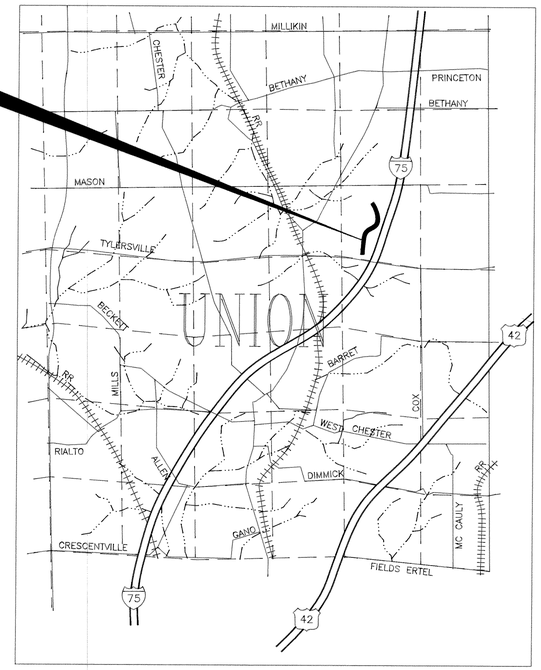
# TYLERS PLACE BOULEVARD EXTENSION PROJECT
## PHASE III
## UNION TOWNSHIP, BUTLER COUNTY, OHIO

TYLERS PLACE BOULEVARD
EXTENSION PROJECT
PROJECT # R-2534-00.701




PROJECT LOCATION MAP

### CONVENTIONAL SIGNS

County Line — Right of Way (Proposed) — R/W
Township Line — Right of Way (Existing) — Ex. R/W
Section Line — Property Line — ℄
Corporation Line — Fence Line (Existing) —X—X—X— (Prop.) —X—X—X—
Center Line or Base Line — 2 — 3 — 4 — 5
Guardrail (Existing) (Proposed) — Single — Barrier
Trees — Stumps — (To Be Removed) — Brush & Small Trees
Utility Poles: Power — Light — Telephone — Railroad or

### INDEX OF SHEETS


| | |
|---|---|
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Portion to be improved
U.S. ROUTES — 127
STATE ROUTES — 4
INTERSTATE HIGHWAYS — 75

SCALES IN FEET

Plan — 0 20 40
Profile — Vertical 0 5 10 — Horizontal 0 20 40
Cross Section — Vertical 0 5 10 — Horizontal 0 20 40

| STANDARD | CONSTRUCTION DRAWINGS | | SUPPLEMENTAL SPECIFICATIONS |
|---|---|---|---|
| HW–D | 6–1–65 | | |
| MC–1 | 6–13–69 | | |
| CB–2–4 | 5–1–79 | | |
| CB–3 | 5–1–79 | | |
| CB–3A | 5–1–79 | | |
| MH–3 | 12–18–84 | | |
| MC–4 | 7–26–76 | | |
| MC–11 | 8–1–78 | | |

PLAN PREPARED BY:

BAYER & BECKER ENGINEER'S
700 NILLES ROAD
FAIRFIELD, OHIO 45014

### 1993 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.

Wherever the word " State" occurs,it is to mean Butler County, wherever the word "director" occurs, it is to mean the County Adiministrator for Butler County, Ohio and wherever the word "Engineer" occurs, it is to mean Butler County Engineer, limited to the particular duties entrusted to them.

Approved Dean C. Fabel
Date 10/20/94 Butler County Engineer

Commissioners
Approved Courtney E. Combs
Date 10/10/94 President

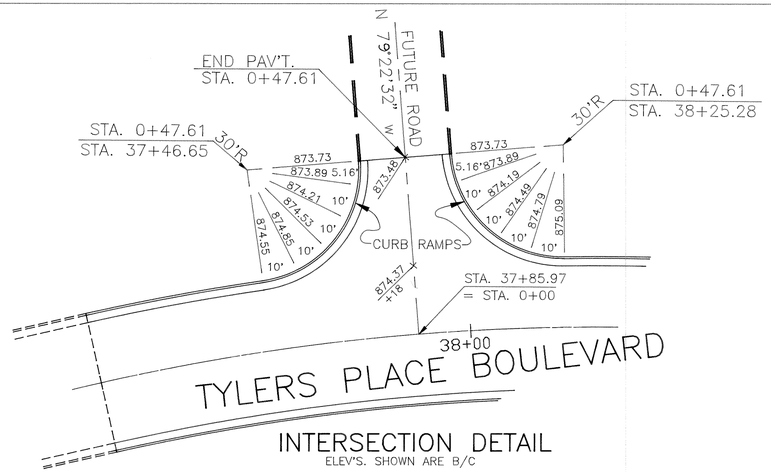
Approved Janet Clemmons
Date 10/10/94 Vice President

Approved
Date Member

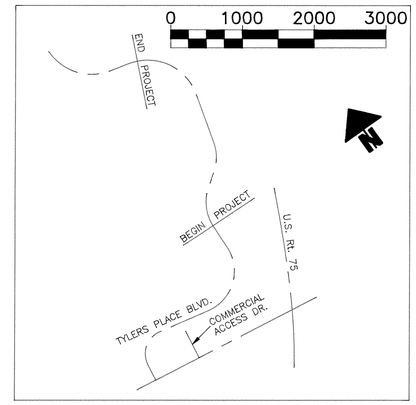
UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL...800–362–2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON–MEMBERS MUST BE CALLED DIRECTLY

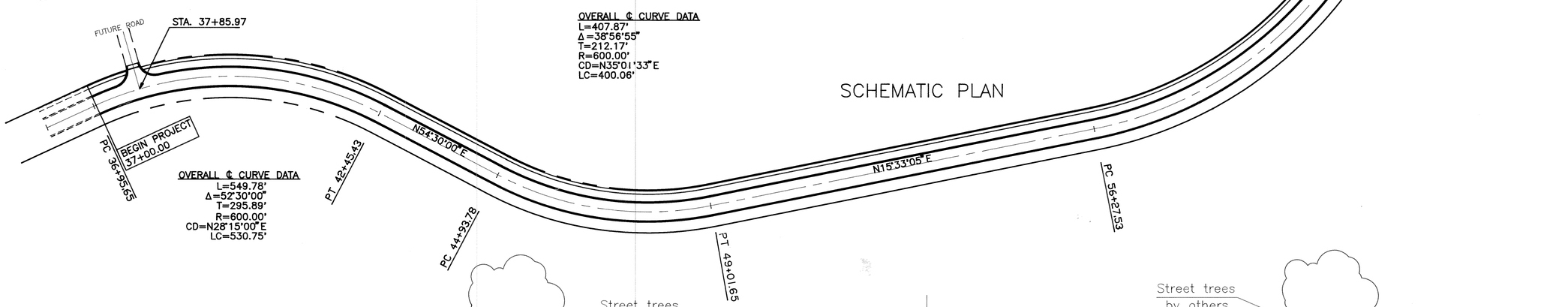
Contract No. 1994-14

FEDERAL PROJECT NO.
PID NO.
CONSTRUCTION PROJECT NO. R-2534-00.701
RAILROAD INVOLVEMENT NONE
TYLERS PLACE BOULEVARD EXTENSION PROJECT
1 / 31

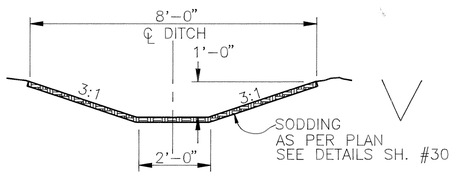



INTERSECTION DETAIL
ELEV'S. SHOWN ARE B/C

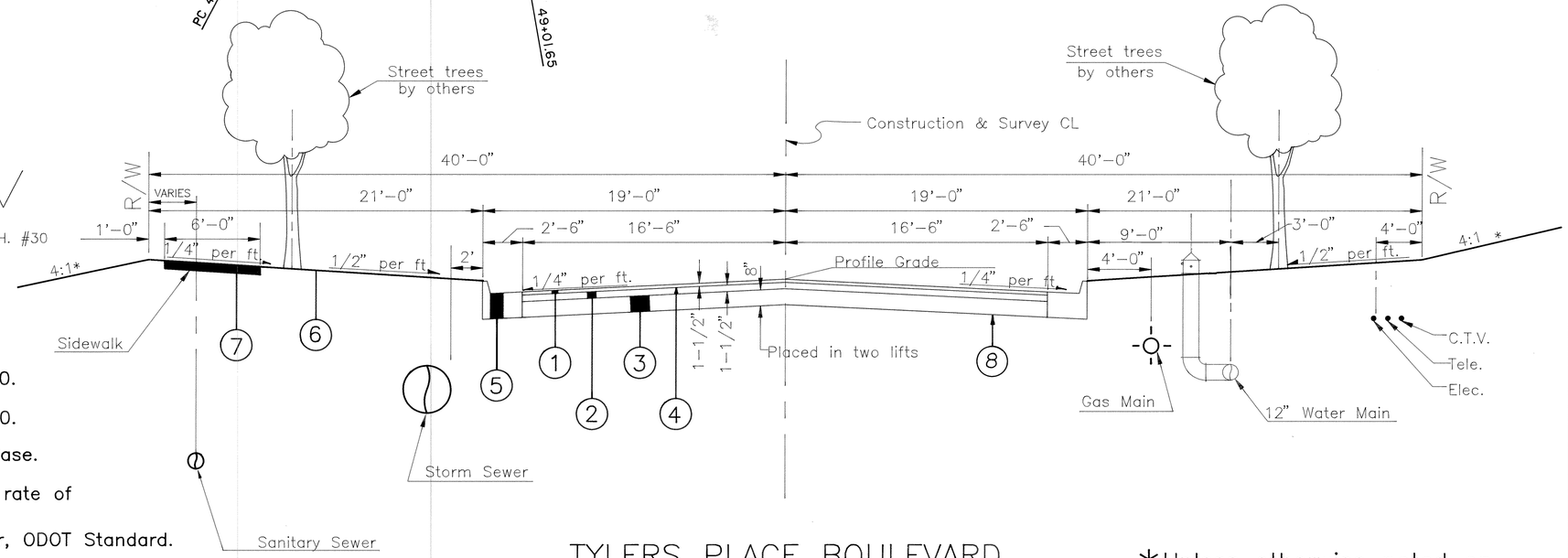



SCHEMATIC PLAN




PROPOSED DITCH DETAIL




## LEGEND

1. Item 404 – Asphalt Concrete, AC–20.
2. Item 403 – Asphalt Condrete, AC–20.
3. Item 301 – Bituminous Aggregate Base.
4. Item 407 – Tack Coat. Applied at rate of 0.10 Gal. per sq. yd.
5. Item 609 – Type 2 Curb and Gutter, ODOT Standard.
6. Item 659 – Seeding and Mulching.
7. Item 608 – Bituminous Walk (t=4").
8. Item 203 - Proof Rolling and Item 203 Subgrade Compaction

TYLERS PLACE BOULEVARD
LIMITING STATIONS
STA. 37+00.00 TO STA. 66+49.86

*Unless otherwise noted on the cross–section

94L54-5

HORIZONTAL SCALE IN FEET 0 100 100

CALCULATED MAR
CHECKED CAR

TYLERS PLACE BOULEVARD
SCHEMATIC PLAN, TYPICAL SECTION, AND DETAILS

PROJECT NO: R-2534-00.701

# GENERAL NOTES

ELEVATION DATUM
All elevations are based on U.S.G.S. datum.

MOBILIZATION AS PER PLAN
The Contractor shall provide a suitable field office having a minimum of 300 sq. ft. of floor space which shall be in accordance with 619.01 and 619.02. Payment shall be included in the lump sum price bid for Item 624, Mobilization, as per plan.

ROUNDING OF CORNERS SHOWN ON THE CROSS SECTIONS
The rounded corners shown on typical sections, apply to all cross sections even though otherwise shown on these plans.

UNDERGROUND UTILITIES
The locations of the underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 ORC.

UTILITIES NOTIFICATION
At least two working days prior to commencing construction operations in an area which may involve underground utility facilities, the Contractor shall notify the Project Engineer, the registered utility protection service and the owners of each underground utility facility shown on the plans.

The owner of the underground utility facility shall, within forty-eight hours, excluding Saturdays, Sundays and Legal Holidays, after notice is received, stake, mark or otherwise designate the location of the underground utility facilities in the construction area in such a manner as to indicate their course together with the approximate depth at which they were installed. The marking or locating shall be coordinated to stay approximately two days ahead of the planned construction.

UTILITY OWNERSHIP
The following utilities and owners are located within the work limits of this project:

WATER
Butler County Enviromental Services
Butler Co. Administration Bldg.
130 High Street
Hamilton, Ohio – 45011
(513–887–3061)

SANITARY SEWERS
Butler Co. Water & Sewer Dept.
Butler Co. Administration Bldg.
130 High Street
Hamilton, Ohio – 45011
(513–887–3061)

GAS
Cincinnati Gas & Electric Co.
139 E. Fourth Street
Cincinnati, Ohio – 45202
(513) 381–2000

ELECTRIC
Cincinnati Gas & Electric Co.
139 E. Fourth Street
Cincinnati, Ohio – 45202
(513) 381–2000

TELEPHONE
Cincinnati Bell Telephone Co.
201 E. Fourth Street
Cincinnati, Ohio – 45202
(513) 397–4664

MAINTENANCE OF TRAFFIC
R–75 Type 3 barricades will be used on Tylers Place Boulevard with a road closed sign. A diagram for placement will be provided in the proposal. Payment for this item shall be included in Item 614, Lump Sum, maintaining traffic, lights, signs, and barricades.

PROPOSED WATER MAIN
Items that pertain to underground utilities such as watermain pipe, sanitary sewer pipe, water valves and manhole frames and covers, etc., will remain under specifications of the utility serving the area. Storm sewers shall be designed and constructed in accordance with the requirements of the Butler County Engineer.

Water main materials, valves, fire hydrants, fittings and appurtenances and installation to be as per Butler County Specifications, using Class 53 Ductile Iron as per AWWA C–151 with joint specification AWWA C–111 with 4' minimum cover. All bends, tees, fittings, etc., shall use specification AWWA C–110 or C–153 with joint spec. AWWA C–111 and shall be included in the price bid per lineal foot of Item 814 Water Main, ductile iron pipe, joints and fittings.

Minimum 10' horizontal, 18" vertical separation between water main and sanitary and/or storm sewer.

Butler County Enviromental Services does not accept any responsibility for the relocation, repair, or replacement of any other utility installed within five feet of the centerline of any sanitary sewer main or water main.

All water main valves to have a minimum depth of 2.5 feet from proposed grade to the top of the valve operating nut.

EXCAVATION AND BACKFILL
All utility construction, existing or proposed under or within 18" of the limits of the sidewalk, shall be backfilled in accordance with the requirements of 203.12 of the ODOT Construction and Material Specifications, and shall be included in the price bid for Item 608 concrete walk.

SANITARY SEWER WORK
Sanitary laterals shall be extended beyond the limits of the Utility easements, but not to exceed 12' from the right of way line.

Sanitary sewer materials and installation to be as per Butler County Specification, using ABS 6" pipe, as per ASTM D–2751 with joint specification as per ASTM D–2680, using ABS Composite 8" pipe, as per ASTM D–2680 with joint specification as per ASTM D–2680. Sanitary Manholes shall be Precast Concrete ASTM C–478 using joint specification ASTM C–443.

Minimum 10' horizontal, 18" vertical separation between water main and sanitary and/or storm sewer.

Roof drains, foundation drains, and other clean water connections to the sanitary sewer system are prohibited.

All Sanitary Sewer laterals shall be at least 4 feet below a proposed basement floor elevation at the point of connection to the Sewer Main and shall not exceed a depth of 12 feet below finish grade at the end of the lateral at the right of way unless specifically authorized by the County.

All sanitary sewer and water line items shall be inspected by the Butler County Enviromental Services.

CONTINGENCY QUANTITIES
Contingency quantities are quantities which are included in the bid quantities and are only to be used as directed by the engineer.

REMOVAL OF TREES OR STUMPS
Clearing and Grubbing from Sta. 37+00 to Sta. 54+90 will not be a part of this contract. This area will be cleared by others before the construction of the project. However Sta. 54+90 to Sta. 66+50 will be a part of this contract. All trees and stumps located within the construction limits and between Sta. 54+90 and Sta. 66+50 shall be removed under the lump sum price bid for Item 201 Clearing and Grubbing.

It shall be the contractor's responsibility to field investigate the work necessary under this item prior to submitting a bid.

The County Engineer reserves the right to order the removal of additional trees or stumps outside of the construction limits but within the right of way and/or easement lines.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL
The following estimated quantities are to be used as directed by the Engineer, for temporary erosion and sediment control measures:

| | | |
|---|---|---|
| 207 | Temporary Seeding and Mulching | 4707 Sq. Yds. |
| 207 | Straw or Hay Bales | 144 Each |
| 659 | Commercial Fertilizer | 0.21 Tons |
| 659 | Water | 10.17 M. Gal. |

CONSTRUCTION LAYOUT STAKES
Construction layout to be provided by the Butler County Engineer. Co–ordination prior to any construction commencing shall be done with all parties involved. The Engineers Office shall set a preconstruction meeting where this shall be worked out.

WEATHER CONDITIONS
No construction shall be done during stormy, freezing or inclement weather unless permission is given by the project representative. Whenever work proceeds during such weather the contractor shall provide approved facilities, including heat if required, for protection of all the materials and finished work.

ASPHALT PAVEMENT
There will be no recycled asphalt. All paving shall consist of virgin pavement.

CONNECTIONS TO EXISTING PIPE
Where the plans provide for the proposed conduit to be connected to or to cross either over or under an existing sewer, it shall be the responsibility of the contractor to locate the existing pipe both as to line and grade before he starts to lay the proposed conduit.

Payment for all operations described above shall be included in the unit price bid for the pertinent 603 conduit items.

608 BITUMINOUS WALK
Placement and Material is to meet 404 specification.

SUBGRADE REPAIR
Contingency Item includes excavation, embankment and any special material (#2 stone) that is required by the Engineer. This item will be used only under the Engineers direction.

LOW STRENGTH MORTAR BACKFILL
Whenever waterlines, sewer lines,or culvert pipe crosses the roadway and sidewalk the backfill required will be low strength mortar backfill unless otherwise noted on the plans. This item will be paid for under the pertinent Item 603. The limits of the backfill shall be from 2' behind curbs, 2' each side of walk and from flowline of conduit to the existing subgrade.

SEEDING
Quantities for seeding are calculated for the soil areas between the construction limits, as shown on the cross sections.

CALCULATED MAR
CHECKED CAR

TYLERS PLACE BOULEVARD
GENERAL NOTES

PROJECT NO: R–2534–00.701



94L54–3

| ITEM NO. | UNIT | DESCRIPTION | TOTAL PLAN QUANTITY | TOTAL CONTINGENCY QUANTITY | TOTAL QUANTITY |
|---|---|---|---|---|---|
| 107 | SUM | Premium for Insurance | LS | 0 | LS |
| 201 | SUM | Clearing and Grubbing | LS | 0 | LS |
| 203 | CY | Excavation not including Embankment | 14124 | 1412.4 | 15536.4 |
| 203 | CY | Embankment | 196 | 19.6 | 215.6 |
| 203 | SY | Subgrade Compaction | 10940 | 1094 | 12034 |
| 207 | LF | Filter Fabric Fence | 3600 | 0 | 3600 |
| 207 | CY | Temporary Benches, Dams, and Sediment Basins | 239 | 0 | 239 |
| 207 | SY | Temporary Seeding and Mulching | 4436 | 0 | 4436 |
| 207 | EA | Straw or Hay Bales | 320 | 0 | 320 |
| 301 | CY | Bituminous Aggregate Base | 2431.2 | 243.12 | 2674.32 |
| 403 | CY | Asphalt Concrete AC-20 | 607.8 | 91.17 | 698.97 |
| 404 | CY | Asphalt Concrete AC-20 | 304 | 45.6 | 349.6 |
| 407 | GAL | Tack Coat - Applied @ 0.1 Gal/Sq.Yd. | 1094 | 164.1 | 1258.1 |
| 601 | CY | Rock Channel Protection, Type C with Filter | 26 | 3.9 | 29.9 |
| 602 | CY | Concrete Masonry | 13 | 1.95 | 14.95 |
| 603 | LF | 12" Conduit, Type A | 626 | 0 | 626 |
| 603 | LF | 12" Conduit, Type D | 41 | 0 | 41 |
| 603 | LF | 15" Conduit, Type A | 329 | 0 | 329 |
| 603 | LF | 15" Conduit, Type D | 290 | 0 | 290 |
| 603 | LF | 18" Conduit, Type D | 385 | 0 | 385 |
| 603 | LF | 42" Conduit, Type A | 37 | 0 | 37 |
| 603 | LF | 42" Conduit, Type D | 343 | 0 | 343 |
| 603 | LF | 48" Conduit, Type A | 140 | 0 | 140 |
| 603 | LF | 48" Conduit, Type D | 100 | 0 | 100 |
| 603 | LF | 54" Conduit, Type D | 68 | 0 | 68 |
| 604 | EA | Manhole MH-3 | 4 | 0 | 4 |
| 604 | EA | Catch Basin CB-3 | 2 | 0 | 2 |
| 604 | EA | Catch Basin CB-3A | 18 | 0 | 18 |
| 604 | LF | Type 4 Guardrail | 36 | 0 | 36 |
| 608 | SY | Bituminous Walk | 17531 | 1753.1 | 19284.1 |
| 609 | LF | Type 2 Curb and Gutter (ODOT STD) | 5902.74 | 590.27 | 6493.01 |
| 614 | SUM | Maintaining Traffic | LS | 0 | LS |
| 659 | TONS | Commercial Fertilizer | 2.11 | 0 | 2.11 |
| 659 | SY | Seeding and Mulching | 23451 | 0 | 23451 |
| 659 | MGAL | Water | 25.3 | 0 | 25.3 |
| 801 | SUM | Premium on Bid Bond | LS | 0 | LS |
| 802 | CY | Subgrade Repair | 0 | 4566.1 | 0 |
| 802 | LF | 12" Water Main, D.I.P. Joints and Fittings | 2200 | 0 | 2200 |
| 802 | EA | 12" Valve and Valve Box | 4 | 0 | 4 |
| 802 | EA | 6" Fire Hydrant (As Per Plan) | 7 | 0 | 7 |
| 802 | EA | Connect to Existing Water Main | 1 | 0 | 1 |
| 802 | LF | 8" Water Main, D.I.P. Joints and Fittings | 825 | 0 | 825 |
| 802 | EA | 8" Valve and Valve Box | 3 | 0 | 3 |
| 802 | LF | 6" Water Main, D.I.P. Joints and Fittings | 365 | 0 | 365 |
| 802 | EA | 6" Valve and Valve Box | 5 | 0 | 5 |
| 802 | LF | 6" Sanitary Laterals | 40 | 0 | 40 |
| 802 | LF | 8" Sanitary Sewer Conduit including Tees & Plugs | 1617 | 0 | 1617 |
| 802 | EA | Sanitary Manhole (STD. MH-3, Complete including Castings and Watertight Lids) | 6 | 0 | 6 |
| 802 | EA | Utilities Cross Overs (As Per Plan) | 6 | 0 | 6 |

CALCULATED JLH
CHECKED TVS

TYLERS PLACE BOULEVARD EXTENSION
QUANTITY SHEET

PROJECT NO: R/2534/00.701

BENCHMARK:
FOUND SPIKE IN TREE AT STA. 30+50
60' LEFT OF CENTERLINE.
ELEVATION = 874.05

SEE SHEET #2 FOR INTERSECTION DETAIL

BEGIN PROJECT
STA. 37+00

STA. 37+71.5; 48' Lt.
TEMPORARY FIRE HYDRANT

END PAV'T.
STA. 0+47.61

STA. 0+47.61
STA. 37+46.65

STA. 37+10
(4) 4" DIA. CONDUIT
80 LF. CG&E SPEC.

