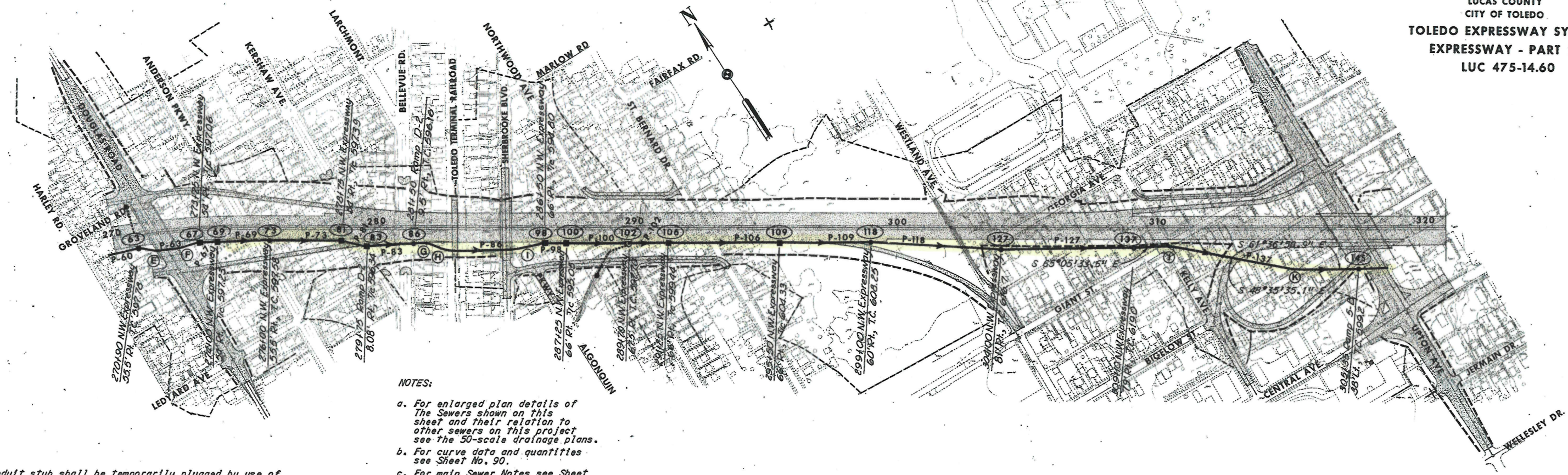


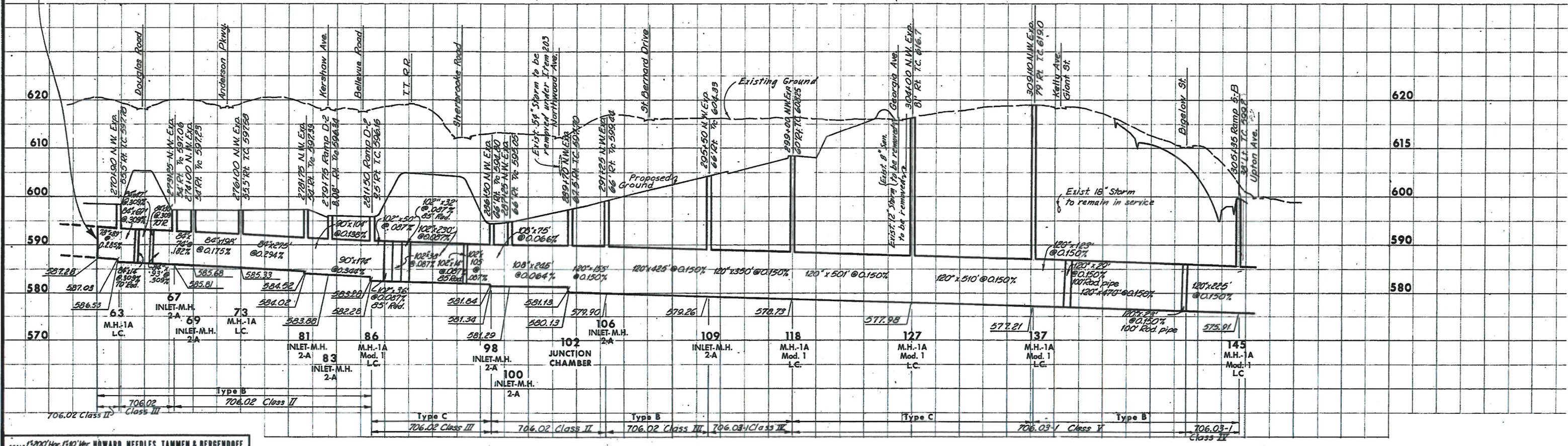
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

LUCAS COUNTY
CITY OF TOLEDO
TOLEDO EXPRESSWAY SYSTEM
EXPRESSWAY - PART 28
LUC 475-14.60



- NOTES:
- For enlarged plan details of the Sewers shown on this sheet and their relation to other sewers on this project see the 50-scale drainage plans.
 - For curve data and quantities see Sheet No. 90.
 - For main Sewer Notes see Sheet No. 89.
 - For subsurface data see Soil Profiles in these plans.

Conduit stub shall be temporarily plugged by use of properly braced 3" exterior grade plywood. Payment for plug shall be included in the price bid for the appropriate conduit item.



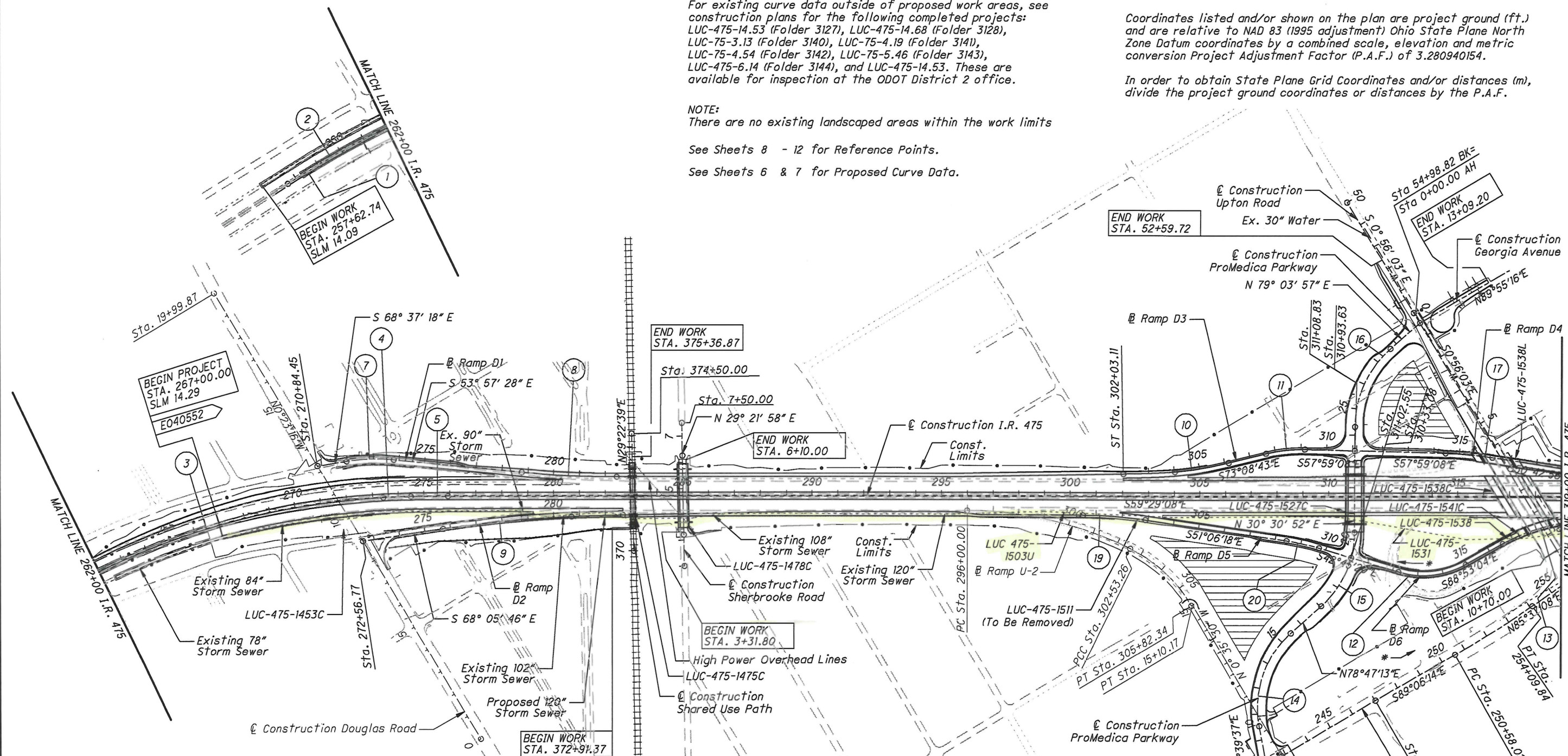
SCALE: 1"=200' Hor. 1"=10' Ver.
MADE: C.A. DATE: 1-67
TRCD: C.T.S. DATE: 2-67
CKD: E.D.Y. DATE: 6-67
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

