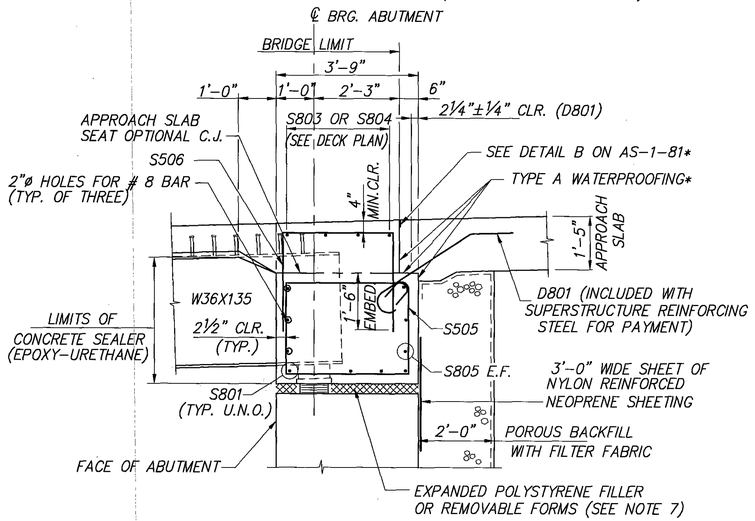
(DECK AND APPROACH SLAB SIDEWALKS WITH PARAPETS ARE NOT SHOWN)



REAR ABUTMENT DIAPHRAGM ELEVATION

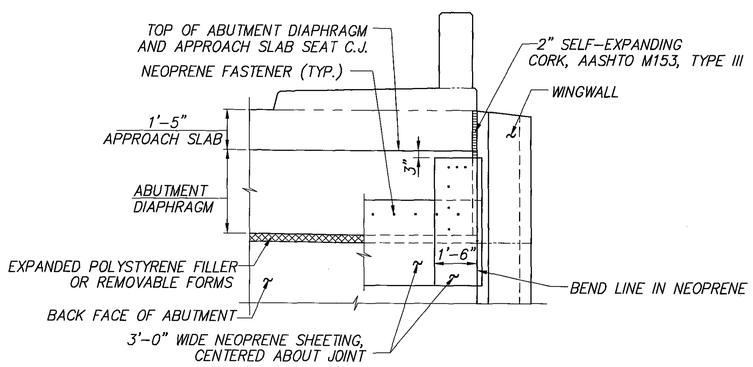
(DECK REINFORCEMENT IS NOT SHOWN)

** ELEVATION GIVEN AT INVERT OF WALL SLEEVE AT N.F. OF ABUTMENT DIAPHRAGM. ADJUST SPACING OF VERTICAL REINFORCING BARS AS NECESSARY TO CLEAR SLEEVE.



* - INCLUDED WITH ITEM 526-REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN FOR PAYMENT.

SECTION A-A



VIEW E-E

NOTES:

1. FOR NEOPRENE SHEETING PLACEMENT AND ADDITIONAL INFORMATION, SEE VIEW E-E ON THIS SHEET AND GENERAL NOTE ON SHEET 5/45.
   PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF NEOPRENE SHEETING SHALL BE UNDER ITEM 516-SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.
2. TYPE B WATERPROOFING, 3'-0" WIDE SHALL BE CENTERED OVER AND EXTEND THE FULL LENGTH OF THE JOINTS IN ABUTMENT DIAPHRAGM.
   TYPE B WATERPROOFING SHALL BE INSTALLED UNDER PHASE 2A CONSTRUCTION PRIOR THE NEOPRENE PLACEMENT.
3. FOR REAR ABUTMENT PLAN AND ELEVATION, SEE SHEET 17/45.
4. FOR DECK REINFORCING PLAN, SEE SHEET 33/45.
5. FOR REAR APPROACH SLAB PLAN, SEE SHEET 36/45.
6. FOR PHASE CONSTRUCTION JOINT DETAIL AND MECHANICAL CONNECTOR NOTE, SEE SHEET 30/45.
7. EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS SHALL BE USED IN FORMING TO PROVIDE THE CLEARANCE REQUIRED BETWEEN THE ABUTMENT AND SUPERSTRUCTURE.
   PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THIS MATERIAL SHALL BE INCIDENTAL TO ITEM 511-CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN.
8. ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE, PHASED CONSTRUCTION: PLACE THE CONCRETE IN THE ABUTMENT DIAPHRAGM ENCASING STRUCTURAL STEEL MEMBERS OF AN INDIVIDUAL PHASE SEPARATELY OR WITH THE DECK CONCRETE OF THAT PHASE. IF THE DIAPHRAGM CONCRETE IS PLACED SEPARATELY, ALLOW AT LEAST 48 HOURS OF SET TIME BEFORE PLACING DECK CONCRETE. LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT. SEE THE DECK CONCRETE PLACEMENT SEQUENCE ON SHEET 33/45 FOR ADDITIONAL REQUIREMENTS.
9. FOR SECTION C-C, SEE SHEET 30/45.
10. ABBREVIATIONS: C.J.-CONSTRUCTION JOINT; TYP.-TYPICAL; CLR.-CLEAR; BRG.-BEARING; STA.-STATION; EL.-ELEVATION; E.F.-EACH FACE; A.S.-APPROACH SLAB; EQ.SPA.-EQUALLY SPACED; EMBED.-EMBEDMENT; MIN.-MINIMUM; N.F.-NEAR FACE; U.N.O.-UNLESS NOTED OTHERWISE.

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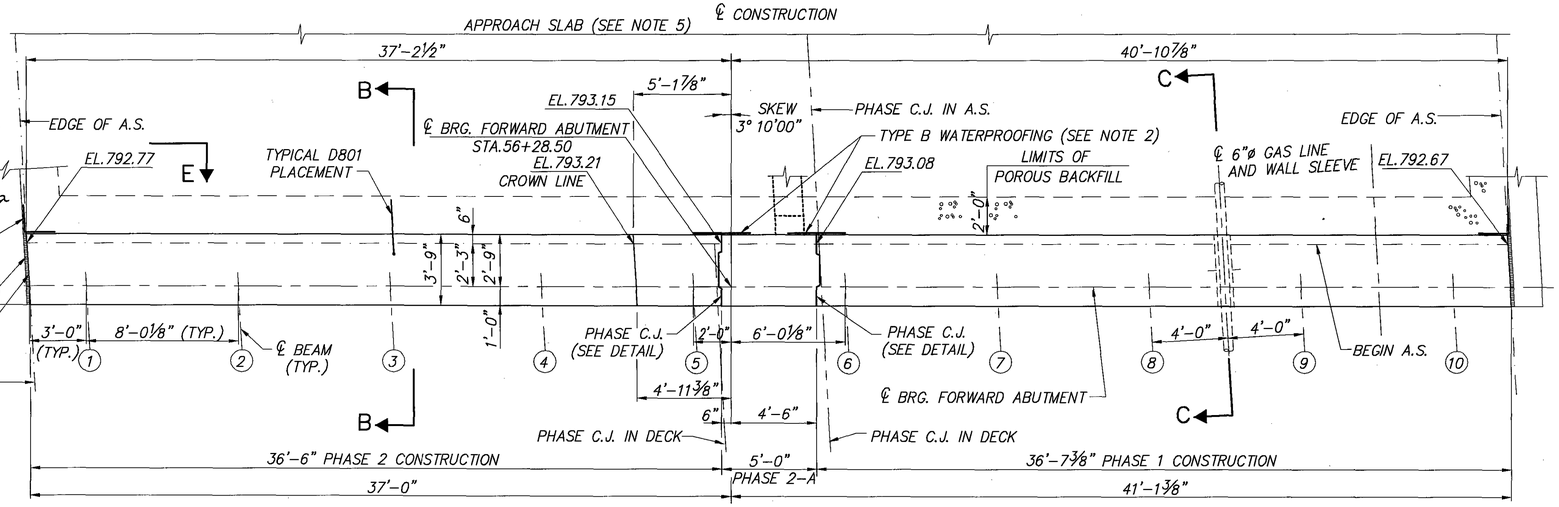
REAR ABUTMENT DIAPHRAGM PLAN AND ELEVATION
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

29/45

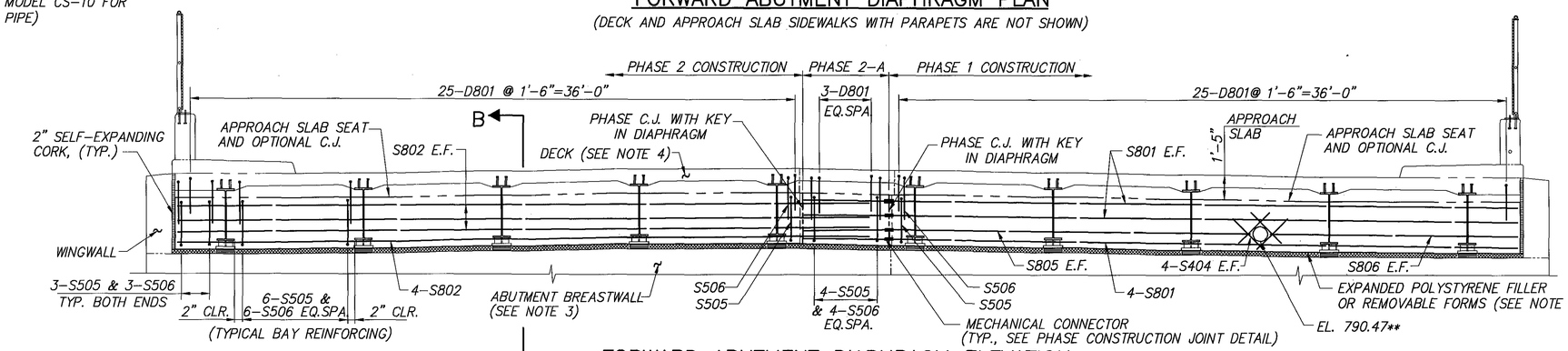
350/369

NOTE:
ELEVATIONS SHOWN ARE FOR THE APPROACH SLAB SEAT AT THE BRIDGE LIMIT.



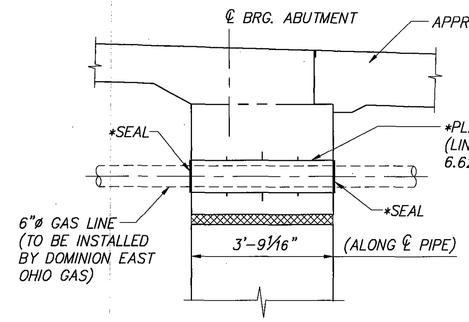
FORWARD ABUTMENT DIAPHRAGM PLAN

(DECK AND APPROACH SLAB SIDEWALKS WITH PARAPETS ARE NOT SHOWN)



FORWARD ABUTMENT DIAPHRAGM ELEVATION

(DECK REINFORCEMENT IS NOT SHOWN)

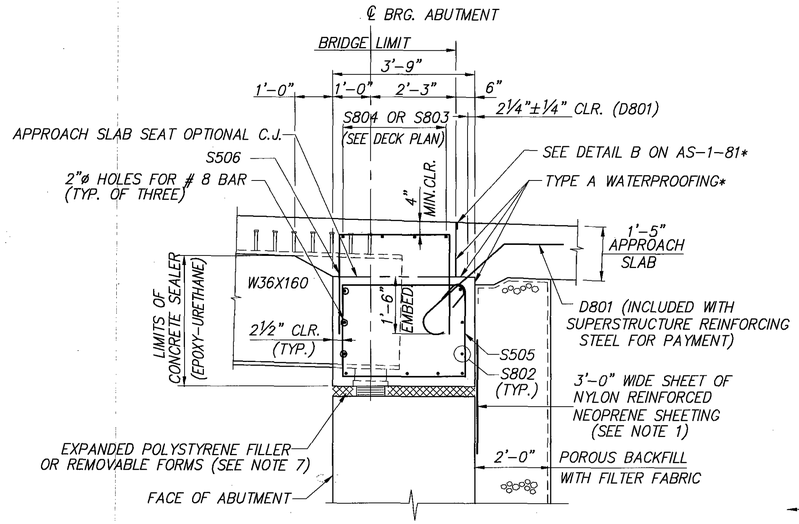


SECTION C-C

PIPE SLEEVE DETAILS FOR 6"ø GAS LINE THROUGH ABUTMENT DIAPHRAGM

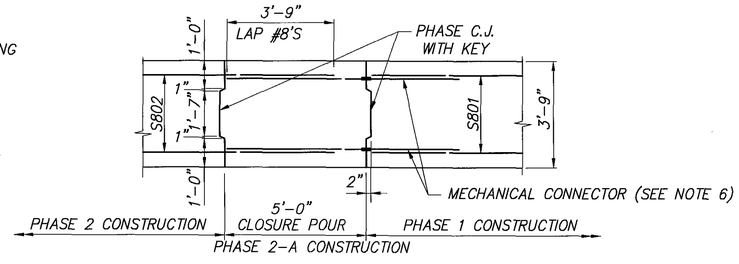
(TYP. FORWARD AND REAR ABUTMENTS)

* MATERIALS TO BE PROVIDED BY DOMINION EAST OHIO GAS AT THEIR EXPENSE.



* - INCLUDE WITH ITEM 526-REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN FOR PAYMENT.

SECTION B-B



ABUTMENT DIAPHRAGM PHASE CONSTRUCTION JOINT DETAIL

(FORWARD ABUTMENT AS SHOWN, REAR ABUTMENT SIMILAR)

** ELEVATION GIVEN AT INVERT OF WALL SLEEVE AT N.F. OF ABUTMENT DIAPHRAGM. ADJUST SPACING OF VERTICAL REINFORCING BARS AS NECESSARY TO CLEAR SLEEVE.

NOTES:

1. FOR NEOPRENE SHEETING PLACEMENT AND ADDITIONAL INFORMATION, SEE VIEW E-E ON SHEET 29/45 AND GENERAL NOTE ON SHEET 5/45.
   PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF NEOPRENE SHEETING SHALL BE UNDER ITEM 516-SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.
2. TYPE B WATERPROOFING, 3'-0" WIDE SHALL BE CENTERED OVER AND EXTEND THE FULL LENGTH OF THE JOINTS IN ABUTMENT DIAPHRAGM.
   TYPE B WATERPROOFING SHALL BE INSTALLED UNDER PHASE 2A CONSTRUCTION PRIOR THE NEOPRENE PLACEMENT.
3. FOR FORWARD ABUTMENT PLAN AND ELEVATION, SEE SHEET 20/45.
4. FOR DECK REINFORCING PLAN, SEE SHEET 33/45.
5. FOR FORWARD APPROACH SLAB PLAN, SEE SHEET 37/45.
6. MECHANICAL CONNECTORS: IF A DOWEL BAR SPLICE CONNECTOR IS FURNISHED, THE DOWEL BAR LAP SPLICE LENGTH SHALL BE 3'-9".
   FOR EPOXY REQUIREMENTS, SEE GENERAL NOTE ON SHEET 4/45.
7. EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS SHALL BE USED IN FORMING TO PROVIDE THE CLEARANCE REQUIRED BETWEEN THE ABUTMENT AND SUPERSTRUCTURE.
   PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THIS MATERIAL SHALL BE INCIDENTAL TO ITEM 511-CLASS HP CONCRETE, SUPERSTRUCTURE. AS PER PLAN.
8. ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE, PHASED CONSTRUCTION: PLACE THE CONCRETE IN THE ABUTMENT DIAPHRAGM ENCASING STRUCTURAL STEEL MEMBERS OF AN INDIVIDUAL PHASE SEPARATELY OR WITH THE DECK CONCRETE OF THAT PHASE. IF THE DIAPHRAGM CONCRETE IS PLACED SEPARATELY, ALLOW AT LEAST 48 HOURS OF SET TIME BEFORE PLACING DECK CONCRETE. LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT. SEE THE DECK CONCRETE PLACEMENT SEQUENCE ON SHEET 33/45 FOR ADDITIONAL REQUIRMENTS.
9. ABBREVIATIONS: C.J.-CONSTRUCTION JOINT; TYP.-TYPICAL; CLR.-CLEAR; BRG.-BEARING; STA.-STATION; EL.-ELEVATION; E.F.-EACH FACE; A.S.-APPROACH SLAB; EQ.SPA.-EQUALLY SPACED; EMBED.-EMBEDMENT; MIN.-MINIMUM; N.F.-NEAR FACE.

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J.P.R.		4.303423	

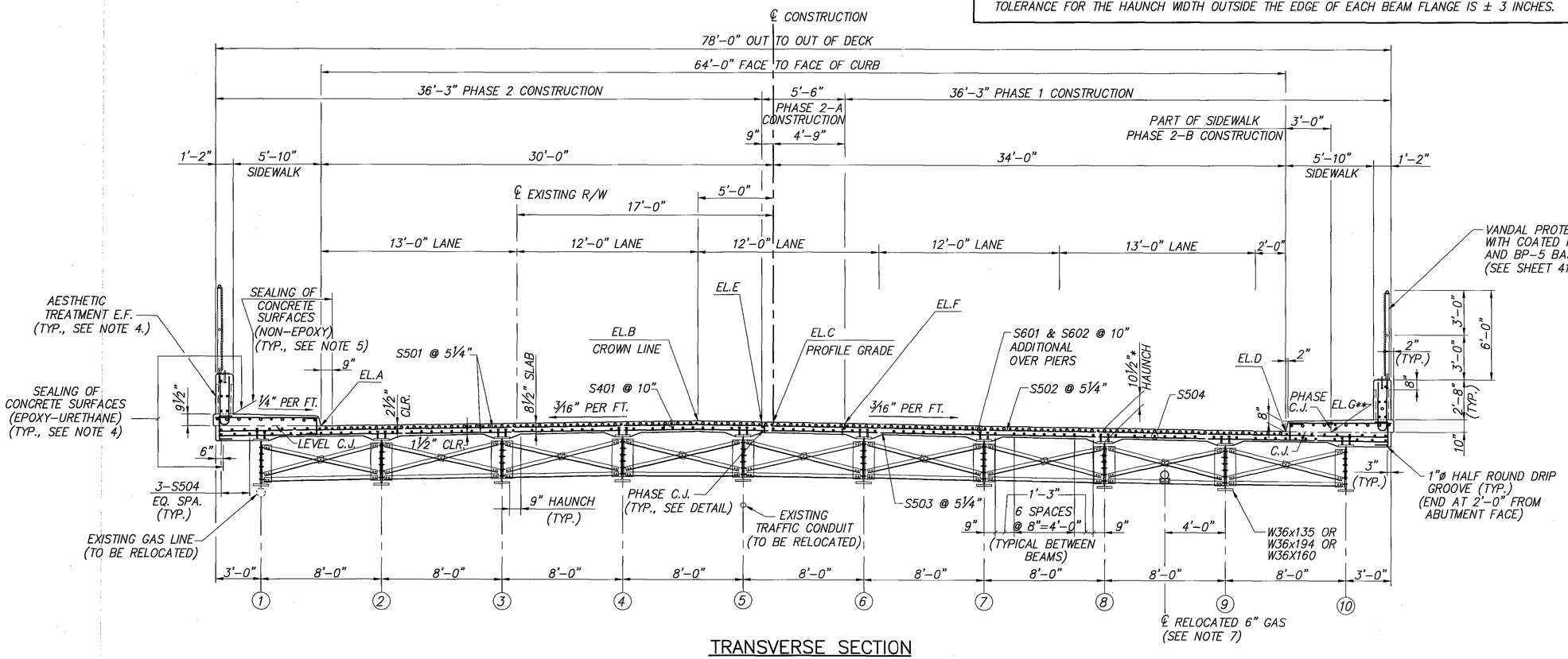
FORWARD ABUTMENT DIAPHRAGM PLAN AND ELEVATION
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

30 / 45

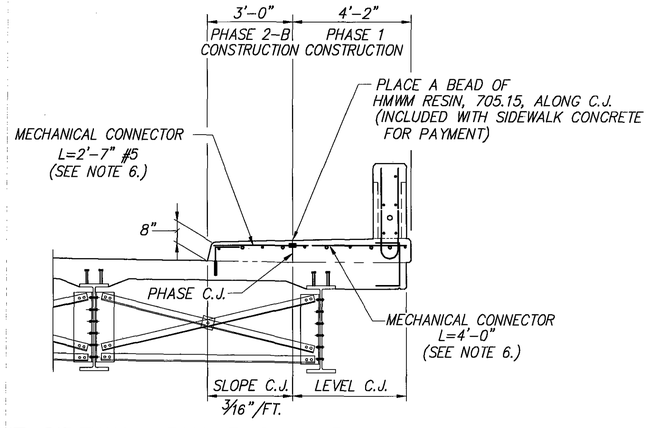
351
369

* DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ± 3 INCHES.

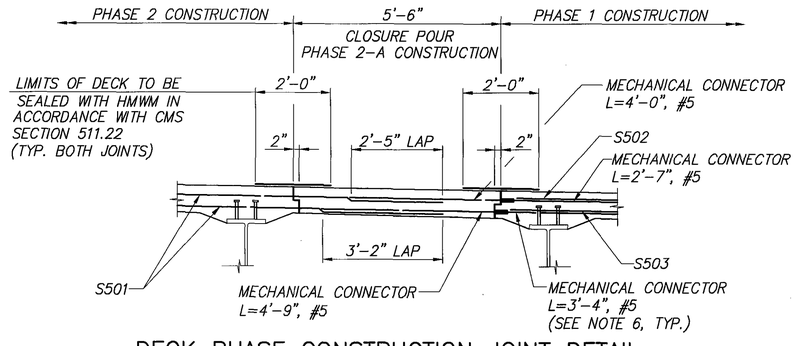


** - EL. G IS THE DECK ELEVATION AT THE PHASE 1 SIDEWALK GUTTER LINE.

TRANSVERSE SECTION



RIGHT SIDEWALK PHASE CONSTRUCTION JOINT DETAIL



DECK PHASE CONSTRUCTION JOINT DETAIL

NOTES:

1. FOR DECK REINFORCING PLAN, SEE SHEET 33/45.
2. FOR SIDEWALK AND PARAPET PLAN, ELEVATION AND SECTIONS, SEE SHEET 34/45.
3. FOR DECK SCREED ELEVATIONS TABLE, SEE SHEET 32/45.
4. FOR SEALING COLORS AND AESTHETIC TREATMENT DETAILS, SEE SHEET 39/45.
5. DO NOT TINT THE SEALER FOR THE WALK AREAS.
6. MECHANICAL CONNECTORS: IF A DOWEL BAR SPLICE CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE FURNISHED SHALL BE GIVEN BY THE "L" DIMENSION SHOWN IN THE PHASE CONSTRUCTION JOINT DETAILS ON THIS SHEET. FOR THE RIGHT SIDEWALK, NO ADDITIONAL TRANSVERSE REINFORCING IS REQUIRED IF "L" LONGITUDINAL MECHANICAL CONNECTORS ARE INSTALLED. SEE GENERAL NOTE ON SHEET 4/45 FOR ADDITIONAL INFORMATION.
7. FOR RELOCATED 6" GAS PIPE SUPPORT DETAILS, SEE SHEET 28/45.
8. FOR ELEVATIONS A THRU G, SEE THE SCREED TABLE ON SHEET 32/45.
9. ABBREVIATIONS: TYP.-TYPICAL; C.J.-CONSTRUCTION JOINT; E.F.-EACH FACE; CLR.-CLEAR; EL-ELEVATION; EQ. SPA.-EQUALLY SPACED; SPA.-SPACES.

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TRANSVERSE SECTION
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

	SPAN 1						SPAN 2					SPAN 3					SPAN 4				
POINT	STATION ℄ R.A.	STATION ¼ SPAN	STATION ½ SPAN	STATION F.S. #1	STATION ¾ SPAN	STATION ℄ PIER 1	STATION ¼ SPAN	STATION ½ SPAN	STATION ¾ SPAN	STATION F.S. #2	STATION ℄ PIER 2	STATION ¼ SPAN	STATION ½ SPAN	STATION ¾ SPAN	STATION F.S. #3	STATION ℄ PIER 3	STATION ¼ SPAN	STATION ½ SPAN	STATION ¾ SPAN	STATION ℄ F.A.
BEAM LINE 1	53+61.38 802.94	53+75.63 802.34	53+89.88 801.74	54+01.88 801.24	54+04.13 801.15	54+18.38 800.59	54+38.76 799.88	54+59.13 799.20	54+79.51 798.53	54+81.88 798.46	54+99.88 797.91	55+20.26 797.37	55+40.63 796.83	55+61.01 796.24	55+67.88 796.03	55+81.38 795.63	55+93.63 795.28	56+05.88 794.95	56+18.13 794.61	56+30.38 794.26
GUTTER LINE (EL. A)	53+61.16 802.95	53+75.41 802.35	53+89.66 801.75		54+03.91 801.16	54+18.16 800.60	54+38.53 799.89	54+58.91 799.21	54+79.28 798.54		54+99.66 797.92	55+20.03 797.38	55+40.41 796.84	55+60.78 796.25		55+81.16 795.64	55+93.41 795.29	56+05.66 794.96	56+17.91 794.61	56+30.16 794.26
BEAM LINE 2	53+60.94 803.02	53+75.19 802.42	53+89.44 801.82	54+01.44 801.33	54+03.69 801.23	54+17.94 800.67	54+38.31 799.96	54+58.69 799.28	54+79.06 798.61	54+81.44 798.53	54+99.44 797.99	55+19.81 797.45	55+40.19 796.91	55+60.56 796.32	55+67.44 796.11	55+80.94 795.70	55+93.19 795.36	56+05.44 795.02	56+17.69 794.68	56+29.94 794.33
BEAM LINE 3	53+60.50 803.17	53+74.75 802.57	53+89.00 801.97	54+01.00 801.47	54+03.25 801.38	54+17.50 800.81	54+37.87 800.10	54+58.25 799.42	54+78.62 798.75	54+81.00 798.67	54+99.00 798.12	55+19.37 797.59	55+39.75 797.05	55+60.12 796.45	55+67.00 796.25	55+80.50 795.84	55+92.75 795.50	56+05.00 795.16	56+17.25 794.82	56+29.50 794.47
BEAM LINE 4	53+60.05 803.31	53+74.30 802.71	53+88.55 802.11	54+00.55 801.61	54+02.80 801.52	54+17.05 800.96	54+37.43 800.24	54+57.80 799.56	54+78.18 798.89	54+80.55 798.81	54+98.55 798.26	55+18.93 797.72	55+39.30 797.18	55+59.68 796.59	55+66.55 796.38	55+80.05 795.98	55+92.30 795.63	56+04.55 795.30	56+16.80 794.96	56+29.05 794.61
CROWN LINE (EL. B)	53+59.78 803.40	53+74.03 802.80	53+88.28 802.20		54+02.53 801.61	54+16.78 801.04	54+37.15 800.33	54+57.53 799.65	54+77.90 798.97		54+98.28 798.35	55+18.65 797.81	55+39.03 797.27	55+59.40 796.68		55+79.78 796.06	55+92.03 795.72	56+04.28 795.38	56+16.53 795.04	56+28.78 794.69
BEAM LINE 5	53+59.61 803.36	53+73.86 802.76	53+88.11 802.16	54+00.11 801.66	54+02.36 801.57	54+16.61 801.00	54+36.99 800.28	54+57.36 799.60	54+77.74 798.93	54+80.11 798.85	54+98.11 798.30	55+18.49 797.77	55+38.86 797.23	55+59.24 796.63	55+66.11 796.43	55+79.61 796.02	55+91.86 795.68	56+04.11 795.34	56+16.36 795.00	56+28.61 794.65
EL. E	53+59.54 803.35	53+73.79 802.74	53+88.04 802.14		54+02.29 801.55	54+16.54 800.99	54+36.92 800.27	54+57.29 799.59	54+77.67 798.91		54+98.04 798.29	55+18.42 797.75	55+38.79 797.21	55+59.17 796.62		55+79.54 796.00	55+91.79 795.66	56+04.04 795.32	56+16.29 794.98	56+28.54 794.63
PROFILE GRADE (EL. C)	53+59.50 803.34	53+73.75 802.73	53+88.00 802.13		54+02.25 801.54	54+16.50 800.98	54+36.88 800.26	54+57.25 799.58	54+77.63 798.90		54+98.00 798.28	55+18.38 797.74	55+38.75 797.20	55+59.13 796.61		55+79.50 795.99	55+91.75 795.65	56+04.00 795.31	56+16.25 794.97	56+28.50 794.62
EL. F	53+59.24 803.28	53+73.49 802.67	53+87.74 802.07		54+01.99 801.48	54+16.24 800.91	54+36.61 800.19	54+56.99 799.51	54+77.36 798.84		54+97.74 798.21	55+18.11 797.67	55+38.49 797.13	55+58.86 796.54		55+79.24 795.93	55+91.49 795.58	56+03.74 795.25	56+15.99 794.91	56+28.24 794.56
BEAM LINE 6	53+59.17 803.26	53+73.42 802.66	53+87.67 802.05	53+99.67 801.55	54+01.92 801.46	54+16.17 800.90	54+36.54 800.18	54+56.92 799.49	54+77.29 798.82	54+79.67 798.74	54+97.67 798.19	55+18.04 797.66	55+38.42 797.11	55+58.79 796.52	55+65.67 796.31	55+79.17 795.91	55+91.42 795.57	56+03.67 795.23	56+15.92 794.89	56+28.17 794.54
BEAM LINE 7	53+58.73 803.15	53+72.98 802.55	53+87.23 801.95	53+99.23 801.44	54+01.48 801.35	54+15.73 800.79	54+36.10 800.07	54+56.48 799.38	54+76.85 798.71	54+79.23 798.63	54+97.23 798.08	55+17.60 797.54	55+37.98 797.00	55+58.35 796.41	55+65.23 796.20	55+78.73 795.80	55+90.98 795.45	56+03.23 795.12	56+15.48 794.78	56+27.73 794.42
BEAM LINE 8	53+58.28 803.05	53+72.53 802.44	53+86.78 801.84	53+98.78 801.34	54+01.03 801.24	54+15.28 800.68	54+35.66 799.96	54+56.03 799.27	54+76.41 798.60	54+78.78 798.52	54+96.78 797.97	55+17.16 797.43	55+37.53 796.89	55+57.91 796.30	55+64.78 796.09	55+78.28 795.68	55+90.53 795.34	56+02.78 795.00	56+15.03 794.66	56+27.28 794.31
BEAM LINE 9	53+57.84 802.94	53+72.09 802.34	53+86.34 801.73	53+98.34 801.23	54+00.59 801.14	54+14.84 800.57	54+35.22 799.85	54+55.59 799.16	54+75.97 798.49	54+78.34 798.41	54+96.34 797.85	55+16.72 797.32	55+37.09 796.78	55+57.47 796.18	55+64.34 795.98	55+77.84 795.57	55+90.09 795.23	56+02.34 794.89	56+14.59 794.55	56+26.84 794.20
GUTTER LINE (EL. D)	53+57.62 802.89	53+71.87 802.28	53+86.12 801.68		54+00.37 801.08	54+14.62 800.52	54+34.99 799.79	54+55.37 799.11	54+75.74 798.43		54+96.12 797.80	55+16.49 797.26	55+36.87 796.72	55+57.24 796.13		55+77.62 795.52	55+89.87 795.17	56+02.12 794.84	56+14.37 794.49	56+26.62 794.14
GUTTER LINE (EL. G)	53+57.45 802.85	53+71.70 802.24	53+85.95 801.64		54+00.20 801.04	54+14.45 800.48	54+34.82 799.75	54+55.20 799.07	54+75.57 798.39		54+95.95 797.76	55+16.32 797.22	55+36.70 796.68	55+57.07 796.08		55+77.45 795.47	55+89.70 795.13	56+01.95 794.79	56+14.20 794.45	56+26.45 794.10
BEAM LINE 10	53+57.40 802.85	53+71.65 802.25	53+85.90 801.64	53+97.90 801.14	54+00.15 801.05	54+14.40 800.48	54+34.77 799.75	54+55.15 799.07	54+75.52 798.39	54+77.90 798.31	54+95.90 797.76	55+16.27 797.22	55+36.65 796.68	55+57.02 796.09	55+63.90 795.88	55+77.40 795.47	55+89.65 795.13	56+01.90 794.79	56+14.15 794.45	56+26.40 794.10

SCREED ELEVATIONS SHOWN ARE FOR DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT.
ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

SCREED ELEVATIONS

NOTE:

1. FOR BRIDGE TRANSVERSE SECTION, SEE SHEET 31/45.
2. ABBREVIATIONS: EL.–ELEVATION; R.A.–REAR ABUTMENT; F.A.–FORWARD ABUTMENT.

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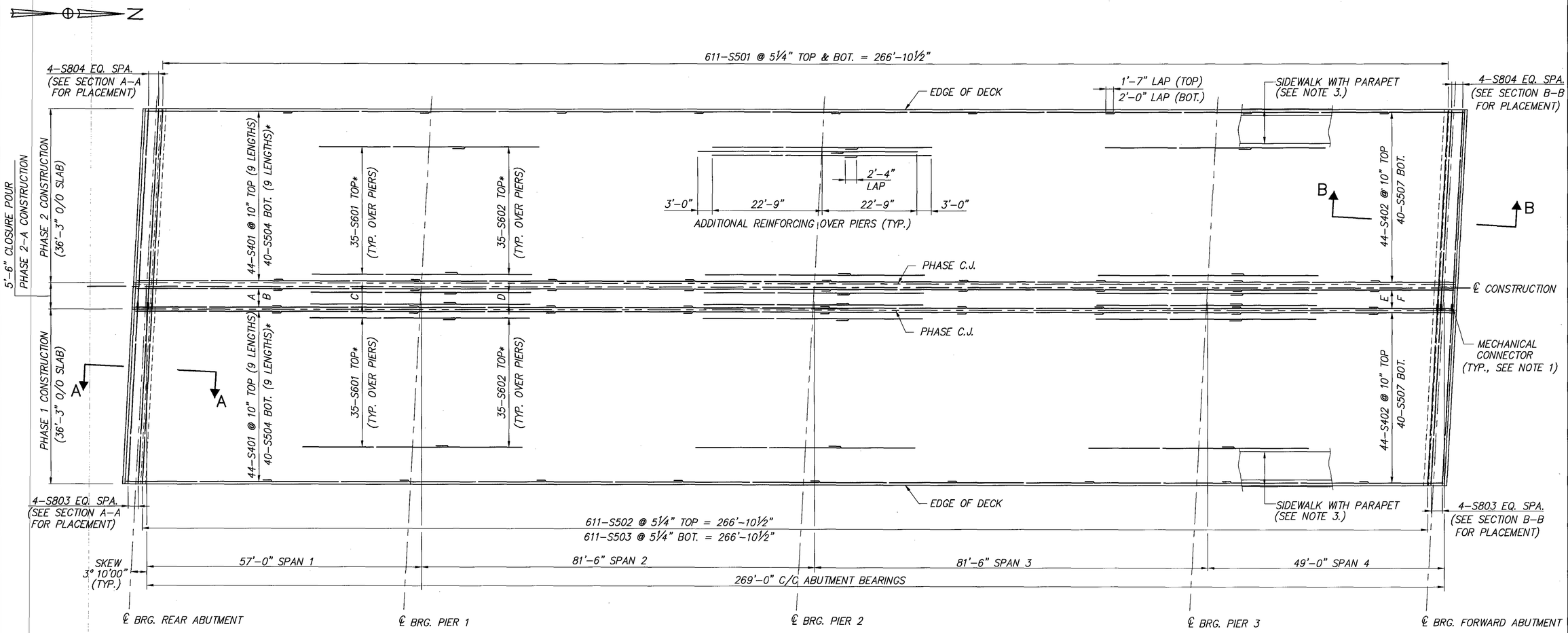
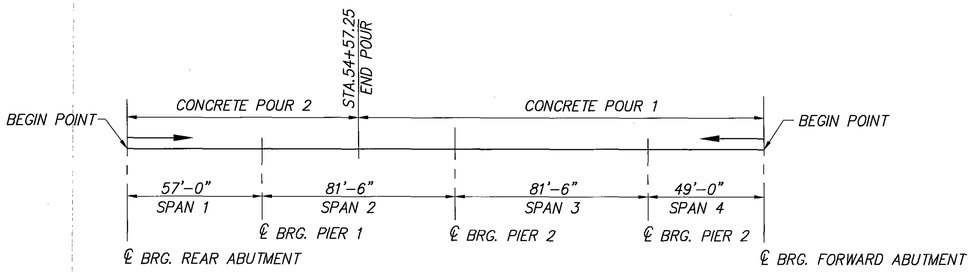
DECK SCREED ELEVATIONS
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43



DECK PLAN



NOTE: IN ORDER TO PREVENT THE REAR ABUTMENT BEARINGS FROM UPLIFTING DURING DECK CONCRETE PLACEMENT, THE CONTRACTOR SHALL PLACE THE DECKS IN CONSTRUCTION PHASES 1 AND 2 IN TWO POURS AS SHOWN ABOVE. THE RESULTING TRANSVERSE DECK JOINT SHALL BE SEALED WITH 2'–0" WIDE STRIP OF HIGH MOLECULAR WEIGHT METHACRYLATE RESIN ACCORDING TO 511.22, AND THIS IS INCLUDED WITH DECK CONCRETE FOR PAYMENT.

AS AN ALTERNATIVE, THE CONTRACTOR MAY POUR THE REAR ABUTMENT DIAPHRAGM AT LEAST 48 HOURS BEFORE PLACING THE DECK CONCRETE. DECK CONCRETE PLACING SHALL THEN PROCEED FROM THE FORWARD ABUTMENT TO THE REAR ABUTMENT IN A CONTINUOUS POUR.
FOR REAR ABUTMENT DIAPHRAGM DETAILS AND NOTES, SEE SHEET 29/45.

DECK CONCRETE PLACEMENT SEQUENCE

A = 6–S401 @ 10" TOP (9 LENGTHS)
B = 7–S504 BOT.* (9 LENGTHS)
C = 7–S601 TOP* (TYP. OVER PIERS)
D = 7–S602 TOP* (TYP. OVER PIERS)
E = 6–S402 @ 10" TOP
F = 7–S507 BOT.*

* – FOR PLACEMENT, SEE TRANSVERSE SECTION.

NOTES:
1. FOR BRIDGE TRANSVERSE SECTION AND CONSTRUCTION JOINT DETAIL, SEE SHEET 31/45.
2. FOR SECTION A–A, SEE SHEET 29/45.
   FOR SECTION B–B, SEE SHEET 30/45.
3. FOR SIDEWALK AND PARAPET PLAN, SEE SHEET 34/45.
4. ABBREVIATIONS: BRG.–BEARING; TYP.–TYPICAL; BOT.–BOTTOM; C.J.–CONSTRUCTION JOINT; EQ. SPA.–EQUALLY SPACED.

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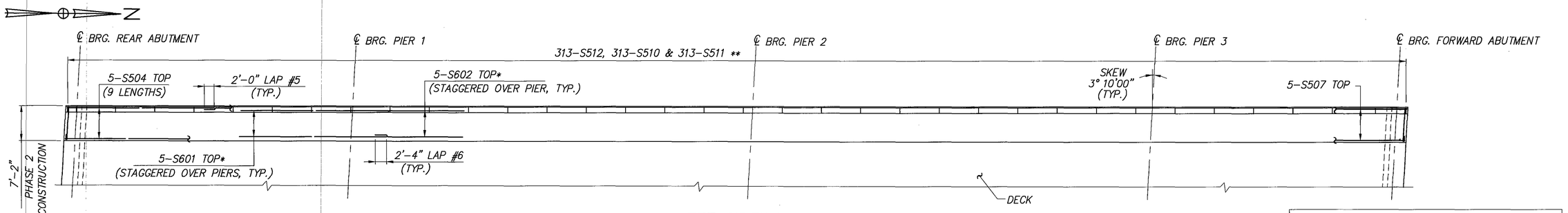
CHECKED J.P.R. | REVISED | STRUCTURE FILE NUMBER 4303423

DECK REINFORCING PLAN
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43

33 / 45

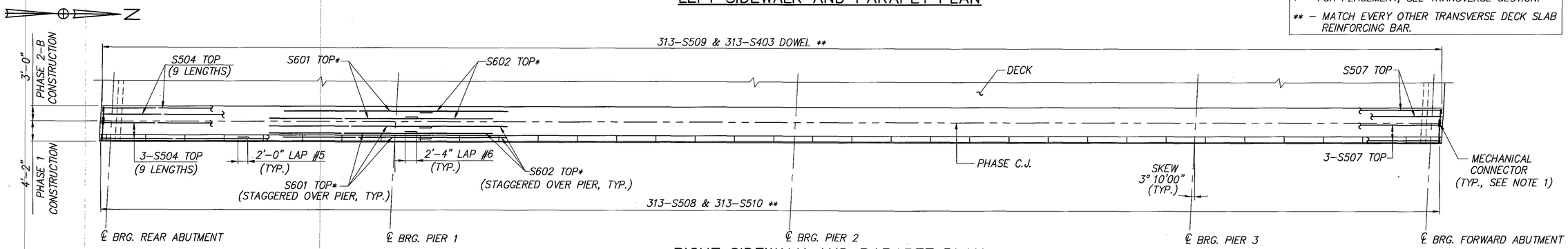
354 / 369



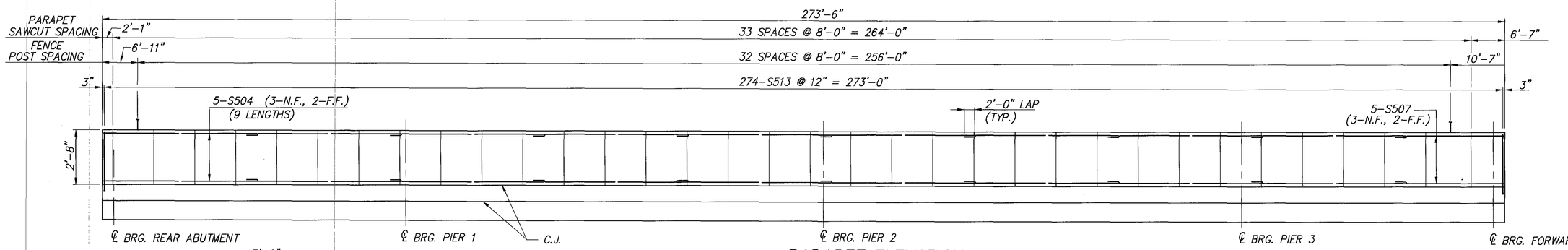
LEFT SIDEWALK AND PARAPET PLAN

* – FOR PLACEMENT, SEE TRANSVERSE SECTION.

** – MATCH EVERY OTHER TRANSVERSE DECK SLAB REINFORCING BAR.



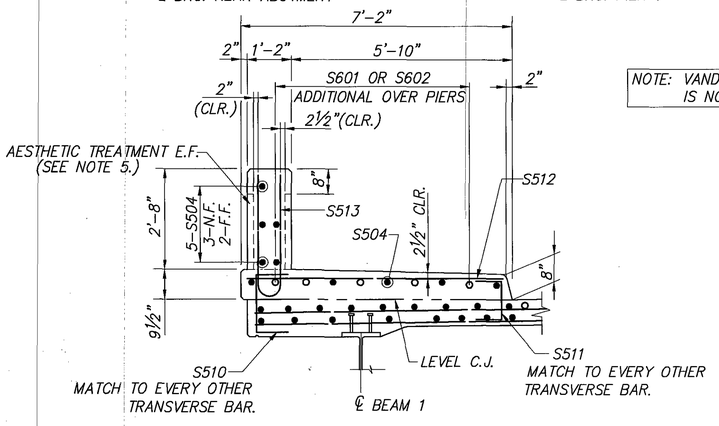
RIGHT SIDEWALK AND PARAPET PLAN



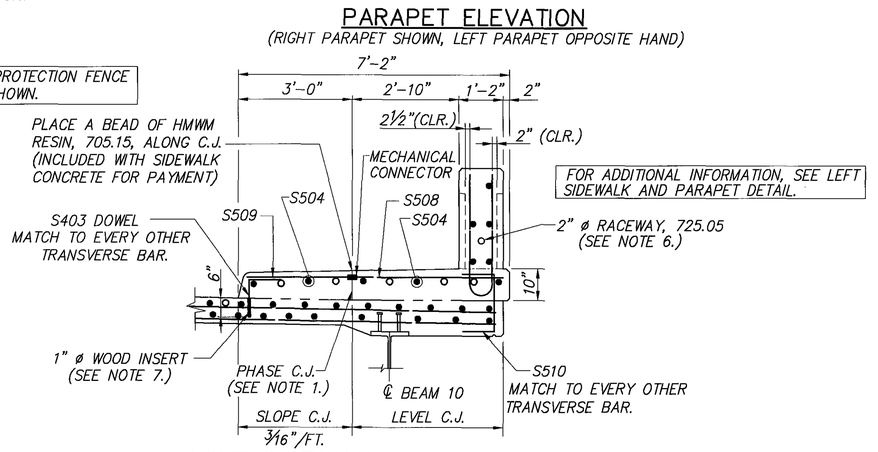
PARAPET ELEVATION

(RIGHT PARAPET SHOWN, LEFT PARAPET OPPOSITE HAND)

NOTE: VANDAL PROTECTION FENCE IS NOT SHOWN.



LEFT SIDEWALK AND PARAPET DETAIL



RIGHT SIDEWALK AND PARAPET DETAIL

NOTES:

1. FOR BRIDGE TRANSVERSE SECTION AND RIGHT SIDEWALK PHASE CONSTRUCTION JOINT DETAIL, SEE SHEET 31/45.
2. PAYMENT FOR SIDEWALK CONCRETE SHALL BE UNDER ITEM 511–CLASS HP CONCRETE, SIDEWALK, AS PER PLAN.
3. PAYMENT FOR PARAPETS CONCRETE SHALL BE UNDER ITEM 511–CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.
4. FOR PARAPET SAWCUTTING AND CAULKING REQUIREMENTS, SEE "CONCRETE PARAPETS" GENERAL NOTE ON SHEET 5/45 AND "ITEM 511–CLASS HP CONCRETE BRIDGE DECK (PARAPET), AS PER PLAN" GENERAL NOTE ON SHEET 10/45. PAYMENT FOR SAWCUTS AND FOR CAULKING COMPOUND SHALL BE INCIDENTAL TO ITEM 511–CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.
5. FOR SEALING COLORS AND AESTHETIC TREATMENT DETAILS, SEE SHEET 39/45.
6. THE ESTIMATED QUANTITY OF 2" DIAMETER RACEWAY IS CARRIED TO THE TRAFFIC CONTROL SUBSUMMARY SHEET.
7. TIE 1"ø WOOD INSERT TO EVERY OTHER #5 TOP TRANSVERSE BAR. SEE ITEM 510–DOWEL HOLES WITH CEMENT GROUT, AS PER PLAN GENERAL NOTE ON SHEET 4/45 FOR ADDITIONAL INFORMATION.
8. ABBREVIATIONS: TYP.–TYPICAL; BRG.–BEARING; N.F.–NEAR FACE; F.F.–FAR FACE; C.J.–CONSTRUCTION JOINT; E.F.–EACH FACE; CLR.–CLEAR.

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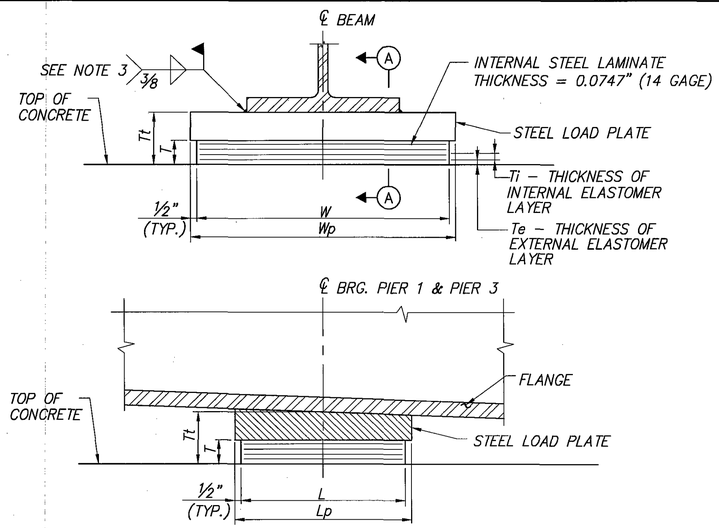
STRUCTURE FILE NUMBER 4303423

SIDEWALK AND PARAPET PLAN

BRIDGE NO. LAK–0184R–0082

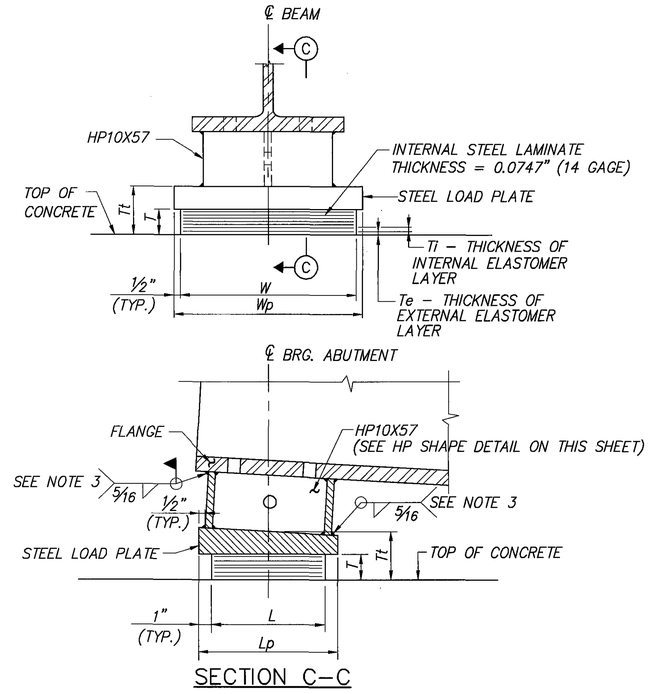
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43



SECTION A–A

LAMINATED ELASTOMERIC EXPANSION BEARING AT PIERS



SECTION C–C

LAMINATED ELASTOMERIC EXPANSION BEARING AT ABUTMENTS

NOTES

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

2. ACCEPTANCE OF THE BEARING SHALL BE ACCORDING TO ARTICLE 711.23 OF THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS.

   THE MANUFACTURER SHALL FURNISH CERTIFIED TEST DATA AND SHALL SUPPLY A SAMPLE BEARING OF EACH DESIGN, AS SHOWN ON THE PLANS, FOR DESTRUCTIVE TESTING AND APPROVAL PURPOSES.

   SAMPLE BEARINGS WILL NOT BE PAID DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL TO THE ITEM 516.

3. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

4. BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80° F OR LOWER THAN 40° F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60° F (±) 10° F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60° F (±) 10° F.

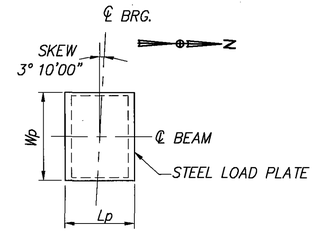
5. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

   THE STEEL LOAD PLATE SHALL BE ASTM A572/A709 GRADE 50 STEEL. SURFACE PREPARATION, PRIMING AND FINISH COATS WITH SYSTEM IZEU. COATING SHALL BE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS.

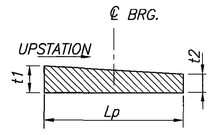
6. THE HP STEEL SHAPE IS CONSIDERED TO BE PART OF ELASTOMERIC BEARINGS.
   THE HP STEEL SHAPE SHALL BE ASTM A572/A709 GRADE 50 STEEL. SURFACE PREPARATION, PRIMING AND FINISH COATS WITH SYSTEM IZEU. COATING SHALL BE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS.

7. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE.

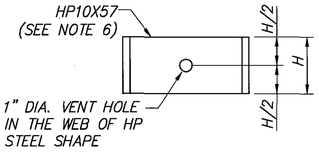
8. BASIS OF PAYMENT: THE UNIT BID PRICE. SHALL INCLUDE ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. SAMPLE BEARING SHALL NOT BE MEASURED FOR PAYMENT.



BEARING ORIENTATION PLAN



STEEL LOAD PLATE DETAIL



HP SHAPE DETAIL

BEARING LOCATION	MARK NO.	BEARING TYPE	NO. REQ'D.	DEAD LOAD KIPS	LIVE LOAD KIPS	TOTAL LOAD (DL+LL) KIPS	L in.	W in.	Ti in.	NO. OF Ti'S	Te (2 EA.) in.	NUMBER OF INTERNAL LAMINATES (14 GAGE)	T in.	STEEL LOAD PLATE, in.				Tt @ ℄ BEARING in.	WELD SIZE in.	HP SHAPE HEIGHT H, in.
														Lp	Wp	t1	t2			
REAR ABUTMENT	E1	EXP.	10	56	58	114	9	14	0.27	8	0.19	9	3 3/16	11	15	2 1/8	1 1/2	5	5/16	4 1/2
PIER 1	E2	EXP.	10	131	96	227	12	19	0.35	5	0.24	6	2 11/16	13	20	2 1/2	2	4 15/16	3/8	
PIER 2	E4	EXP.	10	147	104	251	13	20	0.37	3	0.25	4	1 15/16	14	21	2 3/8	2	4 1/8	3/8	
PIER 3	E2	EXP.	10	122	93	215	12	19	0.35	5	0.24	6	2 11/16	13	20	2 3/8	2	4 7/8	3/8	
FORWARD ABUTMENT	E3	EXP.	10	50	57	107	9	12.5	0.25	9	0.17	10	3 5/16	11	13.5	1 7/8	1 1/2	5	5/16	4 1/8

ABBREVIATIONS: BRG.–BEARING; TYP.–TYPICAL; MIN.–MINIMUM; SPA.–SPACES.

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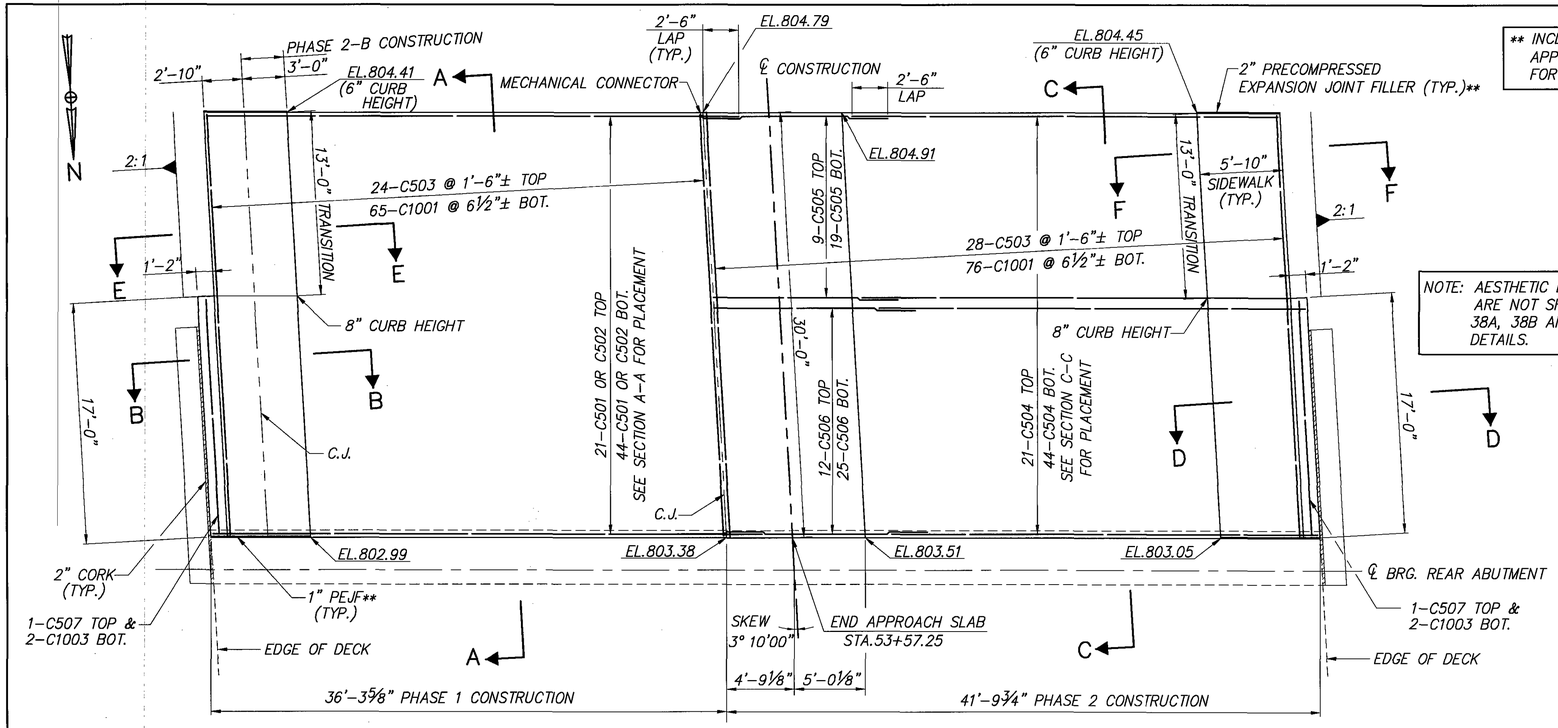
DESIGNED	DRAWN	REVIEWED	DATE
I.A.S.	I.A.S.	W.D.B.	4/15/05
CHECKED	REVISED	STRUCTURE FILE NUMBER	
J.P.R.		4303423	

SUPERSTRUCTURE DETAILS
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

35 / 45

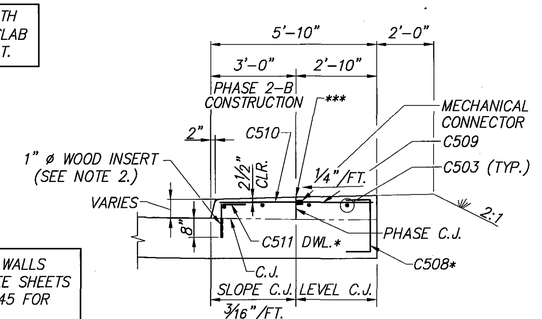
356 / 369



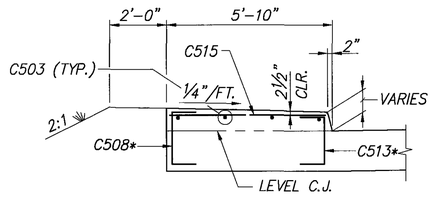
REAR APPROACH SLAB PLAN

** INCLUDED WITH APPROACH SLAB FOR PAYMENT.

NOTE: AESTHETIC BARRIER WALLS ARE NOT SHOWN. SEE SHEETS 38A, 38B AND 38C/45 FOR DETAILS.