DITCH TO STA. 39+29;130.00'LT.

STA. 38+17.84; 54.13' Lt.
INV.=870.57

STA. 0+47.61
STA. 38+25.28

36'-12" STM @ 1.00% (TYPE D)

STA. 38+26.98; 18.5' Lt.
PROP. CB-3A
T/GR=874.61
INV.=870.93

FUTURE ROAD
N79°22'32"W
15' UTIL. ESM'T.
30'R
30'R
CURB RAMPS

STA. 37+85.97
= STA. 0+00

37'-12" STM @ 0.50% (TYPE A)

TYLERS PLACE BLVD.

6' SIDEWALK

CONSTRUCITON LIMITS

10' UTILITY EASEMENT

MEET EX. DITCH STA. 40+58;115' LT.

STA. 41+13.84; 63.87' Lt.
PROP. HW-4A
INV.=868.50

10'X10'X18" ROCK CHANNEL PROTECTION
TYPE C WITH FILTER

STA. 40+99.49; 18.5' Lt.
PROP. CB-3A
T/GR=876.33
INV.=872.28

℄ PROP. SODDED DITCH
SEE DETAIL SHT. #2

68'-54" STM @ 0.60% (TYPE D)

STA. 41+66.50; 26.13' Lt.
PROP. STM. MH.-3
T/RIM=877.45
(E)INV.=869.22
(N&S)INV.=871.23
(W)INV.=868.91

20' UTIL. ESM'T.

80' R/W
38'
19'
40'
28'

70'-12" STM @ 1.50%

37'-12" STM @ 1.50% (TYPE A)

135'-12" STM

MATCHLINE 42+00

N02°00'00"E

EX. CURB & GUTTER

EX. 12" V & B
@ 36+45

PC
36+95.65

STA. 38+27; 28' RT.
VALVE & VALVE BOX

STA. 38+26.98; 18.5' Rt.
PROP. CB-3A
T/GR=874.61
INV.=871.11

10' UTILITY EASEMENT

CONSTRUCITON LIMITS

STA. 37+70; 28' Rt.
12"X8" TEE & 8" VALVE AND VALVE BOX

EX. FIRE HYDRANT & VALVE
CONNECT TO EXISTING MAIN

STA. 38+16
(2) 5" DIA. CONDUIT
80 LF. CG&E SPEC.

OVERALL ℄ CURVE DATA
L=549.78'
Δ=52°30'00"
T=295.89'
R=600.00'
CD=N28°15'00"E
LC=530.75'

STA. 40+99.49; 18.5' Rt.
PROP. CB-3A
T/GR=876.33
INV.=872.83

140'-48" STM @ 1.06% (TYPE A)

SIGHT DISTANCE ESM'T.
NO PLANTINGS

STA. 42+00; 28' Rt.
12"X6" TEE
6" VALVE & BOX
FIRE HYDRANT

SCALES:
1" =20' HOR
1" =5' VER

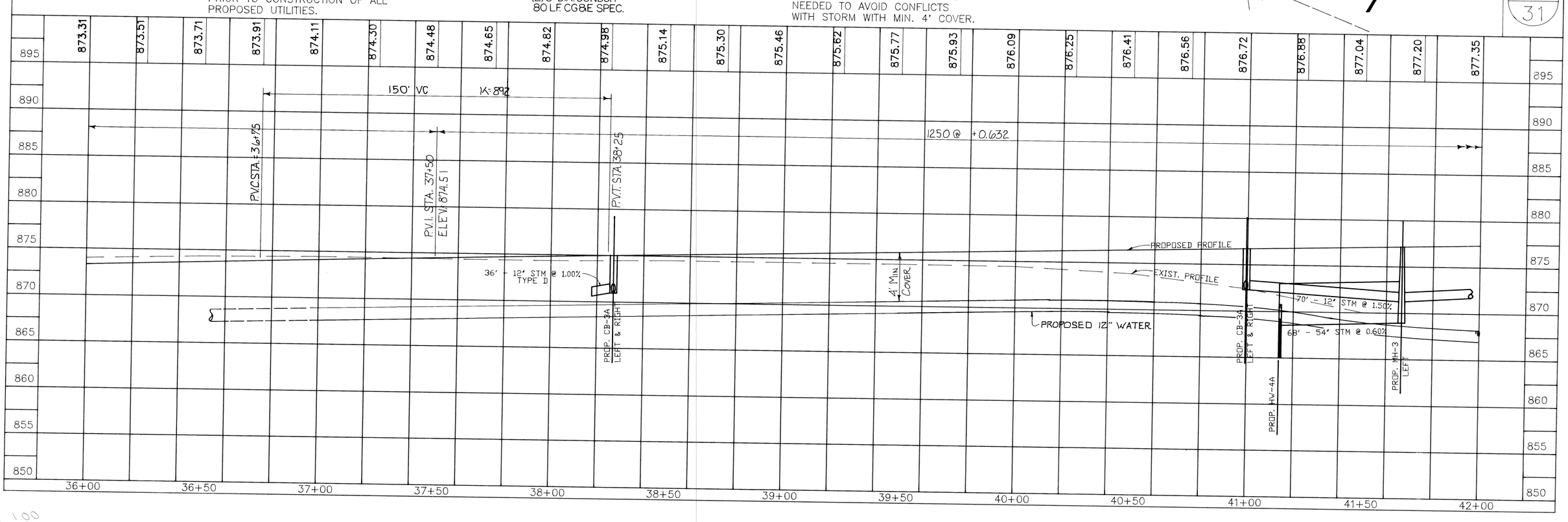
NOTE: LOCATION OF EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION OF ALL PROPOSED UTILITIES.

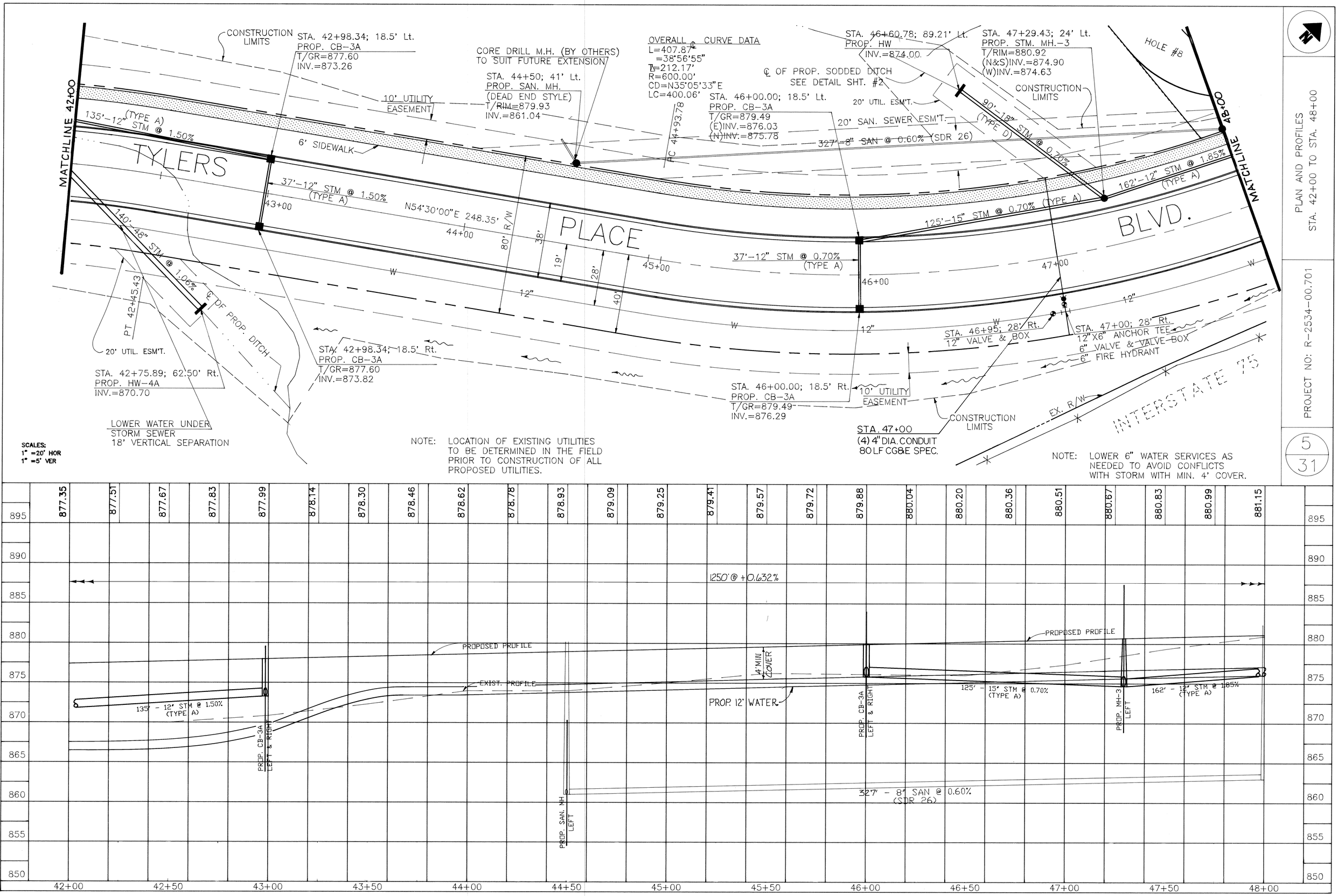
NOTE: LOWER 6" WATER SERVICES AS NEEDED TO AVOID CONFLICTS WITH STORM WITH MIN. 4' COVER.

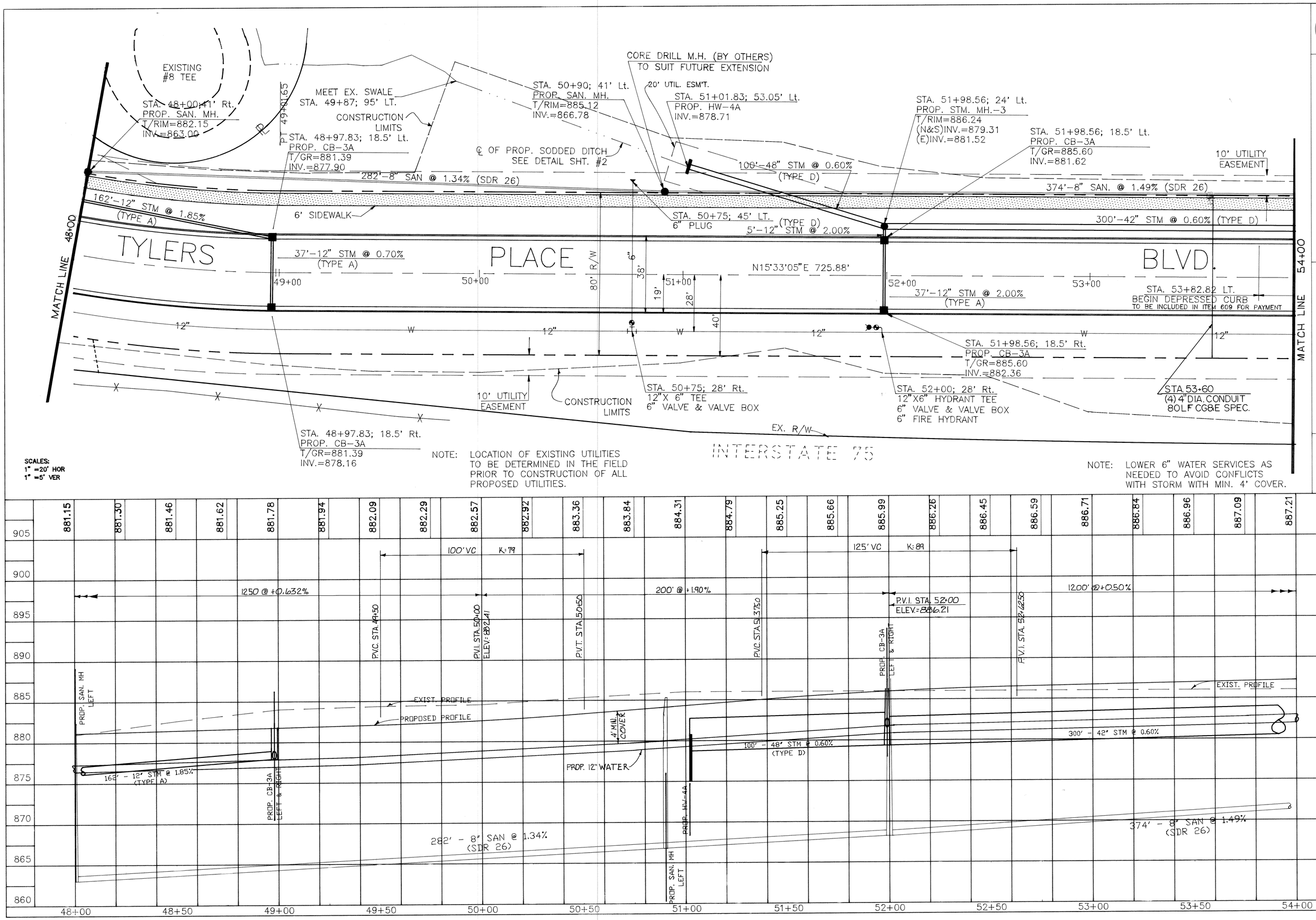
PLAN AND PROFILES
STA. 36+00 TO STA. 42+00

PROJECT NO: R-2534-00.701

4
31



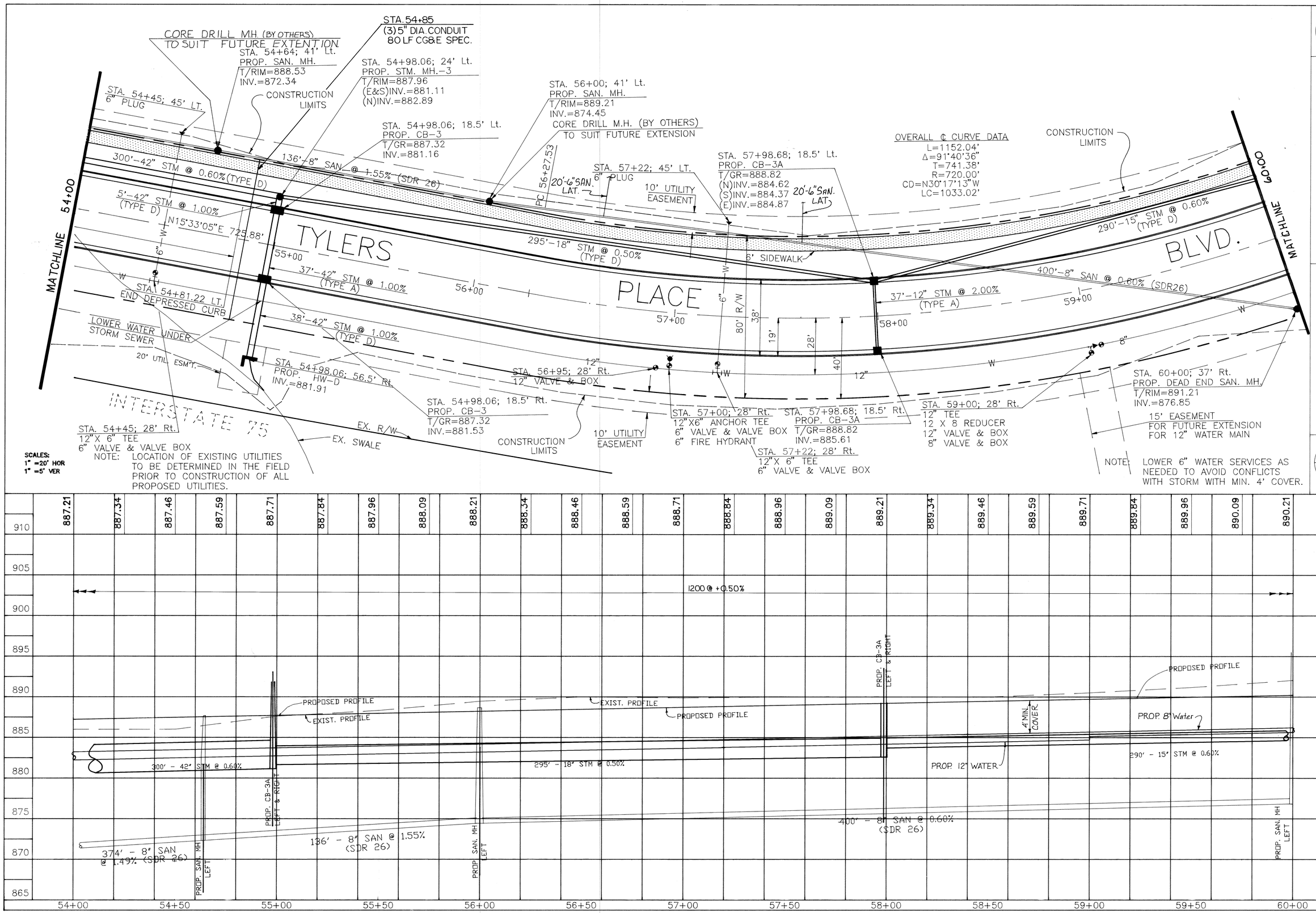

MATCHLINE 42+00
CONSTRUCTION LIMITS
STA. 42+98.34; 18.5' Lt.
PROP. CB-3A
T/GR=877.60
INV.=873.26
CORE DRILL M.H. (BY OTHERS)
TO SUIT FUTURE EXTENSION
STA. 44+50; 41' Lt.
PROP. SAN. MH.
(DEAD END STYLE)
T/RIM=879.93
INV.=861.04
10' UTILITY EASEMENT
OVERALL ℄ CURVE DATA
L=407.87'
Δ=38°56'55"
T=212.17'
R=600.00'
CD=N35°05'33"E
LC=400.06'
STA. 46+00.00; 18.5' Lt.
PROP. CB-3A
T/GR=879.49
(E)INV.=876.03
(N)INV.=875.78
PC 44+93.78
℄ OF PROP. SODDED DITCH
SEE DETAIL SHT. #2
20' UTIL. ESM'T.
20' SAN. SEWER ESM'T.
STA. 46+60.78; 89.21' Lt.
PROP. HW
INV.=874.00
STA. 47+29.43; 24' Lt.
PROP. STM. MH.-3
T/RIM=880.92
(N&S)INV.=874.90
(W)INV.=874.63
CONSTRUCTION LIMITS
HOLE #8
MATCHLINE 48+00
135'-12" STM @ 1.50% (TYPE A)
6' SIDEWALK
TYLERS
PLACE
BLVD.
37'-12" STM @ 1.50% (TYPE A)
N54°30'00"E 248.35'
43+00
44+00
45+00
46+00
47+00
80' R/W
38'
19'
28'
40'
327'-8" SAN @ 0.60% (SDR 26)
90'-18" STM @ 0.70% (TYPE D)
162'-12" STM @ 1.85% (TYPE A)
125'-15" STM @ 0.70% (TYPE A)
37'-12" STM @ 0.70% (TYPE A)
140'-48" STM @ 1.06%
PT 42+45.43
℄ OF PROP. DITCH
20' UTIL. ESM'T.
STA. 42+75.89; 62.50' Rt.
PROP. HW-4A
INV.=870.70
LOWER WATER UNDER
STORM SEWER
18' VERTICAL SEPARATION
STA. 42+98.34; 18.5' Rt.
PROP. CB-3A
T/GR=877.60
INV.=873.82
STA. 46+00.00; 18.5' Rt.
PROP. CB-3A
T/GR=879.49
INV.=876.29
10' UTILITY EASEMENT
STA. 46+95; 28' Rt.
12" VALVE & BOX
STA. 47+00; 28' Rt.
12"X6" ANCHOR TEE
6" VALVE & VALVE BOX
6" FIRE HYDRANT
STA. 47+00
(4) 4" DIA. CONDUIT
80 LF CG&E SPEC.
CONSTRUCTION LIMITS
EX. R/W
INTERSTATE 75
SCALES:
1" =20' HOR
1" =5' VER
NOTE: LOCATION OF EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION OF ALL PROPOSED UTILITIES.
NOTE: LOWER 6" WATER SERVICES AS NEEDED TO AVOID CONFLICTS WITH STORM WITH MIN. 4' COVER.
PLAN AND PROFILES
STA. 42+00 TO STA. 48+00
PROJECT NO: R-2534-00.701
5
31
877.35
877.51
877.67
877.83
877.99
878.14
878.30
878.46
878.62
878.78
878.93
879.09
879.25
879.41
879.57
879.72
879.88
880.04
880.20
880.36
880.51
880.67
880.83
880.99
881.15
895
890
885
880
875
870
865
860
855
850
1250' @ +0.632%
PROPOSED PROFILE
EXIST. PROFILE
4' MIN COVER
PROP. 12" WATER
135' - 12" STM @ 1.50% (TYPE A)
PROP. CB-3A LEFT & RIGHT
PROP. SAN. MH LEFT
PROP. CB-3A LEFT & RIGHT
125' - 15" STM @ 0.70% (TYPE A)
PROP. MH-3 LEFT
162' - 12" STM @ 1.85% (TYPE A)
327' - 8" SAN @ 0.60% (SDR 26)
42+00
42+50
43+00
43+50
44+00
44+50
45+00
45+50
46+00
46+50
47+00
47+50
48+00




