

GREEN TREE MEADOWS PLAT 5

IMPROVEMENT PLANS

HELMUT WEBER CONSTRUCTION CO,



VOLZ

HELMUT WEBER
CONSTRUCTION CO.
1717 HENKE RD.
O'FALLON, MO.
63366

5933 South Highway 94, Suite 201,
St. Charles, Missouri 63304-5671
FAX (636)939-5138
(636)939-5155

Engineers
Land Planners
Land Surveyors



VOLZ

**GREEN TREE MEADOWS
PHASE 3**

IMPROVEMENT PLANS

DESIGNED BY: E.D.K.
DRAWN BY: D.K.L.
CHECKED BY: E.A.K.

CONSTRUCTION NOTES

The underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, nonexistence, size, type, number, or location of these or other utilities. The general contractor shall be responsible for verifying the actual location of all underground utilities, shown or not shown, and said utilities shall be located in the field prior to any grading, excavation, or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.

All construction and materials used shall conform to current City of Lake Saint Louis, Missouri standards and construction specifications.

All utility relocations will be determined by the individual utility company.

Consult Soils Engineer for soil compaction recommendations.

No area shall be cleared without permission of the developer.

All grades shall be within 0.2 feet, plus or minus, of those shown on the grading plan.

No slope shall be steeper than 3 horizontal to 1 vertical.

If cut & fill operations occur during a season not favorable for immediate establishment of a permanent ground cover, a fast germinating annual such as rye grasses or Sudan grasses shall be utilized to retard erosion.

Erosion and siltation control shall be installed prior to any grading and be maintained throughout the project until acceptance of the work by the owner and/or controlling regulatory agency and adequate vegetative growth insures no further erosion of soil.

Contractor is responsible for maintaining all siltation control devices shown, and provide additional siltation control devices as deemed necessary due to field conditions or as required by the City of Lake Saint Louis. See approved grading plan set for location of devices.

The Contractor shall notify the Soil Engineer at least two days in advance of the start of the grading operation.

Parking on non-surfaced areas is prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto the pavement causing hazardous roadway and driving conditions. Contractor shall keep road clear of mud and debris.

All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rainstorm resulting in sediment reaching one-half the height of straw bales or silt fences.

Siltation fences shall be inspected periodically for damage and for the amount of sediment which has accumulated. Removal of sediment will be required when it reaches 1/2 the height of the fences.

Straw bales shall be inspected periodically for deterioration. Bales which have rotted or failed shall be replaced. Removal of sediment will be required when it reaches 1/2 the height of the bales.

The grading Contractor shall perform a complete grading and compaction operation as shown on plans, stated in these notes, or reasonably implied therefrom, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer. Contractor is responsible for monitoring grading operation and accuracy of final rough grades. Notify engineer of any discrepancies affecting final grading balance.

All trench backfills under pavement within the public right-of-way shall be granular backfilled. Trench backfills under paved areas outside of public right-of-way may be granular backfill in lieu of the earth bankfill compacted to 90 percent of the Modified AASHTO T-190 compaction test A.S.T.M. D-1557.

Blasting will require a permit from the City of Lake Saint Louis.

Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be disposed of off-site.

Soft soil in the bottom and banks of any existing or former pond sites or tributaries, or on any sediment basins or traps, shall be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material may be placed in proposed public right-of-way locations or on any sewer locations.

Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site and the demolition and removal of any man-made structures. The material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing operation.

Compaction equipment shall consist of tamping rollers, pneumatic-tired roller, or high speed impact type drum rollers, acceptable to the Soils Engineer. The roller shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.

The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.

The Soils Engineer shall notify the Contractor of rejection of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.

All areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted in accordance with the specifications given below. Natural slopes steeper than 1 vertical to 5 horizontal to receive fill shall have horizontal benches, cut into the slopes before the placement of any fill. The width and height to be determined by the Soils Engineer. The fill shall be loosely placed in horizontal layers not exceeding 8 inches in thickness and compacted in accordance with the specifications given below. The Soils Engineer shall be responsible for determining the acceptability of soils placed. Any unacceptable soils placed shall be removed at the Contractor's expense.

The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and reposition of the sequence. The acceptable moisture contents during the filling operation are those of which satisfactory dry densities can be obtained. The acceptable moisture contents during the filling operation in the remaining areas are from 2 to 8 percent above the optimum moisture content.

The surface of the fill shall be finished so that it will not impound water. If, at the end of a days work, it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operation continue when the temperature is such as to freeze the layer under placement to freeze.

REVEGETATIVE TABLE

VEGETATIVE ESTABLISHMENT
For Urban Development Sites

APPENDIX A

Minimum Seeding rates:

Permanent:

Tall Fescue - 30 lbs./ac.
Smooth Brome - 20 lbs./ac.
Combined: Fescue @ 15 lbs./ac. and Brome @ 10 lbs./ac.

Temporary:

Wheat or Rye - 150 lbs./ac. (3.5 lbs. per square foot)
Oats - 120 lbs./ac. (2.75 lbs. per square foot)

Mulch rates: 100 lbs. per 1,000 sq. feet (4,356 lbs. per acre)

Fertilizer rates: Nitrogen 30 lbs./ac.

Phosphate 30 lbs./ac.
Potassium 30 lbs./ac.
Lime 600 lbs./ac. ENM*

* ENM = effective neutralizing material as per State evaluation of quarried rock.

UTILITY SERVICE

UTILITY	CONTACT NAME	TELEPHONE
St. Charles Gas	Clarence Hanks	(636) 946-0790
Verizon	Michelle Gerteisen	(636) 332-3710
Cuivre River Electric	Earl Tucker	(636) 528-8261
Public Water Supply District No. 2 of St. Charles Co.	Jeff Bleckman	(636) 581-3737
Charter Communications	Randy Heendee	(636) 441-7511

SOILS ENGINEER NOTES

These plans have been reviewed by Geotest, Inc. for their compliance regarding geotechnical recommendations relative to site development. Based on this review and available subsurface information, it is our opinion that the site may be constructed in accordance with the plans, good construction practices, and the recommendations given in our Geotechnical Report of _____.

We have not prepared any part of these plans and my seal on these plans is intended only to confirm my personal review and approval of the site grading plan as it relates to the stability of earth slopes.

Geotest, Inc. must be involved during the construction phase of this project in order to determine if subsurface conditions are as anticipated from the field exploration data, that our recommendations relative to site grading are implemented, and that other geotechnical aspects of this site development are performed in accordance with these plans.

GEOTEST, INC.

LEGEND

—UC—	EXISTING UNDERGROUND CABLE TV
—UT—	EXISTING UNDERGROUND TELEPHONE
—UE—	EXISTING UNDERGROUND ELECTRIC
—OU—	EXISTING OVERHEAD UTILITY WIRES
—G—	EXISTING GAS MAIN
—W—	EXISTING WATER MAIN
—F—	PROPOSED FORCE MAIN
—F—	EXISTING FORCE MAIN
—	BUILDING LINE
—	EXISTING SANITARY SEWER
—	PROPOSED SANITARY SEWER
—	EXISTING STORM SEWER
—	PROPOSED STORM SEWER
—	EXISTING CONTOUR
—	PROPOSED CONTOUR
—	EXISTING TREE LINE
—	PROPOSED TREE LINE
—	SILTATION CONTROL
—	EX HIGH WATER OR DITCH
—	GRADE BREAK
—	STREET SIGN
—	SWALE
—	DIRECTION OF SHEET FLOW
—	CLEARING AND GRADING LIMITS
—	FIRE HYDRANT
—	LIGHT STANDARD
—	VALVE
—	LATERAL
—	ADDRESS
—	TREE
—	SANITARY SEWER DESIGNATOR
—	STORM SEWER DESIGNATOR
—	AIR RELIEF VALVE
—	AIR RELIEF VALVE & C.O.

U.S.G.S. BENCHMARK

NAVD 88 Datum Benchmark
A 149 - Elevation = 630.08, Brass disk set in the Northwest wingwall of the Norfolk and Western railroad bridge over U.S. Highway 61, Business.

FEMA MAP

This Site is not in the Flood Plain per
F.I.R.M. MAP #29183C0220 E
REVISED AUGUST 2, 1996

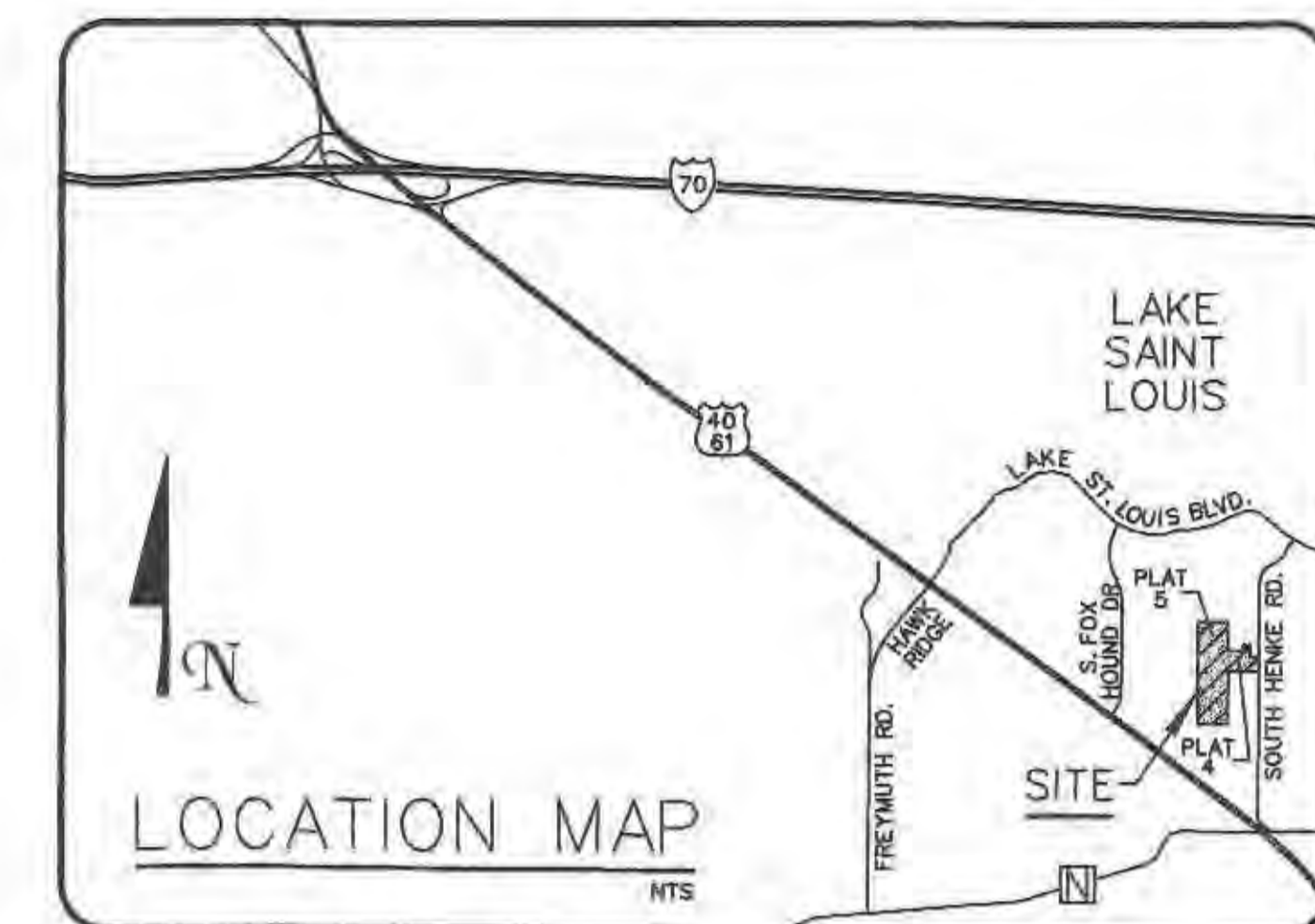
PROJECT INFORMATION

PREPARED FOR:
**HELMUT WEBER
CONSTRUCTION CO.**
1707 HENKE ROAD
O'FALLON, MISSOURI 63366
PHONE: (636) 561-4466

PREPARED BY:
VOLZ INCORPORATED
5933 SOUTH HIGHWAY 94, SUITE 201
ST. CHARLES, MISSOURI 63304-5611
PHONE: (314) 939-5155 FAX: (314) 939-5138

WUNNENBERG'S MAP: PAGE 44 18-XX
ZIP CODE: 63367
MUNICIPALITY: LAKE ST. LOUIS, MISSOURI

LOCATION MAP



INDEX

GENERAL INFORMATION	1
SITE PLAN PLAT 4	2
SITE PLAN PLAT 5	3
GRADING PLAN PLAT 4	4
GRADING PLAN PLAT 5	5
STREET PROFILE PLAT 4	6
STREET PROFILE PLAT 5	7
STREET PROFILE PLAT 5	8
SANITARY PROFILE PLAT 4	9
SANITARY PROFILE PLAT 5	10
SANITARY PROFILE PLAT 5	11
STORM SEWER PLAT 4	12
STORM SEWER PLAT 5	13
STORM SEWER PLAT 5	14
DRAINAGE AREA PLAT 4	15
DRAINAGE AREA PLAT 5	16
WATER PLAN PLAT 4	17
WATER PLAN PLAT 5	18
CONSTRUCTION DETAILS	19-22

HELMUT WEBER
CONSTRUCTION CO.
1707 HENKE RD.
O'FALLON, MO.
63366

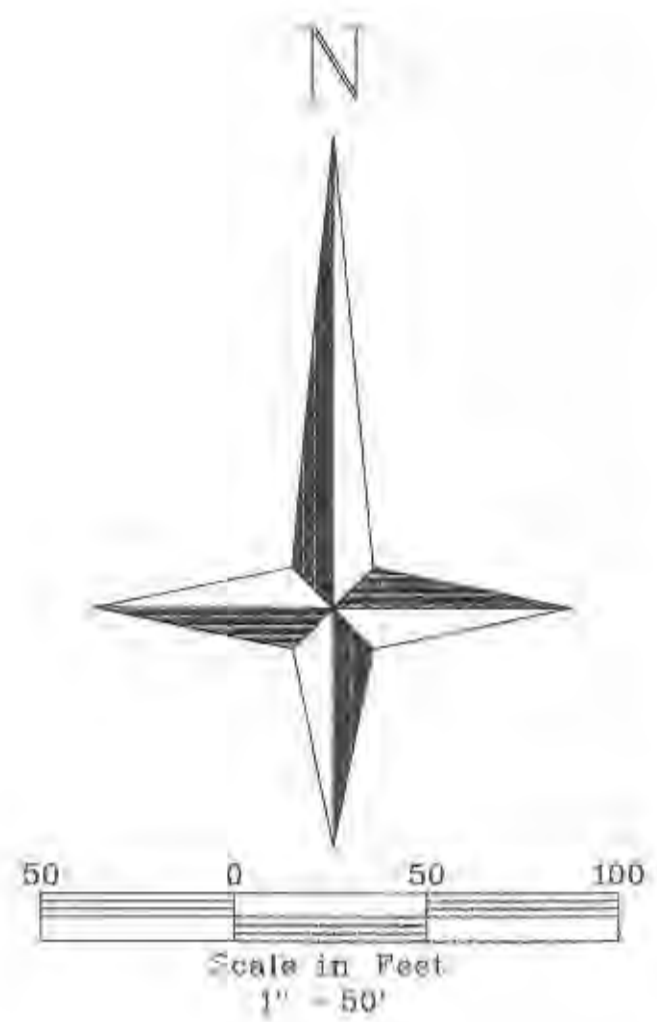
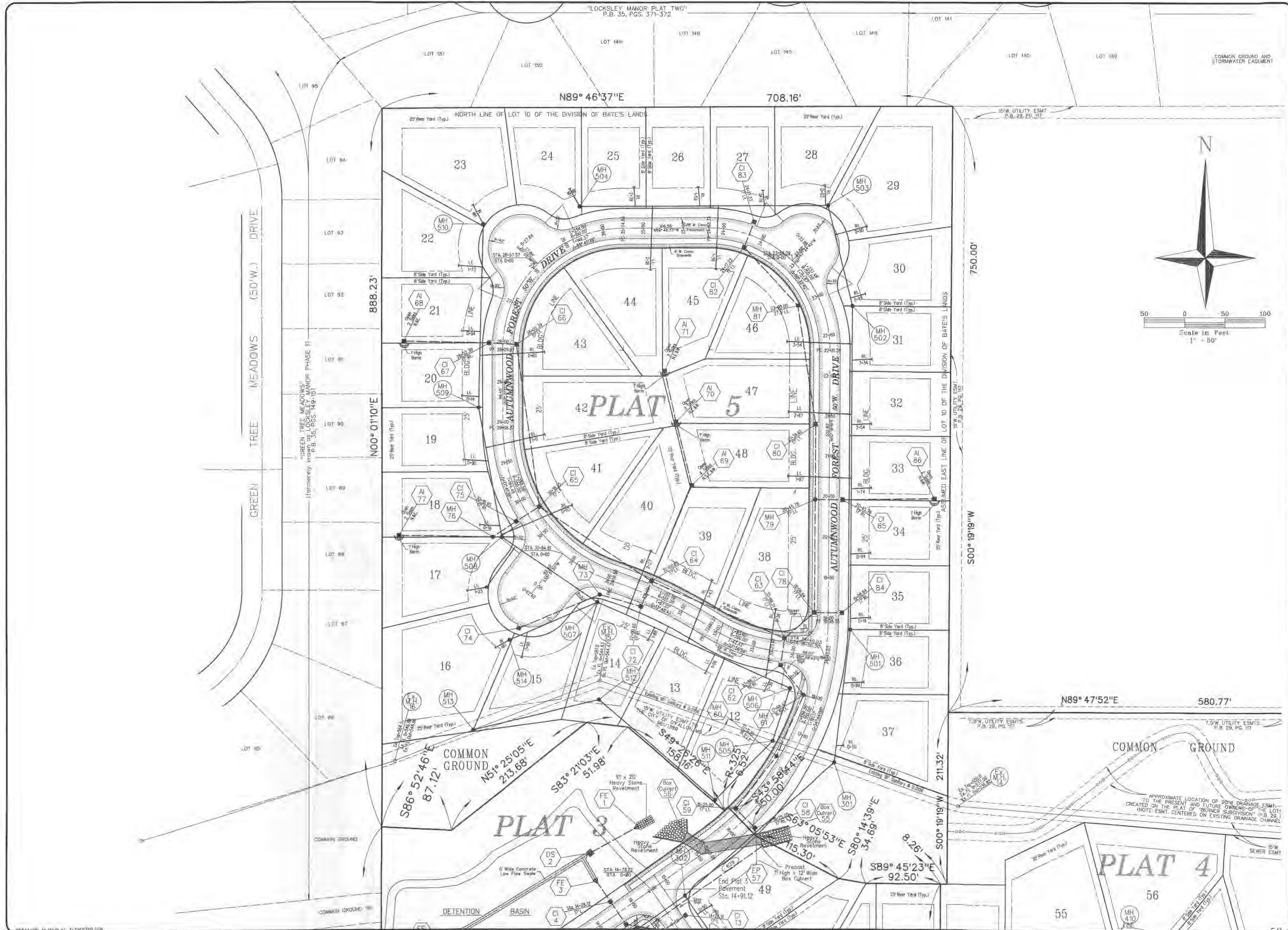
VOLZ



**GREEN TREE MEADOWS
PLAT 4 & PLAT 5**

GENERAL INFORMATION
Design By: E.D.K.
Drawn By: D.K.L.
Checked By: E.A.K.
B-8644

02-11-02
1

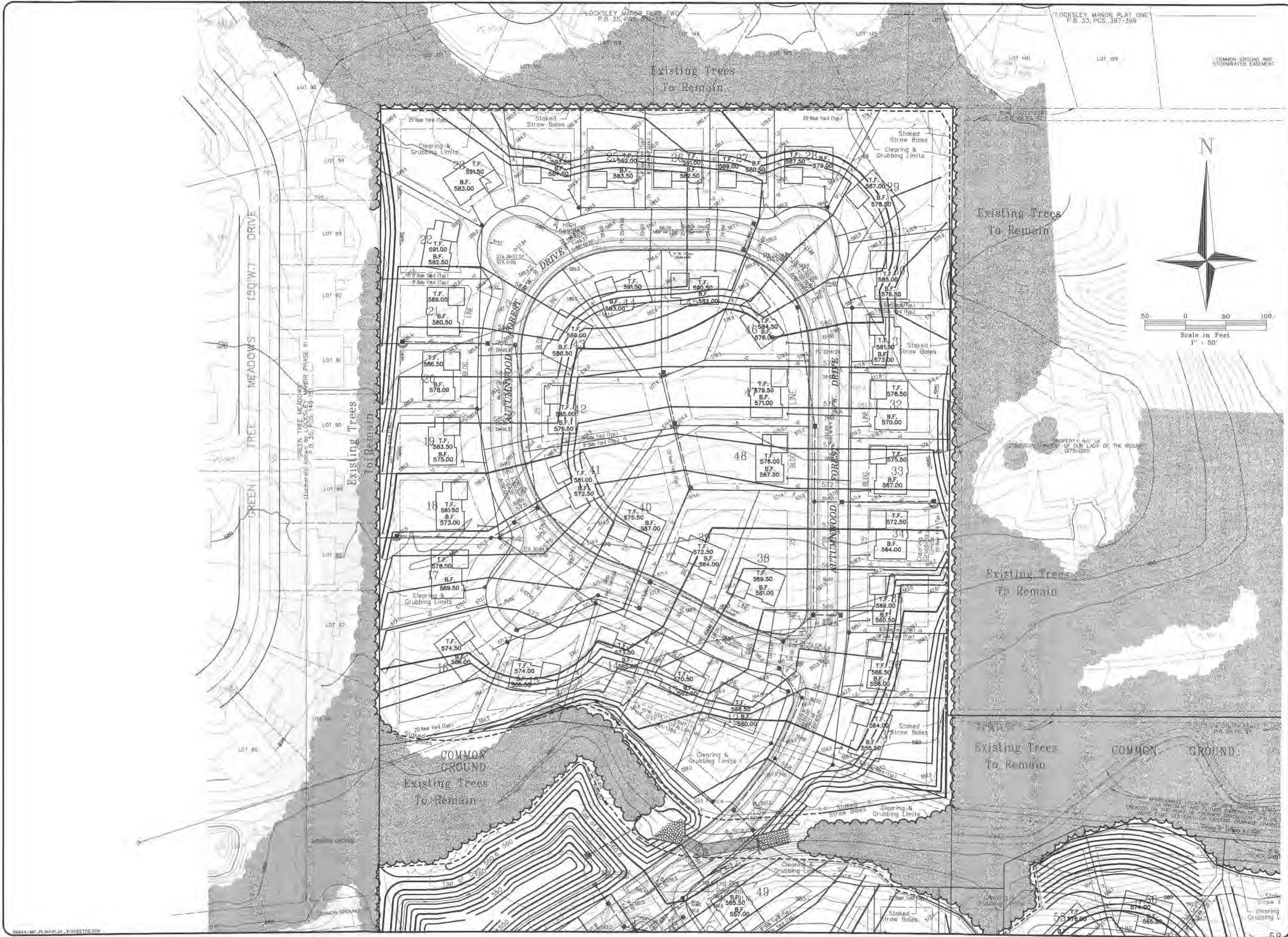


HELMUT WEBER
CONSTRUCTION CO
1707 HENKE RD.
O'FALLON, MO.
63366



GREEN TREE MEADOWS PLAT 5

SITE PLAN
Design By: EDK.
Drawn By: D.K.L.
Checked By: E.A.K.
B-6644
05-11-12
3



HELMUT WEBER
CONSTRUCTION CO
1707 HENKE RD.
O'FALLON, MO.
63366

VOLZ

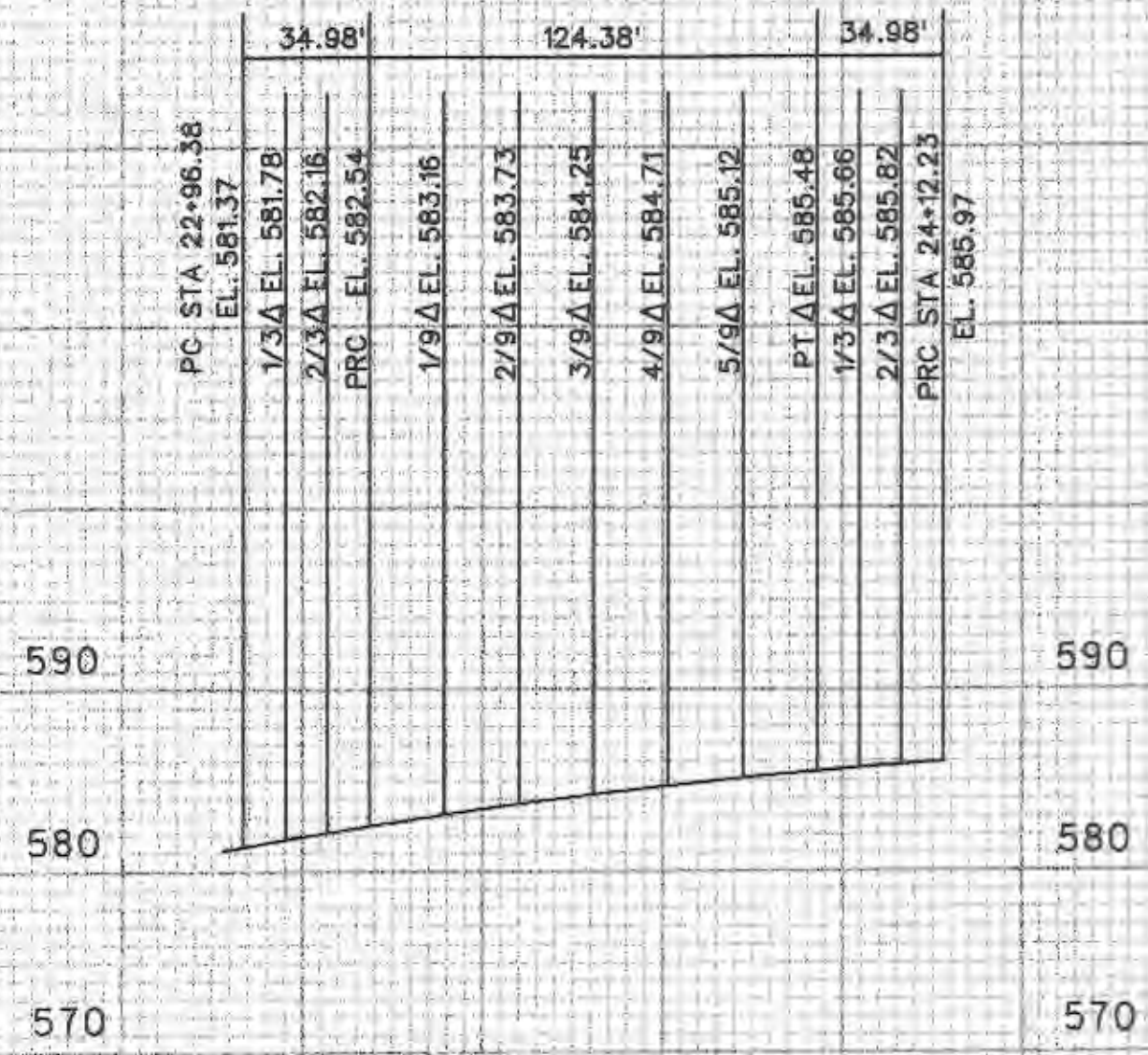


**GREEN TREE MEADOWS
PLAT 5**

GRADING PLAN
 Design By: E.D.K.
 Drawn By: D.K.L.
 Checked By: E.A.K.
 B-6044
 02-ALL-2
5