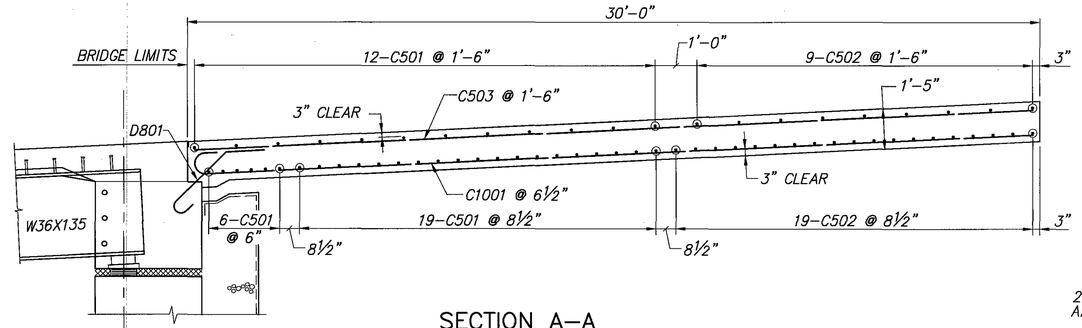


SECTION E–E
(PHASE 1 CONSTRUCTION)



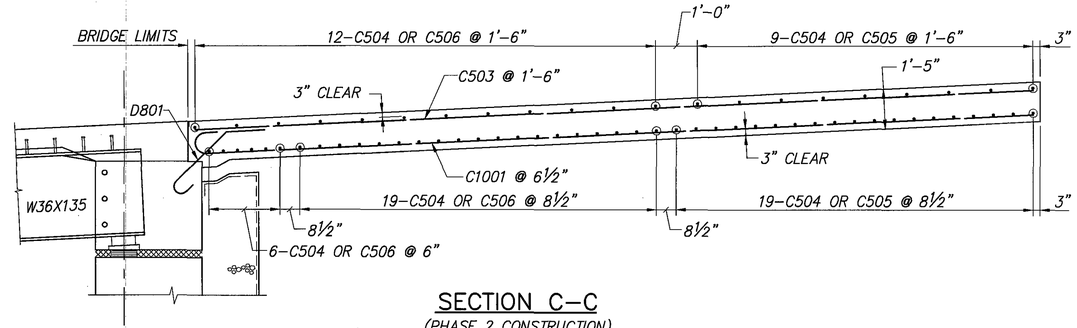
SECTION F–F
(PHASE 2 CONSTRUCTION)

* – MATCH #5 TOP TRANSVERSE APPROACH SLAB BARS AT 1'–6" SPACING
*** – PLACE A BEAD OF HMWM RESIN, 705.15, ALONG C.J. (INCLUDE WITH APPROACH SLAB CONCRETE FOR PAYMENT)



SECTION A–A
(PHASE 1 CONSTRUCTION)

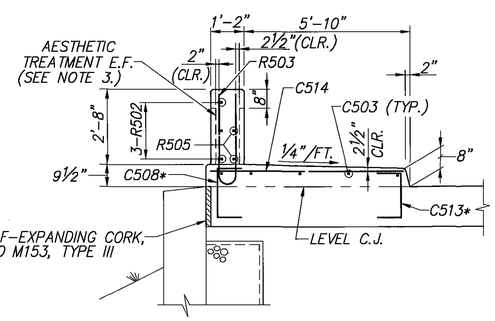
℄ BRG. REAR ABUTMENT



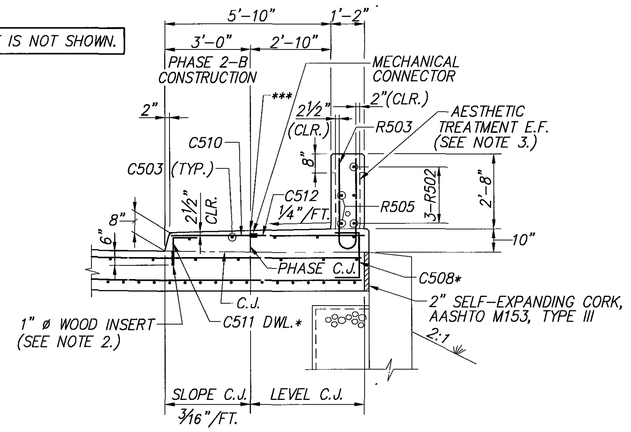
SECTION C–C
(PHASE 2 CONSTRUCTION)

℄ BRG. REAR ABUTMENT

NOTE: VANDAL PROTECTION FENCE IS NOT SHOWN.



SECTION D–D
(PHASE 2 CONSTRUCTION)



SECTION B–B
(PHASE 1 CONSTRUCTION)

NOTES:

1. FOR TYPICAL PARAPET ELEVATIONS, PHASE CONSTRUCTION JOINT DETAILS, SEALING DETAILS AND ADDITIONAL NOTES, SEE SHEET 38/45.
2. TIE 1" ø WOOD INSERT TO EVERY #5 TOP TRANSVERSE BAR. SEE ITEM 510 – DOWEL HOLES WITH CEMENT GROUT, AS PER PLAN GENERAL NOTE ON SHEET 4/45 FOR ADDITIONAL INFORMATION.
3. SEE SHEET 39/45 FOR INFORMATION ON FORM LINER AESTHETIC TREATMENT.
4. ABBREVIATIONS: BRG.–BEARING; TYP.–TYPICAL; C.J.–CONSTRUCTION JOINT; E.F.–EACH FACE; CLR.–CLEAR; BOT.–BOTTOM; DWL.–DOWEL; N.F.–NEAR FACE; F.F.–FAR FACE.

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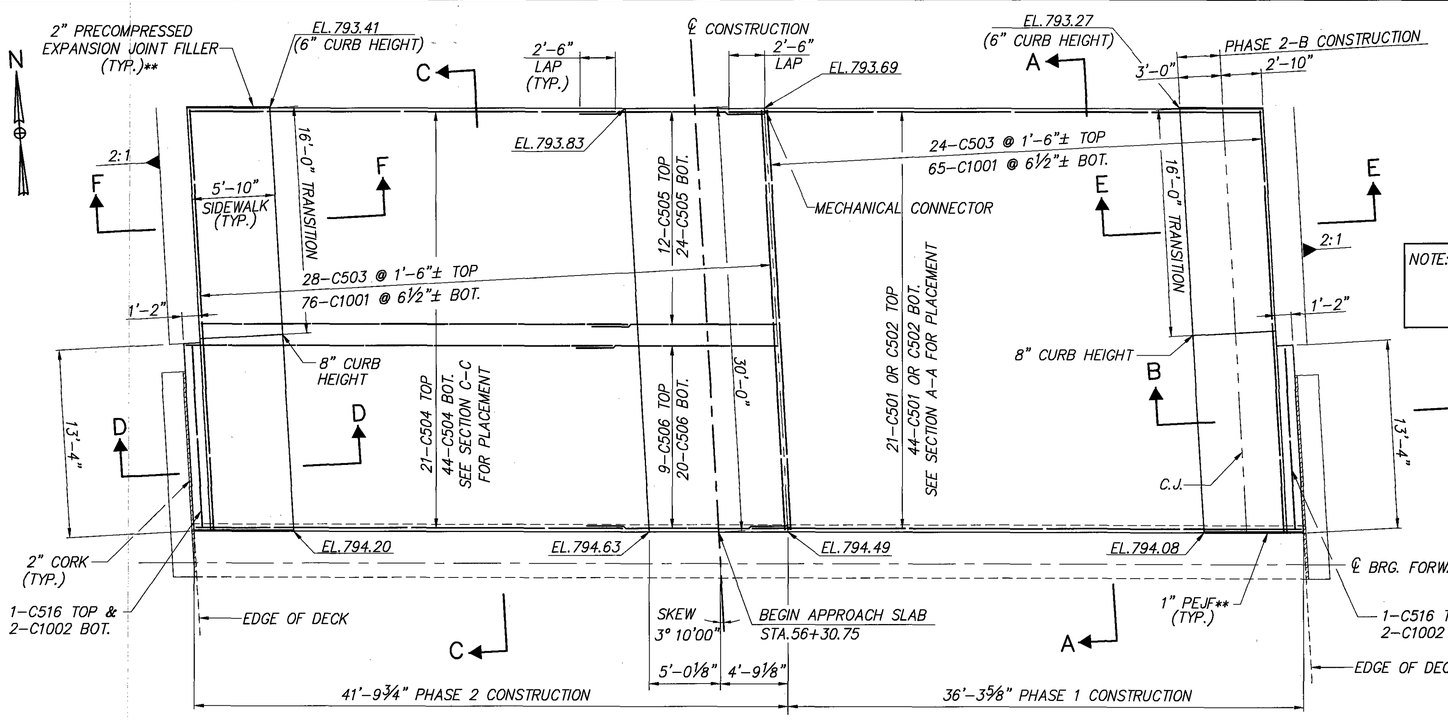
REAR APPROACH SLAB PLAN
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

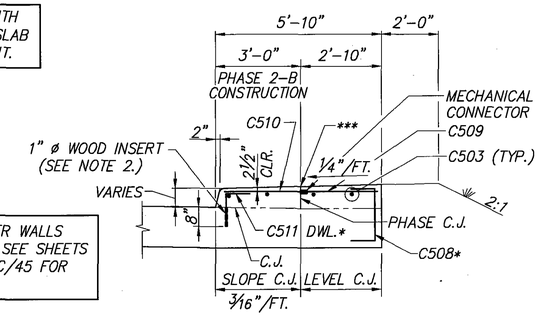
LAK-90/84-0.54/0.43



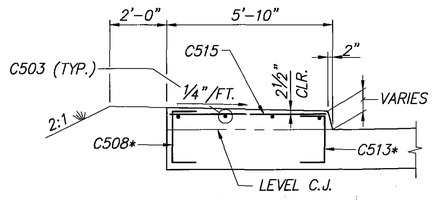
FORWARD APPROACH SLAB PLAN

** INCLUDED WITH APPROACH SLAB FOR PAYMENT.

NOTE: AESTHETIC BARRIER WALLS ARE NOT SHOWN. SEE SHEETS 38A, 38B AND 38C/45 FOR DETAILS.

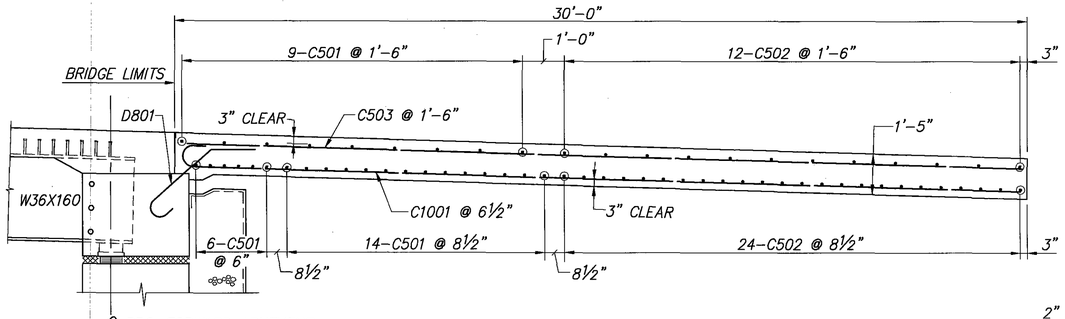


SECTION E-E
(PHASE 1 CONSTRUCTION)

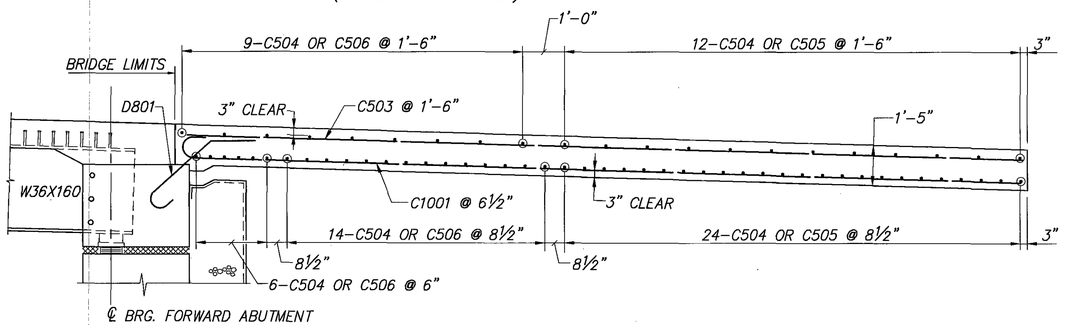


SECTION F-F
(PHASE 2 CONSTRUCTION)

* - MATCH #5 TOP TRANSVERSE APPROACH SLAB BARS AT 1'-6" SPACING
*** - PLACE A BEAD OF HMWM RESIN, 705.15, ALONG C.J. (INCLUDE WITH APPROACH SLAB CONCRETE FOR PAYMENT)

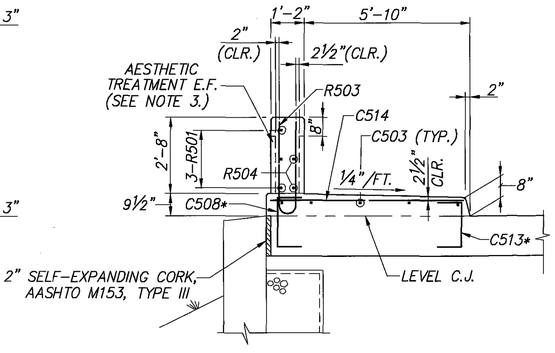


SECTION A-A
(PHASE 1 CONSTRUCTION)

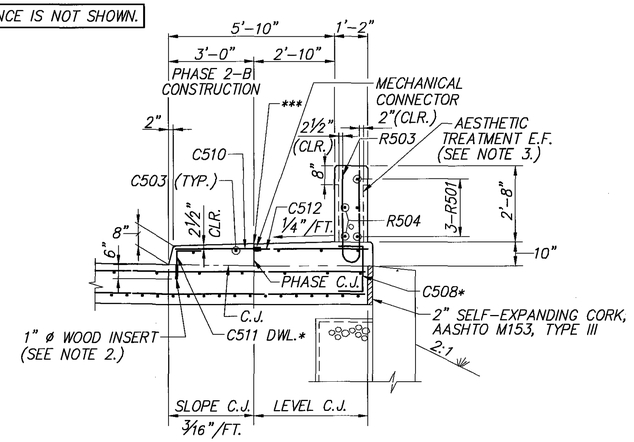


SECTION C-C
(PHASE 2 CONSTRUCTION)

NOTE: VANDAL PROTECTION FENCE IS NOT SHOWN.



SECTION D-D
(PHASE 2 CONSTRUCTION)



SECTION B-B
(PHASE 1 CONSTRUCTION)

NOTES:

1. FOR TYPICAL PARAPET ELEVATIONS, PHASE CONSTRUCTION JOINT DETAILS, SEALING DETAILS AND ADDITIONAL NOTES, SEE SHEET 38/45.
2. TIE 1" ø WOOD INSERT TO EVERY #5 TOP TRANSVERSE BAR. SEE ITEM 510 - DOWEL HOLES WITH CEMENT GROUT, AS PER PLAN GENERAL NOTE ON SHEET 4/45 FOR ADDITIONAL INFORMATION.
3. SEE SHEET 39/45 FOR INFORMATION ON FORM LINER AESTHETIC TREATMENT.
4. ABBREVIATIONS: BRG.-BEARING; TYP.-TYPICAL; C.J.-CONSTRUCTION JOINT; E.F.-EACH FACE; CLR.-CLEAR; BOT.-BOTTOM; DWL.-DOWEL, N.F.-NEAR FACE; F.F.-FAR FACE.

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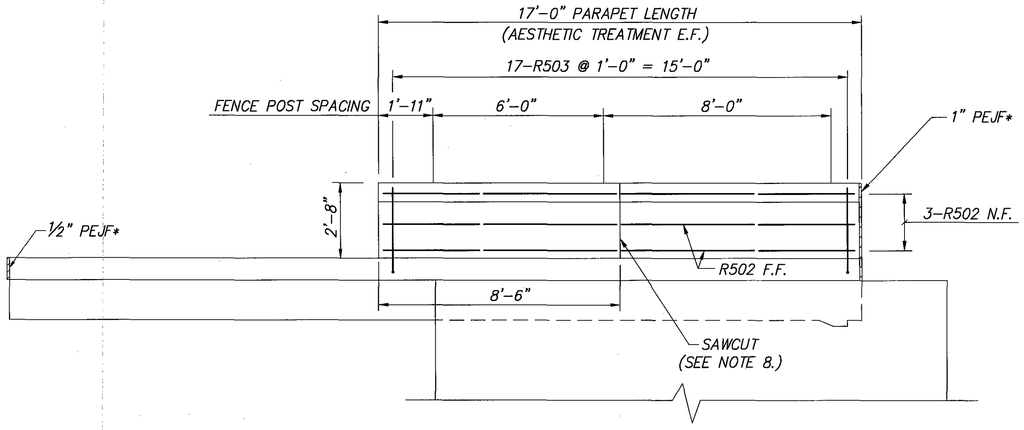
FORWARD APPROACH SLAB PLAN
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

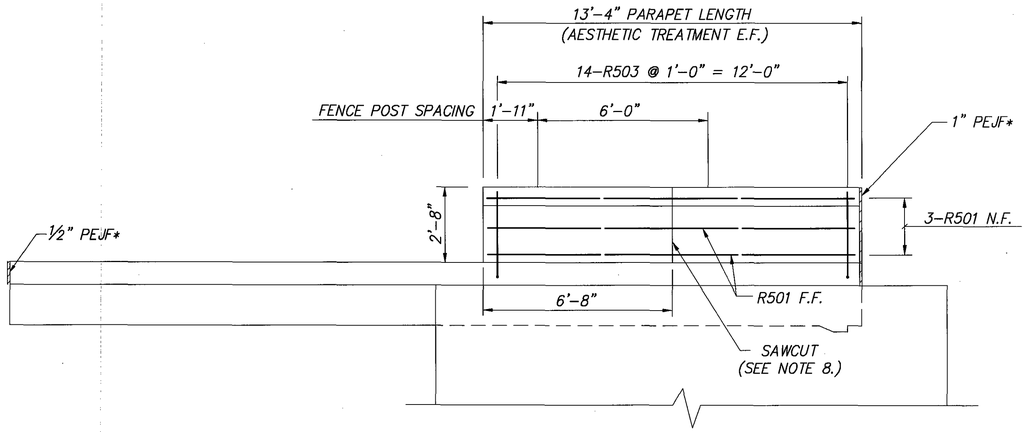
LAK-90/84-0.54/0.43

37/45

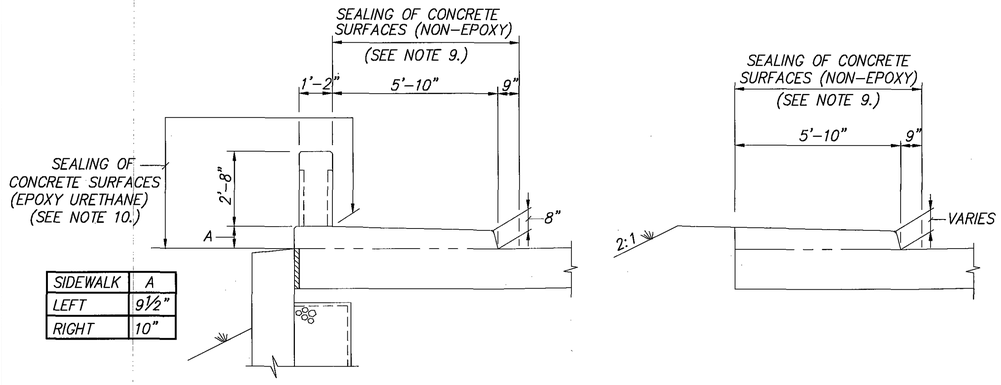
358/369



TYPICAL REAR APPROACH SLAB PARAPET ELEVATION



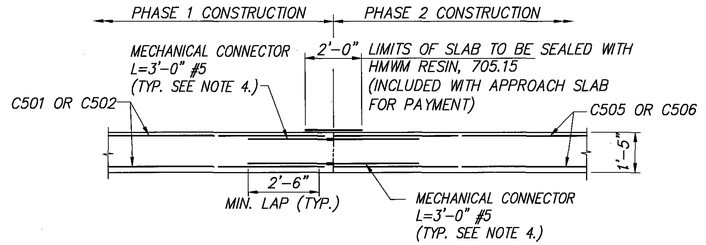
TYPICAL FORWARD APPROACH SLAB PARAPET ELEVATION



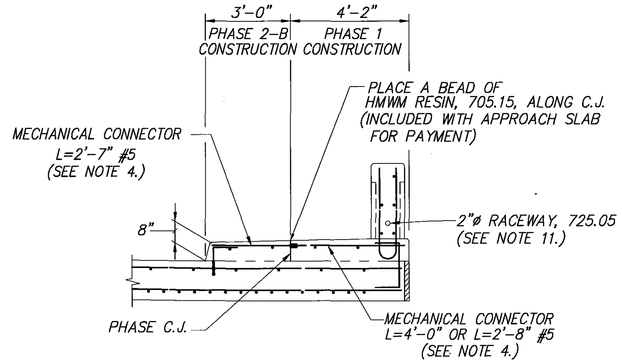
TYPICAL SIDEWALK AND PARAPET SEALING DETAILS

* INCLUDED WITH APPROACH SLAB FOR PAYMENT.

NOTE: AESTHETIC BARRIER WALLS ARE NOT SHOWN. SEE SHEETS 38A, 38B AND 38C/45 FOR DETAILS.



APPROACH SLAB PHASE CONSTRUCTION JOINT DETAIL



RIGHT SIDEWALK PHASE CONSTRUCTION JOINT DETAIL

NOTES:

1. FOR REAR APPROACH SLAB PLAN AND SECTIONS, SEE SHEET 36/45.
   FOR FORWARD APPROACH SLAB PLAN AND SECTIONS, SEE SHEET 37/45.
2. SEE ODOT STANDARD DRAWING AS-1-81 FOR ADDITIONAL INFORMATION.
3. FOR APPROACH SLAB TRANSVERSE SECTION, SEE ROADWAY PLANS.
4. MECHANICAL CONNECTORS: IF A DOWEL BAR SPLICE CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE GIVEN BY THE "L" DIMENSION SHOWN IN THE PHASE CONSTRUCTION JOINT DETAILS ON THIS SHEET. FOR THE RIGHT SIDEWALK, NO ADDITIONAL TRANSERVE REINFORCING IS REQUIRED IF "L" LONG MECHANICAL CONNECTORS ARE INSTALLED. SEE GENERAL NOTE ON SHEET 4/45 FOR ADDITIONAL REQUIREMENTS.
5. CONCRETE FOR THE APPROACH SLABS AND SIDEWALKS CONSTRUCTED ON THEM SHALL BE HIGH PERFORMANCE CONCRETE, AS PER PLAN HAVING THE SAME MIX AS USED FOR THE BRIDGE DECK SLAB.
6. SIDEWALK CONCRETE LOCATED ON THE APPROACH SLABS IS INCIDENTAL TO ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN FOR PAYMENT. SEE THIS GENERAL NOTE ON SHEET 6/45 FOR OTHER ASSOCIATED MATERIALS THAT ARE INCIDENTAL TO PAY ITEM 526.
7. PAYMENT FOR PARAPETS CONCRETE SHALL BE UNDER ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.
8. FOR PARAPET SAWCUTTING AND CAULKING REQUIREMENTS, SEE "CONCRETE PARAPETS" GENERAL NOTE ON SHEET 5/45.
   PAYMENT FOR SAWCUTS AND CAULKING COMPOUND SHALL BE INCIDENTAL TO ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.
9. PAYMENT FOR SIDEWALK SEALING IS INCLUDED UNDER ITEM 864 - SEALING OF CONCRETE SURFACES (NON-EPOXY). DO NOT TINT THE SEALER FOR THE WALK AREAS.
10. PAYMENT FOR PARAPET SEALING IS INCLUDED UNDER ITEM - 864 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
    FOR THE VERTICAL SIDES OF THE PARAPET WHERE AESTHETIC TREATMENT IS SPECIFIED, TINT THE SECOND SEALING COAT ONLY TO FEDERAL COLOR NUMBER 23578 (TAN).
    FOR ALL OTHER EXPOSED SURFACES OF THE PARAPET AND THE OUTSIDE EDGE OF THE SIDEWALK SLAB, TINT THE SECOND SEALING COAT ONLY TO FEDERAL COLOR NUMBER 25630 (LIGHT GRAY).
11. THE ESTIMATED QUANTITY OF 2" DIAMETER RACEWAY IS CARRIED TO THE TRAFFIC CONTROL SUBSUMMARY SHEET.
12. ABBREVIATIONS: C.J.-CONSTRUCTION JOINT; TYP.-TYPICAL; MIN.-MINIMUM; E.F.-EACH FACE; N.F.-NEAR FACE; F.F.-FAR FACE.

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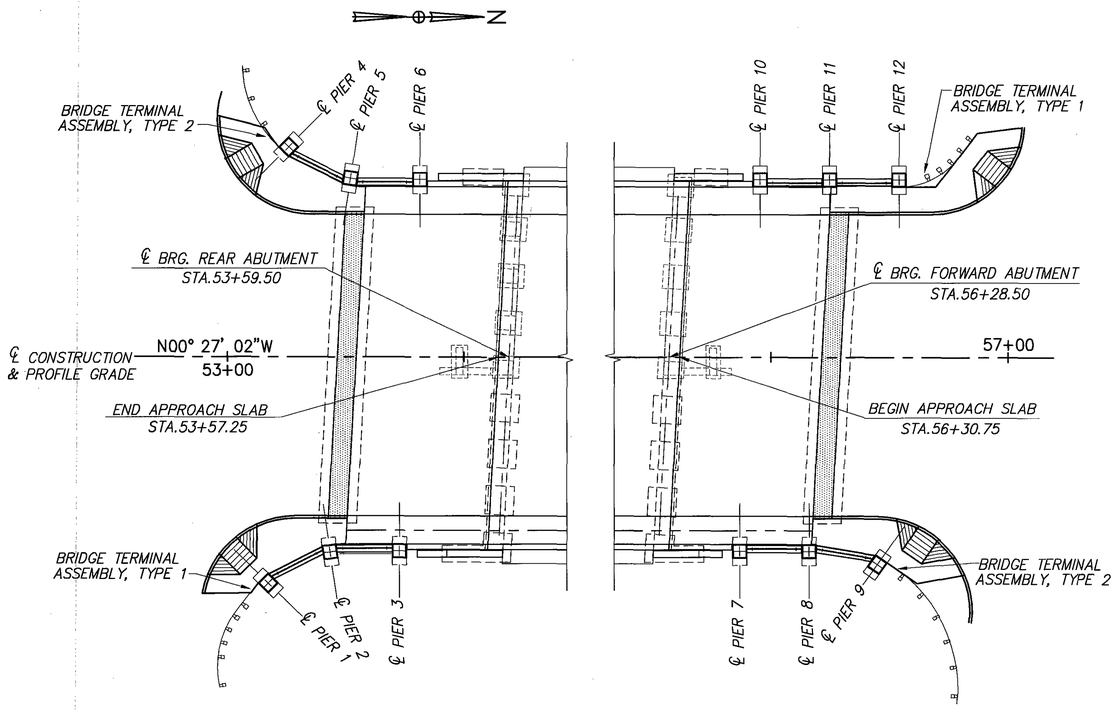
DESIGNED J.P.R. | DRAWN R.R.C. | CHECKED I.A.S. | REVIEWED W.D.B. | DATE 4/15/05 | STRUCTURE FILE NUMBER 4303423

APPROACH SLAB DETAILS
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

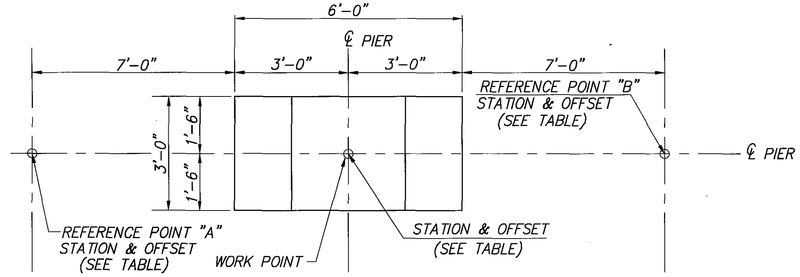
38 / 45

359 / 369

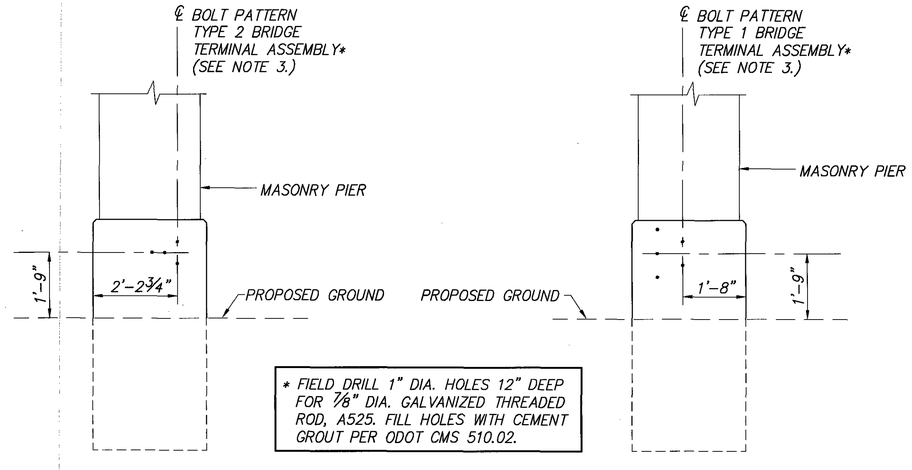


PLAN

	UNIT	℄ PIER STA. & OFFSET (AT REFERENCE POINT "A")	℄ PIER STA. & OFFSET (AT WORK POINT)	℄ PIER STA. & OFFSET (AT REFERENCE POINT "B")
R.A.	PIER 1	STA. 53+00.97, 41.84' RT.	STA. 53+08.27, 48.66' RT.	STA. 53+15.58, 55.49' RT.
	PIER 2	STA. 53+19.93, 31.78' RT.	STA. 53+21.48, 41.66' RT.	STA. 53+23.04, 51.54' RT.
	PIER 3	STA. 53+36.15, 31.33' RT.	STA. 53+36.15, 41.33' RT.	STA. 53+36.15, 51.33' RT.
	PIER 4	STA. 53+05.66, 37.50' LT.	STA. 53+12.80, 44.51' LT.	STA. 53+19.93, 51.52' LT.
	PIER 5	STA. 53+24.15, 27.88' LT.	STA. 53+25.80, 37.74' LT.	STA. 53+27.46, 47.60' LT.
	PIER 6	STA. 53+40.47, 27.33' LT.	STA. 53+40.47, 37.33' LT.	STA. 53+40.47, 47.33' LT.
F.A.	PIER 7	STA. 56+43.66, 31.33' RT.	STA. 56+43.66, 41.33' RT.	STA. 56+43.66, 51.33' RT.
	PIER 8	STA. 56+58.32, 31.33' RT.	STA. 56+58.32, 41.33' RT.	STA. 56+58.32, 51.33' RT.
	PIER 9	STA. 56+78.46, 36.09' RT.	STA. 56+72.69, 44.26' RT.	STA. 56+66.93, 52.43' RT.
	PIER 10	STA. 56+47.97, 27.33' LT.	STA. 56+47.97, 37.33' LT.	STA. 56+47.97, 47.33' LT.
	PIER 11	STA. 56+62.64, 27.33' LT.	STA. 56+62.64, 37.33' LT.	STA. 56+62.64, 47.33' LT.
	PIER 12	STA. 56+77.30, 27.33' LT.	STA. 56+77.30, 37.33' LT.	STA. 56+77.30, 47.33' LT.



TYPICAL PIER FOUNDATION PLAN



PIER 4 & 9 ELEVATION

(EAST FACE SHOWN, PIER 4)
(WEST FACE SHOWN, PIER 9)

PIER 1 & 12 ELEVATION

(WEST FACE SHOWN, PIER 1)
(EAST FACE SHOWN, PIER 12)

NOTES:

1. FOR PIER FOUNDATION AND BARRIER WALL DETAILS, SEE SHEET 38-B/45.
2. FOR MASONRY PIER DETAILS, SEE SHEET 38-C/45.
3. FOR BRIDGE TERMINAL ASSEMBLY DETAILS AND BOLT PATTERNS, SEE ODOT STANDARD DRAWINGS GR-3.1 AND GR-3.2.
4. ABBREVIATIONS: BRG.-BEARING; R.A.-REAR ABUTMENT; F.A.-FORWARD ABUTMENT; STA.-STATION; RT. RIGHT; LT.-LEFT.

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DESIGNED J.P.R. | DRAWN R.L.B. | CHECKED J.P.R. | REVISED | REVIEWED W.D.B. | DATE 4/15/05 | STRUCTURE FILE NUMBER 4303423

AESTHETIC BARRIER WALL PLAN

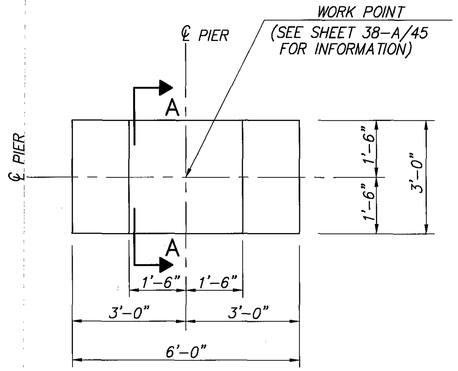
BRIDGE NO. LAK-0084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

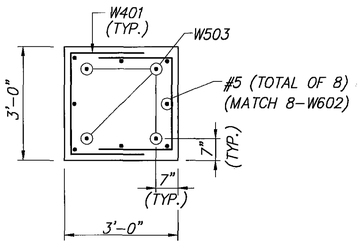
38-A/45

360/369

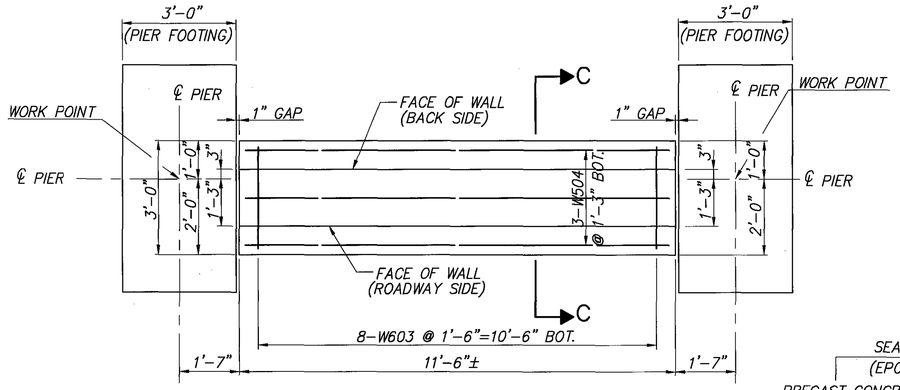
H:\2002\02117\DWG\BRIDGE\02117B36.DWG plot; 1:192



PIER FOUNDATION PLAN

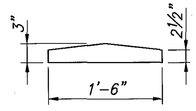


SECTION B-B

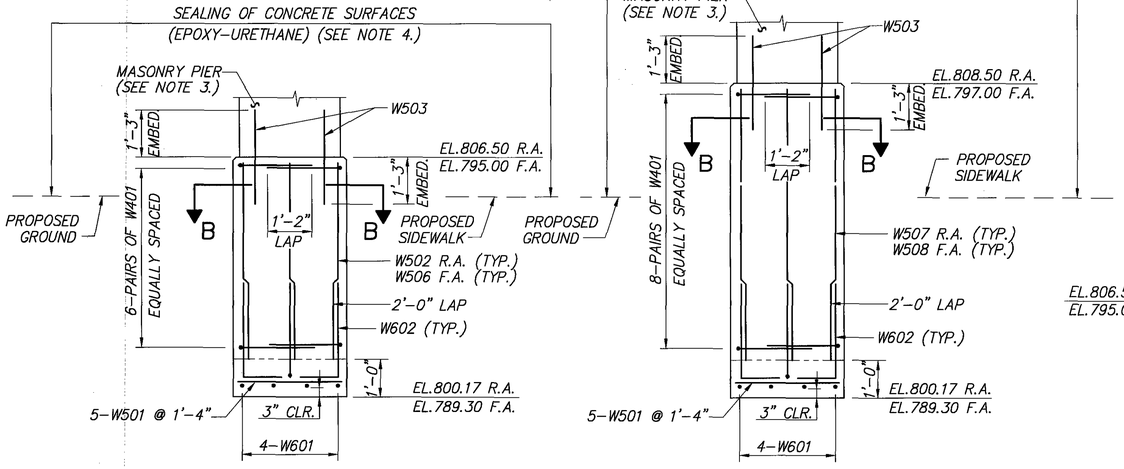


BARRIER WALL FOOTING PLAN

(TYPICAL IN EIGHT PLACES)

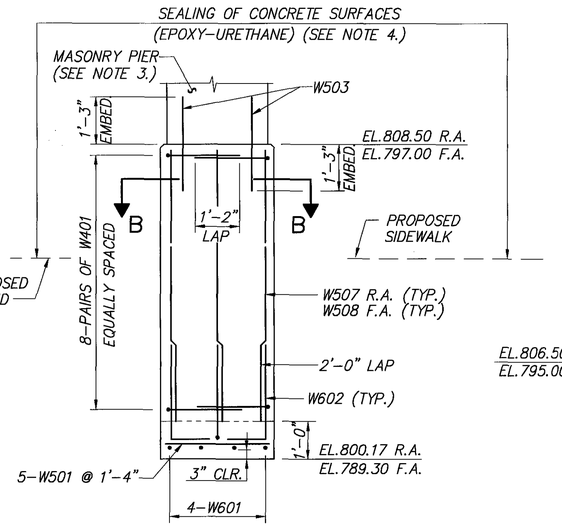


PRECAST CAP DETAIL



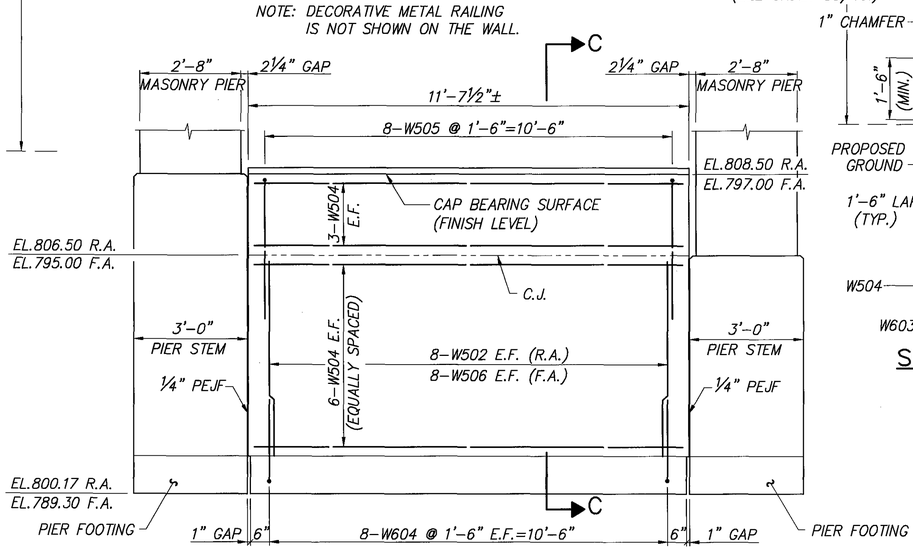
SECTION A-A

(FOR PIERS 2, 3, 5, 6, 7, 8, 10 AND 11)

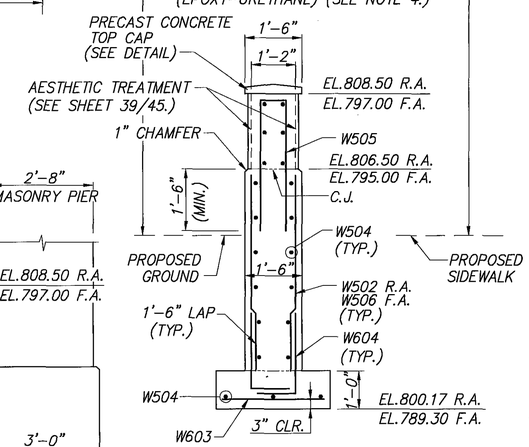


SECTION A-A

(FOR PIERS 1, 4, 9 AND 12)



TYPICAL BARRIER WALL ELEVATION

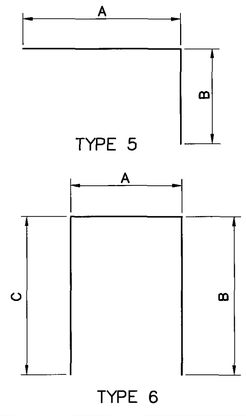


SECTION C-C

REINFORCING SCHEDULE

MARK	TOTAL NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	H	INC.
W401	160	6'-4"	677	6	2'-8"	1'-11"	1'-11"				
W501	60	2'-8"	167	STR.							
W502	96	5'-2"	517	STR.							
W503	48	2'-6"	125	STR.							
W504	168	11'-2"	1,957	STR.							
W505	64	7'-9"	517	6	8"	3'-8"	3'-8"				
W506	96	4'-6"	451	STR.							
W507	16	7'-2"	120	STR.							
W508	16	6'-6"	108	STR.							
W601	48	5'-8"	409	STR.							
W602	96	3'-6"	505	5	2'-8"	1'-0"					
W603	64	2'-8"	256	STR.							
W604	128	3'-0"	577	5	2'-2"	1'-0"					
AESTHETIC BARRIER WALLS TOTAL = 6,386 LBS.											

NOTE: REINFORCING STEEL IS INCIDENTAL TO THE MASONRY ITEM AND IS TO BE EPOXY COATED.



NOTES:

1. FOR BARRIER WALL PLAN, SEE SHEET 38-A/45 .
2. CONCRETE: CONCRETE FOR THE PIER FOUNDATIONS AND BARRIER WALLS SHALL BE CLASS C. CONCRETE WORK SHALL FOLLOW THE REQUIREMENTS SET FORTH IN CMS SPECIFICATION 511. ALL CONCRETE SURFACES OF THE PIER STEMS AND BARRIER WALLS SHALL RECEIVE A RUBBED FINISH. DO NOT RUB THE WALL SURFACES HAVING ARCHITECTURAL TREATMENT.
3. FOR DETAILS OF MASONRY PIER AND DECORATIVE METAL RAILING, SEE SHEET 38-C/45.
4. FOR THE TOP CAP OF THE BARRIER, BOTH WALL FACES AND THE PIER STEM, THE SECOND SEALING COAT ONLY SHALL BE TINTED TO FEDERAL COLOR NUMBER 25630 (LIGHT GRAY). FOR THE VERTICAL SIDES OF THE BARRIER WHERE AESTHETIC TREATMENT WILL BE USED, THE SECOND COAT ONLY SHALL BE TINTED TO FEDERAL COLOR NUMBER 23578 (TAN).
5. SEE "ITEM 602-MASONRY, MISC.; APPROACH BARRIER WALLS AND PIERS INCLUDING DECORATIVE RAILING" GENERAL NOTE ON SHEET 4/45 FOR PAYMENT INFORMATION.
6. BACKFILL SHALL BE CAREFULLY PLACED AND COMPACTED IN EQUAL LIFTS ON BOTH SIDES OF THE BARRIER WALLS TO MAINTAIN THEIR PLUMBNESS.
7. ABBREVIATIONS: TYP.-TYPICAL; CLR.-CLEAR; DWL.-DOWEL; EMBED.-EMBEDMENT; MIN.-MINIMUM; E.F.-EACH FACE; C.J.-CONSTRUCTION JOINT; PEJF-PREFORMED EXPANSION JOINT FILLER; R.A.-REAR ABUTMENT; F.A.-FORWARD ABUTMENT.

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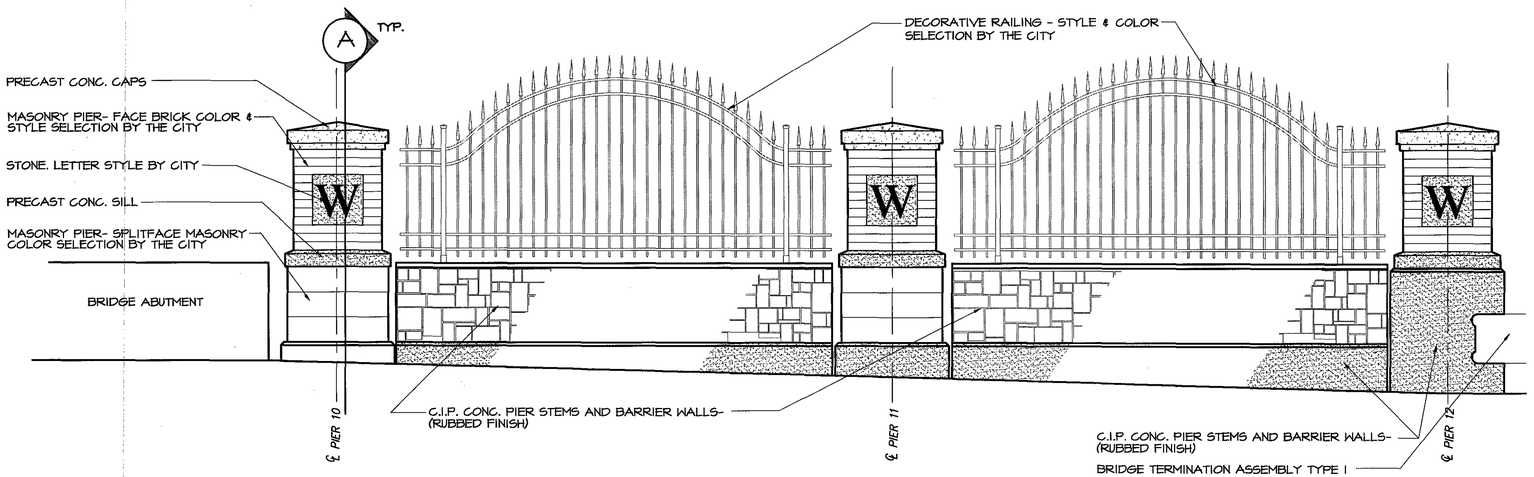
AESTHETIC BARRIER WALL AND PIER DETAILS

BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

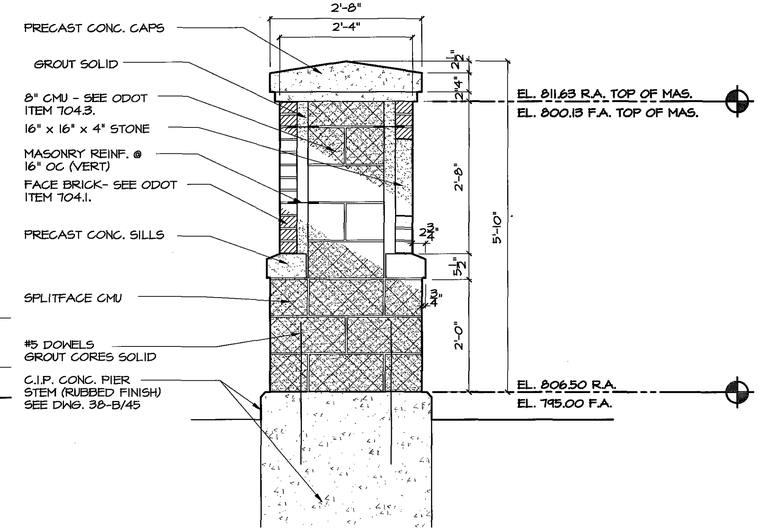
38-B/45

361/369



FORWARD LEFT BARRIER ELEVATION (OTHER BARRIER ELEVATIONS SIMILAR)

SCALE: 1/2" = 1'-0"

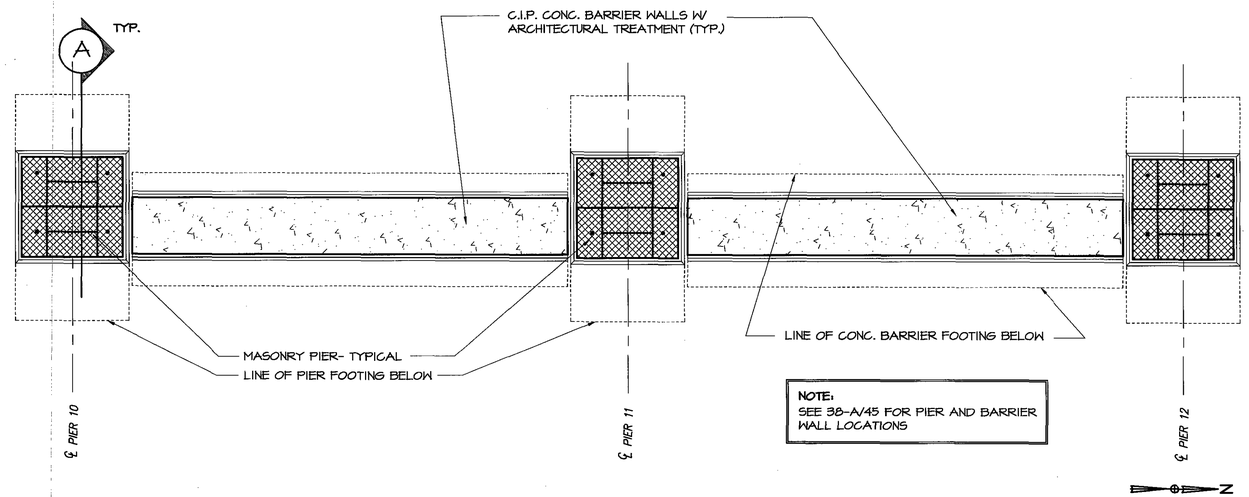


PIER SECTION (TYP.) (A)

SCALE: 3/4" = 1'-0"

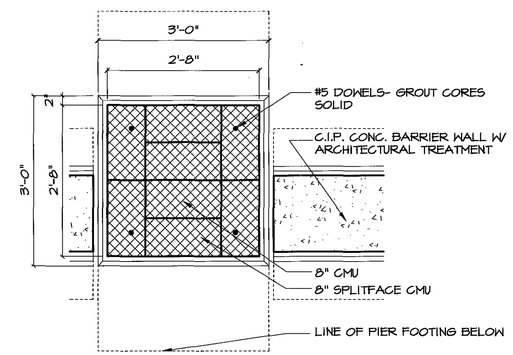
GENERAL NOTES

1. FOR BARRIER / PIER LOCATIONS, SEE PLAN 38-A/45
2. SEE "ITEM 602" MASONRY, MISC., APPROACH BARRIER WALLS AND PIERS INCLUDING DECORATIVE RAILING.
3. MASONRY REINFORCEMENT - AS MANUFACTURED BY DUR-O-WAL LADUR-EYE TYPE ASSEMBLY IS PREFABRICATED CONTINOUS REINFORCEMENT AND ADJUSTABLE TIES. HOT DIPPED GALVANIZED.



FORWARD LEFT BARRIER PLAN (OTHER BARRIER PLANS SIMILAR)

SCALE: 1/2" = 1'-0"



PIER PLAN (TYP.)

SCALE: 3/4" = 1'-0"

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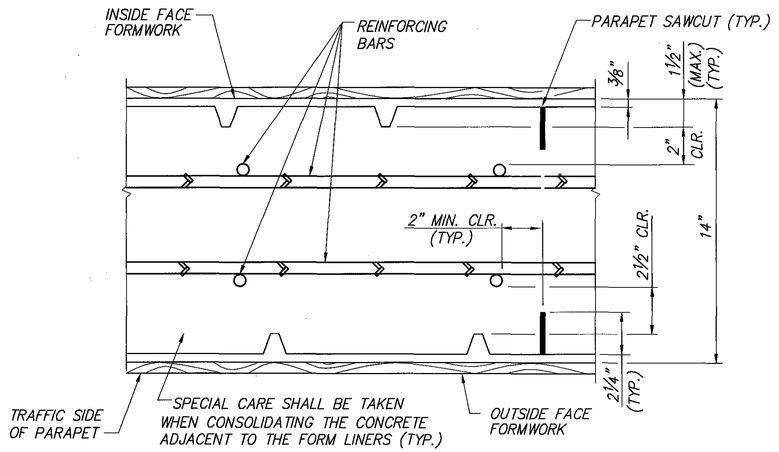
AESTHETIC BARRIER WALL PLAN

BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

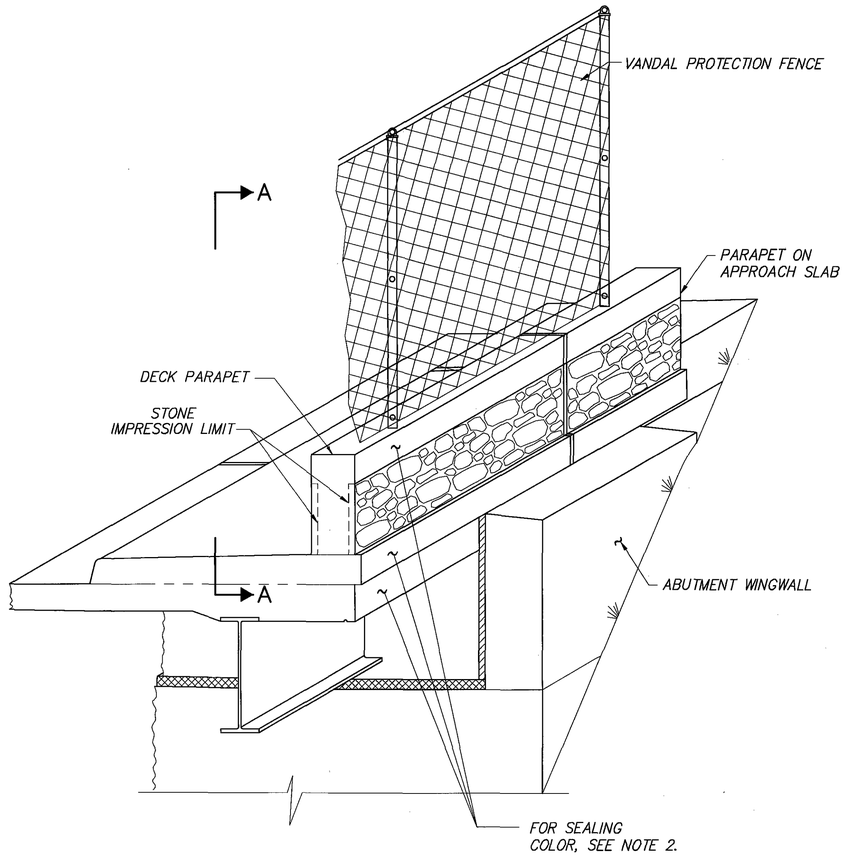
38-C/45

362
369

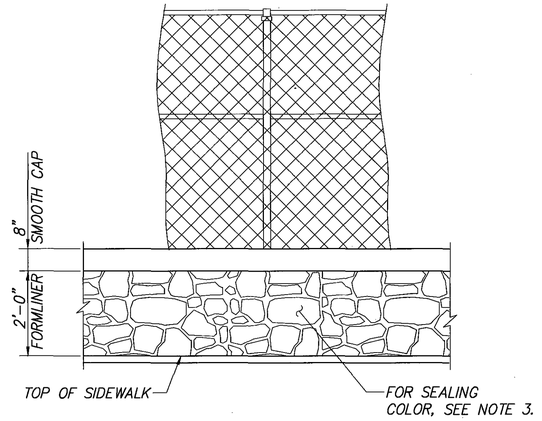


PARAPET SECTION

(TYP. CLEARANCE TO REINFORCING)



PARAPET VIEW AT ABUTMENT



VIEW A–A

FORM LINER NOTES:

INTRODUCTION

1. A PRECONSTRUCTION MOCK–UP SHALL BE PROVIDED FOR APPROVAL BY THE ENGINEER. IT MUST DUPLICATE THE MATERIALS, METHODS, WORKMANSHIP, PLACEMENT RATES, AND FORM PRESSURES THAT WILL ACTUALLY BE USED ON THE JOB.
2. FORM LINERS SHALL CONFORM WITH SECTION 508 OF THE ODOT C.M.S. AND BE APPROVED BY THE DIRECTOR PRIOR TO USE.
3. THE FORMLINERS MAY BE OBTAINED FROM ONE OF THE FOLLOWING SUPPLIER:

FITZGERALD FORMLINERS
3141 EAST PAMONA STREET
SANTA ANA, CALIFORNIA 92705
(714) 547–6710

GREENSTREAK
3400 TREE COURT
INDUSTRIAL BOULEVARD
ST. LOUIS, MISSOURI 63122
(800) 325–9504

SYMONS CORPORATION
200 E. TOUHY AVENUE
DES PLAINES, ILLNOIS 60018
(847) 298–3200

TRIMMING

1. WHERE THE LINER BUTTS AGAINST A CHAMFER OR REVEAL STRIP, THE END OF THE LINER SHALL BE CUT ON THE SAME ANGLE FOR A PROPER FIT.

MOUNTING

1. VERTICAL JOINTS SHALL BE ON THE SAME LINE AND HORIZONTAL JOINTS SHALL BE AT THE SAME ELEVATION.
2. FASTENERS SHALL BE OF THE TYPE AND AT LOCATIONS RECOMMENDED BY THE MANUFACTURER.
3. FORM LINERS SHALL BE SUPPORTED AS NECESSARY TO PREVENT DEFORMATION AS DETERMINED BY THE PRECONSTRUCTION MOCK–UP.

SEALING

1. ALL FORM LINER SEAMS AND TIE HOLES SHALL BE SEALED TO PREVENT LOCALIZED WATER LOSS AND DISCOLORATION OF THE CONCRETE. SEALERS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

FORM TIES

1. TIE SPACING SHALL BE A MULTIPLE DIMENSION OF THE FORM LINER PATTERN REPEAT.

FORM RELEASE AGENTS AND BOND BREAKERS

1. FORM LINERS SHALL BE OILED IN ACCORDANCE WITH SECTION 508 OF THE ODOT C.M.S. OR WITH MANUFACTURERS RECOMMENDATIONS.

CONCRETE PLACEMENT

1. AN ELEPHANT TRUNK OR TREMI SHALL BE USED FOR PLACING THE CONCRETE TO MINIMIZE AGGREGATE SEGREGATION AND TRAPPED AIR.
2. THE CONCRETE SHALL BE PROPERLY VIBRATED USING INTERNAL VIBRATORS TO ELIMINATE LIFT LINES AND TO MINIMIZE AIR VOIDS. CARE SHALL BE TAKEN NOT TO DAMAGE THE FORM LINERS WITH VIBRATING OPERATIONS.

STRIPPING AND CLEANUP

1. THE FORM WORK SHOULD BE STRIPPED IN ACCORDANCE WITH SECTION 511 OF THE C.M.S.

FINAL FINISHING

1. FINISH THE CONCRETE SURFACE IN ACCORDANCE WITH SECTION 511 OF THE C.M.S.

PAYMENT

1. THE COST OF ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO ACCOMPLISH THIS AESTHETIC TREATMENT SHALL BE INCLUDED IN THE SQUARE FOOT UNIT PRICE BID FOR ITEM SPECIAL 530–FORM LINER.

NOTES:

1. THE AESTHETIC TREATMENT SHALL BE PLACED ON THE INSIDE AND OUTSIDE FACES OF THE PARAPETS. IT SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE BRIDGE AND TO 4'–0" FROM THE END OF THE PARAPETS ON THE APPROACH SLAB.
2. THE SECOND SEALING COAT ONLY SHALL BE TINTED TO THE FEDERAL COLOR NUMBER 25630 (LIGHT GRAY).
3. THE SECOND SEALING COAT ONLY SHALL BE TINTED TO THE FEDERAL COLOR NUMBER 23578 (TAN)
4. ABBREVIATIONS: TYP.–TYPICAL; MIN.–MINIMUM; CLR.–CLEAR; MAX.–MAXIMUM.

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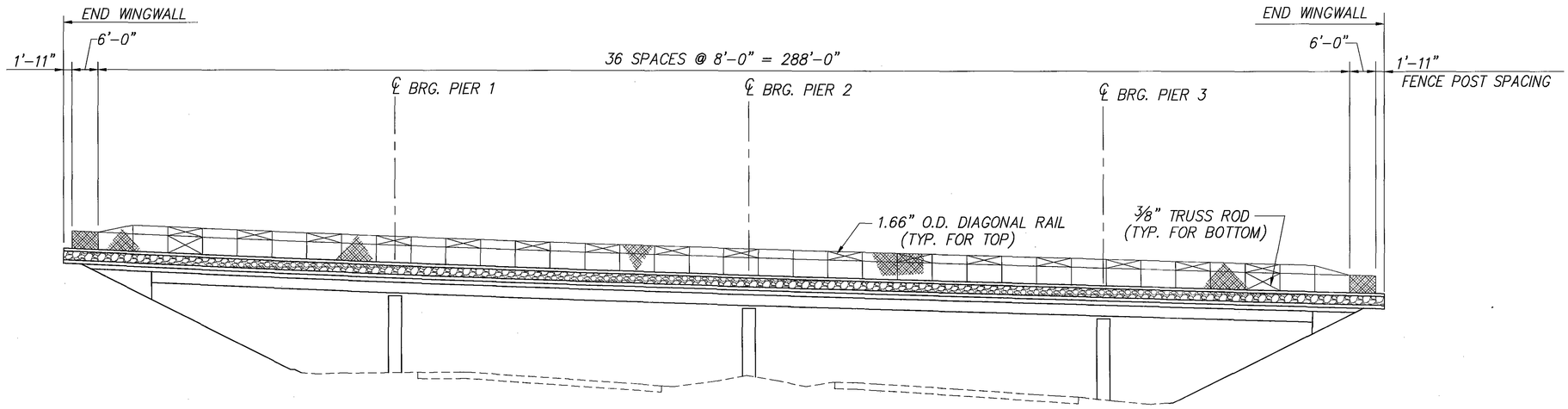
AESTHETIC TREATMENT
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43



EAST ELEVATION

(WEST ELEVATION OPPOSITE HAND)

NOTES:

1. FOR MODIFIED VANDAL PROTECTION FENCE DETAILS, SEE SHEET 41/45.
2. FOR ADDITIONAL INFORMATION SEE "ITEM SPECIAL–VANDAL PROTECTION FENCE 6' STRAIGHT COATED, AS PER PLAN" GENERAL NOTE ON SHEET 5/45.
3. ABBREVIATIONS: BRG.–BEARING; TYP.–TYPICAL; O.D.–OUTSIDE DIAMETER.