PLAN AND PROFILES
STA. 48+00 TO STA. 54+00

PROJECT NO: R-2534-00.701

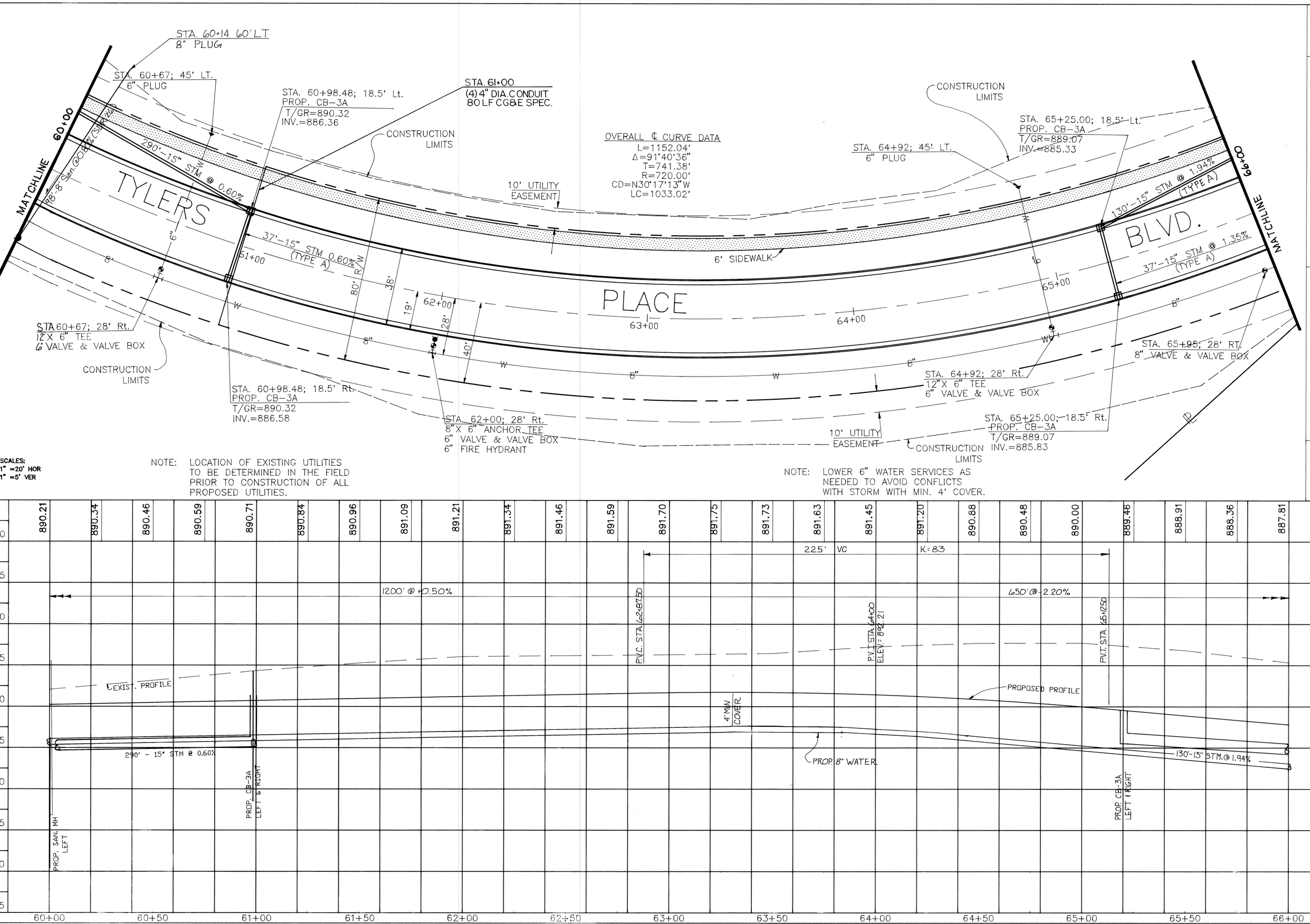
6
31




PLAN AND PROFILES
STA. 54+00 TO STA. 60+00

PROJECT NO: R-2534-00.701

7
31



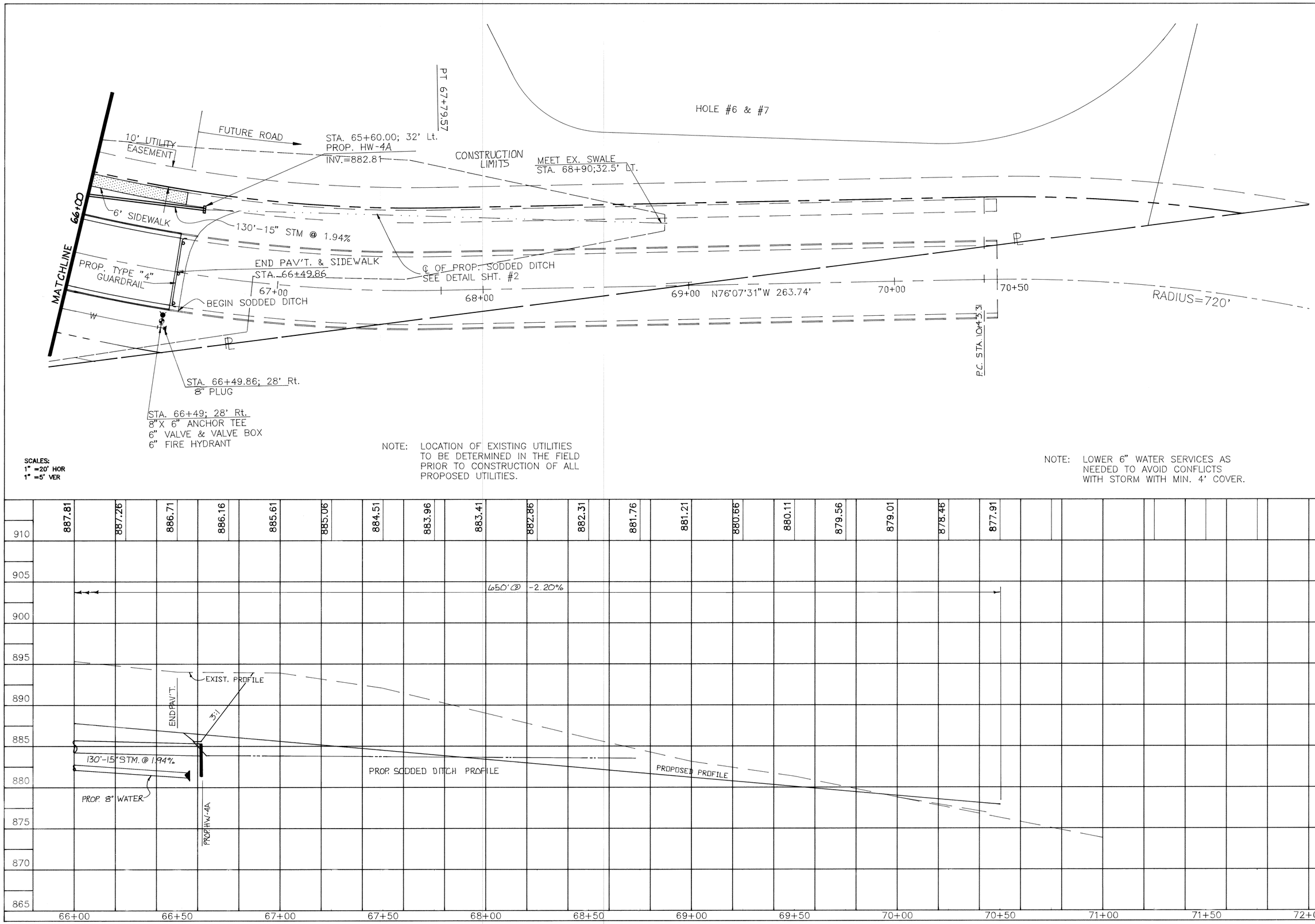

SCALES:
1" =20' HOR
1" =5' VER

NOTE: LOCATION OF EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION OF ALL PROPOSED UTILITIES.

NOTE: LOWER 6" WATER SERVICES AS NEEDED TO AVOID CONFLICTS WITH STORM WITH MIN. 4' COVER.

PLAN AND PROFILES
STA. 60+00 TO STA. 66+00

PROJECT NO: R-2534-00.701




SCALES:
1" =20' HOR
1" =5' VER

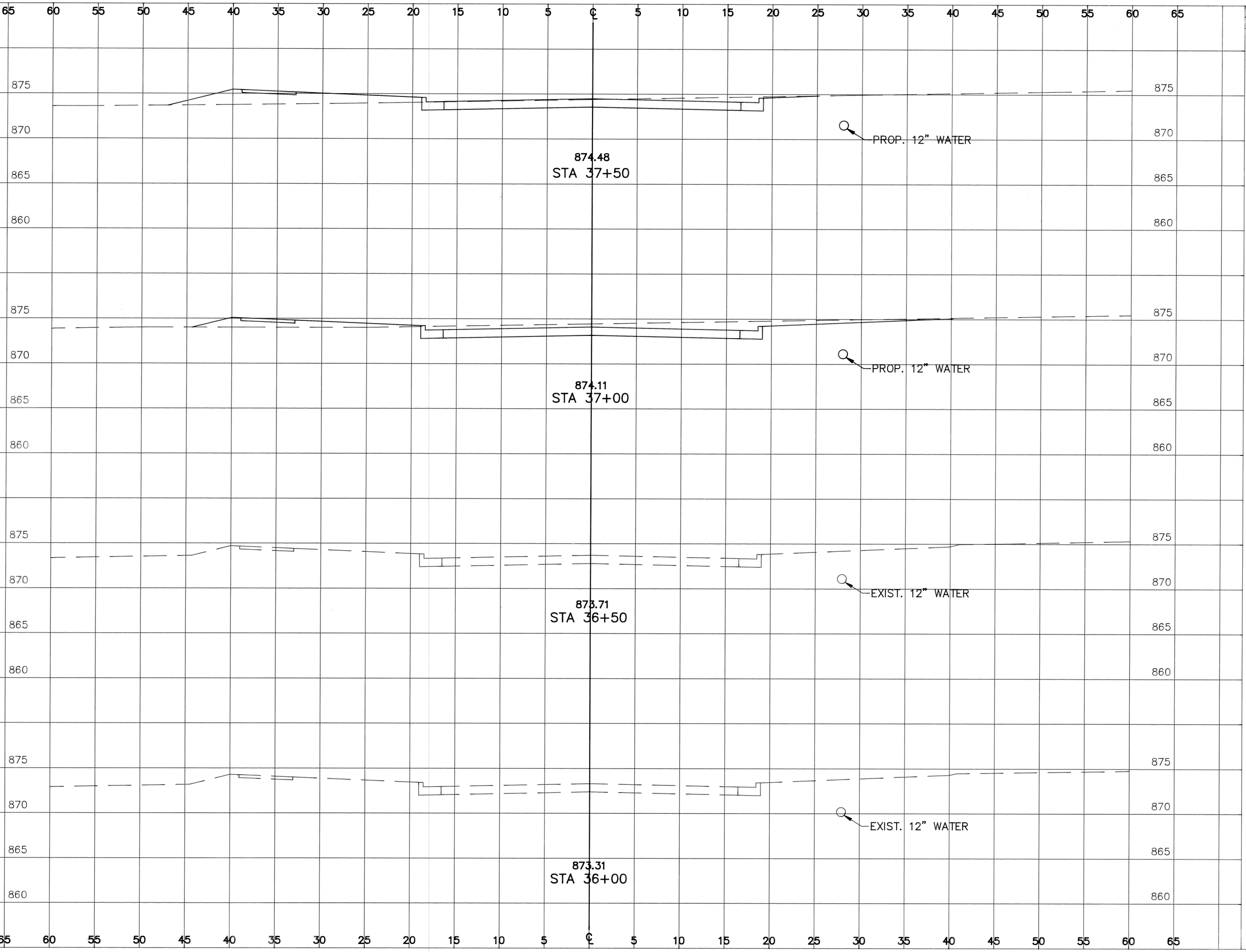
NOTE: LOCATION OF EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION OF ALL PROPOSED UTILITIES.

NOTE: LOWER 6" WATER SERVICES AS NEEDED TO AVOID CONFLICTS WITH STORM WITH MIN. 4' COVER.

PLAN AND PROFILES
STA. 66+00 TO STA. 70+50

PROJECT NO: R-2534-00.701

9
31



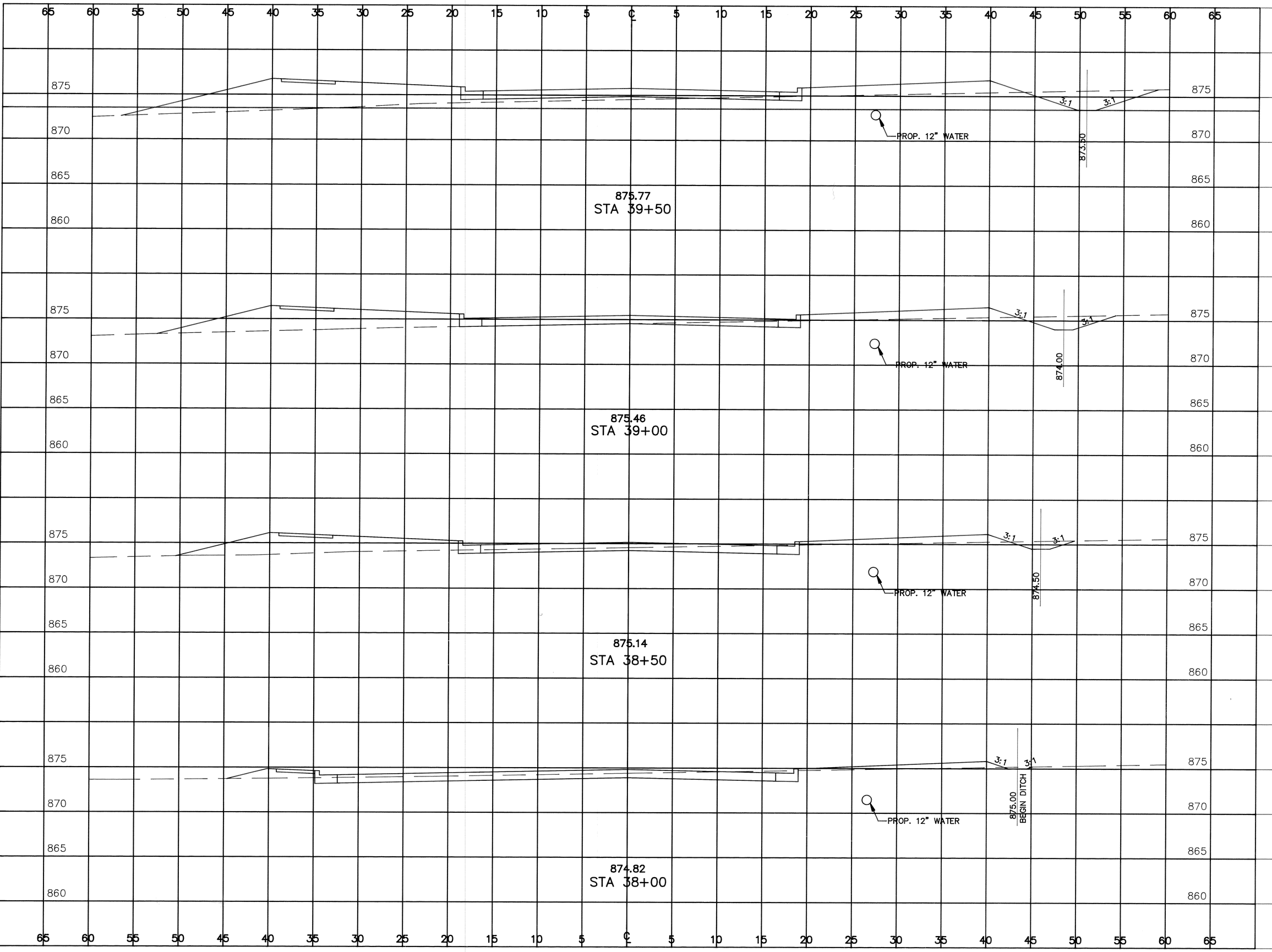

| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| 43 | 28 | | |
| | | 95 | 38 |
| 60 | 13 | | |
| | | 0 | 0 |
| 0 | 0 | | |

0 5
HORIZONTAL SCALE IN FEET

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA. 36+00 TO STA. 37+50

PROJECT NO: R-2534-00.701



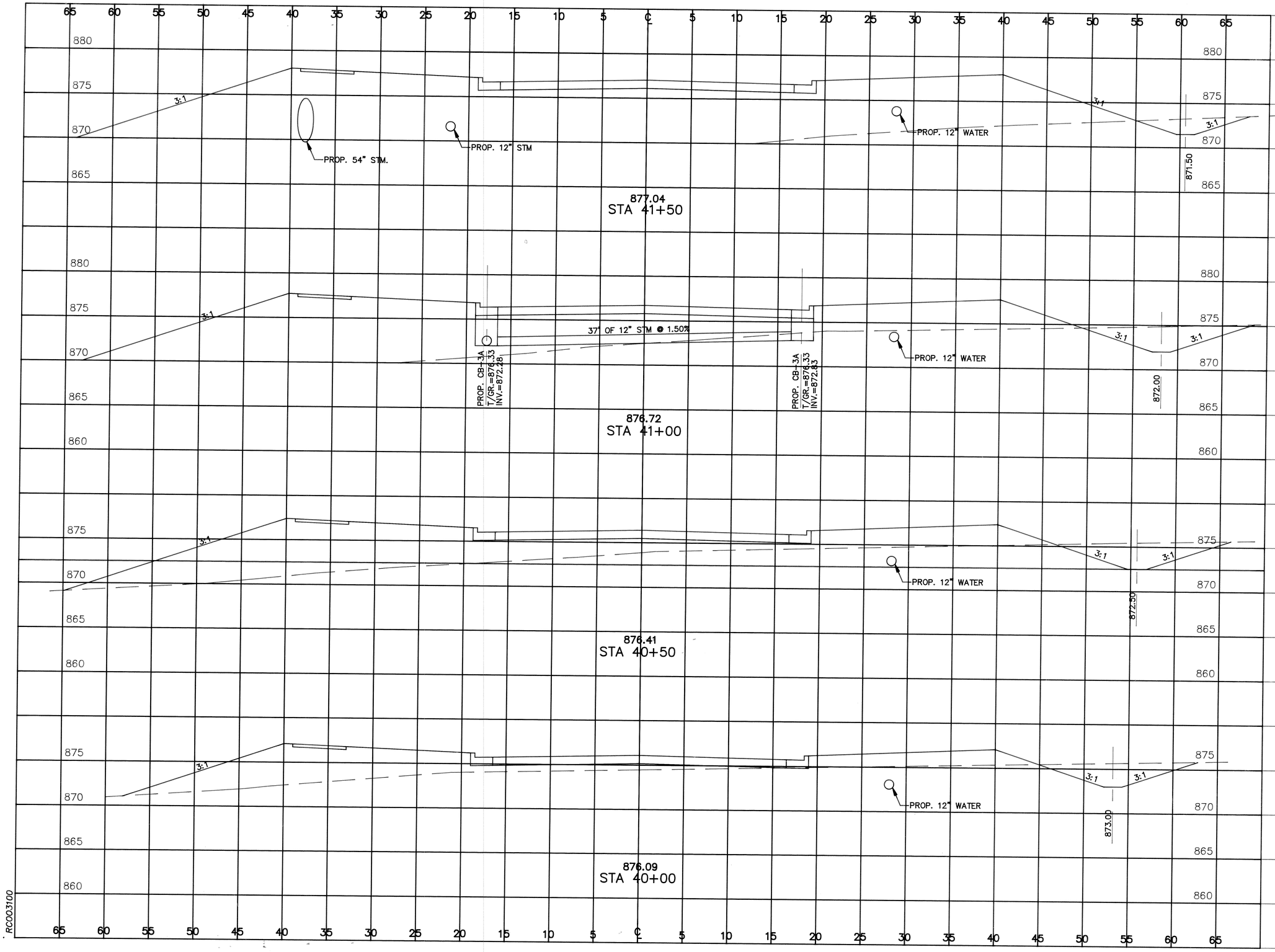

| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| 21 | 119 | | |
| | | 27 | 185 |
| 8 | 81 | | |
| | | 31 | 133 |
| 25 | 63 | | |
| | | 60 | 72 |
| 40 | 15 | | |
| | | 77 | 40 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED

CROSS SECTIONS
STA. 38+00 TO STA. 39+50

PROJECT NO: R-2534-00.701



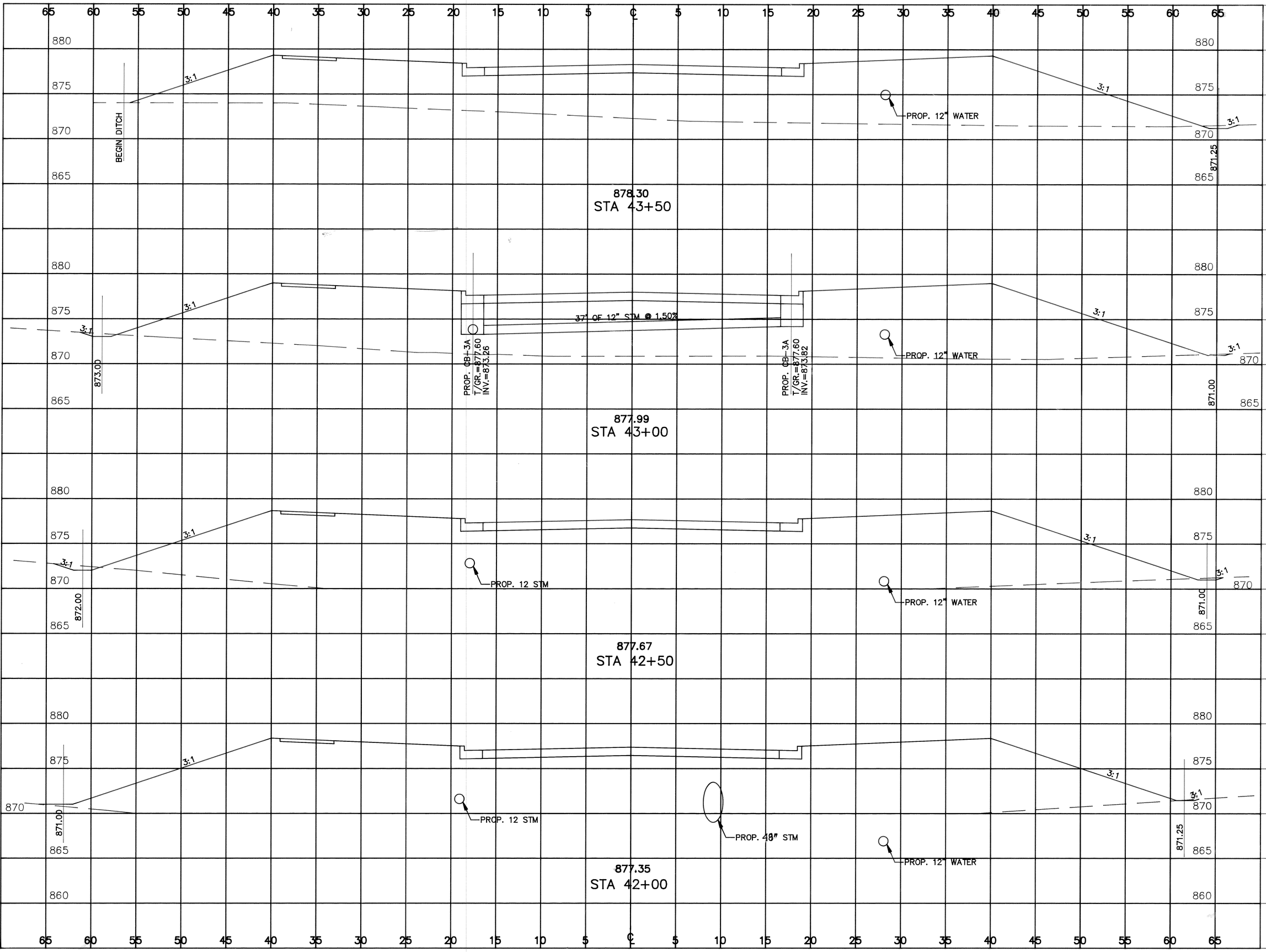

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 13 | 653 | | |
| | | 39 | 1017 |
| 29 | 445 | | |
| | | 56 | 697 |
| 31 | 308 | | |
| | | 54 | 451 |
| 27 | 179 | | |
| | | 44 | 276 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED

CROSS SECTIONS
STA. 40+00 TO STA. 41+50

PROJECT NO: R-2534-00.701



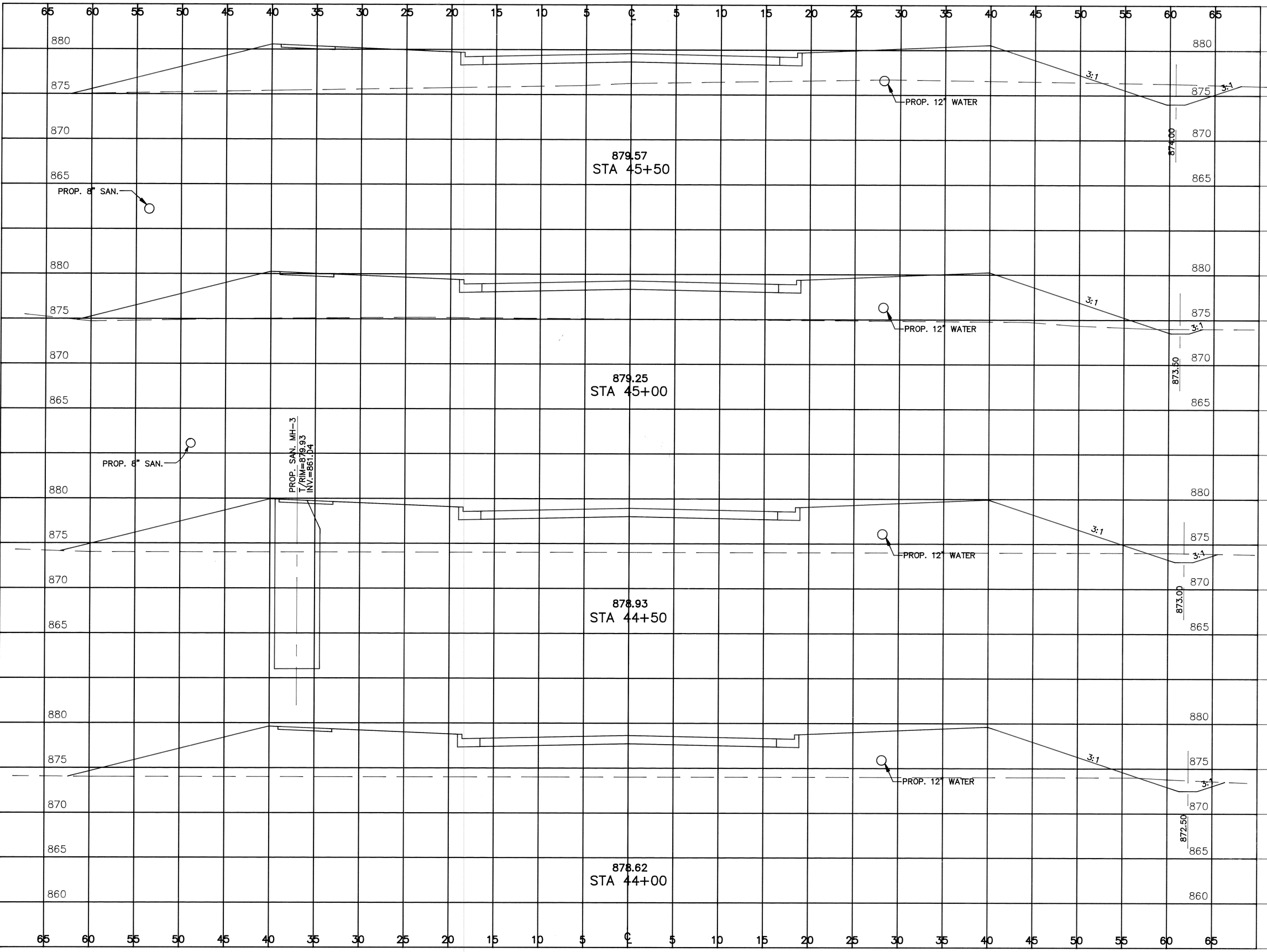

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 0 | 582 | | |
| | | 0 | 1166 |
| 0 | 677 | | |
| | | 5 | 1388 |
| 5 | 768 | | |
| | | 5 | 1422 |
| 0 | 768 | | |
| | | 12 | 1316 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA. 42+00 TO STA. 43+50

PROJECT NO: R-2534-00.701



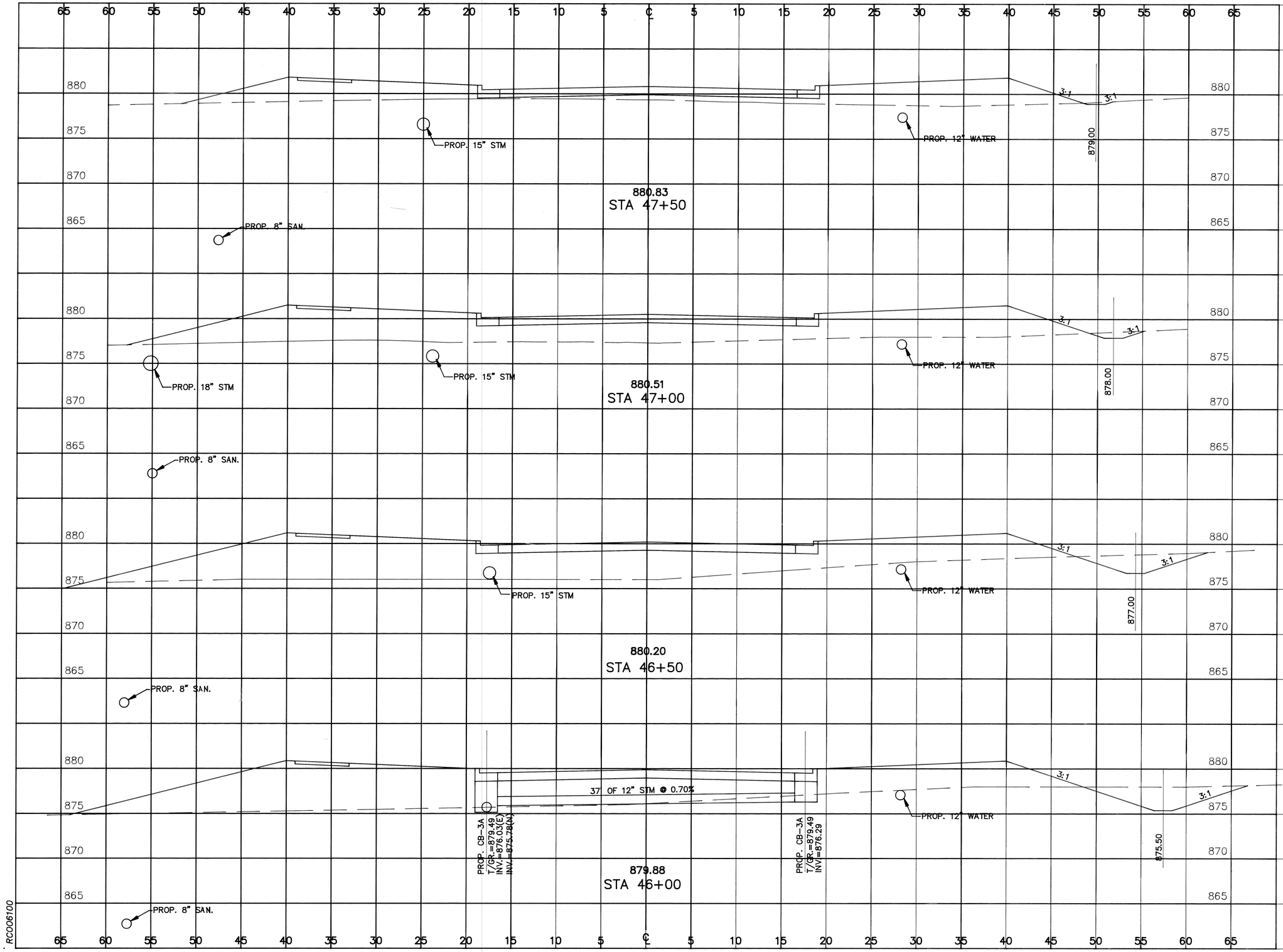

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 20 | 334 | | |
| | | 21 | 704 |
| 3 | 426 | | |
| | | 7 | 858 |
| 5 | 501 | | |
| | | 12 | 893 |
| 8 | 463 | | |
| | | 8 | 968 |

0 5
HORIZONTAL SCALE IN FEET

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA. 44+00 TO STA. 45+50

PROJECT NO: R-2534-00.701



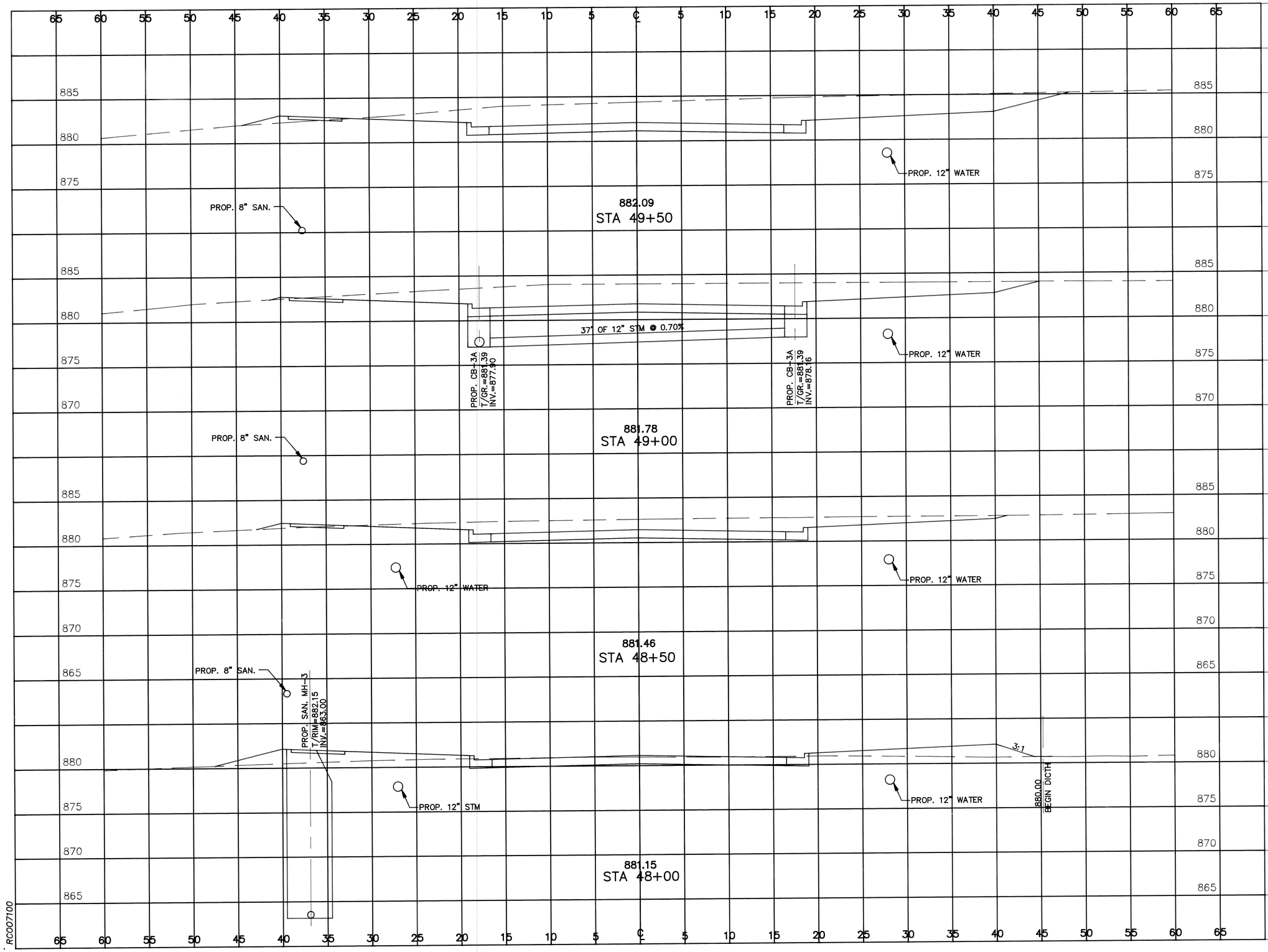

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 0 | 145 | | |
| | | 3 | 380 |
| 3 | 265 | | |
| | | 20 | 553 |
| 18 | 332 | | |
| | | 41 | 621 |
| 26 | 339 | | |
| | | 43 | 623 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA. 46+00 TO STA. 47+50

PROJECT NO: R-2534-00.701




| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 211 | 3 | | |
| | | 363 | 3 |
| 181 | 0 | | |
| | | 270 | 0 |
| 111 | 0 | | |
| | | 137 | 42 |
| 37 | 45 | | |
| | | 34 | 176 |

HORIZONTAL SCALE IN FEET 0 5

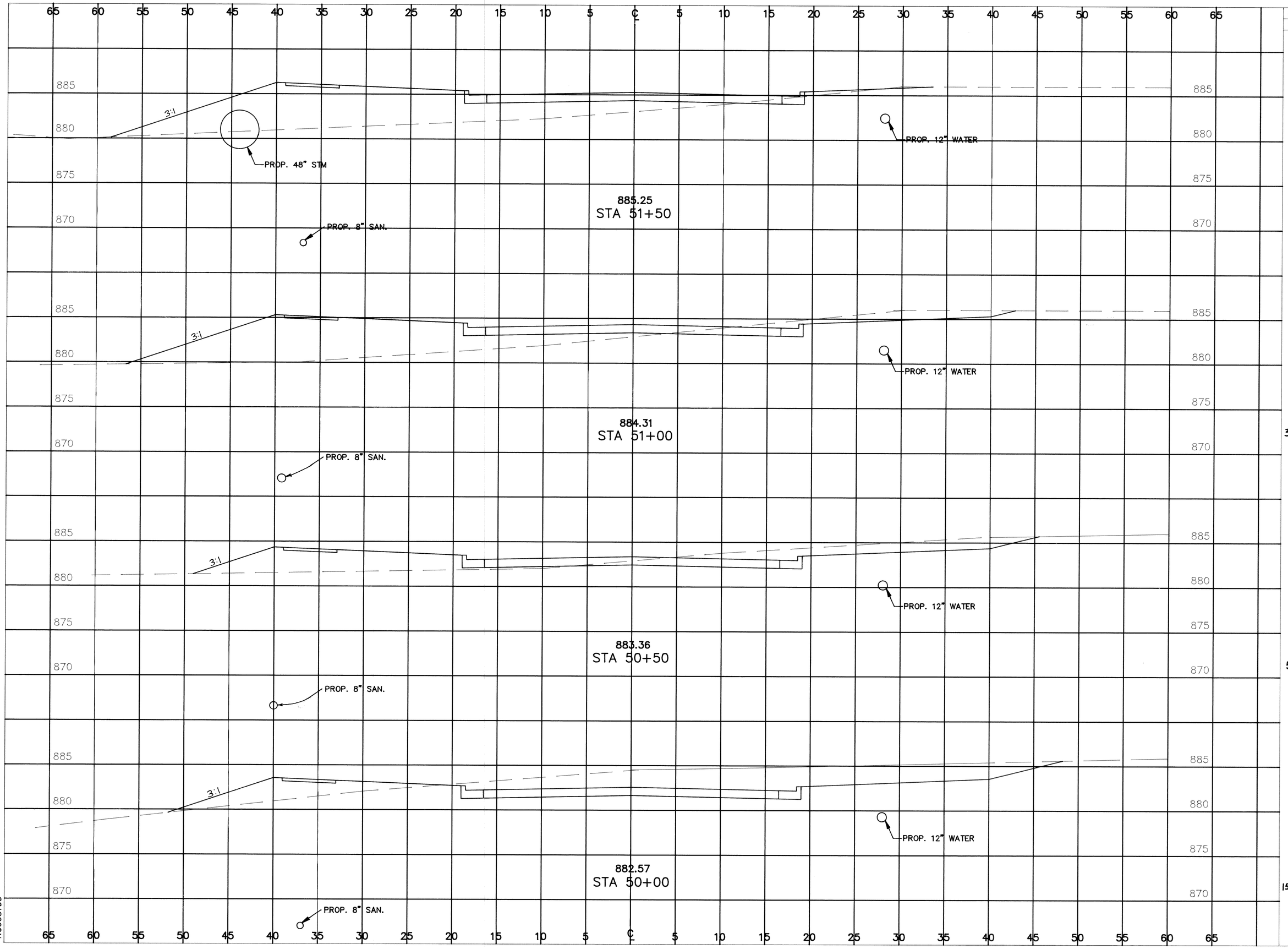
CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA 48+00 TO STA. 49+50

PROJECT NO: R-2534-00.701

16
31

RC007100




| | END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|---|
| | 3 | 180 | | |
| | | | 31 | 313 |
| | 30 | 158 | | |
| | | | 77 | 202 |
| | 53 | 60 | | |
| | | | 191 | 90 |
| | 153 | 37 | | |
| | | | 337 | 37 |

