JOY VIEW ACRES - PHASE II

MONROE COUNTY, ILLINOIS
CITY OF COLUMBIA
A PART OF SEC. 21, 22, AND 28, T. 1 S., R. 10 W., OF THE 3RD P.M.

GENERAL NOTES

1. All work, materials, and installation shall be in accordance with the "Standard Specifications for Water and Sewer Main Construction in Illinois" and "Standard Specifications for Road and Bridge Construction in Illinois", and "Standards and Specifications for Erosion and Sedimentation Control in Developing Areas", current editions, and the City of Columbia Specifications and Subdivision Regulations.

2. Existing utilities shown are located from surface observations or information provided by the respective utilities and must be considered approximate. Field markings of underground facilities may be obtained by providing a minimum of 48 hours advance notice through the JULIE System by calling 800-892-0123 or by direct contact with non-members of JULIE. All utilities shall be protected from damage due to construction activities. Utility coordination shall be considered incidental to the Contract and no additional compensation will be allowed.

3. Select granular backfill will be provided for all trench backfill under or within three (3) feet of all proposed or future paved areas. Paved areas include streets, curbs, gutters, shoulders, and sidewalks.

4. Water Main shall be constructed to provide the required 42" minimum cover over the top of the pipe after final grading.

5. Sidewalks shall be installed by the homeowners prior to occupancy and according to the City of Columbia specifications. Sidewalks crossing through a driveway must be a minimum of 6" thick.

6. Contours shown on grading plan are finish grades; subgrade in street is pavement thickness below contours shown.

7. Grading in streets shall be within ± 0.1' of subgrade. Grading shall be within 0.25 feet of plan grade in all other areas.

8. The earthwork contractor shall provide compaction testing and a certification of said testing for conformance with the local municipal code; cost to be included in the earthwork bid.

9. The Engineer will initially stake out the location of all structures, street centerline grade, offset curb and gutter line/grade, and grade stakes for lot grading. The cost of any additional staking required or replacement of destroyed stakes or property corners will be completely borne by the Contractor.

10. The Owner will obtain IEPA permits for Water Main and Sewer Main Construction. In addition, the owner will obtain a NPDES Permit, U.S. Army C.O.E. Section 404 Permit, and authority from the IHPA. Any other permits, if required, shall be obtained by the Contractor. Any and all bonds as required by any permit, shall be the responsibility of the Contractor at his own expense.

11. Gravity sanitary sewer shall conform to ASTM D3034, PVC with a minimum SDR of 35 and flexible elastomeric seals per ASTM D3212.

12. All excavation for sanitary sewers shall be carried accurately to the lines and grades shown on the drawings. The elevations shown on the profiles of the sewers are those of the invert of the pipe. Excavation shall provide adequate working space and clearances for the work to be performed therein.

13. The Contractor shall be responsible for testing all sanitary sewers. Cost of testing shall be included in the unit price for sanitary sewer. The testing of sanitary sewers for acceptability shall be conducted by all of the following:

a. Exfiltration of air under pressure (all lines subject to this test). The time limit shall be that which is specified in the Standard Specifications.
b. Deflection for flexible thermoplastic pipe (all lines subject to this test).
c. Lamping (all lines subject to this test).

All tests shall be performed in the presence of the City of Columbia or their designated representative.

14. Precast Concrete Sanitary Manholes shall conform with ASTM C478. The manhole frames and covers shall be Neenah R-1772 frame and cover with "Sanitary" on lid. A-Lock rubber gaskets shall be used around pipes. Plastic coated steps shall be required. Joint material between manhole sections shall be 3" wide Ram Nek or E-Z Stick.

15. The storm sewers and pipe culverts shall be constructed in accordance with Sections 542 and 550 of the IDOT Specifications and shall be reinforced concrete pipe. Storm sewer inlets shall be constructed in accordance with Section 602 of the IDOT Specifications. The inlets shall be as shown on the drawings.