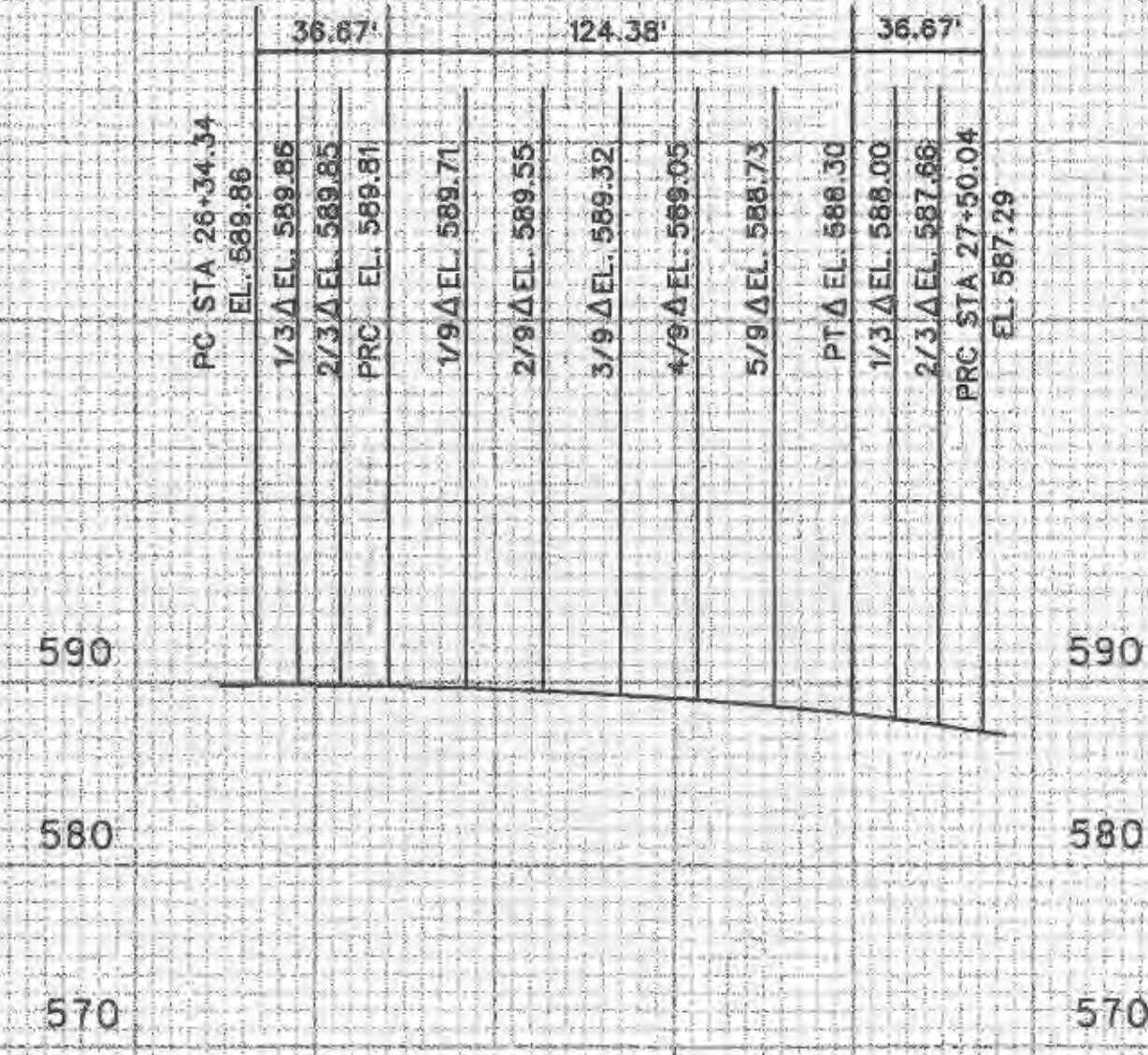
"AUTUMNWOOD FOREST DRIVE"
Northeast Eyebrow

Proposed Top Of Curb Profile Around Cul-de-sac



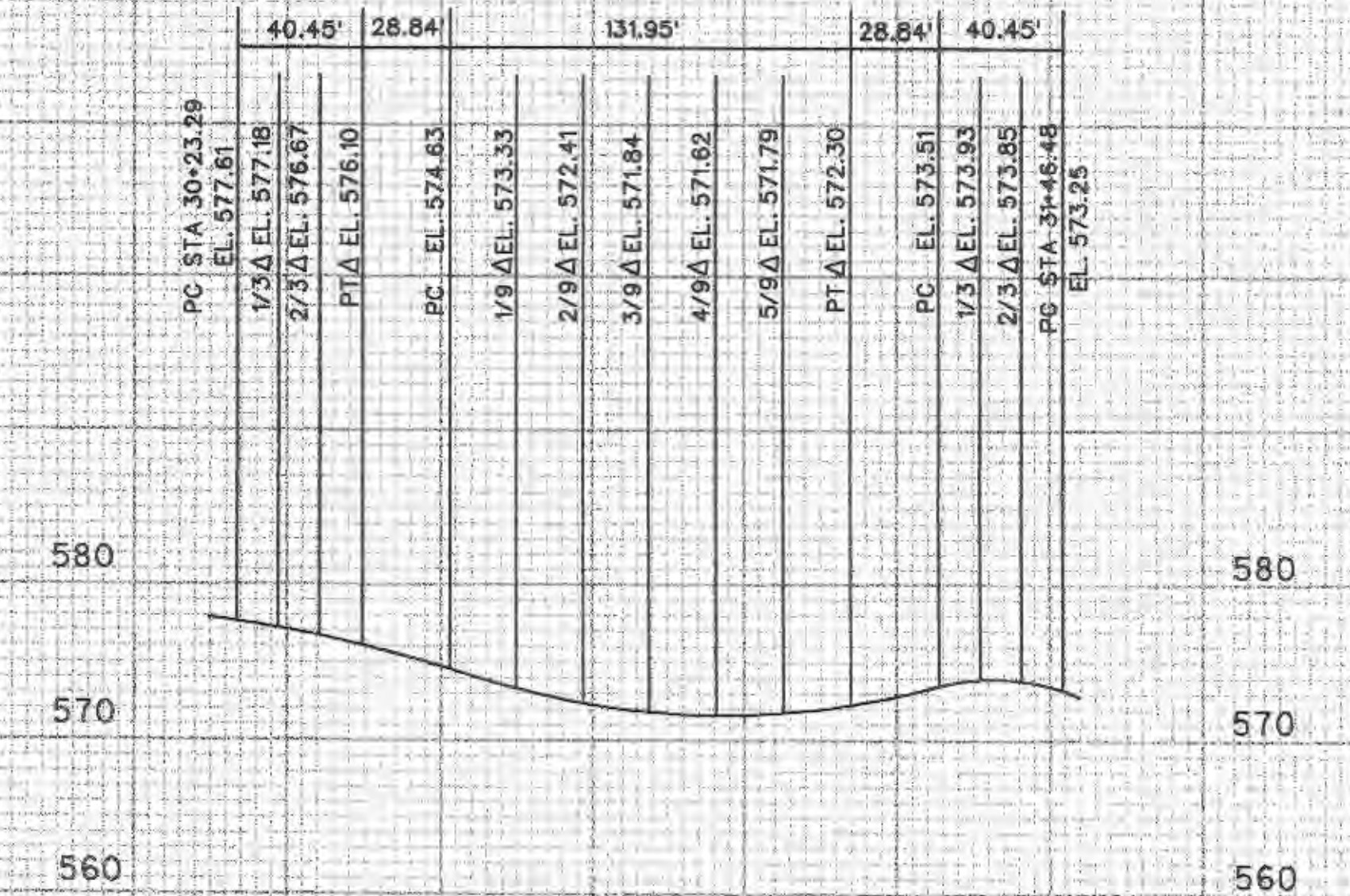
"AUTUMNWOOD FOREST DRIVE"
Northwest Eyebrow

Proposed Top Of Curb Profile Around Cul-de-sac

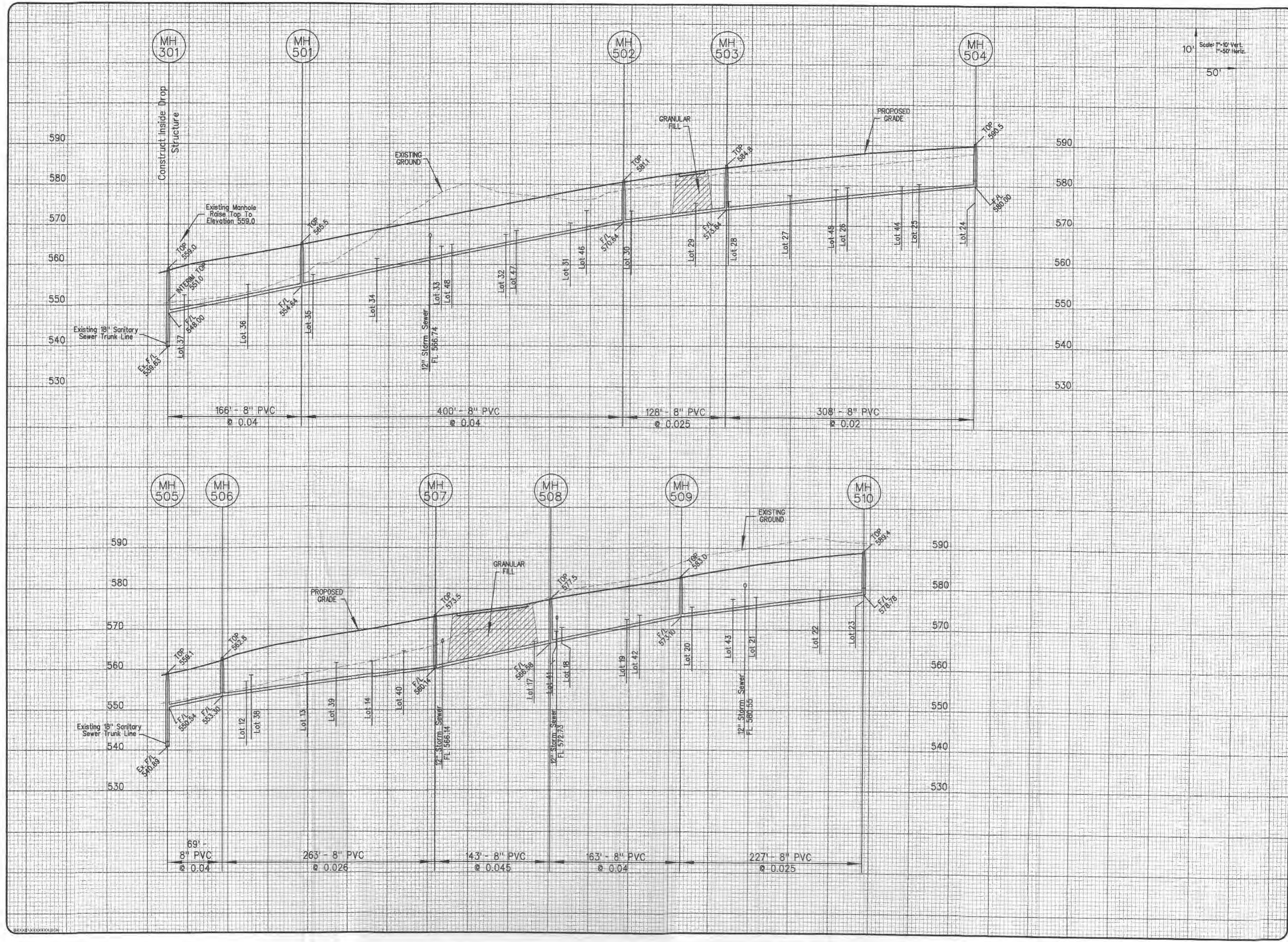


"AUTUMNWOOD FOREST DRIVE"
Southwest Eyebrow

Proposed Top Of Curb Profile Around Cul-de-sac



10'
 SCALE 50'



Scale: 1" = 10' Vert.
1" = 50' Horiz.

HELMUT WEBER
CONSTRUCTION CO
1717 HENKE RD.
O'FALLON, MO.
63366



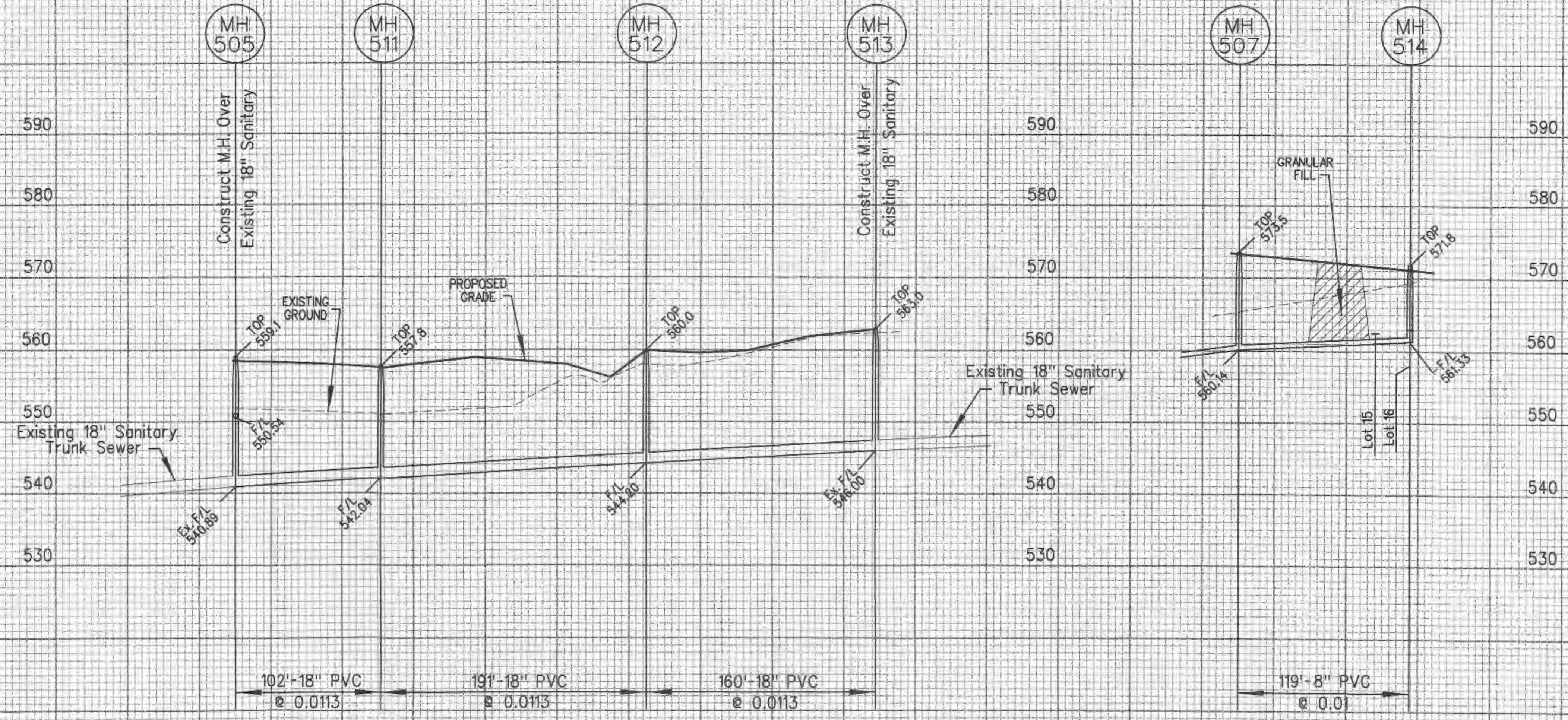
GREEN TREE MEADOWS PLAT 5

SANITARY PROFILES

Design By: E.A.K.
Drawn By: D.K.L.
Checked By: E.A.K.

B-6844

02-11-02
10



Contractor Shall Verify Flowline Of Manhole 505 and Manhole 513 Before Installing Any Sewer In This Area.

HELMUT WEBER
CONSTRUCTION CO
1707 HENKE RD.
O'FALLON, MO.
63366



GREEN TREE MEADOWS PLAT 5

SANITARY PROFILES
Design By: E.D.K.
Drawn By: D.K.L.
Checked By: E.A.K.
B-8644

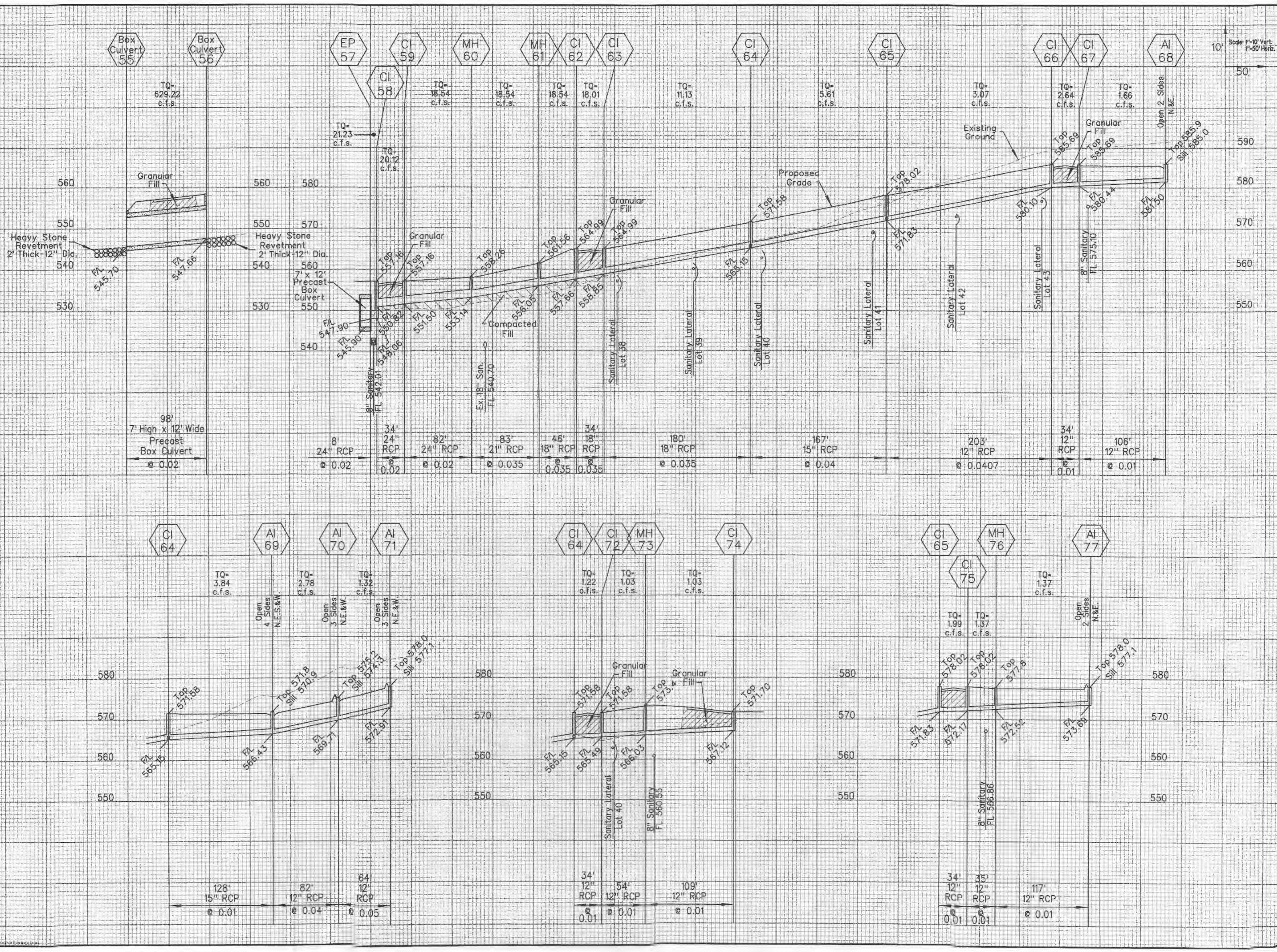


GREEN TREE MEADOWS PLAT 5

STORM PROFILES

Design By: E.D.K.
Drawn By: D.K.L.
Checked By: E.A.K.

B-6644



Scale: 1"=10' Vert.
1"=50' Horiz.