MAIN SEWER PLAN-PROFILE

NOTE:
 For existing curve data outside of proposed work areas, see construction plans for the following completed projects: LUC-475-14.53 (Folder 3127), LUC-475-14.68 (Folder 3128), LUC-75-3.13 (Folder 3140), LUC-75-4.19 (Folder 3141), LUC-75-4.54 (Folder 3142), LUC-75-5.46 (Folder 3143), LUC-475-6.14 (Folder 3144), and LUC-475-14.53. These are available for inspection at the ODOT District 2 office.

NOTE:
 There are no existing landscaped areas within the work limits
 See Sheets 8 - 12 for Reference Points.
 See Sheets 6 & 7 for Proposed Curve Data.

HORIZONTAL DATUM:
 Coordinates listed and/or shown on the plan are project ground (ft.) and are relative to NAD 83 (1995 adjustment) Ohio State Plane North Zone Datum coordinates by a combined scale, elevation and metric conversion Project Adjustment Factor (P.A.F.) of 3.280940154.
 In order to obtain State Plane Grid Coordinates and/or distances (m), divide the project ground coordinates or distances by the P.A.F.



Existing Ramp 5-B Alignment & KELLY AVE.

Ramp 5-B
 P.I. STA. 310+74.44
 $\Delta = 220^\circ 19' 15''$ (RT)
 $Dc = 40^\circ 55' 32''$
 $R = 140.00'$
 $Ls = 200.00'$
 $\theta s = 40^\circ 55' 32''$
 $LT = 137.08'$
 $ST = 70.09'$
 $x = 190.03'$
 $y = 45.91'$
 $k = 98.32'$
 $p = 11.69'$
 $\Delta c = 138^\circ 28' 11''$ (RT)
 $Lc = 338.35'$
 $Ts = 314.84'$
 $Es = 124.37'$

Ramp U-2
 P.I. STA. 299+32.41
 $\Delta = 26^\circ 07' 49''$ (RT)
 $Dc = 4^\circ 00' 00''$
 $R = 1,432.39'$
 $T = 332.41'$
 $L = 653.26'$
 $E = 38.07'$

Ramp U-2
 P.I. STA. 304+22.48
 $\Delta = 32^\circ 54' 29''$ (RT)
 $Dc = 10^\circ 00' 00''$
 $R = 572.96'$
 $T = 169.22'$
 $L = 329.08'$
 $E = 24.47'$

BEGIN WORK STA. 10+28.65
BEGIN WORK STA. 237+76.89
SUSPEND WORK STA. 243+25.33

 CONSTRUCTION STAGING AREA

* For Alignment See Detail This Sheet

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To Be Relocated By Others:
 ▲ - Ex. Elec. Line (On Structure)
 △ - Ex. Tele. Line

3 05-14-2010

For Storm Sewer Profiles
 See Sheets: 244 346
 350 429
 432 551
 669 671

(TBR) = To Be Removed
 (TBA) = To Be Abandoned

Ramp D3

P.I. STA. 304+54.90
 $\Delta = 12^\circ 30' 50''$ (LT)
 $D_c = 4^\circ 00' 00''$
 $R = 1,432.39'$
 $Ls1 = 200.00'$
 $\theta s1 = 4^\circ 00' 00''$
 $LT1 = 133.37'$
 $ST1 = 66.70'$
 $x1 = 199.90'$
 $y1 = 4.65'$
 $k1 = 99.98'$
 $p1 = 1.16'$
 $Ls2 = 0.00'$
 $\theta s2 = 0^\circ 00' 00''$
 $LT2 = 0.00'$
 $ST2 = 0.00'$
 $x2 = 0.00'$
 $y2 = 0.00'$
 $k2 = 0.00'$
 $p2 = 0.00'$
 $\Delta c = 8^\circ 30' 50''$ (LT)
 $Lc = 212.85'$
 $Ts1 = 251.79'$
 $Ts2 = 162.42'$
 $Es = 9.18'$
 $emax = 0.046$

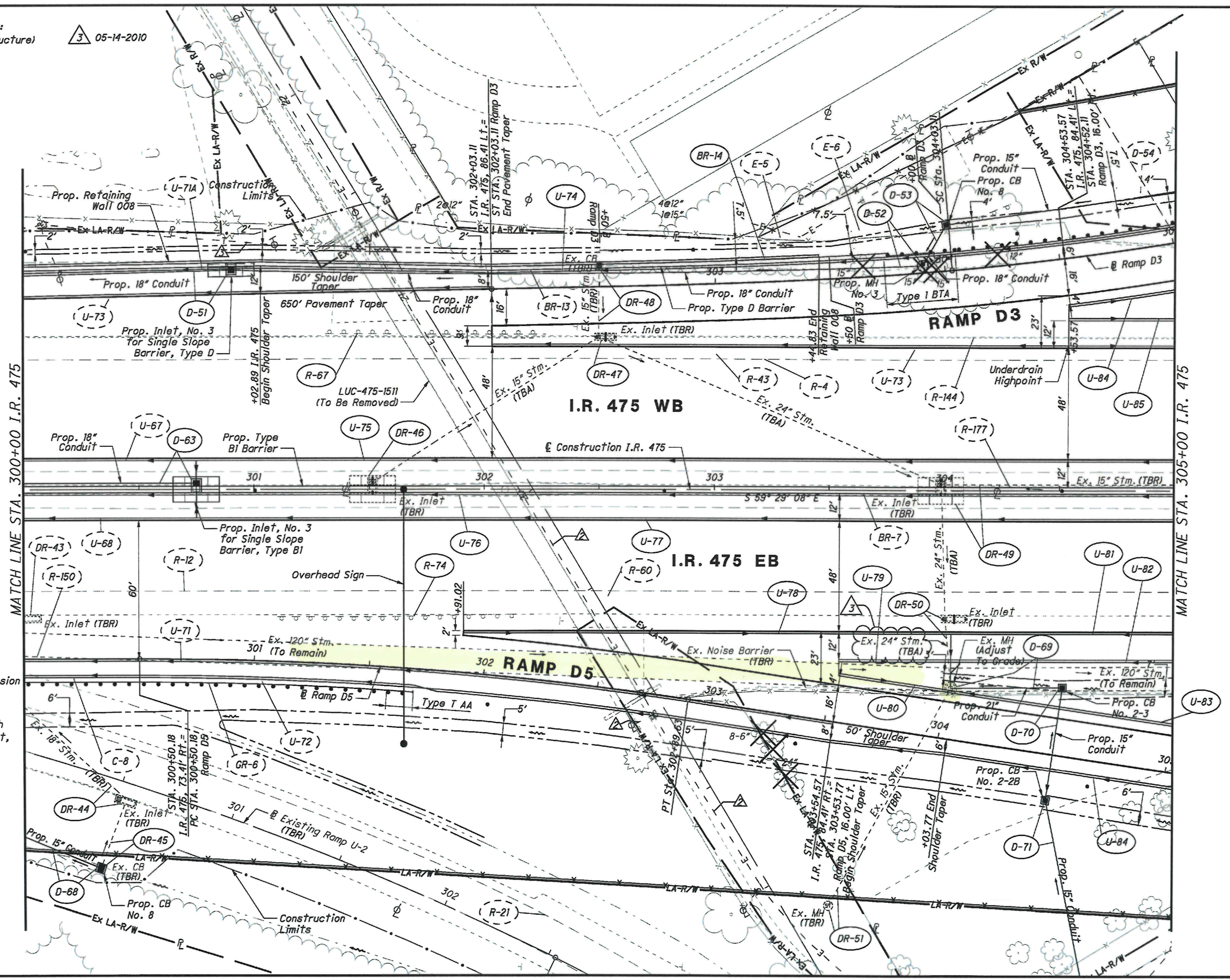
Ramp D5
 P.I. STA. 301+70.12
 $\Delta = 8^\circ 22' 50''$ (RT)
 $D_c = 3^\circ 30' 00''$
 $R = 1,637.02'$
 $T = 119.94'$
 $L = 239.45'$
 $E = 4.39'$
 $emax = 0.048$