16. PCC Pavement shall be 7" thick with a 4" thick aggregate subbase. The subgrade shall be compacted and proof rolled. The Contractor shall provide 28 day compression strength test to ensure compliance with the local municipal code. Cost of testing shall be included in the unit price for PCC pavement and curb and gutter.

17. All conduit shall be placed from right-of-way line to right-of-way line under paved areas.

18. All required clearing and tree removal shall be performed in accordance with Section 201.04 of the IDOT Specifications. Tree removal shall be limited to those required for grading purposes. Trees outside the limits of grading shall not be disturbed unless directed by the Owner.

19. Combustible materials may be burned on site in a location outside the construction area in a manner complying with all local, state, and federal fire and environmental regulations, or removed from the site with any noncombustible materials unsuitable for fill materials. The Contractor shall be responsible for obtaining all necessary permits and approvals for burning and shall be solely responsible for the control and coordination of burning operations.

20. Water main shall be in conformance with AWWA C900 and shall be SDR 18, Pressure Rating of 150 psi, with bell and spigot joints. All water mains to be installed with single strand, No. 6 bare copper wire.

21. All Tees, Elbows, Reducers and Caps shall be Class 350 ductile iron with end connections of the mechanical joint type suitable for accepting AWWA C900 PVC pipe of the size indicated on the drawings.

22. Gate Valves shall be of the resilient seat type, conforming to AWWA C509, with non-rising stem, 2 inch square operating nut, and end connections of the mechanical joint type suitable for accepting AWWA C900 PVC pipe. Gate valves shall be of the size indicated on the drawings and Mueller Model No. A-2360-20 or equivalent.

23. Fire Hydrants shall conform to AWWA C502 and the City of Columbia requirements. Fire Hydrants shall be 4 foot bury, with three-way opening (two hose nozzles and one pumper nozzle) and shoe with mechanical joint type connection suitable for accepting AWWA C900 PVC pipe. Fire hydrants shall be 3-way Mueller with Chicago threads, or equivalent.

24. Thrustblocking shall be in accordance with Section 41-2.09 of the "Standard Specifications for Water and Sewer Main Construction in Illinois", latest edition. Concrete used for thrustblocking shall have a minimum compressive strength of 2000 psi.

25. Water Service Saddles shall be stainless steel, double bolt, Ford FS303-690-CC4, or similar.

26. Corporation Stops shall be constructed of 85-5-5-5 ASTM B62 brass, ground key design with 1 inch tapered thread inlet and conductive compression connection for CTS O.D. tubing outlet.

27. Service Tubing shall be 1 inch CTS O.D. type "K" soft copper tubing.

28. Service Fittings shall be constructed of 85-5-5-5 ASTM B62 brass. Couplings shall be straight and of the conductive compression connection type.

29. Meter Yokes shall be horizontal inlet and outlet. Meter yokes shall be Ford Model Y504-xy Mo

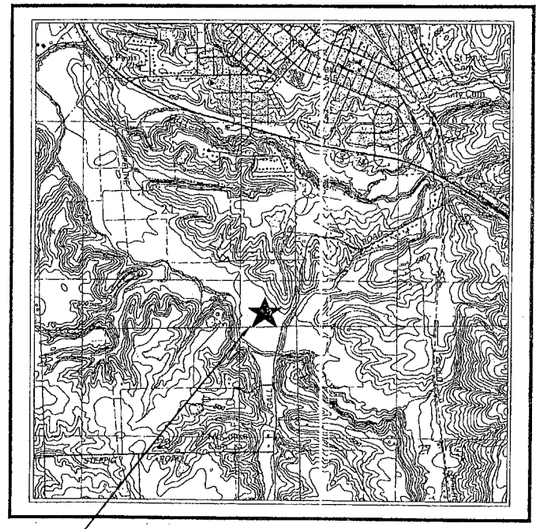
30. Meter Boxes shall be 24" x 30" constructed of high-density polyethylene, or equivalent, with flanged bottoms to prevent settling.