98'
7' High x 12' Wide
Precast
Box Culvert
e 0.02

128'
15" RCP
e 0.01

82'
12" RCP
e 0.04

64'
12" RCP
e 0.05

34'
12" RCP
e 0.01

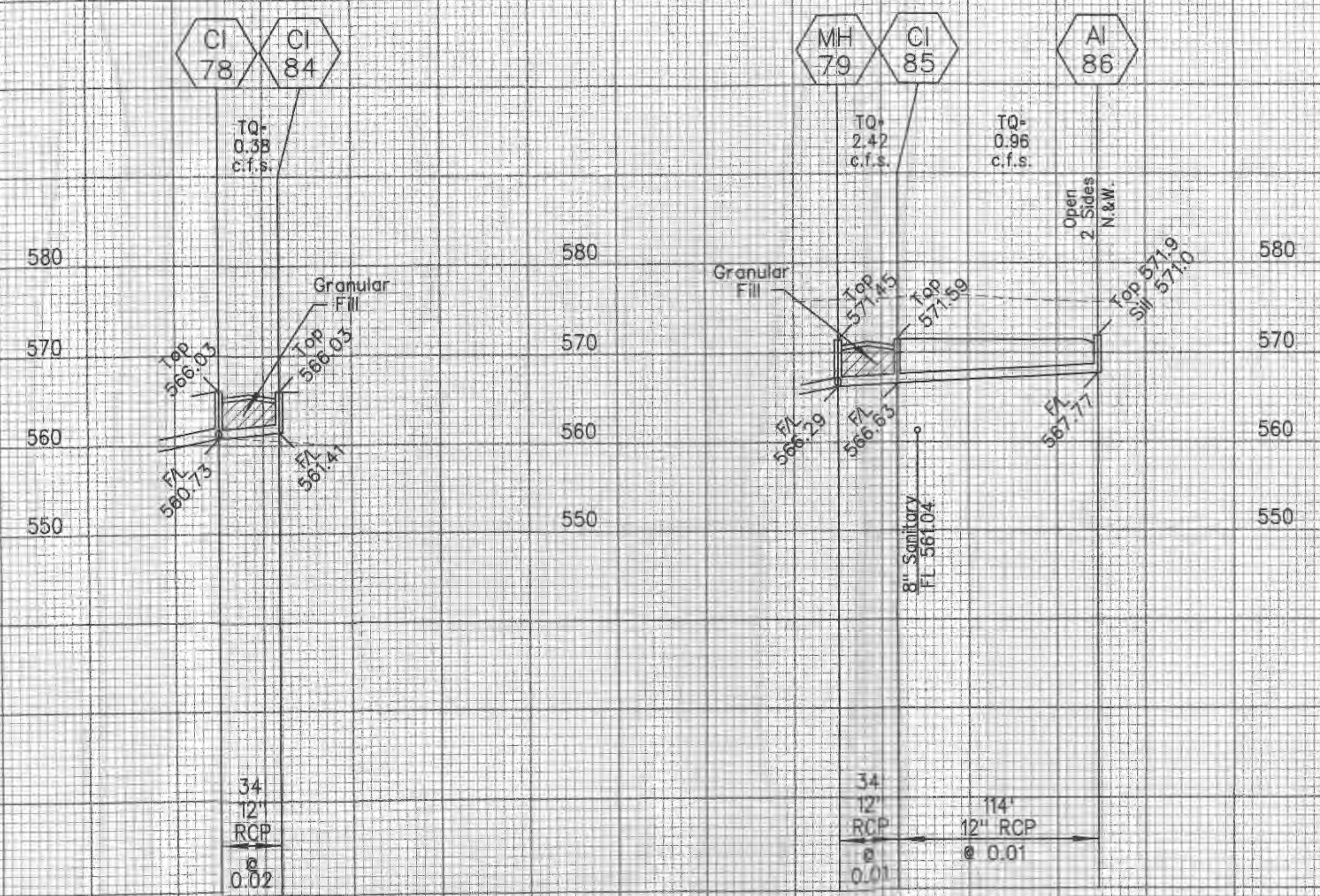
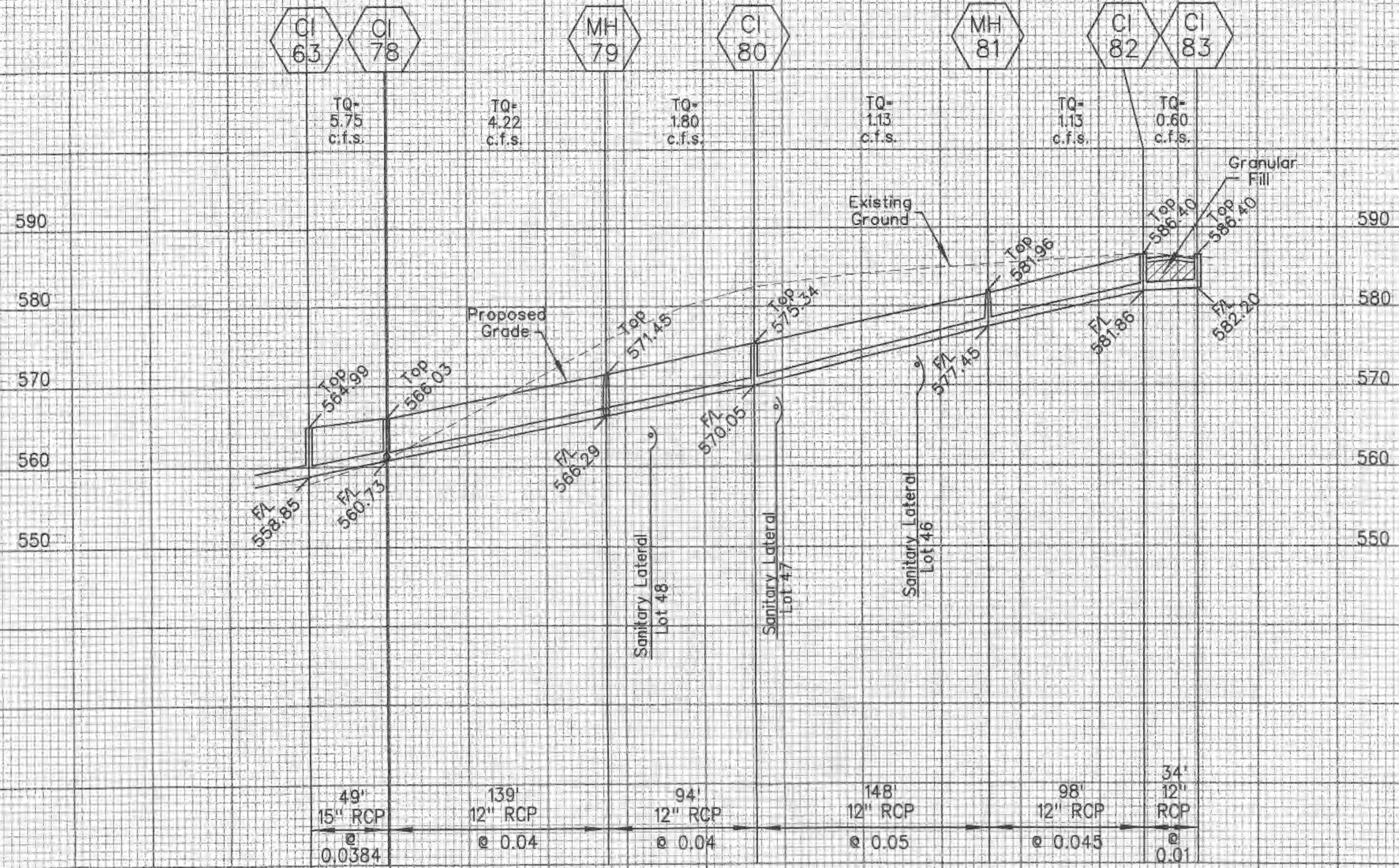
54'
12" RCP
e 0.01

109'
12" RCP
e 0.01

34'
12" RCP
e 0.01

35'
12" RCP
e 0.01

117'
12" RCP
e 0.01

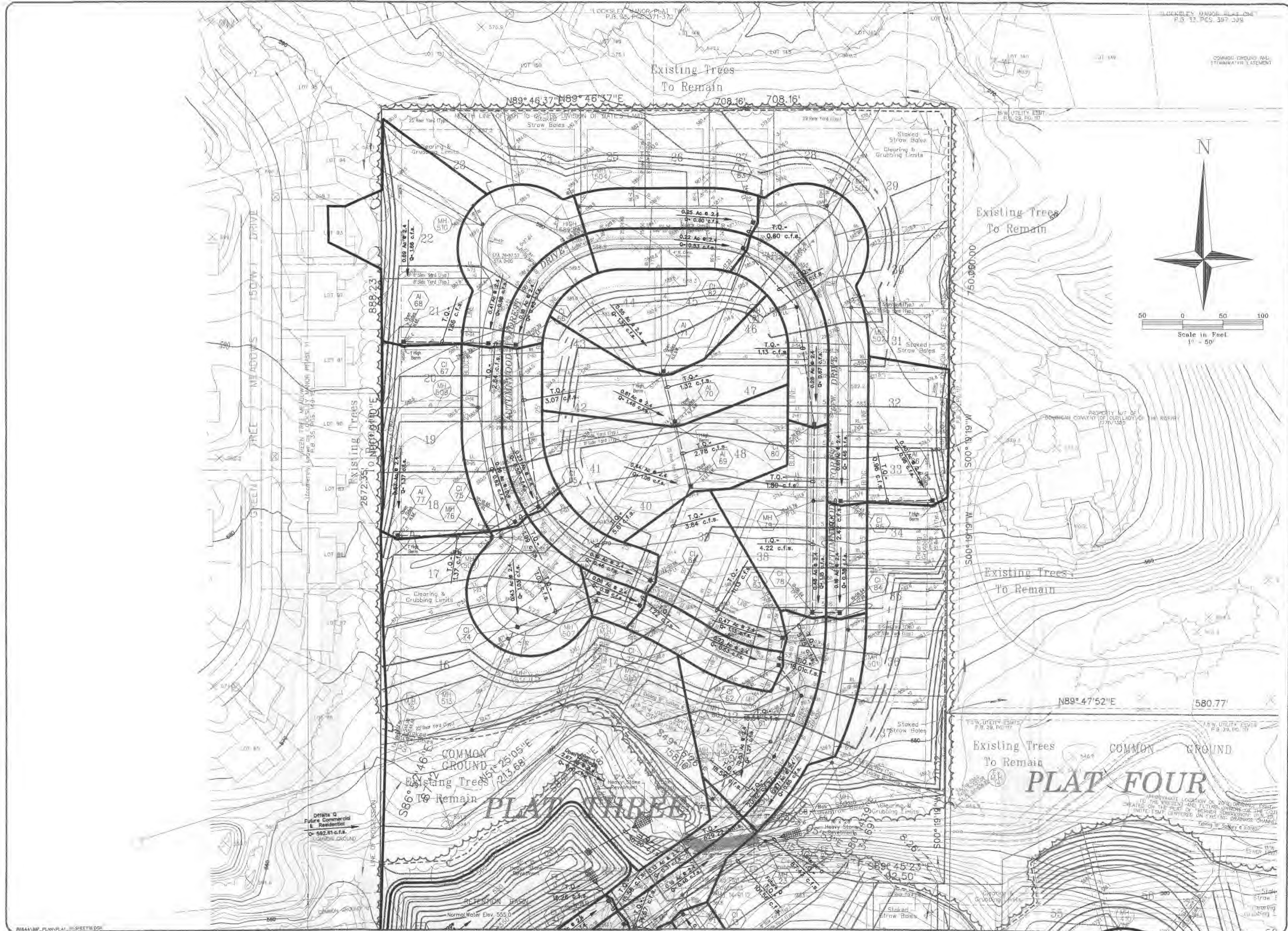


HELMUT WEBER
CONSTRUCTION CO
1707 HENKE RD.
O'FALLON, MO.
63366



GREEN TREE MEADOWS PLAT 5

STORM PROFILES
Design By: E.D.K.
Drawn By: D.K.L.
02-11-12
14

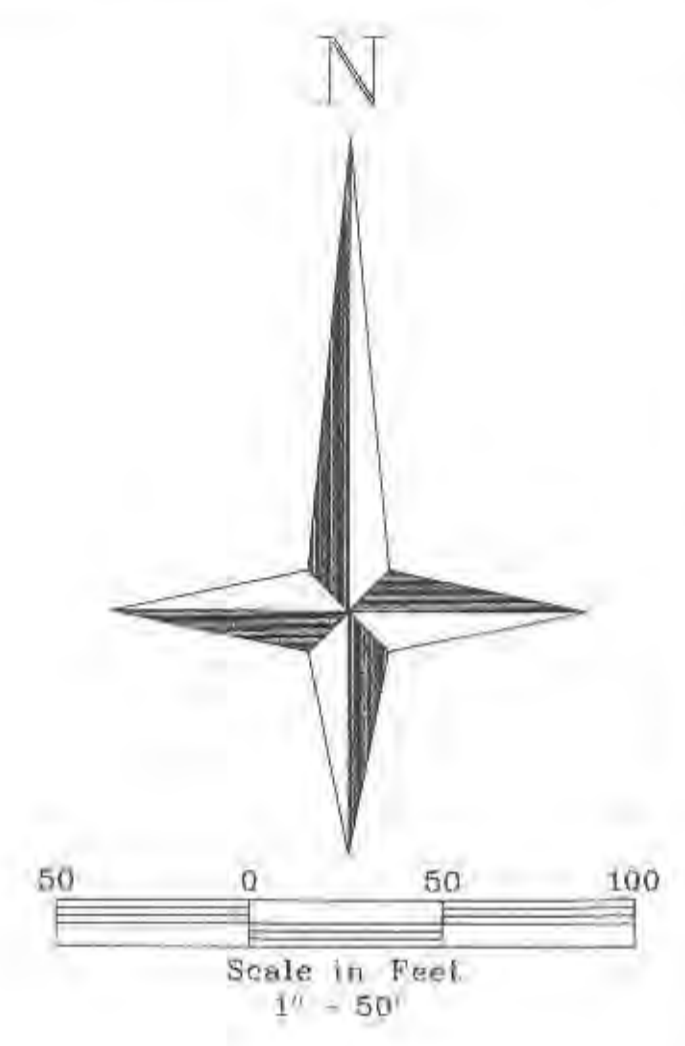


HELMUT WEBER
CONSTRUCTION CO
1707 HENKE RD
O'FAHOLIN, MO.
63366



GREEN TREE MEADOWS PLAT 5

DRAINAGE AREA MAP
Design By: E.D.K.
Drawn By: D.K.L.
Checked By: E.A.K.
B-6644
02-11-12
16



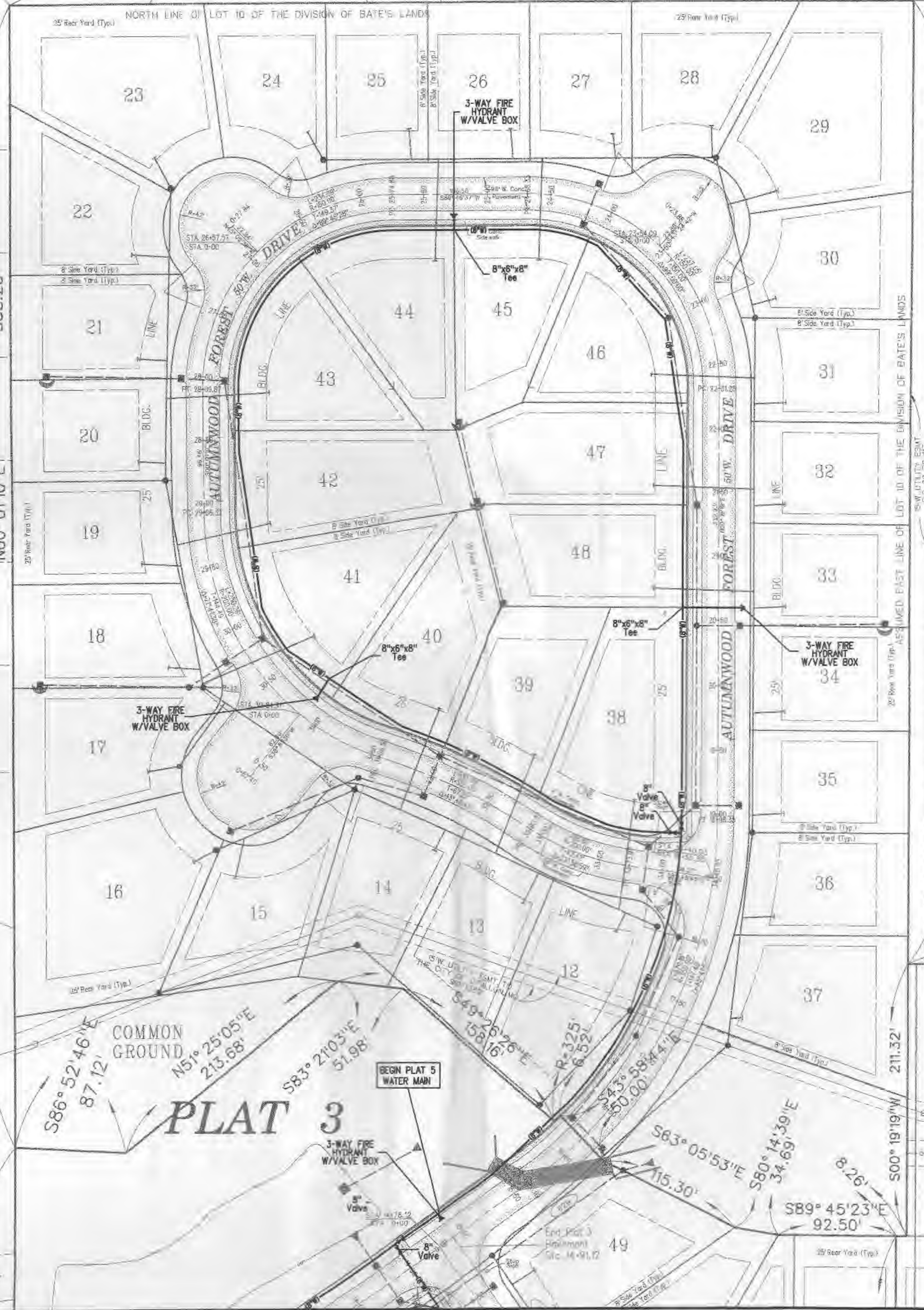
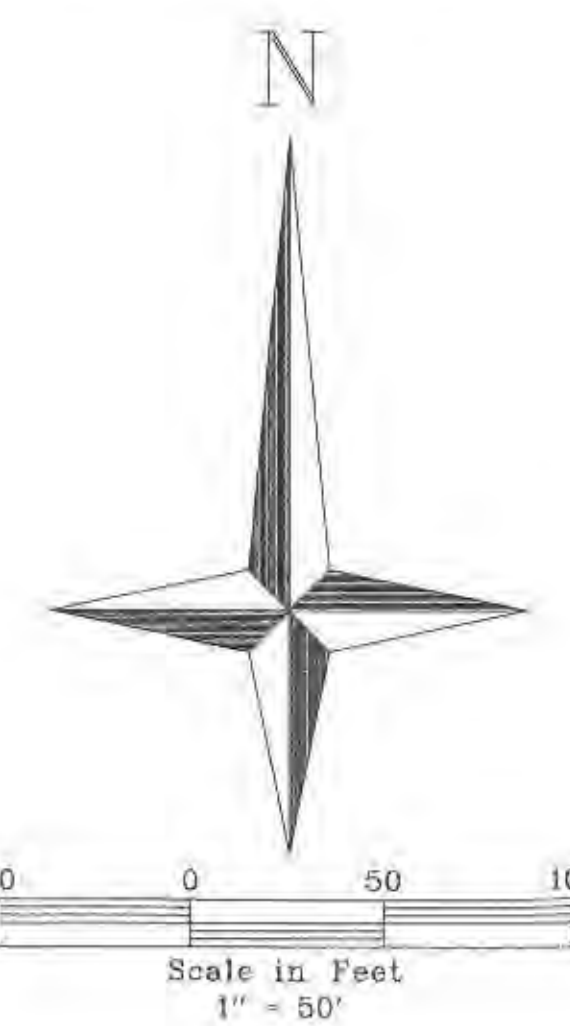
Existing Trees To Remain
PLAT FOUR
COMMON GROUND

Existing Trees To Remain
PLAT THREE
COMMON GROUND

COMMON GROUND AND
STORMWATER DRAINAGE

N89° 46'37"E

708.16'



GREEN TREE MEADOWS DRIVE (50' W.L.)

888.23'

100° 01'10"E

750.00'

500° 19'19"W

N89° 47'52"E

580.77'

S86° 52'46"E
87.12'

COMMON GROUND
N51° 25'05"E
213.68'

PLAT 3

BEGIN PLAT 5 WATER MAIN

3-WAY FIRE HYDRANT W/VALVE BOX

3" Valve

8" Valve

S83° 21'03"E
51.98'

S49° 26'16"E
138.16'

S83° 05'53"E
115.30'

S80° 14'39"E
34.69'

S89° 45'23"E
92.50'