-  Item 670- Ditch Erosion Protection
-  Item 836- Seeding & Erosion Control with Turf Reinforcing Mat, Type 1

For Interchange Details
 See Sheets 639 & 640

For Ramp Removal
 See Sheets 303 & 304

Benchmark:
 Mag Nail Set
 Elev. 616.11'
 Sta. 305+18.46,
 Offset 319.82' Rt
 Ramp D5




 0 20 40
 HORIZONTAL SCALE IN FEET
 CALCULATED
 MER
 CHECKED
 RWK

PLAN I.R. 475
 STA. 300+00 TO STA. 305+00

LUC-475-14.18
 231
 1331

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To Be Relocated By Others:
 ▲ - Ex. Gas Line
 ▲ - Ex. Elec. Line

For Storm Sewer Profiles
 See Sheets: 244 354
 434 437
 537 669

(TBR) = To Be Removed
 (TBA) = To Be Abandoned

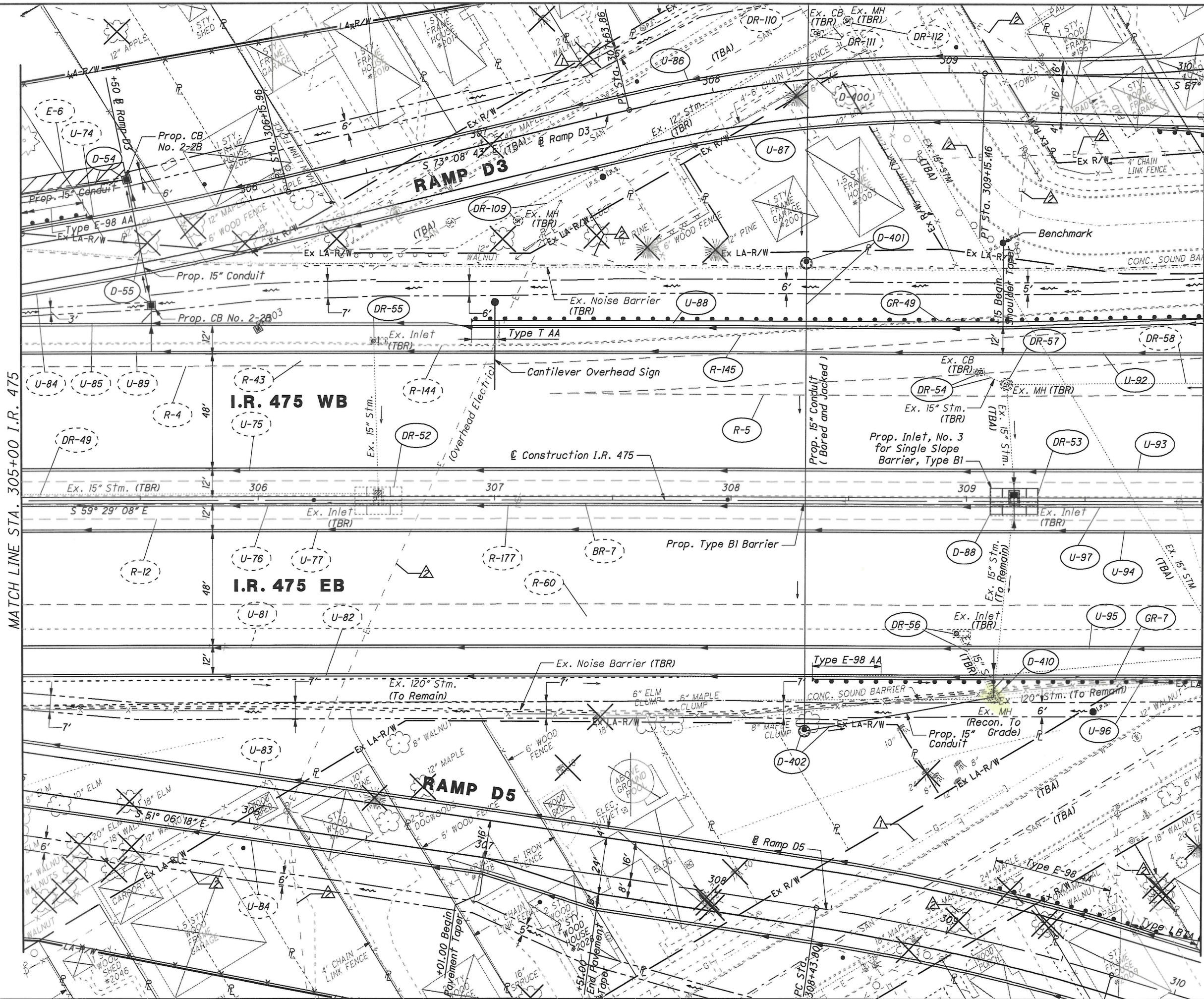
Ramp D3
 P.I. STA. 304+54.90
 $\Delta = 12^\circ 30' 50''$ (LT)
 $Dc = 4^\circ 00' 00''$
 $R = 1,432.39'$
 $Ls1 = 200.00'$
 $\theta s1 = 4^\circ 00' 00''$
 $LT1 = 133.37'$
 $ST1 = 66.70'$
 $x1 = 199.90'$
 $y1 = 4.65'$
 $k1 = 99.98'$
 $p1 = 1.16'$
 $Ls2 = 0.00'$
 $\theta s2 = 0^\circ 00' 00''$
 $LT2 = 0.00'$
 $ST2 = 0.00'$
 $x2 = 0.00'$
 $y2 = 0.00'$
 $k2 = 0.00'$
 $p2 = 0.00'$
 $\Delta c = 8^\circ 30' 50''$ (LT)
 $Lc = 212.85'$
 $Ts1 = 251.79'$
 $Ts2 = 162.42'$
 $Es = 9.18'$
 $emax = 0.046$

Ramp D3
 P.I. STA. 308+40.11
 $\Delta = 15^\circ 09' 34''$ (RT)
 $Dc = 10^\circ 00' 00''$
 $R = 572.96'$
 $T = 76.24'$
 $L = 151.60'$
 $E = 5.05'$
 $emax = 0.046$

Ramp D5
 P.I. STA. 309+08.14
 $\Delta = 8^\circ 20' 58''$ (RT)
 $Dc = 6^\circ 30' 00''$
 $R = 881.47'$
 $T = 64.34'$
 $L = 128.45'$
 $E = 2.35'$
 $emax = 0.044$

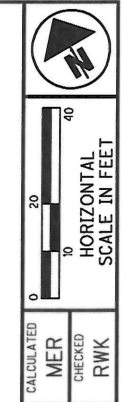
Structures To Be Demolished By Others.