31. Meter Pit Covers shall be Mueller cast iron box frame and cover with "WATER METER" marked on drop-in lid.

32. The entire water main constructed shall be pressure and leak tested as defined in Section 41-2.13 of the "Standard Specifications for Water and Sewer Main Construction in Illinois", current edition. Chlorination shall be in accord with Section 41-2.14 C (1) or (2).

33. The Contractor shall be responsible for taking the bacteriological samples and having them tested at an approved laboratory.

34. All water main tests shall be performed and samples taken in the presence of the City of Columbia or their designated representative



PROJECT LOCATION

U.S.G.S. LOCATION MAP

- BENCHMARK
- STONE FOUND
- IRON PIN FOUND
- IRON PIPE FOUND
- R.O.W. MARKER FOUND
- RR SPIKE FOUND
- EXISTING TREE
- EXISTING TREELINE
- EXISTING SHRUB
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING LIGHT STANDARD
- EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING AREA INLET
- EXISTING GRATE INLET
- EXISTING STORM MANHOLE
- EXISTING CLEANOUT
- EXISTING DOUBLE CURB INLET
- EXISTING CABLE TV PDX
- EXISTING TELEPHONE PED.
- EXISTING AIR CONDITIONER
- EXISTING ELECTRIC JUNCTION BOX
- EXISTING GUARDRAIL
- EXISTING OVERHEAD UTILITIES
- EXISTING UNDERGROUND TELEPHONE
- EXISTING WATER MAIN
- EXISTING GAS LINE
- EXISTING SANITARY SEWER
- EXISTING FIBER OPTICS LINE
- EXISTING STORM SEWER
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING CHAIN LINK FENCE
- PROPOSED FIRE HYDRANT W/ AUX. VALVE
- PROPOSED WATER VALVE
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY CLEANOUT
- PROPOSED THRUST BLOCK
- PROPOSED STORM SEWER INLET
- DIRECTION OF FLOW
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SERVICE CONNECTION
- PROPOSED WATER SERVICE CONNECTION
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- PROPOSED CURB INLET
- PROPOSED END OF PIPE

INDEX OF SHEETS

LIST OF UTILITIES:

SEWER
CITY OF COLUMBIA
311 W. MONROE ST.
COLUMBIA, IL 62236
618-281-4264

WATER
CITY OF COLUMBIA
311 W. MONROE ST.
COLUMBIA, IL 62236
618-281-4264

ELECTRIC
ILLINOIS POWER
1050 WEST BLVD.
BELLEVILLE, IL 62222
618-236-6271

TELEPHONE
HARRISONVILLE TEL. CO.
213 S. MAIN STREET
WATERLOO, IL 62298
618-939-2000

CABLE TV
CHARTER COMMUNICATIONS
210 WEST DIVISION
MARYVILLE, IL 62062
618-345-8121

GAS
ILLINOIS POWER
1050 WEST BLVD.
BELLEVILLE, IL 62222
618-236-6271

OWNER/DEVELOPER:

H.J. FRIERDICH & SONS, INC.
GENERAL CONTRACTORS
CORPORATE OFFICE
323 N. MAIN STREET
COLUMBIA, ILLINOIS 62236
(618) 281-7191
Since 1927

THOMAS J. HASENSTAB II
062-052929
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Thomas J. Hasenstab II
9/21/02
Date of Signing
11/30/03
Date of License Expiration

Precision Design & Survey, Inc.
Engineers + Surveyors
315 North Main Street
Columbia, Illinois 62236
(618) 281-2355