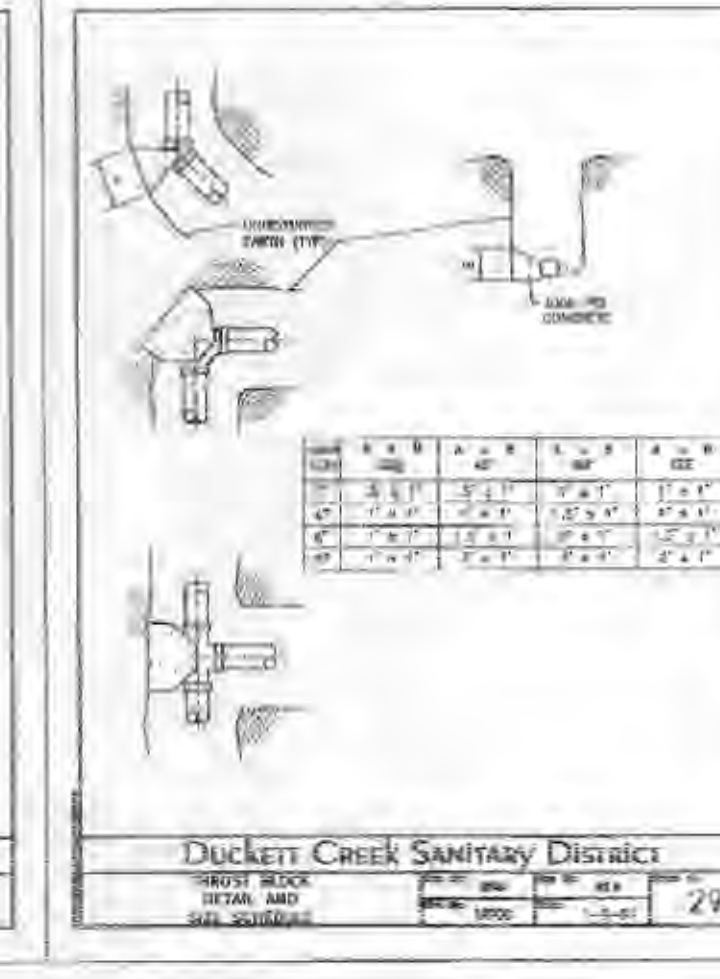
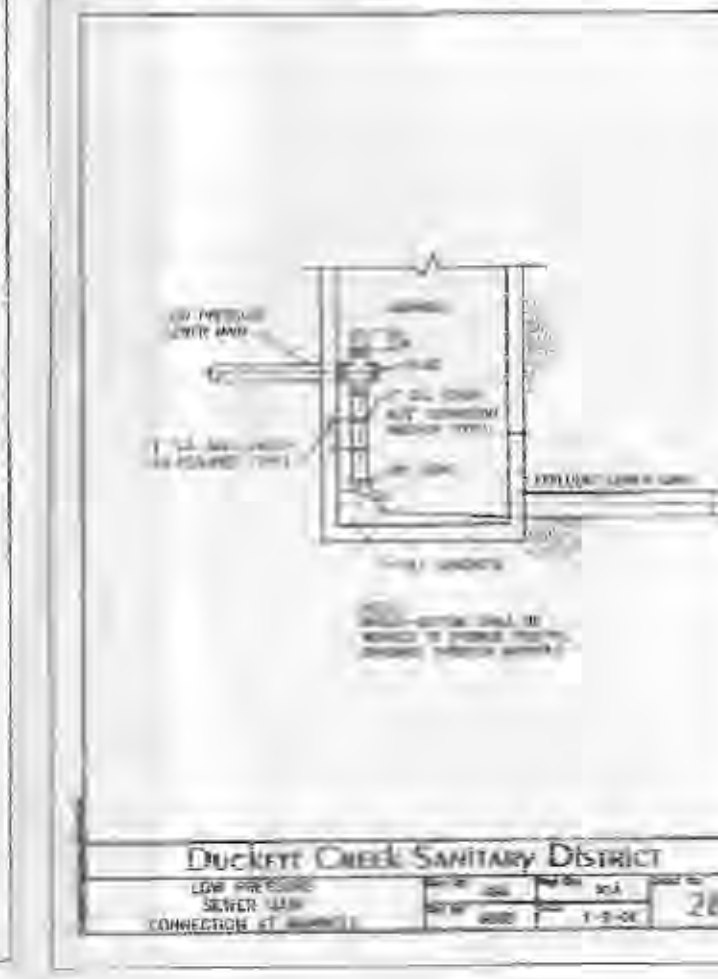
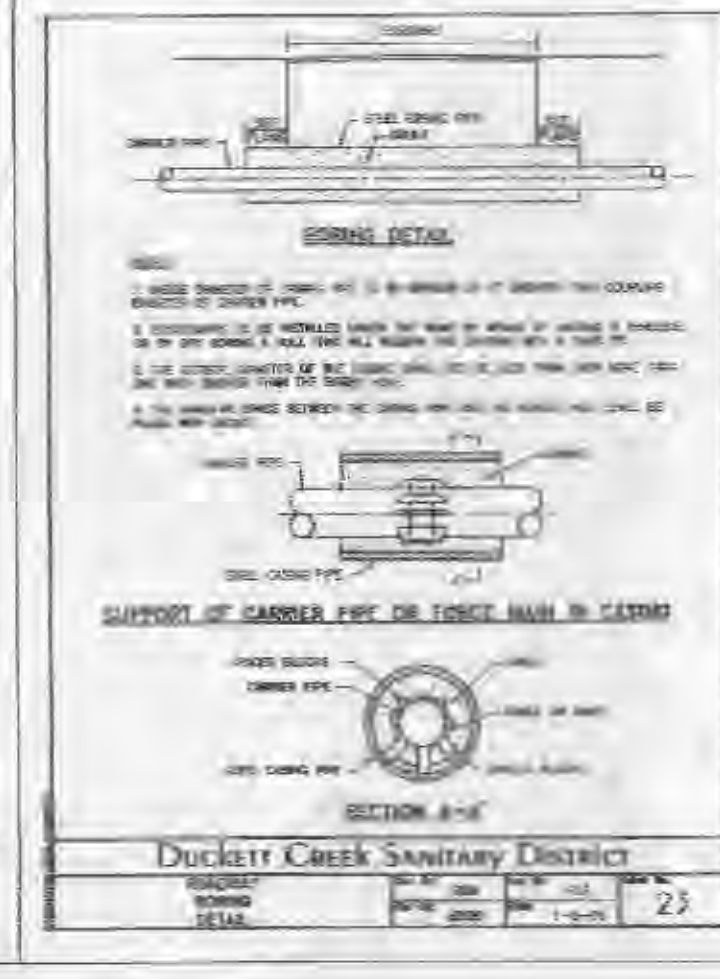
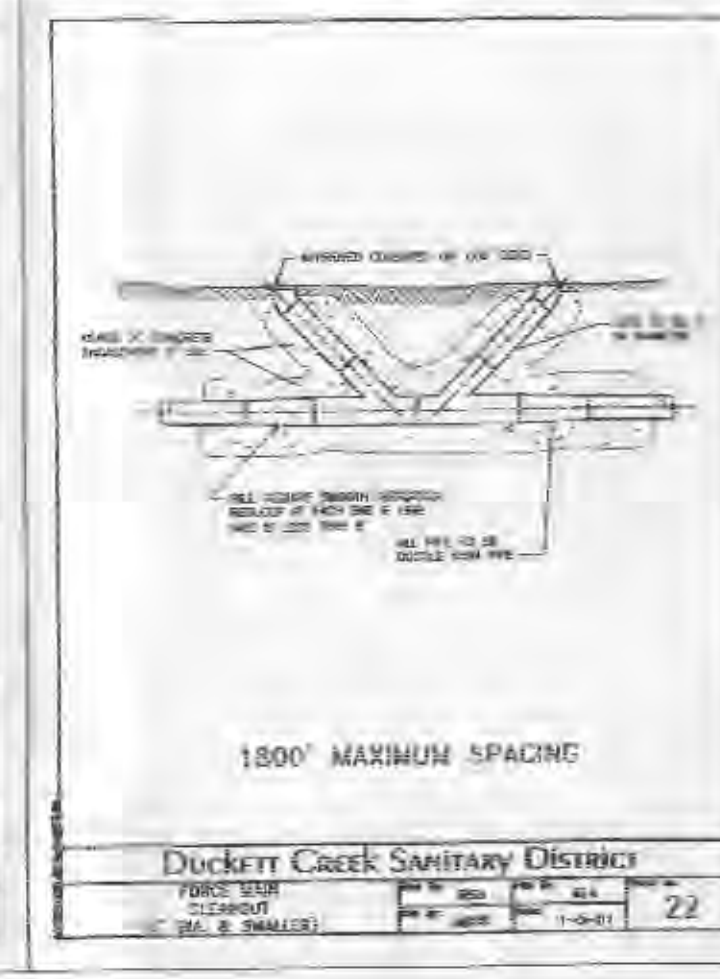
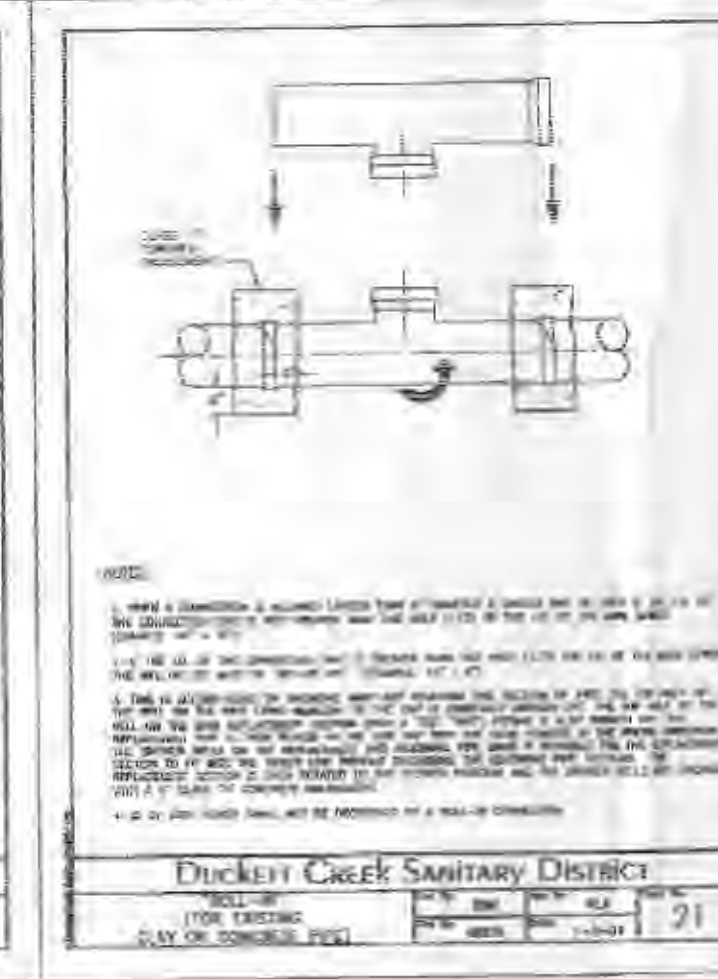
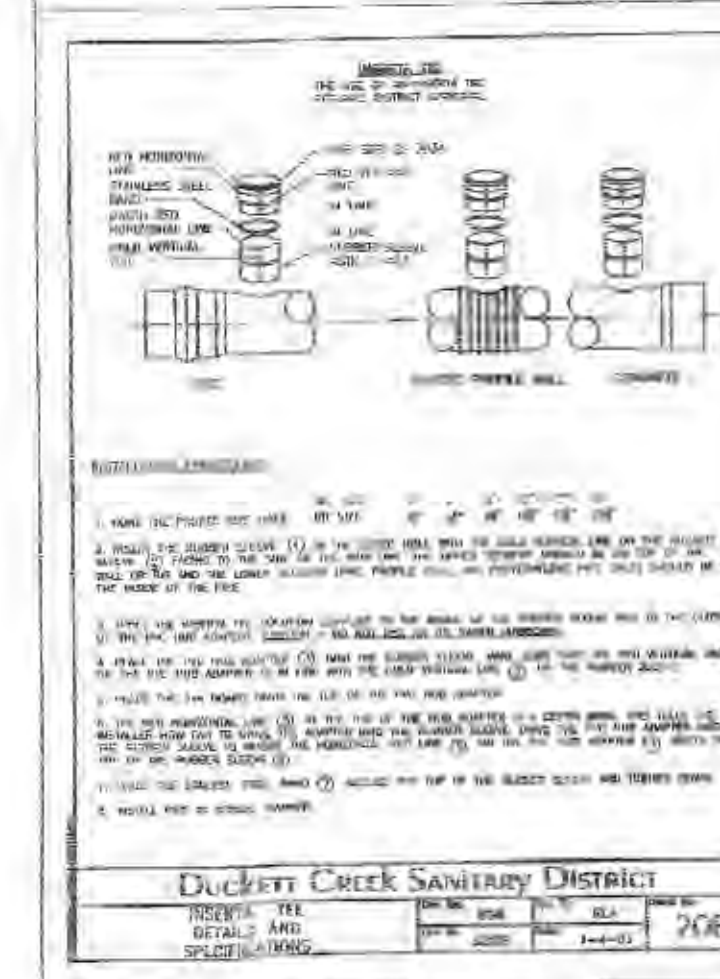
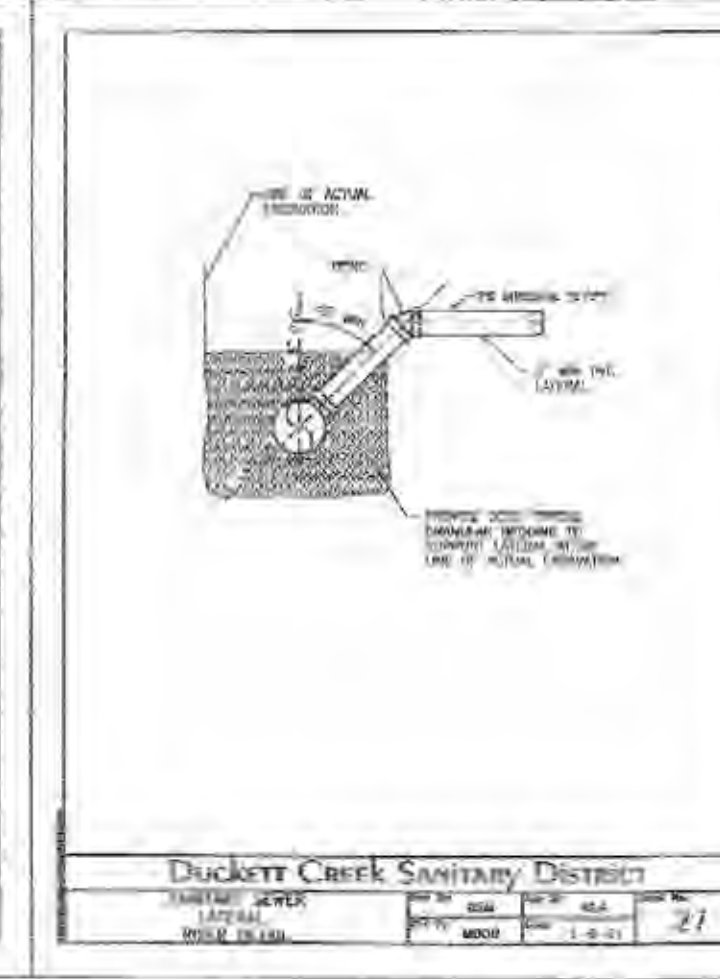
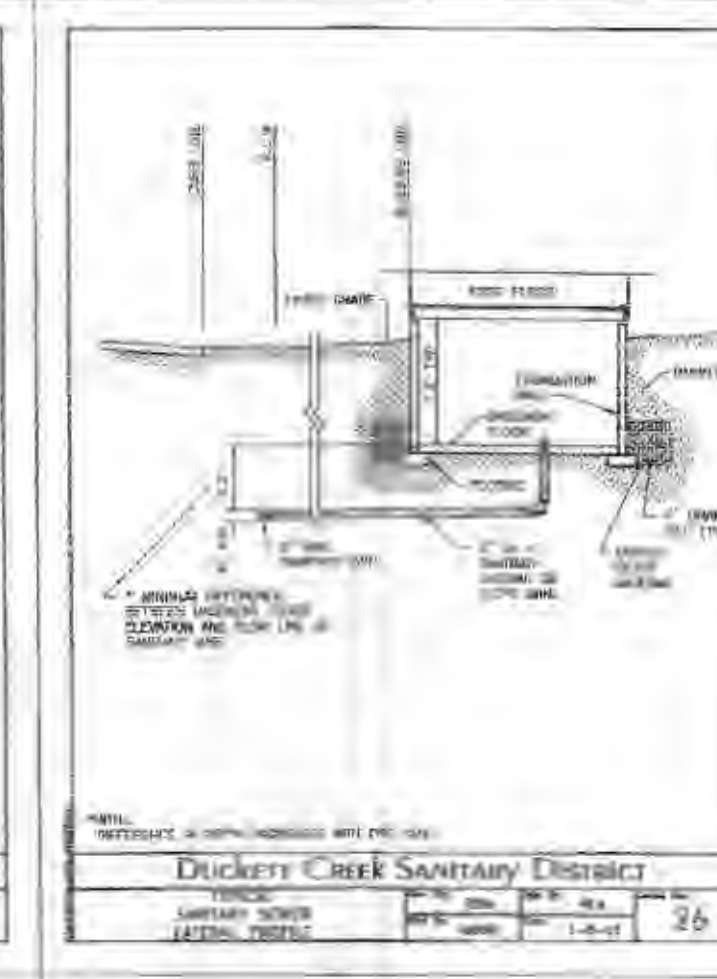
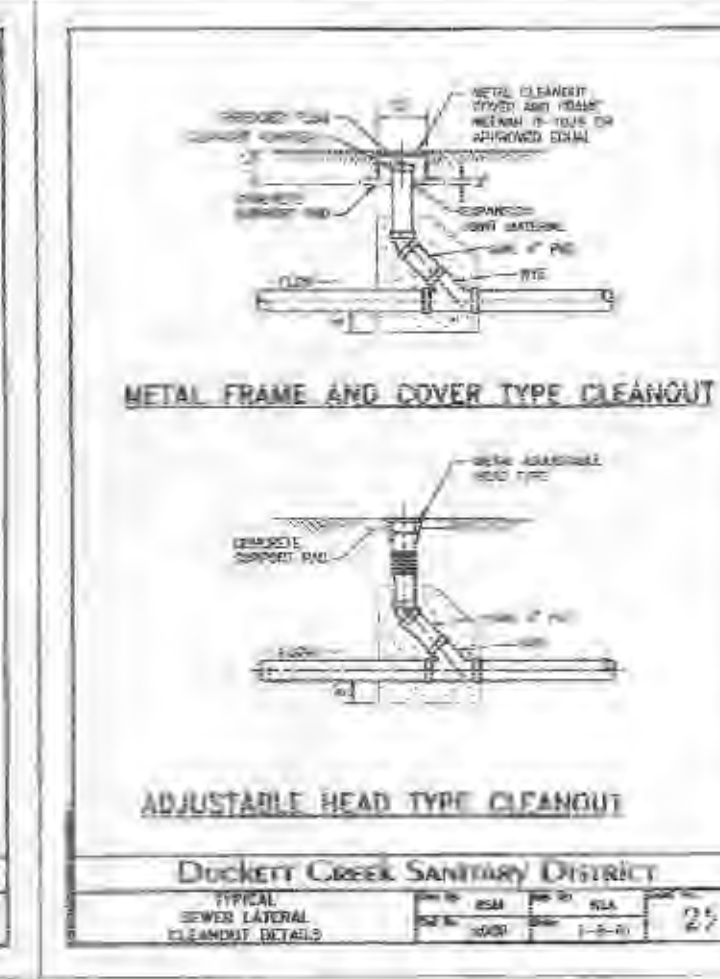
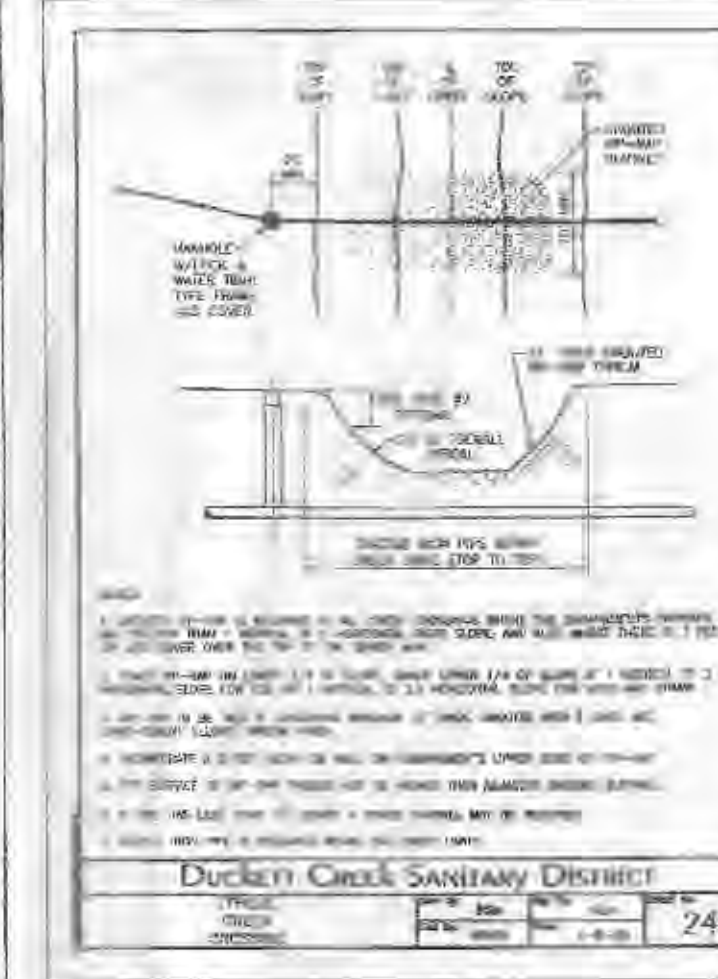
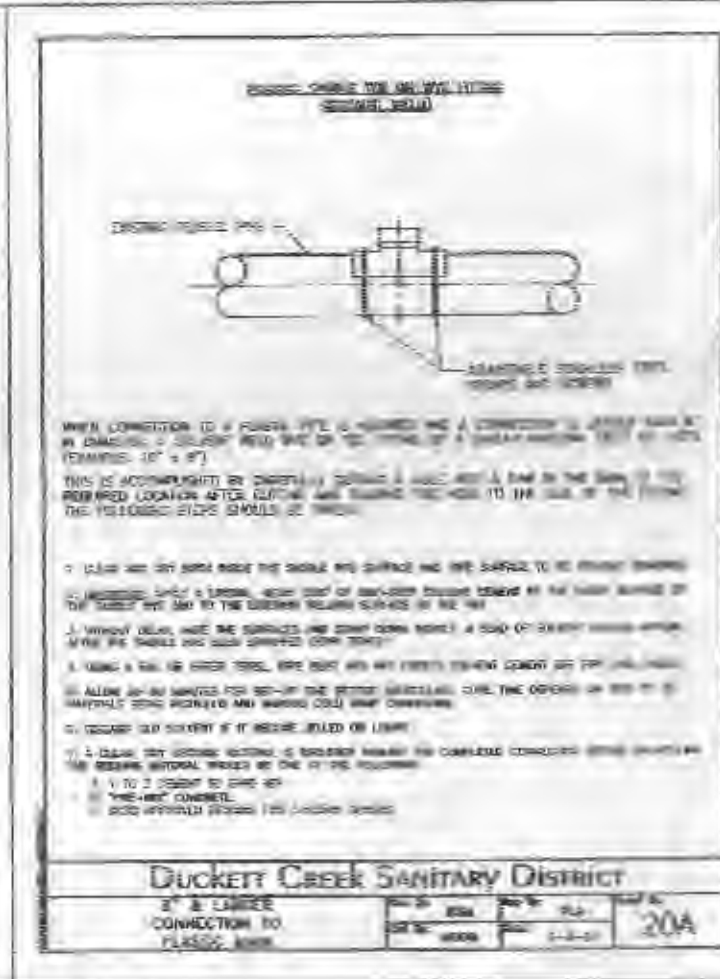
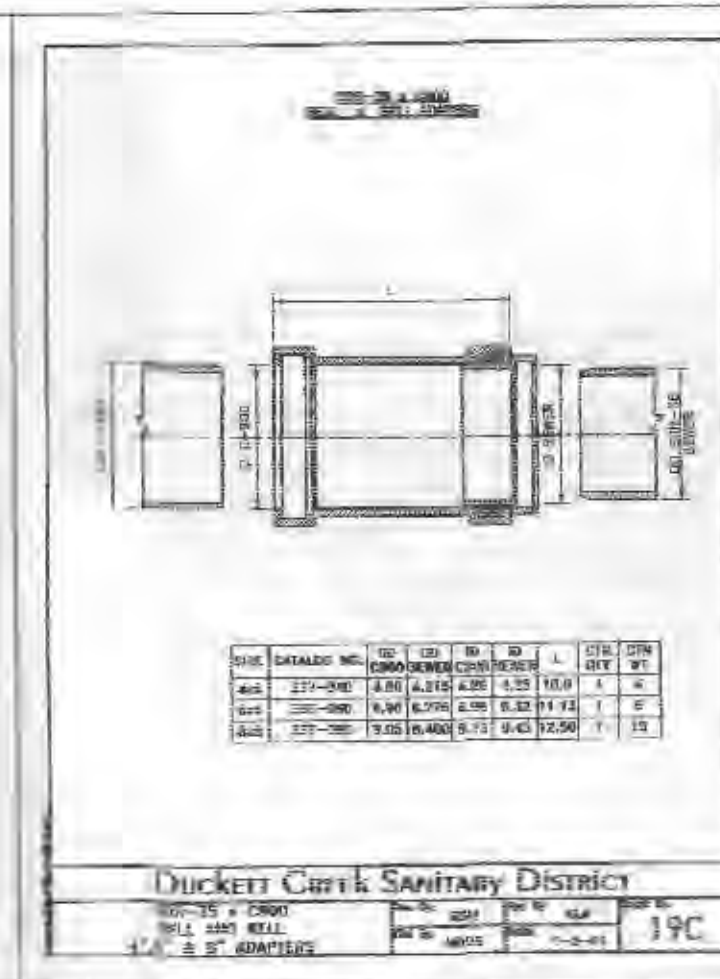
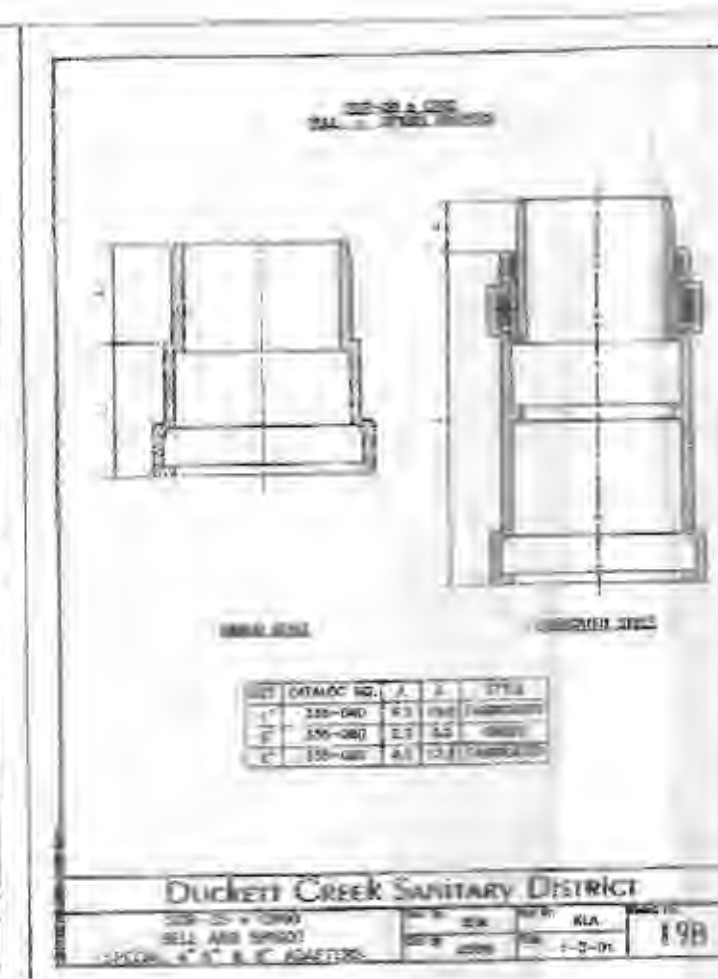
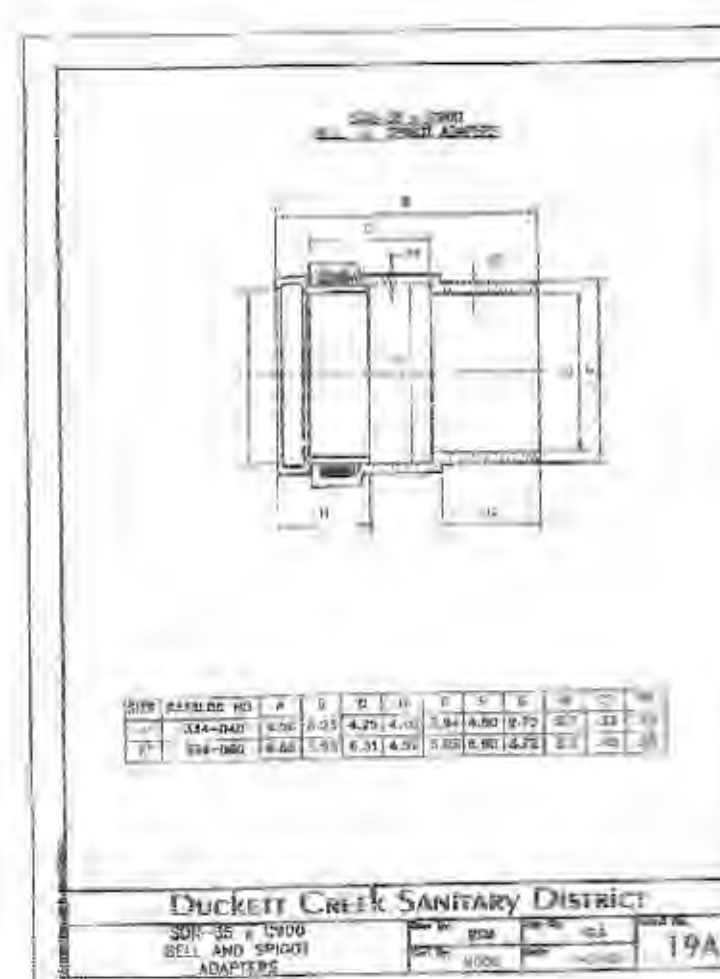
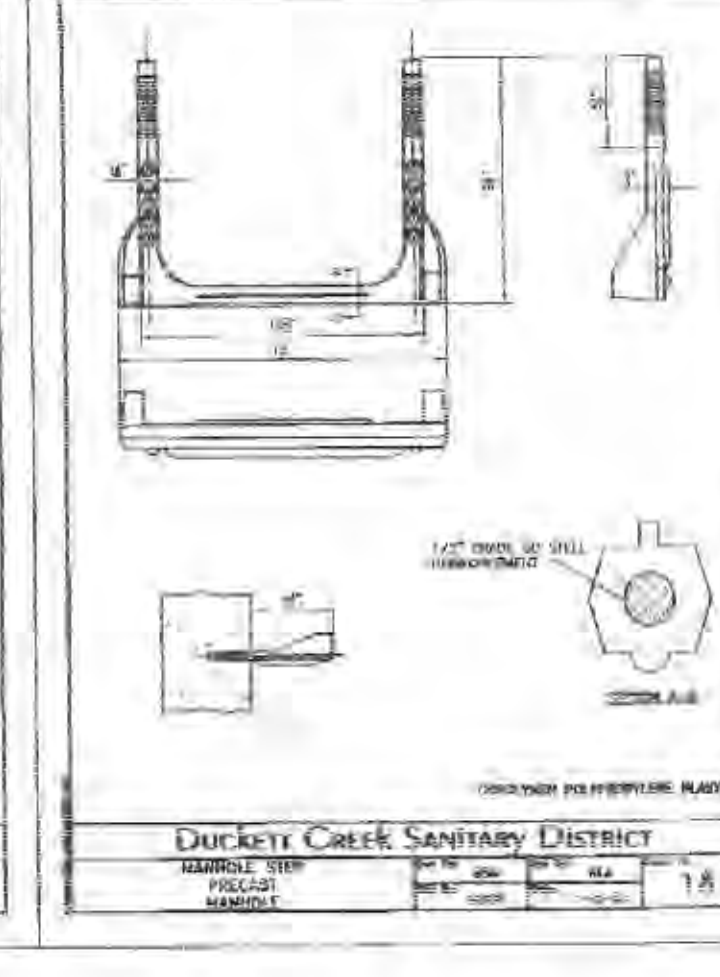