Benchmark:
 Iron Pin Set
 Elev. 617.74' Sta. 309+14.79,
 Offset 108.71' LT
 I.R. 475



MATCH LINE STA. 305+00 I.R. 475

MATCH LINE STA. 310+00 I.R. 475



CALCULATED	MER	CHECKED	RWK

PLAN I.R. 475
STA. 305+00 TO STA. 310+00

LUC-475-14.18
 232
 1331

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To Be Relocated By Others:
 ▲ - Ex. Gas Line
 ▴ - Ex. Elec. Line

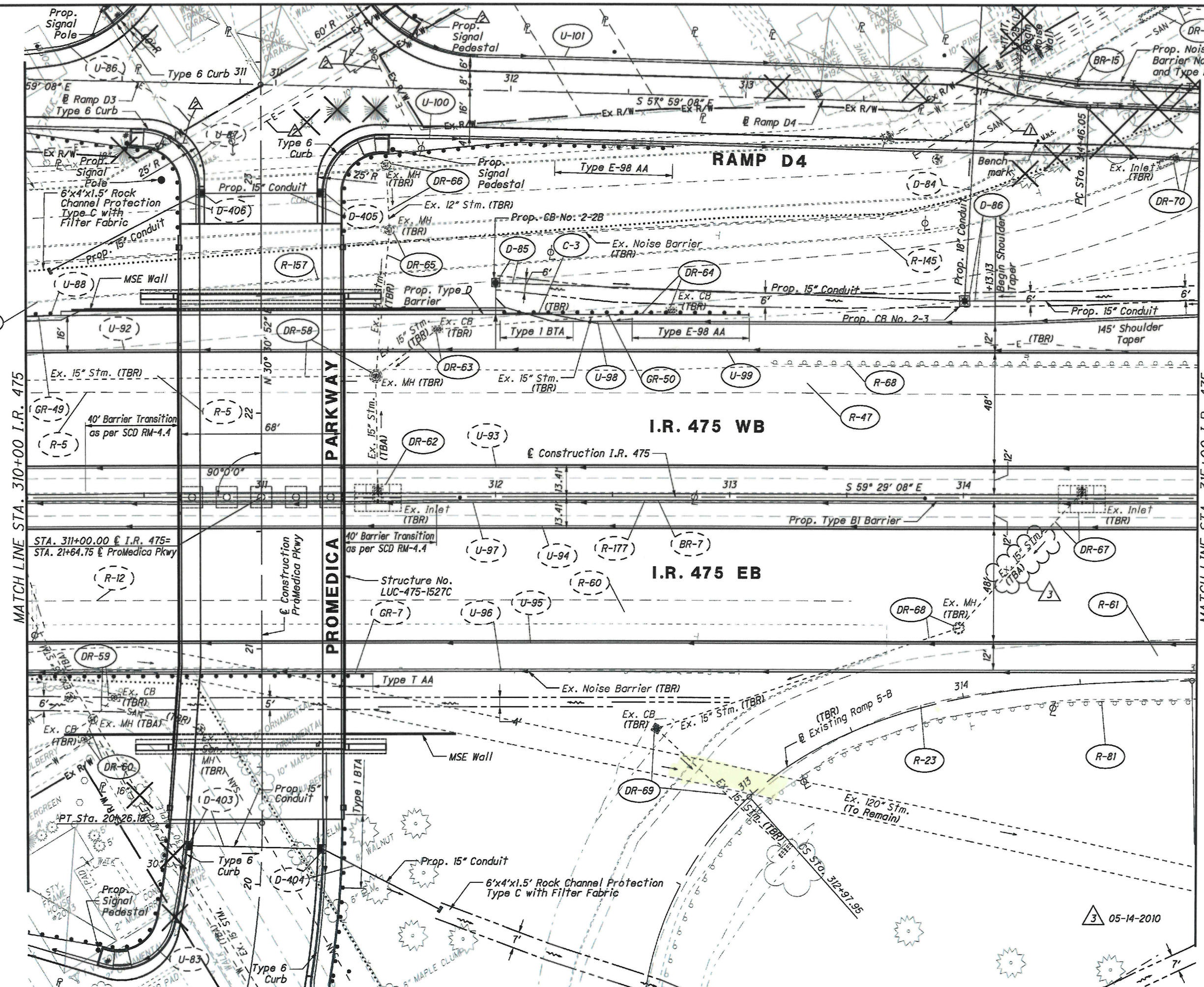
For Storm Sewer Profiles
 See Sheets 442, 545 & 671

(TBR) = To Be Removed
 (TBA) = To Be Abandoned

Ramp D4
 P.I. STA. 315+37.05
 $\Delta = 7^\circ 16' 12''$ (RT)
 $Dc = 4^\circ 00' 00''$
 $R = 1,432.39'$
 $T = 91.00'$
 $L = 181.75'$
 $E = 2.89'$
 $e_{max} = 0.040$

ProMedica Parkway
 P.I. STA. 18+75.52
 $\Delta = 48^\circ 16' 21''$ (LT)
 $Dc = 15^\circ 00' 00''$
 $R = 381.97'$
 $T = 171.15'$
 $L = 321.82'$
 $E = 36.59'$
 $e_{max} = 0.035$

For Intersection Details
 See Sheets 651 & 652



MATCH LINE STA. 310+00 I.R. 475

MATCH LINE STA. 315+00 I.R. 475



CALCULATED	MER	DRAWN	RWK
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PLAN I.R. 475
 STA. 310+00 TO STA. 315+00

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Structures To Be Demolished By Others.