JOY VIEW ACRES - PHASE II

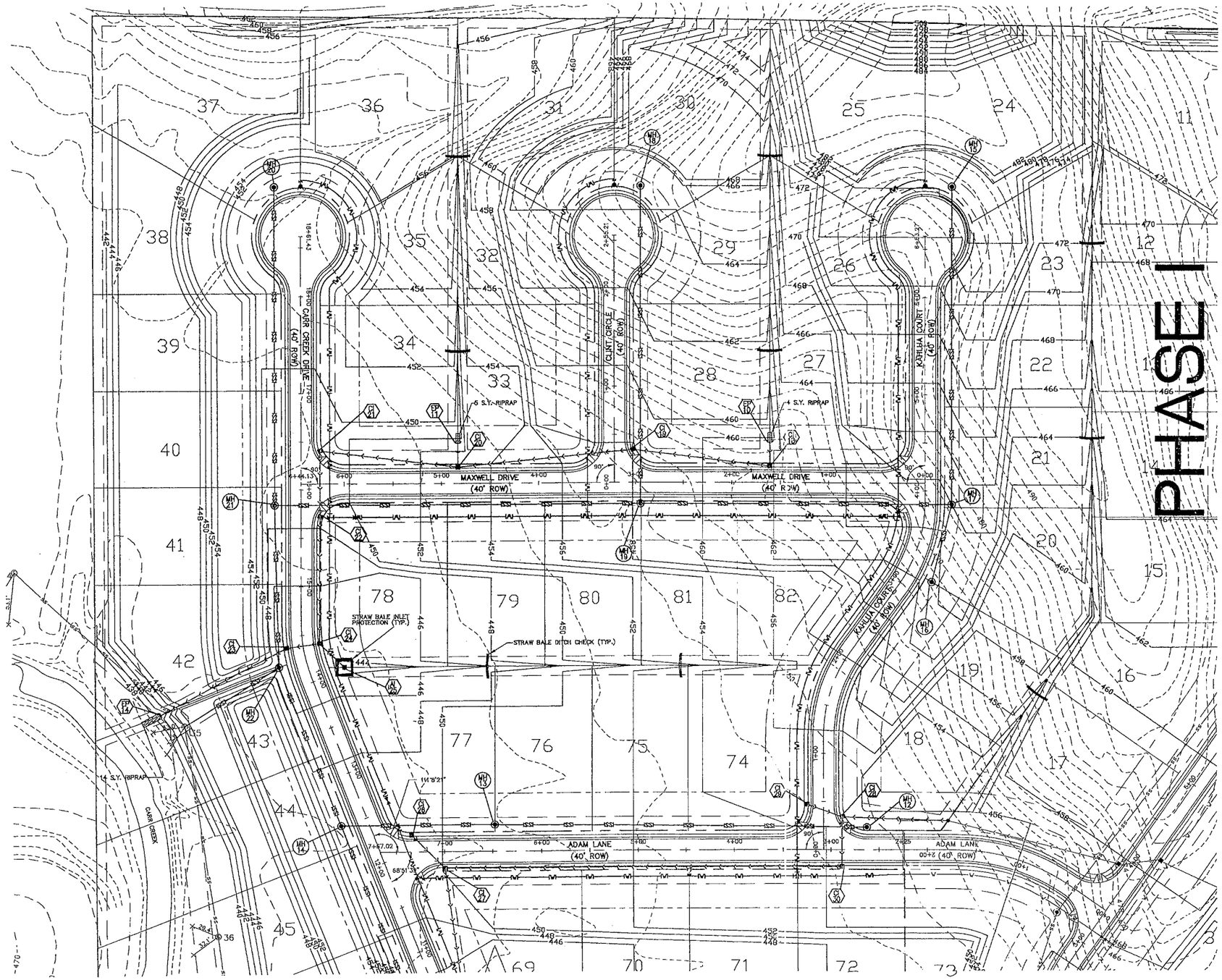
DATE: MAY 2002	JOB NO.: 02-003	DRAWN BY: JH
CHECKED BY: WCH		SCALE: N/A

COVER SHEET

6/02 - General Note #16 and #25 per the City of Columbia

REV. 9/26

SHEET 1 OF 14



NOTES:

1) SEE FINAL PLAT FOR LOT DIMENSIONS.

2) EXISTING UTILITIES SHOWN OR INDICATED ON THESE PLANS ARE BASED ON INFORMATION AND DATA FURNISHED BY THE OWNERS OF SUCH UNDERGROUND FACILITIES AND UTILITIES OR BY OTHERS. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE AND NO GUARANTEE IS IMPLIED TO THE ACCURACY. FIELD MARKING OF UNDERGROUND UTILITIES MAY BE OBTAINED BY PROVIDING A MINIMUM OF 48 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 1-800-892-0123 OR BY DIRECT CONTACT WITH NON-MEMBERS OF J.U.L.I.E.