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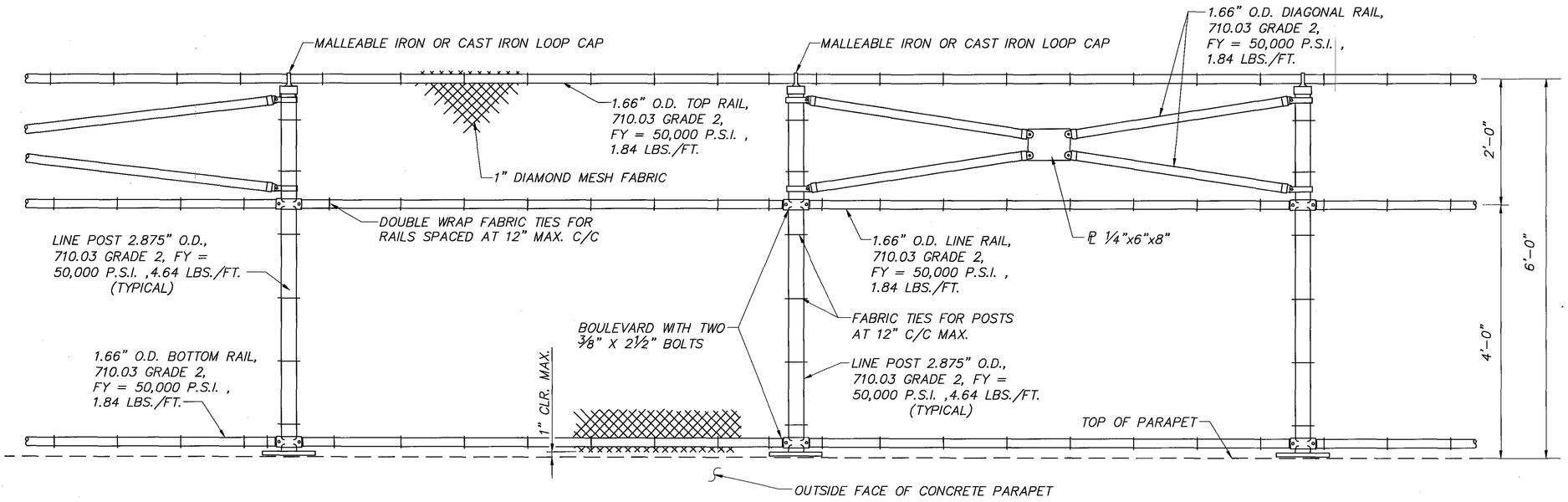
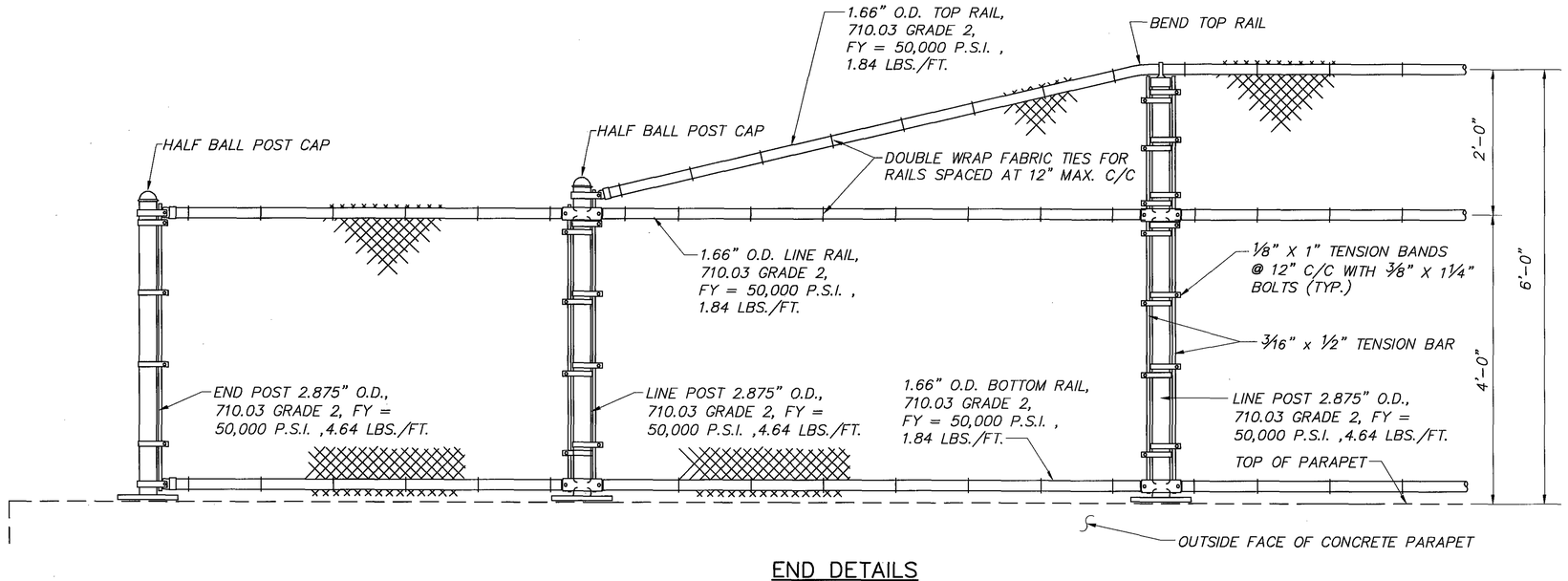
BRIDGE ELEVATION
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

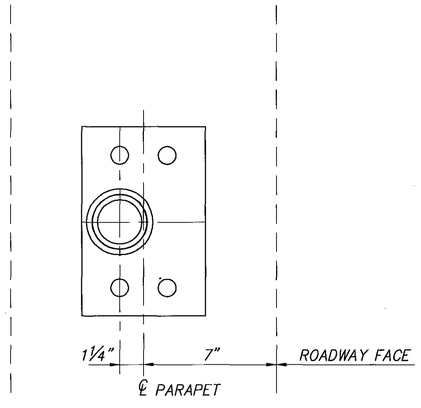
LAK-90/84-0.54/0.43



OUTSIDE ELEVATION 6'–0" STRAIGHT VANDAL PROTECTION FENCE



END DETAILS
OUTSIDE ELEVATION 6'–0" STRAIGHT VANDAL PROTECTION FENCE



STD BP–5 BASE PLATE
(W/SLEEVE)

NOTES:

1. FOR ARRANGEMENT OF FENCE ELEMENTS, SEE SHEET 40/45.
2. FOR ADDITIONAL DETAILS AND NOTES SEE STD. ODOT DRAWING VPF–1–90 AND THE GENERAL NOTE ON SHEET 5/45.

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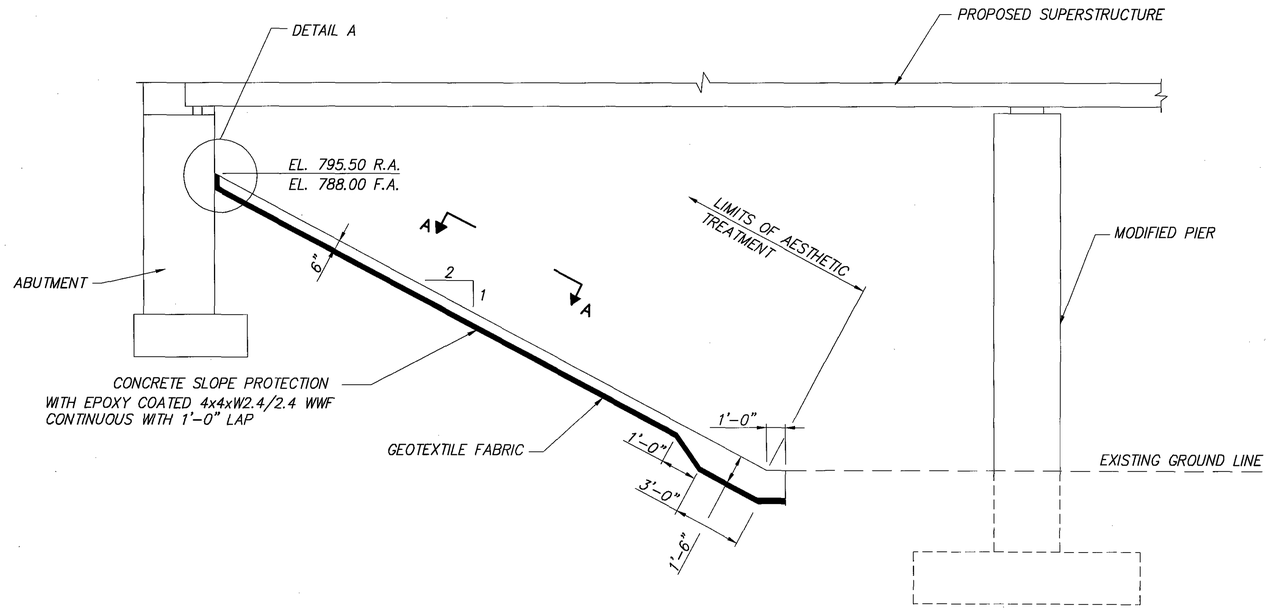
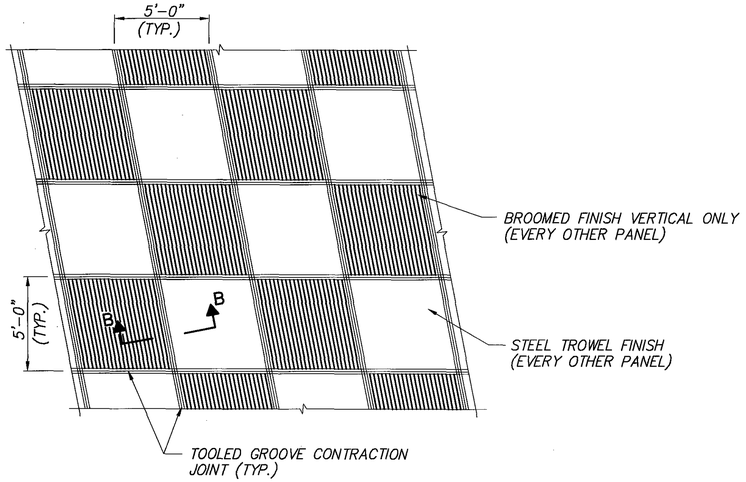
FENCE DETAILS
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

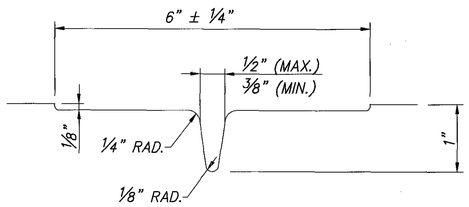
LAK–90/84–0.54/0.43



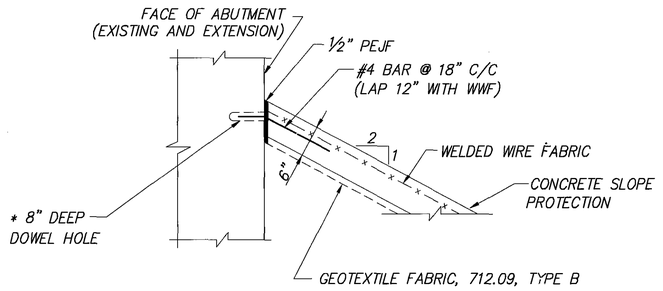
CONCRETE SLOPE PROTECTION SCHEMATIC



VIEW A–A



SECTION B–B
(TOOLED GROOVE CONTRACTION JOINT)



DETAIL A

* – A REINFORCING STEEL LOCATOR SHALL BE USED PRIOR TO DRILLING ANY HOLES TO ENSURE THE ABUTMENT REINFORCING STEEL IS NOT DAMAGED.

ABBREVIATIONS:

RA–REAR ABUTMENT; FA–FORWARD ABUTMENT;
TYP.–TYPICAL; RAD.–RADIUS; WWF–WELDED WIRE FABRIC;
EL.–ELEVATION; PEJF–PREFORMED EXPANSION JOINT FILLER;
MIN.–MINIMUM; MAX.–MAXIMUM.

CONCRETE SLOPE PROTECTION, AS PER PLAN

THE CONCRETE SLOPE PROTECTION SHALL CONFORM TO ITEM 601 AND AS SPECIFIED ON THIS SHEET. FOR PAYMENT INFORMATION, SEE GENERAL NOTE ON SHEET 6/45.

DOWEL BARS

#4 DOWEL BARS SHALL BE EPOXY COATED, AND THEY SHALL BE INCLUDED WITH ITEM 601 FOR PAYMENT. DOWEL HOLES SHALL BE INCIDENTAL TO ITEM 601.

CURING

THE ENTIRE EXPOSED CONCRETE SURFACE OF THE SLOPE PROTECTION SHALL BE WATER CURED IN CONFORMANCE WITH 511.17, METHOD A.

THE COST OF ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO ACCOMPLISH THIS CURING PROCESS SHALL BE PAID FOR UNDER ITEM 601 – CONCRETE SLOPE PROTECTION, AS PER PLAN.

LIMITS

EXTEND SLOPE PROTECTION MIN. 3'–0" BEYOND EDGE OF THE DECK.
SEE SITE PLAN SHEET S1/S19 FOR ACTUAL LIMITS.

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CONCRETE SLOPE PROTECTION
BRIDGE NO. LAK–084R–0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK–90/84–0.54/0.43

42 / 45

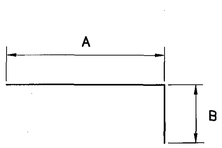
366
369

REINFORCING STEEL BAR SCHEDULE

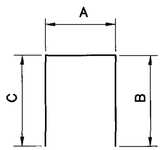
MARK	REAR ABUTMENT PHASE 1	REAR ABUTMENT PHASE 2	FORWARD ABUTMENT PHASE 1	FORWARD ABUTMENT PHASE 2	TOTAL NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	H	INC.
						ABUTMENTS									
A501	38	–	38	–	76	5'–8"	449	STR.							
A502	1 SERIES OF 6	–	–	–	1 SERIES OF 6	5'–8" 6'–0"	37	STR.							¾" +
A503	1 SERIES OF 3	–	–	–	1 SERIES OF 3	14'–8" 14'–10"	46	STR.							1"
A504	9	9	7	7	32	3'–2"	106	STR.							
A505	–	1 SERIES OF 3	–	–	1 SERIES OF 3	8'–7" 8'–9"	27	STR.							1"
A506	12	–	9	–	21	12'–8"	277	10	3'–5"	2'–8"					
A507	52	–	–	–	52	10'–3"	556	6	3'–4"	3'–7"	3'–7"				
A508	–	41	–	–	41	8'–1"	346	6	3'–4"	2'–6"	2'–6"				
A509	6	–	6	–	12	38'–8"	484	STR.							
A510 *	6	–	8	–	14	37'–10"	552	STR.							
A511	4	3	7	4	18	3'–10"	72	5	2'–0"	2'–0"					
A512 *	–	6	–	8	14	30'–0"	438	STR.							
A513	–	6	–	8	14	14'–8"	214	STR.							
A514	16	–	–	–	16	13'–0"	217	STR.							
A515	1 SERIES OF 8	–	–	–	1 SERIES OF 8	9'–6" 10'–6"	83	6	1'–2"	4'–4" 4'–10"	4'–4" 4'–10"				⅞" –
A516	1	–	–	–	1	9'–10"	10	6	1'–2"	4'–6"	4'–6"				
A517	1	1	–	–	2	8'–6"	18	6	1'–2"	3'–10"	3'–10"				
A518	1	–	–	1	2	8'–0"	17	6	1'–2"	3'–7"	3'–7"				
A519	1	–	–	–	1	8'–2"	9	6	1'–2"	3'–8"	3'–8"				
A520	11	10	–	–	21	11'–11"	261	STR.							
A521	11	–	–	–	11	9'–6"	109	STR.							
A522	2	–	–	–	2	12'–1"	25	STR.							
A523	2	2	–	–	4	14'–1"	59	STR.							
A524	6	6	–	–	12	17'–8"	221	STR.							
A525	–	9	–	–	9	10'–7"	99	5	9'–10"	10"					
A526	–	1 SERIES OF 13	–	–	1 SERIES OF 13	9'–4" 10'–6"	134	6	1'–2"	4'–3" 4'–10"	4'–3" 4'–10"				⅝" –
A527	–	1	–	–	1	9'–4"	10	6	1'–2"	4'–3"	4'–3"				
A528	–	1 SERIES OF 4	–	–	1 SERIES OF 4	7'–10" 8'–2"	33	6	1'–2"	3'–6" 3'–8"	3'–6" 3'–8"				⅝" +
A529	–	2	–	–	2	12'–8"	26	STR.							
A530	4	–	–	–	4	9'–9"	41	6	3'–5"	3'–3"	3'–5"				
A531	–	–	1 SERIES OF 3	–	1 SERIES OF 3	12'–0" 12'–2"	38	STR.							1"
A532	–	–	1 SERIES OF 6	–	1 SERIES OF 6	5'–4" 5'–8"	34	STR.							¾" +
A533	–	–	–	1 SERIES OF 3	1 SERIES OF 3	6'–8" 6'–10"	21	STR.							1"
A534	–	–	52	–	52	12'–1"	655	6	3'–4"	4'–6"	4'–6"				
A535	–	–	–	41	41	10'–5"	445	6	3'–4"	3'–8"	3'–8"				
A536	–	–	–	12	12	9'–10"	123	STR.							
A537	–	–	–	1 SERIES OF 10	1 SERIES OF 10	8'–10" 9'–6"	96	6	1'–2"	4'–0" 4'–4"	4'–0" 4'–4"				7/16" +
A538	–	–	1	1	2	6'–10"	14	6	1'–2"	3'–0"	3'–0"				
A539	–	–	2	2	4	5'–10"	24	6	1'–2"	2'–6"	2'–6"				
A540	–	–	6	6	12	14'–2"	177	STR.							
A541	–	–	–	2	2	11'–4"	24	STR.							
A542	–	–	3	–	3	9'–0"	28	6	3'–5"	2'–10"	3'–1"				
A543	–	–	12	–	12	14'–8"	184	5	13'–11"	10"					
A544	–	–	10	–	10	7'–0"	73	STR.							
A545	–	–	10	–	10	9'–5"	98	STR.							
A546	–	–	1 SERIES OF 6	–	1 SERIES OF 6	8'–10" 9'–6"	57	6	1'–2"	4'–0" 4'–4"	4'–0" 4'–4"				¾" +

REINFORCING STEEL BAR SCHEDULE

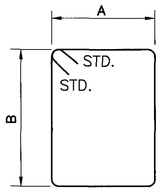
MARK	REAR ABUTMENT PHASE 1	REAR ABUTMENT PHASE 2	FORWARD ABUTMENT PHASE 1	FORWARD ABUTMENT PHASE 2	TOTAL NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	H	INC.
						ABUTMENTS									
A547	–	–	2	–	2	10'–10"	23	STR.							
A548	16	–	16	–	32	7'–6"	250	6	3'–5"	2'–0"	2'–0"				
A549	2	2	2	–	6	6'–8"	56	19	2'–0"	2'–6"	2'–0"	1'–3"			
A550	–	–	–	2	2	6'–5"	13	19	1'–8"	2'–6"	2'–0"	1'–3"			
A551	–	–	–	6	6	11'–10"	74	5	11'–1"	10"					
A601	6	4	6	4	20	3'–5"	103	STR.							
A602	46	–	–	–	46	13'–7"	939	5	12'–9"	1'–0"					
A603	4	–	4	–	8	38'–8"	465	STR.							
A604 *	4	–	4	–	8	37'–10"	455	STR.							
A605	–	4	–	4	8	30'–0"	360	STR.							
A606 *	–	4	–	4	8	16'–3"	195	STR.							
A607	–	82	–	82	164	3'–0"	739	STR.							
A608	11	–	–	–	11	13'–4"	220	STR.							
A609	–	4	–	4	8	3'–4"	40	STR.							
A610	–	4	–	–	4	8'–2"	49	STR.							
A611	–	–	–	4	4	9'–4"	56	STR.							
A612	–	6	–	6	12	3'–5"	62	5	1'–7"	2'–0"					
A613	–	–	36	–	36	12'–6"	676	5	11'–8"	1'–0"					
A614	–	–	–	6	6	9'–4"	84	STR.							
A615	–	–	8	–	8	8'–11"	107	STR.							
A616	–	–	10	–	10	8'–2"	123	5	7'–4"	1'–0"					
A617	–	–	10	–	10	6'–9"	101	STR.							
A618	16	–	–	–	16	4'–10"	127	5	4'–0"	1'–0"					
A619	–	9	–	–	9	8'–1"	109	STR.							
A801	11	9	–	6	26	6'–0"	417	5	4'–10"	1'–4"					
A802	–	–	8	–	8	9'–3"	198	5	8'–1"	1'–4"					
A1001	3	–	3	–	6	13'–6"	349	5	12'–0"	1'–10"					
					ABUTMENT TOTAL = 13,457 LBS.										



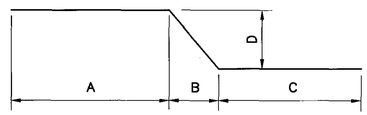
TYPE 5



TYPE 6



TYPE 10



TYPE 19

* – REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED ASSUMING 2½" CLEAR TO THE CONSTRUCTION JOINT. EXTRA BAR LENGTH AND/OR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A700 IS A NO. 7 AND A1014 IS A NO. 10 SIZE. BAR DIMENSIONS SHOWN ARE OUT TO OUT, UNLESS OTHERWISE INDICATED. O.R. INDICATES OUTSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORCING STEEL TO BE EPOXY COATED.

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DESIGNED I.A.S. | DRAWN R.L.B. | CHECKED J.P.R. | REVIEWED W.D.B. | DATE 4/15/05

REVISED

STRUCTURE FILE NUMBER 4303423

REINFORCING SCHEDULE

BRIDGE NO. LAK-084R-0082 OVER INTERSTATE 90

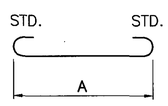
STATE ROUTE 84 (BISHOP ROAD)

LAK-90/84-0.54/0.43

REINFORCING STEEL BAR SCHEDULE

MARK	TOTAL NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	H	INC.	PHASE 1	PHASE 2	PHASE 2–A	PHASE 2–B
SUPERSTRUCTURE															
S401	846	30'–0"	16,954	STR.								396	396	54	
S402	94	17'–4"	1,088	STR.								44	44	6	
S403	313	1'–6"	314	5	11"	8"									313
S404	16	2'–6"	27	STR.								16			
S501	1,222	40'–0"	50,982	STR.									1,222		
S502*	611	35'–10"	22,835	STR.								611			
S503*	611	36'–0"	22,942	STR.								611			
S504	981	30'–0"	30,695	STR.								441	459	63	18
S505	120	16'–11"	2,117	10	4'–10"	3'–4"						56	56	8	
S506	120	7'–9"	970	6	2'–10"	2'–7"	2'–7"					56	56	8	
S507	109	21'–1"	2,397	STR.								49	51	7	2
S508*	313	4'–0"	1,306	STR.								313			
S509*	313	2'–7"	843	STR.											313
S510	626	2'–11"	1,904	6	1'–6"	10"	10"					313	313		
S511	313	2'–5"	789	6	1'–0"	10"	10"						313		
S512	313	6'–8"	2,176	STR.									313		
S513	548	6'–8"	3,810	45	3¼"	2'–11"	10¼"	2'–11"				274	274		
S601	261	30'–0"	11,761	STR.								114	120	21	6
S602	261	18'–6"	7,252	STR.								114	120	21	6
S801*	16	36'–1"	1,541	STR.								16			
S802	20	40'–4"	2,154	STR.									20		
S803*	8	35'–10"	765	STR.								8			
S804	8	40'–0"	854	STR.									8		
S805*	4	21–0"	224	STR.								4			
S806	4	14'–3"	152	STR.								4			
D801	106	5'–2"	1,462	8	1'–0"	2'–10"						50	50	6	
SUPERSTRUCTURE TOTAL: 188,314 POUNDS															

* – REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR.
BAR LENGTH IS MEASURED ASSUMING 2½" CLEAR TO THE CONSTRUCTION JOINT. EXTRA BAR LENGTH AND/OR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.



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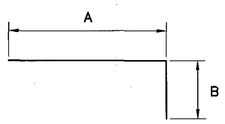

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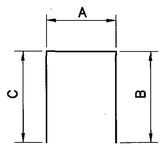

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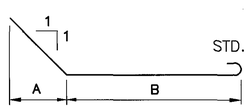

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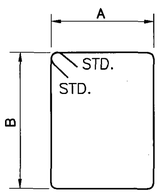
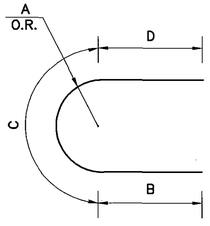
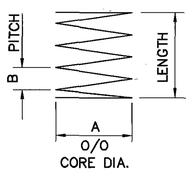


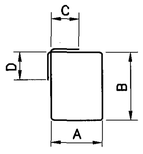
TYPE 10



TYPE 45



TYPE 51



TYPE 84

REINFORCING STEEL BAR SCHEDULE

MARK	PHASE NUMBER 1	PHASE NUMBER 2	TOTAL NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	H	INC.
			PIER										
SP401	6	8	14	17'–6"	3,959	51	2'–6"	4½"					
SP402	3	4	7	19'–3"	2,177	51	2'–6"	4½"					
P501	288	266	554	8'–1"	4,671	6	2'–8"	2'–10"	2'–10"				
P502	30	–	30	5'–5"	169	6	2'–8"	1'–6"	1'–6"				
P503	–	30	30	39'–0"	1,220	STR.							
P601	66	–	66	6'–2"	611	STR.							
P602	12	–	12	34'–8"	625	STR.							
P603	9	–	9	26'–0"	351	STR.							
P604	–	9	9	14'–0"	189	STR.							
P605	–	9	9	24'–0"	324	STR.							
P606	30	–	30	34'–8"	1,562	STR.							
P650	9	9	18	10'–11"	295	84	1'–9"	2'–11"	1'–0"	1'–0"			
P651	6	6	12	4'–5"	80	5	2'–11"	1'–7"					
P701	–	120	120	4'–11"	1,206	STR.							
P702	–	160	160	20'–3"	6,623	STR.							
P703	–	80	80	22'–0"	3,597	STR.							
P801	42	–	42	6'–8"	748	STR.							
P802	21	–	21	7'–8"	430	STR.							
P803	126	–	126	6'–11"	2,327	5	5'–9"	1'–4"					
P804	84	–	84	20'–3"	4,542	STR.							
P805	42	–	42	21'–11"	2,458	STR.							
P806	–	12	12	39'–0"	1,250	STR.							
P807	–	12	12	41'–3"	1,322	6	39'–0"	1'–4"	1'–4"				
P950	15	15	30	4'–3"	434	5	2'–11"	1'–7"					
P1001	12	–	12	37'–8"	1,945	6	34'–8"	1'–10"	1'–10"				
P1002	18	–	18	10'–0"	775	5	8'–6"	1'–10"					
					PIER TOTAL: 43,890 POUNDS								

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A700 IS A NO. 7 AND A1014 IS A NO. 10 SIZE. BAR DIMENSIONS SHOWN ARE OUT TO OUT, UNLESS OTHERWISE INDICATED. O.R. INDICATES OUTSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

2. SPIRAL SPACERS: THREE EPOXY COATED ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LINEAR FOOT OF SPIRAL, SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE TOTAL NUMBER OF POUNDS OF THESE SPACERS, BASED ON 2.40 LB. PER LINEAR FOOT OF SPIRAL, IS INCLUDED IN THE TABULATED SPIRAL WEIGHT.

3. CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 10 FEET) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 3 INCH CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION OF THE COLUMN.

ALL REINFORCING STEEL TO BE EPOXY COATED.

CT Consultants
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35000 Kaiser Court Willoughby, Ohio 44094
440.951.9000 www.ctconsultants.com

DESIGNED I.A.S. | DRAWN R.L.B. | REVIEWED W.D.B. | DATE 4/15/05
CHECKED J.P.R. | REVISED | STRUCTURE FILE NUMBER 4303423

REINFORCING SCHEDULE
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

H:\2002\02117\DWG\BRIDGE\02117B22.DWG PLOT SCALE 1:48

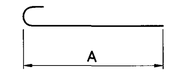
REINFORCING STEEL BAR SCHEDULE

MARK	REAR APPROACH SLAB PHASE 1	REAR APPROACH SLAB PHASE 2	REAR APPROACH SLAB PHASE 2–B	FORWARD APPROACH SLAB PHASE 1	FORWARD APPROACH SLAB PHASE 2	FORWARD APPROACH SLAB PHASE 2–B	TOTAL NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	H	INC.
APPROACH SLABS WITH SIDEWALKS																	
C501 *	37	–	–	29	–	–	66	36'–1"	2,484	STR.							
C502 *	28	–	–	36	–	–	64	34'–11"	2,331	STR.							
C503	27	33	2	27	33	2	124	29'–6"	3,815	STR.							
C504	–	65	–	–	65	–	130	30'–0"	4,068	STR.							
C505*	–	28	–	–	36	–	64	13'–0"	868	STR.							
C506*	–	37	–	–	29	–	66	14'–2"	975	STR.							
C507	1	1	–	–	–	–	2	16'–6"	34	STR.							
C508	21	21	–	21	21	–	84	3'–1"	270	6	1'–8"	10"	10"				
C509 *	9	–	–	12	–	–	21	2'–8"	58	STR.							
C510 *	–	–	21	–	–	21	42	2'–7"	113	STR.							
C511	–	–	21	–	–	21	42	1'–8"	73	5	11"	11"					
C512 *	12	–	–	9	–	–	21	4'–0"	88	STR.							
C513	–	21	–	–	21	–	42	2'–11"	128	6	1'–6"	10"	10"				
C514	–	12	–	–	9	–	21	6'–8"	146	STR.							
C515	–	9	–	–	12	–	21	5'–2"	113	STR.							
C516	–	–	–	1	1	–	2	12'–10"	27	STR.							
C1001	65	76	–	65	76	–	282	30'–11"	37,516	2	29'–6"						
C1002	–	–	–	2	2	–	4	14'–3"	245	2	12'–10"						
C1003	2	2	–	–	–	–	4	17'–11"	308	2	16'–6"						
						APPROACH SLAB TOTAL: 53,660 POUNDS											

MARK	REAR APPROACH SLAB PHASE 1	REAR APPROACH SLAB PHASE 2	FORWARD APPROACH SLAB PHASE 1	FORWARD APPROACH SLAB PHASE 2	TOTAL NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	H	INC.
APPROACH SLAB PARAPETS															
R501	–	–	5	5	10	13'–0"	136	STR.							
R502	5	5	–	–	10	16'–8"	174	STR.							
R503	17	17	14	14	62	6'–8"	431	45	3¼"	2'–11"	10¼"	2'–11"			
						APPROACH SLAB PARAPET TOTAL: 741 POUNDS									

NOTE: PAYMENT FOR APPROACH SLAB PARAPETS REINFORCING STEEL SHALL BE UNDER ITEM 509 – EPOXY COATED REINFORCING STEEL.

STD.



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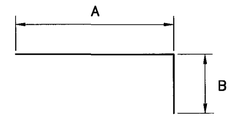
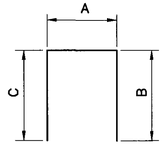


TYPE 5



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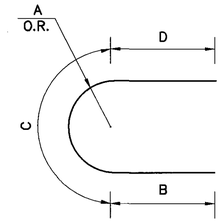

TYPE 45

* – REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED ASSUMING 2½" CLEAR TO THE CONSTRUCTION JOINT. EXTRA BAR LENGTH AND/OR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN.
   THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A700 IS A NO. 7 AND A1014 IS A NO. 10 SIZE. BAR DIMENSIONS SHOWN ARE OUT TO OUT, UNLESS OTHERWISE INDICATED. O.R. INDICATES OUTSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORCING STEEL TO BE EPOXY COATED.

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DESIGNED I.A.S. | DRAWN R.L.B. | REVIEWED W.D.B. | DATE 4/15/05
CHECKED J.P.R. | REVISED | STRUCTURE FILE NUMBER 4303423

REINFORCING SCHEDULE
BRIDGE NO. LAK-084R-0082
STATE ROUTE 84 (BISHOP ROAD) OVER INTERSTATE 90

LAK-90/84-0.54/0.43

45 / 45

369
369

CENTERLINE SURVEY PLAT
FOR
LAK-90/84-0.54/0.43
WILLOUGHBY HILLS CITY
WICKLIFFE CITY
LAKE COUNTY, OHIO

MONUMENTS TO BE (M) SET DURING CONSTRUCTION					
STATION		DISTANCE FROM ℄ SUR.		ADJUSTABLE ℄ MONUMENT	℄ REFERENCE MONUMENT
		LEFT	RIGHT		
24+78.82	℄ EVERGREEN AVE.		0	1	
26+18.37	℄ P.C.		0	1	
20+09.06	℄ S.R. 6		0	1	
34+00.73	℄ P.T.		0	1	
		TOTALS		4	

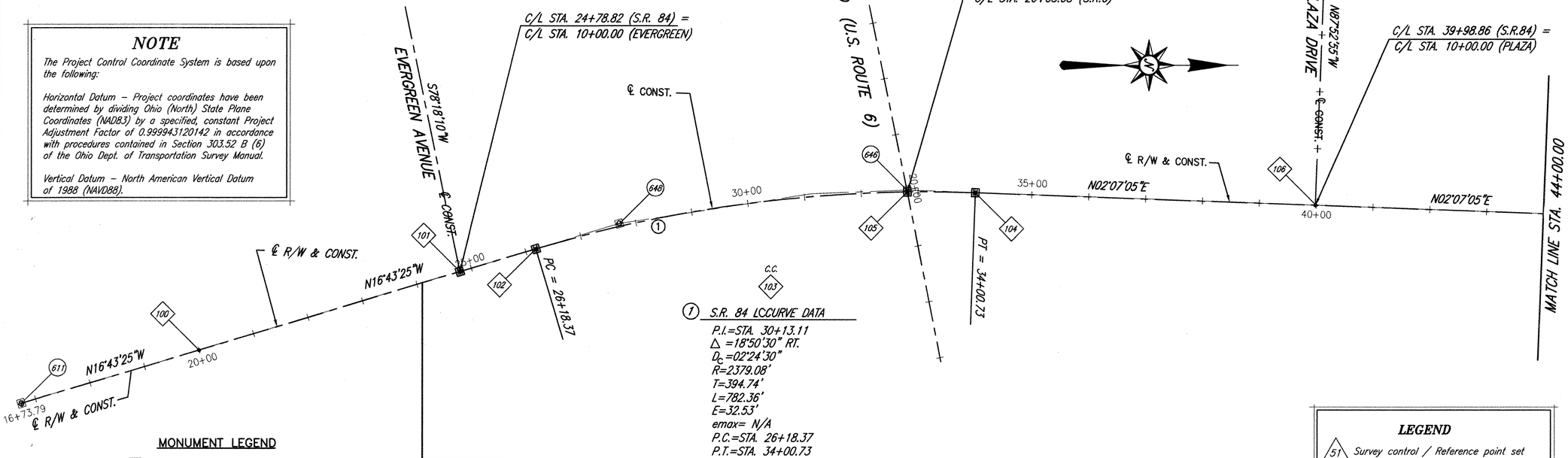
THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (REV. 4-18-03) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF HTE NEW LOCATIONS.

NOTE
The Project Control Coordinate System is based upon the following:

Horizontal Datum – Project coordinates have been determined by dividing Ohio (North) State Plane Coordinates (NAD83) by a specified, constant Project Adjustment Factor of 0.999943120142 in accordance with procedures contained in Section 303.52 B (6) of the Ohio Dept. of Transportation Survey Manual.

Vertical Datum – North American Vertical Datum of 1988 (NAVD88).



1 S.R. 84 LCCURVE DATA
P.I.=STA. 30+13.11
Δ =18°50'30" RT.
D_C=02°24'30"
R=2379.08'
T=394.74'
L=782.36'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. SET
- ○ I.P. FND.

LEGEND
- 51 Survey control / Reference point set
- 62 Existing survey monumentation found
- 4 Calculated location of centerline of street.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

BASIS OF BEARINGS – OHIO STATE PLANE COORDINATE SYSTEM (NAD83)

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

CT CONSULTANTS, INC.

BY _____
TIMOTHY P. HADDEN
REGISTERED SURVEYOR NO. 6786

DATE _____

RECEIVED _____, 20____
RECORDED _____, 20____
BOOK _____ PAGE _____
COUNTY RECORDER

N

SCALE IN FEET
200 100 0 200

CALCULATED | CHECKED

CENTERLINE SURVEY PLAT

LAK - 90/84 - 0.54/0.43

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CENTERLINE SURVEY PLAT
FOR
LAK-90/84-0.54/0.43
WILLOUGHBY HILLS CITY
WICKLIFFE CITY
LAKE COUNTY, OHIO

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

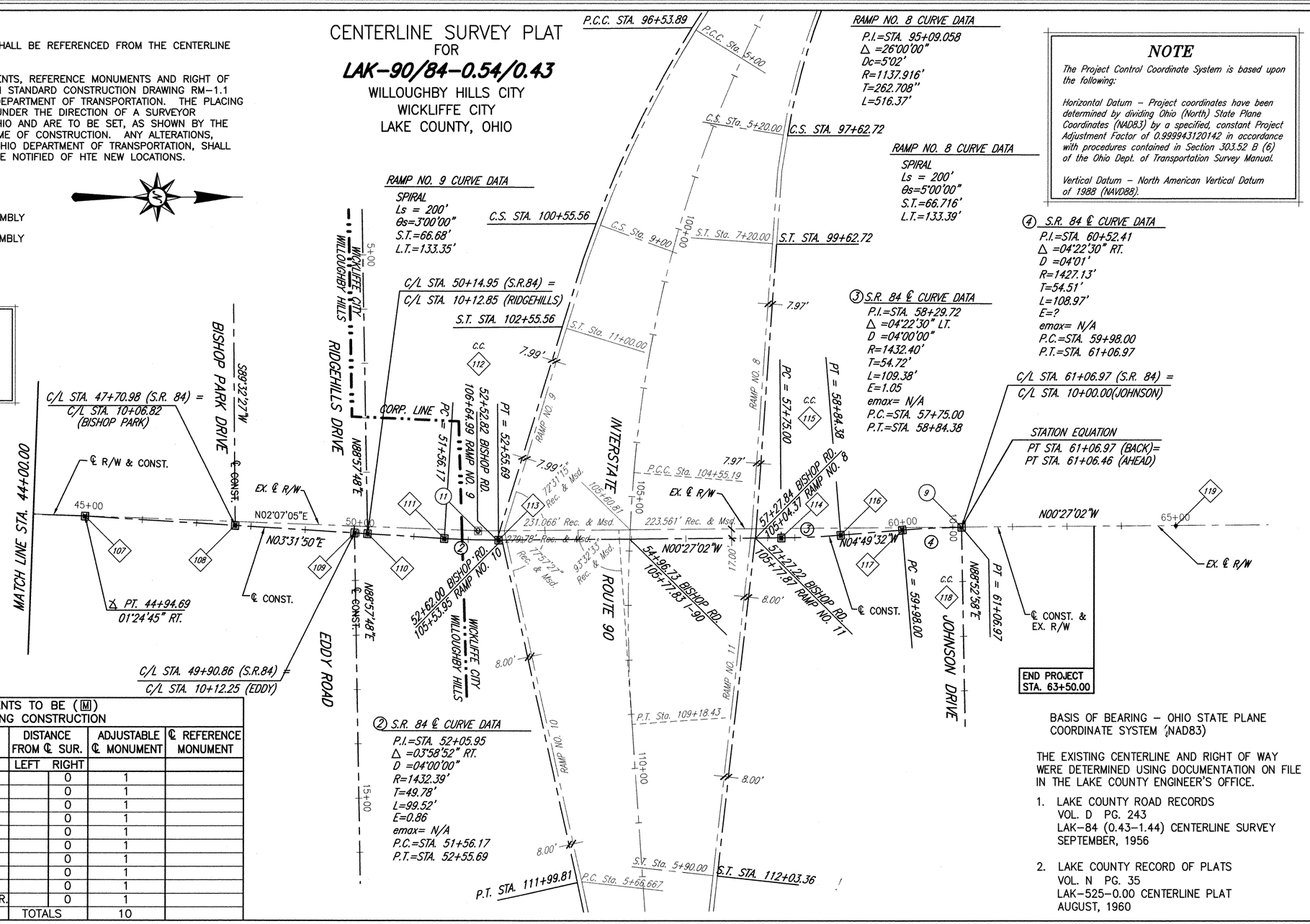
ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (REV. 4-18-03) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF HTE NEW LOCATIONS.

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. SET
- ○ I.P. FND.

LEGEND

- (S1) Survey control / Reference point set
- (62) Existing survey monumentation found
- 4 Calculated location of centerline of street.



RAMP NO. 9 CURVE DATA
SPIRAL
Ls = 200'
Θs=3°00'00"
S.T.=66.68'
L.T.=133.35'

RAMP NO. 8 CURVE DATA
P.I.=STA. 95+09.058
Δ =26°00'00"
Dc=5°02'
R=1137.916'
T=262.708"
L=516.37'

RAMP NO. 8 CURVE DATA
SPIRAL
Ls = 200'
Θs=5°00'00"
S.T.=66.716'
L.T.=133.39'

③ S.R. 84 ℄ CURVE DATA
P.I.=STA. 58+29.72
Δ =04°22'30" LT.
D =04°00'00"
R=1432.40'
T=54.72'
L=109.38'
E=1.05
emax= N/A
P.C.=STA. 57+75.00
P.T.=STA. 58+84.38

④ S.R. 84 ℄ CURVE DATA
P.I.=STA. 60+52.41
Δ =04°22'30" RT.
D =04°01'
R=1427.13'
T=54.51'
L=108.97'
E=?
emax= N/A
P.C.=STA. 59+98.00
P.T.=STA. 61+06.97

② S.R. 84 ℄ CURVE DATA
P.I.=STA. 52+05.95
Δ =03°58'52" RT.
D =04°00'00"
R=1432.39'
T=49.78'
L=99.52'
E=0.86
emax= N/A
P.C.=STA. 51+56.17
P.T.=STA. 52+55.69

C/L STA. 61+06.97 (S.R. 84) = C/L STA. 10+00.00(JOHNSON)

STATION EQUATION
PT STA. 61+06.97 (BACK)=
PT STA. 61+06.46 (AHEAD)

NOTE
The Project Control Coordinate System is based upon the following:

Horizontal Datum – Project coordinates have been determined by dividing Ohio (North) State Plane Coordinates (NAD83) by a specified, constant Project Adjustment Factor of 0.999943120142 in accordance with procedures contained in Section 303.52 B (6) of the Ohio Dept. of Transportation Survey Manual.

Vertical Datum – North American Vertical Datum of 1988 (NAVD88).

MONUMENTS TO BE ([M]) SET DURING CONSTRUCTION

STATION		DISTANCE FROM ℄ SUR. LEFT	DISTANCE FROM ℄ SUR. RIGHT	ADJUSTABLE ℄ MONUMENT	℄ REFERENCE MONUMENT
44+94.69	℄ P.T.		0	1	
47+70.98	℄ BISHOP PARK DR.		0	1	
49+90.86	℄ EDDY		0	1	
50+14.95	℄ RIDGEHILLS DR.		0	1	
51+56.17	℄ P.C.		0	1	
52+55.69	℄ P.T.		0	1	
57+75.00	℄ P.C.		0	1	
58+84.38	℄ P.T.		0	1	
59+98.00	℄ P.C.		0	1	
61+06.97	℄ P.T. & JOHNSON DR.		0	1	
	TOTALS			10	

BASIS OF BEARING – OHIO STATE PLANE COORDINATE SYSTEM (NAD83)

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

N

SCALE IN FEET
200 100 0 200

CALCULATED
CHECKED

CENTERLINE SURVEY PLAT

LAK - 90/84 - 0.54/0.43

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BASIS OF BEARINGS - OHIO STATE PLANE
COORDINATE SYSTEM (NAD83)

PROJECT CONTROL COORDINATES

NO.	NORTH	EAST	ELEV.	CODE
9,	702903.2679,	2247737.0906,	0.00,	1
11,	702015.0455,	2247744.0752,	0.00,	1
100,	698835.0505,	2247953.8832,	0.00,	10
101,	699293.6149,	2247816.1018,	0.00,	10
102,	699427.2700,	2247775.9434,	0.00,	10
103,	700111.8605,	2250054.3985,	0.00,	10
104,	700199.7829,	2247676.9437,	0.00,	10
105,	700080.2521,	2247675.5285,	0.00,	10
106,	700797.5055,	2247699.0485,	0.00,	10
107,	701292.9955,	2247717.3726,	0.00,	10
108,	701568.7624,	2247734.3861,	0.00,	10
109,	701788.2286,	2247747.9262,	0.00,	10
110,	701812.2755,	2247749.4098,	0.00,	10
111,	701953.2233,	2247758.1057,	0.00,	10
112,	702041.4277,	2246328.4340,	0.00,	10
113,	702052.6910,	2247760.7797,	0.00,	10
114,	702571.9782,	2247756.6962,	0.00,	10
115,	702560.7197,	2246324.3405,	0.00,	10
116,	702681.2168,	2247751.6632,	0.00,	10
117,	702794.4363,	2247742.1050,	0.00,	10
118,	702914.4899,	2249164.1741,	0.00,	10
119,	703296.7957,	2247733.9960,	0.00,	10
250,	699297.3617,	2247814.9760,	0.00,	10
256,	698806.2105,	2247991.6680,	0.00,	2
257,	698833.8341,	2247983.6752,	0.00,	2
258,	698883.6125,	2247966.6026,	0.00,	2
259,	699254.3718,	2247783.2003,	0.00,	2
260,	699322.5353,	2247761.5330,	0.00,	2
261,	699377.2233,	2247747.5478,	0.00,	2
262,	699420.8465,	2247728.4193,	0.00,	2
263,	699464.2556,	2247716.6323,	0.00,	2
264,	700110.0629,	2247566.7617,	0.00,	2
265,	700134.2716,	2247616.2573,	0.00,	2
266,	700167.9035,	2247613.8166,	0.00,	2
267,	700203.1183,	2247613.3177,	0.00,	2
268,	700241.2928,	2247615.4136,	0.00,	2
269,	700752.6897,	2247741.5667,	0.00,	2
270,	700839.6359,	2247745.6275,	0.00,	2
271,	700901.3993,	2247747.9311,	0.00,	2
272,	701260.5151,	2247655.3952,	0.00,	2
273,	701295.6828,	2247658.4824,	0.00,	2
274,	701340.1399,	2247770.9824,	0.00,	2
275,	701504.2000,	2247780.8975,	0.00,	2
276,	701590.7992,	2247777.1581,	0.00,	2
277,	701488.8544,	2247674.0223,	0.00,	2
278,	701834.4325,	2247806.2853,	0.00,	2
279,	701861.2191,	2247808.5976,	0.00,	2
280,	701887.4280,	2247810.0405,	0.00,	2
281,	701937.8787,	2247811.1424,	0.00,	2
282,	701992.9627,	2247820.7270,	0.00,	2
283,	702017.6248,	2247818.9335,	0.00,	2
284,	702024.6355,	2247668.5865,	0.00,	2
285,	702555.1213,	2247820.7148,	0.00,	2
286,	702594.3904,	2247632.6570,	0.00,	2
287,	702663.0831,	2247669.3111,	0.00,	2
288,	702699.1329,	2247662.7265,	0.00,	2
289,	702745.5416,	2247662.7763,	0.00,	2
290,	702829.6511,	2247681.6306,	0.00,	2
291,	702895.9534,	2247679.6250,	0.00,	2
292,	702862.0684,	2247801.2452,	0.00,	2
293,	702930.8383,	2247800.6803,	0.00,	2
294,	703260.9213,	2247692.6046,	0.00,	2
295,	703289.5556,	2247693.7164,	0.00,	2
296,	703326.4491,	2247693.0910,	0.00,	2
611,	698522.6330,	2248047.7530,	0.00,	1
646,	700079.6510,	2247672.5010,	0.00,	1
648,	699573.8920,	2247731.8890,	0.00,	1

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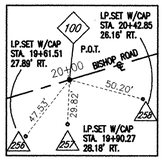
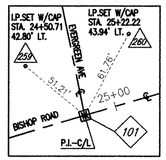
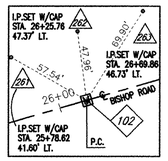
CENTERLINE SURVEY PLAT
FOR
LAK-90/84-0.54/0.43
WILLOUGHBY HILLS CITY
WICKLIFFE CITY
LAKE COUNTY, OHIO



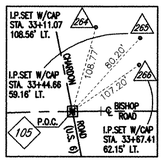
BISHOP ROAD
P.O.T. STA. 20+00.00



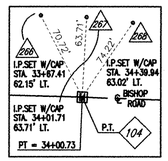
BISHOP ROAD
P.I. STA. 24+78.82
(EVERGREEN AVE)
C.L. STA. 10+00.00



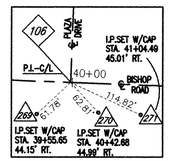
BISHOP ROAD
P.C. STA. 26+18.37



BISHOP ROAD
P.O.C. STA. 32+81.17

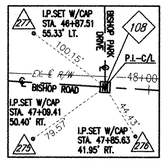


BISHOP ROAD
P.T. STA. 34+00.73

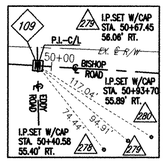


BISHOP ROAD
P.I. STA. 39+98.86
(PLAZA DRIVE)
C/L STA. 10+00.00

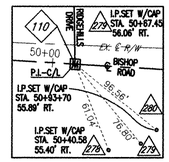
BISHOP ROAD
P.I. STA. 44+94.69



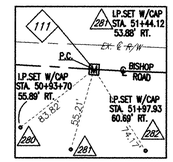
BISHOP ROAD
P.I. STA. 47+70.98
(BISHOP PARK)
C/L STA. 10+06.82



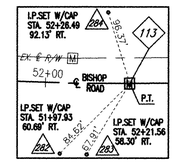
BISHOP ROAD
P.I. STA. 49+90.86
(EDDY ROAD)
C/L STA. 10+12.25



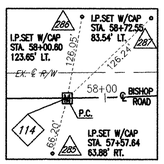
BISHOP ROAD
P.I. STA. 50+14.95
(RIDGEHILLS DRIVE)
C/L STA. 10+12.85



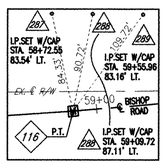
BISHOP ROAD
P.C. STA. 51+56.17



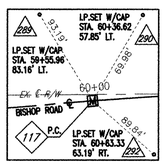
BISHOP ROAD
P.T. STA. 52+55.69



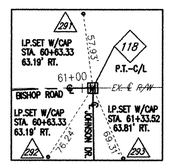
BISHOP ROAD
P.C. STA. 57+75.00



BISHOP ROAD
P.T. STA. 58+84.38



BISHOP ROAD
P.C. STA. 59+98.00



BISHOP ROAD
P.T. STA. 61+06.98
(JOHNSON DRIVE)
C/L STA. 10+00.00

NOTE

The Project Control Coordinate System is based upon the following:

Horizontal Datum - Project coordinates have been determined by dividing Ohio (North) State Plane Coordinates (NAD83) by a specified, constant Project Adjustment Factor of 0.999943120142 in accordance with procedures contained in Section 303.52 B (6) of the Ohio Dept. of Transportation Survey Manual.

Vertical Datum - North American Vertical Datum of 1988 (NAVD88).

LEGEND

- (51) Survey control / Reference point set
- (62) Existing survey monumentation found
- ◇ 4 Calculated location of centerline of street.

SURVEY CONTROL DESCRIPTION CODE LEGEND

1 - Mon. Box
2 - Iron Pin Set
3 - Iron Pin Found
4 - Iron Pipe Found
5 - Drill Hole
6 - Hub & Tack
7 - P.K. Nail
8 - Conc. Mon.
9 - G.P.S. Pnt.
10 - Misc. Ctl.

N

SCALE IN FEET
200 100 0 200

CALCULATED
CHECKED

CENTERLINE SURVEY PLAT

LAK - 90/84 - 0.54/0.43

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PART OF LOTS 6, 4 & 3, TRACT 4 WILLOUGHBY HILLS CITY LAKE COUNTY, OHIO

TRACT

LOT 6 · LOT 4 · LOT 3

EVERGREEN AVENUE

U.S. ROUTE 6

S.R. 84

LOT LINE

BEGIN WORK STA. 22+00.00

BEGIN R/W ACQUISITION STA. 21+50.98

BEGIN PROJECT STA. 24+10.00

(S.R. 84) STA. 32+81.18 STA. 20+03.08 (U.S. 6)

(S.R. 84) STA. 24+82.73 STA. 10+00.00 (U.S. 6)

MATCH LINE STA. 42+00

EX. 10' EAST OHIO GAS EMENT VOL. 347 PG. 65

EX. ACCESS EASEMENT VOL. 882 PG. 916

EX. ACCESS EM'T DOC. #2002R052136

EX. SANITARY EASEMENT VOL. 882 PG. 916

EX. ROADWAY EASEMENT VOL. 239 PG. 239

EX. 10' HIGHWAY EASEMENT DOC. #990022940

EX. ACCESS EASEMENT DOC. #2002R019999

EX. TRAFFIC EM'T VOL. 392 PG. 374

50' ACCESS EM'T VOL. 389 PG. 187

EX. ROADWAY EASEMENT DOC. #980007425

EX. 20' SEWER EASEMENT VOL. 138 PG. 665

EX. SEWER EASEMENT VOL. 187 PG. 303

EX. ACCESS EM'T VOL. 858 PG. 264

INGRESS/EGRESS EM'T

31A-8C-035 · 31A-8C-003 · 31A-8C-004 · 31A-8C-005 · 31A-8C-006 · 31A-8C-007 · 31A-8C-020 · 31A-8C-022 · 31A-8C-054 · 31A-8C-058 · 31A-8C-001

31A-8D-072 · 31A-8D-073 · 31A-8D-074 · 31A-8D-075 · 31A-8D-017 · 31A-8D-034 · 31A-8D-086 · 31A-8D-032 · 31A-8D-071 · 31A-8D-070 · 31A-8D-069 · 31A-8D-068 · 31A-8D-067 · 31A-8D-066 · 31A-8D-065 · 31A-8D-038 · 31A-8D-039 · 31A-8D-040

31A-8-012 · 31A-8-016 · 31A-8-018 · 31A-8-023 · 31A-8-014

31A-8K-(001-014)

31A-8F-015 · 31A-8F-016 · 31A-8F-017 · 31A-8F-018

S/L 1 · S/L 2 · S/L 3 · S/L 4 · S/L 5 · S/L 6 · S/L 7 · S/L 8 · S/L 9 · S/L 12 · S/L 13 · S/L 14 · S/L15

35+00 · 40+00 · 30+00 · 25+00 · 20+00 · 15+00 · 5+00 · 29+06.18

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line
Fence Line (existing) —x—x— (proposed) —X—X—
Center Line
Trees, Stumps ,(to be removed)
Utility Poles: Telephone ,Power ,Light
Limited Access (only) — L/A —
Right of Way (only) — R/W —
Limited Access & Right of Way — L/A & R/W —
Existing Right of Way — EX. R/W —
Property Line (in existing fence)
Railroad or
Guardrail (exist.) (prop.)
Manholes (exist.) (adjst.) (prop.)
Catch or Inlet Basins (exist.) (adjst.) (prop.)
Temporary Easement —T—T—

PROPERTY OWNERS

1. PAUL L. McNEILL
2. JOHN J. & THERESA WHITTINGTON
3. JOANN C. PALMER
4. JOHN D. SMICKLAS JR.
5. MARLENE BROWN
6. MARY ANN ZIGMAN & DEBRA ANN PACHINGER
7. CATHERINE G. DEVICTOR
8. DOUGLAS K. SCHROYER
9. ERNEST H. & MILDRED HALL
10. JOHN P. HOLLIS
11. CITY OF WILLOUGHBY HILLS
12. ANTHONY L. MALNAR
13. EARL B. & MARY E. KROCKER
14. NORMA S. CHICONE
15. MARION J. PAGLISOTTI
16. RONALD J. & SANDRA L. MAXEY
17. TRUE NORTH ENERGY, LLC
18. MUSCA PROPERTIES LLC
19. SCP2001A-CSF-63 LLC
20. BP EXPLORATION & OIL INC.
21. GC ACQUISITION CORP.
22. INLAND SOUTHEAST WILLOUGHBY HILLS LLC
23. McDONALDS CORP.
24. BISHOP-WILLOUGHBY COMPANY, LTD.
55. CITY OF WILLOUGHBY HILLS
56. CHARDON EMERALD LAKES LTD.
57. ELLIOTT WEISENBERG & ELLACOTT SHAKER MOTORS, INC.
58. JAI MAHA LAXMI CO. LLC
59. ARBOR HILLS CONDOMINIUM (AKA STEEPLE RUN CONDOMINIUM)
60. VINCENT J. KLAUE & SUSAN E. DAY
61. VINCENT MARCELLINO & DAWN M. YAFANARO ETAL (4)
62. ROBERT L. MERCER
63. ANTON & ANNA TURNISKI
64. RICHARD A. & JOAN D. MOTUZA
65. BENEDICT A. & ARLEN J. BURGER
66. JOHN M. & PATRICIA MILFORD
67. CONCETTA C. RUSCITTO

UTILITY OWNERS

CLEVELAND ELECTRIC ILLUMINATING COMPANY
6896 MILLER ROAD
BRECKSVILLE, OHIO 44141
ATTN: MR. FRANK DIBBS
440-546-8748

DOMINION EAST OHIO GAS COMPANY
1201 EAST 55TH STREET
CLEVELAND, OHIO 44103
ATTN: MR. MIKE ANTONIUS
216-736-6675

LAKE COUNTY DEPARTMENT OF UTILITIES
ADMINISTRATION BUILDING
105 MAIN STREET
PAINESVILLE, OHIO 44077
ATTN: MR. ALBERT SAARI, P.E.
440-350-2649

AMERITECH
13630 LORAIN AVENUE, 4TH FLOOR
CLEVELAND, OHIO 44111
ATTN: MR. ERIC JOHNSTON
216-476-6141

AMERICAN TELEPHONE & TELEGRAPH
229 WEST 7TH STREET
10TH FLOOR
CINCINNATI, OHIO 45202
ATTN: MR. JEFF BALLINGER
513-784-3238

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

REV.	DATE	DESCRIPTION

PLAN COMPLETED:

SCALE IN FEET: 100 50 0 100

P.I.D. NO. 9247

R/W DESIGNER PSL · R/W REVIEWER WDB

PROPERTY MAP
STA. 21+50.98 TO STA. 42+00

LAK - 90/84 - 0.54/0.43

4 / 38

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PART OF LOTS 4 & 3, TRACT 4 WILLOUGHBY HILLS CITY
PART OF LOTS 2, 3 & 6, TRACT 8 WICKLIFFE CITY
LAKE COUNTY, OHIO

PROPERTY OWNERS

(25) ELIZABETH LA RICHE
(26) L & H REAL ESTATE HOLDINGS LLC
(27) THE DELBALSO PROPERTIES LLC
(28) HENRY R. REBOL
(29) LEONARD FUCHS, TRUSTEE
(30) RENAISSANCE PROPERTIES CO.
(31) JAMES M. CHRISTENSEN
(32) CITY OF WILLOUGHBY HILLS
(33) TRUE NORTH ENERGY, LLC
(34) RENAISSANCE PROPERTIES CO.
(35) PATRICK J. MANGAN
(36) WILLOUGHBY COMPASS LLC
(37) THE GATEWAY PROFESSIONAL CENTER LLC
(38) THE VILLAGE OF WILLOUGHBY HILLS, OHIO
(39) RENAISSANCE PROPERTIES CO.
(40) RABBINICAL COLLEGE OF TELSHE, INC.
(41) RABBINICAL COLLEGE OF TELSHE, INC.
(42) MENUCHIES PLACE LTD.
(43) SHLOMO & BLUMA DAVIS
(44) THE RETIREMENT MANAGEMENT COMPANY
(45) EDWARD M. & ALICE M. DRAGOLICH
(46) JOHN A. JR. & COLETTA M. DICELLO
(47) J. JAY & SHERYL L. FABIAN
(48) CHRISTOPHER R. SGARLATA
(49) RAYMOND F. SACK, JR.
(50) DANIEL SIEPKA
(51) VICTOR R. KATZ
(52) LEEBY A. HAUER & SHULAMIS P. RUBINFELD
(53) LYNN LIPOVEC, AKA LINDA M. LIPOVEC
(54) DENNIS R. & SARAH K. JAPEL

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

SCALE IN FEET 100 50 0 100

P.I.D. NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

PROPERTY MAP
STA. 42+00 TO STA. 65+47.74+

LAK - 90/84 - 0.54/0.43

5 / 38

REV.	DATE	DESCRIPTION
PLAN COMPLETED:		

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TOTAL NUMBER OF:
55 OWNERSHIPS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF CITY OF WILLOUGHBY HILLS/CITY OF WICKLIFFE UNLESS OTHERWISE NOTED.
* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
1T	PAUL L. McNEILL	11–12	DOC. #2002R041689		31-A-008-C-00-022-0	0.977		0.0089		0.0089					GRADING FOR TEMPORARY PAVEMENT		
			DOC. #2002R041690		31-A-008-C-00-021-0	0.3781		0.0063		0.0063							
					TOTAL	1.3551		0.0152		0.0152							
2WD	JOHN J. & THERESA L. WHITTINGTON	11–12	867	1278	31-A-008-C-00-020-0	0.4478	0.1592	0.0405	0.0389	0.0016		0.2870					
2T								0.0407		0.0407					TEMPORARY PAVEMENT & GRADING		
3WD	JOANN C. PALMER	11–12	1052	135	31-A-008-C-00-007-0	0.749	0.215	0.109	0.099	0.010		0.524					
3T								0.047		0.047					DRIVEWAY CONSTRUCTION, TEMPORARY PAVEMENT & GRADING		
3S								0.0016		0.0016					PARCEL 3S OVERLAPS 3T BY 0.0016 ACRES		
4	JOHN D. SMICKLAS JR.	11–12	661	175	31-A-008-F-00-018-0	1.0874									NO R/W REQUIRED		
5	LEE L. & MARLENE BROWN	11–12	562	317	31-A-008-F-00-017-0	0.997									NO R/W REQUIRED		
6T	MARY ANN ZIGMAN & DEBRA ANN PACHINGER	11–12	DOC. #2003R028745		31-A-008-F-00-016-0	7.90		0.018		0.018					GRADING		
6S								0.0015		0.0015					PARCEL 6S OVERLAPS 6T BY 0.0015 ACRES		
7WD	CATHERINE G. DeVICTOR	13–14	DOC. #200132659		31-A-008-C-00-006-0	0.581	0.074	0.092	0.074	0.018		0.489					
7T								0.029		0.029					DRIVEWAY CONSTRUCTION & GRADING		
8WD	DOUGLAS K. SCHROYER	13–14	DOC. #200134708		31-A-008-C-00-005-0	2.478	0.082	0.109	0.082	0.027		2.369					
8T								0.021		0.021				LOCAL	DRIVEWAY CONSTRUCTION & GRADING		
9WD	ERNEST H. & MILDRED HALL	13–14	843	1194	31-A-008-C-00-004-0	0.466	0.041	0.062	0.041	0.021		0.404					
9T								0.014		0.014					DRIVEWAY CONSTRUCTION & GRADING		
10WD	JOHN P. HOLLIS	13–14	890	759	31-A-008-C-00-058-0	0.610	0	0.003	0	0.003		0.607			INGRESS/EGRESS EASEMENT OVERLAPS 10WD BY 30 SF & 10T BY 673 SF		
10T								0.060		0.060					DRIVEWAY CONSTRUCTION & GRADING		
11	CITY OF WILLOUGHBY HILLS	13–14	726	510	31-A-008-C-00-056-0	0.209	0.140	0	0.140	0					NO R/W REQUIRED		
12WD	ANTHONY L. MALNAR	13–14	DOC. #960022922		31-A-008-F-00-015-0	6.00	0.115	0.128	0.115	0.013			5.872				
12T								0.029		0.029					DRIVEWAY CONSTRUCTION & GRADING		
12S								0.0011		0.0011					PARCEL 12S OVERLAP 12T BY 0.0011 ACRES		
13WD	EARL B. & MARY E. KROCKER	13–14	DOC. #2004R00991		31-A-008-D-00-077-0	0.445	0.064	0.095	0.064	0.031			0.350				
			131	507	31-A-008-D-00-076-0	0.38	0	0	0	0			0.38				
					TOTAL	0.825	0.064	0.095	0.064	0.031			0.730				
13T								0.015		0.015					DRIVEWAY CONSTRUCTION & GRADING		
14WD	NORMA S. CHICONE	13–14	937	442	31-A-008-D-00-075-0	0.75	0.056	0.084	0.056	0.028			0.666				
14T								0.012		0.012					DRIVEWAY CONSTRUCTION & GRADING		

NOTE:
ALL TEMPORARY PARCELS TO BE OF 24 MONTHS DURATION.