Benchmark:
 Mag Nail Set
 Elev. 608.33' Sta. 314+25.04,
 Offset 14.99' Rt.
 Ramp D4

LUC-475-14.18

233
 1331

3 05-14-2010

To Be Relocated By Others:
▲ - Ex. Elec. Line

For Storm Sewer Profiles
See Sheets:

362	363
366	448
549	550
563	672
673	

(TBR) = To Be Removed
(TBA) = To Be Abandoned

Ramp D4
P.I. STA. 315+37.05
 $\Delta = 7^\circ 16' 12''$ (RT)
Dc = $4^\circ 00' 00''$
R = 1,432.39'
T = 91.00'
L = 181.75'
E = 2.89'
emax = 0.040

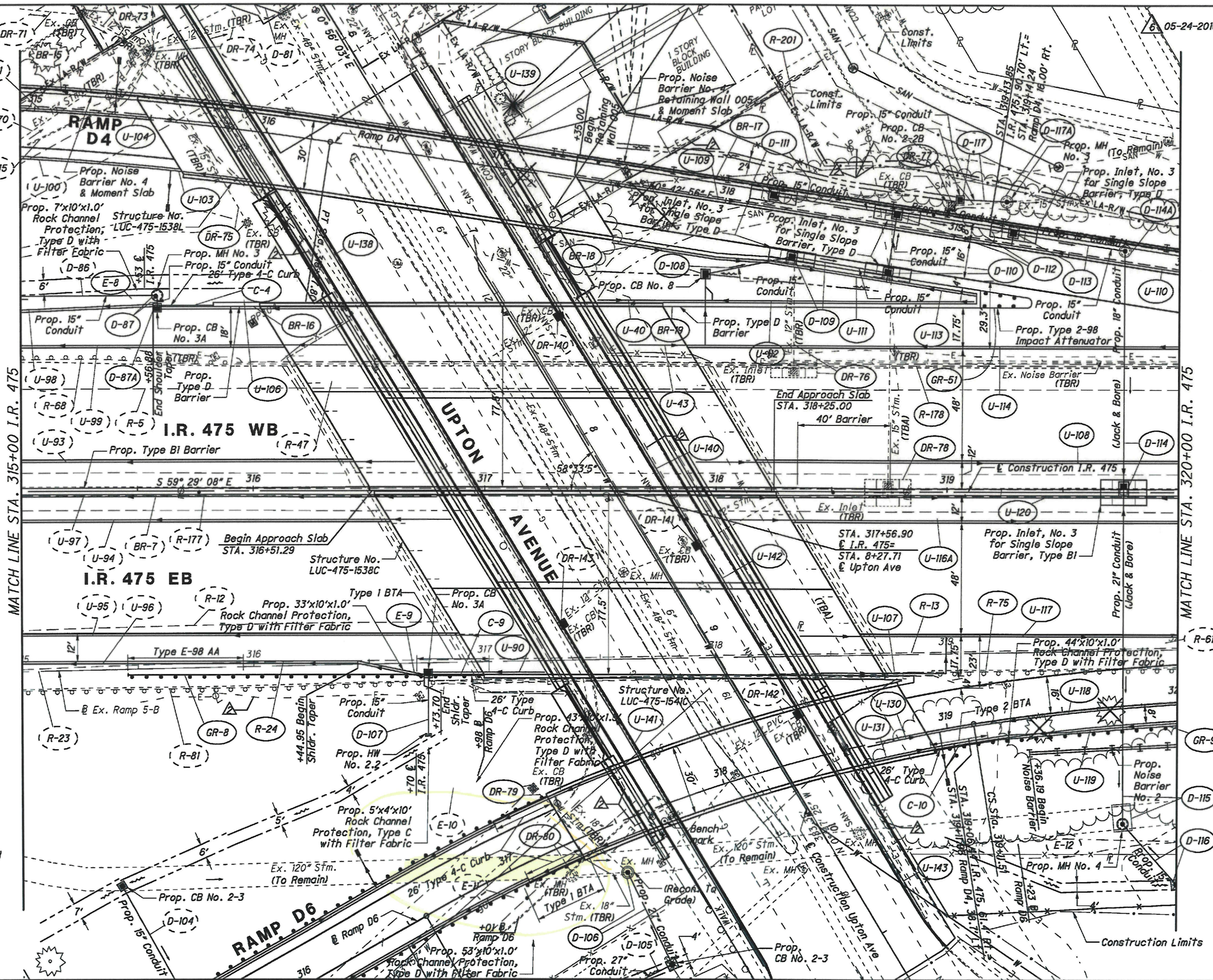
Ramp D6
P.I. STA. 318+43.51
 $\Delta = 28^\circ 15' 11''$ (RT)
Dc = $8^\circ 00' 00''$
Ls1 = 0.00'
 $\theta s1 = 0^\circ 00' 00''$
LT1 = 0.00'
ST1 = 0.00'
x1 = 0.00'
y1 = 0.00'
k1 = 0.00'
p1 = 0.00'
Ls2 = 200.00'
 $\theta s2 = 8^\circ 00' 00''$
LT2 = 133.47'
ST2 = 66.79'
x2 = 199.61'
y2 = 9.30'
k2 = 99.94'
p2 = 2.33'
 $\Delta c = 20^\circ 15' 11''$ (RT)
Lc = 253.16'
Ts1 = 185.16'
Ts2 = 275.86'
Es = 23.55'
emax = 0.060

For Interchange Details
See Sheets 641- 643

Structures To
Be Demolished
By Others.

Remove Concrete Island
And Replace With Full
Depth Asphalt

Benchmark:
Mag Nail Set
Elev. 595.79' Sta. 317+70.11,
Offset 6.76' Rt.
Ramp D6



CALCULATED
MER
CHECKED
RWK

PLAN I.R. 475
STA. 315+00 TO STA. 320+00

LUC-475-14.18
234
1331

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To Be Relocated By Others:
 ▲ - Ex. Elec. Line
 ▽ - Ex. Tele. Line

For Storm Sewer Profiles
 See Sheets 367, 571 & 675

(TBR) = To Be Removed

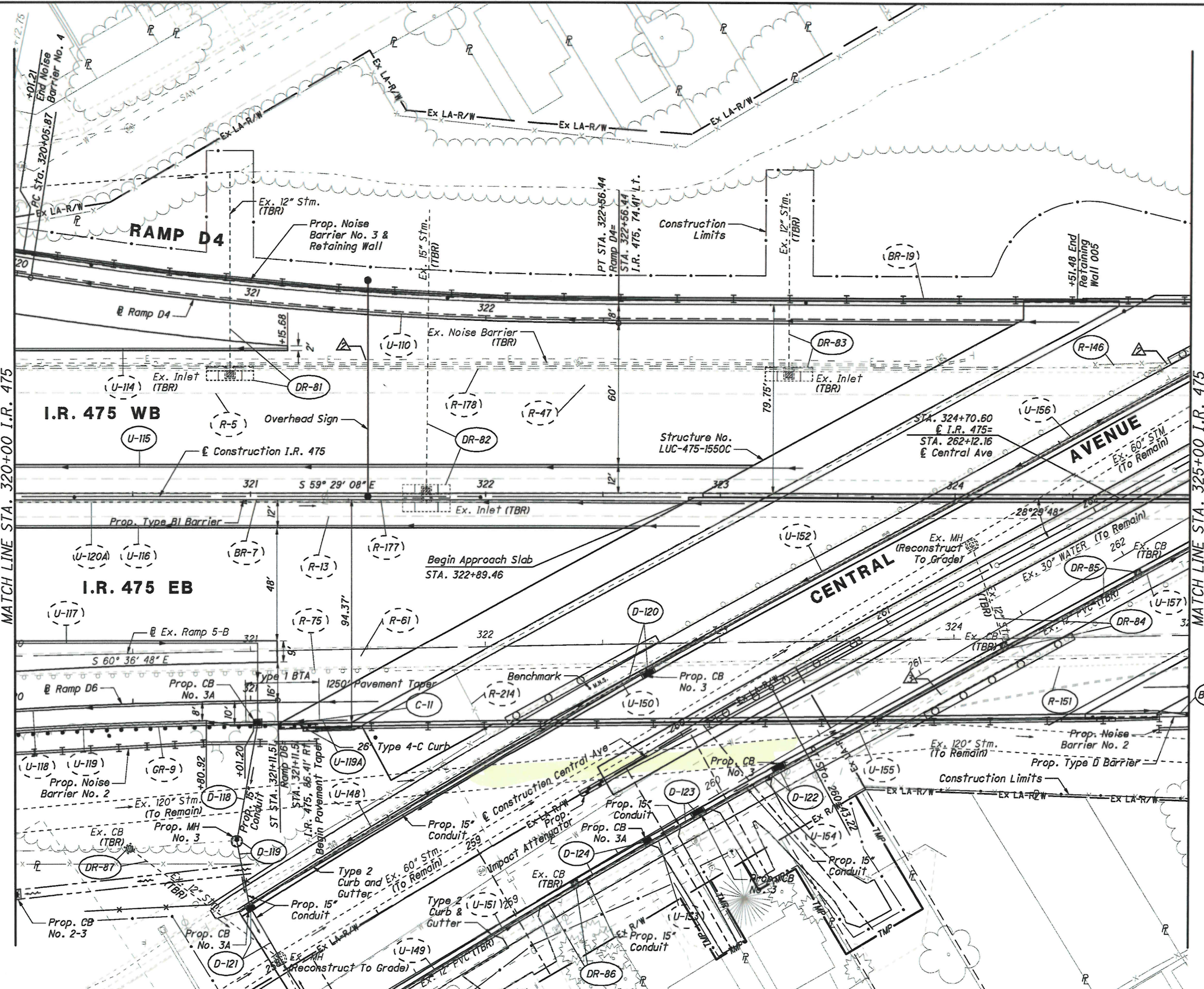
Ramp D4
 P.I. STA. 321+31.40
 $\Delta = 8^\circ 46' 12''$ (LT)
 $Dc = 3^\circ 30' 00''$
 $R = 1,637.02'$
 $T = 125.53'$
 $L = 250.57'$
 $E = 4.81'$
 $e_{max} = 0.048$