3) SEE SHEET 14 FOR EROSION CONTROL DETAILS.

50 0 50 100
SCALE FEET

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Engineers + Surveyors
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Columbia, Illinois 62236
(618) 281-2355

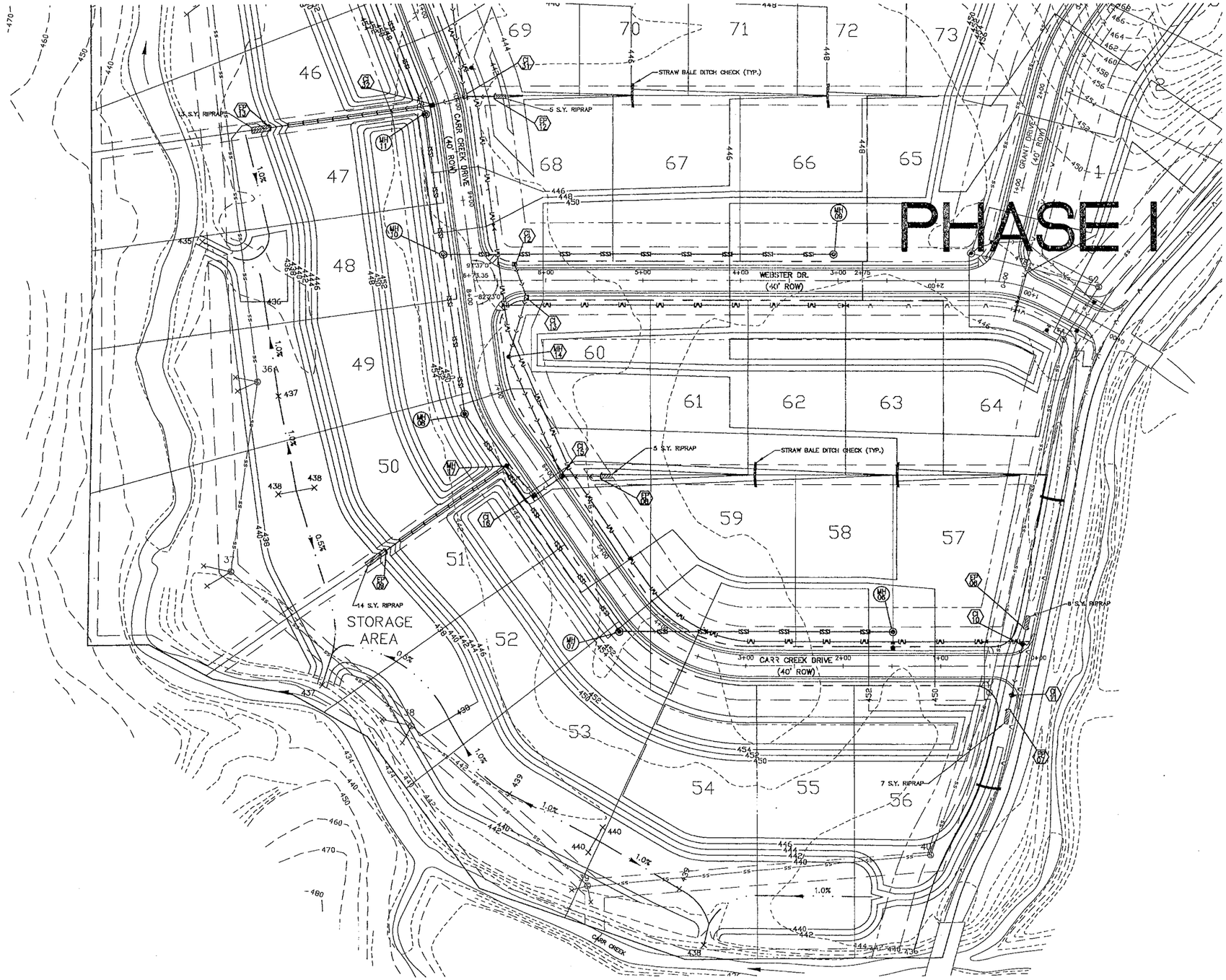
JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: AS NOTED