NOTE:
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REV	DATE	DESCRIPTION
PSL	5/25/05	DELETED PARCEL 5T
PSL	1/10/05	REVISED AREAS PARCEL 2WD

FIELD REVIEW BY: PSL DATE: 4/23/04
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED:

P.I.D. NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB
SUMMARY OF ADDITIONAL RIGHT OF WAY
LAK– 90/84 – 0.54/0.43
6/38

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SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF CITY OF WILLOUGHBY HILLS/CITY OF WICKLIFFE UNLESS OTHERWISE NOTED.
* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
15WD	MARION J. PAGLISOTTI	13–14	DOC. #200032489		31-A-008-D-00-074-0	0.597	0.056	0.081	0.056	0.025			0.516				
15T								0.015		0.015					DRIVEWAY CONSTRUCTION & GRADING		
16WD	RONALD J. & SANDRA L. MAXEY	13–14	DOC. #980001929		31-A-008-D-00-073-0	0.617	0.056	0.084	0.056	0.028			0.533				
16T								0.018		0.018					DRIVEWAY CONSTRUCTION & GRADING		
17WD	TRUE NORTH ENERGY, LLC	15–16	DOC. #200002850		31-A-008-C-00-001-0	0.4994	0	0.0859	0	0.0859		0.4135			TRAFFIC EASEM'T OVERLAPS 17WD BY 16 SF – ACCESS EASEM'T OVERLAPS		
17T								0.029		0.029					17WD BY 39 SF & 17T BY 16 SF DRIVEWAY CONSTRUCTION & GRADING		
18T	MUSCA PROPERTIES, LLC	15–16	DOC. #2002R052136		31-A-008-0-00-016-0	2.000	0	0.029	0	0.029					DRIVEWAY CONSTRUCTION & GRADING		
		33–34															
19WD	SCP 2001A–CSF–63 LLC	15–16	DOC. #2002R011987		31-A-008-D-00-072-0	1.996	0.376	0.525	0.376	0.149			1.471		TRAFFIC EASEM'T OVERLAPS 19WD BY 98 SF – 20' SEWER EASEM'T OVERLAPS		
19T		35–36						0.075		0.075					19WD BY 3,605 SF & 19T BY 1,378 SF DRIVEWAY CONSTRUCTION & GRADING		
20WD	BP EXPLORATION & OIL INC.	15–16	DOC. #970047830		31-A-008-D-00-034-0	2.692	0.481	0.662	0.481	0.181			2.030				
20T		35–36						0.185		0.185					DRIVEWAY CONSTRUCTION & GRADING		
21WD	GC ACQUISITION CORP.	15–18	422	1142	31-A-008-0-00-012-0	14.080	1.080	1.514	1.080	0.434		12.566			EX. ACCESS EASEM'T OVERLAPS 21T BY 756 SF		
21SH		31–34						0.0051		0.0051					21SH OVERLAPS 21T BY 0.0051 ACRES (220 SF)		
21SH1								0.0057		0.0057					21SH1 OVERLAPS 21T BY 0.0057 ACRES (250 SF)		
21SH2								0.0051		0.0051					21SH2 OVERLAPS 21T BY 0.0051 ACRES (220 SF)		
21SH3								0.0078		0.0078				LOCAL	21SH3 OVERLAPS 21T BY 0.0078 ACRES (340 SF)		
21T								0.466		0.466					DRIVEWAY CONSTRUCTION & GRADING		
															EX. ROADWAY EASEM'T OVERLAPS 21WD BY 2,377 SF & 21T BY 30 SF		
22WD	INLAND SOUTHEAST WILLOUGHBY HILLS, L.L.C.	17–18	DOC. #2003R040953		31-A-008-0-00-018-0	13.1829	0	0.0173	0	0.0173	S	13.1656			TRAFFIC EASEM'T OVERLAPS 22WD BY 240 SF, 22T BY 560 SF & 22SH BY 415 SF		
					31-A-008-0-00-023-0	0.9670	0	0.0172	0	0.0172		0.9498			30' SAN & STO EASEM'T OVERLAPS 22WD BY 1501 SF, 22T BY 1398 SF		
					TOTAL	14.1499	0	0.0345	0	0.0345		14.1154			& 22SH BY 840 S.F.		
22SH								0.0264		0.0264					22SH OVERLAPS 22T BY 0.0264 ACRES (1152 SF)		
22T								0.1642		0.1642					DRIVEWAY CONSTRUCTION & GRADING		
															50' ACCESS EASEM'T OVERLAPS 22WD BY 750 SF & 22T BY 6,500 SF		
23WD	McDONALDS CORPORATION	17–18	217	725	31-A-008-D-00-086-0	2.0193	0.1761	0.2641	0.1761	0.0880	S(4)		1.7552		2 ENTER SIGNS, 2 EXIT SIGNS		
23T								0.1349		0.1349					DRIVEWAY CONSTRUCTION & GRADING		
24WD	BISHOP–WILLOUGHBY COMPANY, LTD.,	17–20	DOC. #960010145		31-A-008-D-00-031-0	1.7389	0.1623	0.2436	0.1623	0.0813			1.4953				
	AN OHIO LIMITED LIABILITY COMPANY				31-A-008-D-00-032-0	1.3735	0.1365	0.2040	0.1365	0.0675			1.1695				
					TOTAL	3.1124	0.2988	0.4476	0.2988	0.1488			2.6648				
24SH								0.0035		0.0035					LOOP DETECTORS		
24T								0.1385		0.1385					DRIVEWAY CONSTRUCTION & GRADING		
25WD	ELIZABETH LA RICHE	19–20	1096	323	31-A-008-0-00-014-0	8.357	0.358	0.533	0.358	0.175	S(2)	7.824			30' SAN. & STO. EASEM'T OVERLAPS 25WD BY 7,619 SF & 25T BY 5,604 SF		
25T								0.151		0.151					DRIVEWAY CONSTRUCTION & GRADING		
26WD	L&H REAL ESTATE HOLDINGS, LLC	19–20	DOC. #2003R012785		31-A-008-D-00-030-0	1.3232	0.1257	0.1884	0.1257	0.0627			1.1348				
26T								0.0459		0.0459					GRADING		
26S								0.0026		0.0026					PARCEL 26S OVERLAPS PARCEL 26T BY 0.0026 ACRES		

NOTE:
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REV	DATE	DESCRIPTION
PSL	3/01/05	REVISED AREA FOR PCL 18T
PSL	10/18/04	REVISED PRO AREAS FOR PCL 17 & 22

FIELD REVIEW BY: DATE:
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED:

P.I.D. NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB

SUMMARY OF ADDITIONAL RIGHT OF WAY

LAK– 90/84 – 0.54/0.43

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SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF CITY OF WILLOUGHBY HILLS/CITY OF WICKLIFFE UNLESS OTHERWISE NOTED.
* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
27WD	THE DEL BALSO PROPERTIES, LLC	19–20	DOC. #2003R016237		31-A-008-D-00-028-0	1.405	0.055	0.084	0.055	0.029			1.321				
27T								0.019		0.019					DRIVEWAY CONSTRUCTION & GRADING		
28WD	HENRY R. REBOL	21–22	418	474	31-A-008-D-00-027-0	0.802	0.071	0.113	0.071	0.042			0.689				
28T								0.020		0.020					DRIVEWAY CONSTRUCTION & GRADING		
28S								0.0016		0.0016					PARCEL 28S OVERLAPS 28T BY 0.0016 ACRES		
29WD	LEONARD FUCHS, TRUSTEE	21–22	633	194	31-A-008-0-00-004-0	13.108	0.132	0.178	0.132	0.046		12.930					
29SH								0.0038		0.0038					29SH OVERLAPS 29T BY 0.0039 ACRES (171 SF)		
29T								0.1353		0.1353					GRADING, ISLAND RECONST. & CURB RAMP CONSTRUCTION		
29S								0.0025		0.0025					TRAFFIC EASEM'T OVERLAPS 29WD BY 259 SF & 29T BY 941 SF		
30WD	RENAISSANCE PROPERTIES CO.	21–22	35	1387	31-A-008-0-00-002-0	0.2684	0	0.0088	0	0.0088		0.2596					
30SH			35	1395				0.0053		0.0053					30SH OVERLAPS 30T BY 0.0061 ACRES (264 SF)		
30T			36	1				0.0384		0.0384					DRIVEWAY & CURB RAMP CONSTRUCTION & GRADING		
31T	JAMES M. CHRISTENSEN	21–22	DOC. #980025152		31-A-008-0-00-005-0	0.5082		0.0886		0.0886					DRIVEWAY CONSTRUCTION & GRADING		
32	CITY OF WILLOUGHBY HILLS	21–22	629	277	31-A-008-0-00-005-0	0.0472		0		0					NO R/W REQUIRED		
33T	TRUE NORTH ENERGY, LLC	23–24	DOC. #990050415		31-A-025-0-00-040-0	0.582		0.0363		0.0363					DRIVEWAY CONSTRUCTION & GRADING		
34T	RENAISSANCE PROPERTIES CO.	23–24	35	1395	29-B-010-I-00-001-0	0.208		0.005		0.005					GRADING		
															EX. INGRESS EM'T OVERLAPS 34T BY 192 SF. (0.0044 ACRES)		
35WD	PATRICK J. MANGAN	21–22	1103	1096	31-A-008-D-00-026-0	0.778	0.071	0.119	0.071	0.048			0.659				
35T								0.020		0.020					DRIVEWAY CONSTRUCTION & GRADING		
36WD	WILLOUGHBY COMPASS LLC	21–22	DOC. #2004R024900		31-A-008-D-00-023-0	1.176	0.283	0.170	0.110	0.060	S		0.833				
					31-A-008-D-00-024-0	0.252	0.035	0.063	0.035	0.028			0.189				
					31-A-008-D-00-025-0	0.243	0.036	0.062	0.036	0.026			0.181				
					TOTAL	1.671	0.354	0.295	0.181	0.114			1.203				
36T								0.122		0.122					DRIVEWAY CONSTRUCTION & GRADING		
37WD	THE GATEWAY PROFESSIONAL CENTER L.L.C.	23–24	DOC. #980000851		31-A-025-0-00-048-0	0.86	0	0.062	0	0.062	S		0.798				
37T								0.101		0.101					DRIVEWAY CONSTRUCTION & GRADING		
38	VILLAGE OF WILLOUGHBY HILLS, OHIO	23–24	731	204	31-A-025-0-00-049-0	0.058		0		0					NO R/W REQUIRED		
39T	RENAISSANCE PROPERTIES CO.	25–26	35	1395	29-B-010-0-00-010-0	10.320		0.027		0.027					GRADING		
40T	RABBINICAL COLLEGE OF TELSHE, INC.	27–28	389	486	29-B-010-0-00-012-0	37.230		0.067		0.067					GRADING		

TYPE FUND: LOCAL

NOTE:
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REV	DATE	DESCRIPTION
PSL	5/17/05	REVISED PARCEL 29SH & 30SH
PSL	10/27/04	REVISED PARCEL 29T
PSL	9/7/04	REVISED PARCEL 29SH
PSL	8/10/04	REVISED PARCEL 36T

FIELD REVIEW BY: DATE:
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED:

P.I.D. NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB

SUMMARY OF ADDITIONAL RIGHT OF WAY

LAK– 90/84 – 0.54/0.43

SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF CITY OF WILLOUGHBY HILLS/CITY OF WICKLIFFE UNLESS OTHERWISE NOTED.

* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
41T	RABBINICAL COLLEGE OF TELSHE, INC.	27–28	387	491	29–B–010–F–00–004–0	0.31		0.048		0.048					DRIVEWAY CONSTRUCTION & GRADING		
			389	486	29–B–010–F–00–003–0	0.31											
42T	MENUCHIE'S PLACE LTD.	27–28	DOC. #2003R035027		29–B–010–F–00–002–0	0.31		0.040		0.040					DRIVEWAY CONSTRUCTION & GRADING		
43T	SHLOMO & BLUMA DAVIS	27–28	462	347	29–B–010–F–00–001–0	0.31		0.017		0.017					TEMPORARY PAVEMENT & GRADING		
44WD	THE RETIREMENT MANAGEMENT CO.	25–26	DOC. #970014078		29–B–009–0–00–014–0	3.0216	0	0.0235	0	0.0235			2.9981				
					31–A–025–0–00–003–0	8.9104	0	0	0	0			8.9104				
					TOTAL	11.9320	0	0.0235	0	0.0235			11.9085				
44T								0.0439		0.0439					DRIVEWAY CONSTRUCTION & GRADING		
45WD	EDWARD M. & ALICE M. DRAGOLICH	25–26	818	609	29–B–009–B–00–001–0	0.506	0.058	0.102	0.058	0.044			0.404				
45T								0.065		0.065					DRIVEWAY CONSTRUCTION & GRADING		
46WD	JOHN A. JR. & COLETTA M. DICELLO	27–28	728	873	29–B–009–B–00–002–0	0.506	0.058	0.084	0.058	0.026			0.422				
46T								0.118		0.118					DRIVEWAY CONSTRUCTION & GRADING		
47WD	J. JAY & SHERYL L. FABIAN	27–28	DOC. #980008390		29–B–009–B–00–003–0	0.655	0.208	0.099	0.088	0.011			0.436				
47T								0.062		0.062					DRIVEWAY CONSTRUCTION & GRADING		
48WD	CHRISTOPHER R. SGARLATA	27–28	1157	916	29–B–009–B–00–023–0	0.655	0.208	0.089	0.087	0.002			0.445				
48T								0.013		0.013					GRADING		
49T	RAYMOND F. SACK, JR.	27–28	DOC. #200146389		29–B–009–B–00–022–0	0.506		0.050		0.050					DRIVEWAY CONSTRUCTION & GRADING		
50T	DANIEL SIEPKA	27–28	DOC. #960028376		29–B–009–B–00–021–0	0.506		0.017		0.017					DRIVEWAY CONSTRUCTION & GRADING		
51T	VICTOR R. KATZ	29–30	DOC. #2004R046248		29–B–010–E–00–017–0	0.3617		0.0043		0.0043					TEMPORARY PAVEMENT & GRADING		
52	LEEBY A. HAUER & SHULAMIS P. RUBINFELD	29–30	DOC. #2002R041914		29–B–010–E–00–016–0	0.3617									NO R/W REQUIRED		
53	LYNN LIPOVEC, AKA LINDA M. LIPOVEC	29–30	936	1228	29–B–009–C–00–020–0	0.423									NO R/W REQUIRED		
54	DENNIS R. & SARAH K. JAPEL	29–30	693	426	29–B–009–C–00–021–0	0.422									NO R/W REQUIRED		

TYPE FUND: LOCAL

NOTE:
ALL TEMPORARY PARCELS TO BE OF 24 MONTHS DURATION.

NOTE:
UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

REV	DATE	DESCRIPTION
FIELD REVIEW BY:		DATE:
OWNERSHIP VERIFIED BY:		DATE:
DATE COMPLETED:		

P.I.D. NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

SUMMARY OF ADDITIONAL RIGHT OF WAY

LAK– 90/84 – 0.54/0.43

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SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF CITY OF WILLOUGHBY HILLS/CITY OF WICKLIFFE UNLESS OTHERWISE NOTED.
* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
55	THE CITY OF WILLOUGHBY HILLS	33–34	726	510	31-A-008-C-00-057-0	0.340	0.226	0	0.226	0					NO R/W REQUIRED		
56WD	CHARDON EMERALD LAKES LTD.	31–32	DOC. #2002R052109		31-A-008-C-00-035-0	2.143	0.074	0.100	0.074	0.026			2.043				
					31-A-008-C-00-003-0	1.02	0.179	0.238	0.179	0.059			0.782				
					TOTAL	3.163	0.253	0.338	0.253	0.085			2.825				
56T								0.013		0.013					DRIVEWAY CONSTRUCTION & GRADING		
57WD	ELLIOT WEISENBERG &	33–34	44	600	31-A-008-C-00-002-0	2.038	0	0.015	0	0.015	S		2.023				
57T	ELLACOTT SHAKER MOTORS, INC.							0.036		0.036					DRIVEWAY CONSTRUCTION & GRADING		
58T	JAI MAHA LAXMI CO., LLC	33–34	DOC. #2003R022443		31-A-008-C-00-054-0	0.9361		0.016		0.016	S				DRIVEWAY CONSTRUCTION & GRADING		
															ACCESS EASEM'T OVERLAPS 58T BY 73 SF		
59T	ARBOR HILLS CONDOMINIUM (AKA STEEPLE RUN CONDOMINIUM)	35–36	1046	1137	31-A-008-K-00-(001-014)-0	4.0486		0.033		0.033					TEMPORARY PAVEMENT & GRADING		
60	VINCENT J. KLAUE & SUSAN E. DAY	37–38	DOC. #2002R011006		31-A-008-D-00-038-0	1.058									NO R/W REQUIRED		
61	VINCENT MARCELLINO & DAWN M. YAFANARO ETAL (4)	37–38	1054	717	31-A-008-D-00-039-0	1.18									NO R/W REQUIRED		
					31-A-008-D-00-040-0	1.42											
					TOTAL	2.60											
62WD	ROBERT L. MERCER	35–36	1070	1249	31-A-008-D-00-071-0	1.037	0.070	0.081	0.070	0.011			0.956		EX. SEWER EASEMENT OVERLAPS 62WD BY 508 SF (0.0117 AC.)		
					31-A-008-D-00-070-0	1.47	0.070	0	0	0			1.40		& OVERLAPS 62T BY 423 SF (0.0097 AC.)		
					TOTAL	2.507	0.140	0.081	0.070	0.011			2.356				
62T								0.043		0.043					DRIVEWAY CONSTRUCTION & GRADING		
63T	ANTON & ANNA TURNISKI	35–36	862	637	31-A-008-D-00-069-0	1.513		0.006		0.006					DRIVEWAY CONSTRUCTION & GRADING		
64	RICHARD A. & JOAN D. MOTUZA	37–38	877	1210	31-A-008-D-00-068-0	1.556									NO R/W REQUIRED		
65	BENEDICT A. & ARLEN J. BURGER	37–38	775	277	31-A-008-D-00-067-0	1.60									NO R/W REQUIRED		
66	JOHN M. & PATRICIA A. MILFORD	37–38	867	388	31-A-008-D-00-066-0	1.098									NO R/W REQUIRED		
67	CONCETTA C. RUSCITTO	37–38	DOC. #200116181		31-A-008-D-00-065-0	1.048									NO R/W REQUIRED		

LOCAL

NOTE:
ALL TEMPORARY PARCELS TO BE OF 24 MONTHS DURATION.

NOTE:
UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

REV	DATE	DESCRIPTION
PSL	5/25/05	DELETED PARCEL 60T

FIELD REVIEW BY: DATE:
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED:

P.I.D. NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB
SUMMARY OF ADDITIONAL RIGHT OF WAY
LAK– 90/84 – 0.54/0.43
10/38

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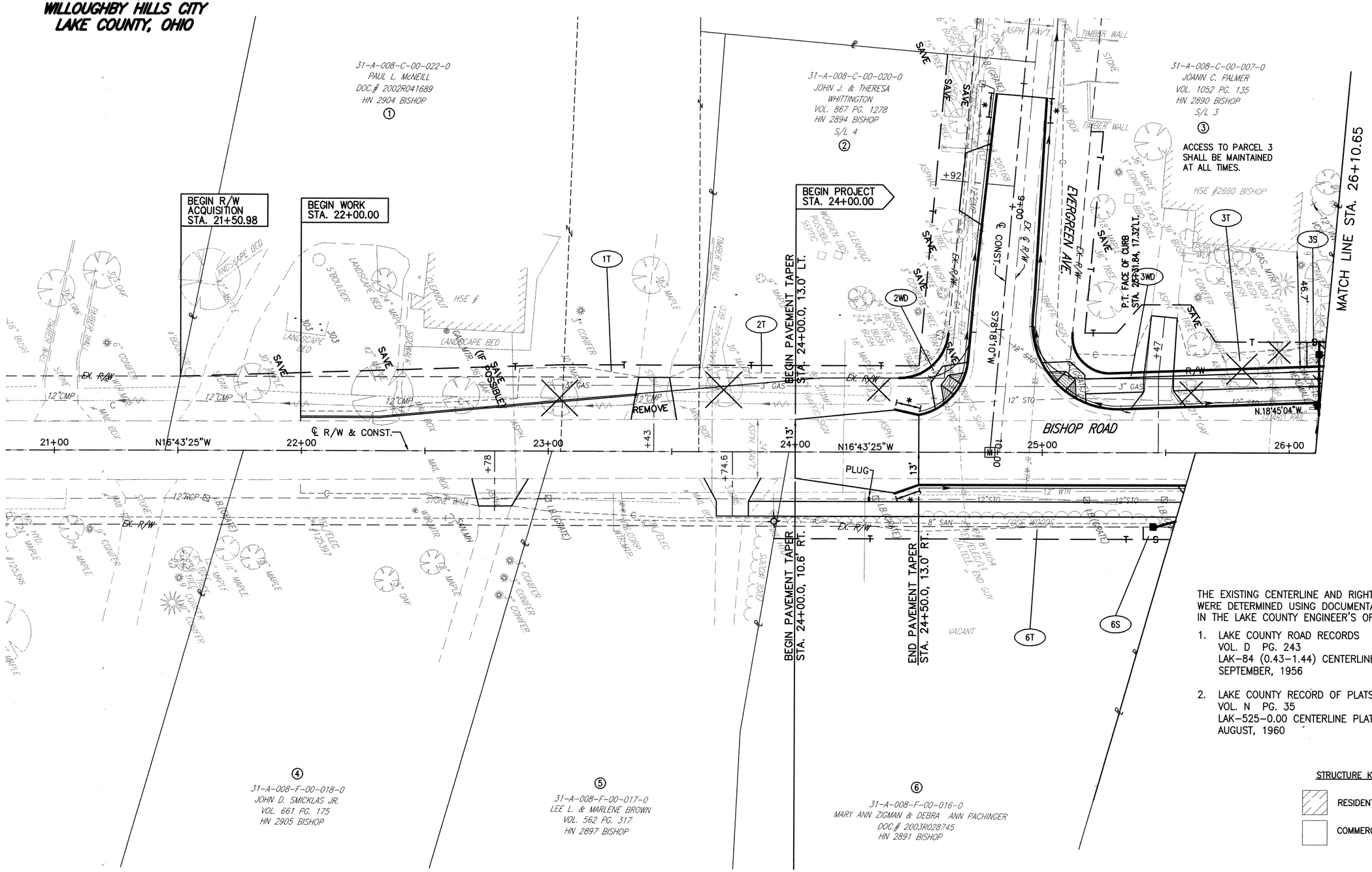
PART OF LOT 6, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	5/13/05	REVISED CONST. LIMITS PARCEL 2
PSL	4/27/05	DELETED PARCEL 5T
PSL	3/1/05	ADDED 4'-12" CONDUIT FOR PARCEL 3

COMPLETION DATE:

SCALE IN FEET: 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 21+50.98 TO STA. 26+10.65

LAK - 90/84 - 0.54/0.43

11/38

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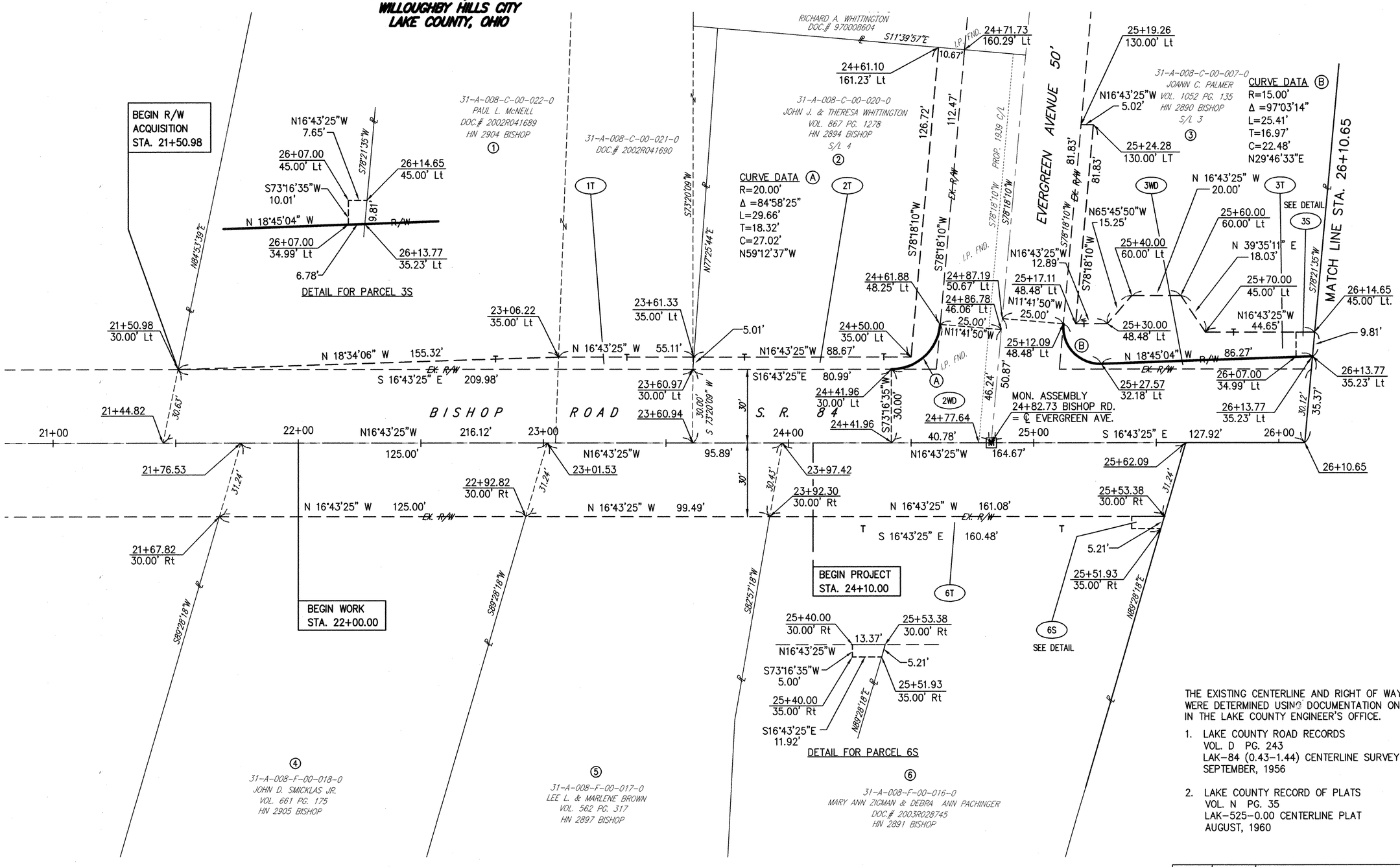
PART OF LOT 6, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
PSL	5/25/05	DELETED PARCEL 5T
COMPLETION DATE:		

SCALE IN FEET: 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 21+50.98 TO STA. 26+10.65

LAK - 90/84 - 0.54/0.43

12/38

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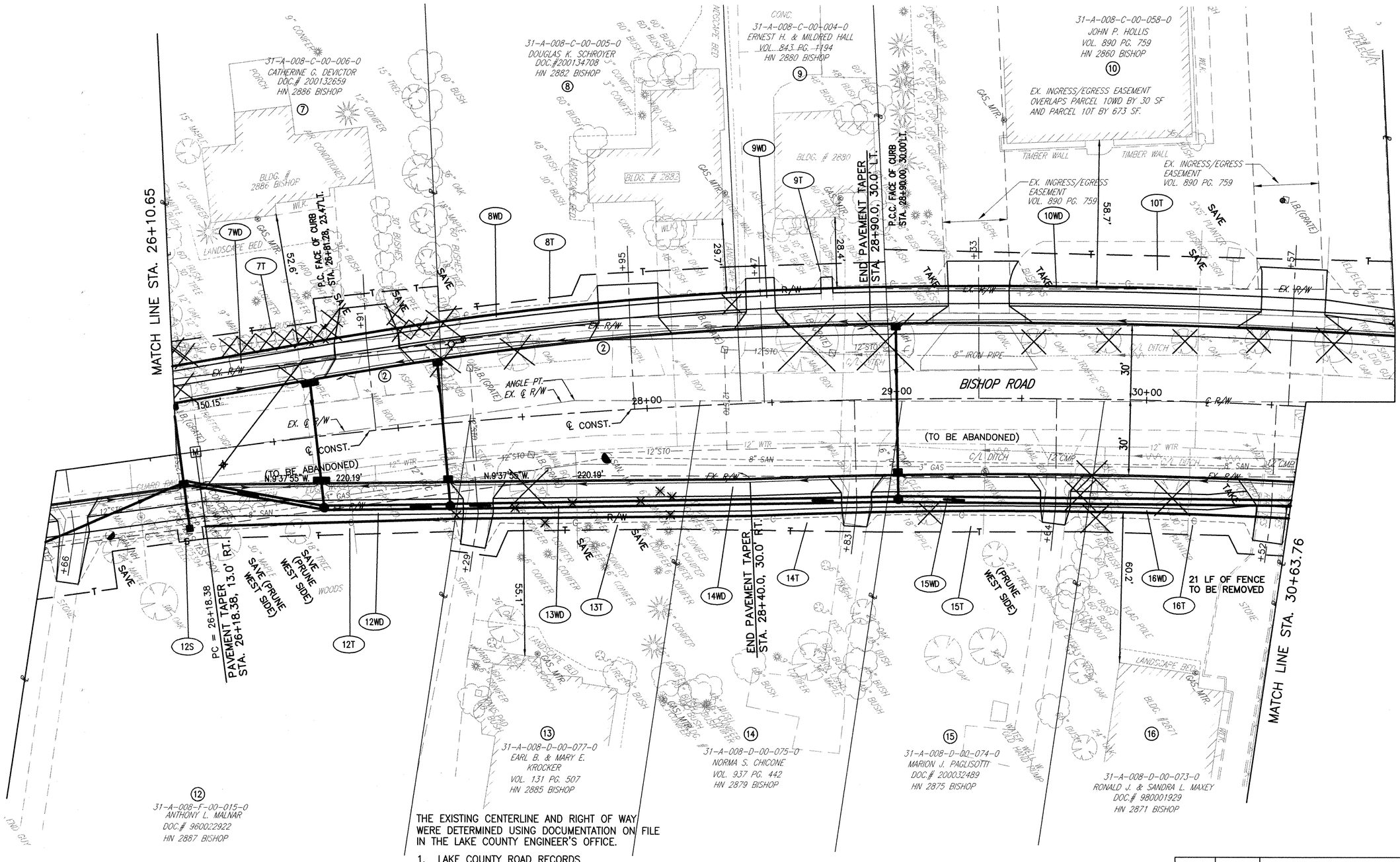
PART OF LOTS 6, 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   AUGUST, 1960

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 26+10.65 TO STA. 30+63.76

LAK - 90/84 - 0.54/0.43

13/38

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PART OF LOT 6, 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

MATCH LINE STA. 26+10.65

31-A-008-C-00-006-0
CATHERINE G. DEVICTOR
DOC.# 200132659
HN 2886 BISHOP
⑦

31-A-008-C-00-005-0
DOUGLAS K. SCHROYER
DOC.#200134708
HN 2882 BISHOP
⑧

31-A-008-C-00-004-0
ERNEST H. & MILDRED HALL
VOL. 843 PG. 1194
HN 2880 BISHOP
⑨

31-A-008-C-00-058-0
JOHN P. HOLLIS
VOL. 890 PG. 759
HN 2860 BISHOP
⑩

INGRESS/EGRESS E'MT TO ELLACOT SHAKER MOTORS, INC. VOL. 890 PG. 759

INGRESS/EGRESS E'MT TO ELLACOT SHAKER MOTORS, INC. VOL. 890 PG. 759

EX. INGRESS/EGRESS EASEMENT OVERLAPS PARCEL 10WD BY 30 SF AND PARCEL 10T BY 673 SF.

CURVE DATA (A)
R=1427.82'
Δ =1°37'50"
L=40.63'
T=20.32'
C=40.63'
S17°56'09"E

CURVE DATA (B)
R=1427.82'
Δ =4°47'49"
L=119.54'
T=59.80'
C=119.50'
S14°43'20"E

CURVE DATA (C)
R=1427.82'
Δ =2°08'29"
L=53.36'
T=26.69'
C=53.36'
S11°15'11"E

CURVE DATA (D)
R=2424.08'
Δ =0°09'19"
L=6.57'
T=3.29'
C=6.57'
S10°06'16"E

CURVE DATA (E)
R=2424.08'
Δ =2°56'04"
L=124.15'
T=62.09'
C=124.13'
S08°33'34"E

S 28°21'35" W

N 28°21'00" E

N 78°21'00" E

26+14.65 45.00' Lt
N 16°43'25" W 58.61'
26+72.03 55.00' Lt
7WD
7T
N 14°50'34" W 50.02'
26+72.24 45.62' Lt
S 73°16'35" W 9.38'
27+20.92 55.00' Lt
N 15°46'17" W 53.58'
27+20.47 45.00' Lt
4.31'
N 75°53'51" W 8.98'
14.32'
N 18°45'04" W 67.63'
9.81'
26+13.77 35.23' Lt.
26+80.37 38.44' Lt
27+20.28 40.70' Lt
8T
8WD
N 12°10'26" W 61.99'
27+77.00 55.00' Lt
27+73.00 47.00' Lt
28+37.59 55.00' Lt
10.41'
9WD
9T
N 10°44'20" W 59.94'
10.00'
28+96.18 55.00' Lt
15.01'
28+37.63 44.59' Lt
28+90.00 45.00' Lt
28+96.45 45.00' Lt
28+96.47 44.21' Lt
N78°21'00"E 0.79'
10WD
28+96.04 60.00' Lt
10T
N 07°38'56" W 203.25'
30+18.30 45.00' Lt
S 08°55'21" E 124.09'
EX. R/W
78.89'
11.27'
30+94.34 60.00' Lt
30+95.57 48.80' Lt

BISHOP ROAD S. R. 84

I.P. FND.
35.37' 30.12'
38.63' 29.96'
43.53' 30.03'
45.84' 30.03'
45.05'

MON. ASSEMBLY
PC STA. 26+18.38
N16°43'25"W 167.43'
26+10.65
107.92'
27+00
N16°43'25"W 52.91'
41.96' C/L CONST.
27+18.51 2.11' Lt
27+29.44 2.59' Lt
27+71.27 4.92' Lt
28+00 50.21'
N08°55'21"W 66.71'
28+37.78 1.06' Lt
28+21.31 1.84' Lt
N08°55'21"W 60.00'
29+00
80.84'
28+97.75 0.82' Rt
29+02.09 0.90' Rt
N08°55'21"W 80.85'
29+82.97 0.89' Rt
30+00
N08°55'21"W 80.84'
202.98'
30+63.76 1.87' Lt
31+00.60 4.04' Lt

25+62.09
26+07.00 30.00' Rt
26+17.00 30.00' Rt
26+18.38 30.00' Rt
27+19.42 38.37' Rt
42.15' 31.24'
46.75' 30.32'
28+39.77 45.00' Rt
44.70' 30.32'
28+94.77 45.00' Rt
EX. R/W
29+77.21 45.00' Rt
30+59.27 45.00' Rt
47.08' 30.32'

25+53.38 30.00' Rt
S 16°43'25" E 65.00'
S 10°42'14" E 99.93'
S 09°37'54" E 91.20'
28+12.06 44.01' Rt
S 09°37'54" E 27.21'
S 10°41'18" E 98.52'
S 09°37'54" E 69.35'
S 08°13'42" E 80.70'
S 09°06'13" E 80.89'
S 07°23'55" E 57.54'
S 54°12'10" W 8.02'
38.37' S 16°43'25" E
26+18.37 35.00' Rt
25+80.00 35.00' Rt
5.08'
27+18.19 43.30' Rt
12.86'
27+40.41 44.97' Rt
11.28' S 75°22'55" E
27+34.92 54.89' Rt
18.55' S 01°39'35" E
27+16.39 50.88' Rt
28+11.04 48.97' Rt
28+93.41 53.00' Rt
29+76.14 53.00' Rt
30+34.83 53.21' Rt
30+39.00 60.00' Rt
18.33' S 06°22'02" E
30+57.80 60.00' Rt
8.11'
8.07'
15.07'
20.83'
32.43' S 16°43'25" E
25+79.84 50.20' Rt
25+47.57 50.00' Rt
15.00' N 73°16'35" E
12S
SEE DETAIL
12T
12WD
13T
13WD
14WD
14T
15WD
15T
16WD
16T

N89°28'18"E
S89°21'39"W

MATCH LINE STA. 30+63.76

DETAIL FOR PARCEL 12S
26+07.00 30.00' Rt
26+17.00 30.00' Rt
1.37'
N16°43'25"W
10.00'
S 10°42'14" E
S73°16'35"W 5.00'
N73°16'35"E 5.00'
26+07.00 35.00' Rt
10.00' N16°43'25"W
26+17.00 35.00' Rt

CURVE DATA (F)
R=2334.08'
Δ =1°19'28"
L=53.96'
T=26.98'
C=53.96'
S10°43'46"E

CURVE DATA (G)
R=2334.08'
Δ =1°59'08"
L=80.89'
T=40.45'
C=80.88'
S09°04'28"E

CURVE DATA (H)
R=2334.08'
Δ =1°58'35"
L=80.51'
T=40.26'
C=80.51'
S07°05'37"E

S.R. 84 ℄ CURVE DATA
P.I.=STA. 30+13.11
Δ=18°50'30" RT.
D_c=02°24'30"
R=2379.08'
T=394.74'
L=782.36'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

12 — 31-A-008-F-00-015-0
ANTHONY MALNAR
DOC.# 960022922
HN 2887 BISHOP

13 — 31-A-008-D-00-077-0
EARL B. & MARY E. KROCKER
DOC. #2004R00991
HN 2885 BISHOP

14 — 31-A-008-D-00-075-0
NORMA S. CHICONE
VOL. 937 PG. 442
HN 2879 BISHOP

15 — 31-A-008-D-00-074-0
MARION J. PAGLISOTTI
DOC.# 200032489
HN 2875 BISHOP

16 — 31-A-008-D-00-073-0
RONALD J. & SANDRA L. MAXEY
DOC.# 980001929
HN 2871 BISHOP

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL | R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 26+10.65 TO STA. 30+63.76

LAK - 90/84 - 0.54/0.43

14/38

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PARCEL 17 NOTE:
(TRUE NORTH)
CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE, TEST WELL, FUEL PORT OR GAS LID DURING CONSTRUCTION,

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956
2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

MATCH LINE STA. 18+20.03 (SEE SHEET 33)

PROPERTY OWNER NOTIFICATION NOTE:
THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER OF PARCEL 17 THIRTY (30) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES THAT WILL ELIMINATE THE USE OF THE NORTHERN SIDE OF THE FUEL PUMP LOCATED AT APPROXIMATELY STA. 18+90, 46' RT. THE CONTRACTOR'S OPERATION WILL NOT BE ALLOWED TO TAKE THIS SIDE OF THE FUEL PUMP OUT OF SERVICE PRIOR TO APRIL 1, 2006.

CHARDON ROAD U.S. ROUTE 6
EX. ℄ R/W
19+00
N78°26'25"E
ANGLE PT. STA. 20+00
20+00
33+00
℄-℄ STA. 32+81.17
32+00
℄ CONST.
ANGLE PT.
EX. ℄ R/W
BISHOP ROAD
EX. TRAFFIC EASEMENT VOL. 424 PG. 927
ANGLE PT. S.R. 84
LOOP DET.
S.R. 84 BISHOP ROAD
PT = 34+00.73
34+00
N02°07'05"E
30'
MATCH LINKE STA. 35+86.64
MATCH LINE STA. 30+63.76
MATCH LINE STA. 22+00.00 (SEE SHEET 35)
CHARDON ROAD U.S. ROUTE 6
21+00
EX. 10' EAST OHIO GAS EASEMENT VOL. 547 PG. 65
EX. EDG EASEMENT PARCEL 21WD BY 8,701 S.F.
EX. ROADWAY EASEMENT VOL. 239 PG. 239
EX. 10' HIGHWAY EASEMENT DOC. #990022940
EX. ACCESS EASEMENT VOL. 882 PG. 916
EX. ACCESS EASEMENT OVERLAPS PARCEL 17WD BY 39 SF & PARCEL 17T BY 16 SF.
EX. ACCESS EASEMENT
EX. TRAFFIC EASEMENT OVERLAPS PARCEL 17WD BY 16 SF.
EX. ROADWAY EASEMENT OVERLAPS PARCEL 21WD BY 2,377 SF & PARCEL 21T BY 30 SF.
EX. HIGHWAY EASEMENT OVERLAPS PARCEL 21WD BY 6,719 S.F.
PARCEL 21SH OVERLAPS PARCEL 21T BY 220 S.F.
EX. TRAFFIC EASEMENT VOL. 424 PG. 930
EX. 20' SEWER EASEMENT VOL. 138 PG. 665
(12 PARKING SPACES)
(125 PARKING SPACES)
(TO BE ABANDONED)
CURB, TYPE 6
CURB, TYPE 6, AS PER PLAN
REMOVE & REPLACE BY OTHERS
DO NOT DISTURB
REMOVE
SAVE
TAKE
SAW CUT
EX. R/W TAKE
CANOPY OVER GAS PUMP
FUEL PUMP ISLAND
(3) AIR COND. COMPRESSOR UNITS ON CONC. PAD
GUARD POST
UNDERGROUND FUEL TANK FILLER PIPES
UNDERGROUND FUEL TANK VENTS
UNDERGROUND FUEL TANK TEST WELL
TRAFFIC SIGN
TRAFFIC SIGN POST
UTILITY POLE
GUY WIRE
LIGHT POLE
BUSINESS SIGN
SHRINKLEP HEAD
CONIFER
BUSH
TREE
6" TREE
12" TREE
STONE WALL
CONC. PORCH
CONC. CURB
ASPH.
CONC.
WLK.
BLDG.
GAS LT.
TELE. MH
SAN. MH
STO. MH
GAS VALVE
WTR VALVE
WTR MH
CATCH BASIN
CURB INLET
YARD DRAIN
0.4' WIDE TRENCH DRAIN
2' TRENCH DRAIN
12" WTR
8" SAN
3" GAS
2" GAS
4" GAS
6" GAS
12"STO.
10"STO.
6"STO.
4"STO.
16" W
24" GAS
EX. ℄ R/W
EX. R/W
R/W
℄
T
S
W
G
SH
R=35'
+15
+18
+25
+30
+84
+87
+74
+12
+93
58.5'
40.2'
96.4'
65.1'
17T
17WD
18T
18
21WD
21T
21SH
19T
19WD
20T
20WD
20
19
31-A-008-C-00-001-0
TRUE NORTH ENERGY, LLC
DOC.# 20002850
CHARDON RD.
31-A-008-0-00-016-0
MUSCA PROPERTIES LLC
DOC.# 2002R052136
31-A-008-D-00-034-0
BP EXPLORATION & OIL INC.
DOC.# 970047830
HN 28601 CHARDON RD.
31-A-008-D-00-072-0
SCP 2001A-CSF-63 LLC
DOC.# 2002R011987
EX. TRAFFIC EASEMENT OVERLAPS PARCEL 19WD BY 97 SF.
EX. 20' SEWER EASEMENT OVERLAPS PARCEL 19WD BY 3,620 SF. & PARCEL 19T BY 1246 SF.

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	3/1/05	REVISED PARCEL 18T
PSL	8/04	REVISED PARCEL 17
COMPLETION DATE:		

SCALE IN FEET 20 10 0 10 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 30+63.76 TO STA. 35+86.64

LAK - 90/84 - 0.54/0.43

15/38

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PART OF LOT 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956
2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MATCH LINE STA. 18+20.03

(SEE SHEET 34)

CHARDON ROAD

BISHOP ROAD

S. R. 84

U. S. 6

MATCH LINE STA. 30+63.76

MATCH LINE STA. 35+86.64

MATCH LINE STA. 22+00.00 (SEE SHEET 36)

CURVE DATA (A)
R=2424.08'
Δ =2°03'46"
L=87.28'
T=43.64'
C=87.27'
S04°11'23"E

CURVE DATA (B)
R=45.00'
Δ =98°24'05"
L=77.28'
T=52.13'
C=68.13'
N52°21'33"W

CURVE DATA (C)
R=50.00'
Δ =76°19'20"
L=66.60'
T=39.29'
C=61.79'
N40°16'45"E

CURVE DATA (D)
R=50.00'
Δ =36°52'12"
L=32.18'
T=16.67'
C=31.62'
N20°33'10"E

CURVE DATA (E)
R=2336.08'
Δ=3°35'21"
L=146.33'
T=73.19'
C=146.31'
S04°18'22"E

CURVE DATA (F)
R=45.00'
Δ=81°16'56"
L=63.84'
T=38.63'
C=58.62'
S38°07'46"W

CURVE DATA (G)
R=45.00'
Δ =103°20'50"
L=81.17'
T=56.93'
C=70.60'
S49°33'21"E

S.R. 84 ℄ CURVE DATA
P.I.=STA. 30+13.11
Δ=18°50'30" RT.
D_C=02°24'30"
R=2379.08'
T=394.74'
L=782.36'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

31-A-008-C-00-001-0
TRUE NORTH ENERGY, LLC
DOC.# 200002850
28580 CHARDON RD.
(17)

31-A-008-D-00-072-0
SCP 2001A-CSF-63 LLC
DOC.# 2002R011987
(19)

31-A-008-0-00-016-0
MUSCA PROPERTIES LLC
DOC.# 2002R052136
(18)

31-A-008-D-00-034-0
BP EXPLORATION & OIL INC.
DOC.# 970047830
HN 28601 CHARDON RD.
(20)

EX. ACCESS EASEMENT VOL. 858 PG. 262

EX. ACCESS EASEMENT OVERLAPS PARCEL 17WD BY 39 SF & PARCEL 17T BY 16 SF.

EX. TRAFFIC EASEMENT OVERLAPS PARCEL 17WD BY 16 SF.

EX. TRAFFIC EASEMENT CITY OF WILLOUGHBY HILLS VOL. 424 PG. 927

EX. 10' EDISON EASEMENT VOL. 547 PG. 65

EX. TRAFFIC EASEMENT CITY OF WILLOUGHBY HILLS VOL. 424 PG. 930

EX. TRAFFIC EASEMENT OVERLAPS PARCEL 19WD BY 98 SF.

EX. 20' SEWER EASEMENT OVERLAPS PARCEL 19WD BY 3,605 SF. & PARCEL 19T BY 1378 SF.

EX. 20' SEWER EASEMENT CITY OF WILLOUGHBY HILLS VOL. 138 PG. 665

EX. ROADWAY EASEMENT WILLOUGHBY HILLS CITY VOL. 239 PG. 239

EX. 10' HIGHWAY EASEMENT OVERLAPS PARCEL 21WD BY 6,719 S.F.

EX. ROADWAY EASEMENT OVERLAPS PARCEL 21WD BY 2,377 SF & PARCEL 21T BY 30 SF.

EX. 10' HIGHWAY EASEMENT WILLOUGHBY HILLS CITY DOC. #990022940

EX. ACCESS EASEMENT GC ACQUISITION CORP. & HAROLD CHAFFEE DOC. #2002R019999

EX. ACCESS EASEMENT POPPIN FRESH PIES, INC. VOL. 882 PG. 916

PARCEL 21SH OVERLAPS PARCEL 21T BY 220 S.F.

BISHOP RD. 32+24.42, 96.98' Lt =(U.S. 6) 18+97.45, 40.00' Rt

BISHOP RD. 32+20.96, 97.28' Lt =(S.R. 6) 18+96.56, 43.50' Rt

BISHOP RD. 33+04.85, 85.18' Lt =(S.R. 6) 19+24.13, 40.00' Lt

BISHOP RD. 33+12.43, 71.69' Lt =(S.R. 6) 19+38.90, 45.00' Lt

MON. ASSEMBLY (S.R. 84) 32+80.62, 3.04' Lt =(S.R. 6) 20+00.00

MON. ASSEMBLY (S.R. 84) 32+81.18 =(S.R. 6) 20+03.08

MON. ASSEMBLY PT STA. 34+00.73

(S.R. 84) 32+51.84, 83.27' Rt. = (S.R. 6) 20+80.00, 43.00' Rt.

(S.R. 84) 32+54.54, 80.75' Rt =(S.R. 6) 20+77.95, 40.00' Rt

(S.R. 84) 33+43.02, 99.72' Rt =(S.R. 6) 21+12.66, 40.00' Lt

(S.R.84) 33+54.85, 81.26' Rt =(S.R. 6) 20+97.00, 55.00' Lt

SEE ENLARGED DETAIL "A", THIS SHEET

ENLARGED DETAIL "A"
NOT TO SCALE

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

PSL	3/1/05	REVISED PARCEL 18T
PSL	8/04	REVISED PARCEL 17T
REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET: 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN
STA. 30+63.76 TO STA. 35+86.64

LAK - 90/84 - 0.54/0.43

16/38

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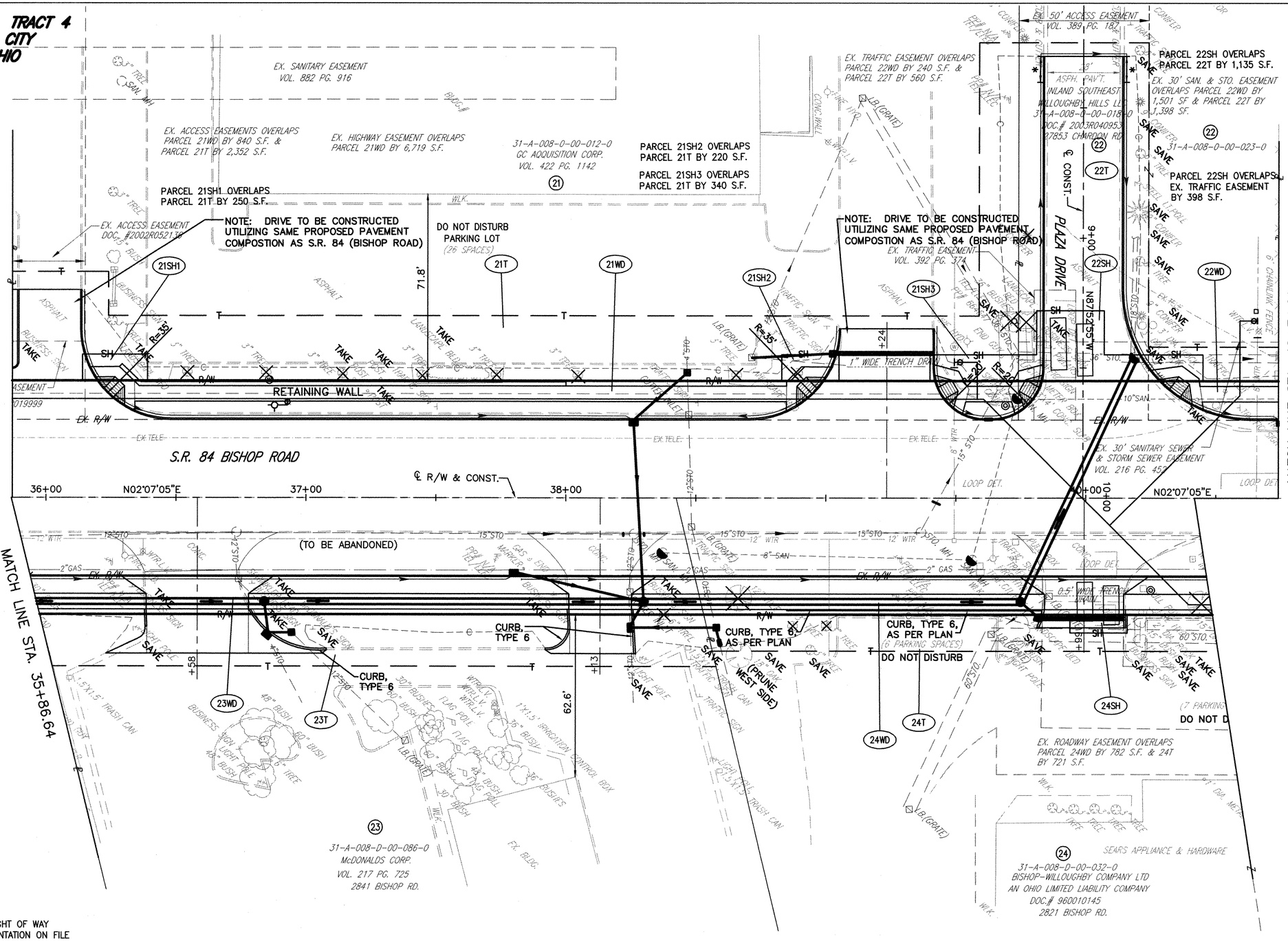
PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (SA.R. 84)
STA. 35+86.64 TO STA. 40+74.09

LAK - 90/84 - 0.54/0.43

17/38

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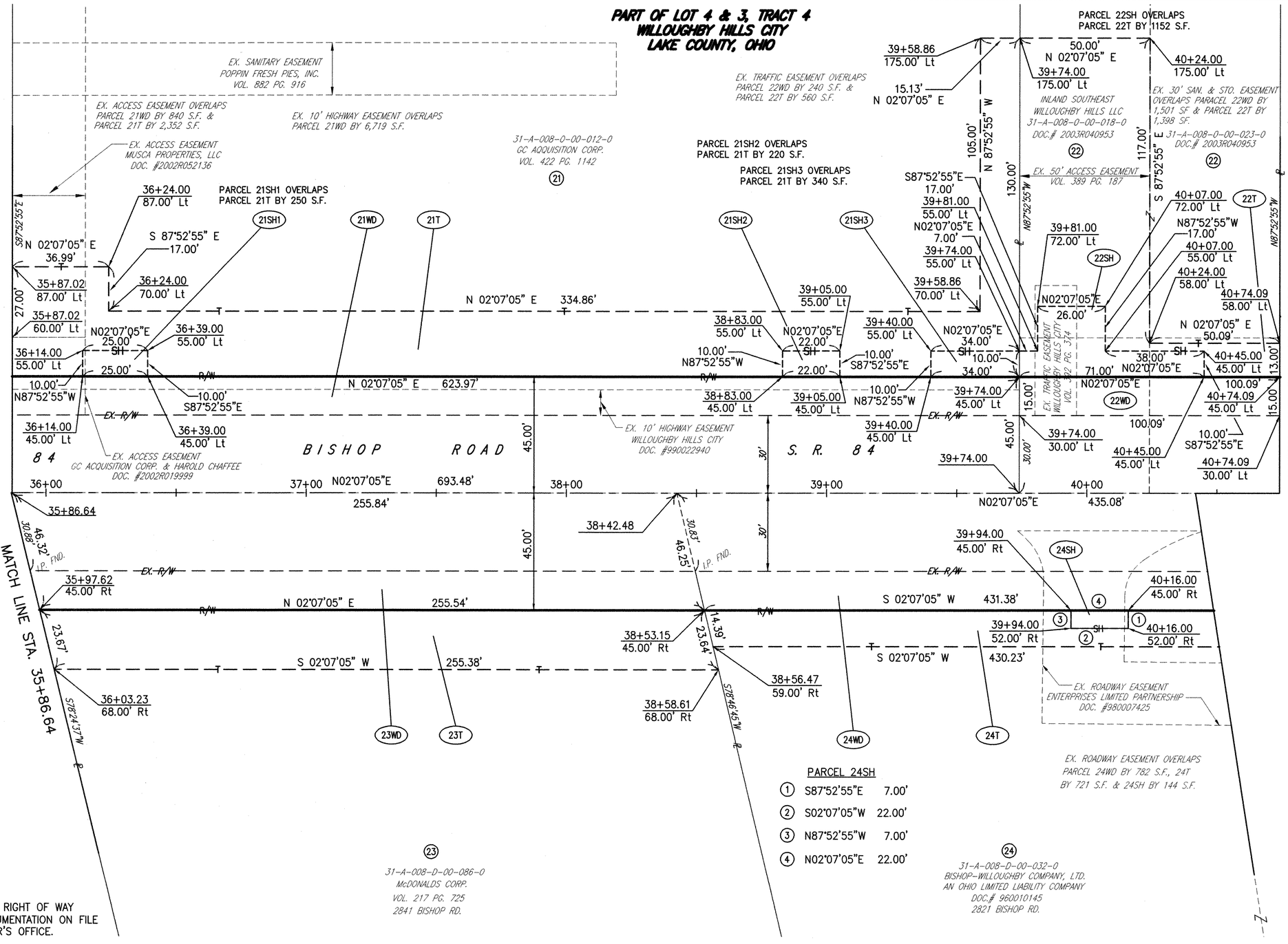
PART OF LOT 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



PARCEL 24SH

①	S87°52'55"E	7.00'
②	S02°07'05"W	22.00'
③	N87°52'55"W	7.00'
④	N02°07'05"E	22.00'

(23) 31-A-008-D-00-086-0
McDONALDS CORP.
VOL. 217 PG. 725
2841 BISHOP RD.