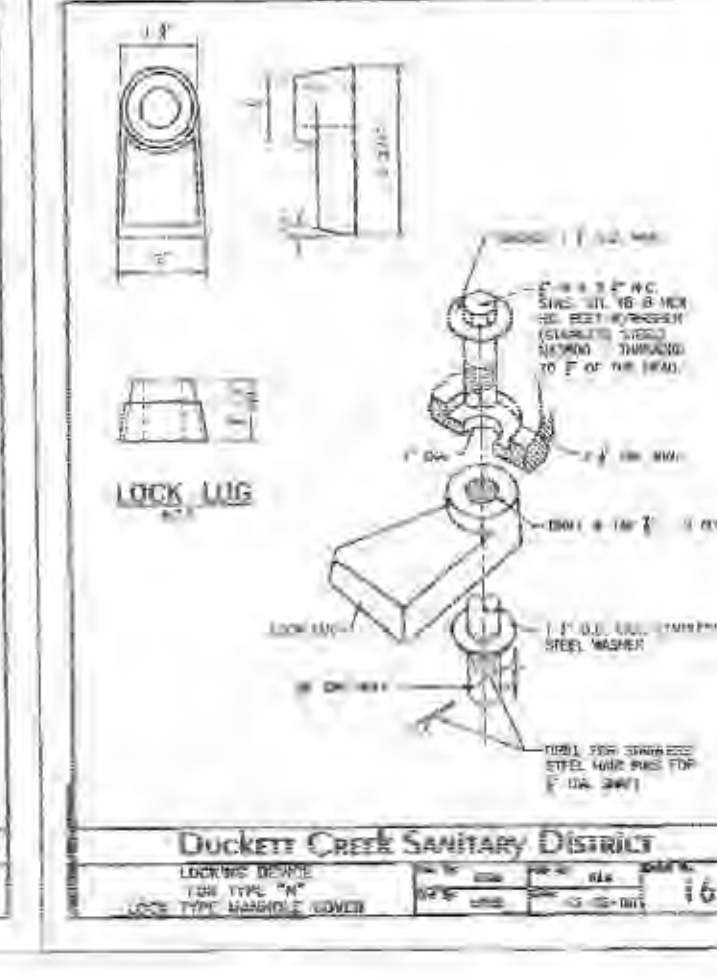
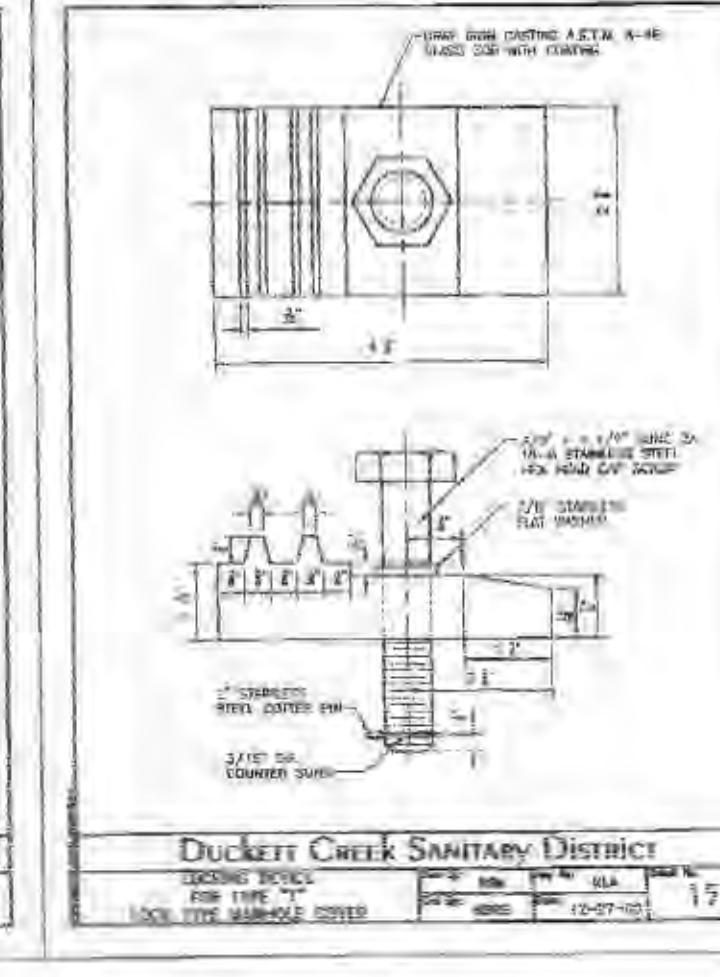
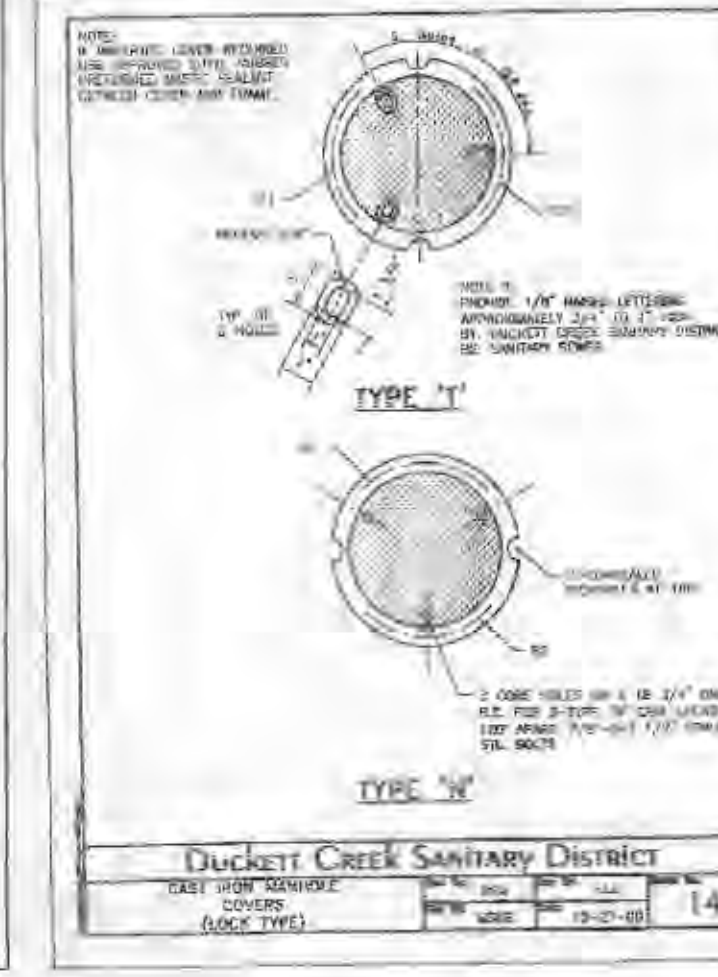
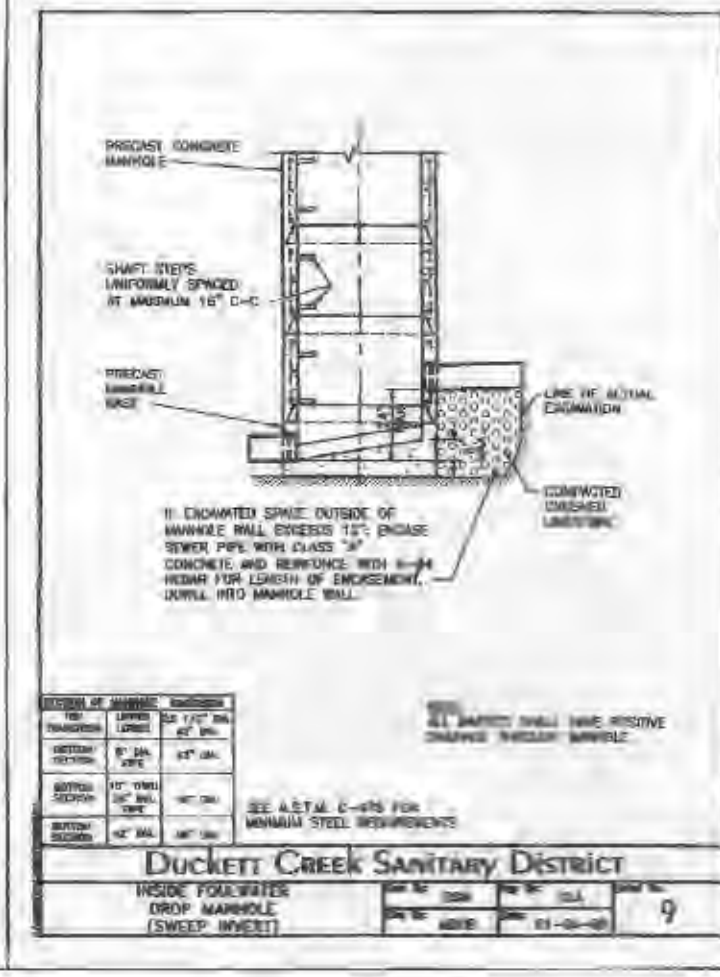
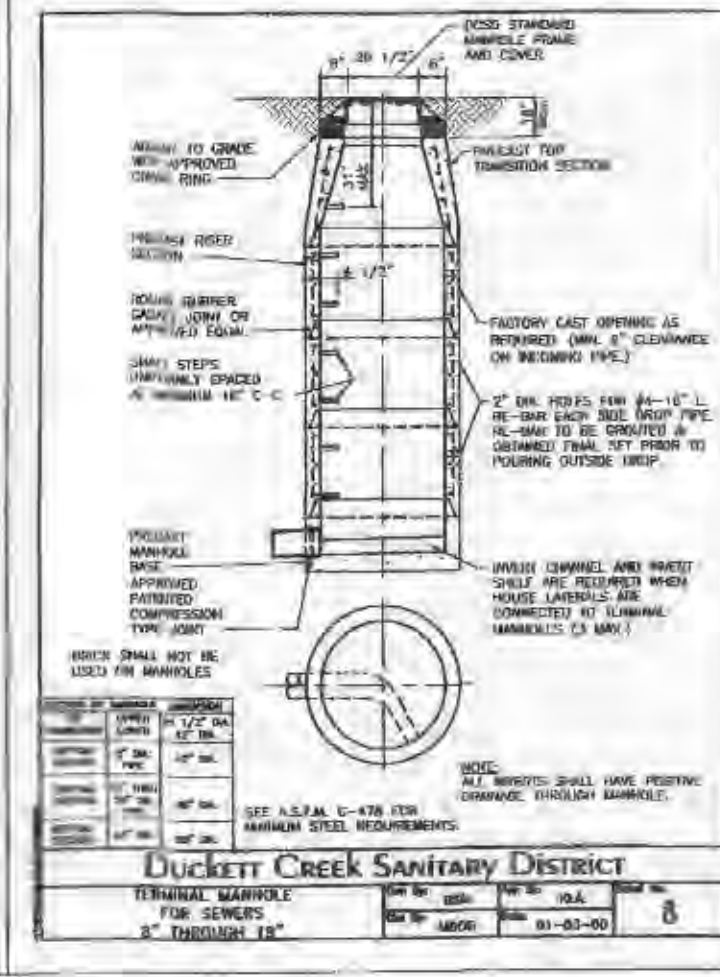
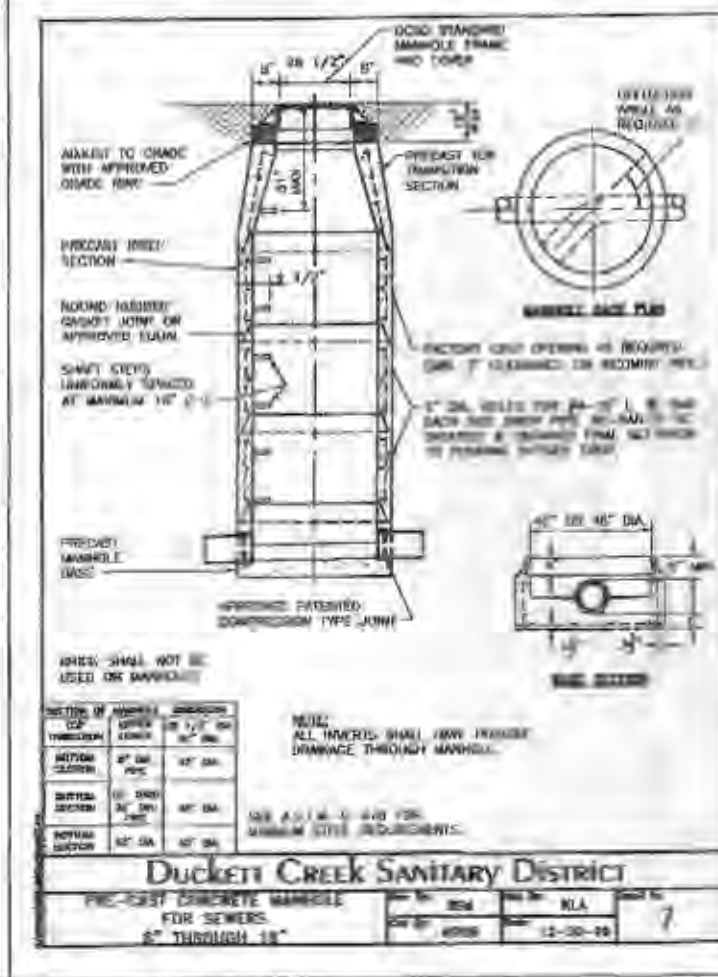
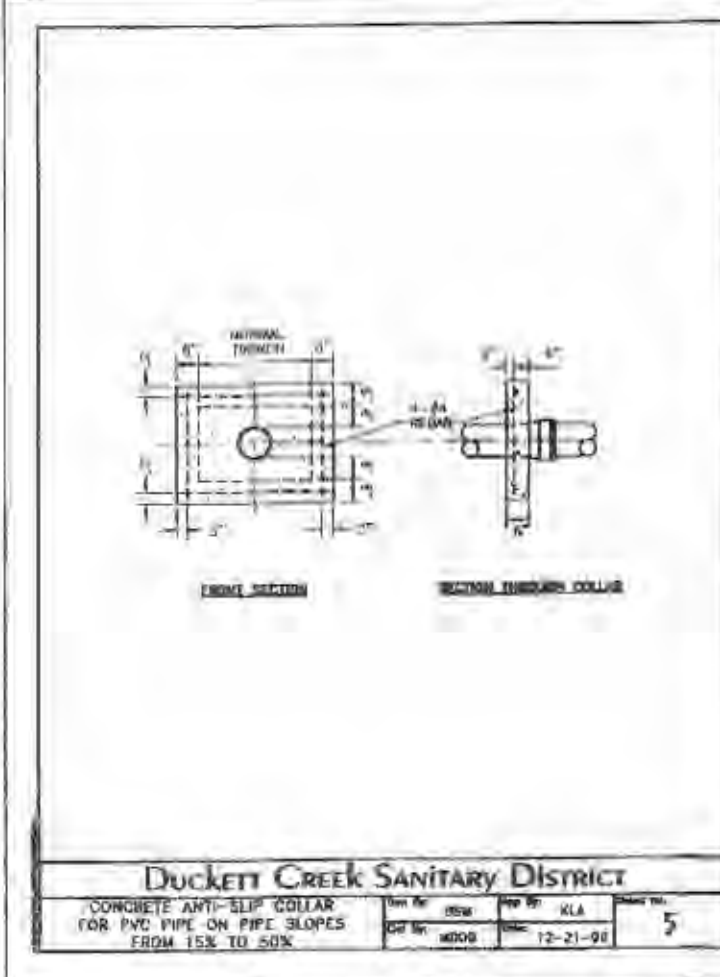
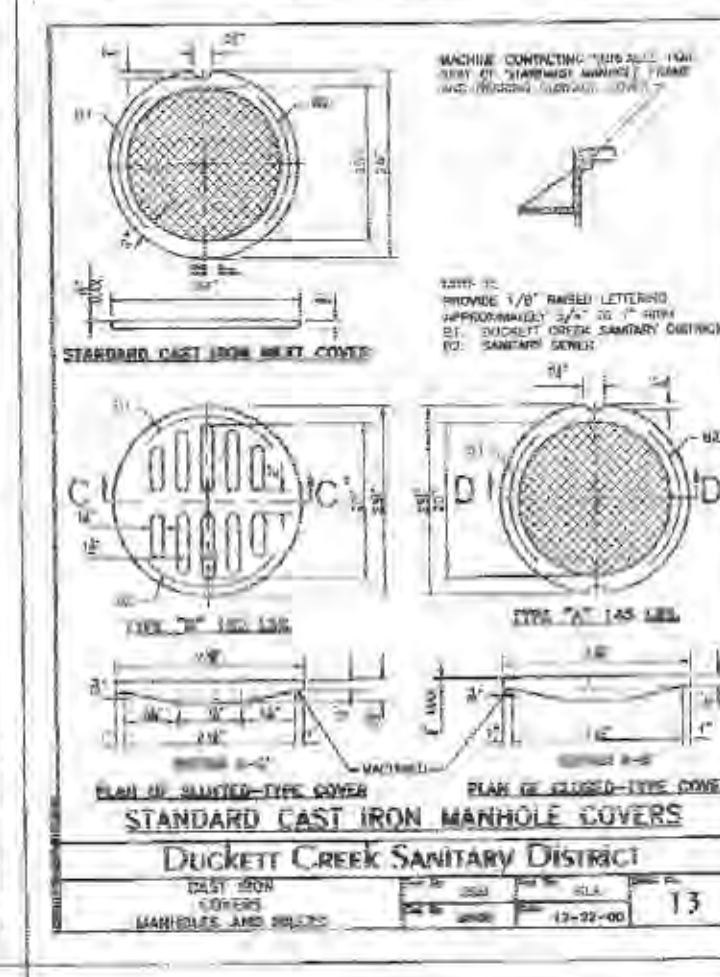
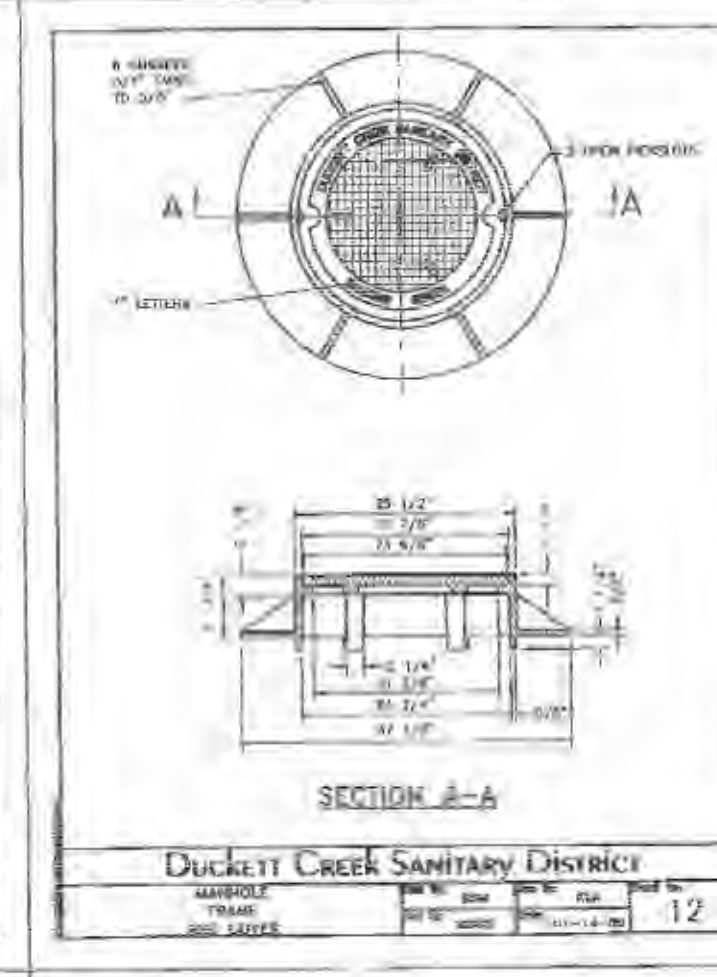
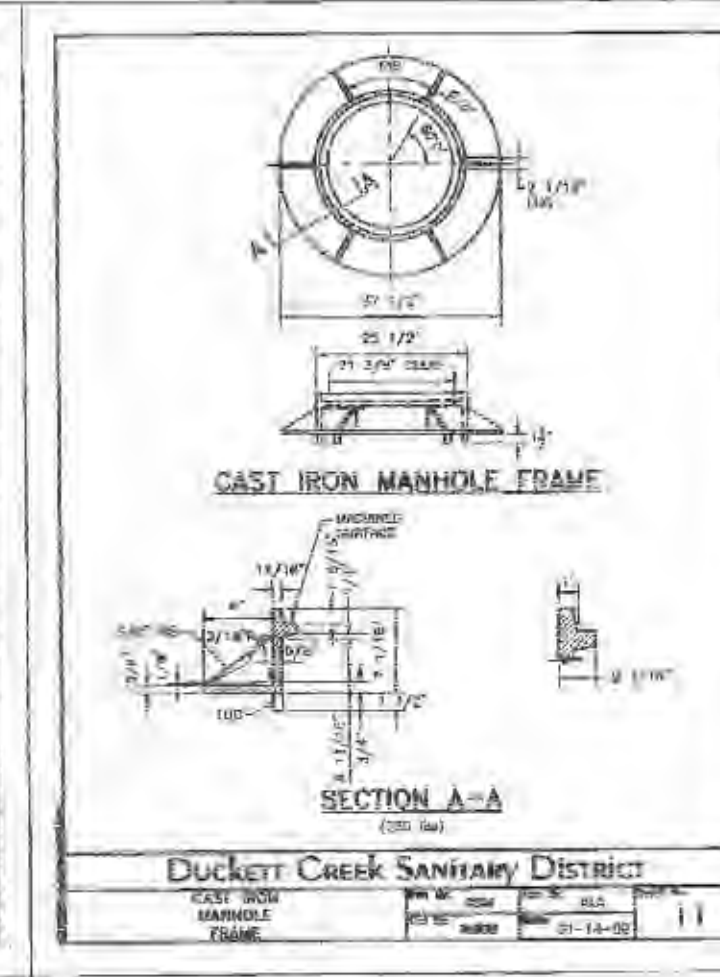
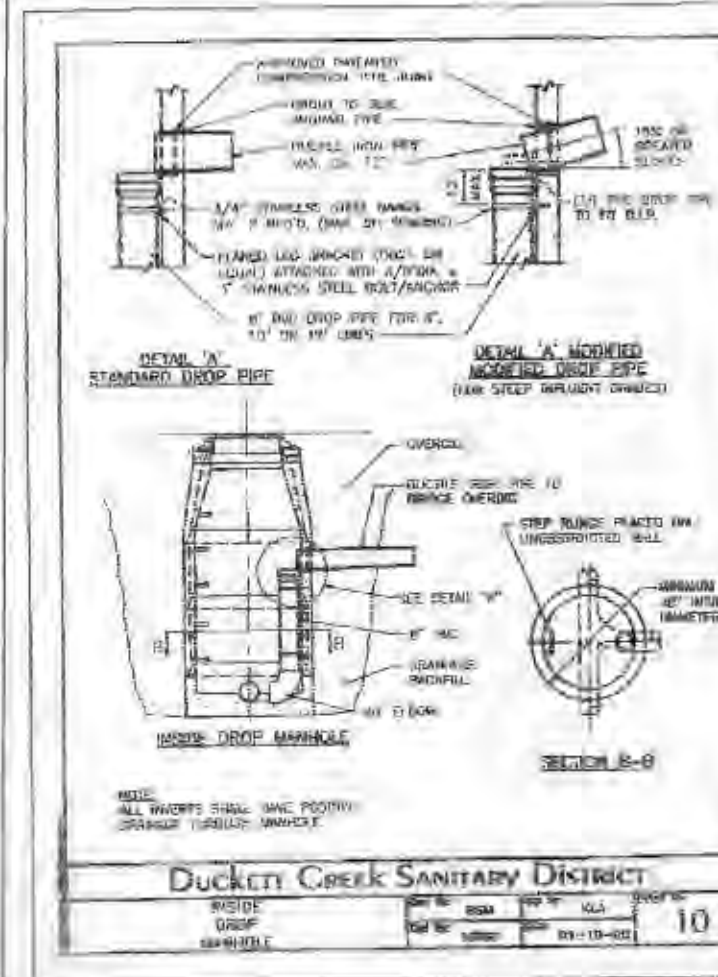
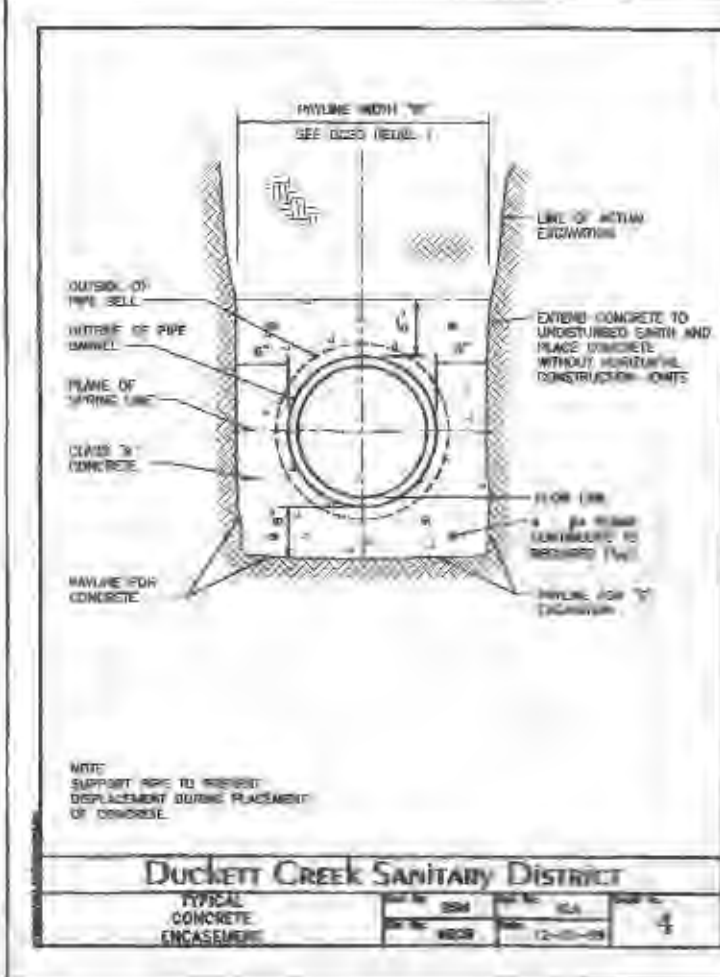
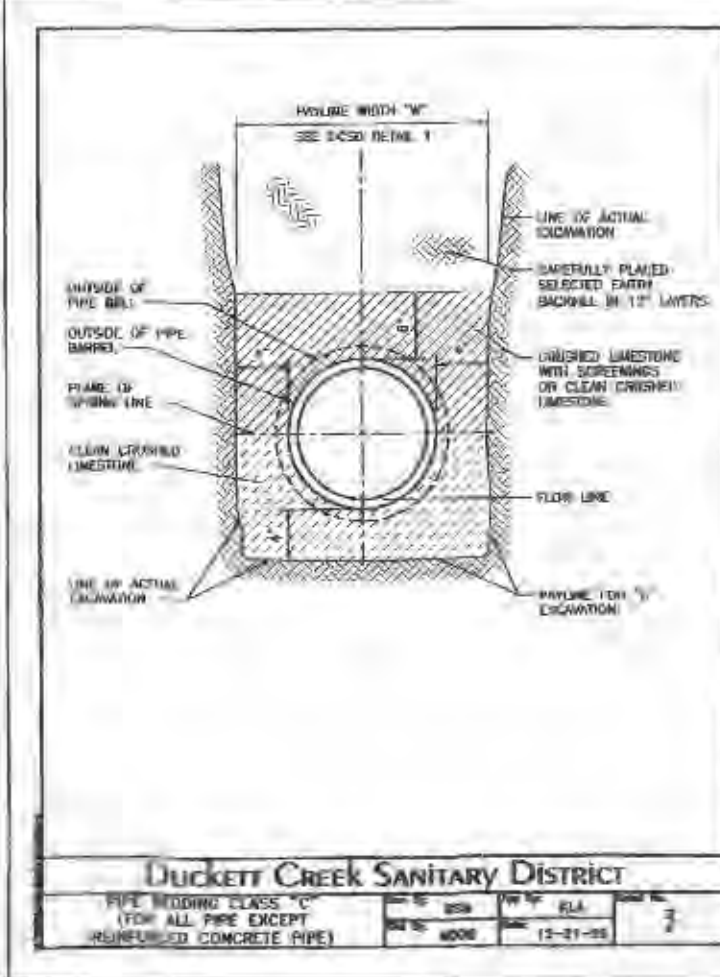
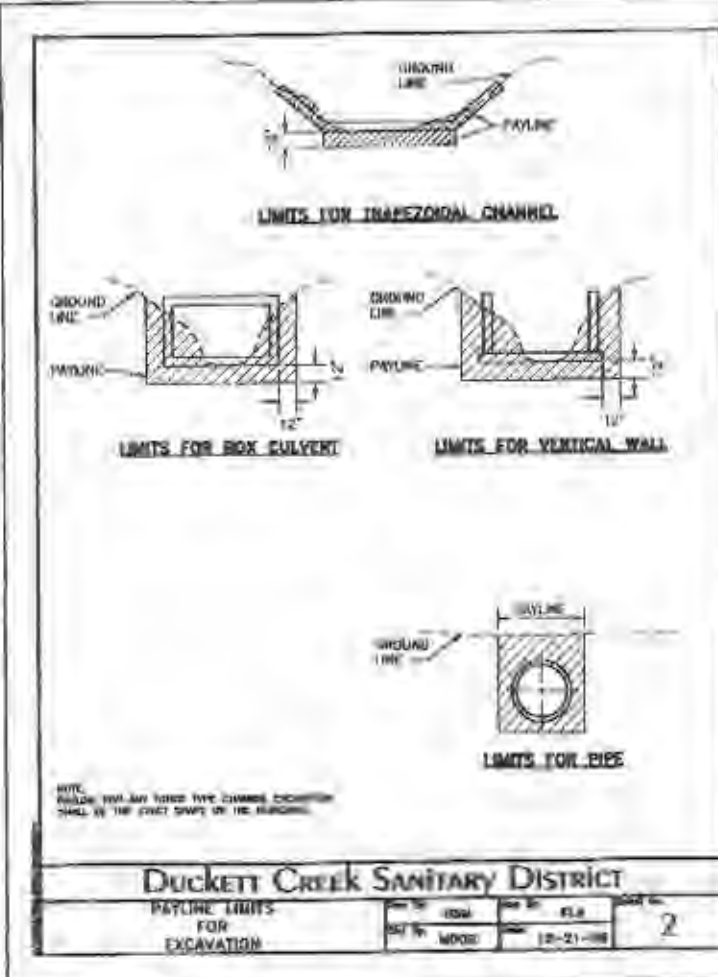
211.32'