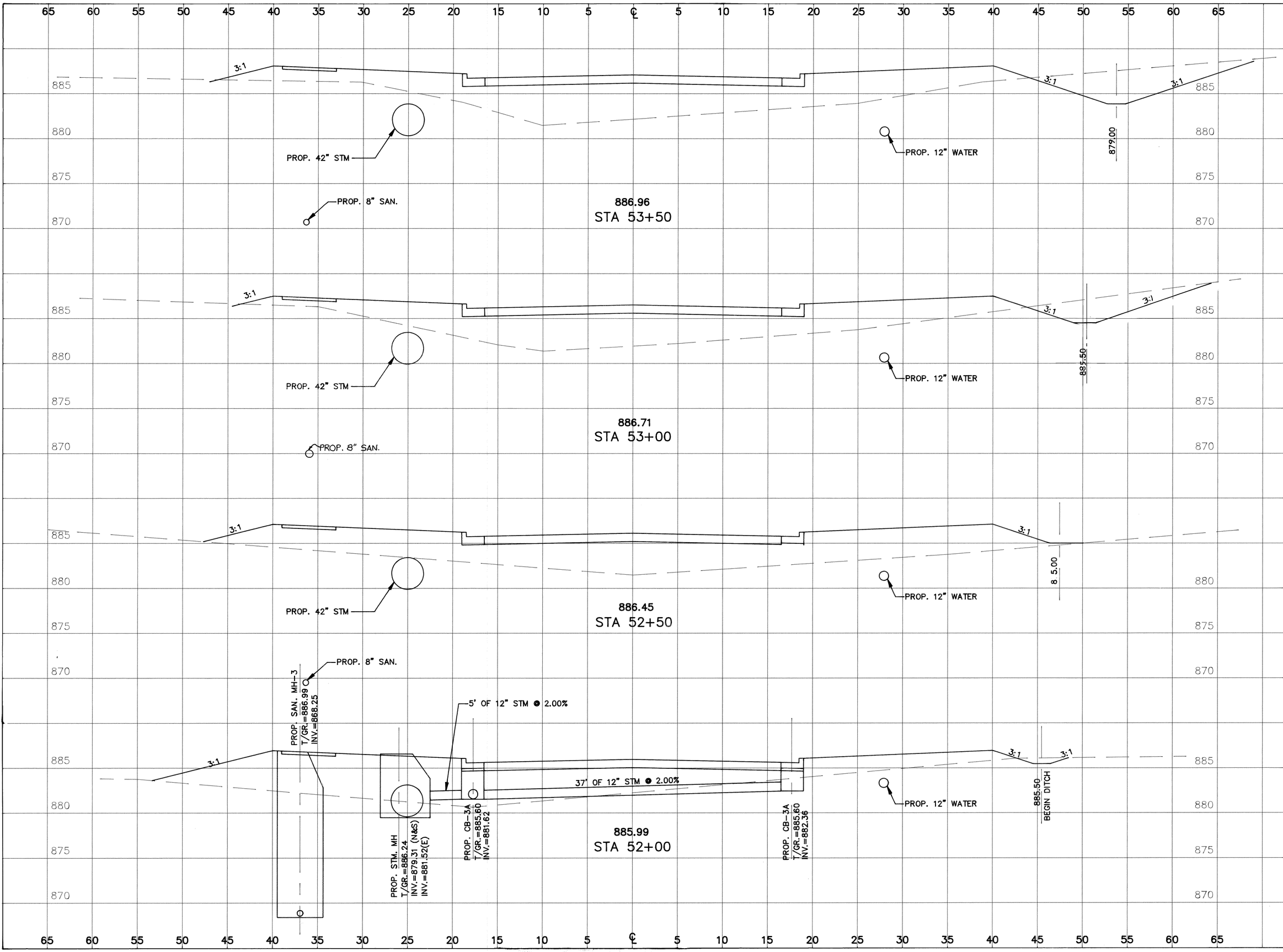
HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTION
STA 50+00 TO STA. 51+50

PROJECT NO: R-2534-00.701

17
31




| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| 53 | 238 | | |
| | | 83 | 427 |
| 37 | 223 | | |
| | | 35 | 439 |
| 0 | 251 | | |
| | | 2 | 477 |
| 2 | 264 | | |
| | | 5 | 411 |

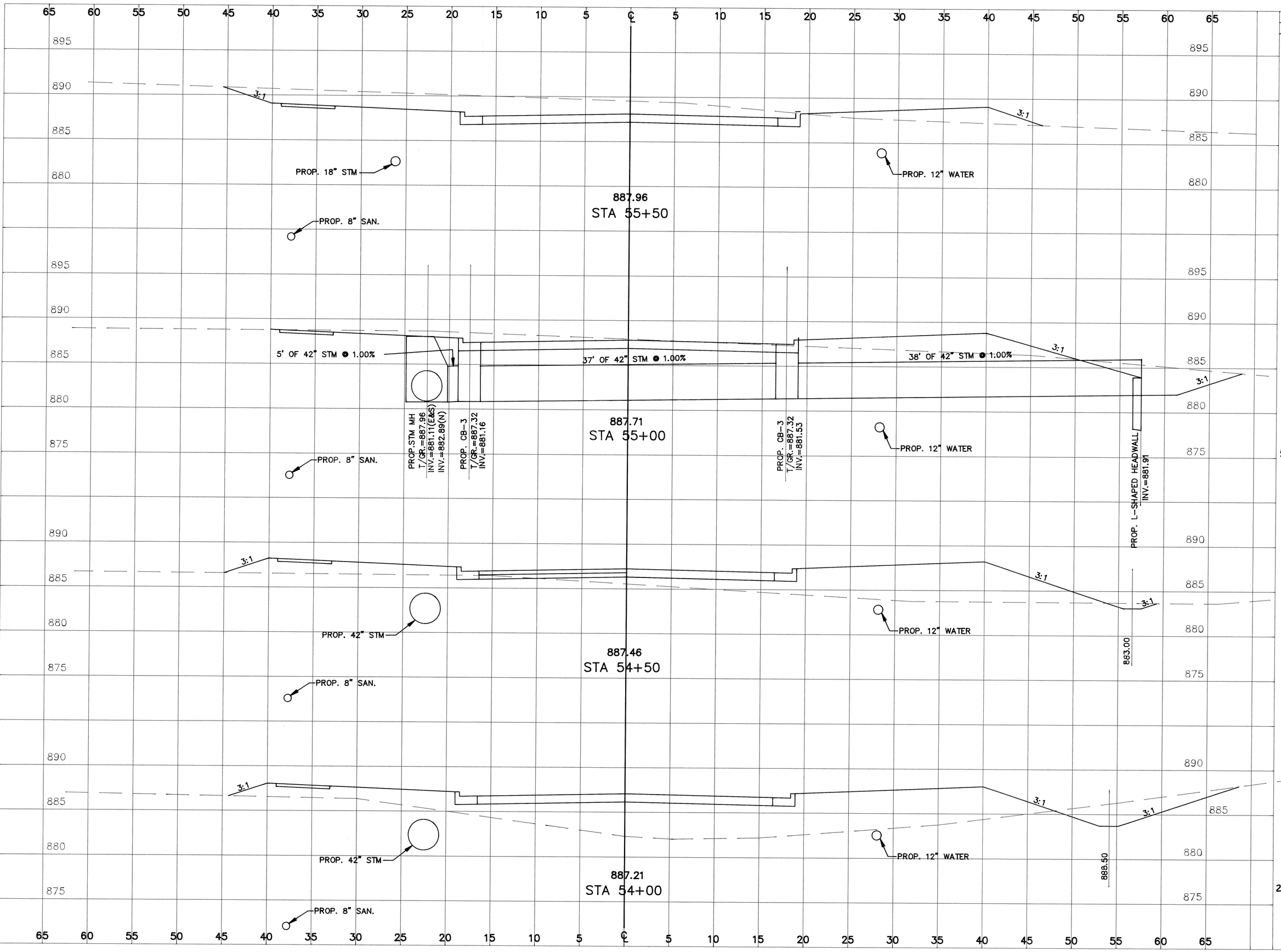
HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA 52+00 TO STA. 53+50

PROJECT NO: R-2534-00.701

18
31



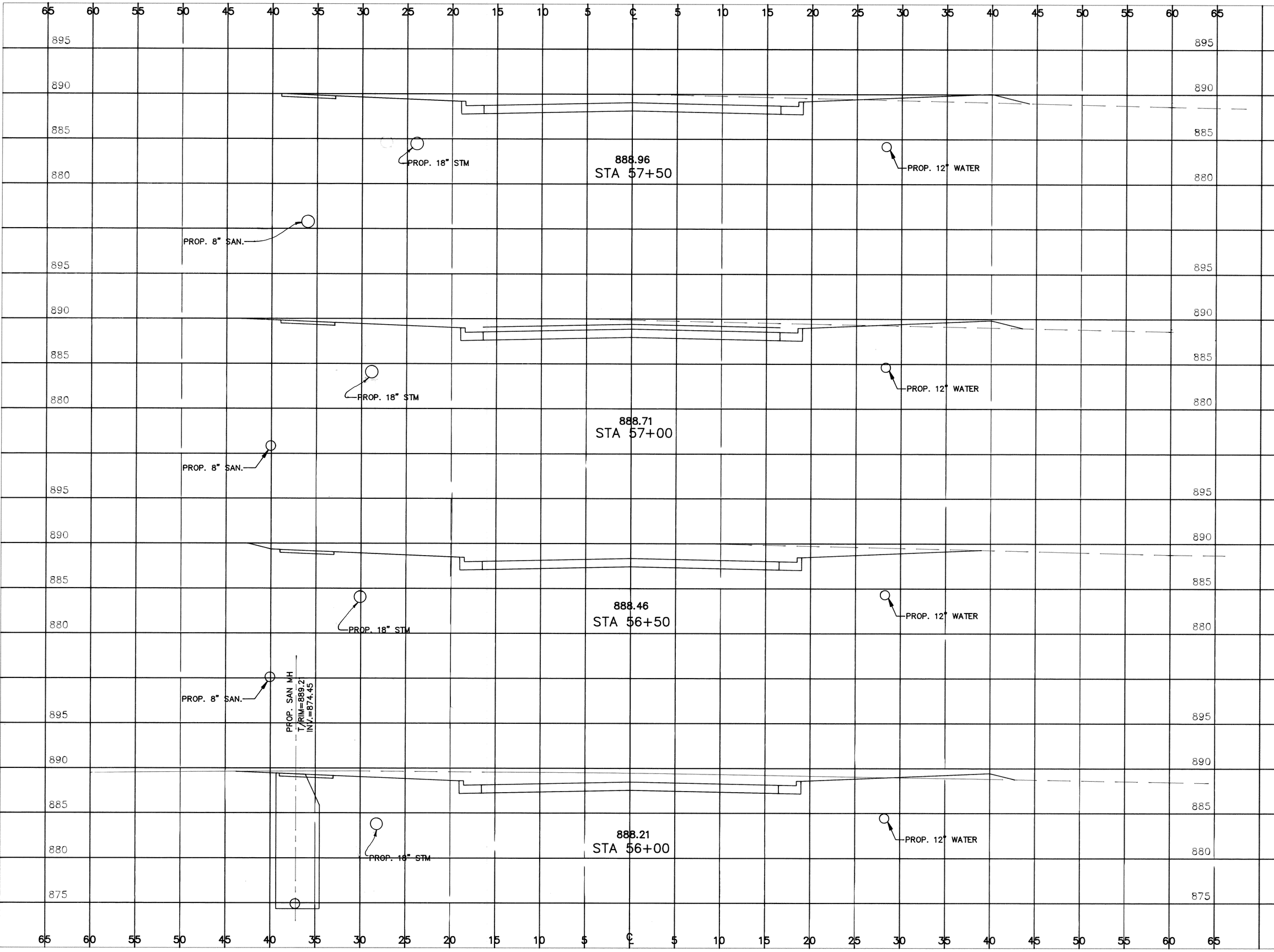

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 138 | 25 | | |
| | | 183 | 61 |
| 59 | 41 | | |
| | | 59 | 193 |
| 5 | 167 | | |
| | | 31 | 391 |
| 28 | 255 | | |
| | | 75 | 457 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA 54+00 TO STA. 55+50

PROJECT NO: R-2534-00.701



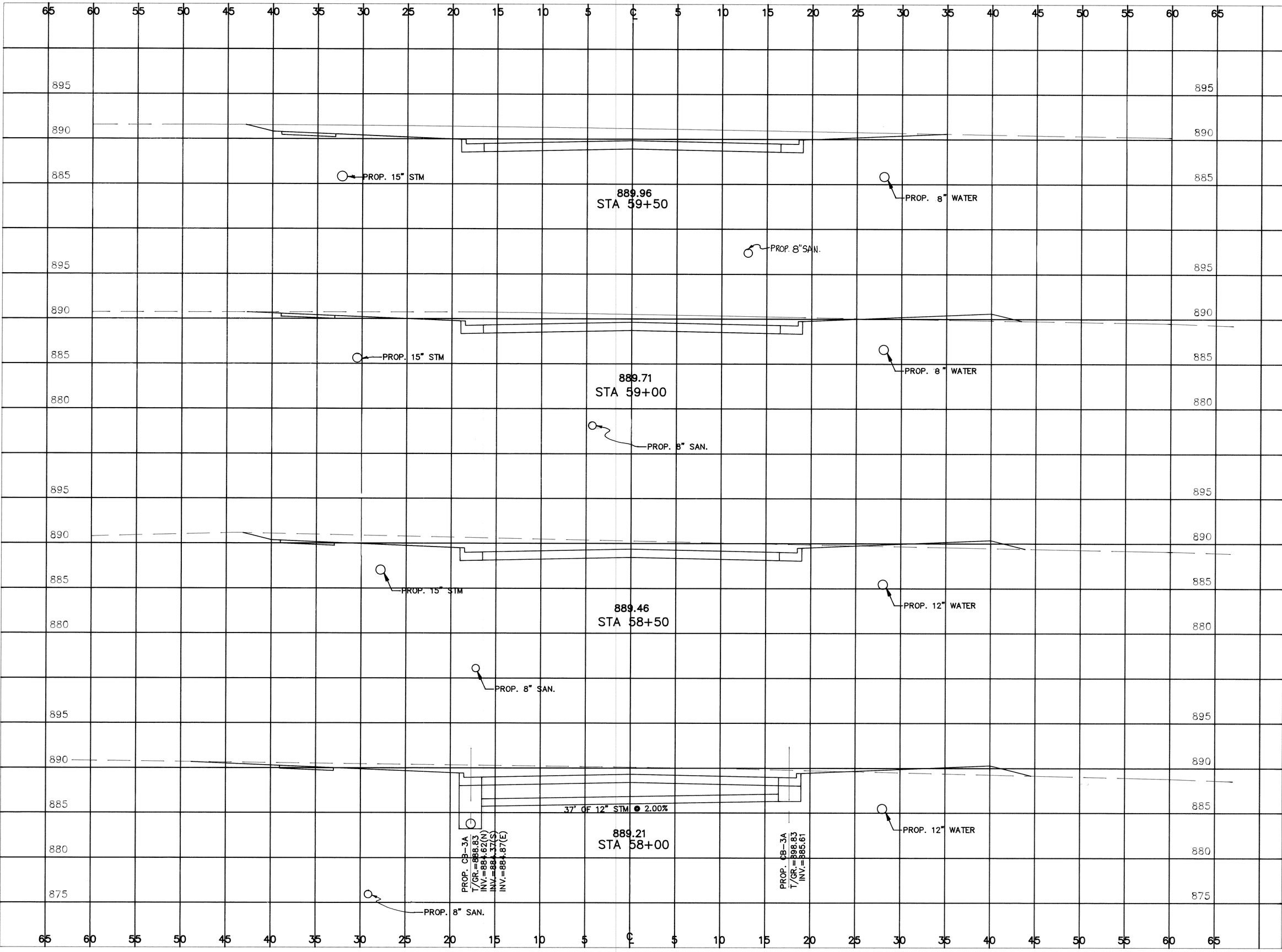

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 87 | 8 | | |
| | | 169 | 15 |
| 95 | 8 | | |
| | | 222 | 7 |
| 144 | 0 | | |
| | | 224 | 4 |
| 97 | 4 | | |
| | | 218 | 27 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA.56+00 TO STA. 57+50

PROJECT NO: R-2534-00.701



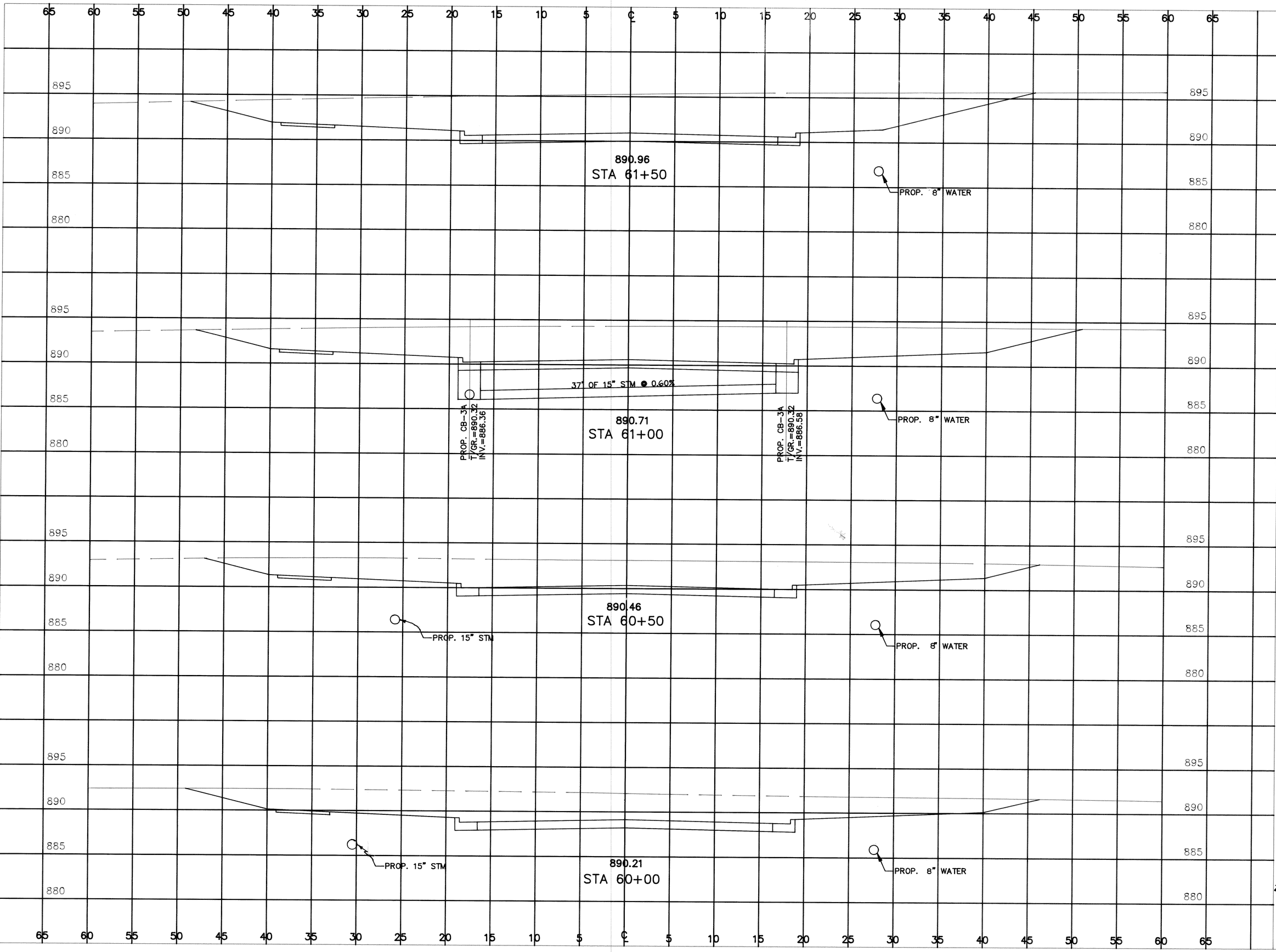

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 125 | 0 | | |
| | | 198 | 12 |
| 88 | 13 | | |
| | | 169 | 24 |
| 94 | 13 | | |
| | | 187 | 24 |
| 108 | 13 | | |
| | | 181 | 20 |

0 5
HORIZONTAL SCALE IN FEET

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA. 58+00 TO STA. 59+50

PROJECT NO: R-2534-00.701




| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| 357 | 0 | | |
| | | 644 | 0 |
| 338 | 0 | | |
| | | 550 | 0 |
| 256 | 0 | | |
| | | 490 | 0 |
| 273 | 0 | | |
| | | 369 | 0 |