(24) 31-A-008-D-00-032-0
BISHOP-WILLOUGHBY COMPANY, LTD.
AN OHIO LIMITED LIABILITY COMPANY
DOC.# 960010145
2821 BISHOP RD.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

N

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL | R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 35+86.64 TO STA. 40+74.09

LAK - 90/84 - 0.54/0.43

18/38

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PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

MATCH LINE STA. 40+74.09

MATCH LINE STA. 45+98.15

31-A-008-0-00-014-0
ELIZABETH LARICHE
VOL. 1096 PG. 323
HN 2810 BISHOP RD.
(25)

31-A-008-0-00-014-0
ELIZABETH LARICHE
VOL. 1096 PG. 323
HN 2810 BISHOP RD.
(25)

EX. OBT EASEMENT
VOL. 941 PG. 1188

9' OF CHAIN LINK FENCE TO BE REMOVED

ASPH. PARKING

DO NOT DISTURB

30' SAN & STO. EASEMENT OVERLAPS PARCEL 25WD BY 7,619 SF & PARCEL 25T BY 5,604 SF.

EX. OBT EASEMENT OVERLAPS PARCEL 25WD BY 75 S.F. & 25T BY 6,719 S.F.

EX. 30' SANITARY SEWER & STORM SEWER EASEMENT VOL. 216 PG. 462

EX. OBT EASEMENT VOL. 941 PG. 1188

CURB, TYPE 6

DO NOT DISTURB

25WD

25T

EX. 30' SANITARY SEWER & STORM SEWER EASEMENT VOL. 216 PG. 462

EX. OBT EASEMENT VOL. 941 PG. 1188

EX. 30' SANITARY SEWER & STORM SEWER EASEMENT VOL. 216 PG. 462

85.9'

S.R. 84 (BISHOP ROAD)

℄ R/W & CONST.

41+00

42+00

N02°07'05"E

44+00

℄ PT. 44+94.69
01°24'45" RT.

45+00

S.R. 84 (BISHOP ROAD)

(TO BE ABANDONED)

C/L DITCH

0.5' WIDE TRENCH DRAIN

(TO BE ABANDONED)

EXISTING CURB
DO NOT DISTURB
(9 PARKING SPACES)

CURB, TYPE 6

63.5'

EX. ROADWAY EASEMENT
DOC. #980007425

EX. ROADWAY EASEMENT OVERLAPS PARCEL 24WD BY 782 S.F. & 24T BY 721 S.F.

DO NOT DISTURB
PARKING LOT

EX. CURB CUT EASEMENT
DOC. #980007425

EX. CURB CUT EASEMENT OVERLAPS PARCEL 24WD BY 181 S.F. & 24T BY 237 S.F.

EX. SEWER EASEMENT OVERLAPS PARCEL 24WD BY 304 S.F. & 24T BY 293 S.F.

EX. 20' SEWER EASEMENT VOL. 893, PG. 436

EX. CURB CUT EASEMENT OVERLAPS PARCEL 26WD BY 279 S.F. & 26T BY 181 S.F.

GRASS (VACANT)

SEARS APPLIANCE & HARDWARE

(24)
31-A-008-D-00-031-0
BISHOP-WILLOUGHBY COMPANY LTD
AN OHIO LIMITED LIABILITY COMPANY
DOC.# 960010145
2821 BISHOP RD.

(26)
31-A-008-D-00-030-0
L & H REAL ESTATE HOLDINGS LLC
DOC. #2003R012785
HN 2819 BISHOP RD.

(27)
31-A-008-D-00-028-0
DELBALSO PROPERTIES LLC
DOC. #2003R016237
HN 2811 BISHOP RD.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

PSL	3/1/05	ADDED 15' STORM CONNECTION PARCEL 27
REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 40+74.09 TO STA. 45+98.15

LAK - 90/84 - 0.54/0.43

19/38

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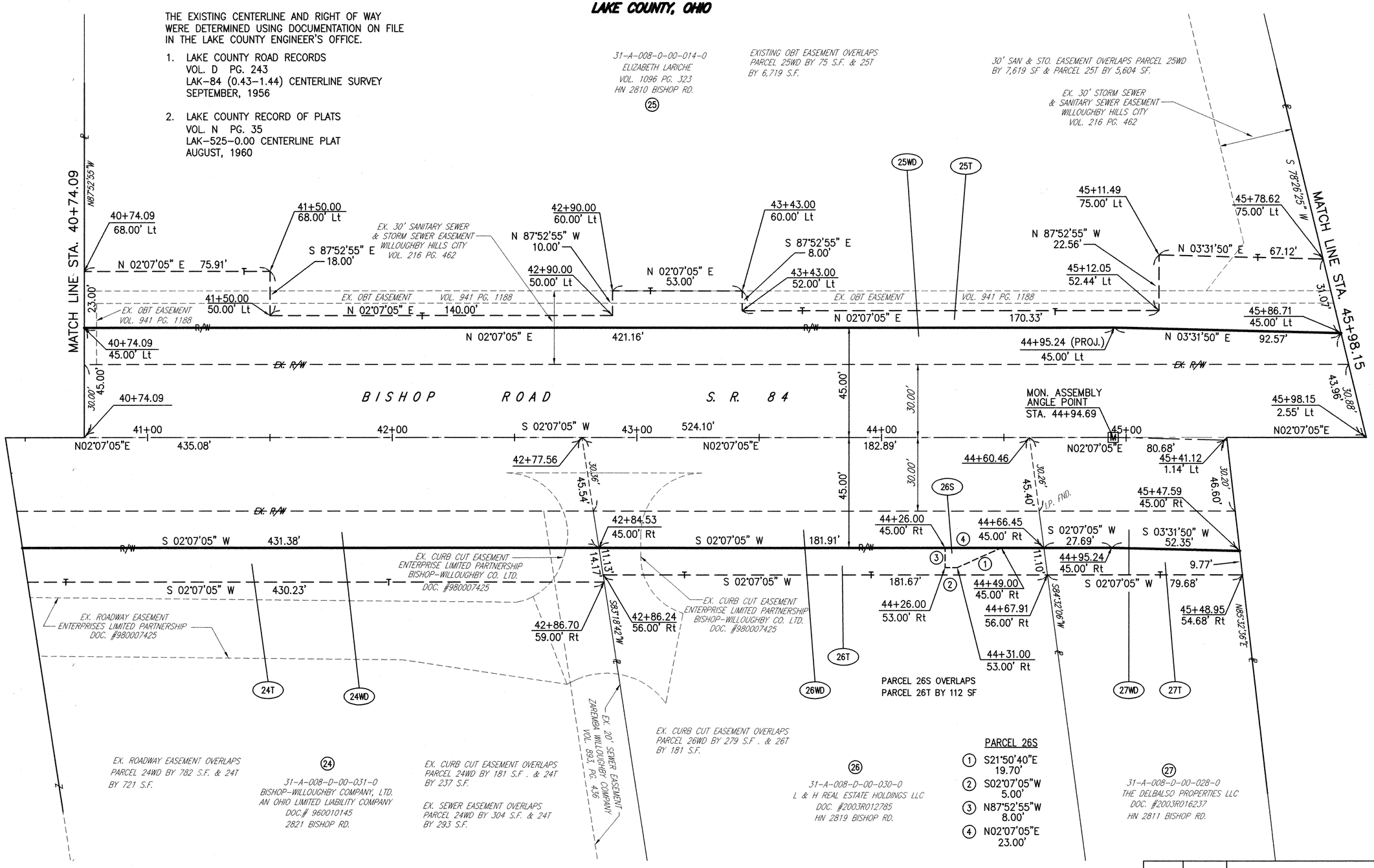
PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960



PARCEL 26S

1	S21°50'40"E 19.70'
2	S02°07'05"W 5.00'
3	N87°52'55"W 8.00'
4	N02°07'05"E 23.00'

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

RIGHT OF WAY PLAN (S.R. 84)
STA. 40+74.09 TO STA. 45+98.15

LAK - 90/84 - 0.54/0.43

20/38

SCALE IN FEET 20 10 0 10 20

PID NO. 9247

R/W DESIGNER PSL | R/W REVIEWER WDB

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PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

31-A-008-0-00-004-0
LEONARD FUCHS, TRUSTEE
VOL. 633 PG. 194
(29)

EX. R/W EASEMENT OVERLAPS PARCEL 29WD BY 425 SF. & PARCEL 29T BY 3,550 SF.

EX. TRAFFIC EASEMENT OVERLAPS PARCEL 29WD BY 259 SF. & PARCEL 29T BY 941 SF.

PARCEL 29SH OVERLAP
PARCEL 29T BY 260 S.F.

EX. R/W EASEMENT OVERLAPS PARCEL 29SH BY 74 S.F.

EX. 50' RIGHT OF WAY EASEMENT VOL. 625 PG.

31-A-008-0-00-002-0
RENAISSANCE PROP CO.
VOL. 35 PG. 1383
(30)

PARCEL 30SH OVERLAP
PARCEL 30T BY 264 S.F.

31-A-008-0-00-005-0
JAMES M. CHRISTENSEN
DOC. #980025152
2780 BISHOP RD.
(31)

BISHOP PARK DRIVE

RIDGEHILLS DRIVE 50'

CURB, TYPE 6

MATCH LINE STA. 45+98.15

GRASS (VACANT)

29S, 29SH, 29WD, 30T, 30SH, 30WD, 31T

EX. TRAFFIC EASEMENT

CONST. ℄

EX. ℄ R/W

S.R. 84 BISHOP ROAD

(32) 31-A-008-0-00-006-0
VILLAGE OF WILLOUGHBY HILLS
VOL. 629 PG. 277

N02°07'05"E
N03°31'50"E
32.27' N
48+00
49+00
10+00

(TO BE ABANDONED)

28T, 28S, 28WD, 35T, 35WD, 36WD, 36T

79.6'
57.2'
70.3'

EDDY ROAD 60'

MATCH LINE STA. 49+87.03

(28) 31-A-008-D-00-027-0
HENRY R. REBOL
VOL. 418 PG. 474
HN 2805 BISHOP RD.

(35) 31-A-008-D-00-026-0
PATRICK J. MANGAN
VOL. 1103 PG. 1096
HN 2801 BISHOP RD.

(36) 31-A-008-D-00-025-0
DOC.# 2004R024900

(36) 31-A-008-D-00-024-0
DOC.# 2004R024900

(36) 31-A-008-D-00-023-0
WILLOUGHBY COMPASS LLC
DOC.# 2004R024900
28750 BISHOP RD.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	10/27/04	REVISED PARCEL 29T
PSL	9/7/04	REVISED PARCEL 29SH
PSL	8/10/04	REVISED PARCEL 36T

COMPLETION DATE:

SCALE IN FEET: 20 0 10 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 45+98.15 TO STA. 49+87.03

LAK - 90/84 - 0.54/0.43

21/38

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PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

EX. R/W EASEMENT OVERLAPS PARCEL 29WD BY 425 S.F. & 29T BY 4,740 S.F.
EX. TRAFFIC EASEMENT OVERLAPS PARCEL 29WD BY 259 SF. & PARCEL 29T BY 941 SF.

EX. 50' RIGHT OF WAY EASEMENT LEONARD FUCHS VOL. 625 PG. 13

31-A-008-0-00-002-0
RENAISSANCE PROP CO.
VOL. 35 PG. 1387

31-A-008-0-00-004-0
LEONARD FUCHS, TRUSTEE
VOL. 633 PG. 194

EX. TRAFFIC EASEMENT
CITY OF WILLOUGHBY HILLS
VOL. 216 PG. 466

EX. R/W EASEMENT OVERLAPS
PARCEL 29SH BY 74 S.F.

PARCEL 29S OVERLAPS
PARCEL 29T BY 84 SF

PARCEL 29SH OVERLAP
PARCEL 29T BY 260 S.F.

PARCEL 30SH OVERLAP
PARCEL 30T BY 264 S.F.

31-A-008-0-00-005-0
JAMES M. CHRISTENSEN
DOC. #980025152

31-A-008-0-00-006-0
VILLAGE OF WILLOUGHBY HILLS
VOL. 629 PG. 277

CURVE DATA (A)
R=20.00'
Δ =17°37'21"
L=6.15'
T=3.10'
C=6.13'
S82°13'31"E

PARCEL 29S
(5) N86°28'10"W 11.00'
(6) N03°31'50"E 10.00'
(7) S86°28'10"E 11.00'
(8) S03°31'50"W 10.00'

PARCEL 28S
(1) N03°31'50"E 10.00'
(2) S86°28'10"E 7.00'
(3) S03°31'50"W 10.00'
(4) N86°28'10"W 7.00'

PARCEL 28S OVERLAPS
PARCEL 28T BY 70 SF

31-A-008-D-00-027-0
HENRY R. REBOL
VOL. 418 PG. 474
HN 2805 BISHOP RD.

31-A-008-D-00-026-0
PATRICK J. MANGAN
VOL. 1103 PG. 1096
HN 2801 BISHOP RD.

31-A-008-D-00-025-0
DOC.# 2004R024900

31-A-008-D-00-024-0
DOC.# 2004R024900
WILLOUGHBY COMPASS LLC

31-A-008-D-00-023-0
DOC.# 2004R024900
28750 BISHOP RD.

MATCH LINE STA. 45+98.15

MATCH LINE STA. 49+87.03

BISHOP ROAD

S. R. 84

RIDGEHILLS DRIVE 50'

EDDY ROAD 60'

MON. ASSEMBLY
(S.R. 84) 49+88.00
= ℄ EDDY ROAD

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
PSL	5/13/05	REVISED PARCEL 29SH & 30SH
PSL	10/27/04	REVISED PARCEL 29T
PSL	9/7/04	REVISED PARCEL 29SH
PSL	8/10/04	REVISED PARCEL 36T

COMPLETION DATE:

R/W DESIGNER PSL | R/W REVIEWER WDB | PID NO. 9247

SCALE IN FEET 20 10 0 20

RIGHT OF WAY PLAN (S.R. 84)
STA. 45+98.15 TO STA. 49+87.03

LAK - 90/84 - 0.54/0.43

22/38

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NOTES FOR PARCEL 33
(TRUE NORTH)

ONE DRIVEWAY ACCESS SHALL REMAIN OPEN AT ALL TIMES ALONG RIDGEHILLS DRIVE AND ALONG BISHOP ROAD DURING CONSTRUCTION.

THE CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLES, TEST WELLS, FUEL PORTS OR GAS LIDS DURING CONSTRUCTION.

PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

MATCH LINE STA. 49+87.03

MATCH LINE STA. 54+96.73

S.R. 84 BISHOP ROAD

RIDGEHILLS DR. 50'

WILLOUGHBY HILLS

WICKLIFFE

RAMP NO. 9

RAMP NO. 10

EDDY ROAD 60'

I-90 EASTBOUND

31-A-025-0-00-040-0
TRUE NORTH ENERGY, LLC
DOC. #990050415
2770 BISHOP RD.

29-A-010-1-00-001-0
RENAISSANCE PROPERTIES CO.
VOL. 35 PG. 1395

VILLAGE OF WILLOUGHBY HILLS, OHIO
VOL. 731 PG. 201
31-A-025-0-00-049-0

THE GATEWAY PROFESSIONAL CENTER L.L.C.
31-A-025-0-00-048-0
DOC. #980000851
2775 BISHOP RD.

CITY OF WICKLIFFE
CITY OF WILLOUGHBY HILLS

EUCLID SPUR
VOL. N PG. 35 PLAT RECORDS

PRESSURE RELIEF JOINT, TYPE A

BEGIN APPROACH SLAB STA. 53+27.25

PT=52+55.69 ℄ CONST.

PC=51+56.17

ANGLE PT.

BEGIN LANE TAPER P.C. STA. 52+34.79, 30.0' RT.

END LANE TAPER STA. 53+84.79, 52.0' RT.

ANCHOR ASSEMBLY TYPE T

℄ RAMP 10

RECEIVING PIT 20' MIN.

ABANDON EXISTING 8" WATERLINE

(TO BE ABANDONED)

RETAINING WALL

CURB, TYPE 6

NOTE TO REVIEWER:
RIGHT TURN ONLY

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 52+05.95
Δ =03°58'52" RT.
D =04°00'00"
R=1432.39'
T=49.78'
L=99.52'
E=0.86
emax= N/A
P.C.=STA. 51+56.17
P.T.=STA. 52+55.69

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
VOL. D PG. 243
LAK-84 (0.43-1.44) CENTERLINE SURVEY
SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
VOL. N PG. 35
LAK-525-0.00 CENTERLINE PLAT
AUGUST, 1960

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

R/W DESIGNER PSL
R/W REVIEWER WDB

PID NO. 9247

RIGHT OF WAY PLAN (S.R. 84)
STA. 49+87.03 TO STA. 54+96.73

LAK - 90/84 - 0.54/0.43

23/38

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PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

RIDGEHILLS DRIVE 50'

(EUCLID-SPUR)

BISHOP ROAD

S. R. 84

EDDY ROAD 60'

INTERSTATE ROUTE 90

MATCH LINE STA. 49+87.03

MATCH LINE STA. 54+96.73

CITY OF WICKLIFFE

CITY OF WILLOUGHBY HILLS

VILLAGE OF WILLOUGHBY HILLS
31-A-025-0-00-049-0
VOL. 731 PG. 204

31-A-025-0-00-040-0
TRUE NORTH ENERGY, LLC
DOC. #990050415

29-B-010-1-00-001-0
RENAISSANCE PROPERTIES CO.
VOL. 35 PG. 1395

THE GATEWAY PROFESSIONAL CENTER L.L.C.
31-A-025-0-00-048-0
DOC. #980000851

GEORGE N. & JANET A. EVANGELISTA
DOC. #2003R062827

EX. INGRESS EM'T
VOL. 603 PG. 558

EXIST. INGRESS EASEMENT OVERLAPS
PARCEL 34T BY 192 S.F. (0.0044 ACRES)

CURVE DATA (B)
R=25.27'
Δ =86°50'43"
L=38.30'
T=23.92'
C=34.74'
S45°32'26"W

CURVE DATA (C)
R = 20.00'
L = 33.01'
T = 21.66'
Δ = 94°34'02"
C = 29.39'
S43°45'11"E

CURVE DATA (D)
R = 1477.39'
L = 37.07'
T = 18.54'
Δ = 1°26'16"
C = 37.07'
N02°48'42"E

S.R. 84 ℄ CURVE DATA
P.I.=STA. 52+05.95
Δ=03°58'52" RT.
D_C=04°00'00"
R=1432.39'
T=49.78'
L=99.52'
E=0.86'
emax= N/A
P.C.=STA. 51+56.17
P.T.=STA. 52+55.69

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N
SCALE IN FEET 20 10 0 10 20
PID NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 49+87.03 TO STA. 54+96.73

LAK - 90/84 - 0.54/0.43

24/38

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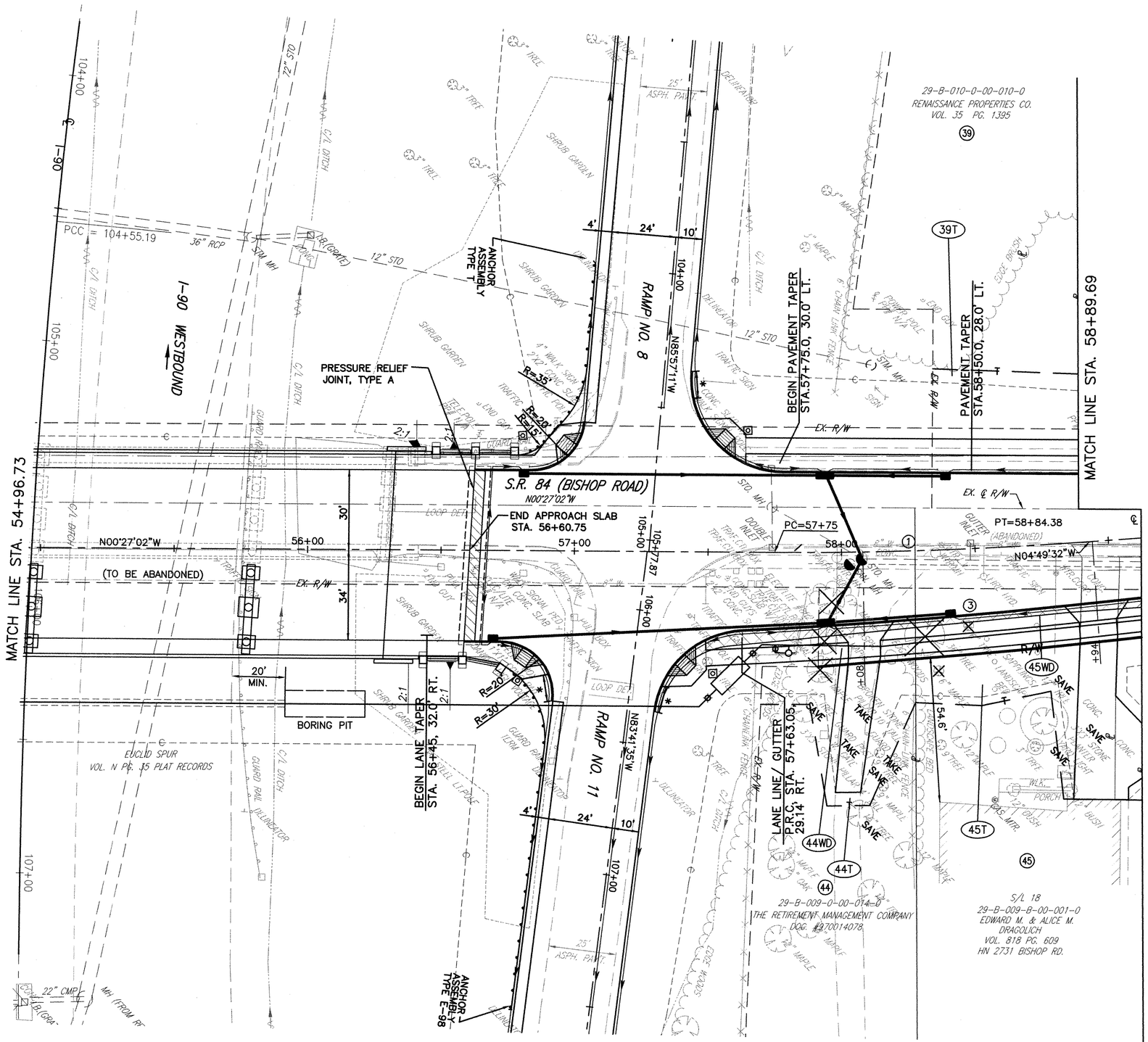
PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO



STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

SCALE IN FEET: 20 10 0 10 20

R/W DESIGNER	PID NO.
PSL	9247
R/W REVIEWER	
WDB	

RIGHT OF WAY PLAN (S.R. 84)
STA. 54+96.73 TO STA. 58+89.69

LAK - 90/84 - 0.54/0.43

25/38

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

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PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

RENAISSANCE PROPERTIES CO.
29-B-010-0-00-010-0
VOL. 35 PG. 1395
(39)

(EUCLID-SPUR)

℄ I-90

I.P. FND.

MATCH LINE STA. 54+96.73

BISHOP ROAD

EX. R/W

30'

N 0°27'02" W

17.00'

56+00

57+00

(S.R. 84) STA. 54+96.73
=(I-90) STA. 105+77.83

INTERSTATE ROUTE 90

EUCLID SPUR
VOL. N PG. 35 PLAT RECORDS

S. R. 84

MON. ASSEMBLY
PC STA. 57+75.00

57+91.54
13.10' Rt

57+91.12
42.96' Rt

S00°28'05"E
20.94'

57+70.66
42.88' Rt

57+70.13
57.00' Rt

N00°38'30"W
18.38'

57+88.00
57.00' Rt

S88°18'00"E
EX. L/A

44T

57+94.00
95.00' Rt

15.99'
N01°30'37"W

44WD

N79°28'10"E
38.52'

14.13'

58+27.21
13.96' Rt

58+00

36.02'
N00°27'02"W

S89°42'46"W
EX. L/A
29.87'

S05°24'38"E
36.55'

58+36.56
68.00' Lt

58+35.58
45.76' Lt

58+34.31
15.79' Lt

58+27.96
16.03' Lt

N03°37'59"E
EX. L/A
22.26'

39T

58+92.99
63.00' Lt

N01°14'47"E
54.46'

58+91.64
42.40' Lt

S00°27'02"E
54.65'

S88°54'59"W

MATCH LINE STA. 58+89.69

58+89.69
12.46' Lt

54.98'
N00°27'02"W

84.69'

59+13.05
10.67' Lt

59+00
N4°49'32"W

MON. ASSEMBLY
PT STA. 58+84.38

47.95'

58+84.94
38.11' Rt

59+09.95
37.18' Rt

25.03'
S06°57'23"E

58+26.57
40.66' Rt

R/W

A

S01°38'25"W
24.86'

16.34'

26.71'

56.71'

I.P. FND.

I.P. FND.

58+75.00
55.00' Rt

26.30'
S12°41'53"E

58+50.00
59.00' Rt

S82°14'59"W
40.56'

58+26.18
57.00' Rt

29.41'
S00°05'58"W

58+77.19
95.49' Rt

59+06.01
98.00' Rt

N88°52'58"E

45T

45WD

58+09.00
95.00' Rt

N66°41'24"W
42.09'

60.95'

S/L 18

CURVE DATA (A)
R=2052.57'
Δ =1°40'31"
L=60.01'
T=30.01'
C=60.01'
N6°07'07"W

S.R. 84 ℄ CURVE DATA
P.I.=STA. 58+29.72
Δ=04°22'30" LT.
D_c=04°00'00"
R=1432.40'
T=54.72'
L=109.38'
E=1.05'
emax= N/A
P.C.=STA. 57+75.00
P.T.=STA. 58+84.38

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- • I.P. FND.

(44)
29-B-009-0-00-014-0
THE RETIREMENT MANAGEMENT COMPANY
DOC. #970014078

(45)
29-B-009-B-00-001-0
EDWARD M. & ALICE M. DRAGOLICH
VOL. 818 PG. 609
HN 2731 BISHOP RD.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R.84)
STA. 54+96.73 TO STA. 58+89.69

LAK - 90/84 - 0.54/0.43

26/38

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PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 58+29.72
Δ =04°22'30" LT.
D =04°00'00"
R=1432.40'
T=54.72'
L=109.38'
E=1.05
emax= N/A
P.C.=STA. 57+75.00
P.T.=STA. 58+84.38

② S.R. 84 ℄ CURVE DATA
P.I.=STA. 60+52.41
Δ =04°22'30" RT.
D =04°01'00"
R=1427.12'
T=54.51'
L=108.97'
E=1.04'
emax= N/A
P.C.=STA. 59+98.00
P.T.=STA. 61+06.97

MATCH LIJNE STA. 58+89.69

MATCH LINE STA. 63+97.74

PAVEMENT TAPER STA.59+90.0, 17.8' LT.

STATION EQUATION
PT STA. 61+06.97 (BACK)=
PT STA. 61+06.46 (AHEAD)

MEET EX. ℄ R/W STA. 61+06.46

END PROJECT STA. 63+50.00

BEGIN SIDEWALK TAPER STA.63+50.0, 22.0' LT.

END PAVEMENT TAPER MEET EX. GUTTER STA.63+50.0, 13.0' LT.

S.R. 84 BISHOP ROAD

JOHNSON DR.

℄ CONST. & EX. R/W

EX. ℄ R/W

EX. R/W

CONST. N04°49'32"W (TO BE ABANDONED)

PC=59+98.00

END PAVEMENT TAPER STA.61+55.0, 13.0' RT.

BEGIN SIDEWALK TAPER STA.63+25.9, 26.0' RT.

END PAVEMENT TAPER MEET EX. GUTTER STA.63+50.0, 13.0' RT.

29-B-010-0-00-012-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
28400 EUCLID AVE.
(40)

29-B-010-F-00-004-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
VOL. 387 PG. 491
(41)
S/L 10

29-B-010-F-00-003-0
S/L 9

RABBINICAL COLLEGE OF TELSHE INC. SUB'D NO.3
29-B-010-F-00-002-0
MENUCHIE'S PLACE LTD.
DOC. #200308035027
2660 BISHOP RD.
S/L 8
(42)

29-B-010-F-00-001-0
SHLOMO & BLUMA DAVIS
VOL. 462 PG. 347
2650 BISHOP RD.
(43)
S/L 7

(46)
S/L 17
29-B-009-B-00-002-0
JOHN A. JR. & COLETTA M. DICELLO
VOL. 728 PG. 873
HN 2721 BISHOP RD.
JOHNSON ESTATES SUB'D
VOL. J PG. 42 (10-13-53)

(47)
S/L 16
29-B-009-B-00-003-0
J. JAY & SHERYL L. FABIAN
DOC.# 980008390
HN 2713 BISHOP RD.

(48)
S/L 3
29-B-009-B-00-023-0
CHRISTOPHER R. SGARLATA
VOL. 1157 PG. 916
HN 2701 BISHOP RD.

(49)
S/L 2
29-B-009-B-00-022-0
RAYMOND F. SACK, JR.
DOC.# 200146389
HN 2671 BISHOP RD.
JOHNSON ESTATES SUB'D
VOL. J PG. 42 (10-13-53)

(50)
S/L 1
29-B-009-B-00-021-0
DANIEL SIEPKA
DOC.# 960028376
HN 2661 BISHOP RD.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
VOL. D PG. 243
LAK-84 (0.43-1.44) CENTERLINE SURVEY
SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
VOL. N PG. 35
LAK-525-0.00 CENTERLINE PLAT
AUGUST, 1960

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	3/01/05	REVISED DRIVES FOR PARCELS 42 & 46
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 58+89.69 TO STA. 63+97.74

LAK - 90/84 - 0.54/0.43

27/38

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PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956
2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

29-B-010-0-00-012-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
(40)

29-B-010-F-00-004-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
VOL. 387 PG. 491
(41)
S/L 10

29-B-010-F-00-003-0
S/L 9

29-B-010-F-00-002-0
MENUCHIE'S PLACE LTD.
DOC. #200305035027
2660 BISHOP RD.
(42)
S/L 8

29-B-010-F-00-001-0
SHLOMO & BLUMA DAVIS
VOL. 462 PG. 347
2650 BISHOP RD.
(43)
S/L 7

RABBINICAL COLLEGE OF TELSHE INC. SUBD. NO. 3
VOL. M PG. 50

S.R. 84 ℄ CURVE DATA
P.I.=STA. 60+52.41
Δ=4°22'01" RT.
D_C=04°00'00"
R=1432.40'
T=54.61'
L=109.15'
E=1.04'
emax= N/A
P.C.=STA. 59+97.80
P.T.=STA. 61+06.98

MATCH LIJNE STA. 58+89.69
S88°54'59"W
58+92.99 63.00' Lt
N02°10'29"E 57.44'
59+50.00 56.00' Lt
N11°51'20"E 52.26'
60+50.00 44.17' Lt
60+00.00 41.00' Lt
N07°16'03"W 51.58'
60+98.60 59.03' Lt
60+98.51 43.03' Lt
N00°37'02"W 50.01'
N89°32'58"E
61+19.99 59.00' Lt
N00°27'02"W 22.25'
N77°46'28"E 24.52'
61+25.00 35.00' Lt
61+72.74 35.00' Lt
N00°27'02"W 47.75'
61+72.74 45.00' Lt
62+47.74 68.00' Lt
62+47.74 45.00' Lt
N00°27'02"W 75.00'
N00°27'02"W 27.26'
62+75.00 68.00' Lt
N68°30'43"E 27.86'
62+85.00 42.00' Lt
37.74' N00°27'02"W
END PROJECT STA. 63+50.00
63+22.74 42.00' Lt
27.26' N00°27'02"W
63+50.00 42.00' Lt
63+97.74 35.00' Lt
N07°53'28"E 48.25'
MATCH LINE STA. 63+97.74
58+91.64 42.40' Lt
58+89.69 12.46' Lt
59+97.50 4.21' Lt
60+98.44 30.03' Lt
59+13.05 10.67' Lt
60+00 MON. ASSEMBLY PC STA. 59+98.00
59+98.37 33.89' Rt
60+60.16 31.66' Rt
61+00 MON. ASSEMBLY PT STA. 61+06.97 (BACK) =STA. 61+06.46 (AHEAD) = ℄ JOHNSON ROAD
61+52.04 30.00' Rt
62+00
62+16.16
62+16.51 30.00' Rt
63+01.21 30.00' Rt
63+85.91 30.00' Rt
63+22.74 30.00' Lt
63+97.74 30.00 Lt
62+47.74 30.00' Lt
EX. R/W
BISHOP ROAD
S. R. 84
S00°27'02"E 209.43'
S00°27'02"E 150.00'
S00°27'02"E 75.00'
N00°27'02"W 84.69'
N4°49'32"W 109.69'
N00°27'02"W 209.10'
N00°27'02"W 109.70'
N00°27'02"W 64.47'
N00°27'02"W 84.70'
R/W
59+09.95 37.18' Rt
59+95.02 34.01' Rt
S06°57'23"E 85.13'
S08°03'57"E 70.20'
3.34' S06°57'23"E
60+66.15 48.46' Rt
60+81.66 51.92' Rt
61+07.06 51.84' Rt
61+07.05 50.52' Rt
25.00' S01°07'02"E
59+93.73 54.00' Rt
S88°52'58"W 81.46'
78.17' N88°52'58"E
59+90.81 99.00' Rt
S00°57'00"E 84.69'
59+06.32 93.28' Rt
60+64.63 129.91' Rt
60+81.13 130.08' Rt
15.00' S01°09'04"E
N88°52'58"E
EX. R/W
JOHNSON ROAD 50'
61+32.05 50.23' Rt
22.91' S38°51'21"E
61+50.00 36.00' Rt
62+16.58 36.00' Rt
66.58' S00°27'02"E
41.02' S00°27'02"E
62+16.98 70.00' Rt
62+58.00 70.00' Rt
S64°32'39"E 38.91'
62+75.00 35.00' Rt
26.27' S00°27'02"E
28.61' S00°27'02"E
63+01.27 35.00' Rt
63+30.00 45.00' Rt
63+01.39 45.00' Rt
11.18' S63°53'08"E
50.97' S00°27'02"E
63+35.00 35.00' Rt
63+85.97 35.00' Rt

CURVE DATA (A)
R=1358.19'
Δ=2°32'54"
L=60.41'
T=30.21'
C=60.40'
N5°40'56"W

CURVE DATA (B)
R=20.00'
Δ=93°17'27"
L=32.56'
T=21.18'
C=29.08'
N42°14'15"E

CURVE DATA (C)
R=20.00'
Δ=90°40'00"
L=31.65'
T=20.23'
C=28.45'
N45°47'02"W

BITNER'S JOHNSON ESTATES SUBD.
VOL. J PG. 42 (10-13-53)
S/L 17
(46)
29-B-009-B-00-002-0
JOHN A. JR. & COLETTA M. DICELLO
VOL. 728 PG. 873
HN 2721 BISHOP RD.

S/L 16
(47)
29-B-009-B-00-003-0
J. JAY & SHERYL L. FABIAN
DOC.# 980008390
HN 2713 BISHOP RD.

S/L 3
(48)
29-B-009-B-00-023-0
CHRISTOPHER R. SGARLATA
VOL. 1157 PG. 916
HN 2701 BISHOP RD.

JOHNSON ESTATES SUBD.
VOL. J PG. 42 (10-13-53)
S/L 2
(49)
29-B-009-B-00-022-0
RAYMOND F. SACK, JR.
DOC.# 200146389
HN 2671 BISHOP RD.

S/L 1
(50)
29-B-009-B-00-021-0
DANIEL SIEPKA
DOC.# 960028376
HN 2661 BISHOP RD.

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 58+89.69 TO STA. 63+97.74

LAK - 90/84 - 0.54/0.43

28/38

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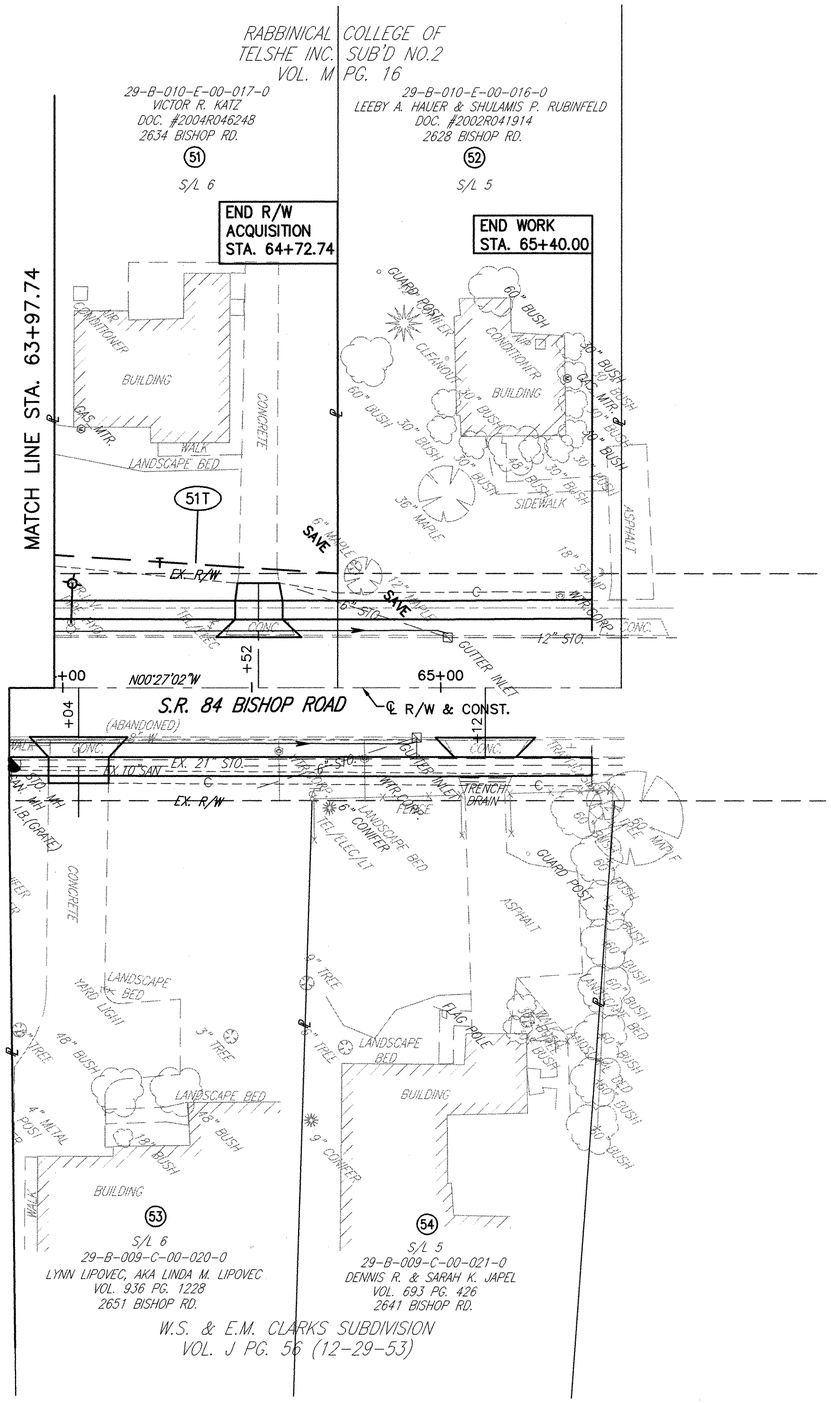
PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO



STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 63+97.74 TO STA. 65+47.74

LAK - 90/84 - 0.54/0.43

29/38

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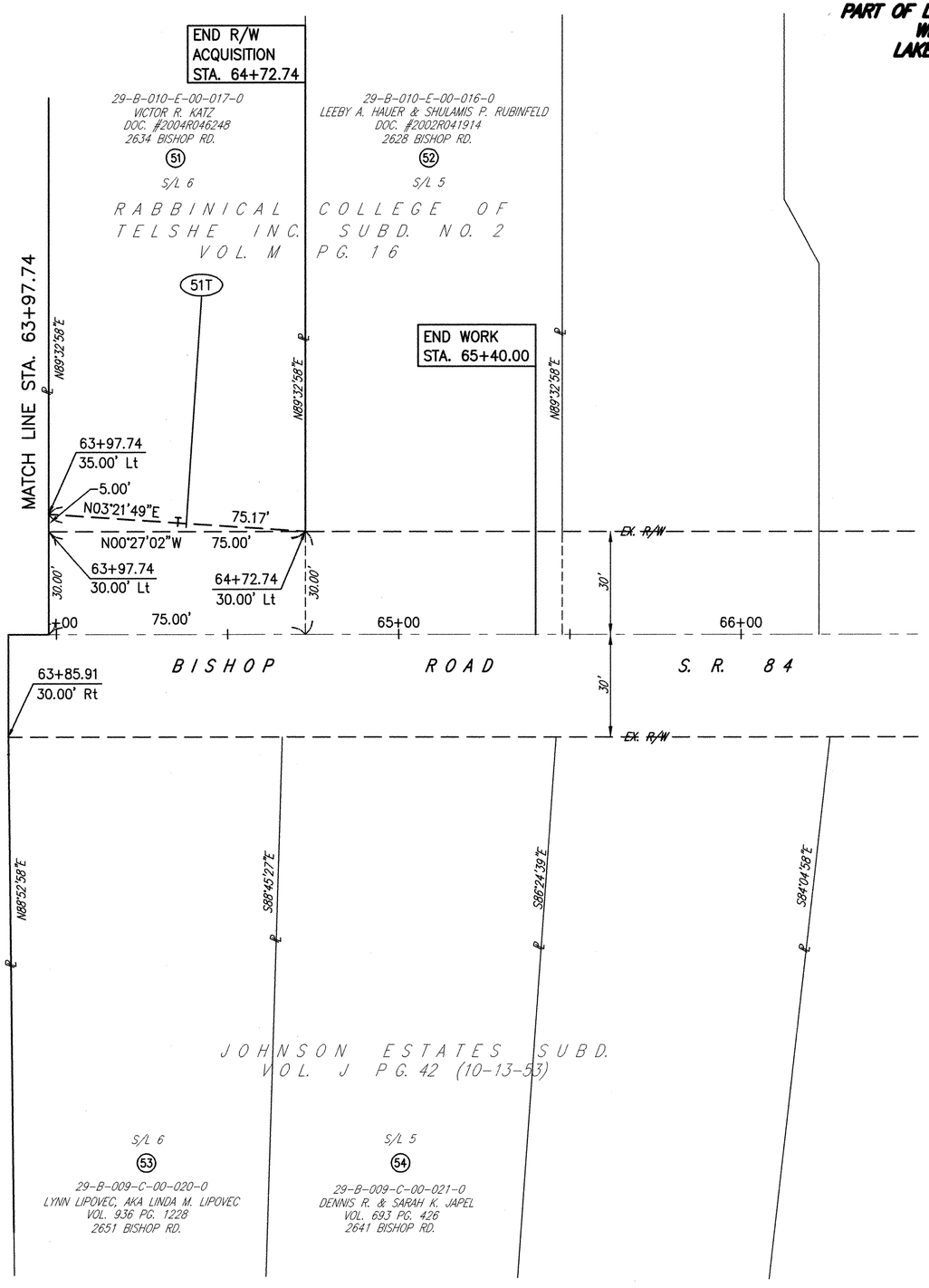
PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO



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   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET: 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 63+97.74 TO STA. 65+47.74

LAK - 90/84 - 0.54/0.43

30/38

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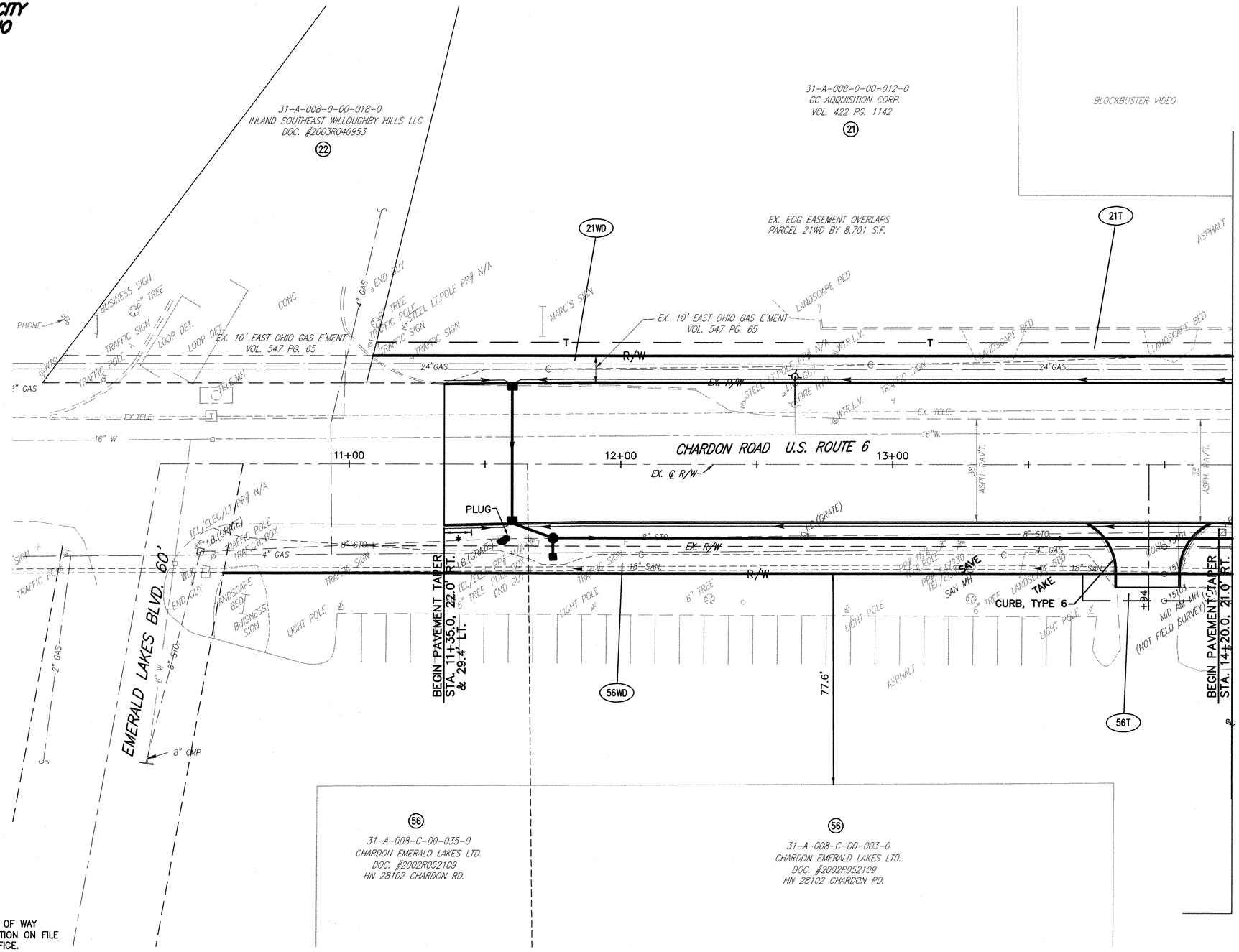
PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

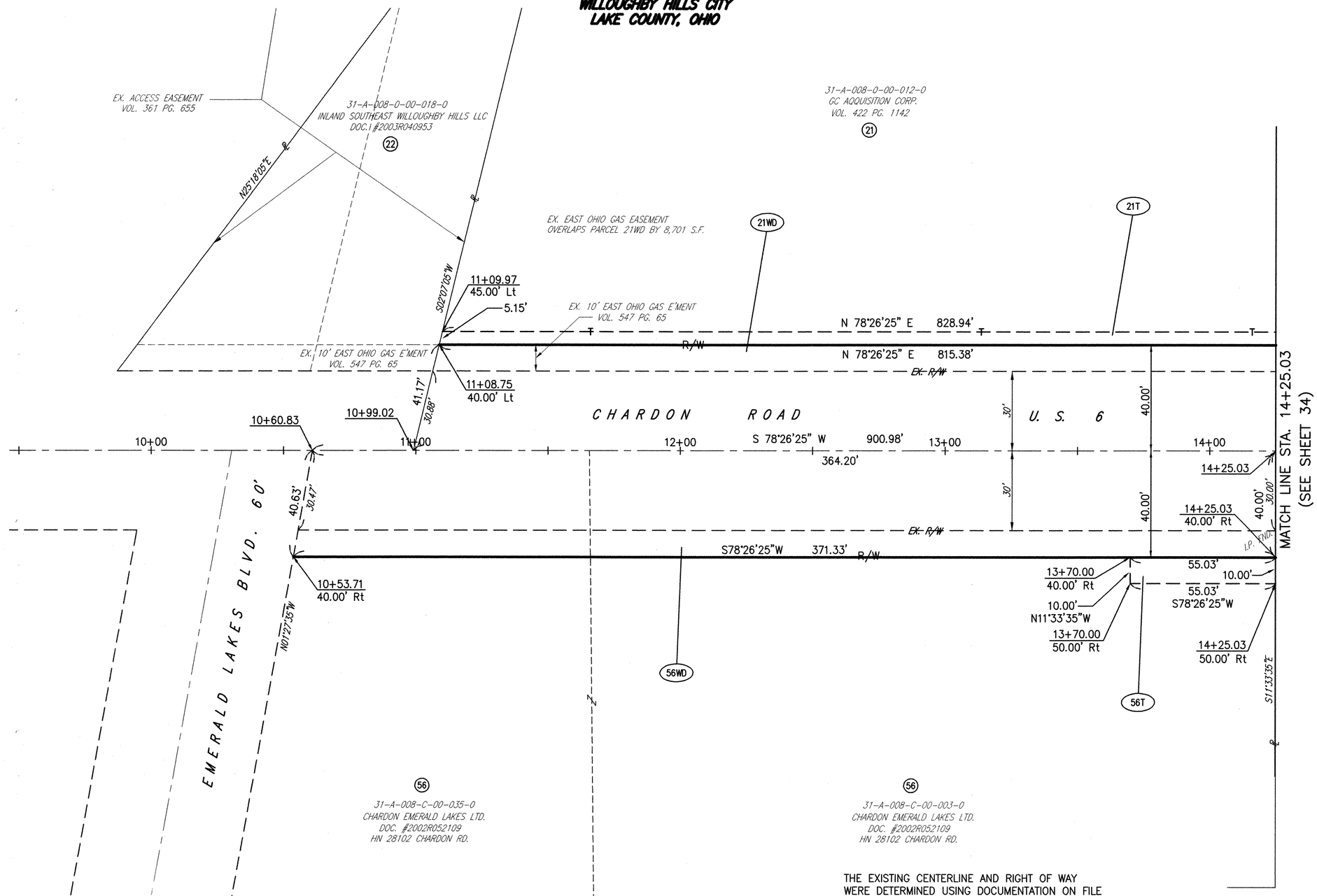
RIGHT OF WAY PLAN (S.R. 6)
STA. 10+60.83 TO STA. 14+25.03

LAK - 90/84 - 0.54/0.43

31/38

H:\2002\02117\dwg\RWPL11.dwg 10/15/2004 11:18:44 AM EDT

PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 10+60.83 TO STA. 14+25.03

LAK - 90/84 - 0.54/0.43

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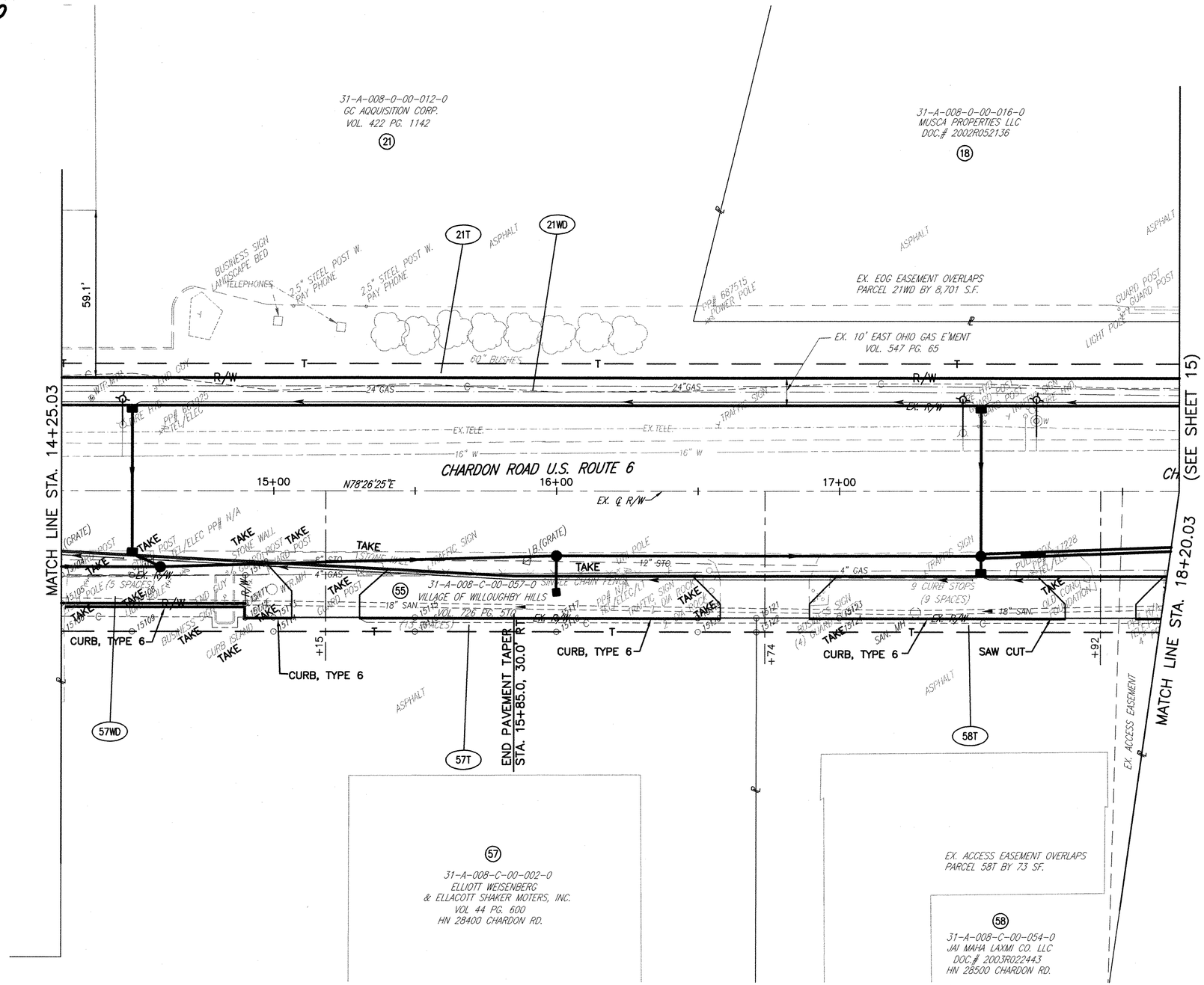
PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

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   SEPTEMBER, 1956

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   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
PSL	1/4/05	ADDED SAW CUT LINE PARCELS 57 & 58
PSL	3/1/05	ADDED CURB, TYPE 6 FOR PARCEL 58

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN
STA. 14+25.03 TO STA. 18+20.03

LAK - 90/84 - 0.54/0.43

33/38

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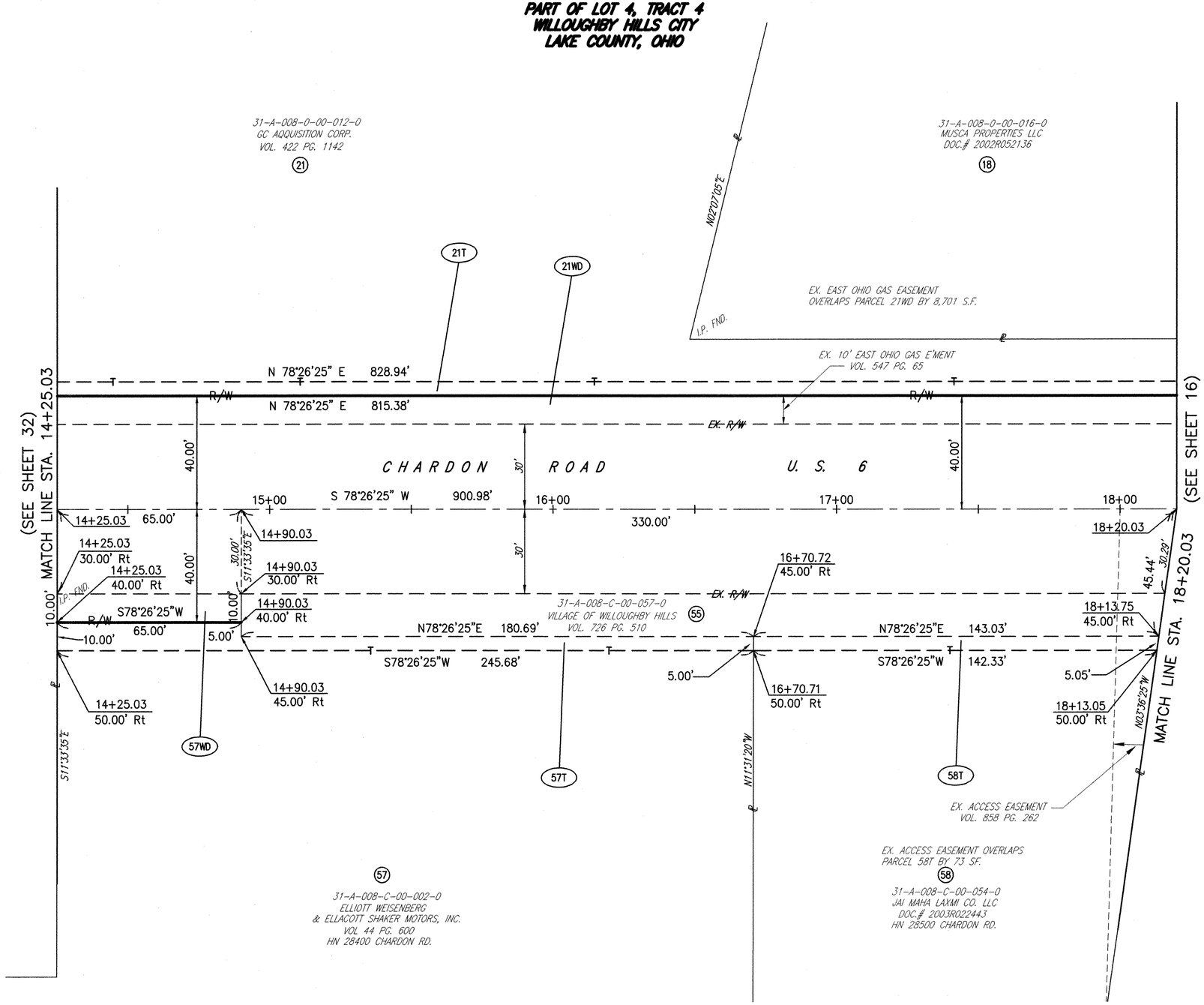
PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET: 20 10 0 20