500° 19'19"W

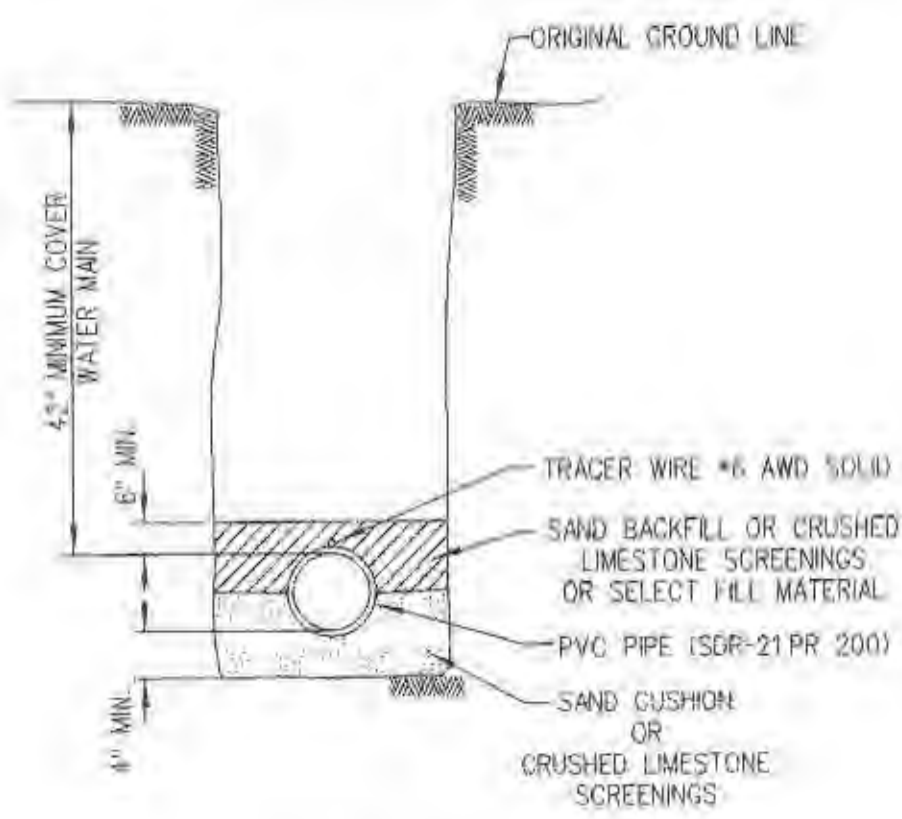
PLAT FOUR

APPROXIMATE LOCATION OF 20" W. DRAINAGE EASY TO THE PRESENT AND FUTURE OWNERS OF THE PLAT OF "BERRY" SUBDIVISION" (P.L. 1977) EASY CENTERED ON EXISTING DRAINAGE CHANNEL

ROUND PIPE	HORIZONTAL ELLIPTICAL FOOT	
INCHES	INCHES	INCHES
4	2.30	3.58
6	2.90	4.37
8	3.50	5.16
10	4.10	5.95
12	4.70	6.74
14	5.30	7.53
16	5.90	8.32
18	6.50	9.11
20	7.10	9.90
22	7.70	10.69
24	8.30	11.48
26	8.90	12.27
28	9.50	13.06
30	10.10	13.85
32	10.70	14.64
34	11.30	15.43
36	11.90	16.22
38	12.50	17.01
40	13.10	17.80
42	13.70	18.59
44	14.30	19.38
46	14.90	20.17
48	15.50	20.96
50	16.10	21.75
52	16.70	22.54
54	17.30	23.33
56	17.90	24.12
58	18.50	24.91
60	19.10	25.70
62	19.70	26.49
64	20.30	27.28
66	20.90	28.07
68	21.50	28.86
70	22.10	29.65
72	22.70	30.44
74	23.30	31.23
76	23.90	32.02
78	24.50	32.81
80	25.10	33.60
82	25.70	34.39
84	26.30	35.18
86	26.90	35.97
88	27.50	36.76
90	28.10	37.55
92	28.70	38.34
94	29.30	39.13
96	29.90	39.92
98	30.50	40.71
100	31.10	41.50
102	31.70	42.29
104	32.30	43.08
106	32.90	43.87
108	33.50	44.66
110	34.10	45.45
112	34.70	46.24
114	35.30	47.03
116	35.90	47.82
118	36.50	48.61
120	37.10	49.40
122	37.70	50.19
124	38.30	50.98
126	38.90	51.77
128	39.50	52.56
130	40.10	53.35
132	40.70	54.14
134	41.30	54.93
136	41.90	55.72
138	42.50	56.51
140	43.10	57.30
142	43.70	58.09
144	44.30	58.88
146	44.90	59.67
148	45.50	60.46
150	46.10	61.25

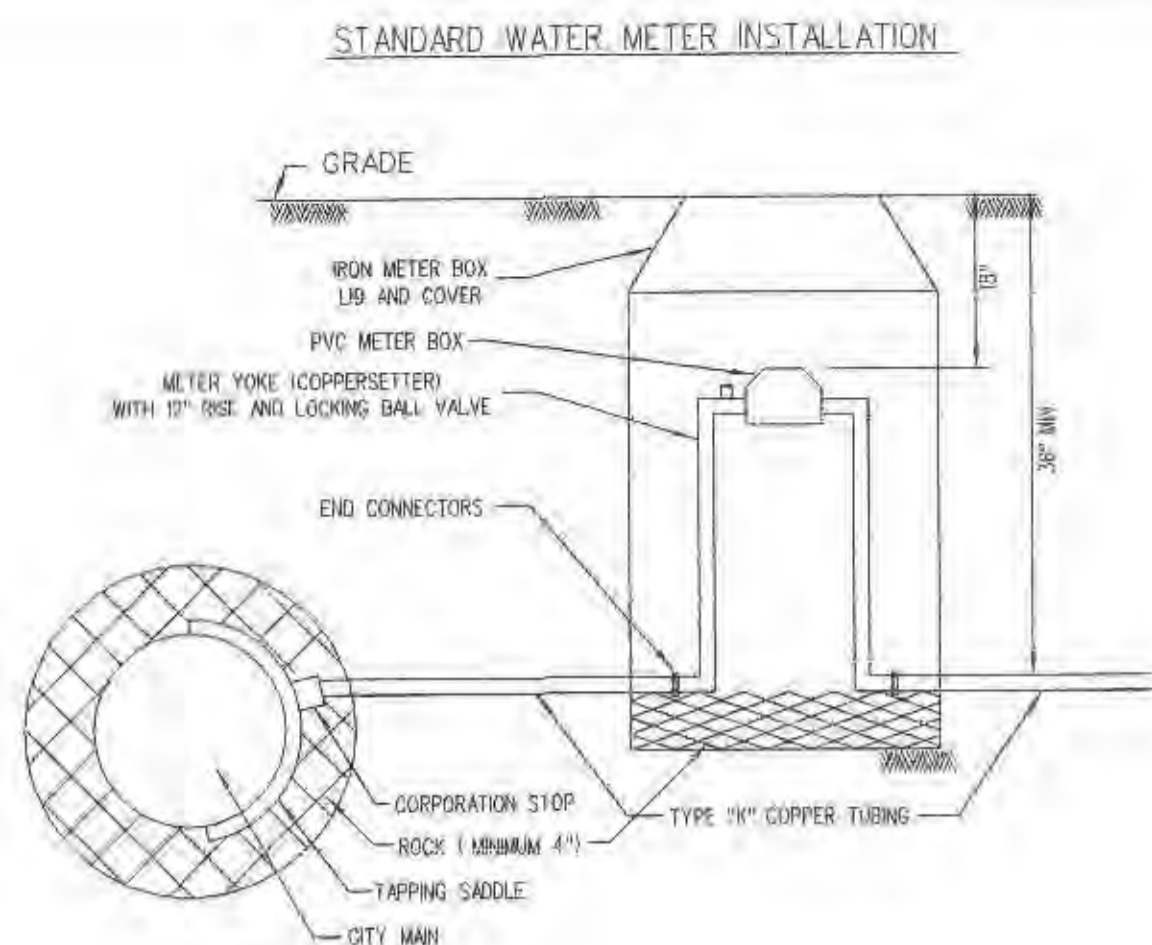


HELMUT WEBER CONSTRUCTION CO
 1707 HENKE RD.
 O'FALLON, MO. 63366
VOLZ
 REGISTERED PROFESSIONAL ENGINEER
 IN THE STATE OF MISSOURI
 NO. 10145
GREEN TREE MEADOWS
PLAT 4 & PLAT 5
 CONSTRUCTION DETAILS
 Design By: E.D.K.
 Drawn By: D.K.L.
 Checked By: E.A.K.
 B-864-
 01-31-02
19



TRENCH DETAIL

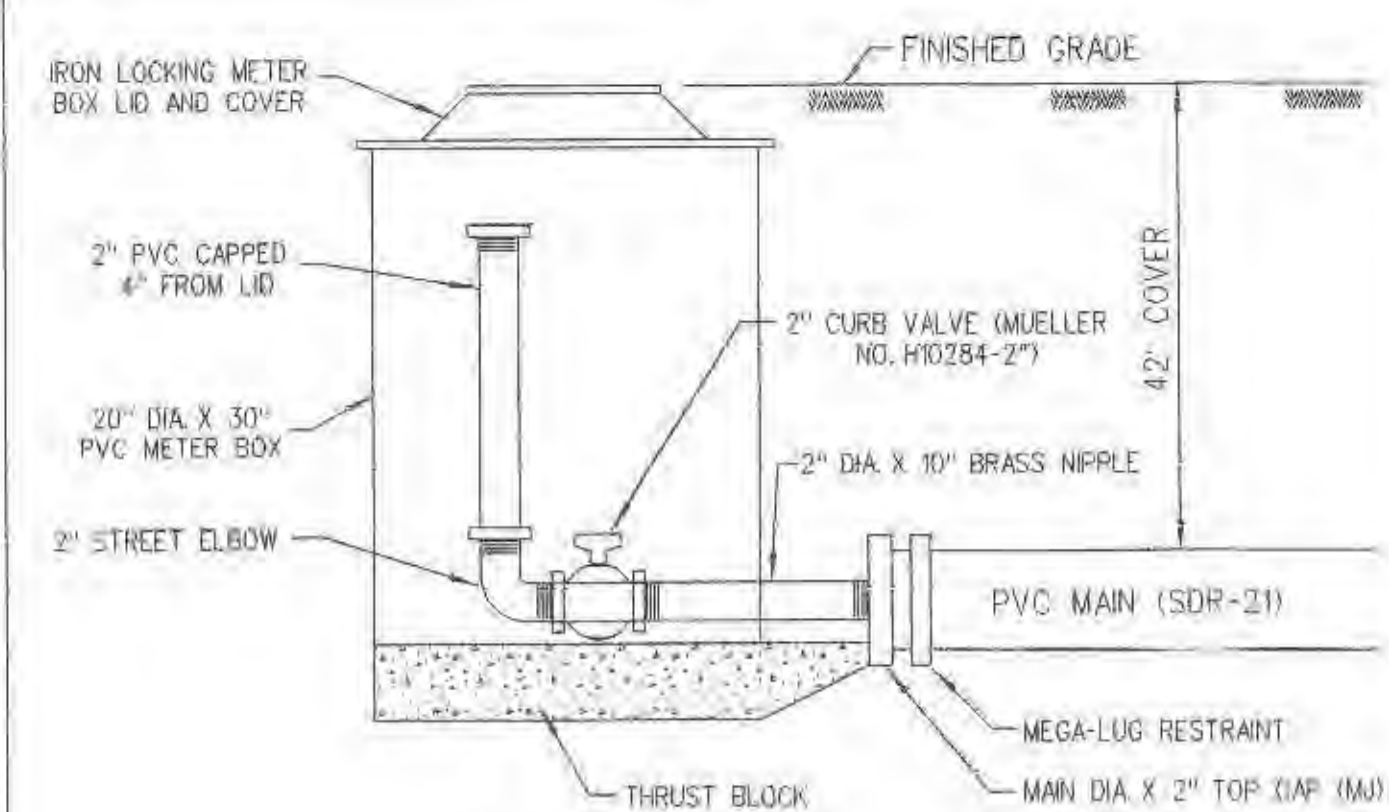
TRACER WIRE #12 AWD SOLID



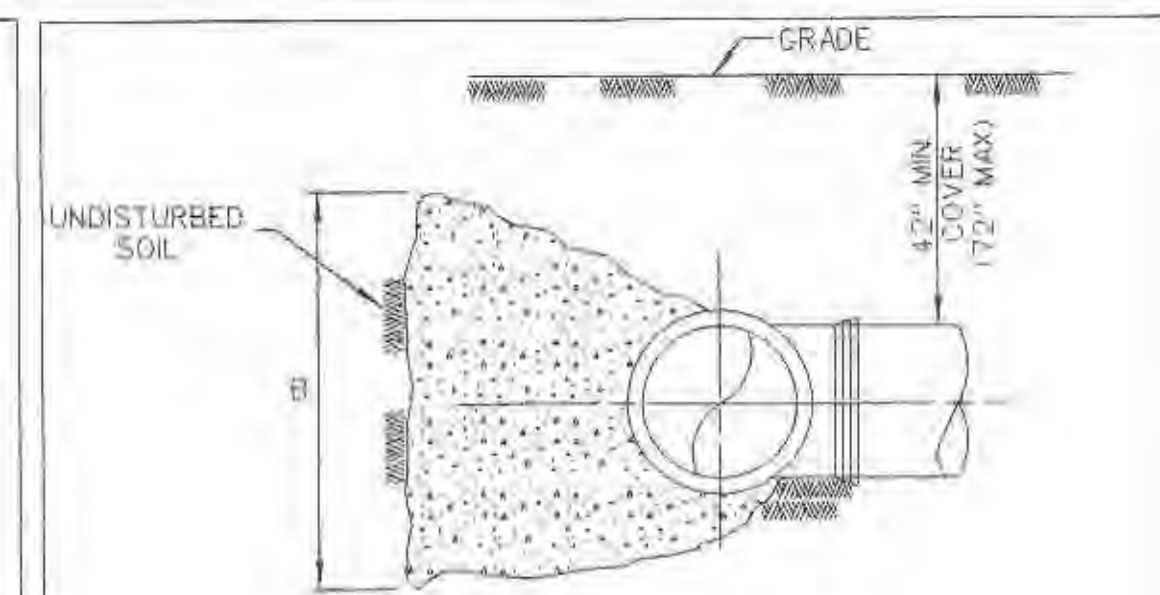
STANDARD WATER METER INSTALLATION

MATERIAL LIST - 1" WATER METER SERVICE

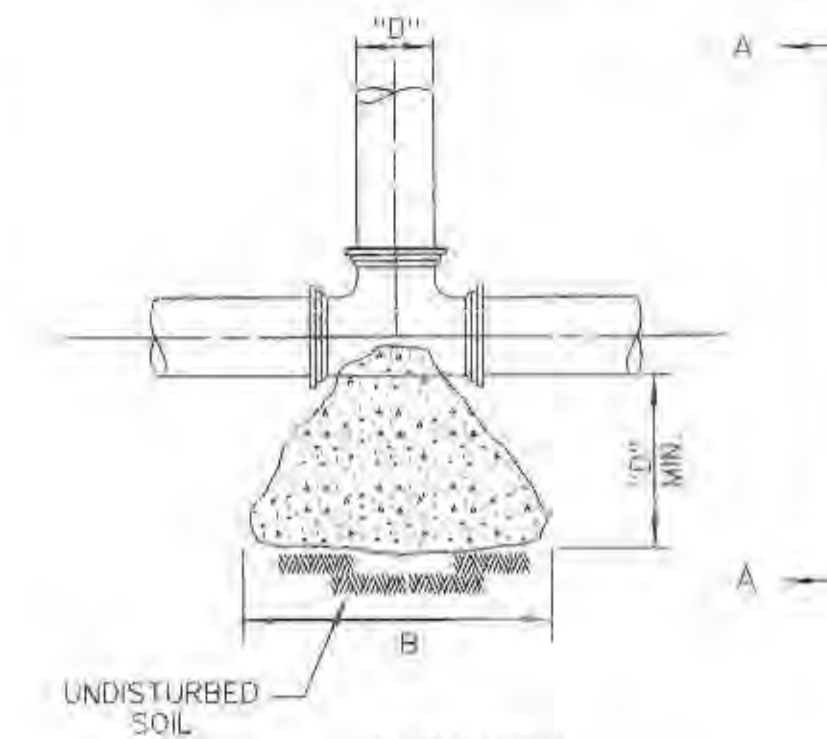
- 1" Series SR11 MTR, TRPL, 100 GL PLAS BNT
- 1" Meter Yoker with 1/2" Rise and Locking Ball Valve (B2494-1")
- 1" Corporation Stop (B25098-1")
- 2 - 1" End Connectors, Compression (H-14227-1")
- 20 6150 MTR Box Cover LN w/IR
- 20" X 30" Meter Tile (MIDSTATFS)
- 1" X 8" Tapping Saddle, PVC (H13433-1")
- 1" X 10" Tapping Saddle, PVC (H13434-1")
- 1" X 6" Tapping Saddle, PVC