HORIZONTAL SCALE IN FEET 0 5

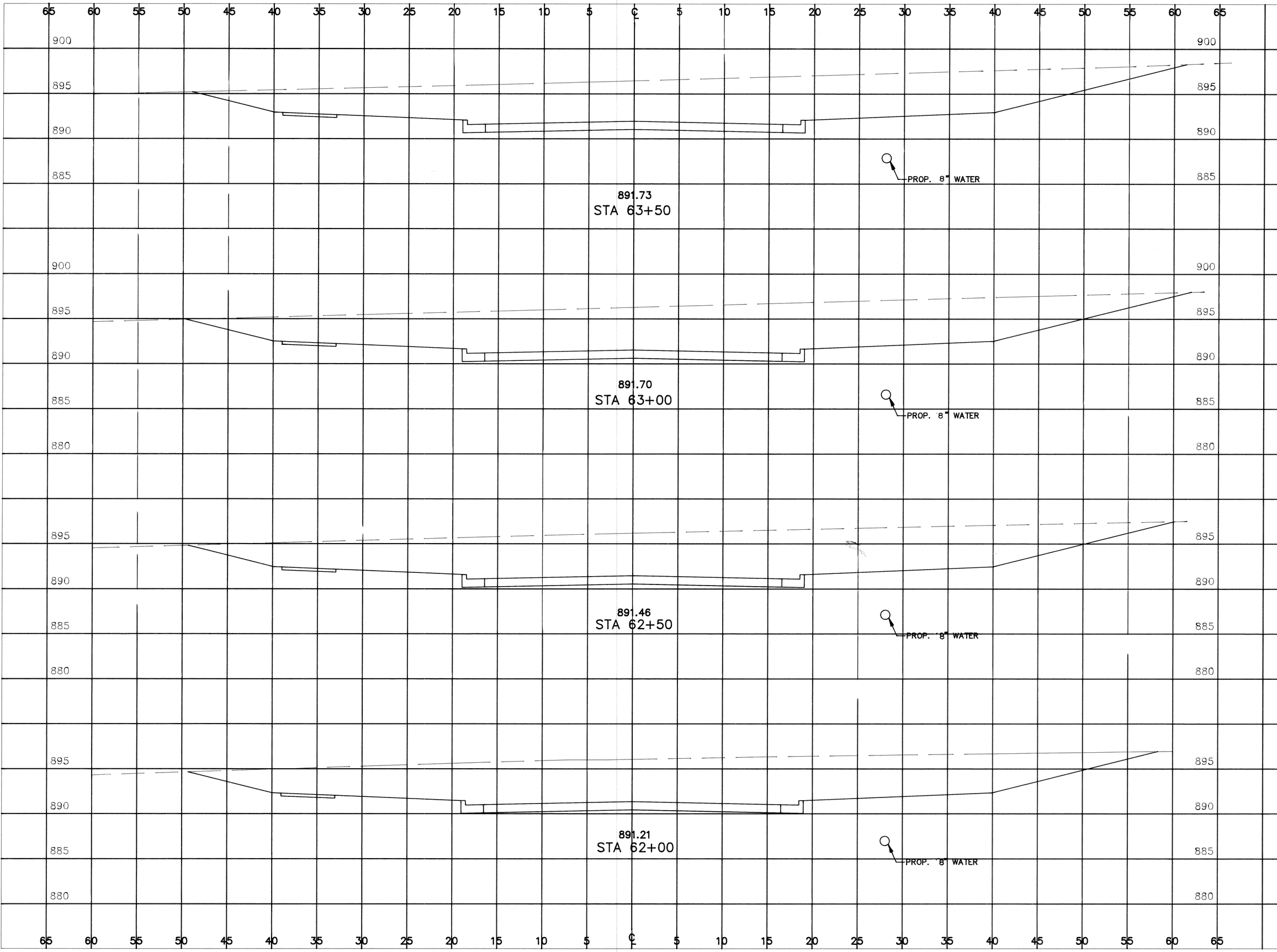
CALCULATED MAR

CHECKED CAR

CROSS SECTIONS

STA. 60+00 TO STA. 61+50

PROJECT NO: R-2534-00.701




| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 448 | 0 | | |
| | | 879 | 0 |
| 501 | 0 | | |
| | | 890 | 0 |
| 460 | 0 | | |
| | | 837 | 0 |
| 443 | 0 | | |
| | | 741 | 0 |

HORIZONTAL SCALE IN FEET 0 5

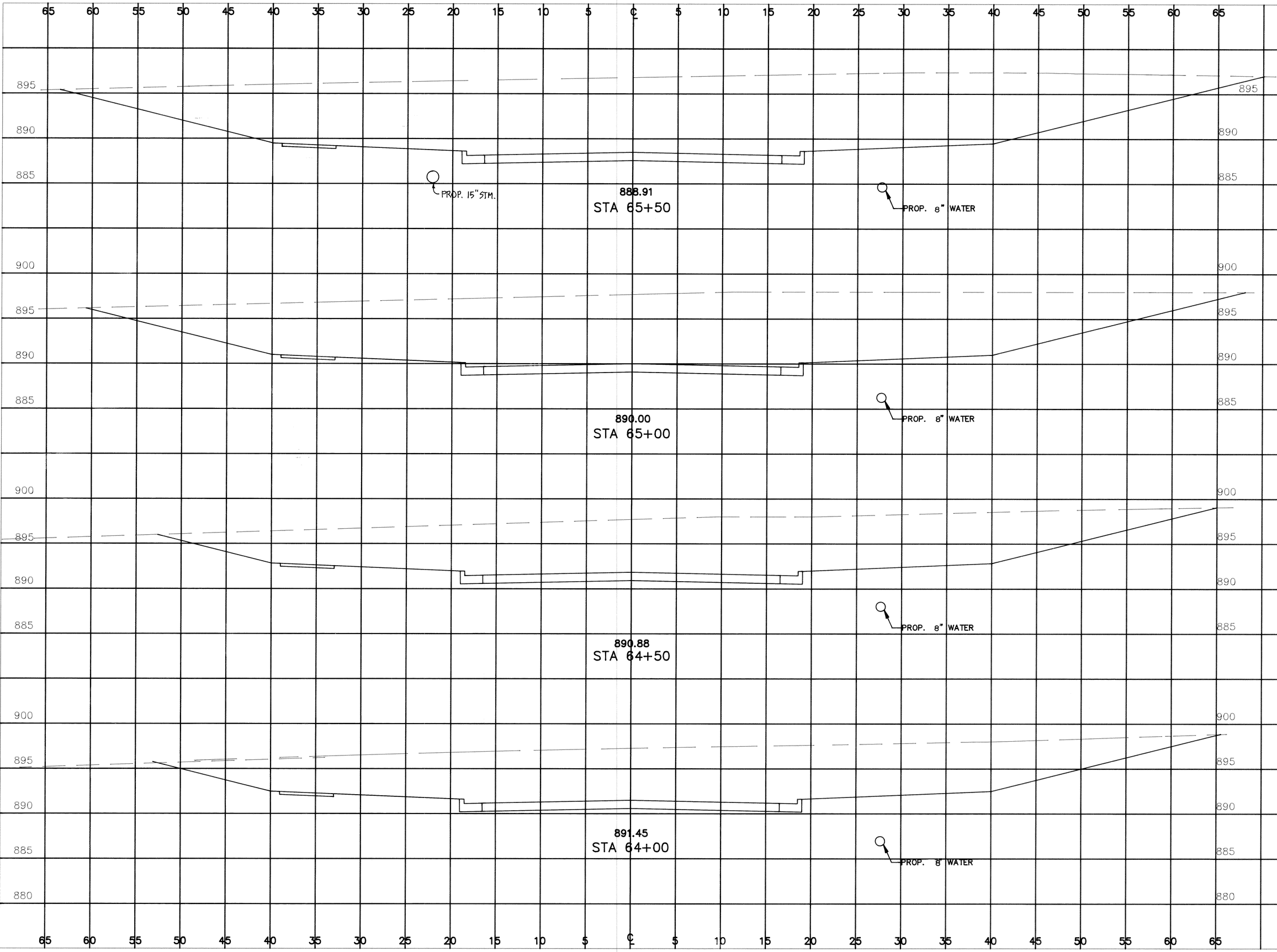
CALCULATED MAR

CHECKED CAR

CROSS SECTIONS

STA. 62+00 TO STA. 63+50

PROJECT NO: R-2534-00.701



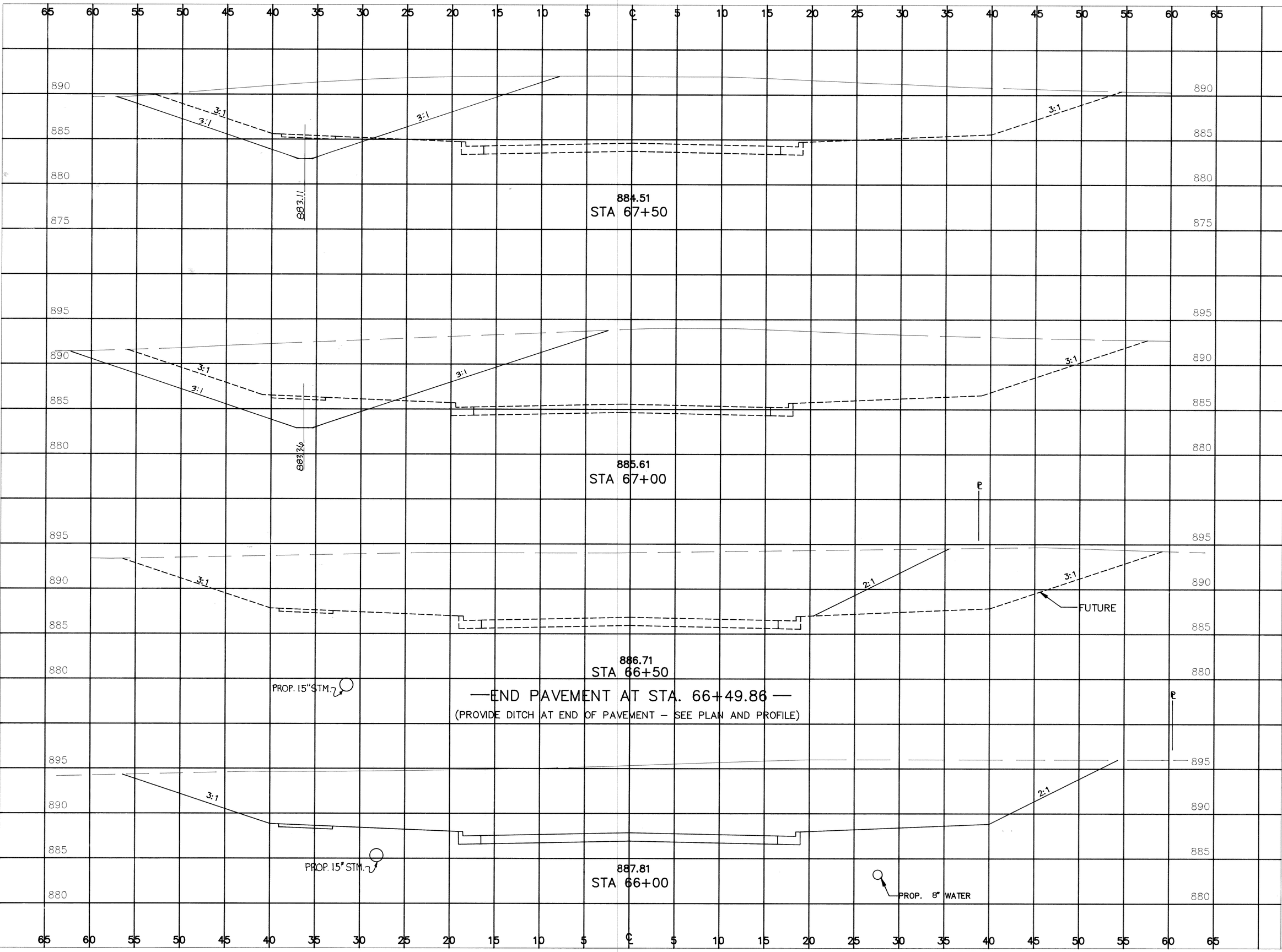

| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| 747 | 0 | | |
| | | 1293 | 0 |
| 649 | 0 | | |
| | | 1063 | 0 |
| 498 | 0 | | |
| | | 913 | 0 |
| 487 | 0 | | |
| | | 866 | 0 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA. 64+00 TO STA. 65+50

PROJECT NO: R-2534-00.701



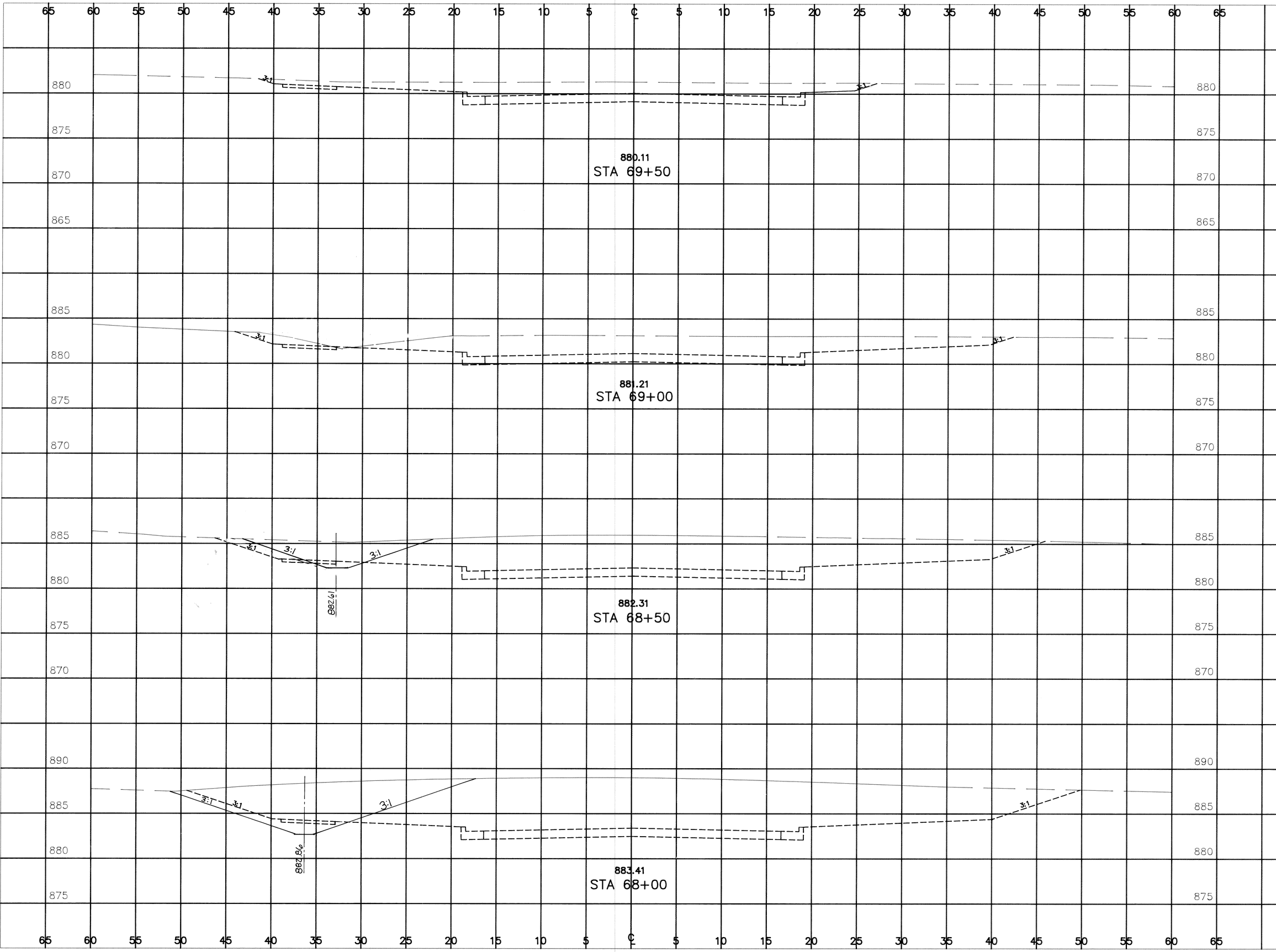

| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| 662 | 0 | | |
| | | 1293 | 0 |
| 733 | 0 | | |
| | | 340 | 0 |
| | | 268 | 0 |
| 577 | 0 | | |
| | | 1203 | 0 |
| 722 | 0 | | |
| | | 1361 | 0 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR
CHECKED CAR

CROSS SECTIONS
STA. 66+00 TO STA. 67+50

PROJECT NO: R-2534-00.701




| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 108 | 0 | | |
| | | 267 | 0 |
| 179 | 0 | | |
| | | 439 | 0 |
| 295 | 0 | | |
| | | 706 | 0 |
| 466 | 0 | | |
| | | 1044 | 0 |

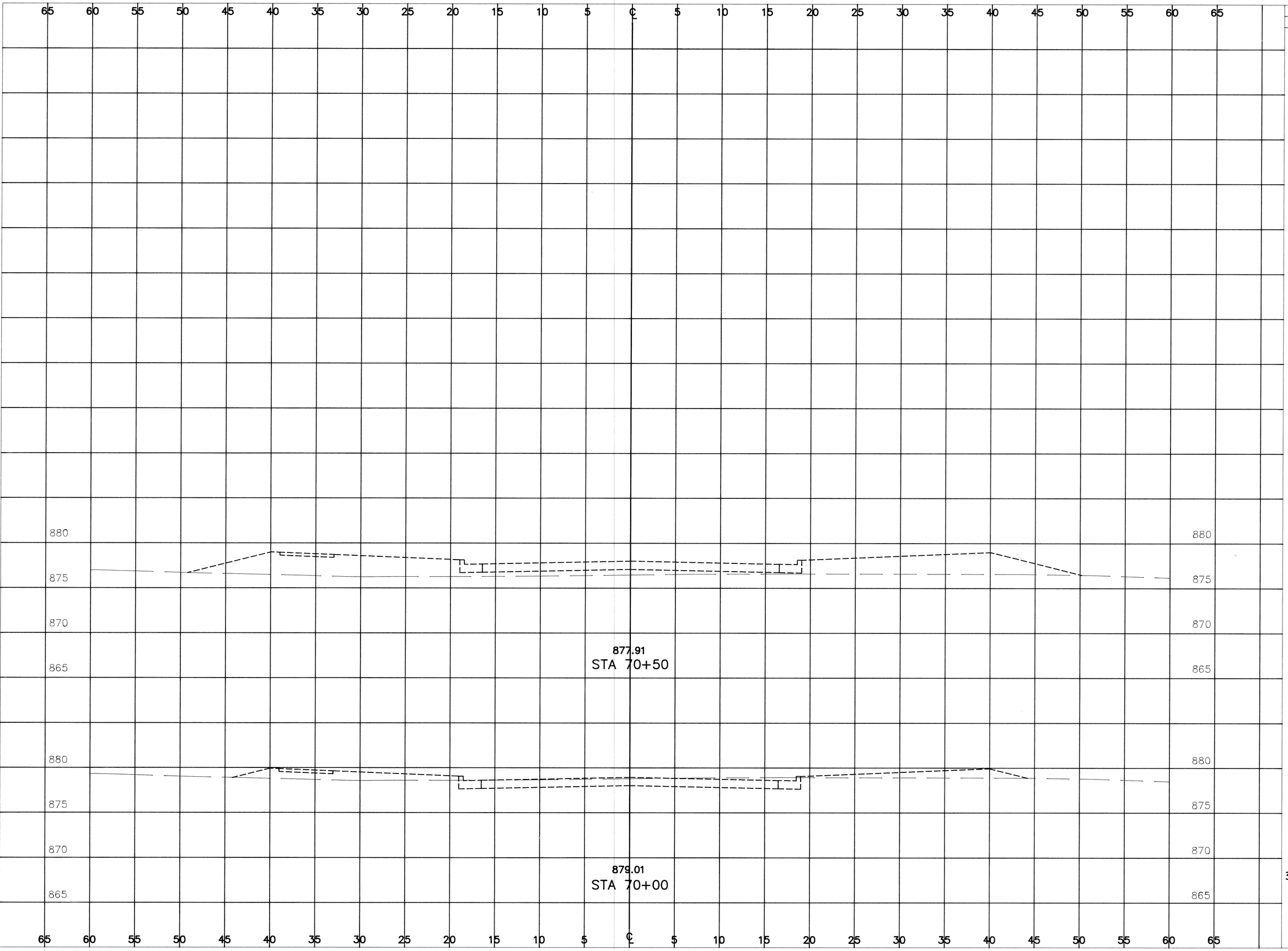
HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR

CHECKED MAR

CROSS SECTIONS
STA. 68+00 TO STA. 69+50

PROJECT NO: R-2534-00.701




| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| 0 | 131 | | |
| | | 35 | 152 |
| 37 | 33 | | |
| | | 135 | 31 |

HORIZONTAL SCALE IN FEET 0 5

CALCULATED MAR

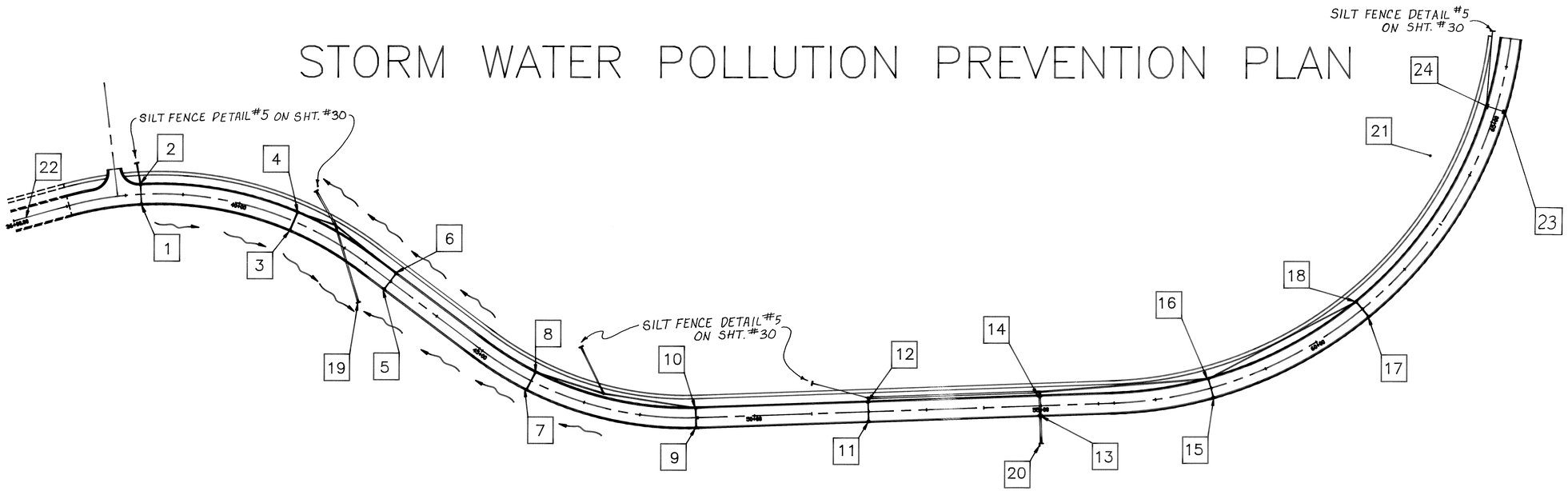
CHECKED CAR

CROSS SECTIONS

STA. 70+00 TO STA. 70+50

PROJECT NO: R-2534-00.701

# STORM WATER POLLUTION PREVENTION PLAN




1. CB–3A Sta. 38+26.98
   0.25 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

2. CB–3A Sta. 38+26.98
   0.25 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

3. CB–3A Sta. 41+00, Rt.
   0.18 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

4. CB–3A Sta. 41+00, Lt.
   0.18 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

5. CB–3A Sta. 43+00, Rt.
   0.28 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

6. CB–3A Sta. 43+00, Lt.
   0.28 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

7. CB–3A Sta. 46+00, Rt.
   0.28 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

8. CB–3A Sta. 46+00, Lt.
   0.28 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

9. CB–3A Sta. 46+00, Rt.
   0.40 Acre Drainage Area
   8 Straw or Hay Bales
   1 c.y. R.C.P. Type C with filter

10. CB–3A Sta. 49+00, Lt.
    0.23 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

11. CB–3A Sta. 52+00, Rt.
    0.28 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

12. CB–3A Sta. 52+00, Lt.
    0.28 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

13. CB–3 Sta. 55+00, Rt.
    0.28 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

14. CB–3 Sta. 55+00, Lt.
    0.28 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

15. CB–3A Sta. 58+00, Rt.
    0.28 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

16. CB–3A Sta. 58+00, Lt.
    0.28 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

17. CB–3A Sta. 61+00, Rt.
    0.60 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

18. CB–3A Sta. 61+00, Lt.
    0.20 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

19. INLET–48" CONDUIT Sta. 42+75.89
    50.74 Acre Drainage Area,
    (with 2.21 Acres Disturbed)
    8 Each Straw or Hay Bales
    (In semi circle around headwall)
    148 c.y. Temproary Benches,
    Dams, and Sediment Basins