P/D NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 14+25.03 TO STA. 18+20.03

LAK - 90/84 - 0.54/0.43

34/38

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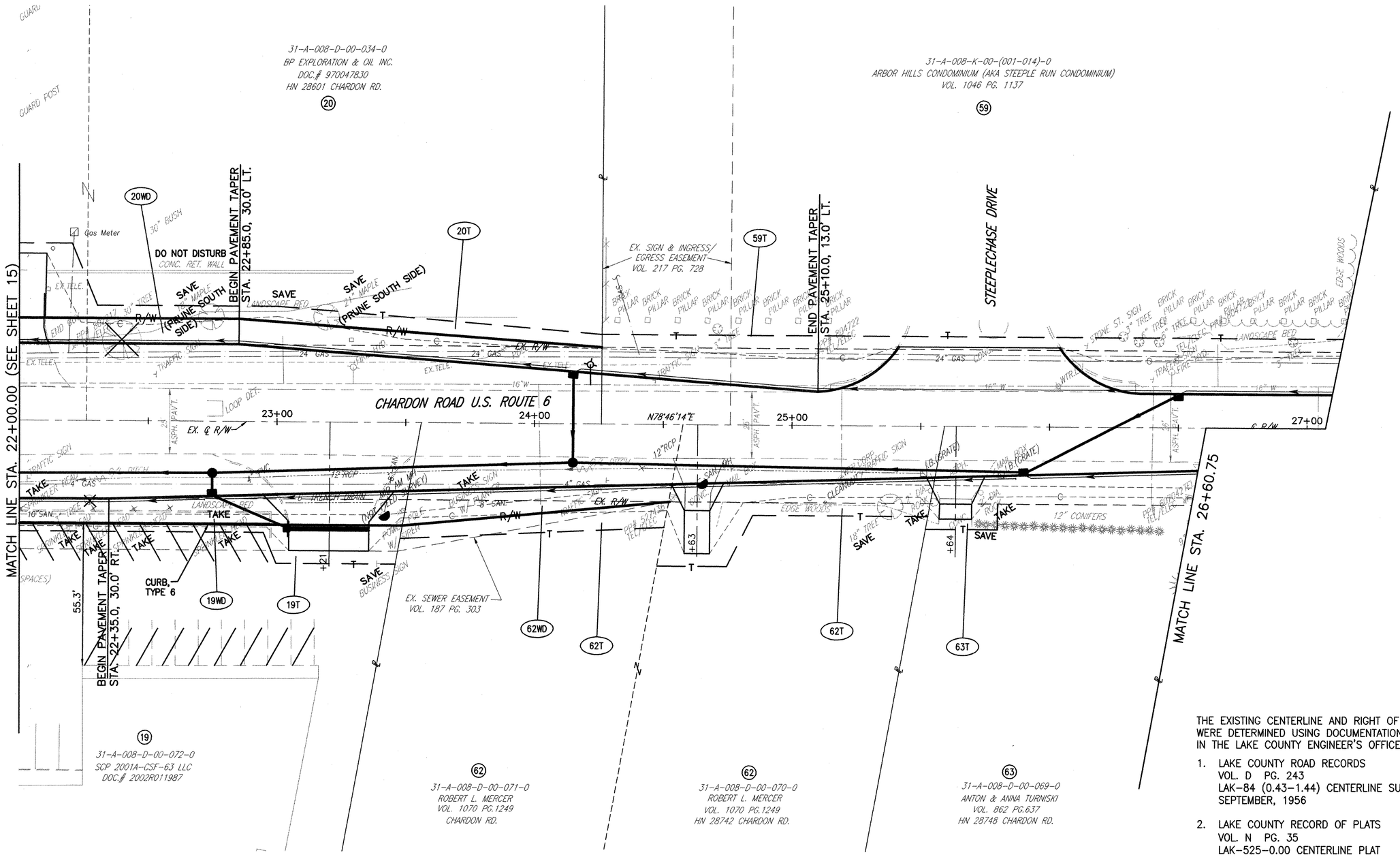
PART OF LOT 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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   VOL. D PG. 243
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   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN
STA. 22+00.00 TO STA. 26+60.75

LAK - 90/84 - 0.54/0.43

35/38

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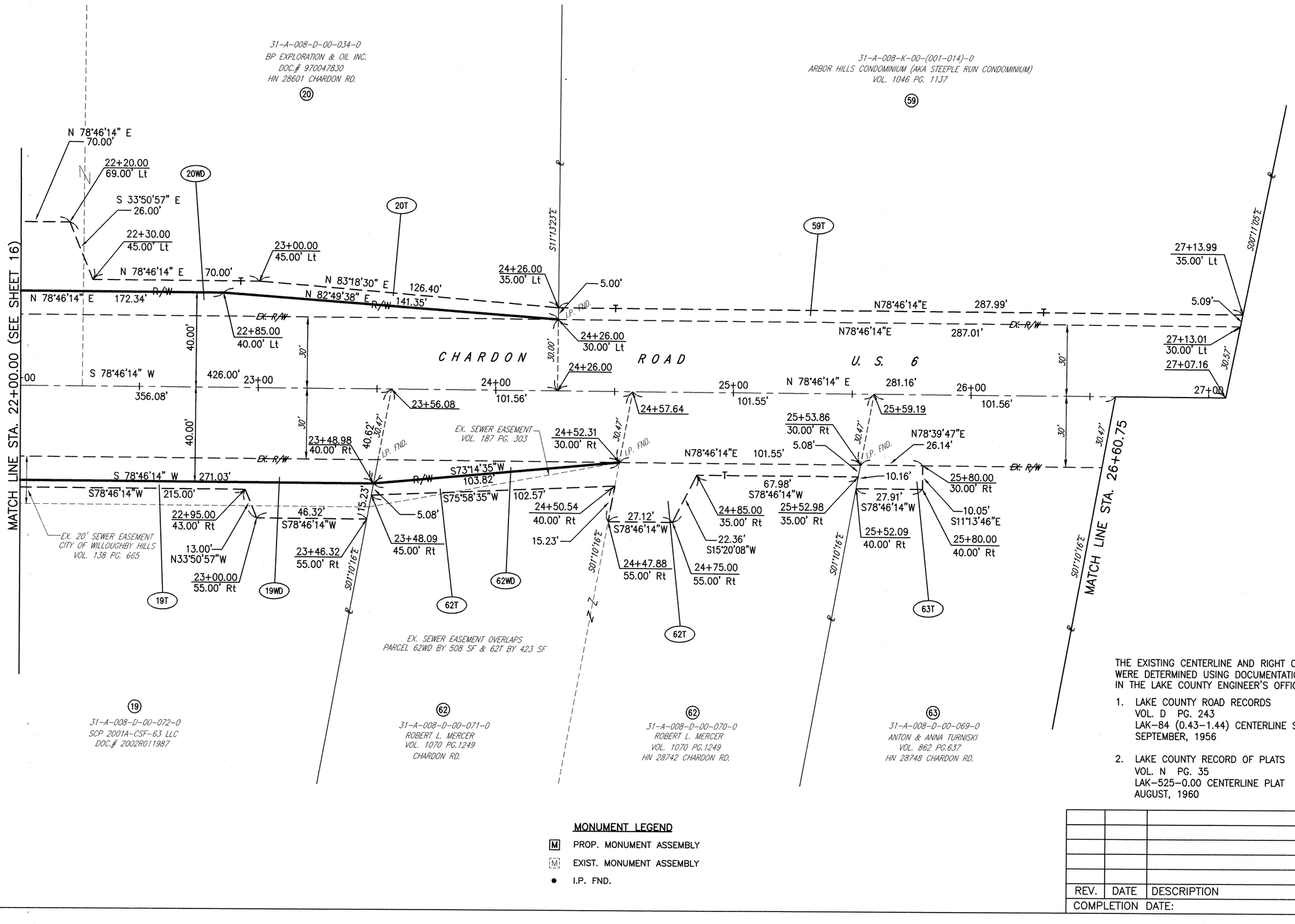
PART OF LOT 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

P.I.D. NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 22+00.00 TO STA. 26+60.75

LAK - 90/84 - 0.54/0.43

36/38

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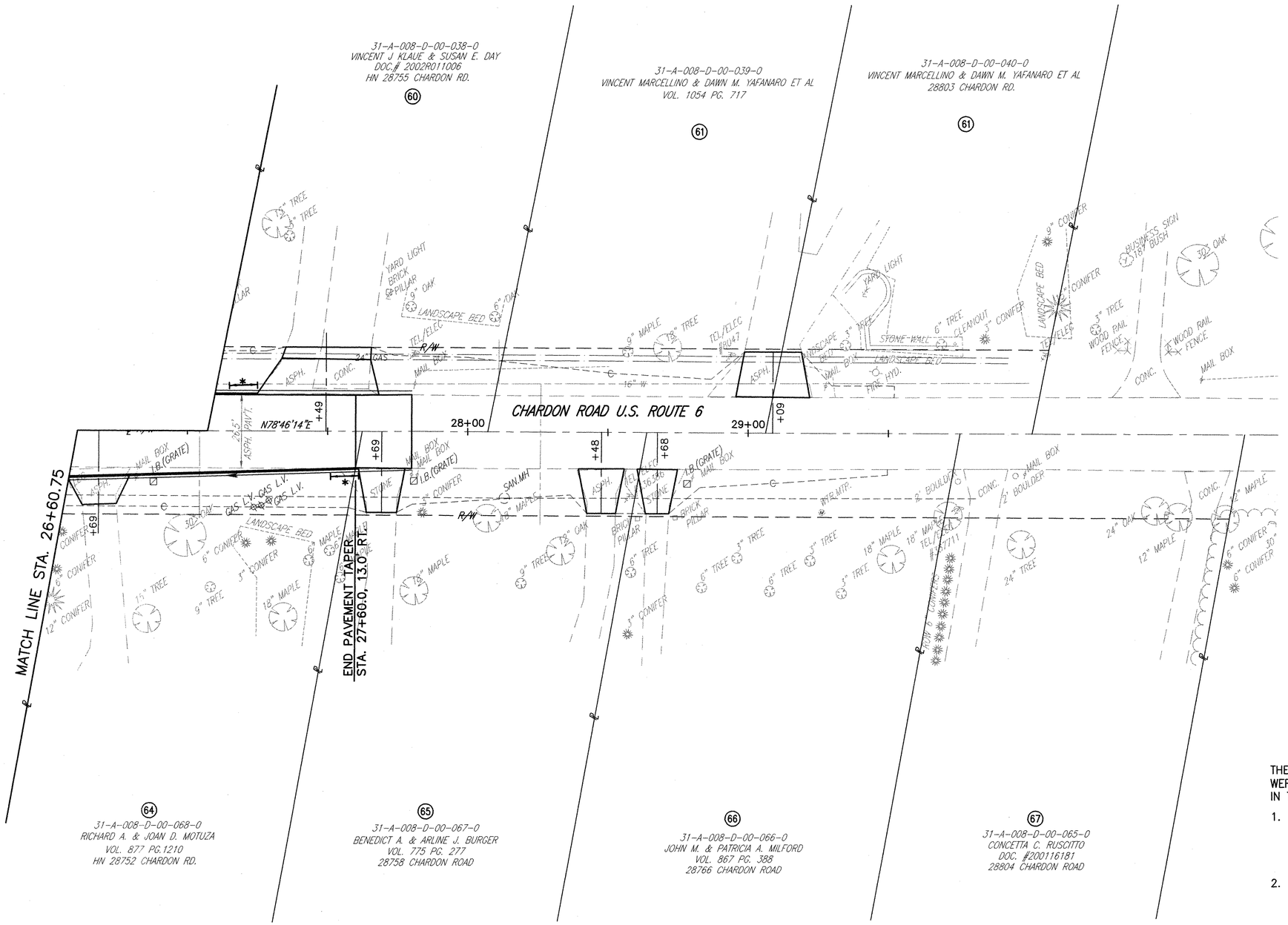

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

PSL	5/25/05	DELETED PARCEL 60T
REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 26+60.75 TO STA. 30+77.05

LAK - 90/84 - 0.54/0.43

37/38

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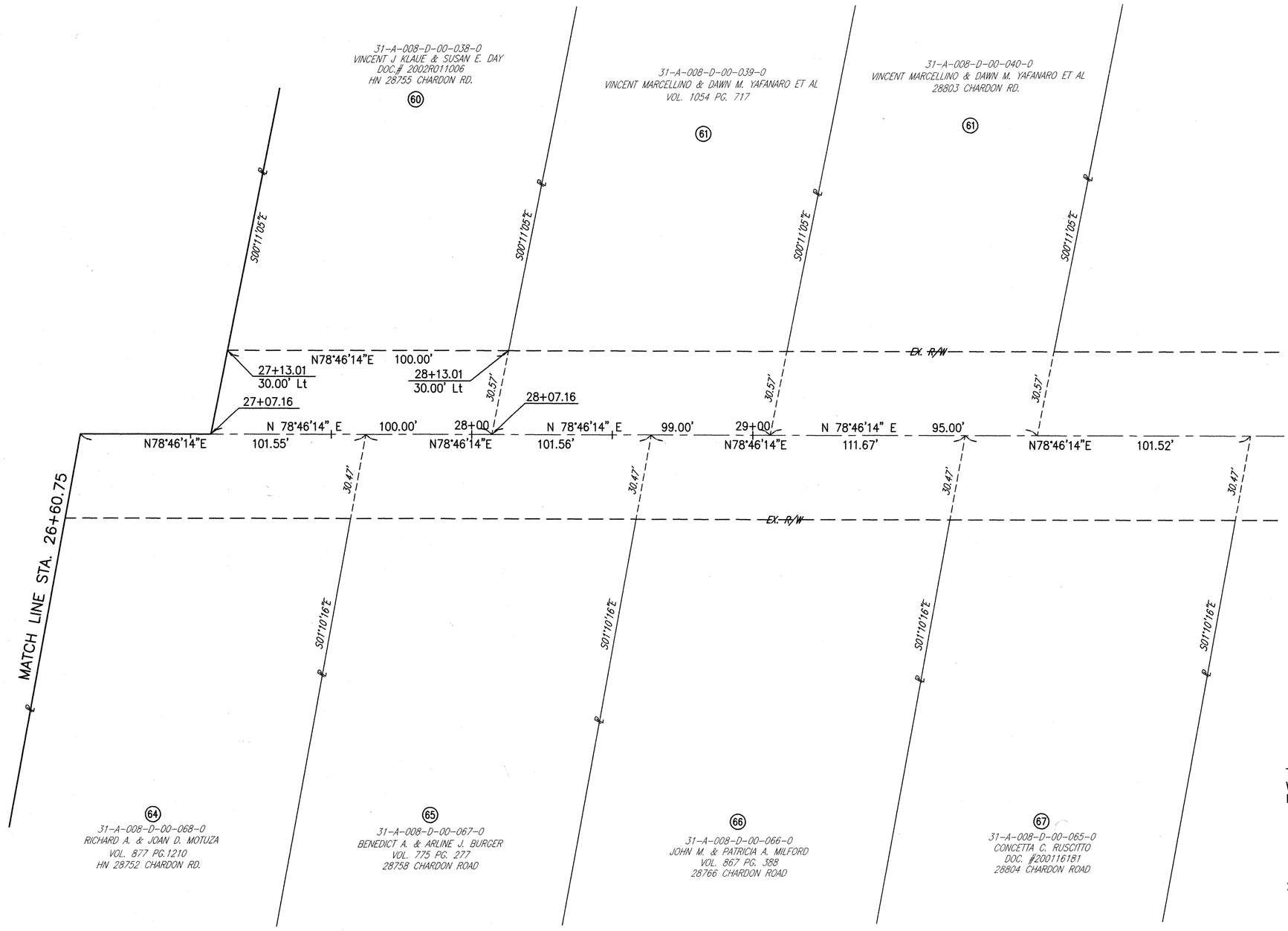

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

PSL	5/25/05	DELETED PARCEL 60T
REV.	DATE	DESCRIPTION
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 26+60.75 TO STA. 30+77.05

LAK - 90/84 - 0.54/0.43

38/38

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CENTERLINE SURVEY PLAT
FOR
LAK-90/84-0.54/0.43
WILLOUGHBY HILLS CITY
WICKLIFFE CITY
LAKE COUNTY, OHIO

MONUMENTS TO BE (M) SET DURING CONSTRUCTION					
STATION		DISTANCE FROM ℄ SUR.		ADJUSTABLE ℄ MONUMENT	℄ REFERENCE MONUMENT
		LEFT	RIGHT		
24+78.82	℄ EVERGREEN AVE.		0	1	
26+18.37	℄ P.C.		0	1	
20+09.06	℄ S.R. 6		0	1	
34+00.73	℄ P.T.		0	1	
		TOTALS		4	

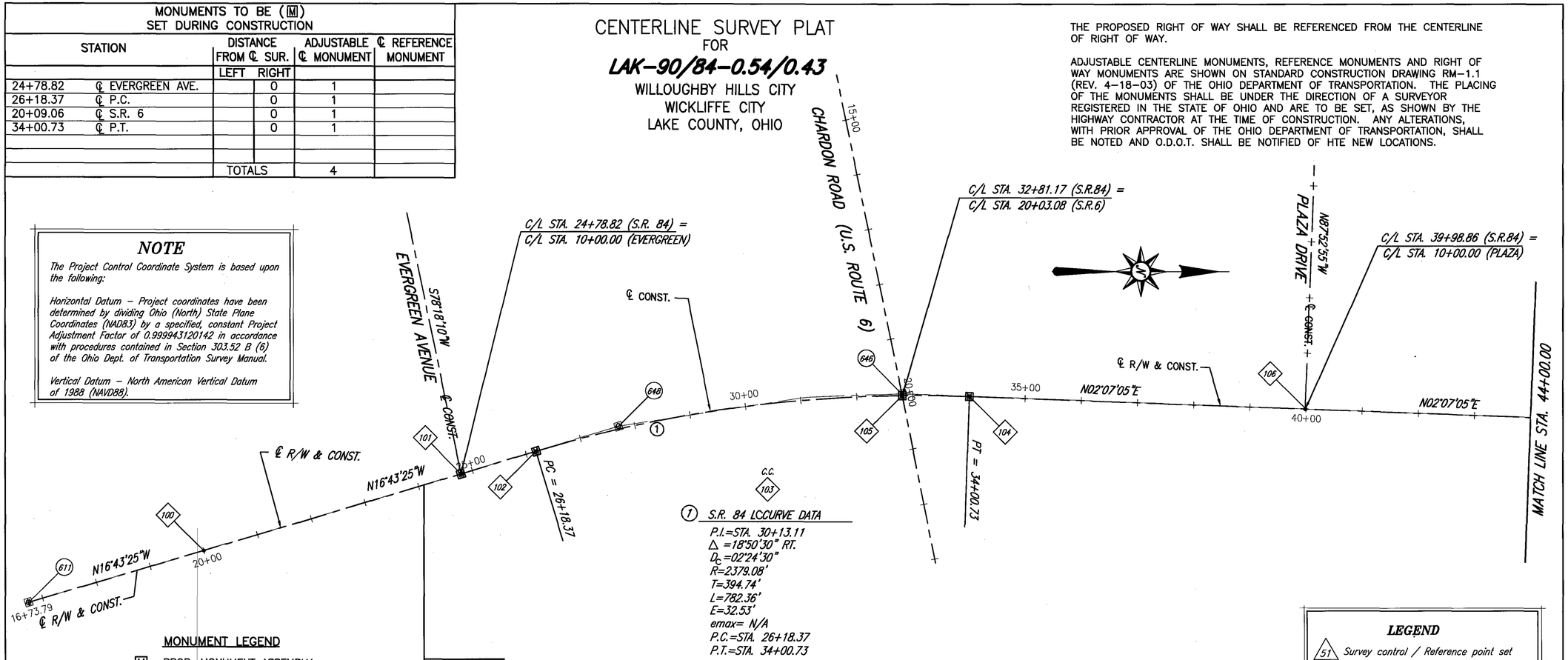
THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (REV. 4-18-03) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF HTE NEW LOCATIONS.

NOTE
The Project Control Coordinate System is based upon the following:

Horizontal Datum – Project coordinates have been determined by dividing Ohio (North) State Plane Coordinates (NAD83) by a specified, constant Project Adjustment Factor of 0.999943120142 in accordance with procedures contained in Section 303.52 B (6) of the Ohio Dept. of Transportation Survey Manual.

Vertical Datum – North American Vertical Datum of 1988 (NAVD88).



① S.R. 84 LCCURVE DATA
P.I.=STA. 30+13.11
△ =18°50'30" RT.
D_C =02°24'30"
R=2379.08'
T=394.74'
L=782.36'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. SET
- ○ I.P. FND.

LEGEND
- △51 *Survey control / Reference point set*
- (62) *Existing survey monumentation found*
- ◇4 *Calculated location of centerline of street.*

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

BASIS OF BEARINGS – OHIO STATE PLANE COORDINATE SYSTEM (NAD83)

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

CT CONSULTANTS, INC.

BY _____
TIMOTHY P. HADDEN
REGISTERED SURVEYOR NO. 6786

DATE _____

RECEIVED _____, 20____
RECORDED _____, 20____
BOOK _____ PAGE _____
COUNTY RECORDER

N

SCALE IN FEET
200 100 0 200

CALCULATED
CHECKED

CENTERLINE SURVEY PLAT

LAK - 90/84 - 0.54/0.43

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CENTERLINE SURVEY PLAT
FOR
LAK-90/84-0.54/0.43
WILLOUGHBY HILLS CITY
WICKLIFFE CITY
LAKE COUNTY, OHIO

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

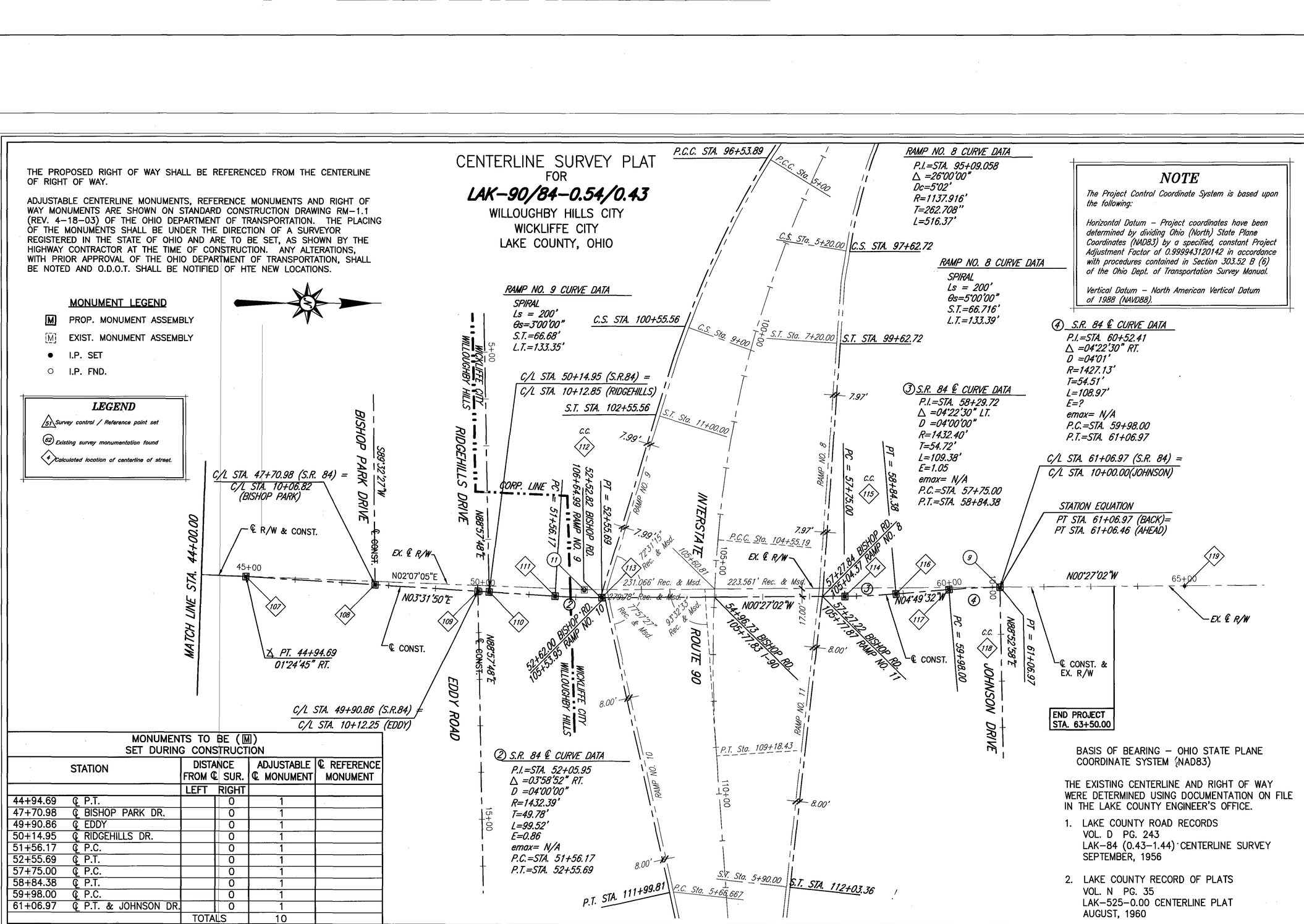
ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (REV. 4-18-03) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF HTE NEW LOCATIONS.

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. SET
- ○ I.P. FND.

LEGEND

- 51 Survey control / Reference point set
- 82 Existing survey monumentation found
- 4 Calculated location of centerline of street.



MONUMENTS TO BE ([M]) SET DURING CONSTRUCTION					
STATION		DISTANCE FROM ℄ SUR.		ADJUSTABLE ℄ MONUMENT	℄ REFERENCE MONUMENT
		LEFT	RIGHT		
44+94.69	℄ P.T.		0	1	
47+70.98	℄ BISHOP PARK DR.		0	1	
49+90.86	℄ EDDY		0	1	
50+14.95	℄ RIDGEHILLS DR.		0	1	
51+56.17	℄ P.C.		0	1	
52+55.69	℄ P.T.		0	1	
57+75.00	℄ P.C.		0	1	
58+84.38	℄ P.T.		0	1	
59+98.00	℄ P.C.		0	1	
61+06.97	℄ P.T. & JOHNSON DR.		0	1	
	TOTALS			10	

BASIS OF BEARING – OHIO STATE PLANE COORDINATE SYSTEM (NAD83)

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

N

SCALE IN FEET
200 100 0 200

CALCULATED
CHECKED

CENTERLINE SURVEY PLAT

LAK - 90/84 - 0.54/0.43

H:\2002\02117\survey\recordplat_rev.DWG

BASIS OF BEARINGS - OHIO STATE PLANE COORDINATE SYSTEM (NAD83)

PROJECT CONTROL COORDINATES

NO.	NORTH	EAST	ELEV.	CODE
9,	702903.2679,	2247737.0906,	0.00,	1
11,	702015.0455,	2247744.0752,	0.00,	1
100,	698835.0505,	2247953.8832,	0.00,	10
101,	699293.6149,	2247816.1018,	0.00,	10
102,	699427.2700,	2247775.9434,	0.00,	10
103,	700111.8605,	2250054.3985,	0.00,	10
104,	700199.7829,	2247676.9437,	0.00,	10
105,	700080.2521,	2247675.5285,	0.00,	10
106,	700797.5055,	2247699.0485,	0.00,	10
107,	701292.9955,	2247717.3726,	0.00,	10
108,	701568.7624,	2247734.3861,	0.00,	10
109,	701788.2286,	2247747.9262,	0.00,	10
110,	701812.2755,	2247749.4098,	0.00,	10
111,	701953.2233,	2247758.1057,	0.00,	10
112,	702041.4277,	2246328.4340,	0.00,	10
113,	702052.6910,	2247760.7797,	0.00,	10
114,	702571.9782,	2247756.6962,	0.00,	10
115,	702560.7197,	2246324.3405,	0.00,	10
116,	702681.2168,	2247751.6632,	0.00,	10
117,	702794.4363,	2247742.1050,	0.00,	10
118,	702914.4899,	2249164.1741,	0.00,	10
119,	703296.7957,	2247733.9960,	0.00,	10
250,	699297.3617,	2247814.9760,	0.00,	10
256,	698806.2105,	2247991.6680,	0.00,	2
257,	698833.8341,	2247983.6752,	0.00,	2
258,	698883.6125,	2247966.6026,	0.00,	2
259,	699254.3718,	2247783.2003,	0.00,	2
260,	699322.5353,	2247761.5330,	0.00,	2
261,	699377.2233,	2247747.5478,	0.00,	2
262,	699420.6465,	2247728.4193,	0.00,	2
263,	699464.2556,	2247716.6323,	0.00,	2
264,	700110.0629,	2247566.7617,	0.00,	2
265,	700134.2716,	2247616.2573,	0.00,	2
266,	700167.9035,	2247613.8166,	0.00,	2
267,	700203.1183,	2247613.3177,	0.00,	2
268,	700241.2928,	2247615.4136,	0.00,	2
269,	700752.6897,	2247741.5667,	0.00,	2
270,	700839.6359,	2247745.6275,	0.00,	2
271,	700901.3993,	2247747.9311,	0.00,	2
272,	701260.5151,	2247655.3952,	0.00,	2
273,	701295.6828,	2247658.4824,	0.00,	2
274,	701340.1399,	2247770.9824,	0.00,	2
275,	701504.2000,	2247780.8975,	0.00,	2
276,	701580.7992,	2247777.1581,	0.00,	2
277,	701488.8544,	2247674.0223,	0.00,	2
278,	701834.4325,	2247806.2853,	0.00,	2
279,	701861.2191,	2247808.5976,	0.00,	2
280,	701887.4280,	2247810.0405,	0.00,	2
281,	701937.8787,	2247811.1424,	0.00,	2
282,	701992.9627,	2247820.7270,	0.00,	2
283,	702017.6248,	2247818.9335,	0.00,	2
284,	702024.6355,	2247668.5885,	0.00,	2
285,	702555.1213,	2247820.7148,	0.00,	2
286,	702594.3904,	2247632.6570,	0.00,	2
287,	702663.0831,	2247669.3111,	0.00,	2
288,	702699.1329,	2247662.7265,	0.00,	2
289,	702745.5416,	2247662.7763,	0.00,	2
290,	702829.6511,	2247681.6306,	0.00,	2
291,	702895.9534,	2247679.6250,	0.00,	2
292,	702862.0684,	2247801.2452,	0.00,	2
293,	702930.8383,	2247800.6803,	0.00,	2
294,	703260.9213,	2247692.6046,	0.00,	2
295,	703289.5556,	2247693.7164,	0.00,	2
296,	703326.4491,	2247693.0910,	0.00,	2
611,	698522.6330,	2248047.7530,	0.00,	1
646,	700079.6510,	2247672.5010,	0.00,	1
648,	699573.8920,	2247731.8890,	0.00,	1

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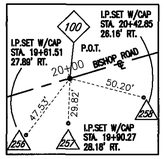
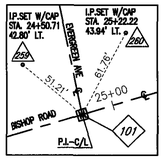
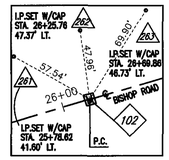
CENTERLINE SURVEY PLAT
FOR
LAK-90/84-0.54/0.43
WILLOUGHBY HILLS CITY
WICKLIFFE CITY
LAKE COUNTY, OHIO



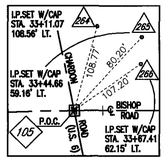
BISHOP ROAD
P.O.T. STA. 20+00.00



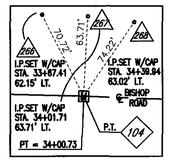
BISHOP ROAD
P.I. STA. 24+78.82
(EVERGREEN AVE)
C.L. STA. 10+00.00



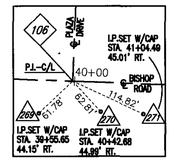
BISHOP ROAD
P.C. STA. 26+18.37



BISHOP ROAD
P.O.C. STA. 32+81.17

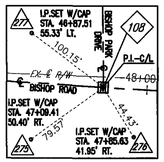


BISHOP ROAD
P.T. STA. 34+00.73

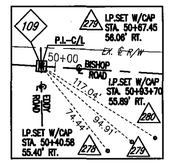


BISHOP ROAD
P.I. STA. 39+98.86
(PLAZA DRIVE)
C/L STA. 10+00.00

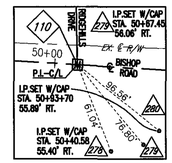
BISHOP ROAD
P.I. STA. 44+94.69



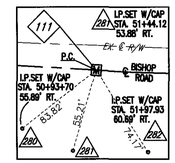
BISHOP ROAD
P.I. STA. 47+70.98
(BISHOP PARK)
C/L STA. 10+06.82



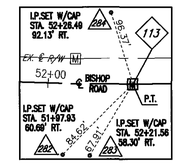
BISHOP ROAD
P.I. STA. 49+90.86
(EDDY ROAD)
C/L STA. 10+12.25



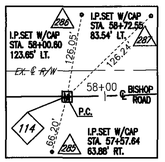
BISHOP ROAD
P.I. STA. 50+14.95
(RIDGEHILLS DRIVE)
C/L STA. 10+12.85



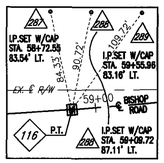
BISHOP ROAD
P.C. STA. 51+56.17



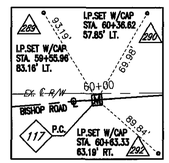
BISHOP ROAD
P.T. STA. 52+55.69



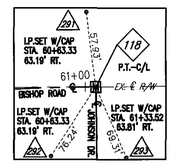
BISHOP ROAD
P.C. STA. 57+75.00



BISHOP ROAD
P.T. STA. 58+84.38



BISHOP ROAD
P.C. STA. 59+98.00



BISHOP ROAD
P.T. STA. 61+06.98
(JOHNSON DRIVE)
C/L STA. 10+00.00

NOTE

The Project Control Coordinate System is based upon the following:

Horizontal Datum - Project coordinates have been determined by dividing Ohio (North) State Plane Coordinates (NAD83) by a specified, constant Project Adjustment Factor of 0.999943120142 in accordance with procedures contained in Section 303.52 B (6) of the Ohio Dept. of Transportation Survey Manual.

Vertical Datum - North American Vertical Datum of 1988 (NAVD88).

LEGEND

- (51) Survey control / Reference point set
- (82) Existing survey monumentation found
- (4) Calculated location of centerline of street.

SURVEY CONTROL DESCRIPTION CODE LEGEND

1 - Mon. Box
2 - Iron Pin Set
3 - Iron Pin Found
4 - Iron Pipe Found
5 - Drill Hole
6 - Hub & Tack
7 - P.K. Nail
8 - Conc. Mon.
9 - G.P.S. Pnt.
10 - Misc. Ctl.

N

SCALE IN FEET
200 100 0 200

CALCULATED
CHECKED

CENTERLINE SURVEY PLAT

LAK - 90/84 - 0.54/0.43

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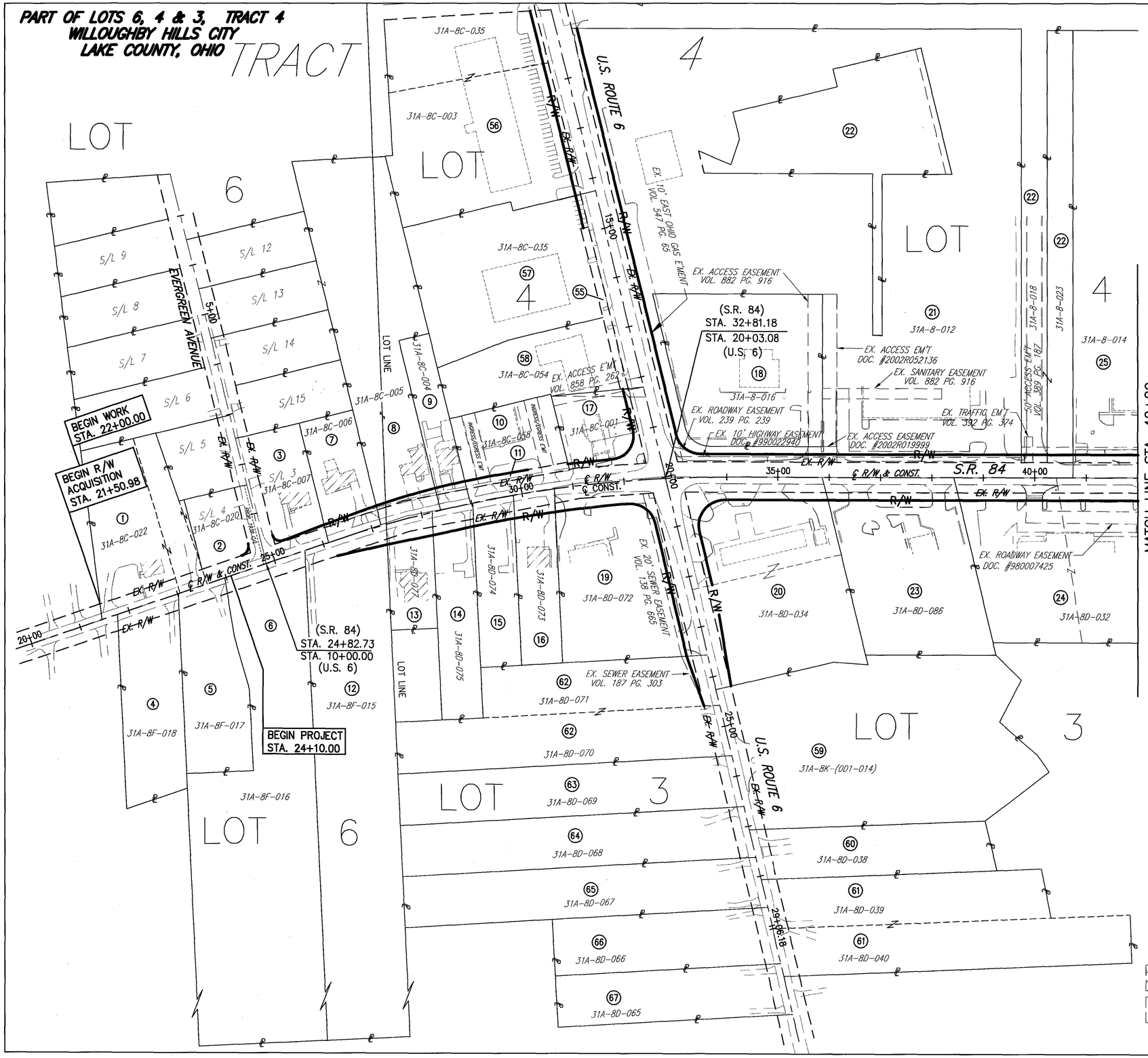
PART OF LOTS 6, 4 & 3, TRACT 4 WILLOUGHBY HILLS CITY LAKE COUNTY, OHIO



CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line
Fence Line (existing) —x—x— (proposed) —X—X—
Center Line 3+00 4+00
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) L/A
Right of Way (only) R/W
Limited Access & Right of Way L/A & R/W
Existing Right of Way EX. R/W
Property Line (in existing fence)
Railroad or
Guardrail (exist.) (prop.)
Manholes (exist.) (adjst.) (prop.)
Catch or Inlet Basins (exist.) (adjst.) (prop.)
Temporary Easement —T—T—

PROPERTY OWNERS

1. PAUL L. McNEILL
2. JOHN J. & THERESA WHITTINGTON
3. JOANN C. PALMER
4. JOHN D. SMICKLAS JR.
5. MARLENE BROWN
6. MARY ANN ZIGMAN & DEBRA ANN PACHINGER
7. CATHERINE G. DEVICTOR
8. DOUGLAS K. SCHROYER
9. ERNEST H. & MILDRED HALL
10. JOHN P. HOLLIS
11. CITY OF WILLOUGHBY HILLS
12. ANTHONY L. MALNAR
13. EARL B. & MARY E. KROCKER
14. NORMA S. CHICONE
15. MARION J. PAGLISOTTI
16. RONALD J. & SANDRA L. MAXEY
17. TRUE NORTH ENERGY, LLC
18. MUSCA PROPERTIES LLC
19. SCP2001A-CSF-63 LLC
20. BP EXPLORATION & OIL INC.
21. GC ACQUISITION CORP.
22. INLAND SOUTHEAST WILLOUGHBY HILLS LLC
23. McDONALDS CORP.
24. BISHOP-WILLOUGHBY COMPANY, LTD.
55. CITY OF WILLOUGHBY HILLS
56. CHARDON EMERALD LAKES LTD.
57. ELLIOTT WEISENBERG & ELLACOTT SHAKER MOTORS, INC.
58. JAI MAHA LAXMI CO. LLC
59. ARBOR HILLS CONDOMINIUM (AKA STEEPLE RUN CONDOMINIUM)
60. VINCENT J. KLAUE & SUSAN E. DAY
61. VINCENT MARCELLINO & DAWN M. YAFANARO ETAL (4)
62. ROBERT L. MERCER
63. ANTON & ANNA TURNISKI
64. RICHARD A. & JOAN D. MOTUZA
65. BENEDICT A. & ARLEN J. BURGER
66. JOHN M. & PATRICIA MILFORD
67. CONCETTA C. RUSCITTO

UTILITY OWNERS

CLEVELAND ELECTRIC ILLUMINATING COMPANY
6896 MILLER ROAD
BRECKSVILLE, OHIO 44141
ATTN: MR. FRANK DIBBS
440-546-8748

DOMINION EAST OHIO GAS COMPANY
1201 EAST 55TH STREET
CLEVELAND, OHIO 44103
ATTN: MR. MIKE ANTONIUS
216-736-6675

LAKE COUNTY DEPARTMENT OF UTILITIES
ADMINISTRATION BUILDING
105 MAIN STREET
PAINESVILLE, OHIO 44077
ATTN: MR. ALBERT SAARI, P.E.
440-350-2649

AMERICAN TELEPHONE & TELEGRAPH
229 WEST 7TH STREET
10TH FLOOR
CINCINNATI, OHIO 45202
ATTN: MR. JEFF BALLINGER
513-784-3238

AMERITECH
13630 LORAIN AVENUE, 4TH FLOOR
CLEVELAND, OHIO 44111
ATTN: MR. ERIC JOHNSTON
216-476-6141

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

REV.	DATE	DESCRIPTION
PLAN COMPLETED:		

SCALE IN FEET 100 50 0 100

P.I.D. NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

PROPERTY MAP
STA. 21+50.98 TO STA. 42+00

LAK - 90/84 - 0.54/0.43

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PART OF LOTS 4 & 3, TRACT 4 WILLOUGHBY HILLS CITY
PART OF LOTS 2, 3 & 6, TRACT 8 WICKLIFFE CITY
LAKE COUNTY, OHIO

PROPERTY OWNERS

(25) ELIZABETH LA RICHE
(26) L & H REAL ESTATE HOLDINGS LLC
(27) THE DELBALSO PROPERTIES LLC
(28) HENRY R. REBOL
(29) LEONARD FUCHS, TRUSTEE
(30) RENAISSANCE PROPERTIES CO.
(31) JAMES M. CHRISTENSEN
(32) CITY OF WILLOUGHBY HILLS
(33) TRUE NORTH ENERGY, LLC
(34) RENAISSANCE PROPERTIES CO.
(35) PATRICK J. MANGAN
(36) WILLOUGHBY COMPASS LLC
(37) THE GATEWAY PROFESSIONAL CENTER LLC
(38) THE VILLAGE OF WILLOUGHBY HILLS, OHIO
(39) RENAISSANCE PROPERTIES CO.
(40) RABBINICAL COLLEGE OF TELSHE, INC.
(41) RABBINICAL COLLEGE OF TELSHE, INC.
(42) MENUCHIES PLACE LTD.
(43) SHLOMO & BLUMA DAVIS
(44) THE RETIREMENT MANAGEMENT COMPANY
(45) EDWARD M. & ALICE M. DRAGOLICH
(46) JOHN A. JR. & COLETTA M. DICELLO
(47) J. JAY & SHERYL L. FABIAN
(48) CHRISTOPHER R. SGARLATA
(49) RAYMOND F. SACK, JR.
(50) DANIEL SIEPKA
(51) VICTOR R. KATZ
(52) LEEBY A. HAUER & SHULAMIS P. RUBINFELD
(53) LYNN LIPOVEC, AKA LINDA M. LIPOVEC
(54) DENNIS R. & SARAH K. JAPEL

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL

REV.	DATE	DESCRIPTION
PLAN COMPLETED:		

SCALE IN FEET: 100 50 0 100

P.I.D. NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

PROPERTY MAP
STA. 42+00 TO STA. 65+47.74+

LAK – 90/84 – 0.54/0.43

5 / 38

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TOTAL NUMBER OF:
55 OWNERSHIPS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF CITY OF WILLOUGHBY HILLS/CITY OF WICKLIFFE UNLESS OTHERWISE NOTED.
* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
1T	PAUL L. McNEILL	11–12	DOC. #2002R041689		31-A-008-C-00-022-0	0.977		0.0089		0.0089					GRADING FOR TEMPORARY PAVEMENT		
			DOC. #2002R041690		31-A-008-C-00-021-0	0.3781		0.0063		0.0063							
					TOTAL	1.3551		0.0152		0.0152							
2WD	JOHN J. & THERESA L. WHITTINGTON	11–12	867	1278	31-A-008-C-00-020-0	0.4478	0.1592	0.0405	0.0389	0.0016		0.2870					
2T								0.0407		0.0407					TEMPORARY PAVEMENT & GRADING		
3WD	JOANN C. PALMER	11–12	1052	135	31-A-008-C-00-007-0	0.749	0.215	0.109	0.099	0.010		0.524					
3T								0.047		0.047					DRIVEWAY CONSTRUCTION, TEMPORARY PAVEMENT & GRADING		
3S								0.0016		0.0016					PARCEL 3S OVERLAPS 3T BY 0.0016 ACRES		
4	JOHN D. SMICKLAS JR.	11–12	661	175	31-A-008-F-00-018-0	1.0874									NO R/W REQUIRED		
5	LEE L. & MARLENE BROWN	11–12	562	317	31-A-008-F-00-017-0	0.997									NO R/W REQUIRED		
6T	MARY ANN ZIGMAN & DEBRA ANN PACHINGER	11–12	DOC. #2003R028745		31-A-008-F-00-016-0	7.90		0.018		0.018					GRADING		
6S								0.0015		0.0015					PARCEL 6S OVERLAPS 6T BY 0.0015 ACRES		
7WD	CATHERINE G. DeVICTOR	13–14	DOC. #200132659		31-A-008-C-00-006-0	0.581	0.074	0.092	0.074	0.018		0.489					
7T								0.029		0.029					DRIVEWAY CONSTRUCTION & GRADING		
8WD	DOUGLAS K. SCHROYER	13–14	DOC. #200134708		31-A-008-C-00-005-0	2.478	0.082	0.109	0.082	0.027		2.369					
8T								0.021		0.021					DRIVEWAY CONSTRUCTION & GRADING		
9WD	ERNEST H. & MILDRED HALL	13–14	843	1194	31-A-008-C-00-004-0	0.466	0.041	0.062	0.041	0.021		0.404					
9T								0.014		0.014					DRIVEWAY CONSTRUCTION & GRADING		
10WD	JOHN P. HOLLIS	13–14	890	759	31-A-008-C-00-058-0	0.610	0	0.003	0	0.003		0.607			INGRESS/EGRESS EASEMENT OVERLAPS 10WD BY 30 SF & 10T BY 673 SF		
10T								0.060		0.060					DRIVEWAY CONSTRUCTION & GRADING		
11	CITY OF WILLOUGHBY HILLS	13–14	726	510	31-A-008-C-00-056-0	0.209	0.140	0	0.140	0					NO R/W REQUIRED		
12WD	ANTHONY L. MALNAR	13–14	DOC. #960022922		31-A-008-F-00-015-0	6.00	0.115	0.128	0.115	0.013			5.872				
12T								0.029		0.029					DRIVEWAY CONSTRUCTION & GRADING		
12S								0.0011		0.0011					PARCEL 12S OVERLAP 12T BY 0.0011 ACRES		
13WD	EARL B. & MARY E. KROCKER	13–14	DOC. #2004R00991		31-A-008-D-00-077-0	0.445	0.064	0.095	0.064	0.031			0.350				
			131	507	31-A-008-D-00-076-0	0.38	0	0	0	0			0.38				
					TOTAL	0.825	0.064	0.095	0.064	0.031			0.730				
13T								0.015		0.015					DRIVEWAY CONSTRUCTION & GRADING		
14WD	NORMA S. CHICONE	13–14	937	442	31-A-008-D-00-075-0	0.75	0.056	0.084	0.056	0.028			0.666				
14T								0.012		0.012					DRIVEWAY CONSTRUCTION & GRADING		

LOCAL

NOTE:
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REV	DATE	DESCRIPTION
PSL	5/25/05	DELETED PARCEL 5T
PSL	1/10/05	REVISED AREAS PARCEL 2WD

FIELD REVIEW BY: PSL DATE: 4/23/04
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED:

P.I.D. NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB
SUMMARY OF ADDITIONAL RIGHT OF WAY
LAK– 90/84 – 0.54/0.43
6 / 38

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SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF CITY OF WILLOUGHBY HILLS/CITY OF WICKLIFFE UNLESS OTHERWISE NOTED.
* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
15WD	MARION J. PAGLISOTTI	13–14	DOC. #200032489		31-A-008-D-00-074-0	0.597	0.056	0.081	0.056	0.025			0.516				
15T								0.015		0.015					DRIVEWAY CONSTRUCTION & GRADING		
16WD	RONALD J. & SANDRA L. MAXEY	13–14	DOC. #980001929		31-A-008-D-00-073-0	0.617	0.056	0.084	0.056	0.028			0.533				
16T								0.018		0.018					DRIVEWAY CONSTRUCTION & GRADING		
17WD	TRUE NORTH ENERGY, LLC	15–16	DOC. #200002850		31-A-008-C-00-001-0	0.4994	0	0.0859	0	0.0859		0.4135			TRAFFIC EASEM'T OVERLAPS 17WD BY 16 SF – ACCESS EASEM'T OVERLAPS		
17T								0.029		0.029					17WD BY 39 SF & 17T BY 16 SF DRIVEWAY CONSTRUCTION & GRADING		
18T	MUSCA PROPERTIES, LLC	15–16	DOC. #2002R052136		31-A-008-0-00-016-0	2.000	0	0.029	0	0.029					DRIVEWAY CONSTRUCTION & GRADING		
		33–34															
19WD	SCP 2001A–CSF–63 LLC	15–16	DOC. #2002R011987		31-A-008-D-00-072-0	1.996	0.376	0.525	0.376	0.149			1.471		TRAFFIC EASEM'T OVERLAPS 19WD BY 98 SF – 20' SEWER EASEM'T OVERLAPS		
19T		35–36						0.075		0.075					19WD BY 3,605 SF & 19T BY 1,378 SF DRIVEWAY CONSTRUCTION & GRADING		
20WD	BP EXPLORATION & OIL INC.	15–16	DOC. #970047830		31-A-008-D-00-034-0	2.692	0.481	0.662	0.481	0.181			2.030				
20T		35–36						0.185		0.185					DRIVEWAY CONSTRUCTION & GRADING		
21WD	GC ACQUISITION CORP.	15–18	422	1142	31-A-008-0-00-012-0	14.080	1.080	1.514	1.080	0.434		12.566			EX. ACCESS EASEM'T OVERLAPS 21T BY 756 SF		
21SH		31–34						0.0051		0.0051					21SH OVERLAPS 21T BY 0.0051 ACRES (220 SF)		
21SH1								0.0057		0.0057					21SH1 OVERLAPS 21T BY 0.0057 ACRES (250 SF)		
21SH2								0.0051		0.0051					21SH2 OVERLAPS 21T BY 0.0051 ACRES (220 SF)		
21SH3								0.0078		0.0078				LOCAL	21SH3 OVERLAPS 21T BY 0.0078 ACRES (340 SF)		
21T								0.466		0.466					DRIVEWAY CONSTRUCTION & GRADING		
															EX. ROADWAY EASEM'T OVERLAPS 21WD BY 2,377 SF & 21T BY 30 SF		
22WD	INLAND SOUTHEAST WILLOUGHBY HILLS, L.L.C.	17–18	DOC. #2003R040953		31-A-008-0-00-018-0	13.1829	0	0.0173	0	0.0173	S	13.1656			TRAFFIC EASEM'T OVERLAPS 22WD BY 240 SF, 22T BY 560 SF & 22SH BY 415 SF		
					31-A-008-0-00-023-0	0.9670	0	0.0172	0	0.0172		0.9498			30' SAN & STO EASEM'T OVERLAPS 22WD BY 1501 SF, 22T BY 1398 SF		
					TOTAL	14.1499	0	0.0345	0	0.0345		14.1154			& 22SH BY 840 S.F.		
22SH								0.0264		0.0264					22SH OVERLAPS 22T BY 0.0264 ACRES (1152 SF)		
22T								0.1642		0.1642					DRIVEWAY CONSTRUCTION & GRADING		
															50' ACCESS EASEM'T OVERLAPS 22WD BY 750 SF & 22T BY 6,500 SF		
23WD	McDONALDS CORPORATION	17–18	217	725	31-A-008-D-00-086-0	2.0193	0.1761	0.2641	0.1761	0.0880	S(4)		1.7552		2 ENTER SIGNS, 2 EXIT SIGNS		
23T								0.1349		0.1349					DRIVEWAY CONSTRUCTION & GRADING		
24WD	BISHOP–WILLOUGHBY COMPANY, LTD.,	17–20	DOC. #960010145		31-A-008-D-00-031-0	1.7389	0.1623	0.2436	0.1623	0.0813			1.4953				
	AN OHIO LIMITED LIABILITY COMPANY				31-A-008-D-00-032-0	1.3735	0.1365	0.2040	0.1365	0.0675			1.1695				
					TOTAL	3.1124	0.2988	0.4476	0.2988	0.1488			2.6648				
24SH								0.0035		0.0035					LOOP DETECTORS		
24T								0.1385		0.1385					DRIVEWAY CONSTRUCTION & GRADING		
25WD	ELIZABETH LA RICHE	19–20	1096	323	31-A-008-0-00-014-0	8.357	0.358	0.533	0.358	0.175	S(2)	7.824			30' SAN. & STO. EASEM'T OVERLAPS 25WD BY 7,619 SF & 25T BY 5,604 SF		
25T								0.151		0.151					DRIVEWAY CONSTRUCTION & GRADING		
26WD	L&H REAL ESTATE HOLDINGS, LLC	19–20	DOC. #2003R012785		31-A-008-D-00-030-0	1.3232	0.1257	0.1884	0.1257	0.0627			1.1348				
26T								0.0459		0.0459					GRADING		
26S								0.0026		0.0026					PARCEL 26S OVERLAPS PARCEL 26T BY 0.0026 ACRES		

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REV	DATE	DESCRIPTION
PSL	3/01/05	REVISED AREA FOR PCL 18T
PSL	10/18/04	REVISED PRO AREAS FOR PCL 17 & 22

FIELD REVIEW BY: DATE:
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED:

P.I.D. NO. 9247
R/W DESIGNER PSL
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SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE
ALL AREAS IN ACRES

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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
27WD	THE DEL BALSO PROPERTIES, LLC	19–20	DOC. #2003R016237		31-A-008-D-00-028-0	1.405	0.055	0.084	0.055	0.029			1.321				
27T								0.019		0.019					DRIVEWAY CONSTRUCTION & GRADING		
28WD	HENRY R. REBOL	21–22	418	474	31-A-008-D-00-027-0	0.802	0.071	0.113	0.071	0.042			0.689				
28T								0.020		0.020					DRIVEWAY CONSTRUCTION & GRADING		
28S								0.0016		0.0016					PARCEL 28S OVERLAPS 28T BY 0.0016 ACRES		
29WD	LEONARD FUCHS, TRUSTEE	21–22	633	194	31-A-008-0-00-004-0	13.108	0.132	0.178	0.132	0.046		12.930					
29SH								0.0038		0.0038					29SH OVERLAPS 29T BY 0.0039 ACRES (171 SF)		
29T								0.1353		0.1353					GRADING, ISLAND RECONST. & CURB RAMP CONSTRUCTION		
29S								0.0025		0.0025					TRAFFIC EASEM'T OVERLAPS 29WD BY 259 SF & 29T BY 941 SF		
30WD	RENAISSANCE PROPERTIES CO.	21–22	35	1387	31-A-008-0-00-002-0	0.2684	0	0.0088	0	0.0088		0.2596					
30SH			35	1395				0.0053		0.0053					30SH OVERLAPS 30T BY 0.0061 ACRES (264 SF)		
30T			36	1				0.0384		0.0384					DRIVEWAY & CURB RAMP CONSTRUCTION & GRADING		
31T	JAMES M. CHRISTENSEN	21–22	DOC. #980025152		31-A-008-0-00-005-0	0.5082		0.0886		0.0886					DRIVEWAY CONSTRUCTION & GRADING		
32	CITY OF WILLOUGHBY HILLS	21–22	629	277	31-A-008-0-00-005-0	0.0472		0		0					NO R/W REQUIRED		
33T	TRUE NORTH ENERGY, LLC	23–24	DOC. #990050415		31-A-025-0-00-040-0	0.582		0.0363		0.0363					DRIVEWAY CONSTRUCTION & GRADING		
34T	RENAISSANCE PROPERTIES CO.	23–24	35	1395	29-B-010-I-00-001-0	0.208		0.005		0.005				LOCAL	GRADING		
															EX. INGRESS EM'T OVERLAPS 34T BY 192 SF. (0.0044 ACRES)		
35WD	PATRICK J. MANGAN	21–22	1103	1096	31-A-008-D-00-026-0	0.778	0.071	0.119	0.071	0.048			0.659				
35T								0.020		0.020					DRIVEWAY CONSTRUCTION & GRADING		
36WD	WILLOUGHBY COMPASS LLC	21–22	DOC. #2004R024900		31-A-008-D-00-023-0	1.176	0.283	0.170	0.110	0.060	S		0.833				
					31-A-008-D-00-024-0	0.252	0.035	0.063	0.035	0.028			0.189				
					31-A-008-D-00-025-0	0.243	0.036	0.062	0.036	0.026			0.181				
					TOTAL	1.671	0.354	0.295	0.181	0.114			1.203				
36T								0.122		0.122					DRIVEWAY CONSTRUCTION & GRADING		
37WD	THE GATEWAY PROFESSIONAL CENTER L.L.C.	23–24	DOC. #980000851		31-A-025-0-00-048-0	0.86	0	0.062	0	0.062	S		0.798				
37T								0.101		0.101					DRIVEWAY CONSTRUCTION & GRADING		
38	VILLAGE OF WILLOUGHBY HILLS, OHIO	23–24	731	204	31-A-025-0-00-049-0	0.058		0		0					NO R/W REQUIRED		
39T	RENAISSANCE PROPERTIES CO.	25–26	35	1395	29-B-010-0-00-010-0	10.320		0.027		0.027					GRADING		
40T	RABBINICAL COLLEGE OF TELSHE, INC.	27–28	389	486	29-B-010-0-00-012-0	37.230		0.067		0.067					GRADING		

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REV	DATE	DESCRIPTION
PSL	5/17/05	REVISED PARCEL 29SH & 30SH
PSL	10/27/04	REVISED PARCEL 29T
PSL	9/7/04	REVISED PARCEL 29SH
PSL	8/10/04	REVISED PARCEL 36T