Ramp D6
 P.I. STA. 318+43.51
 $\Delta = 28^\circ 15' 11''$ (RT)
 $Dc = 8^\circ 00' 00''$
 $R = 716.20'$
 $Ls1 = 0.00'$
 $\theta s1 = 0^\circ 00' 00''$
 $LT1 = 0.00'$
 $ST1 = 0.00'$
 $x1 = 0.00'$
 $y1 = 0.00'$
 $k1 = 0.00'$
 $p1 = 0.00'$
 $Ls2 = 200.00'$
 $\theta s2 = 8^\circ 00' 00''$
 $LT2 = 133.47'$
 $ST2 = 66.79'$
 $x2 = 199.61'$
 $y2 = 9.30'$
 $k2 = 99.94'$
 $p2 = 2.33'$
 $\Delta c = 20^\circ 15' 11''$ (RT)
 $Lc = 253.16'$
 $Ts1 = 185.16'$
 $Ts2 = 275.86'$
 $Es = 23.55'$
 $e_{max} = 0.060$

For Interchange Details
 See Sheets 641-643

Benchmark:
 Mag Nail Set
 Elev. 601.23' Sta. 322+44.56,
 Offset 81.34' Rt.
 I.R. 475

MATCH LINE STA. 320+00 I.R. 475



MATCH LINE STA. 325+00 I.R. 475



CALCULATED	MER	CHECKED	RWK
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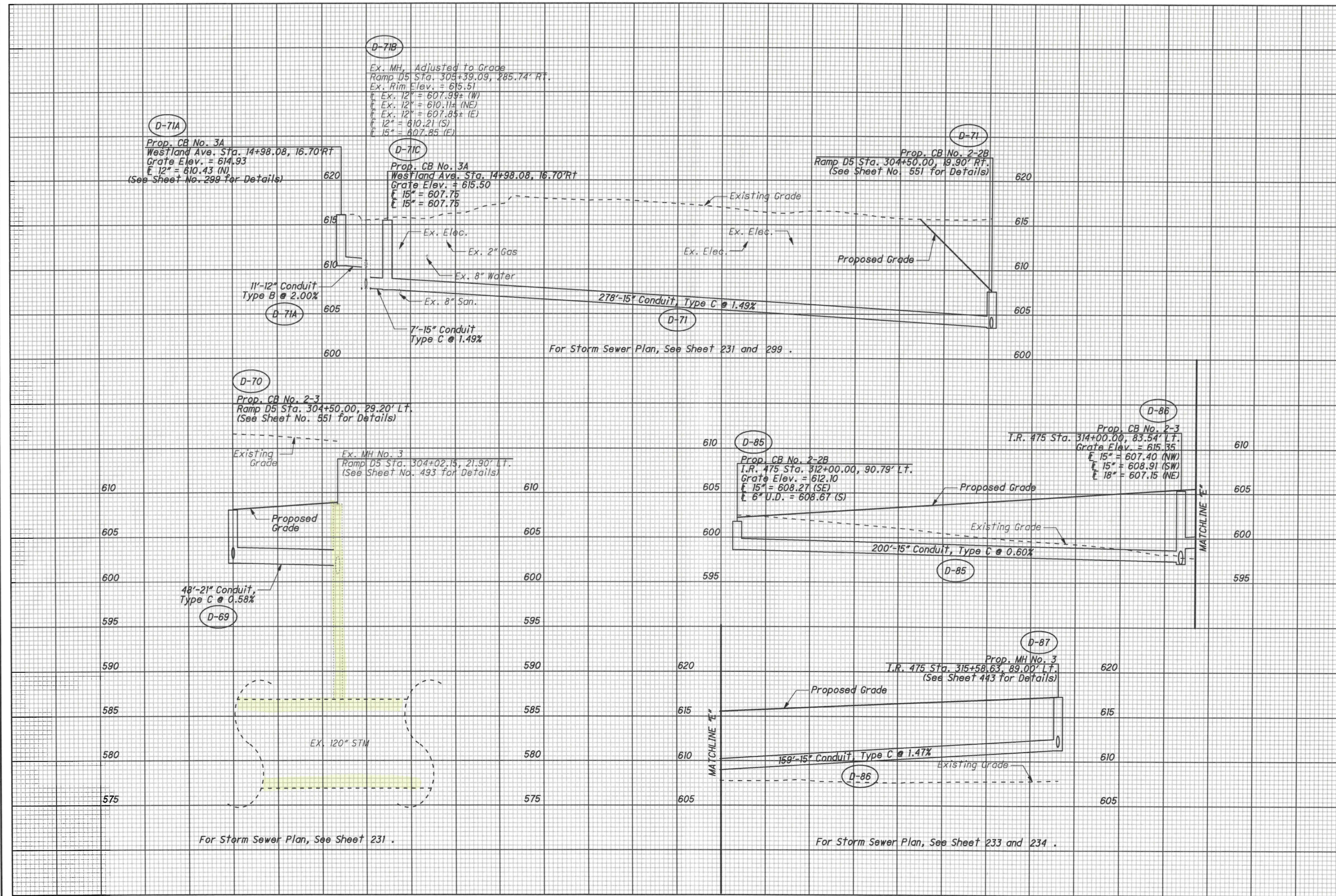
PLAN I.R. 475
 STA. 320+00 TO STA. 325+00