20. INLET–42" CONDUIT Sta. 55+00, Rt.
    34.85 Acres Drainage Area,
    (with 1.35 Acres Disturbed)
    8 Each Straw or Hay Bales
    (In semi circle around headwall)
    91 c.y. Temporary Benches,
    Dams, and Sediment Basins

21. TOE OF SLOPES
    Sta. 35+00, Lt. to Sta. 70+00, Lt.
    10 Acre Drainage Area
    3500 L.F. Filter Fabric Fence

22. EXISTING PAVEMENT
    Sta. 36+50, Lt. & Rt.
    1 Acre Drainage Area
    100 L.F. Filter Fabric Fence
    (Excavated on either side of pavement)

23. CB–3A Sta. 65+25, Rt.
    0.71 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

24. CB–3A Sta. 65+25, Lt.
    0.71 Acre Drainage Area
    8 Straw or Hay Bales
    1 c.y. R.C.P. Type C with filter

ESTIMATED QUANTITIES

| ITEM | EXT. | TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|
| 207 | 30000 | 3600 | L.F. | FILTER FABRIC FENCE |
| 207 | 50000 | 239 | C.Y. | TEMPORARY BENCHES DAMS,& |
| | | | | SEDIMENT BASINS |
| 207 | 70000 | 176 | EA. | STRAW OR HAY BALES |
| 601 | 32200 | 20 | C.Y. | TYPE "C",R.C.P. WITH FILTER |
| | | | | |
| | | | | |
| | | | | |

ITEM 207 TEMPORARY BENCHES, DAMS, AND SEDIMENT BASINS

THE SEDIMENT BASIN QUANTITIES LISTED ON THIS STORM WATER POLLUTION PREVENTION PLAN ARE THE STORAGE VOLUMES REQUIRED FOR THE SEDIMENT BASIN. THE PAY QUANTITY FOR EACH BASIN SHALL BE DETERMINED AS THE ACTUAL AMOUNT OF EXCAVATION OR EMBANKMENT REQUIRED TO PROVIDE THAT STRAGE VOLUME.

HORIZONTAL SCALE IN FEET 0 100

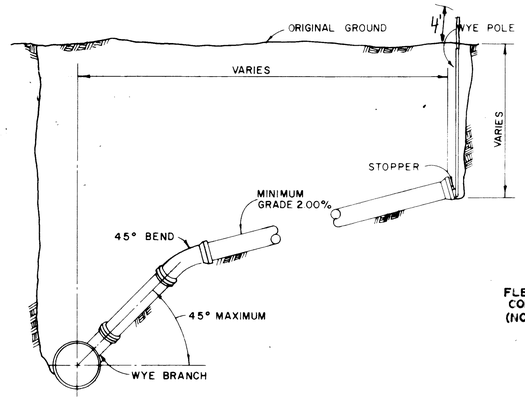
CALCULATED CAR
CHECKED

TYLERS PLACE BOULEVARD
STROM WATER POLLUTION PREVENTION PLAN

PROJECT NO: R-2534-00.701



94L54-6

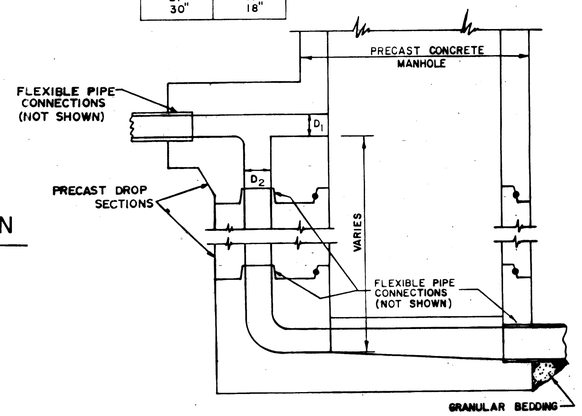



## TYPICAL SERVICE CONNECTION

NO SCALE

| TABLE OF DIMENSIONS | |
|---|---|
| $D_1$ | $D_2$ (MIN.) |
| 6" | 6" |
| 8" | 6" |
| 10" | 6" |
| 12" | 8" |
| 15" | 8" |
| 18" | 10" |
| 21" | 10" |
| 24" | 12" |
| 27" | 15" |
| 30" | 18" |

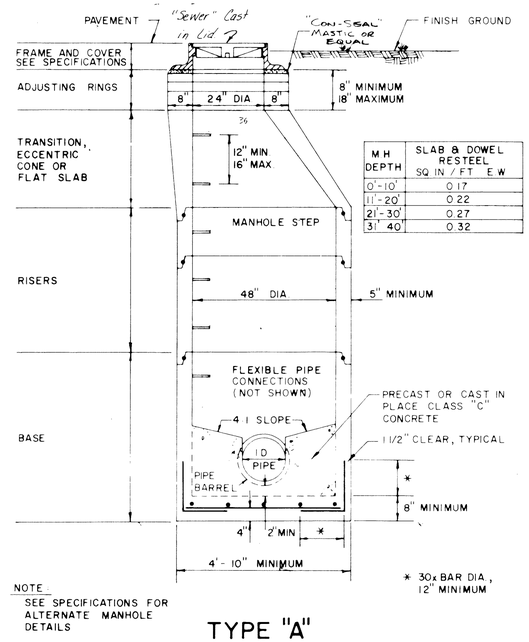
DROP MANHOLES SHALL BE USED WHEN THE DIFFERENCE IN ELEVATION BETWEEN THE INVERT OF THE INLET AND THE OUTLET PIPE EXCEEDS 2.0 FEET.




## PRECAST DROP MANHOLE

NO SCALE

NOTE:
CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS DETAILING THE TYPE OF AUGER STOP TO BE USED AT EACH BORE AND JACK LOCATION.



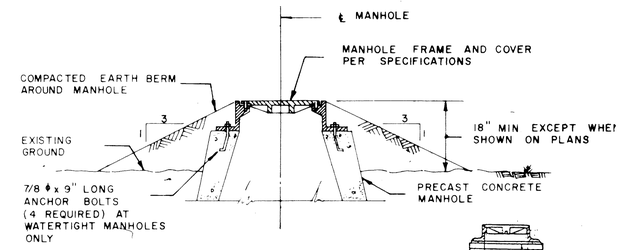

| M H DEPTH | SLAB & DOWEL RESTEEL SQ IN / FT E W |
|---|---|
| 0'-10' | 0.17 |
| 11'-20' | 0.22 |
| 21'-30' | 0.27 |
| 31'-40' | 0.32 |

NOTE
SEE SPECIFICATIONS FOR ALTERNATE MANHOLE DETAILS

## TYPE "A"

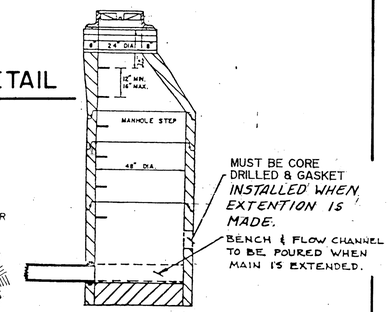
## PRECAST CONCRETE MANHOLE

NO SCALE

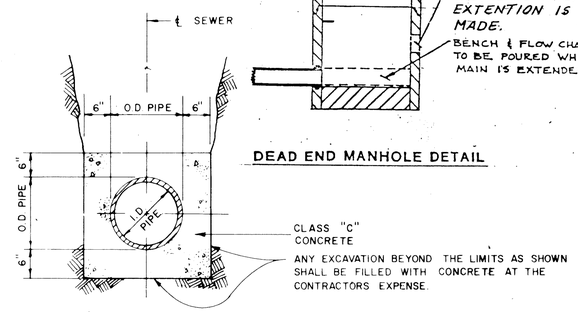



## ELEVATED MANHOLE DETAIL

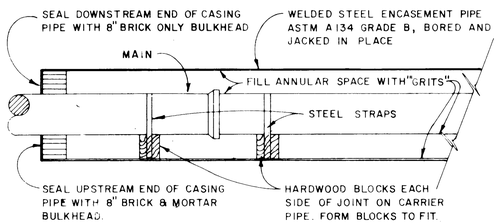
NO SCALE




## DEAD END MANHOLE DETAIL




## CONCRETE ENCASEMENT




| LOCATION | ① | ② | ③ | SHEET NO. |
|---|---|---|---|---|
| | | | | |
| | | | | |

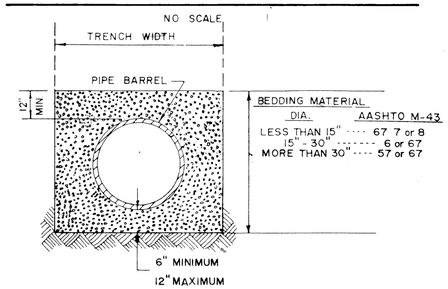
① ENCASEMENT PIPE SIZE"
② ENCASEMENT PIPE WALL THICKNESS
③ MAIN SIZE.

## ENCASEMENT PIPE DETAIL

NO SCALE

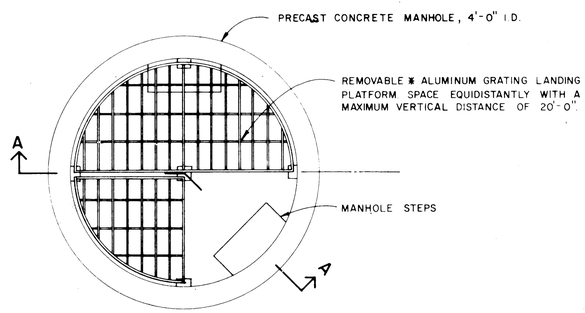
**MAXIMUM PIPE SIZE**

| TYPE | MH I.D. | MAX. PIPE SIZE | MIN. INTERIOR ANGLE |
|---|---|---|---|
| "A" | 48" | 24" | 104° |
| "B" | 60" | 36" | 116° |
| "C" | 72" | 42" | 108° |
| "D" | 84" | 60" | 135° |




## SEWER INSTALLATION

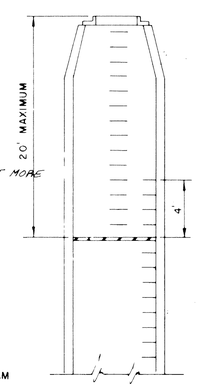
NO SCALE




PLAN
Φ12'-0" BELOW GRADE

* ALUMINUM GRATING SHALL BE RECTANGULAR PRESSURE LOCKED TYPE PROPERLY SUPPORTED BY AMPLE FRAMES ANCHORED INTO CONCRETE GRATING SHALL BE OF SUCH CONSTRUCTION AS TO HAVE A UNIFORM LOAD OF 250 LB PER SQUARE FOOT WITH A DEFLECTION OF NOT MORE THAN 1/160 OF THE SPAN. BEARING BARS SHALL NOT BE LESS THAN 3/16" THICK AND A MINIMUM OF 1-1/4" IN DEPTH. ALL OPENINGS AND EDGES SHALL BE BANDED.

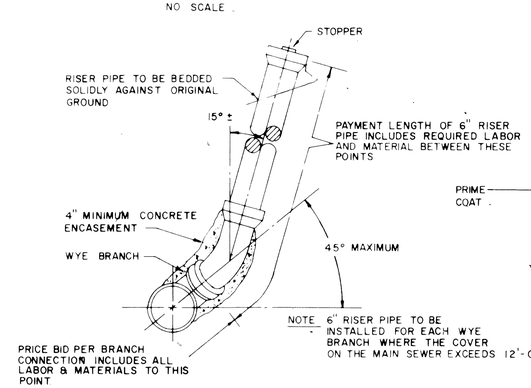
ALUMINUM GRATING SHALL BE PROVIDED AS SHOWN AT ALL MANHOLES WHERE THE VERTICAL DISTANCE FROM THE TOP OF THE MANHOLE CASTING TO THE DOWNSTREAM INVERT IS GREATER THAN 20 FEET. THE COST FOR THE MANHOLE GRATING SHALL BE INCLUDED IN THE PRICE BID PER MANHOLE.




SECTION A-A

## MANHOLE GRATING DETAIL

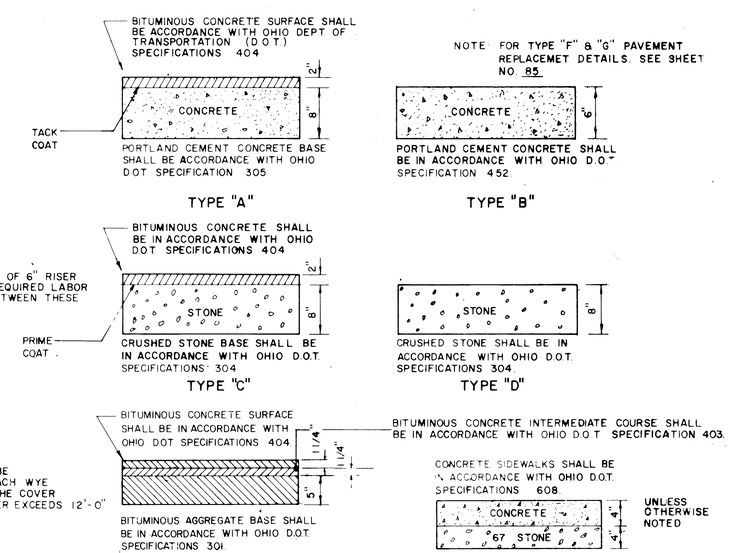
NO SCALE




NOTE 6" RISER PIPE TO BE INSTALLED FOR EACH WYE BRANCH WHERE THE COVER ON THE MAIN SEWER EXCEEDS 12'-0"

## DETAIL OF BRANCH CONNECTION AND RISER PIPE

NO SCALE




## PAVEMENT REPLACEMENT DETAILS

NO SCALE

## WALK REPLACEMENT DETAIL

NO SCALE

| | | | |
|---|---|---|---|
| BUTLER COUNTY, OHIO | DESIGNED BY AJL<br>DRAWN BY RDR<br>CHECKED BY AJL | REVISIONS | SCALE AS SHOWN |

STANDARD DETAILS

# GENERAL NOTES

## EROSION AND SEDIMENT CONTROLS

**Vegetative practices.**
Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing and protection of trees. The contractor shall initiate appropriate vegetative practices on all disturbed areas within seven (7) days if they are to remain dormant (undisturbed) for more than forty-five (45) days. Permanent or temporary soil stabilization shall be applied to disturbed areas within seven (7) days after final grade is reached on any portion of the site.

**Structural practices.**
Structural practices shall be used to control erosion and trap sediment from all sites remaining disturbed for more than fourteen (14) days.

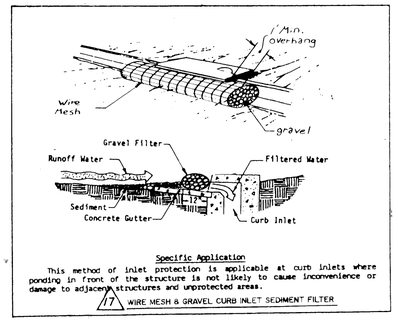
**Timing**
Sediment control structures shall be functional throughout earth disturbing activity. Sediment ponds and perimeter sediment barriers shall be implemented as the first step of grading and within seven days from the start of grubbing. They shall continue to function until the upslope development area is restabilized.

**Sediment Barriers**
Sheet flow runoff from denuded areas shall be intercepted by sediment barriers. Sediment barriers, such as sediment fences or diversions direction runoff to settling facilities, shall protect adjacent properties and water resources from sediment transported by sheet flow.

Erosion and sediment control practices used to satisfy the conditions of this plan shall meet the standards and specifications in the current edition of Water Management and Sediment Control in Urbanizing Areas (Soil Conservation Service).

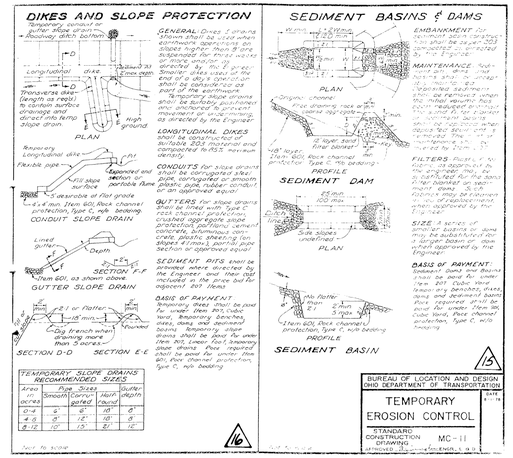
**Waste Disposal**
No solid or liquid waste, including building materials, shall be discharged in storm water runoff. Off-site vehicle tracking of sediments shall be minimized. The plan shall ensure and demonstrate compliance with applicable State or local waste disposal, sanitary sewer or septic system regulations.

**Maintenance**
All temporary and permanent control practices shall be maintained and repaired as needed to assure continued performance of their intended function.



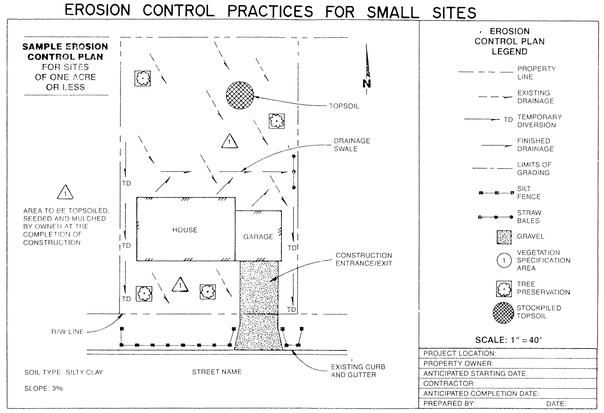

Specific Application
This method of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent structures and unprotected areas.

17 WIRE MESH & GRAVEL CURB INLET SEDIMENT FILTER




16 15

## EROSION CONTROL PRACTICES FOR SMALL SITES

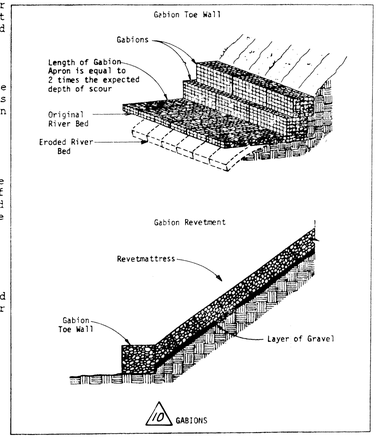



*Source: Wisconsin Department of Natural Resources.*

**WARNING!** Extra measures may be needed if your site:
- Is within 300 feet of a stream or wetland
- Is within 1000 feet of a lake
- Is steep (slopes of 12% or more)
- Receives runoff from 10,000 sq. ft. or more of adjacent land
- Has more than an acre of disturbed ground

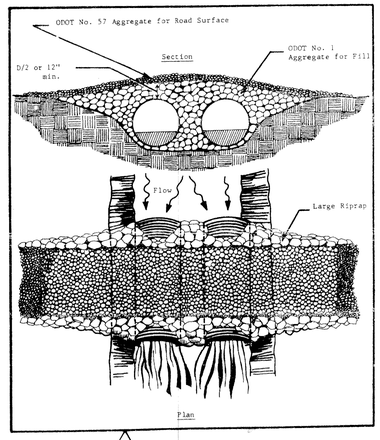
**Typical Lawn Seed Mixtures**

| Grass | Percent by Weight Sunny Site | Shady Site |
|---|---|---|
| Kentucky bluegrass | 65% | 15% |
| Fine fescue | 20% | 70% |
| Perennial ryegrass | 15% | 15% |
| Seeding rate (lb./1000 sq. ft.) | 3-4 | 4-5 |



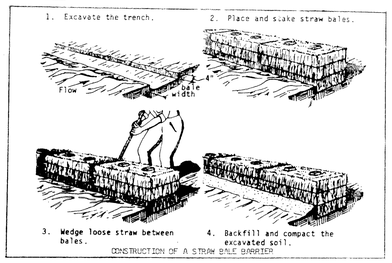

10 GABIONS

Source: Adapted from product literature of Bekaert Gabions.