FIELD REVIEW BY: DATE:
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P.I.D. NO. 9247
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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
41T	RABBINICAL COLLEGE OF TELSHE, INC.	27–28	387	491	29-B-010-F-00-004-0	0.31		0.048		0.048					DRIVEWAY CONSTRUCTION & GRADING		
			389	486	29-B-010-F-00-003-0	0.31											
42T	MENUCHIE'S PLACE LTD.	27–28	DOC. #2003R035027		29-B-010-F-00-002-0	0.31		0.040		0.040					DRIVEWAY CONSTRUCTION & GRADING		
43T	SHLOMO & BLUMA DAVIS	27–28	462	347	29-B-010-F-00-001-0	0.31		0.017		0.017					TEMPORARY PAVEMENT & GRADING		
44WD	THE RETIREMENT MANAGEMENT CO.	25–26	DOC. #970014078		29-B-009-0-00-014-0	3.0216	0	0.0235	0	0.0235			2.9981				
					31-A-025-0-00-003-0	8.9104	0	0	0	0			8.9104				
					TOTAL	11.9320	0	0.0235	0	0.0235			11.9085				
44T								0.0439		0.0439					DRIVEWAY CONSTRUCTION & GRADING		
45WD	EDWARD M. & ALICE M. DRAGOLICH	25–26	818	609	29-B-009-B-00-001-0	0.506	0.058	0.102	0.058	0.044			0.404				
45T								0.065		0.065					DRIVEWAY CONSTRUCTION & GRADING		
46WD	JOHN A. JR. & COLETTA M. DICELLO	27–28	728	873	29-B-009-B-00-002-0	0.506	0.058	0.084	0.058	0.026			0.422				
46T								0.118		0.118					DRIVEWAY CONSTRUCTION & GRADING		
47WD	J. JAY & SHERYL L. FABIAN	27–28	DOC. #980008390		29-B-009-B-00-003-0	0.655	0.208	0.099	0.088	0.011			0.436				
47T								0.062		0.062				LOCAL	DRIVEWAY CONSTRUCTION & GRADING		
48WD	CHRISTOPHER R. SGARLATA	27–28	1157	916	29-B-009-B-00-023-0	0.655	0.208	0.089	0.087	0.002			0.445				
48T								0.013		0.013					GRADING		
49T	RAYMOND F. SACK, JR.	27–28	DOC. #200146389		29-B-009-B-00-022-0	0.506		0.050		0.050					DRIVEWAY CONSTRUCTION & GRADING		
50T	DANIEL SIEPKA	27–28	DOC. #960028376		29-B-009-B-00-021-0	0.506		0.017		0.017					DRIVEWAY CONSTRUCTION & GRADING		
51T	VICTOR R. KATZ	29–30	DOC. #2004R046248		29-B-010-E-00-017-0	0.3617		0.0043		0.0043					TEMPORARY PAVEMENT & GRADING		
52	LEEBY A. HAUER & SHULAMIS P. RUBINFELD	29–30	DOC. #2002R041914		29-B-010-E-00-016-0	0.3617									NO R/W REQUIRED		
53	LYNN LIPOVEC, AKA LINDA M. LIPOVEC	29–30	936	1228	29-B-009-C-00-020-0	0.423									NO R/W REQUIRED		
54	DENNIS R. & SARAH K. JAPEL	29–30	693	426	29-B-009-C-00-021-0	0.422									NO R/W REQUIRED		

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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O. (AC.)	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED VOL.	AS ACQUIRED PAGE
55	THE CITY OF WILLOUGHBY HILLS	33–34	726	510	31-A-008-C-00-057-0	0.340	0.226	0	0.226	0					NO R/W REQUIRED		
56WD	CHARDON EMERALD LAKES LTD.	31–32	DOC. #2002R052109		31-A-008-C-00-035-0	2.143	0.074	0.100	0.074	0.026			2.043				
					31-A-008-C-00-003-0	1.02	0.179	0.238	0.179	0.059			0.782				
					TOTAL	3.163	0.253	0.338	0.253	0.085			2.825				
56T								0.013		0.013					DRIVEWAY CONSTRUCTION & GRADING		
57WD	ELLIOT WEISENBERG &	33–34	44	600	31-A-008-C-00-002-0	2.038	0	0.015	0	0.015	S		2.023				
57T	ELLACOTT SHAKER MOTORS, INC.							0.036		0.036					DRIVEWAY CONSTRUCTION & GRADING		
58T	JAI MAHA LAXMI CO., LLC	33–34	DOC. #2003R022443		31-A-008-C-00-054-0	0.9361		0.016		0.016	S				DRIVEWAY CONSTRUCTION & GRADING		
															ACCESS EASEM'T OVERLAPS 58T BY 73 SF		
59T	ARBOR HILLS CONDOMINIUM (AKA STEEPLE RUN CONDOMINIUM)	35–36	1046	1137	31-A-008-K-00-(001-014)-0	4.0486		0.033		0.033					TEMPORARY PAVEMENT & GRADING		
60	VINCENT J. KLAUE & SUSAN E. DAY	37–38	DOC. #2002R011006		31-A-008-D-00-038-0	1.058									NO R/W REQUIRED		
61	VINCENT MARCELLINO & DAWN M. YAFANARO ETAL (4)	37–38	1054	717	31-A-008-D-00-039-0	1.18									NO R/W REQUIRED		
					31-A-008-D-00-040-0	1.42											
					TOTAL	2.60											
62WD	ROBERT L. MERCER	35–36	1070	1249	31-A-008-D-00-071-0	1.037	0.070	0.081	0.070	0.011			0.956		EX. SEWER EASEMENT OVERLAPS 62WD BY 508 SF (0.0117 AC.)		
					31-A-008-D-00-070-0	1.47	0.070	0	0	0			1.40		& OVERLAPS 62T BY 423 SF (0.0097 AC.)		
					TOTAL	2.507	0.140	0.081	0.070	0.011			2.356				
62T								0.043		0.043					DRIVEWAY CONSTRUCTION & GRADING		
63T	ANTON & ANNA TURNISKI	35–36	862	637	31-A-008-D-00-069-0	1.513		0.006		0.006					DRIVEWAY CONSTRUCTION & GRADING		
64	RICHARD A. & JOAN D. MOTUZA	37–38	877	1210	31-A-008-D-00-068-0	1.556									NO R/W REQUIRED		
65	BENEDICT A. & ARLEN J. BURGER	37–38	775	277	31-A-008-D-00-067-0	1.60									NO R/W REQUIRED		
66	JOHN M. & PATRICIA A. MILFORD	37–38	867	388	31-A-008-D-00-066-0	1.098									NO R/W REQUIRED		
67	CONCETTA C. RUSCITTO	37–38	DOC. #200116181		31-A-008-D-00-065-0	1.048									NO R/W REQUIRED		

LOCAL

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REV	DATE	DESCRIPTION
PSL	5/25/05	DELETED PARCEL 60T
FIELD REVIEW BY:		DATE:
OWNERSHIP VERIFIED BY:		DATE:
DATE COMPLETED:		

P.I.D. NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB
SUMMARY OF ADDITIONAL RIGHT OF WAY
LAK– 90/84 – 0.54/0.43
10/38

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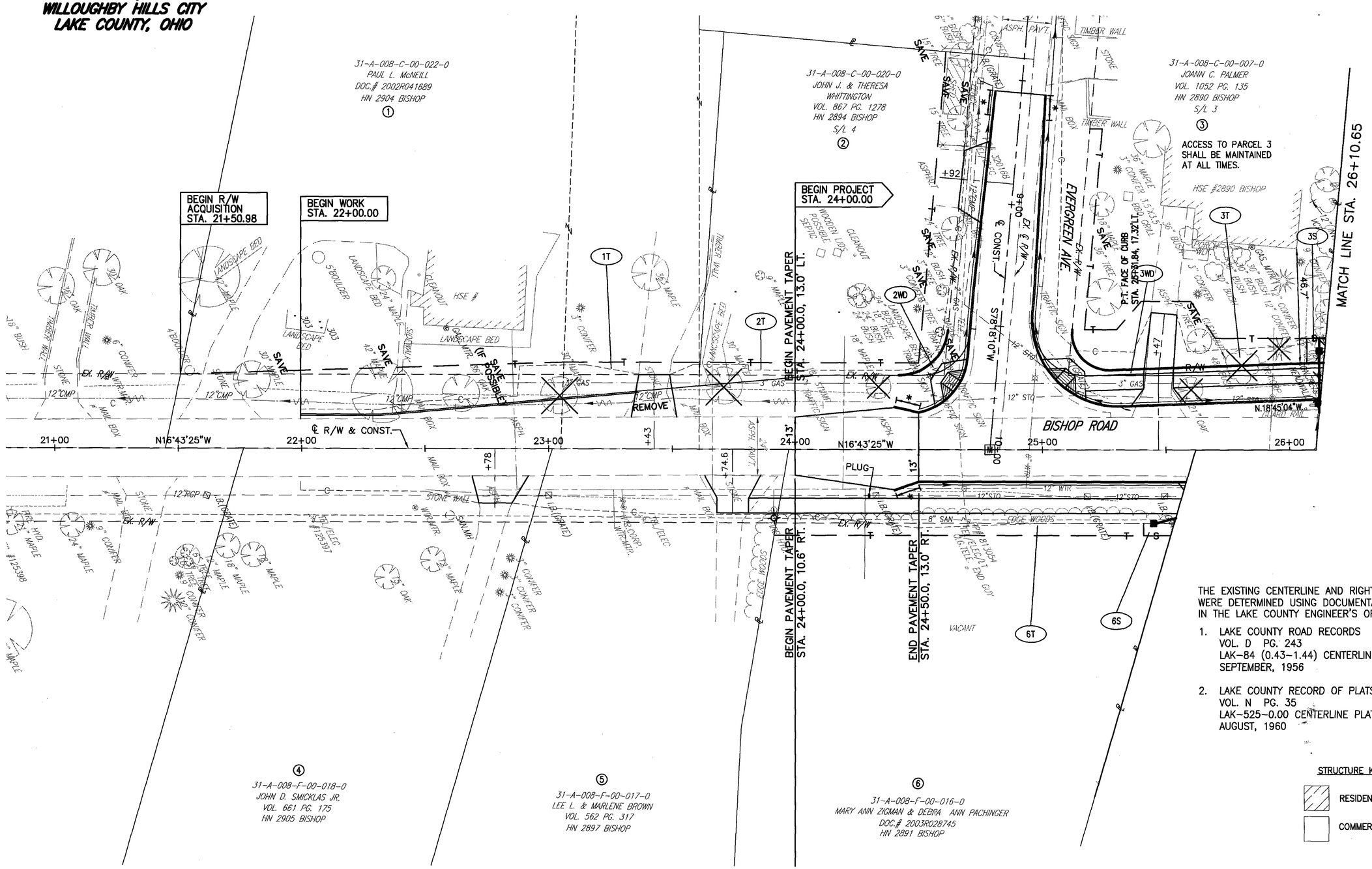
PART OF LOT 6, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	6/13/05	REVISED CONST. LIMITS PARCEL 2
PSL	4/27/05	DELETED PARCEL 5T
PSL	3/1/05	ADDED 4'-12" CONDUIT FOR PARCEL 3

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 21+50.98 TO STA. 26+10.65

LAK - 90/84 - 0.54/0.43

11/38

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PART OF LOT 6, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

BEGIN R/W ACQUISITION STA. 21+50.98

N18°35'39"E

21+50.98
30.00' Lt

N 18°34'06" W 155.32'

EX. R/W

S 16°43'25" E 209.98'

30.63'

21+44.82

21+00

21+76.53

31.24'

21+67.82
30.00' Rt

S89°28'18"W

BEGIN WORK STA. 22+00.00

22+00

N16°43'25"W 125.00'

EX. R/W

22+92.82
30.00' Rt

31.24'

N 16°43'25" W 125.00'

23+00

N16°43'25"W 216.12'

23+01.53

S89°28'18"W

BISHOP ROAD

S. R. 84

23+06.22
35.00' Lt

1T

N 16°43'25" W 55.11'

23+61.33
35.00' Lt

23+60.97
30.00' Lt

23+60.94

30.00'

S 73°20'09" W

S73°20'09"W

N77°25'44"E

5.01'

N16°43'25"W 95.89'

30'

30.43'

23+97.42

23+92.30
30.00' Rt

N 16°43'25" W 99.49'

24+00

S16°43'25"E 80.99'

24+41.96
30.00' Lt

S73°16'35"W
30.00'

2WD

24+77.64

40.78'

N16°43'25"W

T

S 16°43'25" E 160.48'

6T

BEGIN PROJECT STA. 24+10.00

S82°57'18"W

RICHARD A. WHITTINGTON
DOC.# 970008604

S11°39'57"E

I.P. FND.

24+71.73
160.29' Lt

10.67'

24+61.10
161.23' Lt

31-A-008-C-00-022-0
PAUL L. McNEILL
DOC.# 2002R041689
HN 2904 BISHOP
①

31-A-008-C-00-021-0
DOC.# 2002R041690

31-A-008-C-00-020-0
JOHN J. & THERESA WHITTINGTON
VOL. 867 PG. 1278
HN 2894 BISHOP
S/L 4
②

CURVE DATA (A)
R=20.00'
Δ =84°58'25"
L=29.66'
T=18.32'
C=27.02'
N59°12'37"W

2T

126.72'

112.47'

EX. R/W

PROP. 1939 C/L

S78°18'10"W

I.P. FND.

24+61.88
48.25' Lt

24+87.19
50.67' Lt

24+86.78
46.06' Lt

25.00'
N11°41'50"W

A

I.P. FND.

50.87'

46.24'

24+50.00
35.00' Lt

5.01'

EVERGREEN AVENUE 50'

N16°43'25"W
12.89'

25+17.11
48.48' Lt

N11°41'50"W
25.00'

B

25+12.09
48.48' Lt

25+27.57
32.18' Lt

MON. ASSEMBLY
24+82.73 BISHOP RD.
= ℄ EVERGREEN AVE.

M

164.67'

25+00

S 16°43'25" E 127.92'

26+00

26+10.65

25+19.26
130.00' Lt

N16°43'25"W
5.02'

25+24.28
130.00' LT

31-A-008-C-00-007-0
JOANN C. PALMER
VOL. 1052 PG. 135
HN 2890 BISHOP
S/L 3
③

CURVE DATA (B)
R=15.00'
Δ =97°03'14"
L=25.41'
T=16.97'
C=22.48'
N29°46'33"E

81.83'

3WD

N 16°43'25" W
20.00'

3T

SEE DETAIL

3S

N65°45'50"W
15.25'

25+60.00
60.00' Lt

25+40.00
60.00' Lt

N 39°35'11" E
18.03'

25+70.00
45.00' Lt

25+30.00
48.48' Lt

N16°43'25"W
44.65'

MATCH LINE STA. 26+10.65

S78°21'35"W

26+14.65
45.00' Lt.

9.81'

N 18°45'04" W 86.27'

EX. R/W

26+07.00
34.99' Lt

26+13.77
35.23' Lt

30.12'

35.37'

31.24'

25+62.09

25+53.38
30.00' Rt

5.21'

25+51.93
35.00' Rt

N89°28'18"E

6S

SEE DETAIL

N 16°43'25" W 125.00'

EX. R/W

N 16°43'25" W 161.08'

EX. R/W

T

L

DETAIL FOR PARCEL 3S

N16°43'25"W
7.65'

S78°21'35"W

26+07.00
45.00' Lt

26+14.65
45.00' Lt

S73°16'35"W
10.01'

N 18°45'04" W

R/W

9.81'

26+07.00
34.99' Lt

26+13.77
35.23' Lt

6.78'

DETAIL FOR PARCEL 6S

25+40.00
30.00' Rt

25+53.38
30.00' Rt

13.37'

N16°43'25"W

S73°16'35"W
5.00'

5.21'

25+40.00
35.00' Rt

25+51.93
35.00' Rt

S16°43'25"E
11.92'

N89°28'18"E

④
31-A-008-F-00-018-0
JOHN D. SMICKLAS JR.
VOL. 661 PG. 175
HN 2905 BISHOP

⑤
31-A-008-F-00-017-0
LEE L. & MARLENE BROWN
VOL. 562 PG. 317
HN 2897 BISHOP

⑥
31-A-008-F-00-016-0
MARY ANN ZIGMAN & DEBRA ANN PACHINGER
DOC.# 2003R028745
HN 2891 BISHOP

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

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   SEPTEMBER, 1956

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   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
PSL	5/25/05	DELETED PARCEL 5T
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 21+50.98 TO STA. 26+10.65

LAK - 90/84 - 0.54/0.43

12/38

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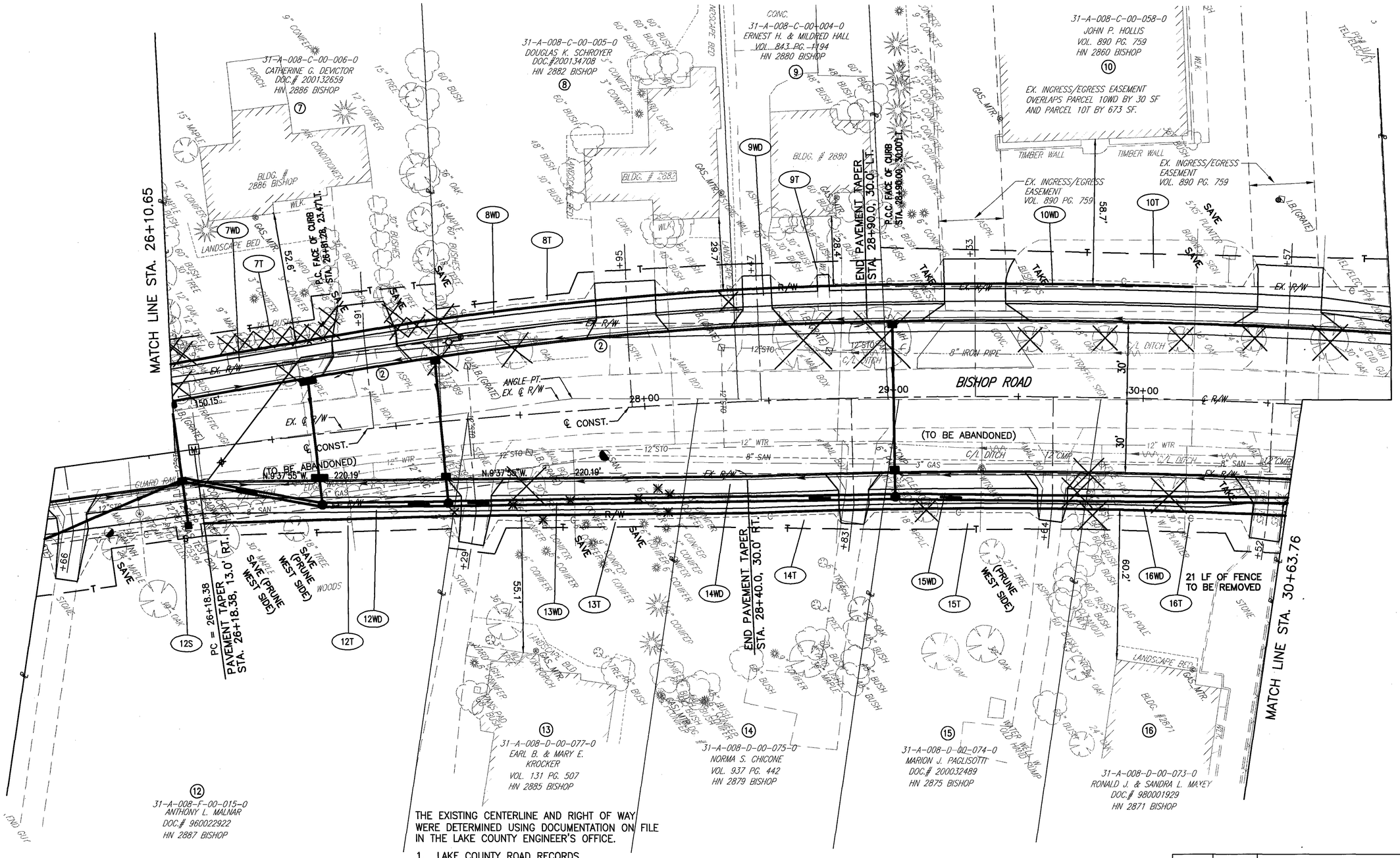
PART OF LOTS 6, 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 26+10.65 TO STA. 30+63.76

LAK - 90/84 - 0.54/0.43

13/38

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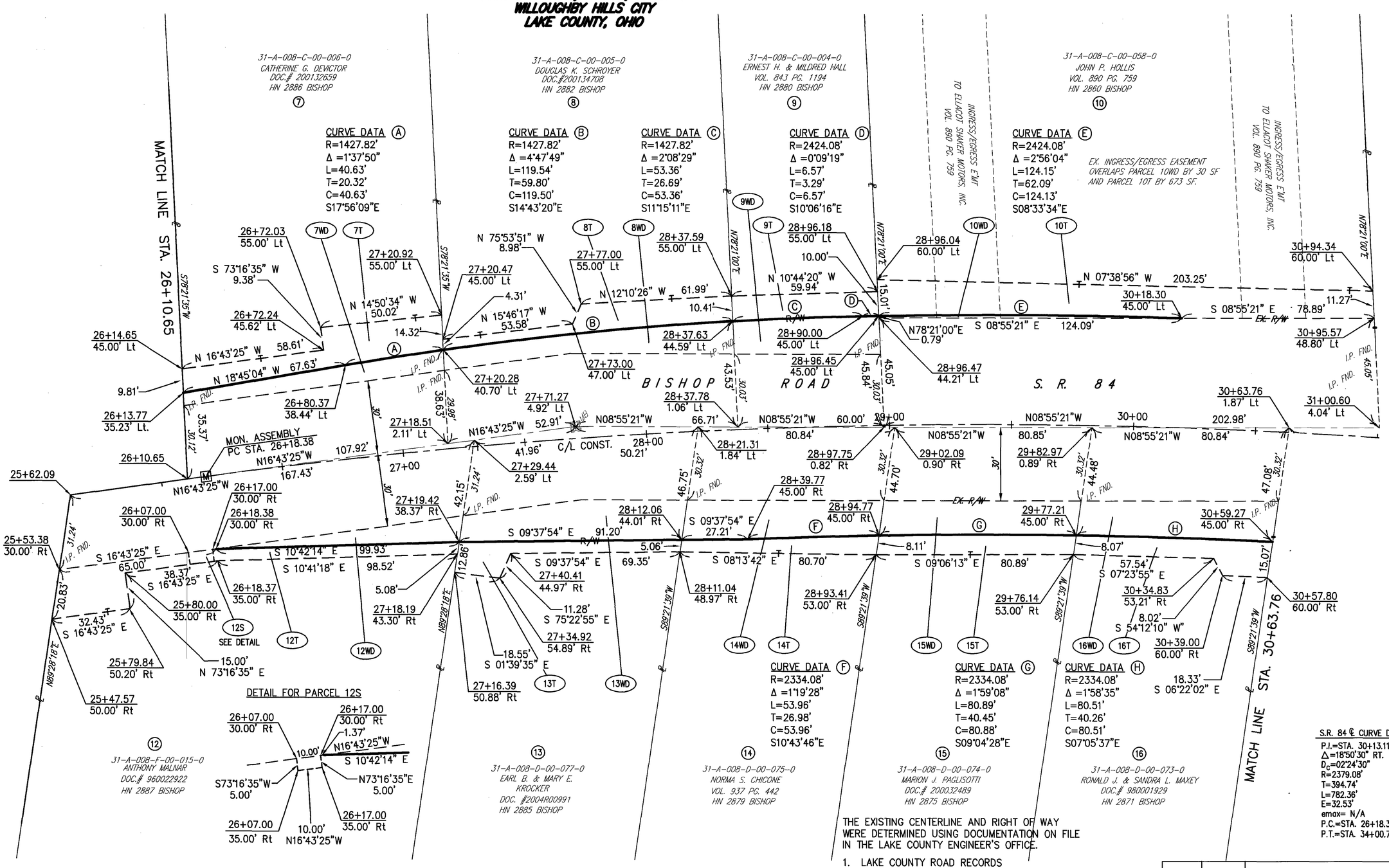
PART OF LOT 6, 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

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   SEPTEMBER, 1956
2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

S.R. 84 ℄ CURVE DATA
P.I.=STA. 30+13.11
Δ=18°50'30" RT.
D_C=02°24'30"
R=2379.08'
T=394.74'
L=782.36'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N
SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 26+10.65 TO STA. 30+63.76

LAK - 90/84 - 0.54/0.43

14 / 38

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PARCEL 17 NOTE:
(TRUE NORTH)
CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE, TEST WELL, FUEL PORT OR GAS LID DURING CONSTRUCTION,

MATCH LINE STA. 18+20.03 (SEE SHEET 33)

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   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

PROPERTY OWNER NOTIFICATION NOTE:
THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER OF PARCEL 17 THIRTY (30) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES THAT WILL ELIMINATE THE USE OF THE NORTHERN SIDE OF THE FUEL PUMP LOCATED AT APPROXIMATELY STA. 18+90, 46' RT. THE CONTRACTOR'S OPERATION WILL NOT BE ALLOWED TO TAKE THIS SIDE OF THE FUEL PUMP OUT OF SERVICE PRIOR TO APRIL 1, 2006.

EX. ACCESS EASEMENT OVERLAPS PARCEL 17WD BY 39 SF & PARCEL 17T BY 16 SF.
EX. ACCESS EASEMENT
EX. TRAFFIC EASEMENT OVERLAPS PARCEL 17WD BY 16 SF.
EX. TRAFFIC EASEMENT VOL. 424 PG. 927
EX. TRAFFIC EASEMENT VOL. 424 PG. 930
EX. 20' SEWER EASEMENT VOL. 138 PG. 665
EX. ROADWAY EASEMENT VOL. 239 PG. 239
EX. 10' HIGHWAY EASEMENT DOC. #990022940
EX. ACCESS EASEMENT VOL. 882 PG. 916
EX. EOG EASEMENT OVERLAPS PARCEL 21WD BY 8,701 S.F.
EX. 10' EAST OHIO GAS EMENT VOL. 547 PG. 65
EX. ROADWAY EASEMENT OVERLAPS PARCEL 21WD BY 2,377 SF & PARCEL 21T BY 30 SF.
EX. HIGHWAY EASEMENT OVERLAPS PARCEL 21WD BY 6,719 S.F.
PARCEL 21SH OVERLAPS PARCEL 21T BY 220 S.F.

31-A-008-C-00-001-0
TRUE NORTH ENERGY, LLC
DOC.# 20002850
CHARDON RD.

31-A-008-0-00-016-0
MUSCA PROPERTIES LLC
DOC.# 2002R052136

31-A-008-D-00-034-0
BP EXPLORATION & OIL INC.
DOC.# 97004783O
HN 28601 CHARDON RD.

31-A-008-D-00-072-0
SCP 2001A-CSF-63 LLC
DOC.# 2002R011987
EX. TRAFFIC EASEMENT OVERLAPS PARCEL 19WD BY 97 SF.
EX. 20' SEWER EASEMENT OVERLAPS PARCEL 19WD BY 3,620 SF. & PARCEL 19T BY 1246 SF.

BISHOP ROAD
S.R. 84 BISHOP ROAD
PT = 34+00.73
N02°07'05"E
CHARDON ROAD U.S. ROUTE 6
N78°26'25"E
N78°46'14"E
ANGLE PT. S.R. 84
ANGLE PT. STA. 20+00
℄ CONST.
℄ STA. 32+81.17
℄ R/W
EX. ℄ R/W
EX. R/W
R/W
EX. R/W TAKE
TAKE
SAVE
REMOVE
DO NOT DISTURB
REMOVE & REPLACE BY OTHERS
CURB, TYPE 6
CURB, TYPE 6, AS PER PLAN
(TO BE ABANDONED) CURB, TYPE 6
CURB, TYPE 6
(12 PARKING SPACES)
(25 PARKING SPACES)
CANOPY OVER GAS PUMPS
GUARD POST
U.G. FUEL TANK LIDS
FUEL PUMP ISLAND
BLDG.#
TRAFFIC SIGN
TRAFFIC POLE
LIGHT POLE
SHRUB
TREE
STONE WALL
ASPHALT
CONC.
WLK.
SAN. MH
STO. MH
CATCH BASIN
INLET
CURB INLET
LB (GRATE)
2" TRENCH DRAIN
0.4' WIDE TRENCH DRAIN
12" STO.
10" STO.
8" SAN.
12" WTR
2" GAS
3" GAS
24" GAS
58.5'
65.1'
96.4'
40.2'
86'
87'
74'
93'
105'
+15
+18
+84
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MATCH LINE STA. 30+63.76
MATCH LINE STA. 22+00.00 (SEE SHEET 35)
MATCH LINKE STA. 35+86.64

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

PSL	3/1/05	REVISED PARCEL 18T
PSL	8/04	REVISED PARCEL 17
REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET
20 10 0 20

PID NO. 9247
R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 30+63.76 TO STA. 35+86.64

LAK - 90/84 - 0.54/0.43

15/38

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PART OF LOT 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956
2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MATCH LINE STA. 18+20.03

(SEE SHEET 34)

18+15.84
30.00' Rt

10.10'

N03°36'25"W

18+13.96
43.50' Rt

3.53'

18+14.44
40.00' Rt

18+20.03

EX. ACCESS EASEMENT
VOL. 858 PG. 262

EX. ACCESS EASEMENT OVERLAPS PARCEL 17WD BY 39 SF & PARCEL 17T BY 16 SF.

31-A-008-C-00-001-0
TRUE NORTH ENERGY, LLC
DOC.# 200002850
28580 CHARDON RD.
(17)

CHARDON ROAD

N 78°26'25" E 828.94'

S 78°26'25" W 815.38'

N78°26'25"E 82.61'

S 78°26'25" W 83.01'

EX. R/W

R/W

40.00'

40.00'

900.98'

19+00

179.96'

148.78'

30'

30'

CURVE DATA (A)
R=2424.08'
Δ =2°03'46"
L=87.28'
T=43.64'
C=87.27'
S04°11'23"E

CURVE DATA (B)
R=45.00'
Δ =98°24'05"
L=77.28'
T=52.13'
C=68.13'
N52°21'33"W

BISHOP RD. 32+24.42, 96.98' Lt
=(U.S. 6) 18+97.45, 40.00' Rt

BISHOP RD. 32+20.96, 97.28' Lt
=(S.R. 6) 18+96.56, 43.50' Rt

EX. TRAFFIC EASEMENT OVERLAPS PARCEL 17WD BY 16 SF.

N78°21'00"E

29.19'

S77°59'55"E

32+14.00
69.00' Lt

17WD

17T

N46°48'38"W
20.06'

30+95.44
50.00' Lt

31+50.00
50.00' Lt

N08°54'24"W 51.34'

32+00.00
55.00' Lt

31+81.65
45.00' Lt

134.32'

30+95.99
45.00' Lt.

5.03'

N04°34'39"W 55.71'

11.19'

30+97.22
33.88' Lt.

S08°55'21"E
15.61'

S02°09'35"E

EX. R/W

I.P. FND.

31+12.58
34.94' Lt

30.02'

31+00.60
4.04' Lt

30+63.76
1.87' Lt

12.41'

49.36'

31+00
N 08°55'21" W

31+12.95
4.89' Lt

30.32'

45.07'

I.P. FND.

45.00'

30'

43.00'

N02°09'35"W 167.92'

32+00

MON. ASSEMBLY
(S.R. 84) 32+80.62, 3.04' Lt
=(S.R. 6) 20+00.00

SEE ENLARGED DETAIL "A", THIS SHEET

20MB

33+00

MON. ASSEMBLY
(S.R. 84) 32+81.18
=(S.R. 6) 20+03.08

MON. ASSEMBLY
PT STA. 34+00.73

34+00

EX. TRAFFIC EASEMENT
CITY OF WILLOUGHBY HILLS
VOL. 424 PG. 930

EX. 10' EOD EMENT
VOL. 547 PG. 65

CONC.MON

I.P. FND.

CURVE DATA (C)
R=50.00'
Δ =76°19'20"
L=66.60'
T=39.29'
C=61.79'
N40°16'45"E

CURVE DATA (D)
R=50.00'
Δ =36°52'12"
L=32.18'
T=16.67'
C=31.62'
N20°33'10"E

31-A-008-0-00-016-0
MUSCA PROPERTIES LLC
DOC.# 2002R052136
(18)

EX. ACCESS EASEMENT
POPPIN FRESH PIES, INC.
VOL. 882 PG. 916

EX. 10' HIGHWAY EASEMENT OVERLAPS PARCEL 21WD BY 6,719 S.F.

PARCEL 21SH OVERLAPS PARCEL 21T BY 220 S.F.

BISHOP RD. 33+04.85, 85.18' Lt
=(S.R. 6) 19+24.13, 40.00' Lt

BISHOP RD. 33+12.43, 71.69' Lt
=(S.R. 6) 19+38.90, 45.00' Lt

N 02°07'05" E
27.16'

33+38.79
70.83' Lt

33+67.79
60.23' Lt

EX. ROADWAY EASEMENT OVERLAPS PARCEL 21WD BY 2,377 S.F. & PARCEL 21T BY 30 SF.

21WD

18T

21SH

N 87°52'55" W
17.00'

N02°07'05"E
22.00'

N09°11'27"W
51.00'

35+87.02
87.00' Lt

35+50.00
87.00' Lt

N 02°07'05" E
37.01'

S87°52'55"E

35+50.00
70.00' Lt

27.00'

35+87.02
60.00' Lt

87.02'

35+00.00
60.00' Lt

35+38.00
55.00' Lt

SH

22.00'

35+60.00
55.00' Lt

10.00'

S87°52'55"E

EX. ROADWAY EASEMENT
WILLOUGHBY HILLS CITY
VOL. 239 PG. 239

N 02°07'05" E 220.06'

33+50.97
45.53' Lt

N 02°07'05" E 623.97'

EX. R/W

EX. 10' HIGHWAY EASEMENT
WILLOUGHBY HILLS CITY
DOC. #990022940

10.00'
N87°52'55"W

35+38.00
45.00' Lt

EX. ACCESS EASEMENT
GC ACQUISITION CORP. & HAROLD CHAFFEE
DOC. #2002R019999

35+60.00
45.00' Lt

S. R.

34+00

N 02°07'05" E

306.13'

35+00

693.48'

35+86.64

30.88'

46.32'

MATCH LINE STA. 35+86.64

I.P. FND.

EX. R/W

33+89.01
44.97' Rt

S 02°07'05" W 208.39'

35+97.62
45.00' Rt

14.41'

S78°24'37"E

S 02°07'05" W 200.30'

36+01.03
59.00' Rt

49.78'

S 24°59'49" E

34+00.73
59.00' Rt

(S.R.84) 33+54.85, 81.26' Rt
=(S.R. 6) 20+97.00, 55.00' Lt

20WD

20T

(20)
31-A-008-D-00-034-0
BP EXPLORATION & OIL INC.
DOC.# 970047830
HN 28601 CHARDON RD.

MATCH LINE STA. 30+63.76

S89°21'39"W

10.05'

N04°26'07"W

60.13'

14.80'

N41°56'54"W

31+32.00
45.00' Rt

N01°20'29"W

90.25'

32+08.50
43.00' Rt

32+24.00
48.00' Rt

N82°24'32"E
38.01'

N07°48'02"W
26.03'

32+25.00
86.00' Rt

30+59.47
43.00' Rt

30+58.49
53.00' Rt

31+20.00
54.00' Rt

19T

19WD

(S.R. 84) 32+51.84, 83.27' Rt.
= (S.R. 6) 20+80.00, 43.00' Rt.

EX. TRAFFIC EASEMENT OVERLAPS PARCEL 19WD BY 98 SF.

EX. 20' SEWER EASEMENT OVERLAPS PARCEL 19WD BY 3,605 SF. & PARCEL 19T BY 1378 SF.

EX. 20' SEWER EASEMENT
CITY OF WILLOUGHBY HILLS
VOL. 138 PG. 665

(19)
31-A-008-D-00-072-0
SCP 2001A-CSF-63 LLC
DOC.# 2002R011987

(S.R. 84) 33+43.02, 99.72' Rt
=(S.R. 6) 21+12.66, 40.00' Lt

(S.R. 84) 32+54.54, 80.75' Rt
=(S.R. 6) 20+77.95, 40.00' Rt

21+00

N 78°46'14" E
356.08'

U. S. 6

30'

30'

426.00'

40.00'

40.00'

172.34'

N 78°46'14" E
70.00'

21+40.00
55.00' Lt

N 24°18'30" E
17.20'

21+50.00
69.00' Lt

N 78°46'14" E
43.00'

S 78°46'14" W
215.00'

271.03'

S78°46'14"W

EX. R/W

22+00

MATCH LINE STA. 22+00.00

(SEE SHEET 36)

CURVE DATA (G)
R=45.00'
Δ =103°20'50"
L=81.17'
T=56.93'
C=70.60'
S49°33'21"E

S.R. 84 ℄ CURVE DATA
P.I.=STA. 30+13.11
Δ=18°50'30" RT.
D_C=02°24'30"
R=2379.08'
T=394.74'
L=782.36'
E=32.53'
emax= N/A
P.C.=STA. 26+18.37
P.T.=STA. 34+00.73

CURVE DATA (E)
R=2336.08'
Δ=3°35'21"
L=146.33'
T=73.19'
C=146.31'
S04°18'22"E

CURVE DATA (F)
R=45.00'
Δ=81°16'56"
L=63.84'
T=38.63'
C=58.62'
S38°07'46"W

MONUMENT LEGEND
- M PROP. MONUMENT ASSEMBLY
- M EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

ENLARGED DETAIL "A"
NOT TO SCALE

N78°26'25"E

180°19'49"

N02°09'35"W

N02°07'05"E

S.R. 84 ℄ EX. R/W

3.09'

MON. ASSEMBLY
(S.R. 84) 32+80.62, 3.04'Lt
=(S.R. 6) 20+00.00

MON. ASSEMBLY
(S.R. 84) 32+81.18
=(S.R. 6) 20+03.08

S.R. 84 ℄ CONSTR.

S.R. 6 ℄ CONSTR.

N78°46'14"E

PSL	3/1/05	REVISED PARCEL 18T
PSL	8/04	REVISED PARCEL 17T
REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 30+63.76 TO STA. 35+86.64

LAK - 90/84 - 0.54/0.43

16/38

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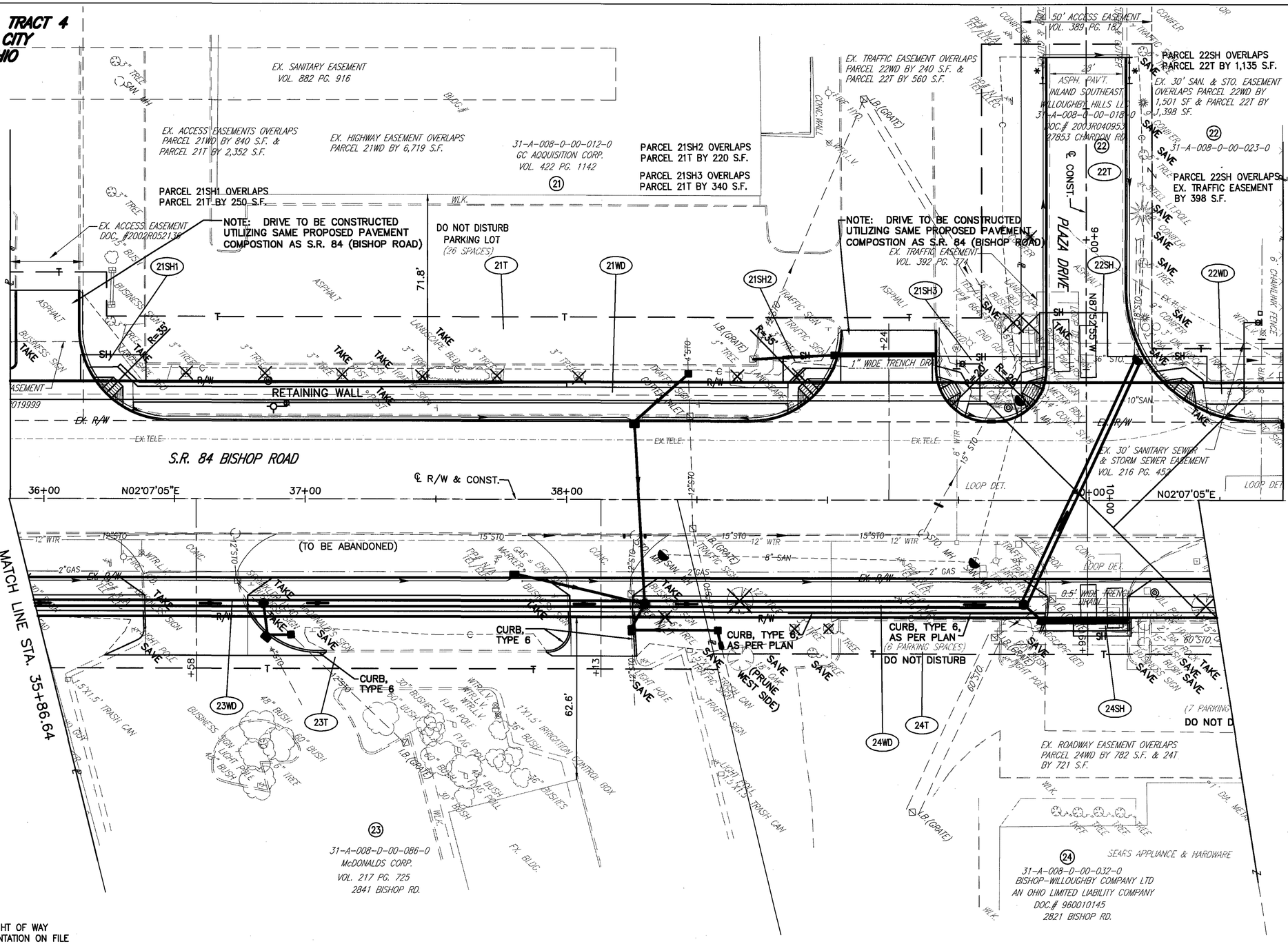
PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET: 20 0 10 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (SA.R. 84)
STA. 35+86.64 TO STA. 40+74.09

LAK - 90/84 - 0.54/0.43

17/38

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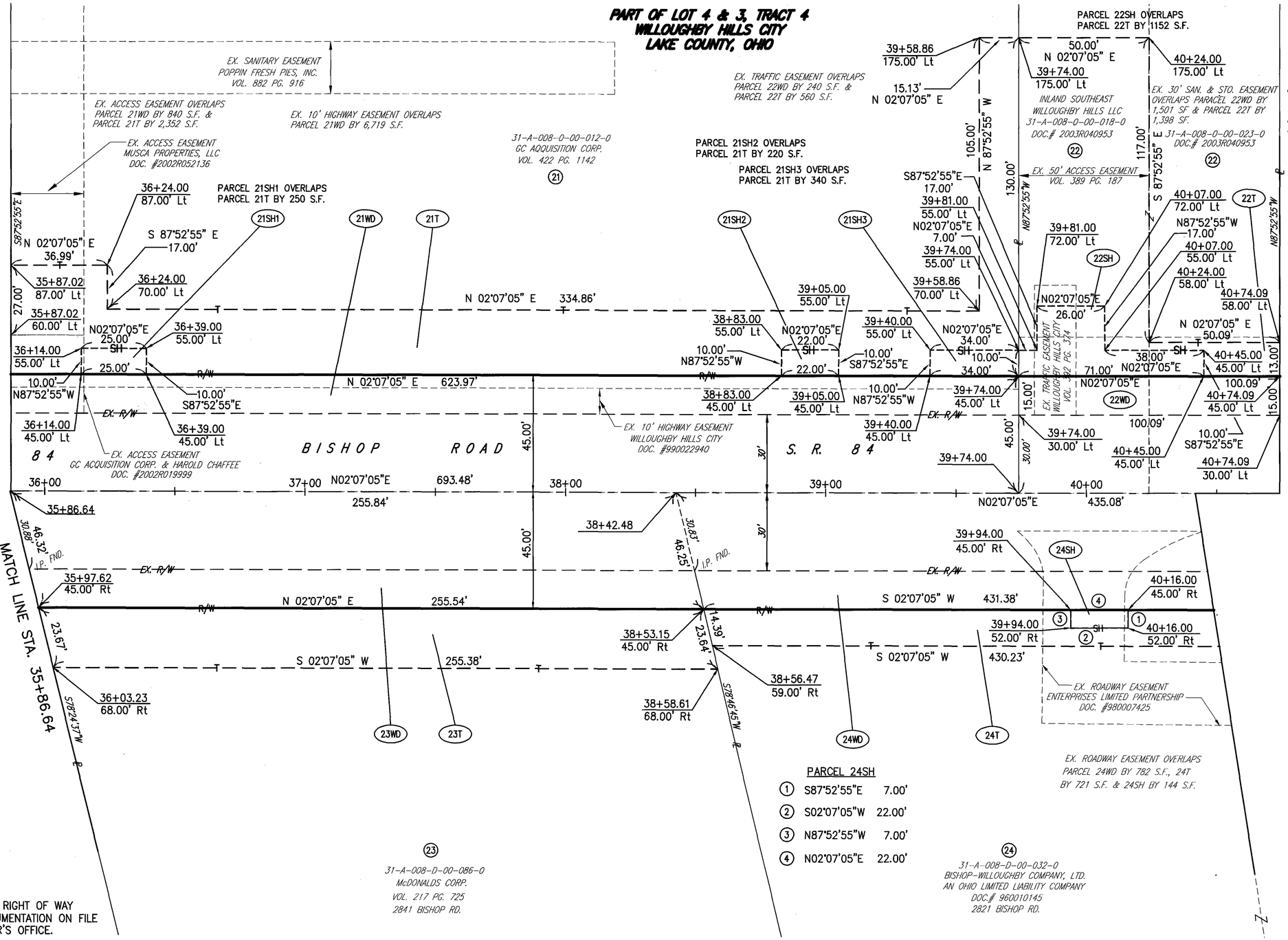
PART OF LOT 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



PARCEL 24SH		
(1)	S87°52'55"E	7.00'
(2)	S02°07'05"W	22.00'
(3)	N87°52'55"W	7.00'
(4)	N02°07'05"E	22.00'

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 35+86.64 TO STA. 40+74.09

LAK - 90/84 - 0.54/0.43

18/38

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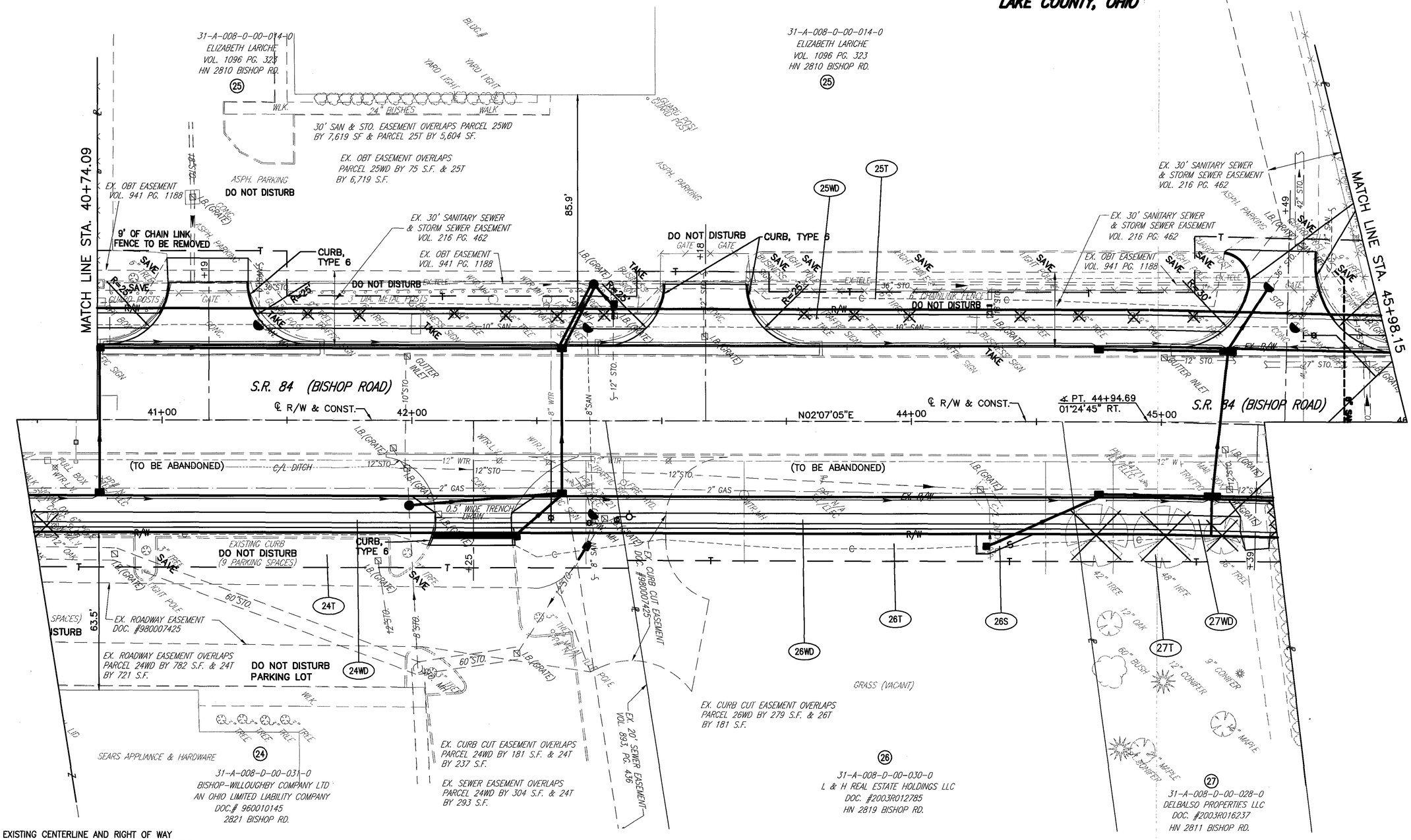
PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	3/1/05	ADDED 15' STORM CONNECTION PARCEL 27
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 40+74.09 TO STA. 45+98.15

LAK - 90/84 - 0.54/0.43

19/38

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PART OF LOTS 4 & 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

31-A-008-0-00-014-0
ELIZABETH LARICHE
VOL. 1096 PG. 323
HN 2810 BISHOP RD.
(25)

EXISTING OBT EASEMENT OVERLAPS PARCEL 25WD BY 75 S.F. & 25T BY 6,719 S.F.

30' SAN & STO. EASEMENT OVERLAPS PARCEL 25WD BY 7,619 SF & PARCEL 25T BY 5,604 SF.

EX. 30' STORM SEWER & SANITARY SEWER EASEMENT WILLOUGHBY HILLS CITY VOL. 216 PG. 462

EX. 30' SANITARY SEWER & STORM SEWER EASEMENT WILLOUGHBY HILLS CITY VOL. 216 PG. 462

MATCH LINE STA. 40+74.09

MATCH LINE STA. 45+98.15

BISHOP ROAD S. R. 84

EX. R/W

R/W

EX. OBT EASEMENT VOL. 941 PG. 1188

40+74.09 68.00' Lt

N 02°07'05" E 75.91'

41+50.00 68.00' Lt

S 87°52'55" E 18.00'

41+50.00 50.00' Lt

N 02°07'05" E 140.00'

42+90.00 60.00' Lt

N 87°52'55" W 10.00'

42+90.00 50.00' Lt

N 02°07'05" E 53.00'

43+43.00 60.00' Lt

S 87°52'55" E 8.00'

43+43.00 52.00' Lt

N 02°07'05" E 421.16'

N 02°07'05" E 170.33'

45+11.49 75.00' Lt

N 87°52'55" W 22.56'

45+12.05 52.44' Lt

N 03°31'50" E 67.12'

45+78.62 75.00' Lt

S 78°36'25" W

45+86.71 45.00' Lt

N 03°31'50" E 92.57'

44+95.24 (PROJ.) 45.00' Lt

40+74.09 45.00' Lt

23.00'

31.07'

30.00'

45.00'

43.96'

30.88'

40+74.09

41+00 N02°07'05"E 435.08'

42+00 S 02°07'05" W 524.10'

43+00 N02°07'05"E 182.89'

44+00

45+00 N02°07'05"E 80.68'

MON. ASSEMBLY ANGLE POINT STA. 44+94.69

45+98.15 2.55' Lt N02°07'05"E

42+77.56

30.36'

45.54'

44+60.46

30.26'

45.40'

I.P. FND.

45+41.12 1.14' Lt

30.20'

46.60'

45+47.59 45.00' Rt

42+84.53 45.00' Rt

S 02°07'05" W 431.38'

S 02°07'05" W 181.91'

S 02°07'05" W 27.69'

S 03°31'50" W 52.35'

44+26.00 45.00' Rt

44+66.45 45.00' Rt

44+95.24 45.00' Rt

9.77'

S 02°07'05" W 430.23'

S 02°07'05" W 181.67'

S 02°07'05" W 79.68'

11.13'

14.17'

11.10'

S83°18'42"W

N85°32'36"E

42+86.70 59.00' Rt

42+86.24 56.00' Rt

44+26.00 53.00' Rt

44+49.00 45.00' Rt

44+67.91 56.00' Rt

44+31.00 53.00' Rt

45+48.95 54.68' Rt

EX. CURB CUT EASEMENT ENTERPRISE LIMITED PARTNERSHIP BISHOP-WILLOUGHBY CO. LTD. DOC. #980007425

EX. ROADWAY EASEMENT ENTERPRISES LIMITED PARTNERSHIP DOC. #980007425

EX. 20' SEWER EASEMENT ZAREMBA WILLOUGHBY COMPANY VOL 693, PG 436

25WD 25T 26S 26T 26WD 27WD 27T 24T 24WD

PARCEL 26S OVERLAPS PARCEL 26T BY 112 SF

EX. ROADWAY EASEMENT OVERLAPS PARCEL 24WD BY 782 S.F. & 24T BY 721 S.F.

(24)
31-A-008-D-00-031-0
BISHOP-WILLOUGHBY COMPANY, LTD.
AN OHIO LIMITED LIABILITY COMPANY
DOC.# 960010145
2821 BISHOP RD.

EX. CURB CUT EASEMENT OVERLAPS PARCEL 24WD BY 181 S.F. & 24T BY 237 S.F.

EX. SEWER EASEMENT OVERLAPS PARCEL 24WD BY 304 S.F. & 24T BY 293 S.F.

EX. CURB CUT EASEMENT OVERLAPS PARCEL 26WD BY 279 S.F. & 26T BY 181 S.F.

(26)
31-A-008-D-00-030-0
L & H REAL ESTATE HOLDINGS LLC
DOC. #200308012785
HN 2819 BISHOP RD.

PARCEL 26S

1. S21°50'40"E 19.70'
2. S02°07'05"W 5.00'
3. N87°52'55"W 8.00'
4. N02°07'05"E 23.00'

(27)
31-A-008-D-00-028-0
THE DELBALSO PROPERTIES LLC
DOC. #200308016237
HN 2811 BISHOP RD.

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 40+74.09 TO STA. 45+98.15

LAK - 90/84 - 0.54/0.43

20/38

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PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

31-A-008-0-00-004-0
LEONARD FUCHS, TRUSTEE
VOL. 633 PG. 194
(29)

EX. R/W EASEMENT OVERLAPS PARCEL 29WD BY 425 SF. & PARCEL 29T BY 3,550 SF.

EX. TRAFFIC EASEMENT OVERLAPS PARCEL 29WD BY 259 SF. & PARCEL 29T BY 941 SF.

PARCEL 29SH OVERLAP
PARCEL 29T BY 260 S.F.

EX. R/W EASEMENT OVERLAPS PARCEL 29SH BY 74 S.F.

EX. 50' RIGHT OF WAY EASEMENT VOL. 625 PG.

31-A-008-0-00-002-0
RENAISSANCE PROP. CO.
VOL. 35 PG. 1383
(30)

PARCEL 30SH OVERLAP
PARCEL 30T BY 264 S.F.

31-A-008-0-00-005-0
JAMES M. CHRISTENSEN
DOC. #980025152
2780 BISHOP RD.
(31)

31-A-008-0-00-006-0
VILLAGE OF WILLOUGHBY HILLS
VOL. 629 PG. 277
(32)

BISHOP PARK DRIVE

RIDGEHILLS DRIVE 50'

S.R. 84 BISHOP ROAD

EDDY ROAD 60'

MATCH LINE STA. 45+98.15

MATCH LINE STA. 49+87.03

CURB, TYPE 6

GRASS (VACANT)

CHAINLINK FENCE

EX. TRAFFIC EASEMENT

EX. ℄ R/W

℄ CONST.

(TO BE ABANDONED)

N02°07'05"E

N03°31'50"E

S89°32'27"W

27" STO.

6" GAS

2" GAS

6" SAN.

6" SAN. FM.

LOOP DET.

EDGE WOODS

WOOD RAIL FENCE

STONE

ASPH.

TRAFFIC SIGN

TREE

BUSH

SAVE

TAKE

29S, 29SH, 29WD, 30T, 30SH, 30WD, 31T, 28S, 28T, 28WD, 35T, 35WD, 36T, 36WD

28 — 31-A-008-D-00-027-0
HENRY R. REBOL
VOL. 418 PG. 474
HN 2805 BISHOP RD.

35 — 31-A-008-D-00-026-0
PATRICK J. MANGAN
VOL. 1103 PG. 1096
HN 2801 BISHOP RD.

36 — 31-A-008-D-00-025-0
DOC.# 2004R024900

36 — 31-A-008-D-00-024-0
DOC.# 2004R024900

36 — 31-A-008-D-00-023-0
WILLOUGHBY COMPASS LLC
DOC.# 2004R024900
28750 BISHOP RD.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	10/27/04	REVISED PARCEL 29T
PSL	9/7/04	REVISED PARCEL 29SH
PSL	8/10/04	REVISED PARCEL 36T

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 45+98.15 TO STA. 49+87.03

LAK - 90/84 - 0.54/0.43

21/38

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PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

EX. R/W EASEMENT OVERLAPS PARCEL 29WD BY 425 S.F. & 29T BY 4,740 S.F.
EX. TRAFFIC EASEMENT OVERLAPS PARCEL 29WD BY 259 SF. & PARCEL 29T BY 941 SF.

EX. 50' RIGHT OF WAY EASEMENT LEONARD FUCHS VOL. 625 PG. 13

31-A-008-0-00-002-0
RENAISSANCE PROP CO.
VOL. 35 PG. 1387

31-A-008-0-00-004-0
LEONARD FUCHS, TRUSTEE
VOL. 633 PG. 194

EX. TRAFFIC EASEMENT CITY OF WILLOUGHBY HILLS VOL. 216 PG. 466

EX. R/W EASEMENT OVERLAPS PARCEL 29SH BY 74 S.F.

31-A-008-0-00-005-0
JAMES M. CHRISTENSEN
DOC. #980025152

31-A-008-0-00-006-0
VILLAGE OF WILLOUGHBY HILLS
VOL. 629 PG. 277

31-A-008-D-00-027-0
HENRY R. REBOL
VOL. 418 PG. 474
HN 2805 BISHOP RD.

31-A-008-D-00-026-0
PATRICK J. MANGAN
VOL. 1103 PG. 1096
HN 2801 BISHOP RD.

31-A-008-D-00-025-0
DOC.# 2004R024900

31-A-008-D-00-024-0
DOC.# 2004R024900
WILLOUGHBY COMPASS LLC

31-A-008-D-00-023-0
DOC.# 2004R024900
28750 BISHOP RD.

PARCEL 29S
(5) N86°28'10"W 11.00'
(6) N03°31'50"E 10.00'
(7) S86°28'10"E 11.00'
(8) S03°31'50"W 10.00'

PARCEL 29S OVERLAPS PARCEL 29T BY 84 SF

PARCEL 29SH OVERLAP PARCEL 29T BY 260 S.F.

PARCEL 30SH OVERLAP PARCEL 30T BY 264 S.F.

PARCEL 28S
(1) N03°31'50"E 10.00'
(2) S86°28'10"E 7.00'
(3) S03°31'50"W 10.00'
(4) N86°28'10"W 7.00'

PARCEL 28S OVERLAPS PARCEL 28T BY 70 SF

CURVE DATA (A)
R=20.00'
Δ =17°37'21"
L=6.15'
T=3.10'
C=6.13'
S82°13'31"E

MATCH LINE STA. 45+98.15

BISHOP ROAD

S. R. 84

RIDGEHILLS DRIVE 50'

EDDY ROAD 60'

MON. ASSEMBLY (S.R. 84) 49+88.00 = ℄ EDDY ROAD

MATCH LINE STA. 49+87.03

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
PSL	5/13/05	REVISED PARCEL 29SH & 30SH
PSL	10/27/04	REVISED PARCEL 29T
PSL	9/7/04	REVISED PARCEL 29SH
PSL	8/10/04	REVISED PARCEL 36T

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 45+98.15 TO STA. 49+87.03

LAK - 90/84 - 0.54/0.43

22/38

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NOTES FOR PARCEL 33
(TRUE NORTH)

ONE DRIVEWAY ACCESS SHALL REMAIN OPEN AT ALL TIMES ALONG RIDGEHILLS DRIVE AND ALONG BISHOP ROAD DURING CONSTRUCTION.