GRADING AND DRAINAGE PLAN

REV.:

SHEET: 2 OF 14



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50 0 50 100
SCALE FEET

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JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: AS NOTED

GRADING AND DRAINAGE PLAN

REV.:

SHEET: 3 OF 14

NOTES:

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3) WATER SERVICE LOCATIONS SHOWN AT A SCALE AND POSITION FOR EASE OF VIEWING. TYPICAL LOCATION SHALL BE 3' FROM THE PROPERTY CORNER AND 2' BEYOND THE EDGE OF PROPOSED SIDEWALK.

PHASE II

50 0 50 100
SCALE FEET

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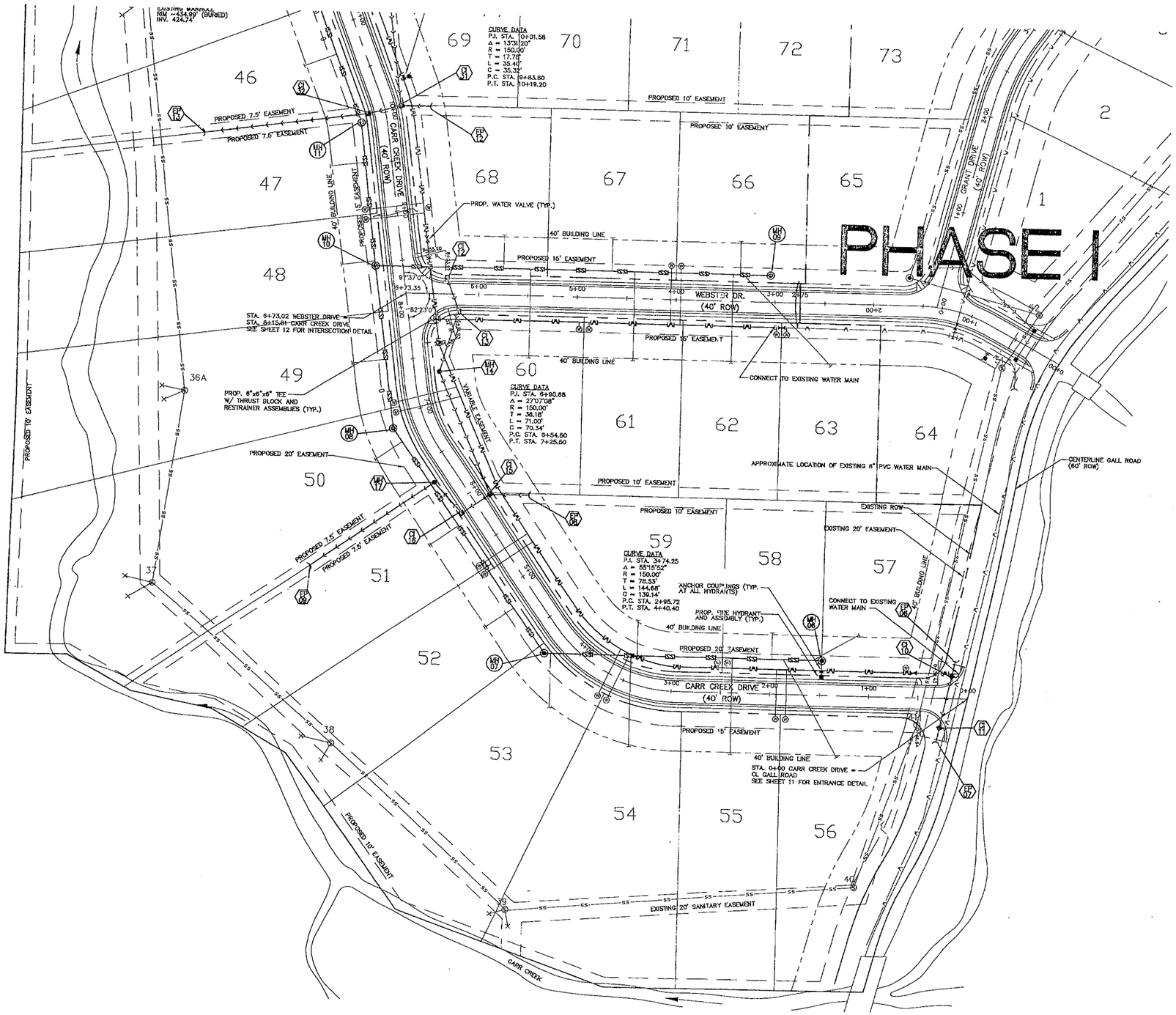
JOY VIEW ACRES - PHASE II