LUC-475-14.18

235
 1331

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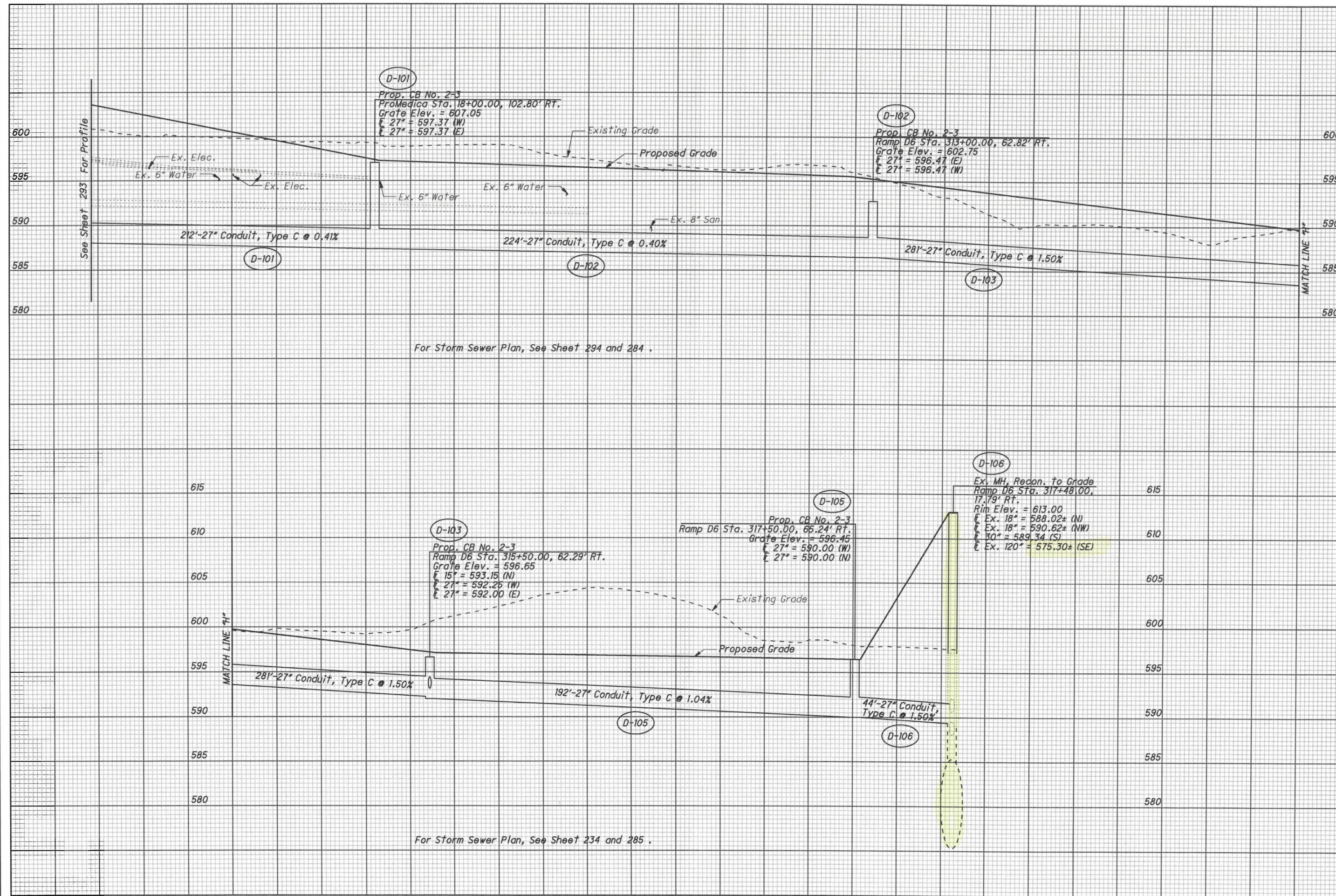