THE CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLES, TEST WELLS, FUEL PORTS OR GAS LIDS DURING CONSTRUCTION.

PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

RIDGEHILLS DR. 50'
WILLOUGHBY HILLS
WICKLIFFE
RAMP NO. 9
RAMP NO. 10
S.R. 84 BISHOP ROAD
VILLAGE OF WILLOUGHBY HILLS, OHIO
VOL. 731 PG. 201
31-A-025-0-00-049-0
EDDY ROAD 60'
I-90 EASTBOUND
CITY OF WICKLIFFE
CITY OF WILLOUGHBY HILLS
31-A-025-0-00-040-0
TRUE NORTH ENERGY, LLC
DOC. #990050415
2770 BISHOP RD.
29-A-010-I-00-001-0
RENAISSANCE PROPERTIES CO.
VOL. 35 PG. 1395
THE GATEWAY PROFESSIONAL CENTER L.L.C.
31-A-025-0-00-048-0
DOC. #980000851
2775 BISHOP RD.
EUCLID SPUR
VOL. N PG. 35 PLAT RECORDS

MATCH LINE STA. 49+87.03

MATCH LINE STA. 54+96.73

BEGIN APPROACH SLAB STA. 53+27.25

PT=52+55.69 ℄ CONST.

PC=51+56.17

ANGLE PT.

PRESSURE RELIEF JOINT, TYPE A

CURB, TYPE 6

6" TRENCH DRAIN

CONC. APRON

RETAINING WALL

ABANDON EXISTING 8" WATERLINE

RECEIVING PIT

NOTE TO REVIEWER:
RIGHT TURN ONLY

BEGIN LANE TAPER STA. 52+34.79, P.C., 30.0' RT.

END LANE TAPER STA. 53+84.79, P.T., 32.0' RT.

ANCHOR ASSEMBLY TYPE T

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 52+05.95
Δ =03°58'52" RT.
D =04°00'00"
R=1432.39'
T=49.78'
L=99.52'
E=0.86
emax= N/A
P.C.=STA. 51+56.17
P.T.=STA. 52+55.69

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
VOL. D PG. 243
LAK-84 (0.43-1.44) CENTERLINE SURVEY
SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
VOL. N PG. 35
LAK-525-0.00 CENTERLINE PLAT
AUGUST, 1960

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N
SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 49+87.03 TO STA. 54+96.73

LAK - 90/84 - 0.54/0.43

23/38

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PART OF LOTS 3 & 4, TRACT 4
WILLOUGHBY HILLS CITY
PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

RIDGEHILLS DRIVE 50'

BISHOP ROAD

(EUCLID-SPUR)

S. R. 84

EDDY ROAD 60'

INTERSTATE ROUTE 90

CITY OF WICKLIFFE

CITY OF WILLOUGHBY HILLS

MATCH LINE STA. 49+87.03

MATCH LINE STA. 54+96.73

(S.R. 84) STA. 54+96.73
=(I-90) STA. 105+77.83

CURVE DATA (B)
R=25.27'
Δ =86°50'43"
L=38.30'
T=23.92'
C=34.74'
S45°32'26"W

CURVE DATA (C)
R = 20.00'
L = 33.01'
T = 21.66'
Δ = 94°34'02"
C = 29.39'
S43°45'11"E

CURVE DATA (D)
R = 1477.39'
L = 37.07'
T = 18.54'
Δ = 1°26'16"
C = 37.07'
N02°48'42"E

S.R. 84 ℄ CURVE DATA
P.I.=STA. 52+05.95
Δ=03°58'52" RT.
D_C=04°00'00"
R=1432.39'
T=49.78'
L=99.52'
E=0.86'
emax= N/A
P.C.=STA. 51+56.17
P.T.=STA. 52+55.69

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 49+87.03 TO STA. 54+96.73

LAK - 90/84 - 0.54/0.43

24/38

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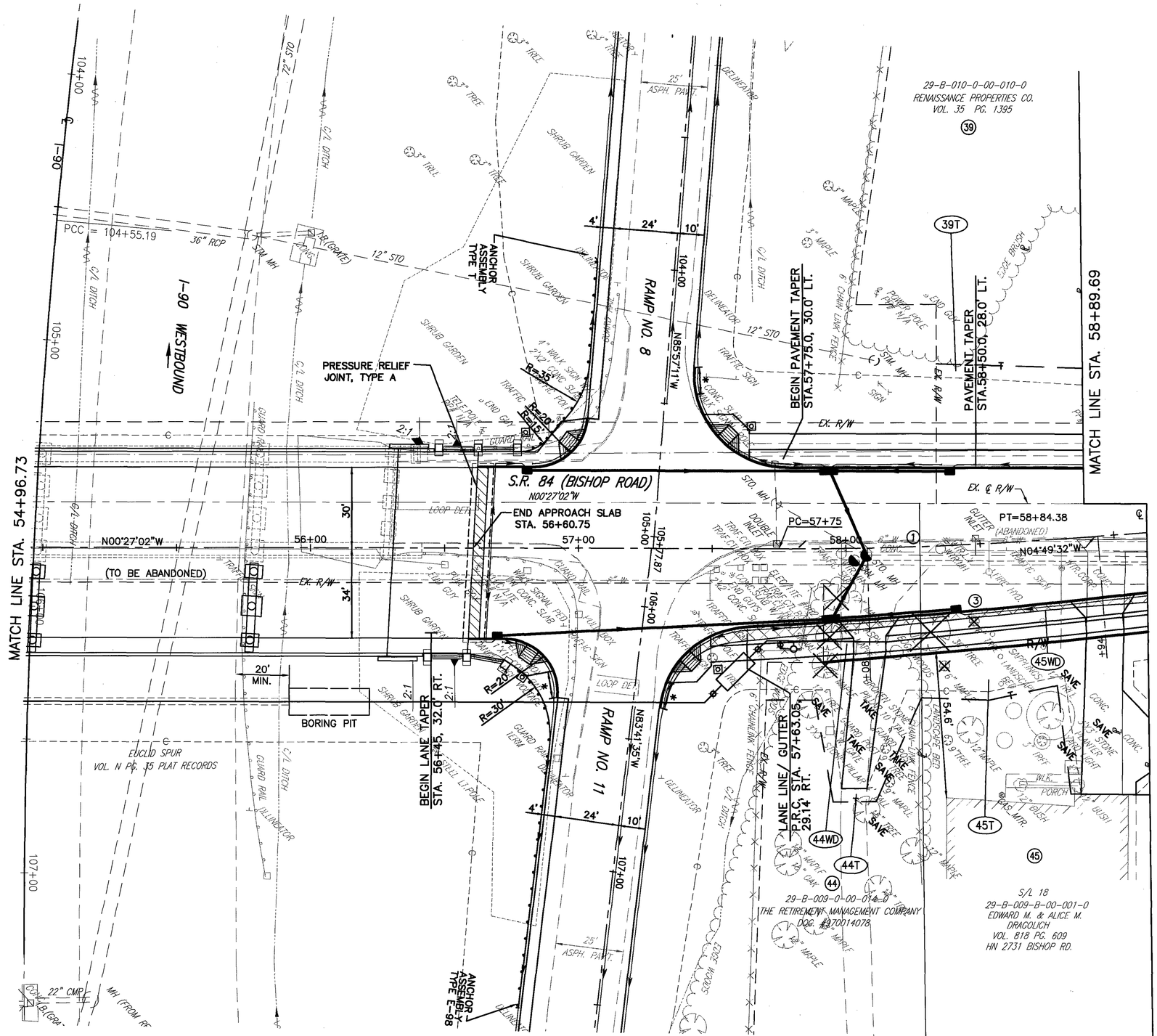
PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 54+96.73 TO STA. 58+89.69

LAK - 90/84 - 0.54/0.43

25/38

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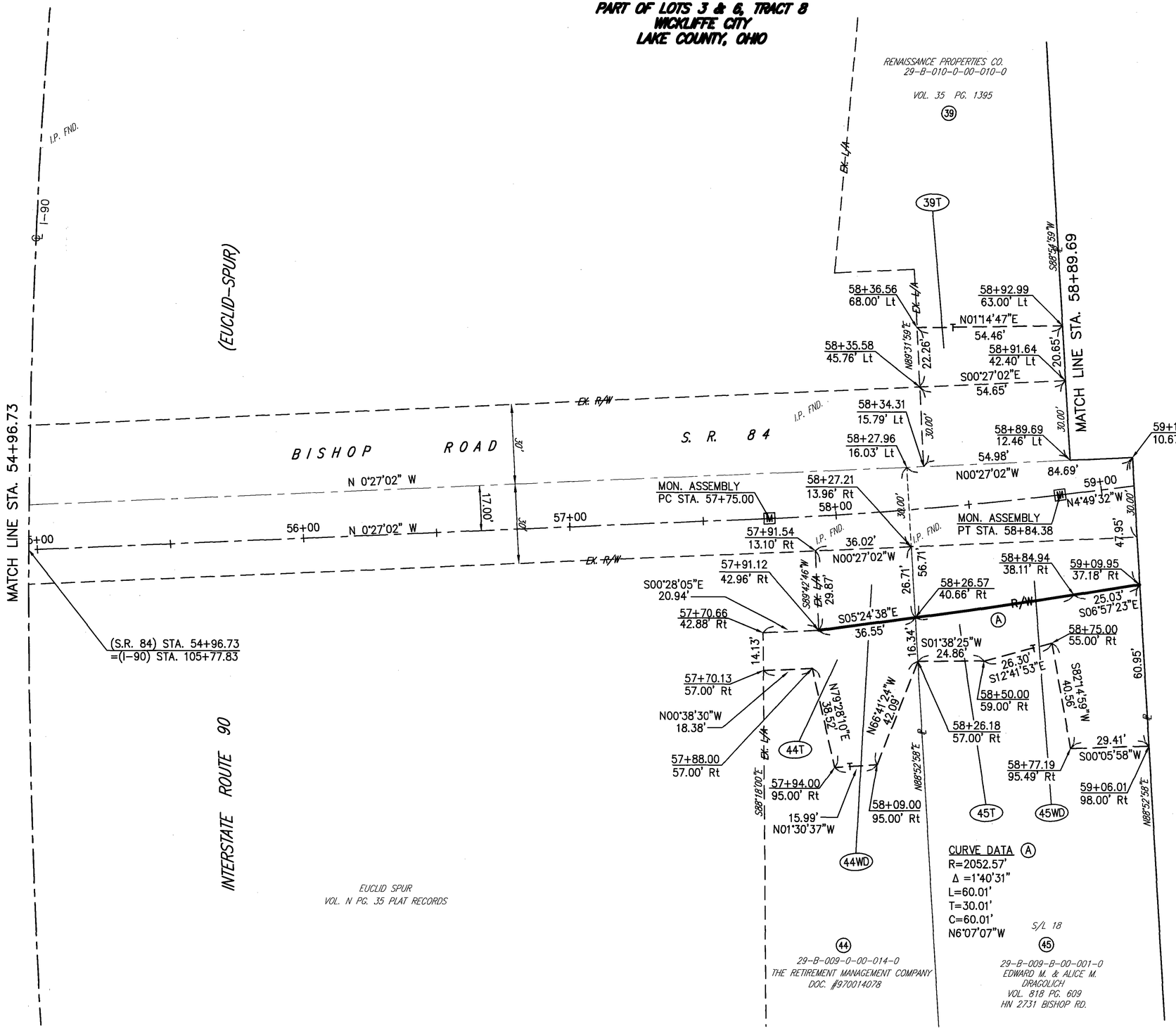
PART OF LOTS 3 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO



THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

S.R. 84 ℄ CURVE DATA

P.I.=STA. 58+29.72
Δ=04°22'30" LT.
D_C=04°00'00"
R=1432.40'
T=54.72'
L=109.38'
E=1.05'
emax= N/A
P.C.=STA. 57+75.00
P.T.=STA. 58+84.38

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N

SCALE IN FEET: 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R.84)
STA. 54+96.73 TO STA. 58+89.69

LAK - 90/84 - 0.54/0.43

26/38

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PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

① S.R. 84 ℄ CURVE DATA
P.I.=STA. 58+29.72
Δ =04°22'30" LT.
D =04°00'00"
R=1432.40'
T=54.72'
L=109.38'
E=1.05
emax= N/A
P.C.=STA. 57+75.00
P.T.=STA. 58+84.38

② S.R. 84 ℄ CURVE DATA
P.I.=STA. 60+52.41
Δ =04°22'30" RT.
D =04°01'00"
R=1427.12'
T=54.51'
L=108.97'
E=1.04'
emax= N/A
P.C.=STA. 59+98.00
P.T.=STA. 61+06.97

MATCH LINE STA. 58+89.69

MATCH LINE STA. 63+97.74

29-B-010-0-00-012-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
28400 EUCLID AVE.
(40)

29-B-010-F-00-004-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
VOL. 387 PG. 491
(41)
S/L 10

29-B-010-F-00-003-0
S/L 9

RABBINICAL COLLEGE OF TELSHE INC. SUB'D NO.3
29-B-010-F-00-002-0
MENUCHIE'S PLACE LTD.
DOC. #200308035027
2660 BISHOP RD.
S/L 8
(42)

29-B-010-F-00-001-0
SHLOMO & BLUMA DAVIS
VOL. 462 PG. 347
2650 BISHOP RD.
(43)
S/L 7

PAVEMENT TAPER
STA.59+90.0, 17.8' LT.

STATION EQUATION
PT STA. 61+06.97 (BACK)=
PT STA. 61+06.46 (AHEAD)

MEET EX. ℄ R/W
STA. 61+06.46

END PROJECT
STA. 63+50.00

BEGIN SIDEWALK TAPER
STA.63+50.0, 22.0' LT.

END PAVEMENT TAPER
MEET EX. GUTTER
STA.63+50.0, 13.0' LT.

S.R. 84 BISHOP ROAD
N00°27'02"W
N04°49'32"W
(TO BE ABANDONED)
℄ CONST. & EX. R/W
EX. ℄ R/W
EX. R/W
CONST.
PC=59+98.00
60+00
61+00
62+00
63+00

JOHNSON DR.
N48°52'58"E
11+00

END PAVEMENT TAPER
STA.61+55.0, 13.0' RT.

BEGIN SIDEWALK TAPER
STA.63+25.9, 26.0' RT.

END PAVEMENT TAPER
MEET EX. GUTTER
STA.63+50.0, 13.0' RT.

(46) S/L 17
29-B-009-B-00-002-0
JOHN A. JR. & COLETTA M. DICELLO
VOL. 728 PG. 873
HN 2721 BISHOP RD.
JOHNSON ESTATES SUB'D
VOL. J PG. 42 (10-13-53)

(47) S/L 16
29-B-009-B-00-003-0
J. JAY & SHERYL L. FABIAN
DOC.# 980008390
HN 2713 BISHOP RD.

(48) S/L 3
29-B-009-B-00-023-0
CHRISTOPHER R. SGARLATA
VOL. 1157 PG. 916
HN 2701 BISHOP RD.

(49) S/L 2
29-B-009-B-00-022-0
RAYMOND F. SACK, JR.
DOC.# 200146389
HN 2671 BISHOP RD.
JOHNSON ESTATES SUB'D
VOL. J PG. 42 (10-13-53)

(50) S/L 1
29-B-009-B-00-021-0
DANIEL SIEPKA
DOC.# 960028376
HN 2661 BISHOP RD.

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
VOL. D PG. 243
LAK-84 (0.43-1.44) CENTERLINE SURVEY
SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
VOL. N PG. 35
LAK-525-0.00 CENTERLINE PLAT
AUGUST, 1960

REV.	DATE	DESCRIPTION
PSL	3/01/05	REVISED DRIVES FOR PARCELS 42 & 46
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 58+89.69 TO STA. 63+97.74

LAK - 90/84 - 0.54/0.43

27/38

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THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO

29-B-010-0-00-012-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
(40)

29-B-010-F-00-004-0
RABBINICAL COLLEGE OF TELSHE, INC.
VOL. 389 PG. 486
VOL. 387 PG. 491
(41)
S/L 10

29-B-010-F-00-003-0
S/L 9

29-B-010-F-00-002-0
MENUCHIE'S PLACE LTD.
DOC. #200308035027
2660 BISHOP RD.
(42)
S/L 8

29-B-010-F-00-001-0
SHLOMO & BLUMA DAVIS
VOL. 462 PG. 347
2650 BISHOP RD.
(43)
S/L 7

RABBINICAL COLLEGE OF TELSHE INC. SUBD. NO. 3
VOL. M PG. 50

S.R. 84 ℄ CURVE DATA
P.I.=STA. 60+52.41
Δ=4°22'01" RT.
D_c=04°00'00"
R=1432.40'
T=54.61'
L=109.15'
E=1.04'
emax= N/A
P.C.=STA. 59+97.80
P.T.=STA. 61+06.98

MATCH LINE STA. 58+89.69

58+92.99
63.00' Lt
N02°10'29"E
57.44'
59+50.00
56.00' Lt
N11°51'20"E
52.26'
60+50.00
44.17' Lt
60+00.00
41.00' Lt
N07°16'03"W
51.58'
60+98.60
59.03' Lt
60+98.51
43.03' Lt
N00°37'02"W
50.01'
61+19.99
59.00' Lt
N00°27'02"W
22.25'
61+25.00
35.00' Lt
61+72.74
35.00' Lt
N00°27'02"W
47.75'
61+72.74
45.00' Lt
62+47.74
68.00' Lt
N00°27'02"W
75.00'
62+47.74
45.00' Lt
62+47.74
30.00' Lt
N00°27'02"W
27.26'
62+75.00
68.00' Lt
N68°30'43"E
27.86'
62+85.00
42.00' Lt
37.74'
N00°27'02"W
END PROJECT
STA. 63+50.00
63+22.74
42.00' Lt
27.26'
N00°27'02"W
63+50.00
42.00' Lt
63+97.74
35.00' Lt
N07°53'28"E
48.25'
5.00'
63+97.74
30.00' Lt

58+91.64
42.40' Lt
58+89.69
12.46' Lt
BISHOP ROAD
S00°27'02"E
209.43'
S00°27'02"E
150.00'
S00°27'02"E
75.00'
S00°27'02"E
75.00'
EX. R/W
MON. ASSEMBLY
PT STA. 61+06.97 (BACK)
=STA. 61+06.46 (AHEAD)
= ℄ JOHNSON ROAD
S. R. 84
59+97.50
4.21' Lt
N00°27'02"W
84.69'
N4°49'32"W
209.10'
109.69'
61+00
75.00'
N00°27'02"W
109.70'
62+00
75.00'
63+00
75.00'
N00°27'02"W
59+13.05
10.67' Lt
60+00
MON. ASSEMBLY
PC STA. 59+98.00
59+98.37
33.89' Rt
60+60.16
31.66' Rt
61+52.04
30.00' Rt
62+16.16
6.00'
62+16.51
30.00' Rt
63+01.21
30.00' Rt
5.00'
63+85.91
30.00' Rt
5.00'
N00°27'02"W
64.47'
N00°27'02"W
84.70'
N00°27'02"W
84.70'
EX. R/W
R/W
S06°57'23"E
85.13'
59+95.02
34.01' Rt
S08°03'57"E
70.20'
60+66.15
48.46' Rt
60+81.66
51.92' Rt
61+07.06
51.84' Rt
61+07.05
50.52' Rt
25.00'
S01°07'02"E
25.00'
S01°07'02"E
66.58'
S00°27'02"E
61+50.00
36.00' Rt
62+16.58
36.00' Rt
62+75.00
35.00' Rt
26.27'
S00°27'02"E
28.61'
S00°27'02"E
50.97'
S00°27'02"E
63+35.00
35.00' Rt
63+01.27
35.00' Rt
63+30.00
45.00' Rt
63+01.39
45.00' Rt
63+85.97
35.00' Rt
11.18'
S63°53'08"E
59+09.95
37.18' Rt
3.34'
S06°57'23"E
59+93.73
54.00' Rt
22.91'
S38°51'21"E
61+32.05
50.23' Rt
S64°32'39"E
38.91'
41.02'
S00°27'02"E
62+58.00
70.00' Rt
62+16.98
70.00' Rt
S00°57'00"E
84.69'
59+90.81
99.00' Rt
59+06.32
93.28' Rt
S88°52'58"W
81.46'
60+64.63
129.91' Rt
15.00'
S01°09'04"E
60+81.13
130.08' Rt
78.17'
JOHNSON ROAD 50'

CURVE DATA (A)
R=1358.19'
Δ=2°32'54"
L=60.41'
T=30.21'
C=60.40'
N5°40'56"W

CURVE DATA (B)
R=20.00'
Δ=93°17'27"
L=32.56'
T=21.18'
C=29.08'
N42°14'15"E

CURVE DATA (C)
R=20.00'
Δ=90°40'00"
L=31.65'
T=20.23'
C=28.45'
N45°47'02"W

BITNER'S
JOHNSON ESTATES SUBD.
VOL. J PG. 42 (10-13-53)

JOHNSON ESTATES SUBD.
VOL. J PG. 42 (10-13-53)

S/L 17
(46)
29-B-009-B-00-002-0
JOHN A. JR. & COLETTA M. DICELLO
VOL. 728 PG. 873
HN 2721 BISHOP RD.

S/L 16
(47)
29-B-009-B-00-003-0
J. JAY & SHERYL L. FABIAN
DOC.# 980008390
HN 2713 BISHOP RD.

S/L 3
(48)
29-B-009-B-00-023-0
CHRISTOPHER R. SCARLATA
VOL. 1157 PG. 916
HN 2701 BISHOP RD.

S/L 2
(49)
29-B-009-B-00-022-0
RAYMOND F. SACK, JR.
DOC.# 200146389
HN 2671 BISHOP RD.

S/L 1
(50)
29-B-009-B-00-021-0
DANIEL SIEPKA
DOC.# 960028376
HN 2661 BISHOP RD.

MONUMENT LEGEND
- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 58+89.69 TO STA. 63+97.74

LAK - 90/84 - 0.54/0.43

28/38

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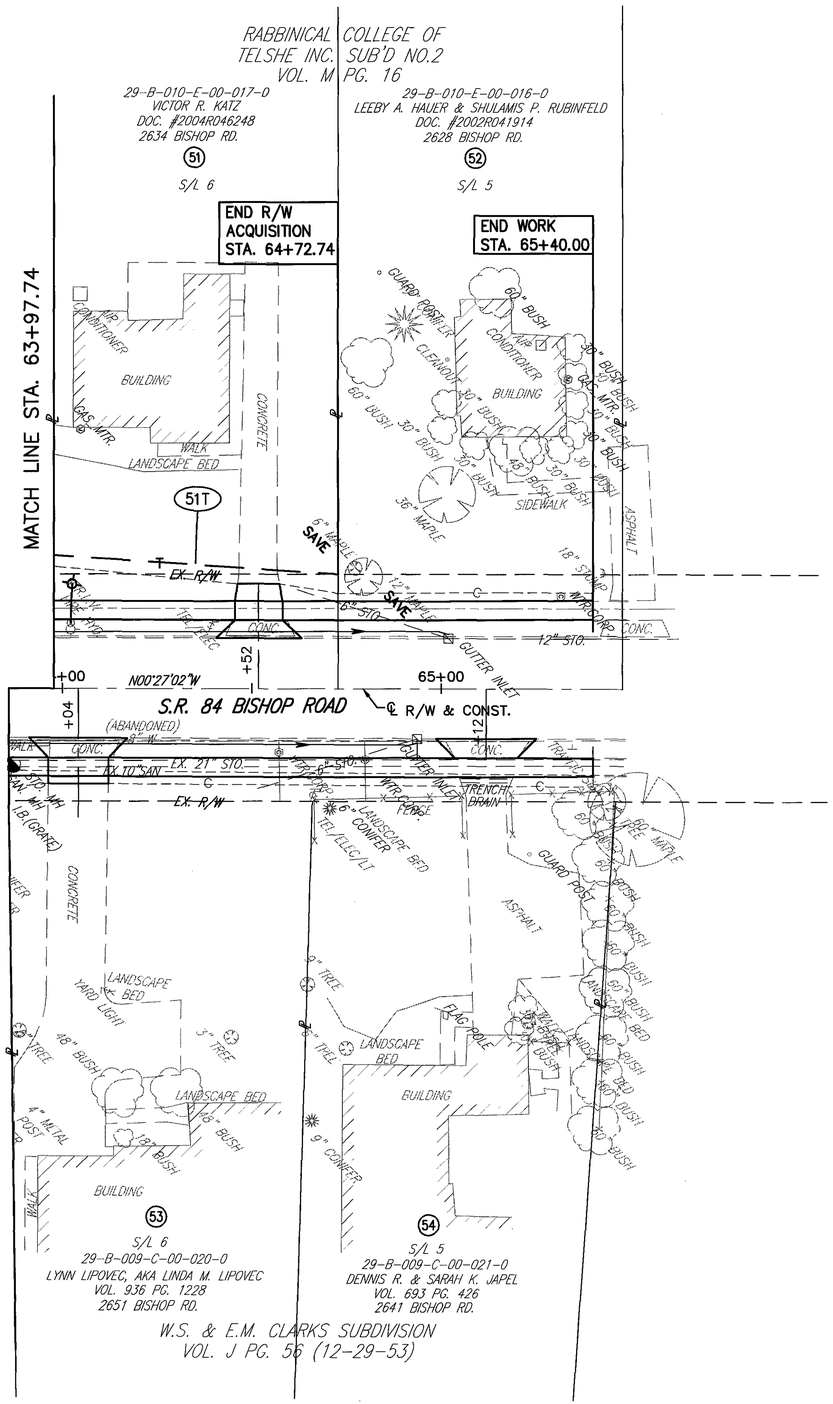
PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO



STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL

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   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 63+97.74 TO STA. 65+47.74

LAK - 90/84 - 0.54/0.43

29/38

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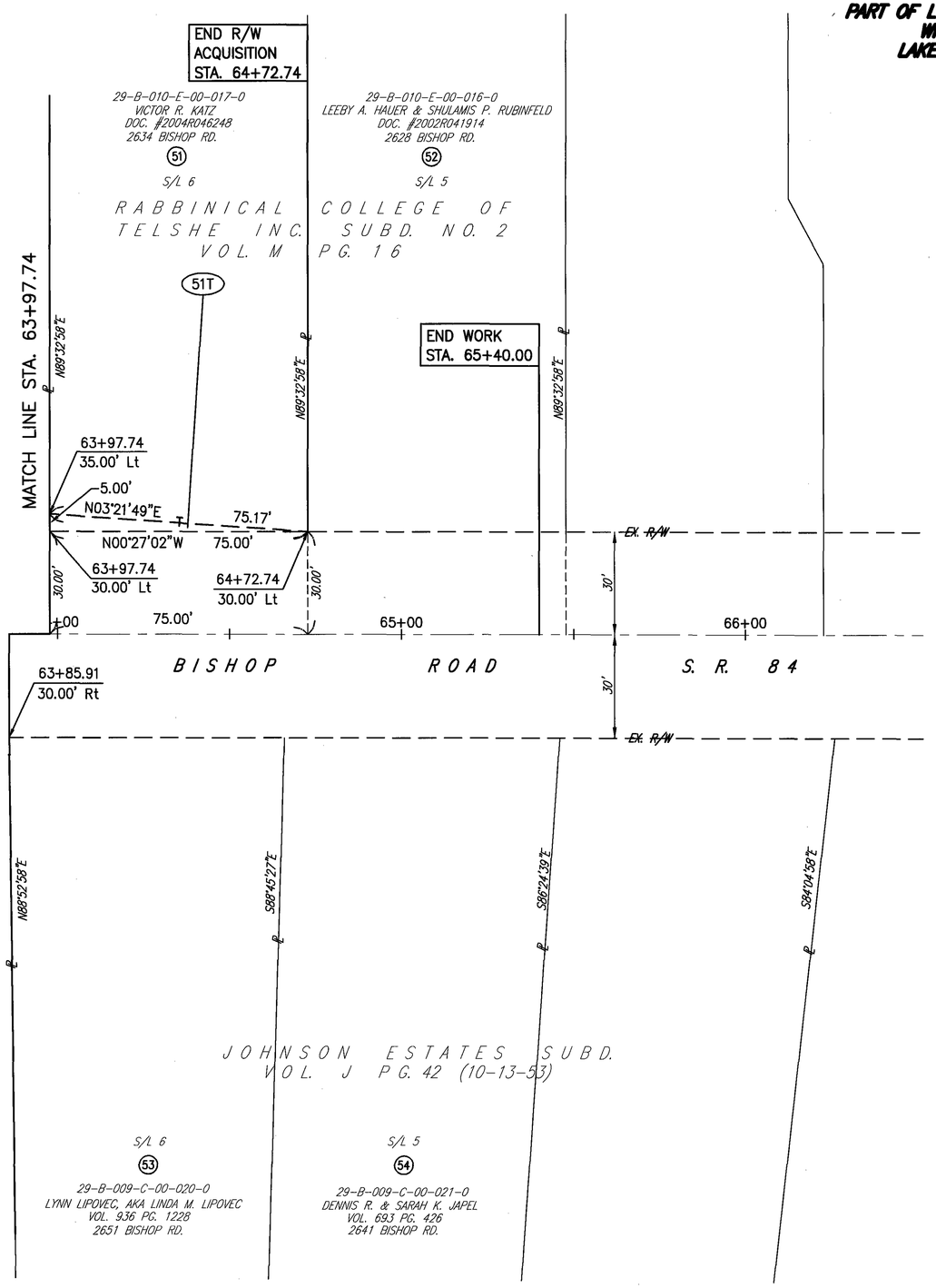
PART OF LOTS 2 & 6, TRACT 8
WICKLIFFE CITY
LAKE COUNTY, OHIO



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   SEPTEMBER, 1956

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   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 63+97.74 TO STA. 65+47.74

LAK - 90/84 - 0.54/0.43

30/38

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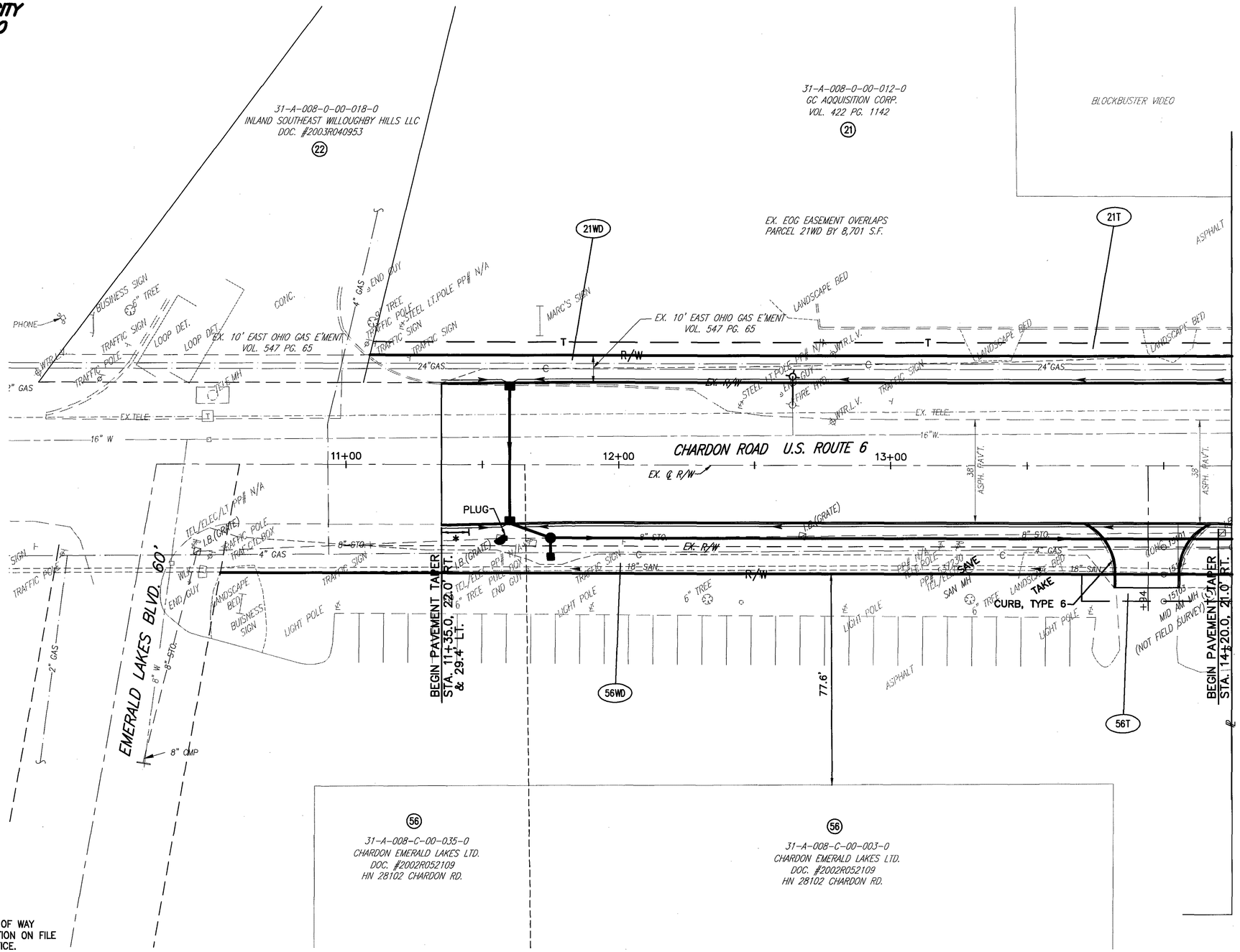
PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 10+60.83 TO STA. 14+25.03

LAK - 90/84 - 0.54/0.43

31/38

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PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO

EX. ACCESS EASEMENT
VOL. 361 PG. 655

31-A-008-0-00-018-0
INLAND SOUTHEAST WILLOUGHBY HILLS LLC
DOC.1#2003R040953
(22)

31-A-008-0-00-012-0
GC AQQUISITION CORP.
VOL. 422 PG. 1142
(21)

N25°18'05"E

℄

S02°07'05"W

EX. EAST OHIO GAS EASEMENT
OVERLAPS PARCEL 21WD BY 8,701 S.F.

21WD

21T

11+09.97
45.00' Lt

5.15'

EX. 10' EAST OHIO GAS E'MENT
VOL. 547 PG. 65

N 78°26'25" E 828.94'

R/W

N 78°26'25" E 815.38'

EX. 10' EAST OHIO GAS E'MENT
VOL. 547 PG. 65

EX. R/W

41.17'

30.88'

11+08.75
40.00' Lt

10+60.83

10+99.02

CHARDON ROAD

U. S. 6

30'

40.00'

10+00

11+00

12+00

S 78°26'25" W 900.98'

364.20'

13+00

14+00

14+25.03

30'

40.00'

40.63'

30.47'

EX. R/W

14+25.03
40.00' Rt

I.P. FND.

40.00'

30.00'

MATCH LINE STA. 14+25.03
(SEE SHEET 34)

EMERALD LAKES BLVD. 60'

S78°26'25"W 371.33'

R/W

55.03'

10.00'

10+53.71
40.00' Rt

N01°27'35"W

13+70.00
40.00' Rt

55.03'
S78°26'25"W

10.00'
N11°33'35"W

13+70.00
50.00' Rt

14+25.03
50.00' Rt

S11°33'35"E

℄

56WD

56T

(56)
31-A-008-C-00-035-0
CHARDON EMERALD LAKES LTD.
DOC. #2002R052109
HN 28102 CHARDON RD.

(56)
31-A-008-C-00-003-0
CHARDON EMERALD LAKES LTD.
DOC. #2002R052109
HN 28102 CHARDON RD.

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

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   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 10+60.83 TO STA. 14+25.03

LAK - 90/84 - 0.54/0.43

32/38

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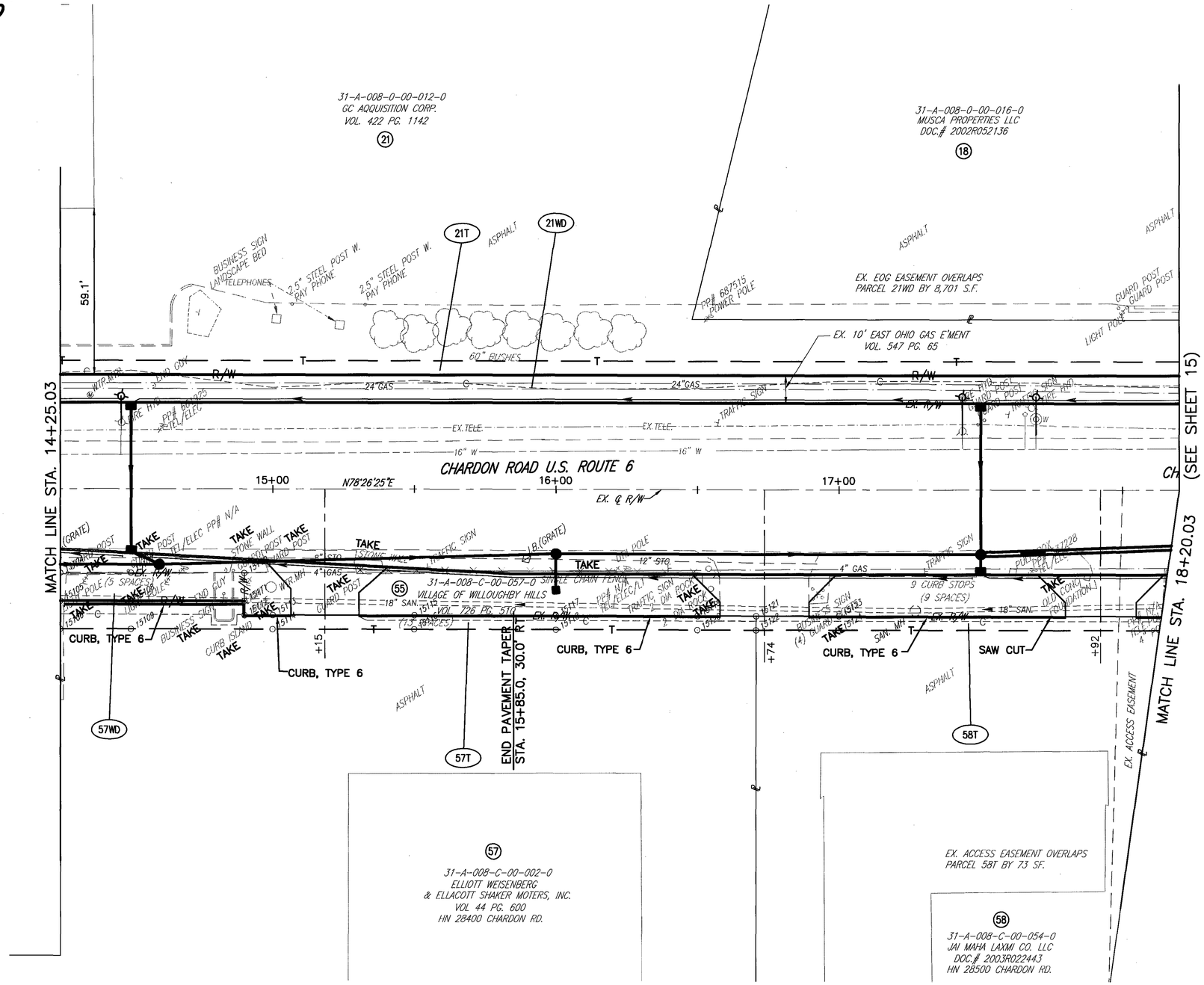
PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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   SEPTEMBER, 1956

2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION
PSL	1/4/05	ADDED SAW CUT LINE PARCELS 57 & 58
PSL	3/1/05	ADDED CURB, TYPE 6 FOR PARCEL 58

COMPLETION DATE:

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 14+25.03 TO STA. 18+20.03

LAK - 90/84 - 0.54/0.43

33/38

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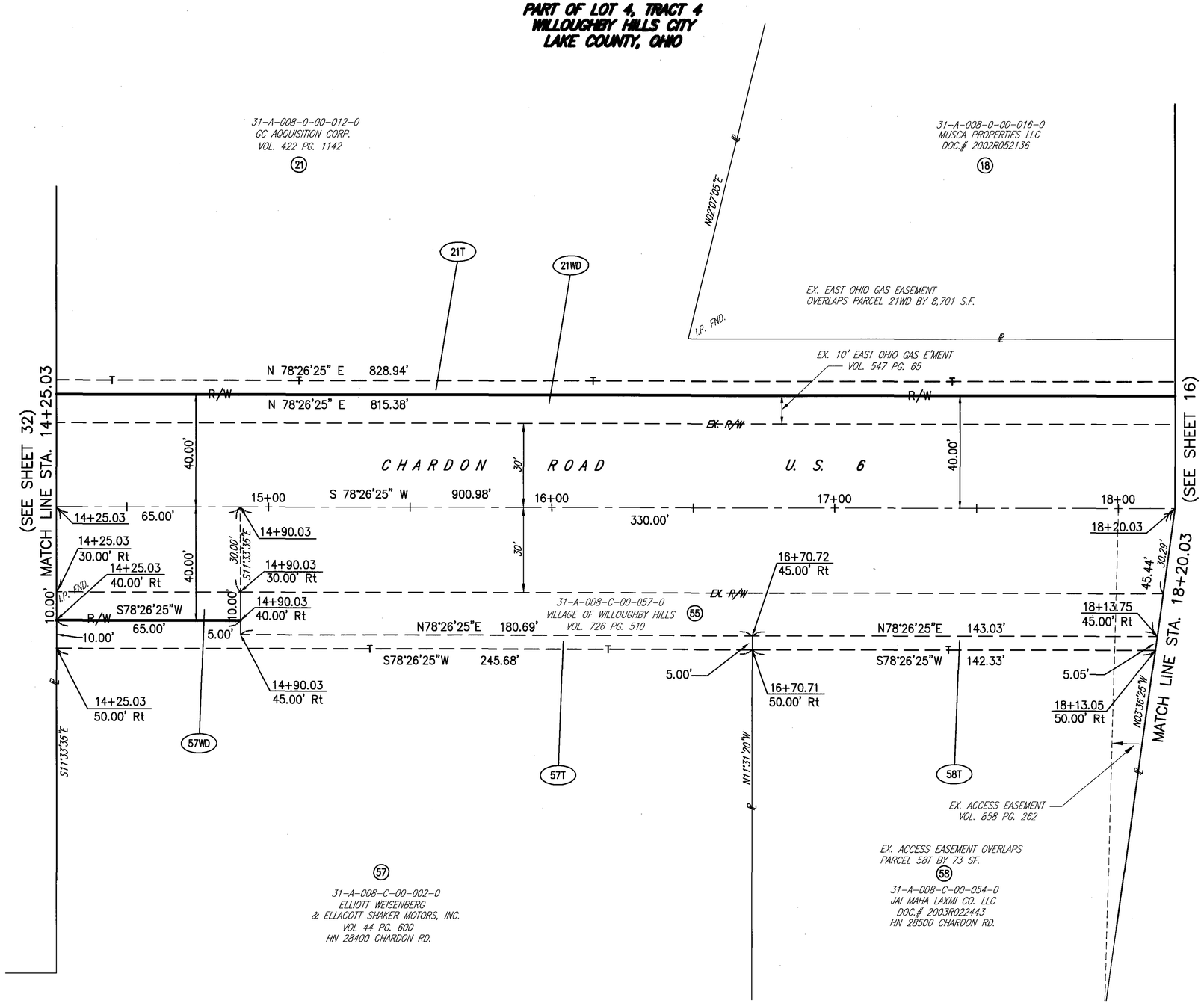
PART OF LOT 4, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET: 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL

R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 84)
STA. 14+25.03 TO STA. 18+20.03

LAK - 90/84 - 0.54/0.43

34/38

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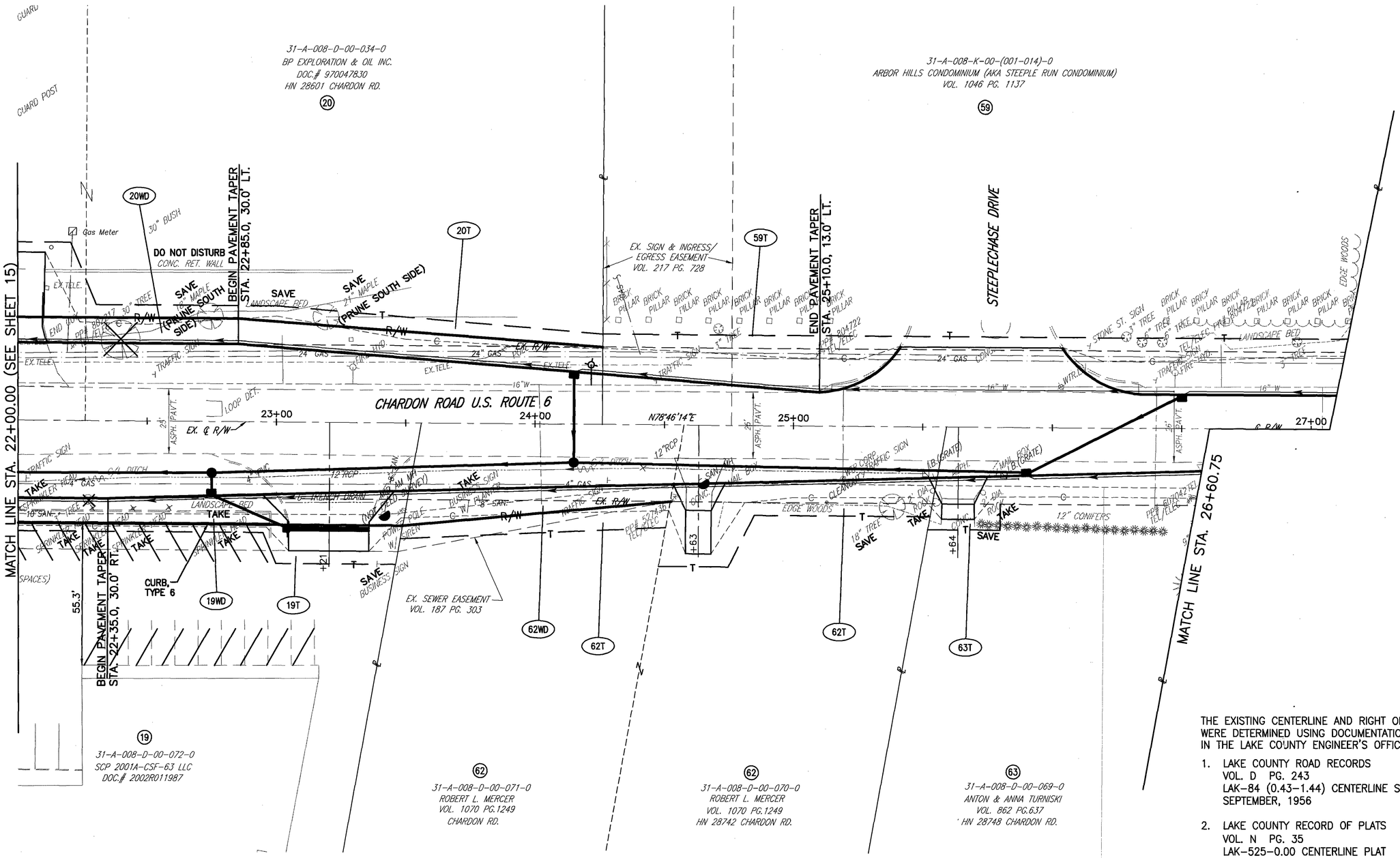
PART OF LOT 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 22+00.00 TO STA. 26+60.75

LAK - 90/84 - 0.54/0.43

35/38

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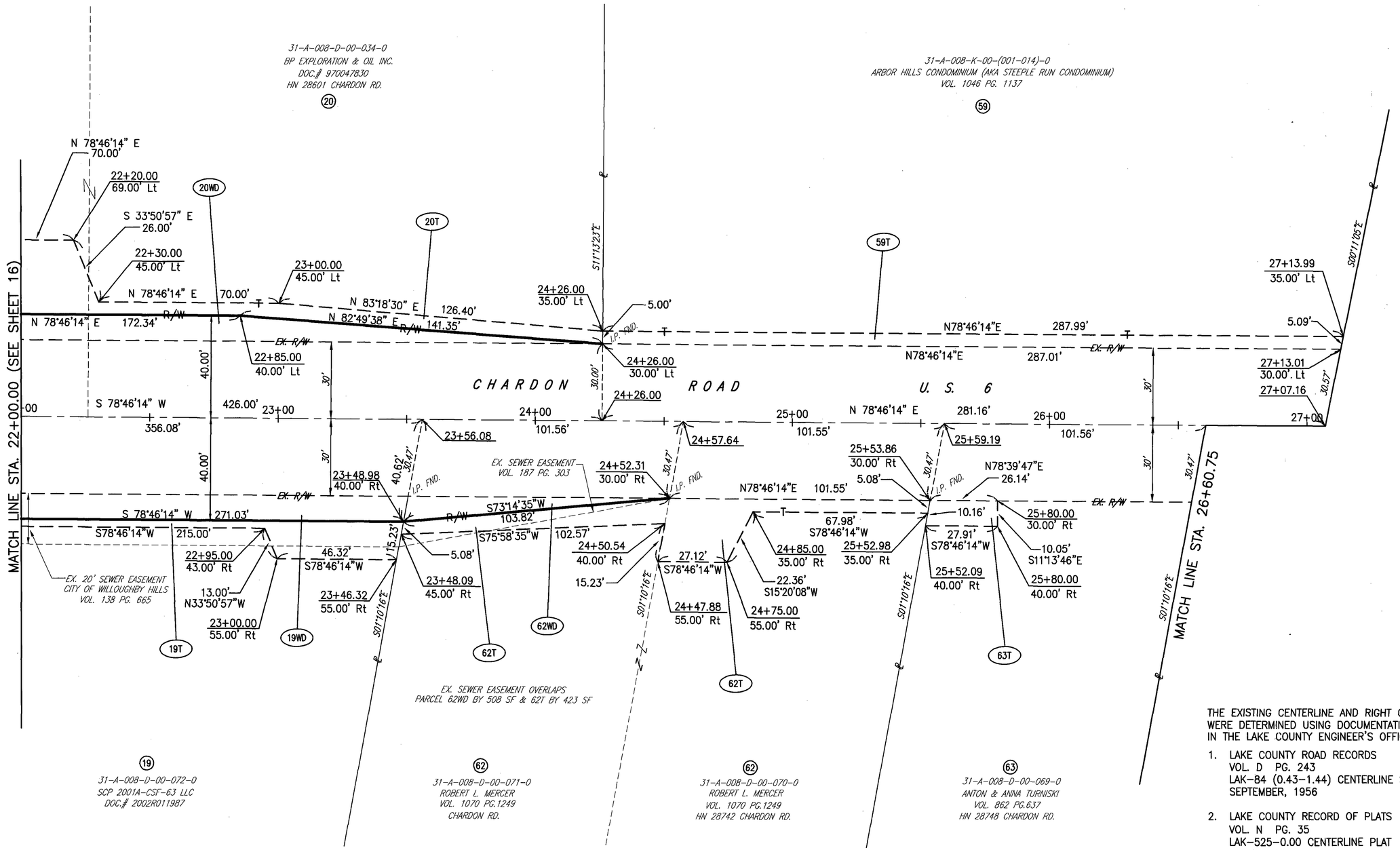
PART OF LOT 3, TRACT 4
WILLOUGHBY HILLS CITY
LAKE COUNTY, OHIO



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2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND.

REV.	DATE	DESCRIPTION

COMPLETION DATE:

SCALE IN FEET: 20 10 0 20

PID NO. 9247

R/W DESIGNER PSL | R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 22+00.00 TO STA. 26+60.75

LAK - 90/84 - 0.54/0.43

36/38

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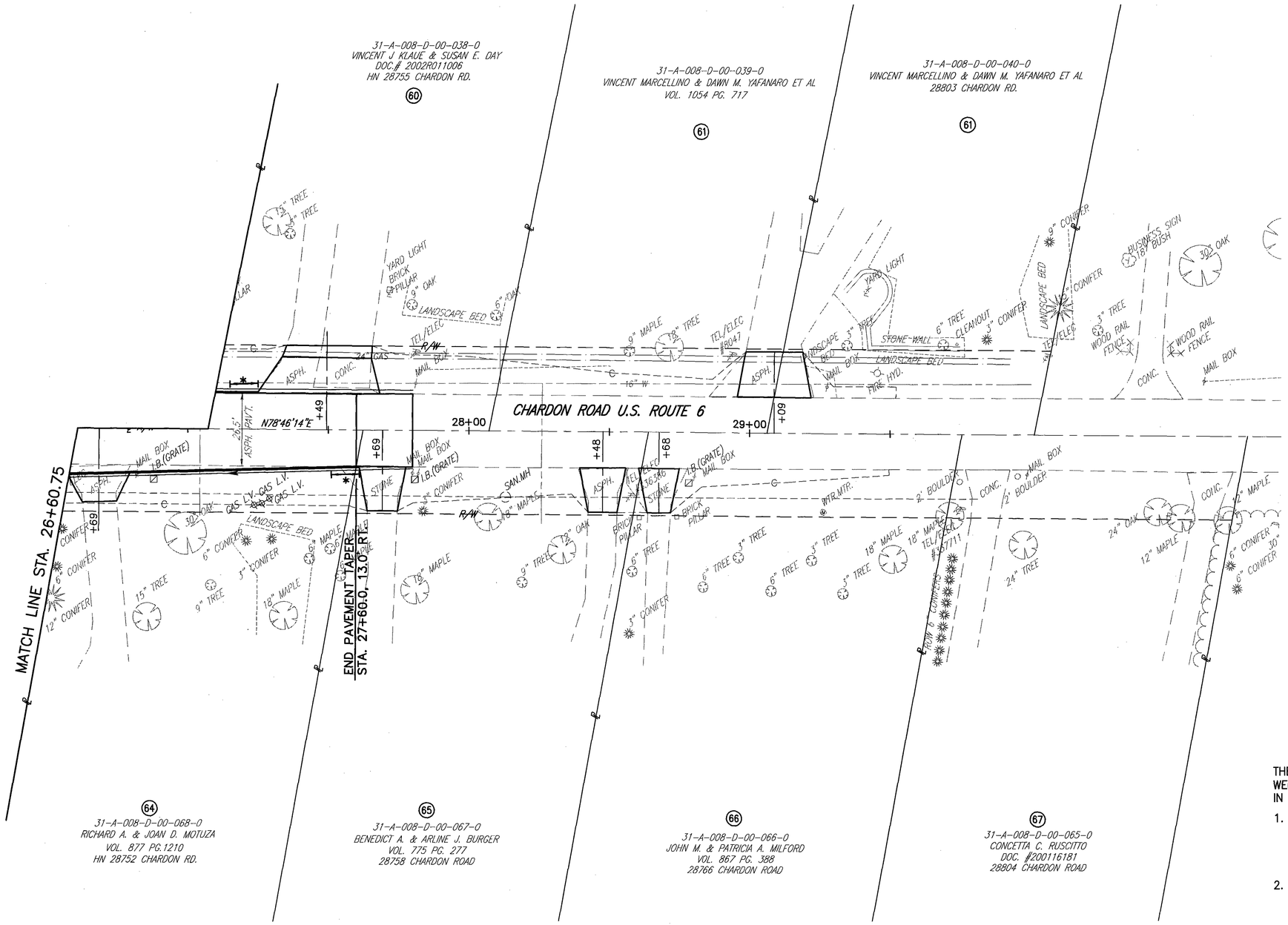

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2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

PSL	5/25/05	DELETED PARCEL 60T
REV.	DATE	DESCRIPTION
COMPLETION DATE:		

N

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
STA. 26+60.75 TO STA. 30+77.05

LAK - 90/84 - 0.54/0.43

37/38

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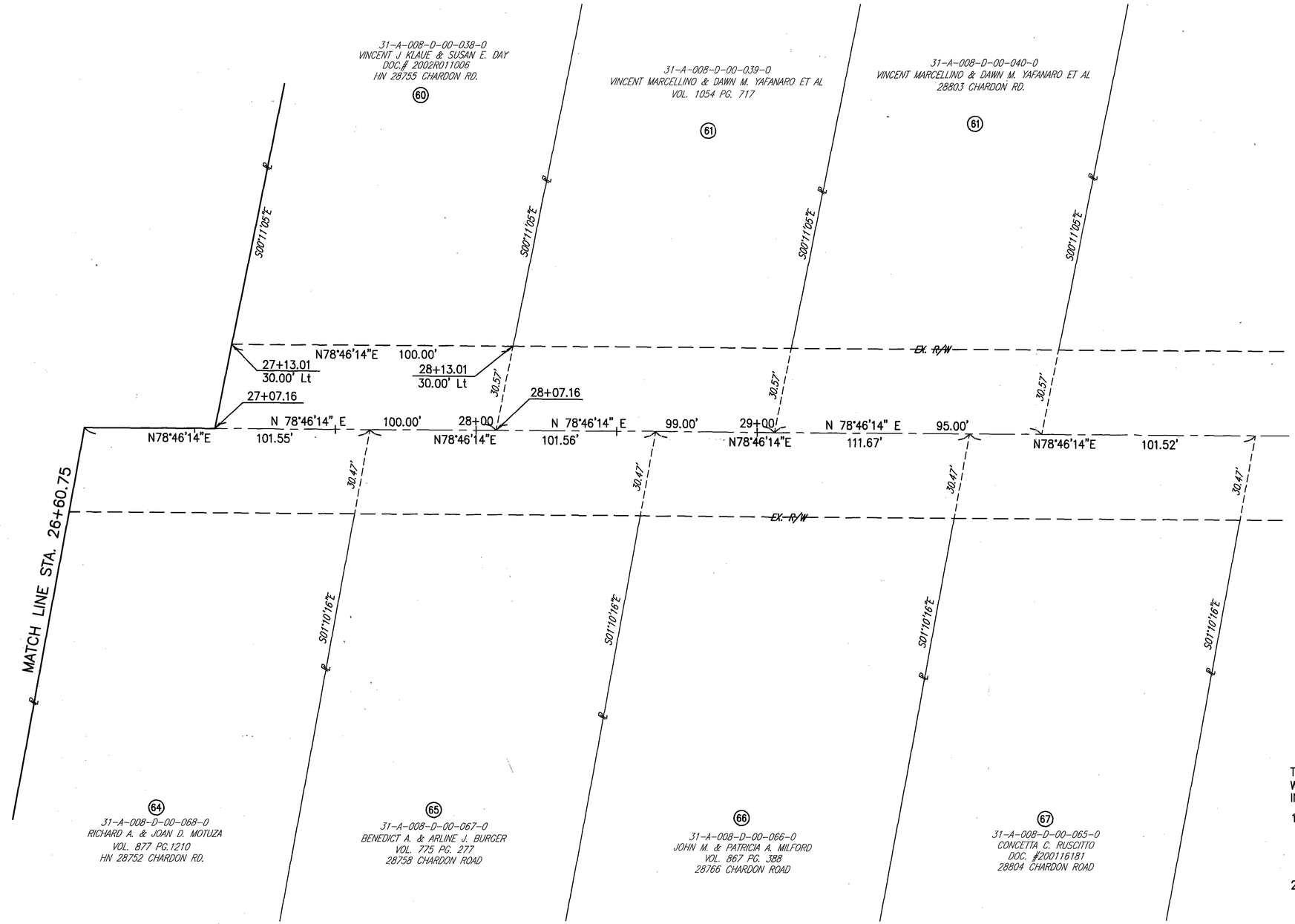

MONUMENT LEGEND

- [M] PROP. MONUMENT ASSEMBLY
- [M] EXIST. MONUMENT ASSEMBLY
- ● I.P. FND

THE EXISTING CENTERLINE AND RIGHT OF WAY WERE DETERMINED USING DOCUMENTATION ON FILE IN THE LAKE COUNTY ENGINEER'S OFFICE.

1. LAKE COUNTY ROAD RECORDS
   VOL. D PG. 243
   LAK-84 (0.43-1.44) CENTERLINE SURVEY
   SEPTEMBER, 1956
2. LAKE COUNTY RECORD OF PLATS
   VOL. N PG. 35
   LAK-525-0.00 CENTERLINE PLAT
   AUGUST, 1960

REV.	DATE	DESCRIPTION
PSL	5/25/05	DELETED PARCEL 60T
COMPLETION DATE:		

SCALE IN FEET
20 10 0 20

PID NO. 9247

R/W DESIGNER PSL
R/W REVIEWER WDB

RIGHT OF WAY PLAN (S.R. 6)
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38/38

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