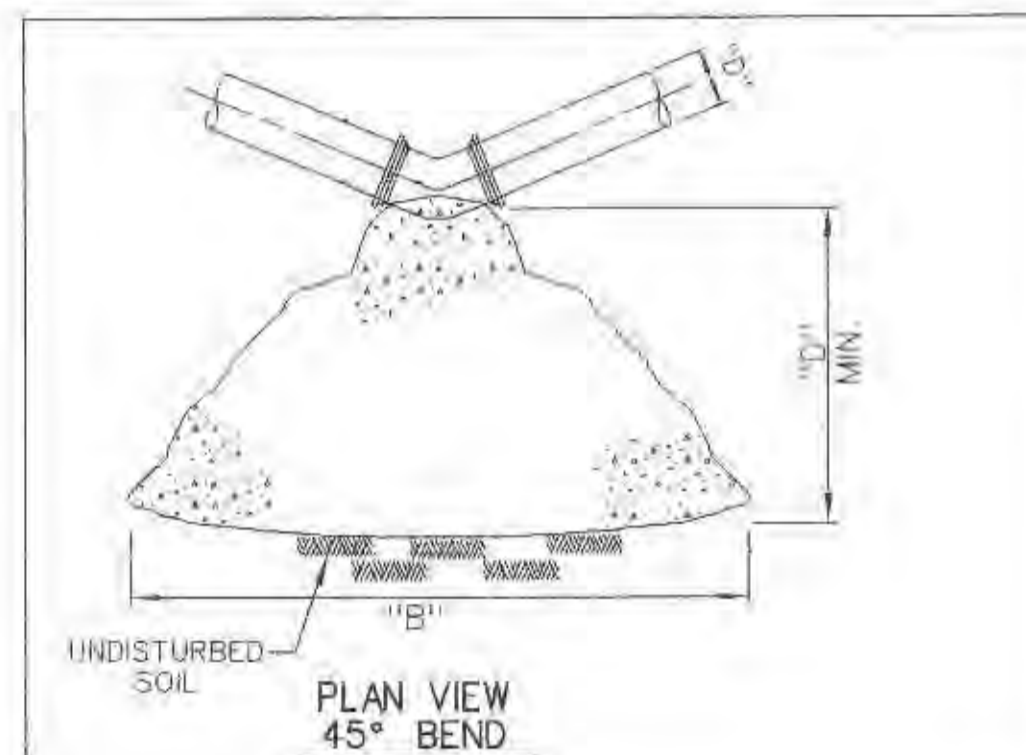
STANDARD BLOW-OFF



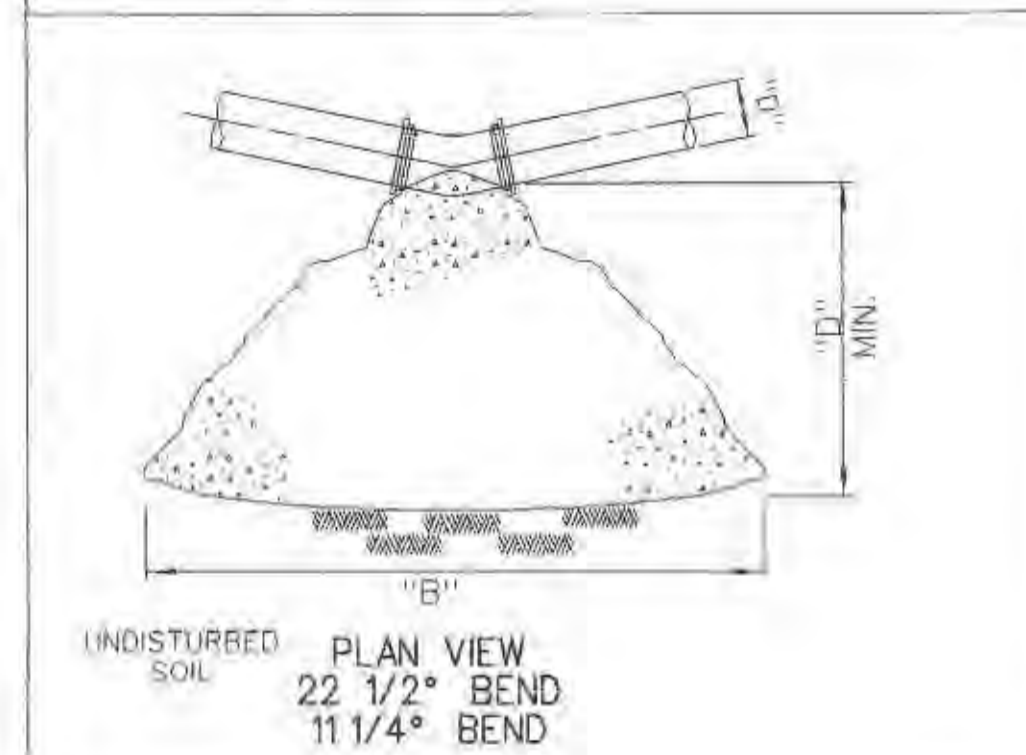
SECTION "A - A"
TYPICAL FOR ALL THRUST BLOCKS EXCEPT AS NOTED



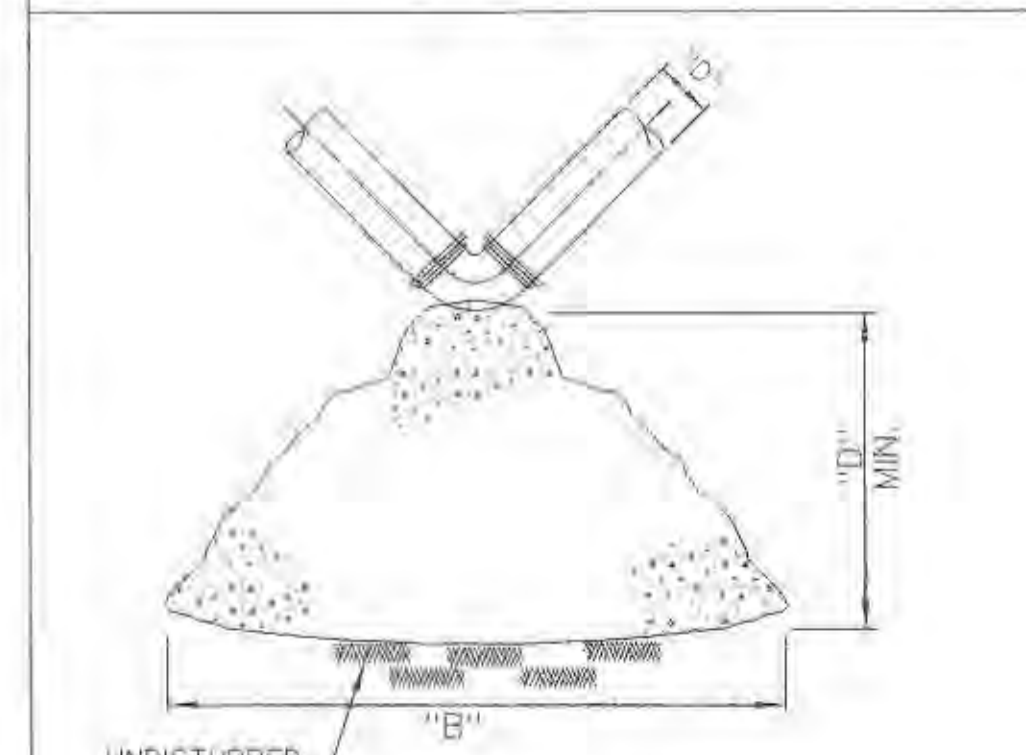
PLAN VIEW
TEE OR WYE BRANCH



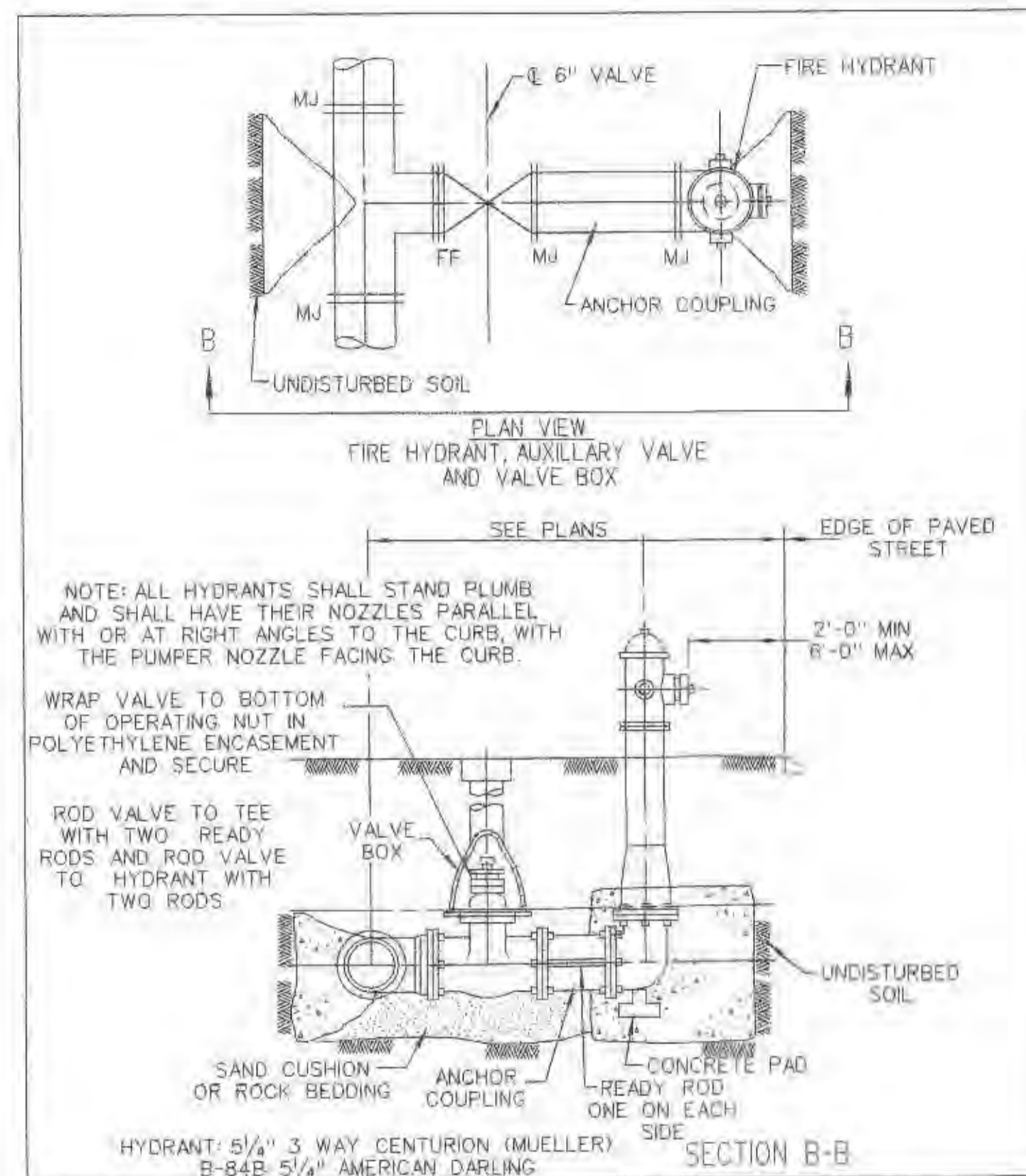
PLAN VIEW
45° BEND



PLAN VIEW
22 1/2° BEND
11 1/4° BEND



PLAN VIEW
90° BEND

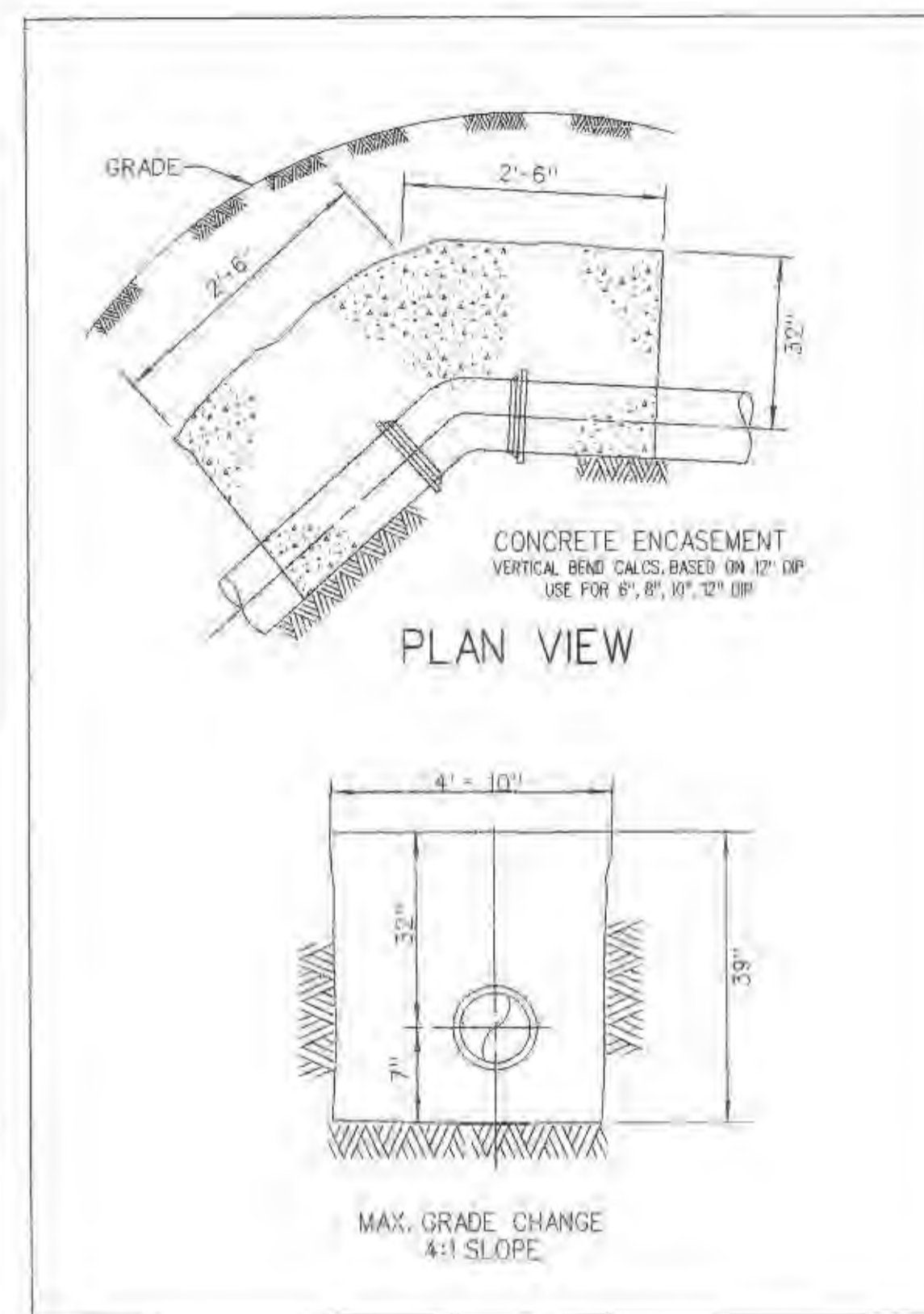


NOTE: ALL HYDRANTS SHALL STAND PLUMB AND SHALL HAVE THEIR NOZZLES PARALLEL WITH OR AT RIGHT ANGLES TO THE CURB, WITH THE PUMPER NOZZLE FACING THE CURB.

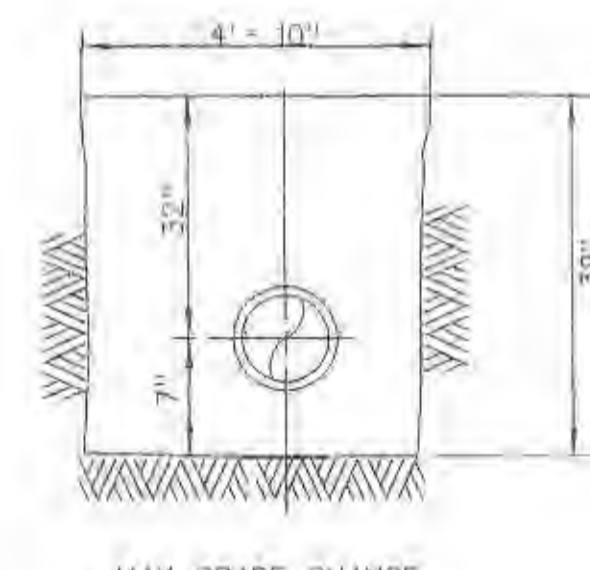
WRAP VALVE TO BOTTOM OF OPERATING NUT IN POLYETHYLENE ENCASEMENT AND SECURE.

ROD VALVE TO TEE WITH TWO READY RODS AND ROD VALVE TO HYDRANT WITH TWO RODS.

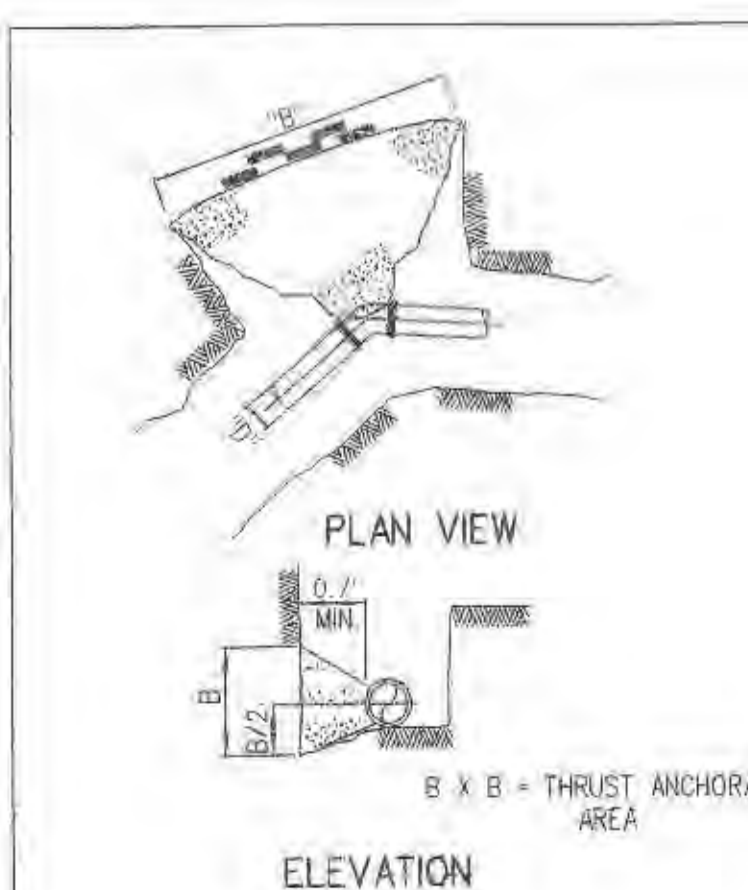
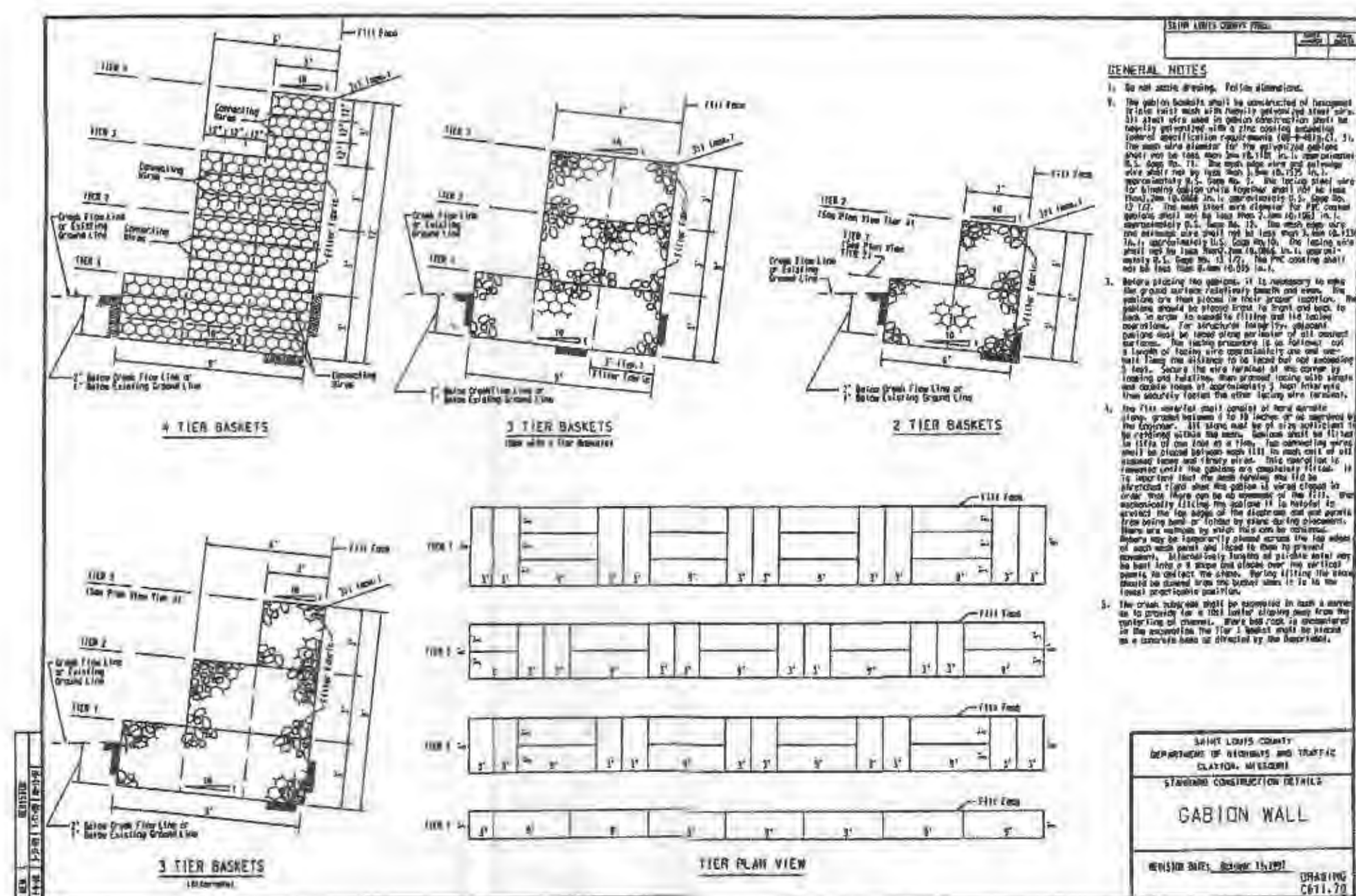
HYDRANT: 5/8" 3 WAY CENTURION (MUELLER)
B-84B 5/4" AMERICAN DARLING



PLAN VIEW



MAX. GRADE CHANGE
4:1 SLOPE



THRUST BLOCK FOR HORIZONTAL OFFSETS

PIPE DIA.	90° BENDS		45° BENDS		22.5° BENDS		WYES & TEES	
	B	D	B	D	B	D	B	D
2"	1.0	0.7	1.0	0.7	1.0	0.7	1.0	0.7
3"	1.0	0.7	1.0	0.7	1.0	0.7	1.0	0.7
4"	1.0	0.7	1.0	0.7	1.0	0.7	1.0	0.7
6"	1.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0
8"	1.8	1.0	1.0	1.0	1.0	1.0	2.2	1.0
10"	2.3	1.2	1.7	1.2	1.2	1.2	2.7	1.2
12"	2.7	1.4	2.0	1.4	1.4	1.4	3.2	1.4
14"	3.2	1.5	2.4	1.5	1.7	1.5	3.2	1.5
16"	3.6	1.7	2.7	1.7	1.9	1.7	4.3	1.7

THRUST BLOCKS

Dimensions are in feet. Use above thrust block dimensions unless poor soil conditions (organics, saturated clay, etc.) dictate use of larger thrust area. See chart at top center of this sheet for determination of area of thrust block in poor soil conditions.

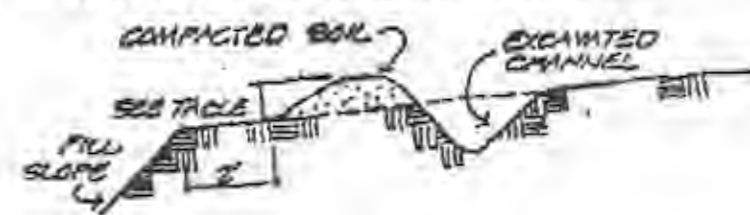


DIVERSIONS
For Urban Development Sites

APPENDIX B

** Outlets for diversions must be stable. Stable outlets consist of grass waterways, earthen channels with capacity adequate to prevent gully erosion, grade stabilization structures or other practices as approved by the Designated Official.

Combination Diversion
Used at the top of a hill slope.



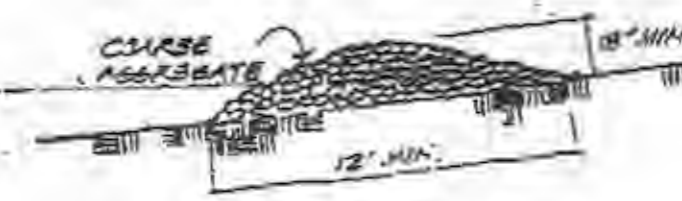
Grass Ridge Diversion
Used around the perimeter of a construction site.



Combination Diversion
General use.



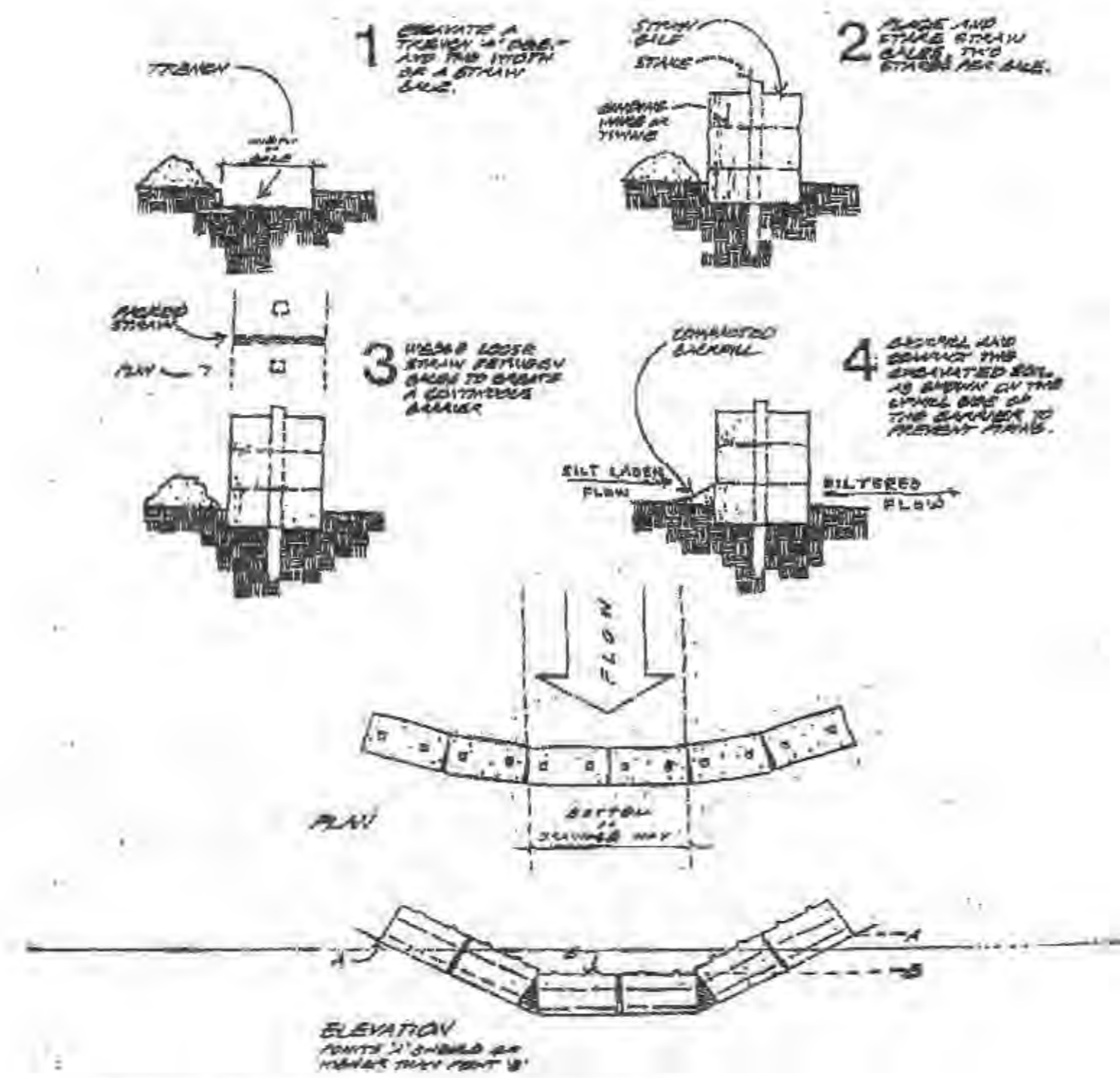
Gravel Ridge Diversion
General use.