CALCULATED
Rujh
CHECKED
DLD

STORM SEWER PROFILES

LUC-475-14.18

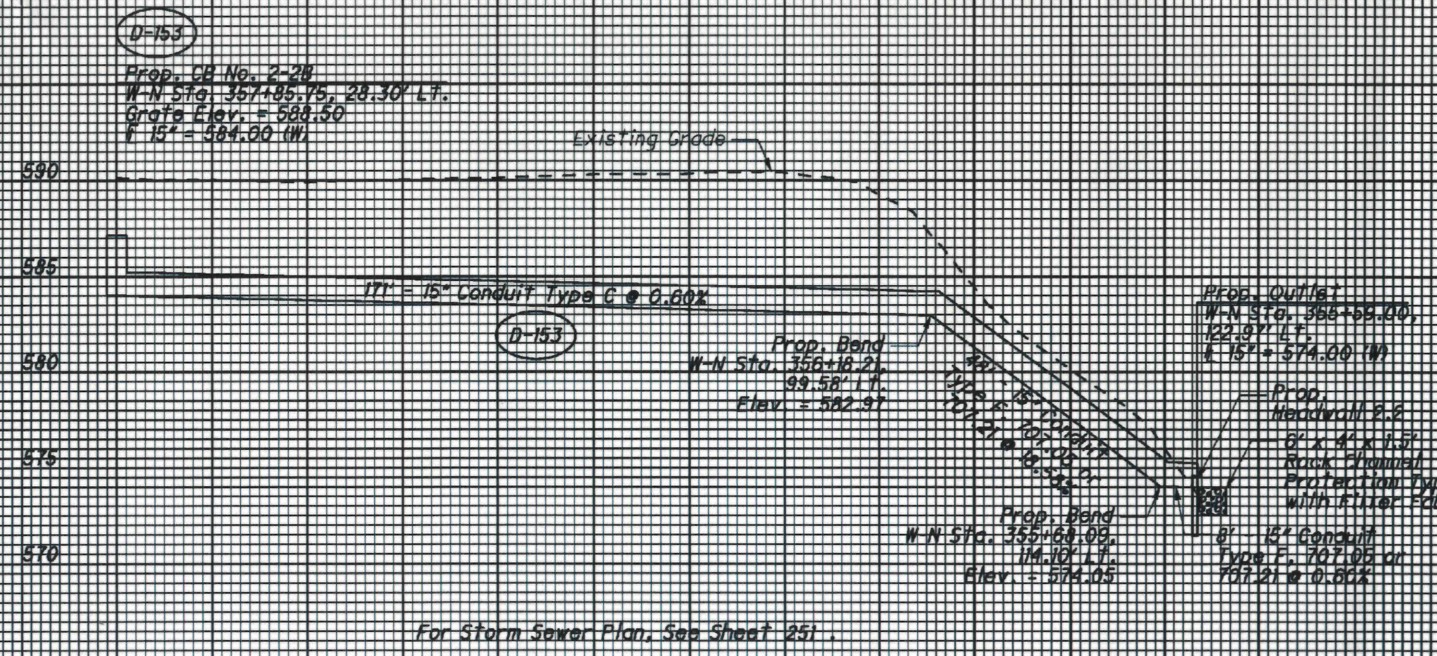
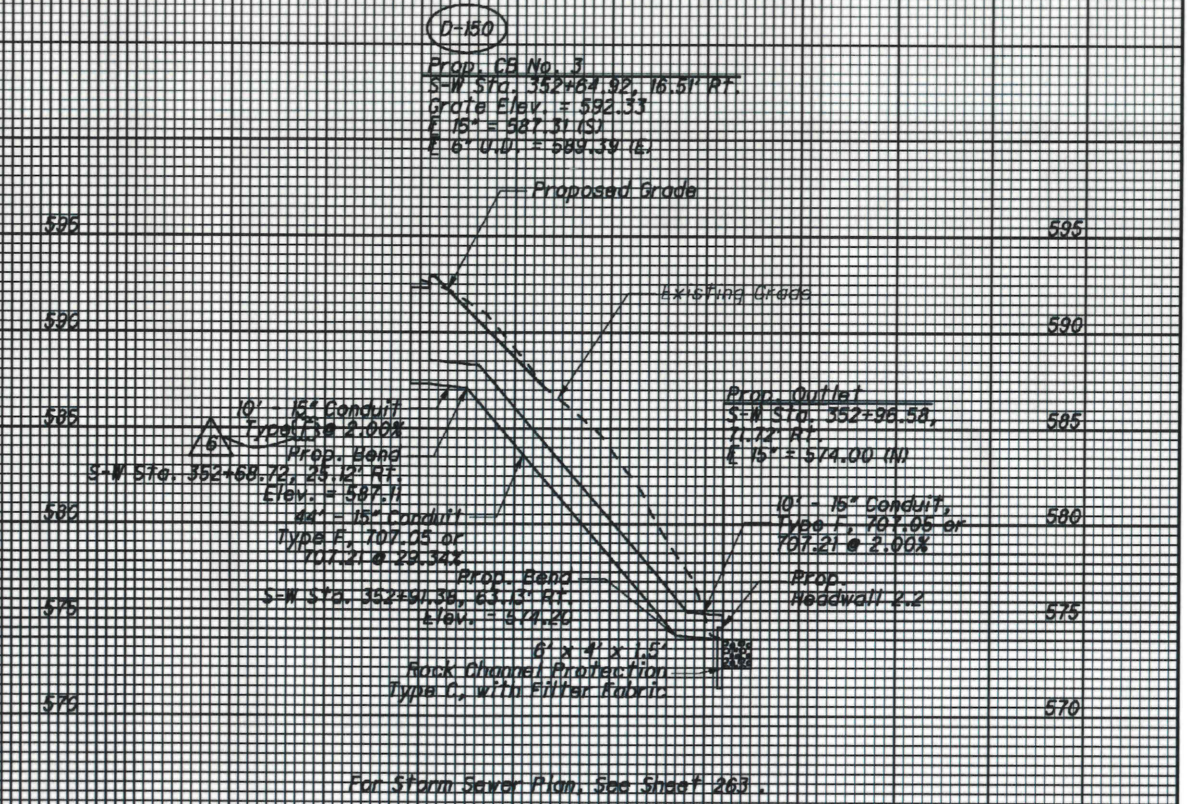
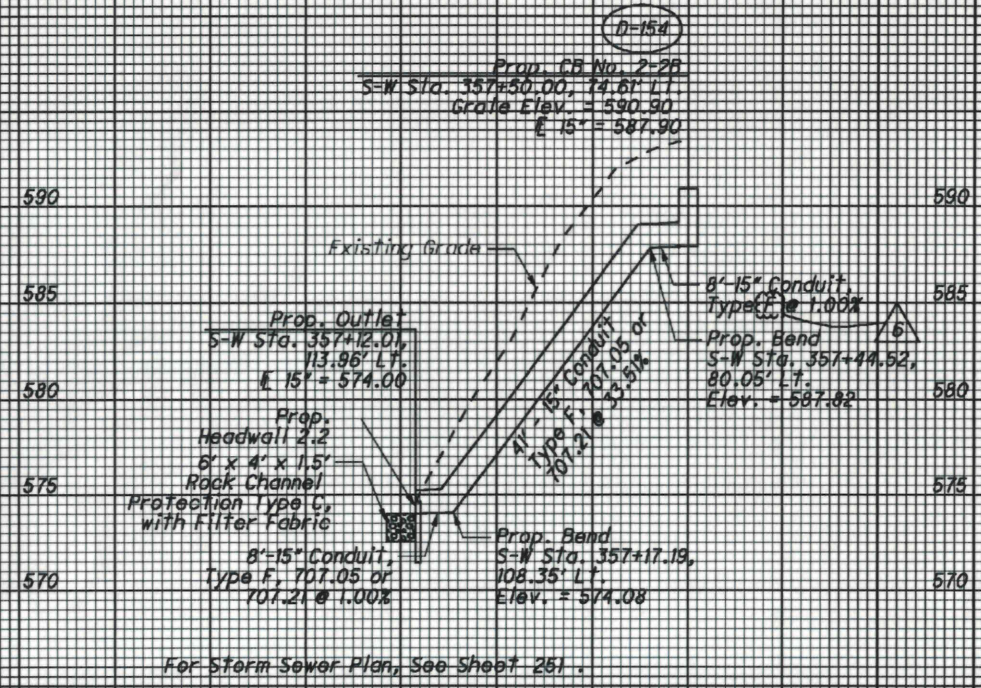
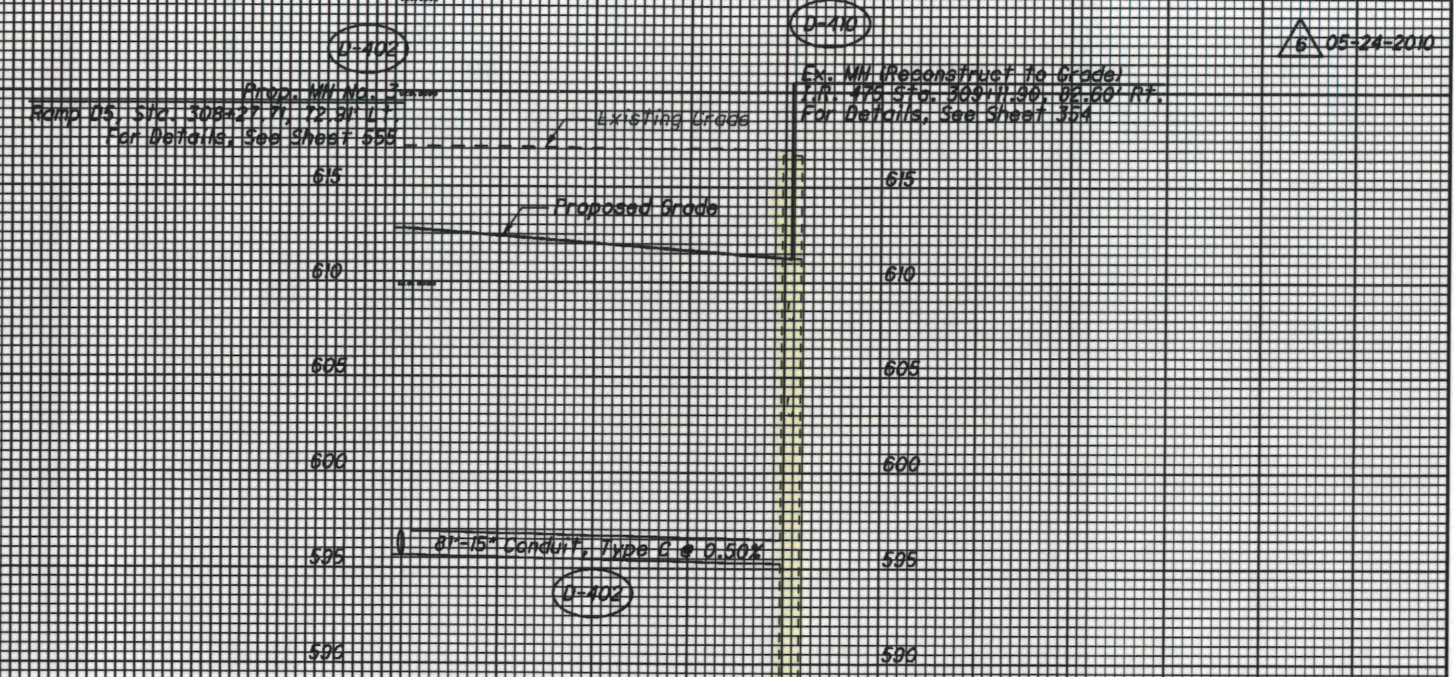
671
1331



For Storm Sewer Plan, See Sheet 294 and 284 .

For Storm Sewer Plan, See Sheet 234 and 285 .

6-05-24-2010



For Storm Sewer Plan, See Sheet 251.

For Storm Sewer Plan, See Sheet 263.

For Storm Sewer Plan, See Sheet 251.

STORM SEWER PROFILES

LUC-475-14.18

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