DATE: MAY 2002	JOB NO. 02-003	DRAWN BY: TJH
CHECKED BY: WCH		SCALE: AS NOTED

SITE PLAN

REV: 9/26/02 - ANCHOR COUPLINGS AND RESTRAINER ASSEMBLIES CALLOUT AS PER CITY OF COLUMBIA

SHEET: 4 OF 14



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50 0 50 100
SCALE FEET

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JOY VIEW ACRES - PHASE II

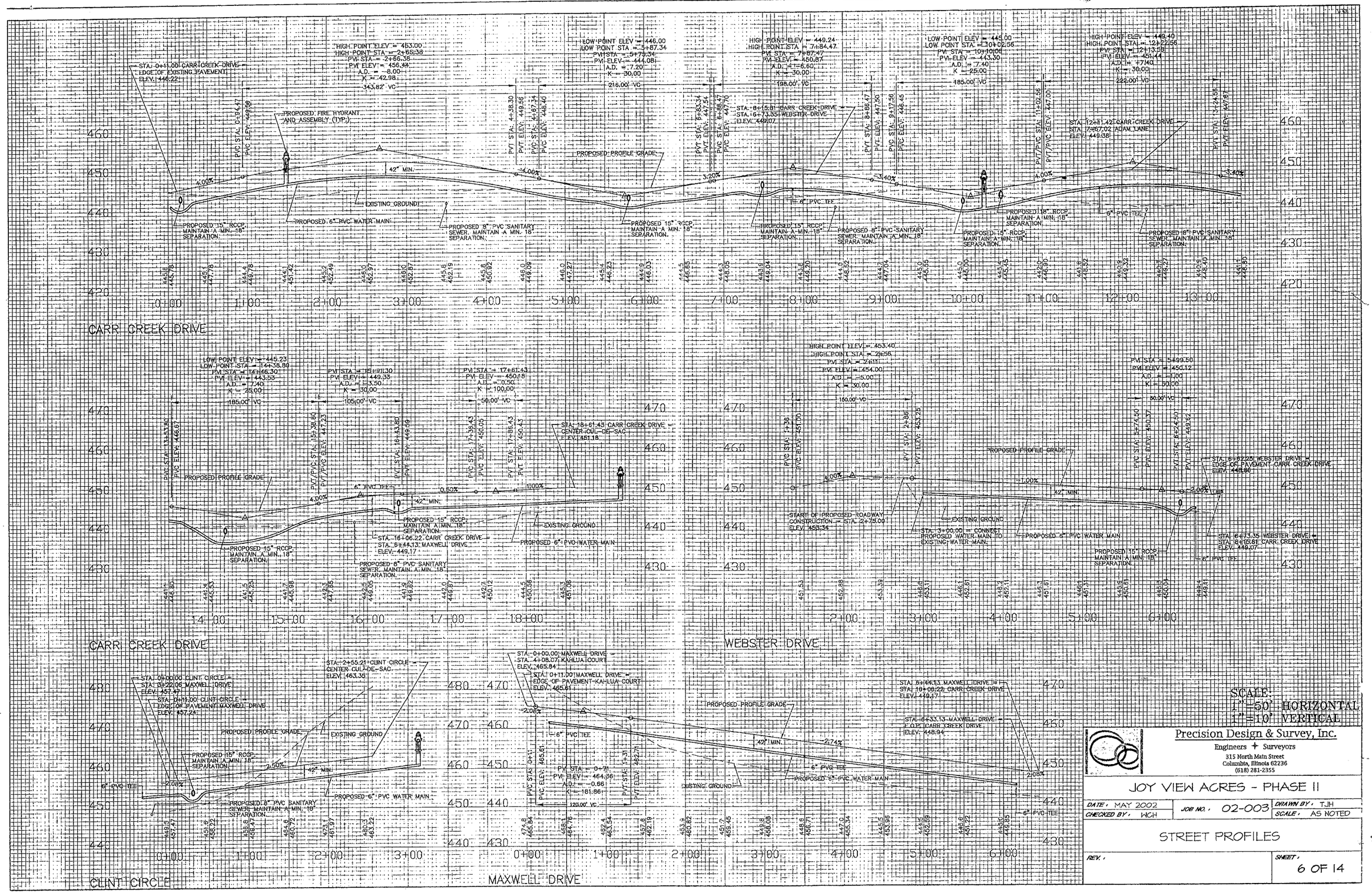
DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: AS NOTED