47-9

STRAW BALE BARRIERS
For Urban Development Sites

APPENDIX C



Placement and Construction of a Straw Bale Barrier

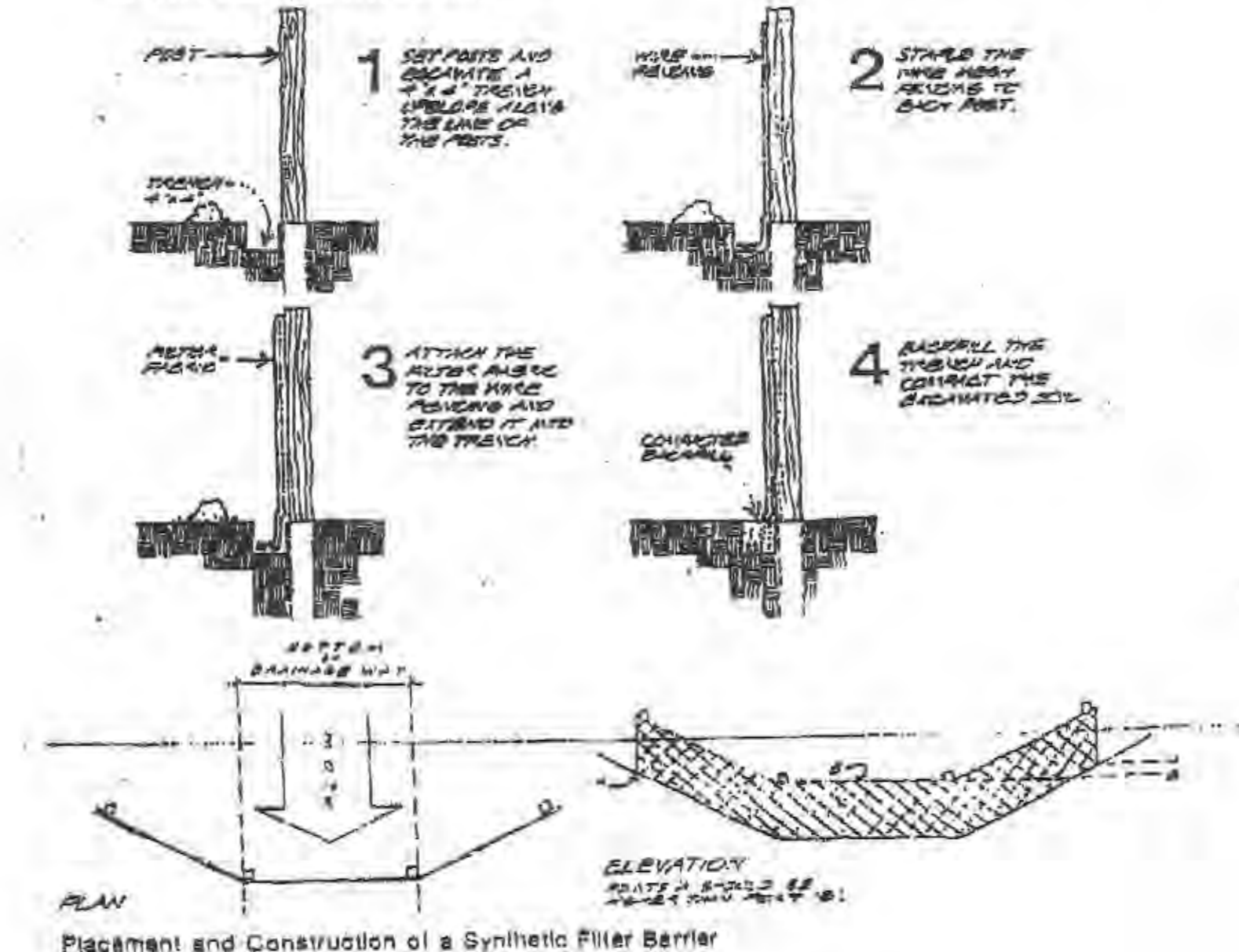
47-10

SYNTHETIC FILTER BARRIERS
For Urban Development Sites

APPENDIX D

Maintenance

- Filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- Should the fabric decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.
- Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately half the height of the barrier.
- Any sediment deposits remaining in place after the site (once or filter barrier) is no longer required shall be graded to conform with the existing grade, prepared and seeded.

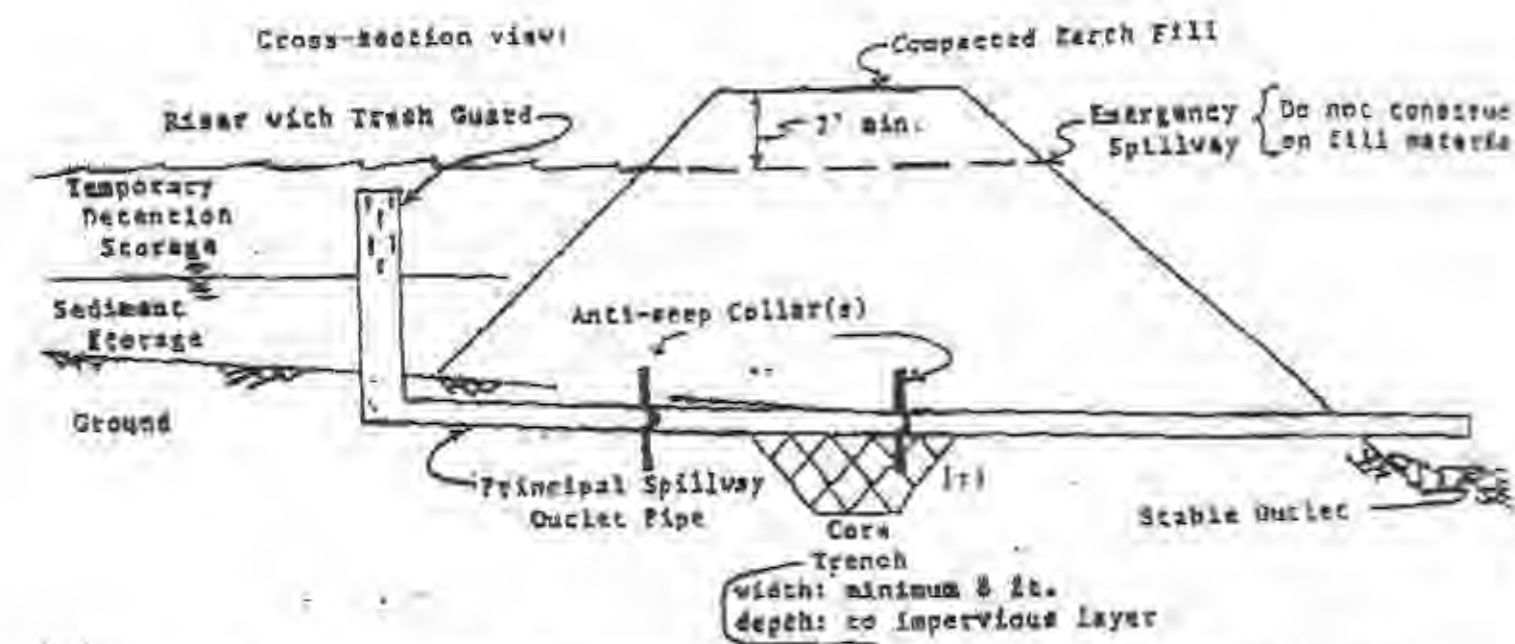


Placement and Construction of a Synthetic Filter Barrier

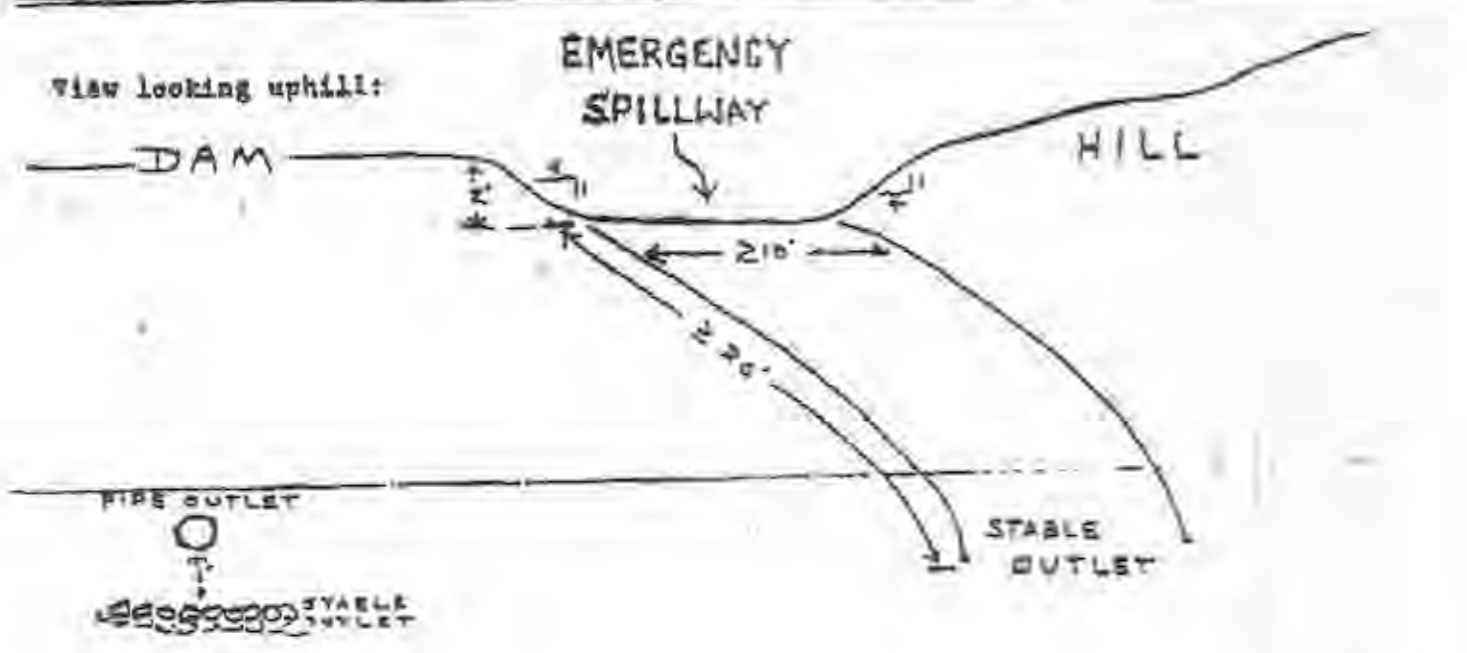
47-11

BEDIMENT BASIN
For Urban Development Sites

APPENDIX E



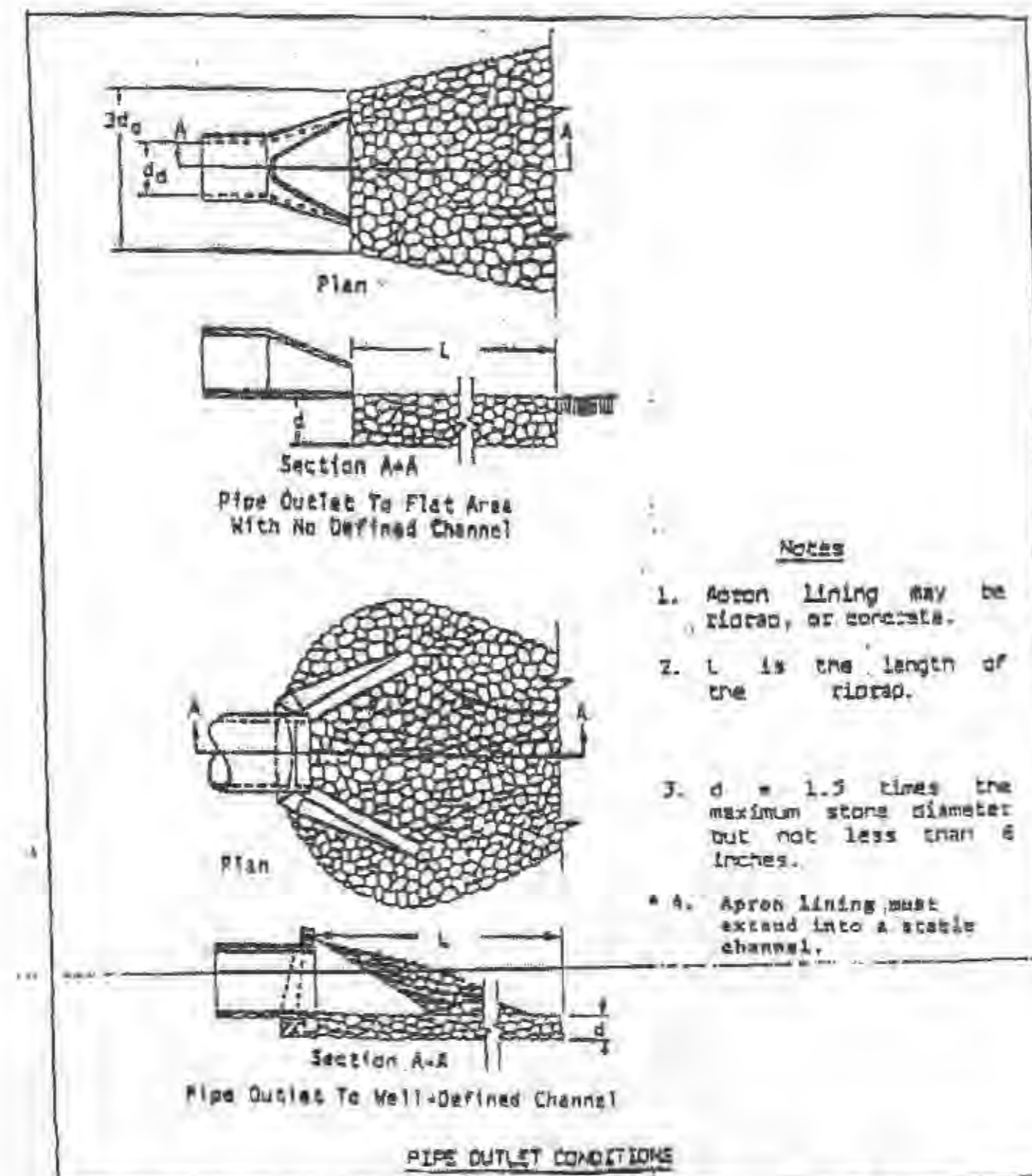
** Retention basin construction is identical with principal spillway pipe installed at an elevation that allows additional water storage.



47-12

OUTLET PROTECTION
For Urban Development Sites

APPENDIX F

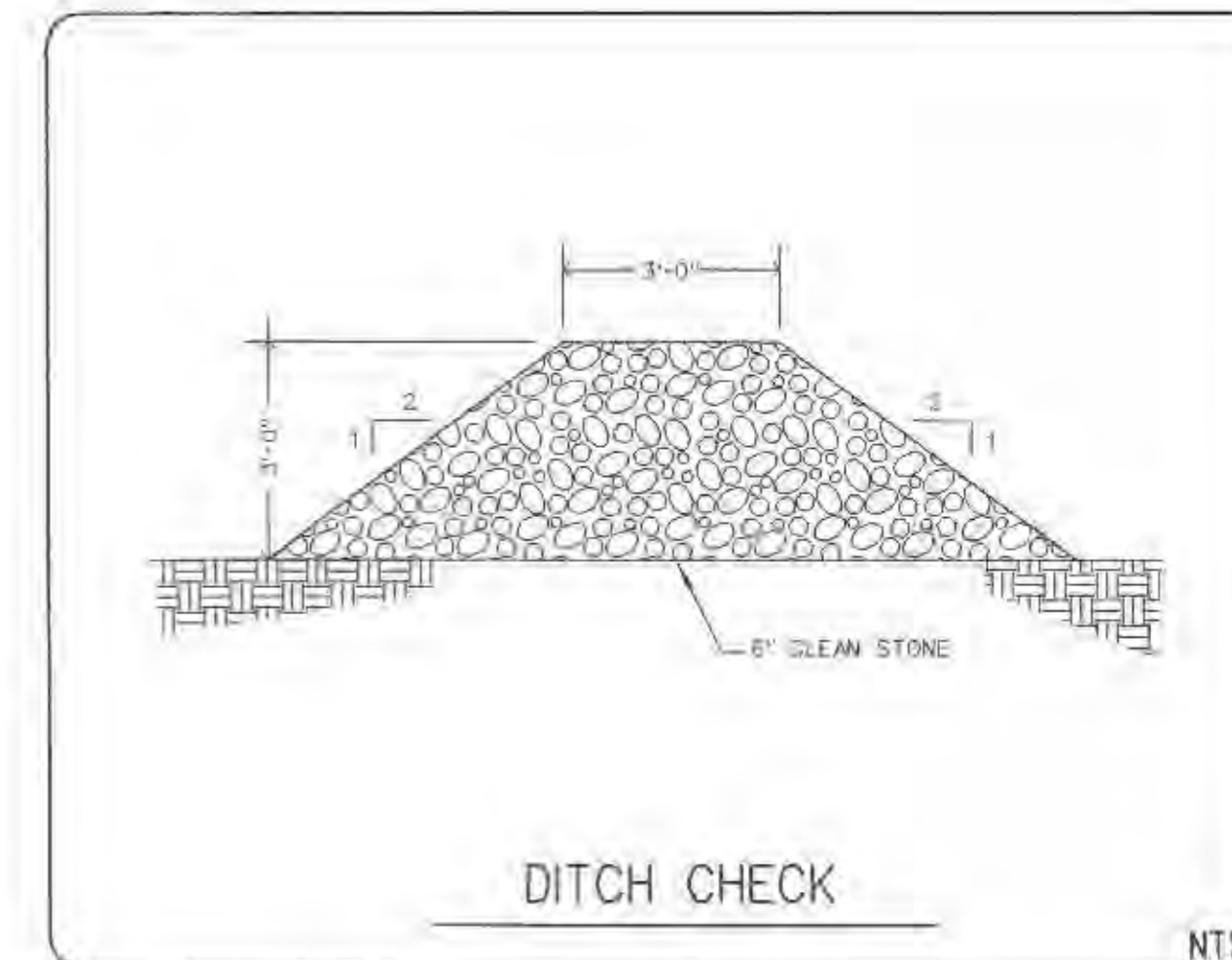


PIPE OUTLET CONDITIONS

47-13

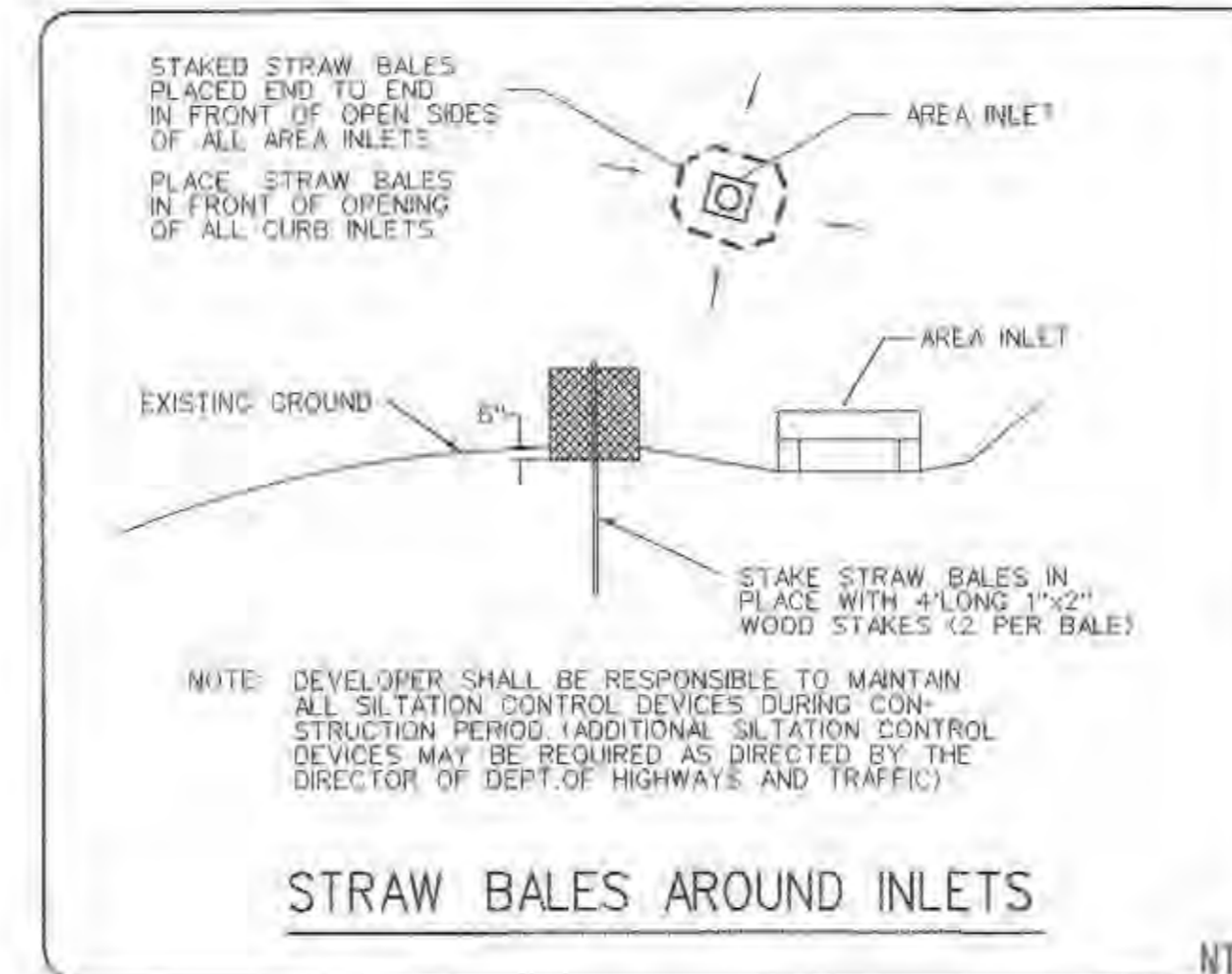
Notes

- Apron lining may be riprap, or concrete.
- L is the length of the riser.
- d = 1.5 times the maximum stone diameter but not less than 6 inches.
- Apron lining must extend into a stable channel.



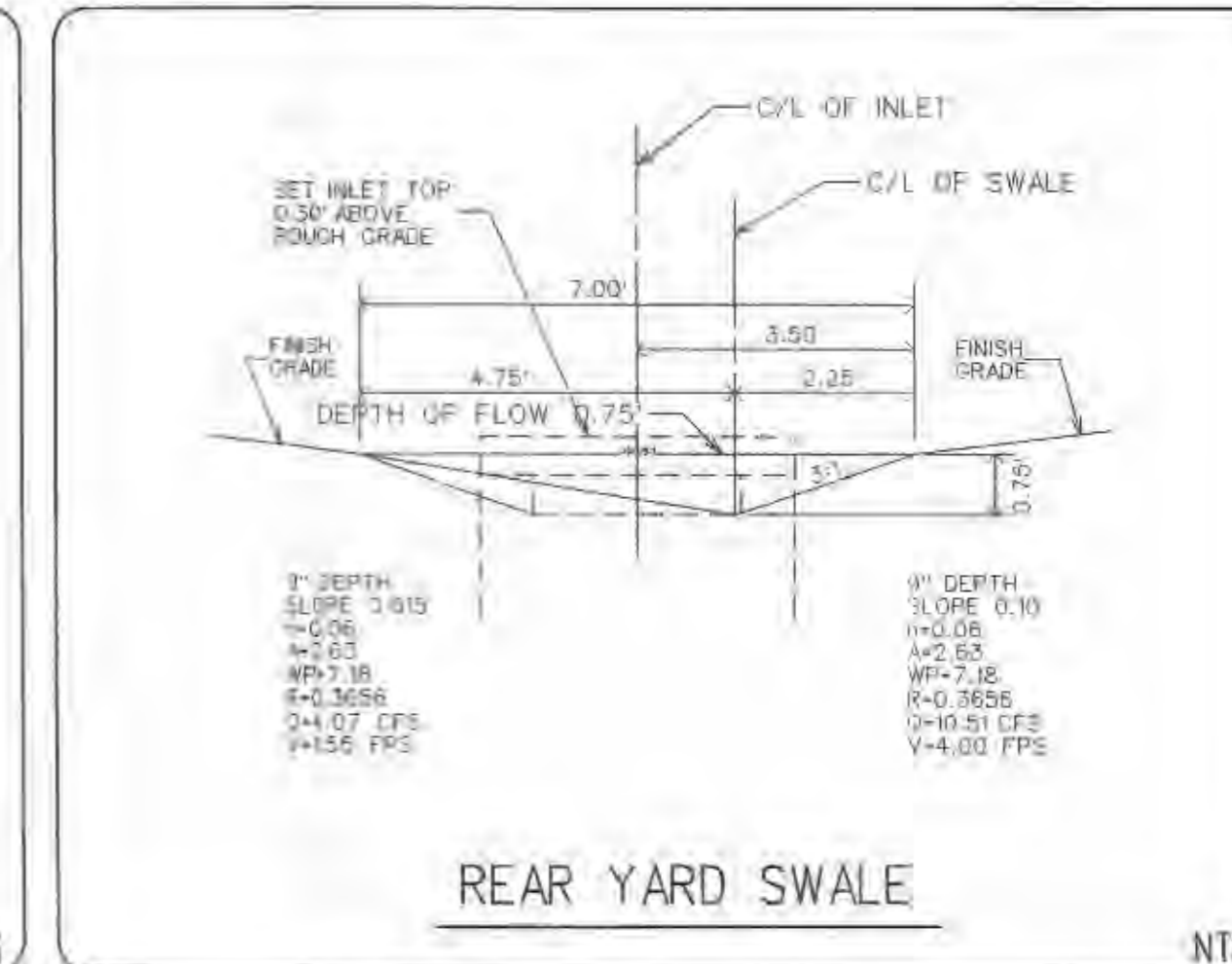
DITCH CHECK

NTS



STRAW BALES AROUND INLETS

NTS



REAR YARD SWALE

NTS

HELMUT WEBER
CONSTRUCTION CO
1707 HENKE RD.
O'FALLON, MO.
63366

VOLZ



GREEN TREE MEADOWS
PLAT 4 & PLAT 5

CONSTRUCTION DETAILS
Design By: E.A.K.
Drawn By: D.K.L.
Checked By: E.A.K.
B-8844

01-31-02
22