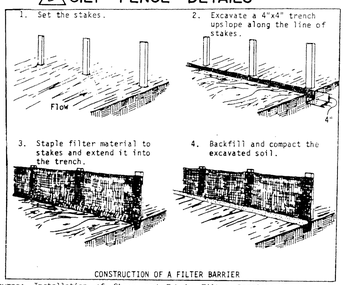

7 TEMPORARY STREAM CROSSING

## 4 STRAW BALE DETAILS



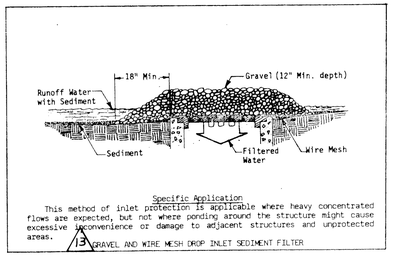

Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment control, Sherwood and Wyant.

## 5 SILT FENCE DETAILS



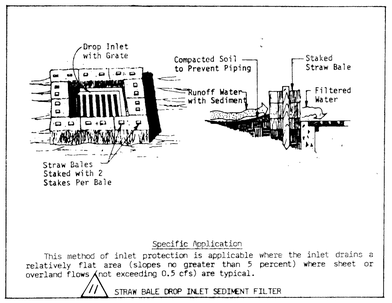

Source: Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

## INLET PROTECTION DETAILS



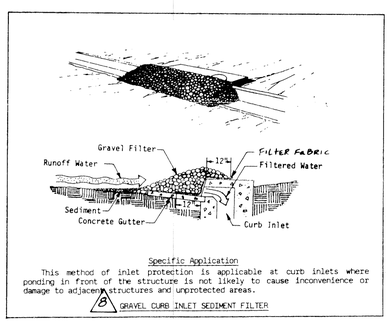

Specific Application
This method of inlet protection is applicable where heavy concentrated flows are expected, but not where ponding around the structure might cause excessive inconvenience or damage to adjacent structures and unprotected areas.

13 GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



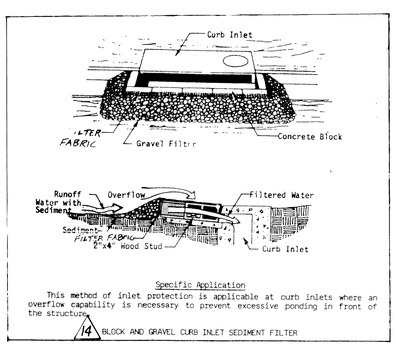

Specific Application
This method of inlet protection is applicable where the inlet drains a relatively flat area (slopes no greater than 5 percent) where sheet or overland flows not exceeding 0.5 cfs) are typical.

11 STRAW BALE DROP INLET SEDIMENT FILTER



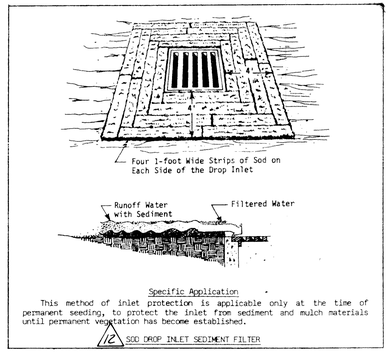

Specific Application
This method of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent structures and unprotected areas.

8 GRAVEL CURB INLET SEDIMENT FILTER



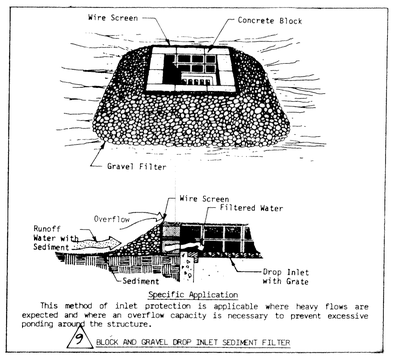

Specific Application
This method of inlet protection is applicable at curb inlets where an overflow capability is necessary to prevent excessive ponding in front of the structure.

14 BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER



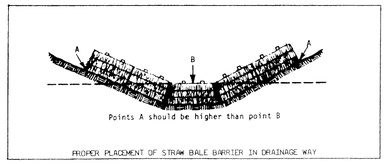

Specific Application
This method of inlet protection is applicable only at the time of permanent seeding, to protect the inlet from sediment and mulch materials until permanent vegetation has become established.

12 SOD DROP INLET SEDIMENT FILTER

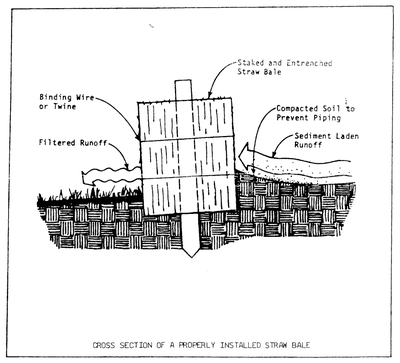



Specific Application
This method of inlet protection is applicable where heavy flows are expected and where an overflow capacity is necessary to prevent excessive ponding around the structure.

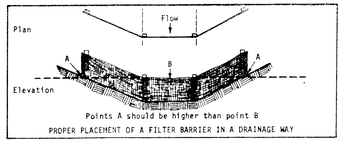
9 BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER



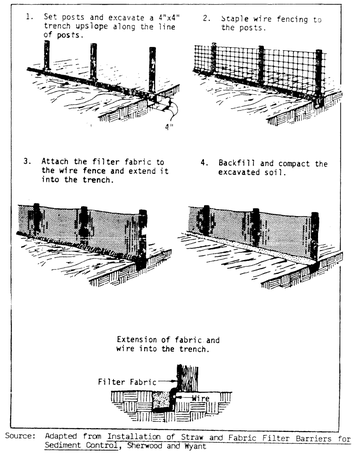

Source: Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant.




Source: Michigan Soil Erosion and Sedimentation Control Guidebook, 1975




Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant




Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

## REVEGETATION

Seed, sod or mulch bare soil as soon as possible.

### 1 SEEDING AND MULCHING

- Spread 4 to 6 inches of topsoil.
- Fertilize according to soil test (or apply 10 lb./1000 sq. ft. of 20-10-10 or 10-10-10 fertilizer).
- Seed with an appropriate mix for the site (see table).
- Rake lightly to cover seed with 1/4" of soil. Roll lightly.
- Mulch with straw (70-90 lb. or one bale per 1000 sq. ft.).
- Anchor mulch by punching 2 inches into the soil with a dull, weighted disk or by using netting or other measures on steep slopes, or windy areas.
- Water gently every day or two to keep soil moist. Less watering is needed once grass is 2 inches tall.

### 2 SODDING

- Spread 4 to 6 inches of topsoil.
- Fertilize according to soil test (or apply 10 lb./1000 sq. ft. of 20-10-10 or 10-10-10 fertilizer).
- Lightly water the soil.
- Lay sod. Tamp or roll lightly.
- On slopes, lay sod starting at the bottom and work toward the top. Peg each piece down in several places.
- Initial watering should wet soil 6 inches deep (or until water stands 1 inch deep in a straight-sided container). Then water lightly every day or two for 2 weeks.

If construction is completed after October 31, seeding or sodding may be delayed. Applying mulch or temporary seed (such as rye or winter wheat) is recommended if weather permits. Straw bale or silt fences must be maintained until final seeding or sodding is completed in spring March 15 - May 31.

### 3 PRESERVING EXISTING VEGETATION

- Wherever possible, preserve existing trees, shrubs, and other vegetation.
- To prevent root damage, do not grade, place soil piles, or park vehicles near trees marked for preservation.
- Place plastic mesh or snow fence barriers around trees to protect the area below their branches.

### 4 or 5 STRAW BALE or SILT FENCE

- Put up before any other work is done.
- Install on downslope side(s) of site with ends extended up sideslopes a short distance.
- Place parallel to the contour of the land to allow water to pond behind fence.
- Entrench 4 inches deep (see back page).
- Stake (2 stakes per bale OR 1 stake every 3 feet for silt fence).
- Leave no gaps between bales or sections of silt fence.
- Inspect and repair once a week and after every 1/2 inch rain. Remove sediment if deposits reach half the fence or straw bale height.
- Maintain until a lawn is established.

### 6 SOIL PILES

- Located away from any downslope street, driveway, stream, lake, wetland, ditch or drainageway.
- Temporary seed such as annual rye is recommended for topsoil piles.
- Surround with straw bales or silt fence.

## GRAVEL DRIVE

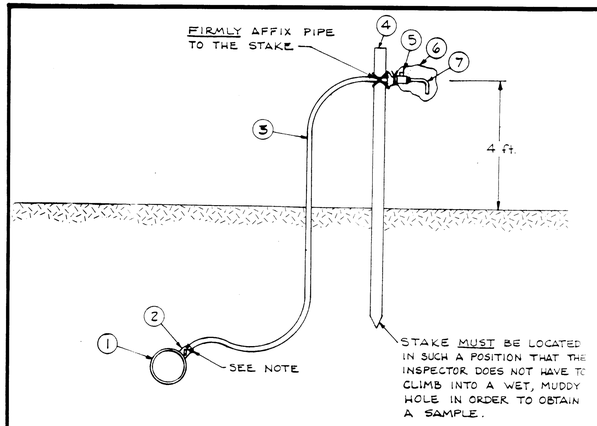
- Install a single access drive using 3 to 5 inch aggregate over a geotextile material.
- Lay gravel 6 inches deep and 10 feet wide from the foundation to the street.
- Use to prevent tracking dirt onto the road by *all vehicles*.
- Maintain throughout construction until driveway is paved.
- Park all construction vehicles on the street and off of the site.

## SEDIMENT CLEANUP

- By the end of each work day, sweep or scrape up soil tracked onto the road.
- By the end of the next work day after a storm, clean up soil washed off-site, and check straw bails and silt fence for damage or sediment buildup.

## DOWNSPOUT EXTENDERS

- Not required, but highly recommended.
- Install as soon as gutters and downspouts are completed.
- Route water to a grassed or paved area.
- Maintain until a lawn is established.



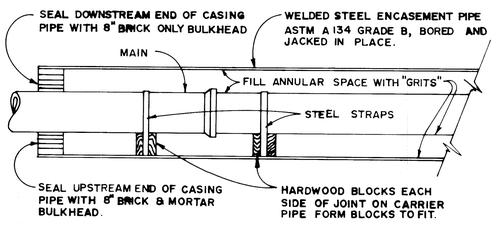

NOTE: DURING FREEZING CONDITIONS THE LINE WILL BE DRAINED AT THE CORP. STOP AND RETIGHTENED, THEN RE-ACTIVATED BY THE CONTRACTOR'S PERSONNEL AT THE TIME OF THE TEST.

## BILL OF MATERIAL

1. WATER MAIN
2. CORPORATION STOP
3. SERVICE PIPE (POLYBUTYLENE)
4. STURDY STAKE
5. 3/4" CURB STOP
6. PLASTIC "BAGGY" W/ TWIST TIE (NO TAPE)
7. 3/8" COPPER (6" TO 8" LONG - BENT DOWN)

## PURITY TEST STATION

NOTE
CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS DETAILING THE TYPE OF AUGER STOP TO BE USED AT EACH BORE AND JACK LOCATION.

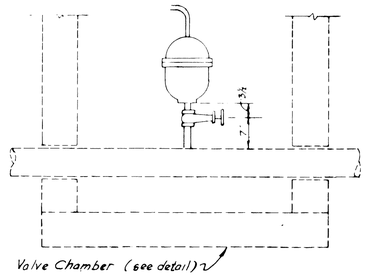



| LOCATION | ① | ② | ③ | SHEET NO. |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

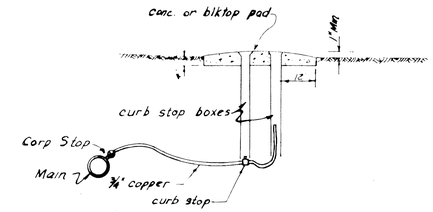
① ENCASEMENT PIPE SIZE
② ENCASEMENT PIPE WALL THICKNESS
③ MAIN SIZE

## ENCASEMENT PIPE DETAIL

For valve information see Specifications "Air Release Valve"

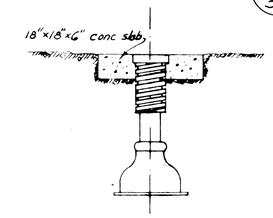



## AIR RELEASE VALVE




## AIR RELEASE COCK

Scale: 1/2" = 1'-0"




## ROADWAY & AUXILIARY VALVE BOX DETAIL

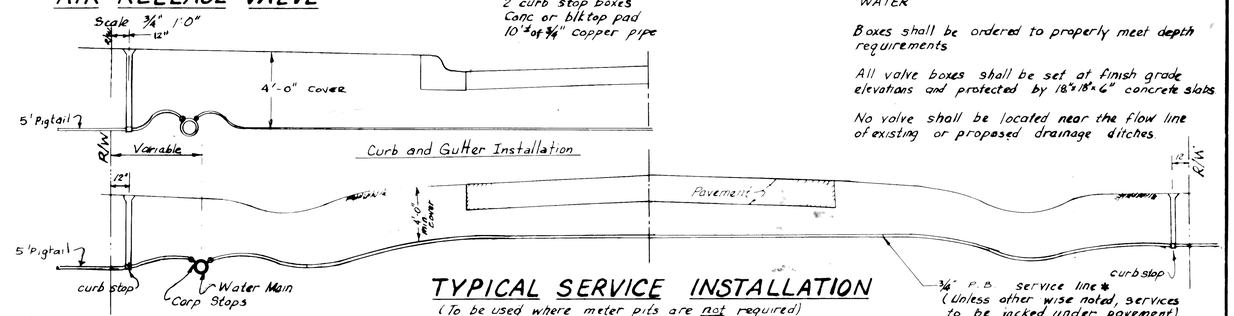
Roadway and auxiliary valve boxes shall be cast iron, Buffalo pattern, 5 1/4" dia shaft, three piece screw type adjustable. Cover shall be marked "WATER"

Boxes shall be ordered to properly meet depth requirements

All valve boxes shall be set at finish grade elevations and protected by 18"x18"x6" concrete slabs

No valve shall be located near the flow line of existing or proposed drainage ditches.

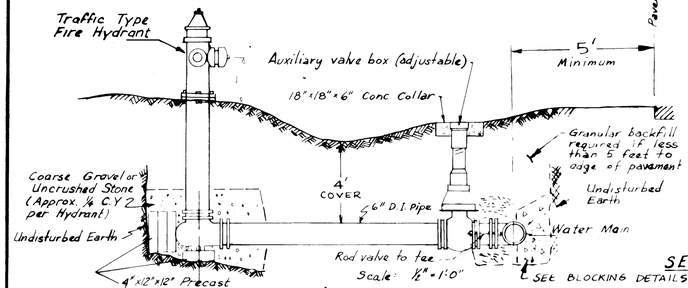
Material
1 corporation stop
1 curb stop
2 curb stop boxes
Conc or blktop pad
10'-0" of 3/4" copper pipe

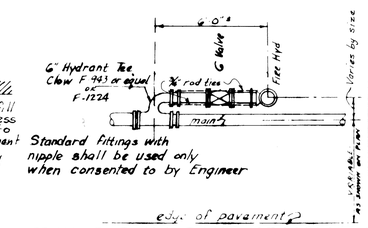



* AS SPECIFIED IN THE CONTRACT DOCUMENT

## TYPICAL SERVICE INSTALLATION

(To be used where meter pits are not required)




Standard fittings with nipple shall be used only when consented to by Engineer

SETTING FOR HYDRANT ADJACENT TO MAIN

## TYPICAL FIRE HYDRANT INSTALLATIONS

Notes:
All fire hydrants shall be rodded and set on a large flat stone or concrete block. The rods shall be given a protective bituminous coating

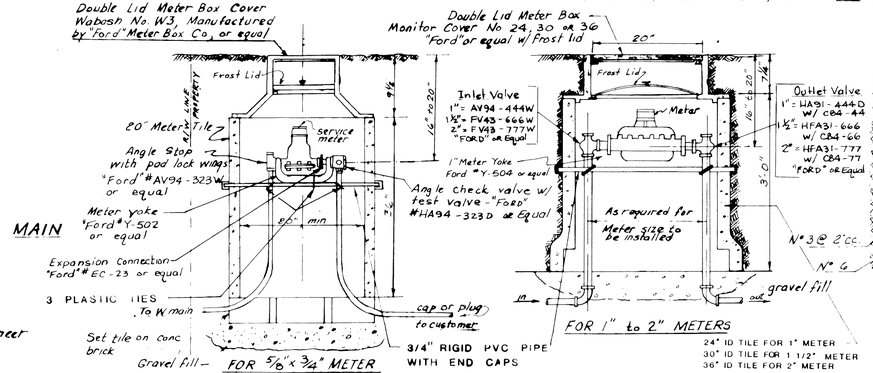
Hydrants shall be of the top quality of the manufacturer

Concrete block shall be evenly and firmly bedded against firm earth backing and bedded in sand if directed by the engineer

Auxiliary valves shall be used in all installations. Auxiliary valves and valve boxes are paid for under the appropriate item and are not included in the fire hydrant item for payment

No valves or fire hydrants shall be located near the flow line of existing or proposed ditches

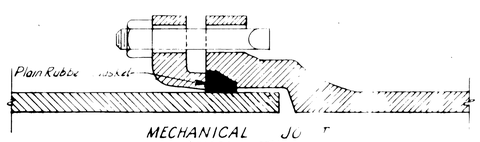
Fire hydrant leads crossing roadside ditches shall have 4'-0" min. cover.



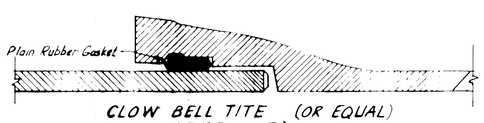

## STANDARD METER SETTINGS

| Pipe Size | C.Y. conc per Lin Ft | No 6 Bars per ft of encasement | Length of N° 3 Bars | N° 3 bars per ft of encasement |
|---|---|---|---|---|
| 6" | 0.121 | 1.502 | 3'-3" | 0.61 |
| 8" | 0.139 | " | 4'-3" | 0.80 |
| 10" | 0.157 | " | 4'-9" | 0.89 |
| 12" | 0.177 | " | 5'-3" | 0.98 |
| 16" | 0.200 | " | 6'-3" | 1.17 |
| 18" | 0.247 | " | 6'-10" | 1.28 |
| 20" | 0.270 | " | 7'-6" | 1.39 |
| 24" | 0.315 | " | 8'-6" | 1.59 |

## CONCRETE MAIN ENCASEMENT




MECHANICAL JOINT (TYPE III)




CLOW BELL TITE (OR EQUAL) (TYPE II)

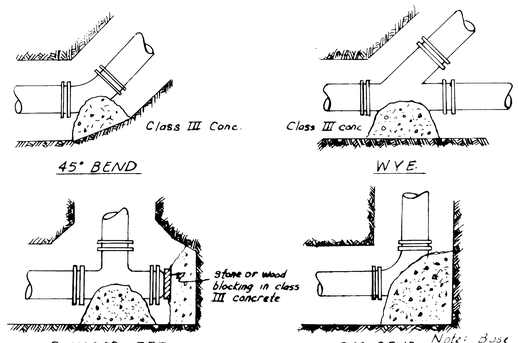
## PIPE JOINTS

| MAXIMUM DEFLECTIONS FOR MECHANICAL JOINT PIPE | | | |
|---|---|---|---|
| Size | Based on 18' Length | | Radii of Curve |
| | Angle | Deflection | |
| 6" | 7°07' | 27' | 145' |
| 8", 10", 12" | 5° 21' | 20' | 195' |

| MAXIMUM DEFLECTIONS FOR PUSH-ON TYPE PIPE | | | |
|---|---|---|---|
| Size | Based on 18' Length | | Radii of Curve |
| | Angle | Deflection | |
| 6", 8", 10", 12" | 5° | 19" | 205' |

Note: Standard bends shall be used where radii are less than those shown in table.

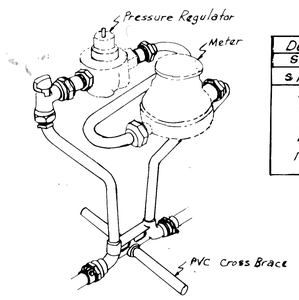
FOR PIPE GREATER THAN 12" SEE THE CONTRACT DOCUMENT SECTION 9.36




## BLOCKING DETAILS

| ESTIMATED AMOUNT OF CONC FOR BLOCKING PIPE JOINTS | | |
|---|---|---|
| DESCRIPTION | | CU. FT. |
| 6" to 12" | Tees | 7 |
| " " " | Y's | 4 |
| " " " | Bends | 3 |
| " " " | Crosses | 8 |
| 16 & 18" | Tees | 12 |
| " " " | Y's | 5 |
| " " " | Bends | 7 |
| " " " | Crosses | 14 |
| 20" & 24" | Tees | 20 |
| " " " | Y's | 10 |
| " " " | Bends | 9 |
| " " " | Crosses | 22 |

Note: Base area of concrete blocking to be determined by Engineer from size and pressure in pipe and permissible bearing capacity of soil. No extra payment will be made for concrete where it is necessary to use more than is shown on table.




Tandem Coppersatter

| DUCTILE IRON STD THICKNESS IN | |
|---|---|
| SIZE | CLASS 53 |
| 4" | 0.32 |
| 6" | 0.34 |
| 8" | 0.36 |
| 10" | 0.38 |
| 12" | 0.40 |

| REVISIONS | | |
|---|---|---|
| No | BY | DATE |
| 1 | AJL | 8-2-82 |
| 2 | RDR | 11-26-85 |
| 3 | RDR | 2-5-87 |

1 Changed meter setting outlet valve
2. CHANGED METER SETTING VALVES, & SERVICE LINE
3. PIT CROSS BRACE
4. PIT SIZE 2-27-87
5 Added Purity Test Station Detail 3-1-89

BUTLER COUNTY, OHIO

STANDARD DETAILS FOR WATER MAINS AND APPURTENANCES

DATE | SCALE NONE | JOB N° | SHEET | DRAWING N°