SITE PLAN

6/02 - ANCHOR COUPLINGS AND STRAINER ASSEMBLIES CALLOUT AS PER CITY OF COLUMBIA

REV.: 9/26/ RES

SHEET: 5 OF 14



SCALE:
1"=50' HORIZONTAL
1"=10' VERTICAL

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Columbia, Illinois 62236
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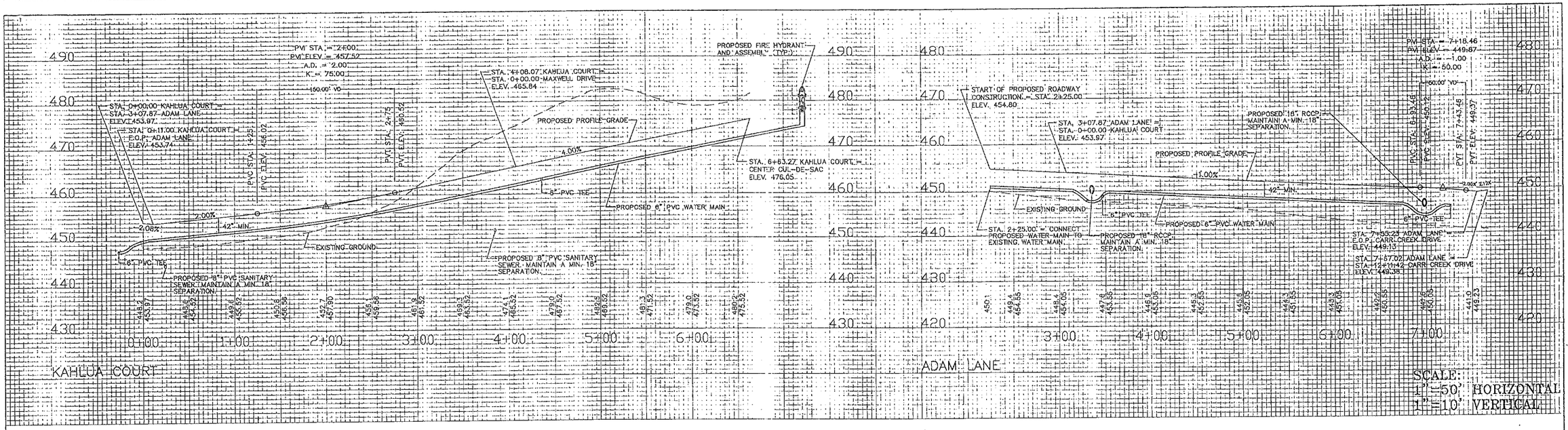
JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: AS NOTED

STREET PROFILES

REV.:

SHEET: 6 OF 14



SCALE:
1" = 50' HORIZONTAL
1" = 5' VERTICAL

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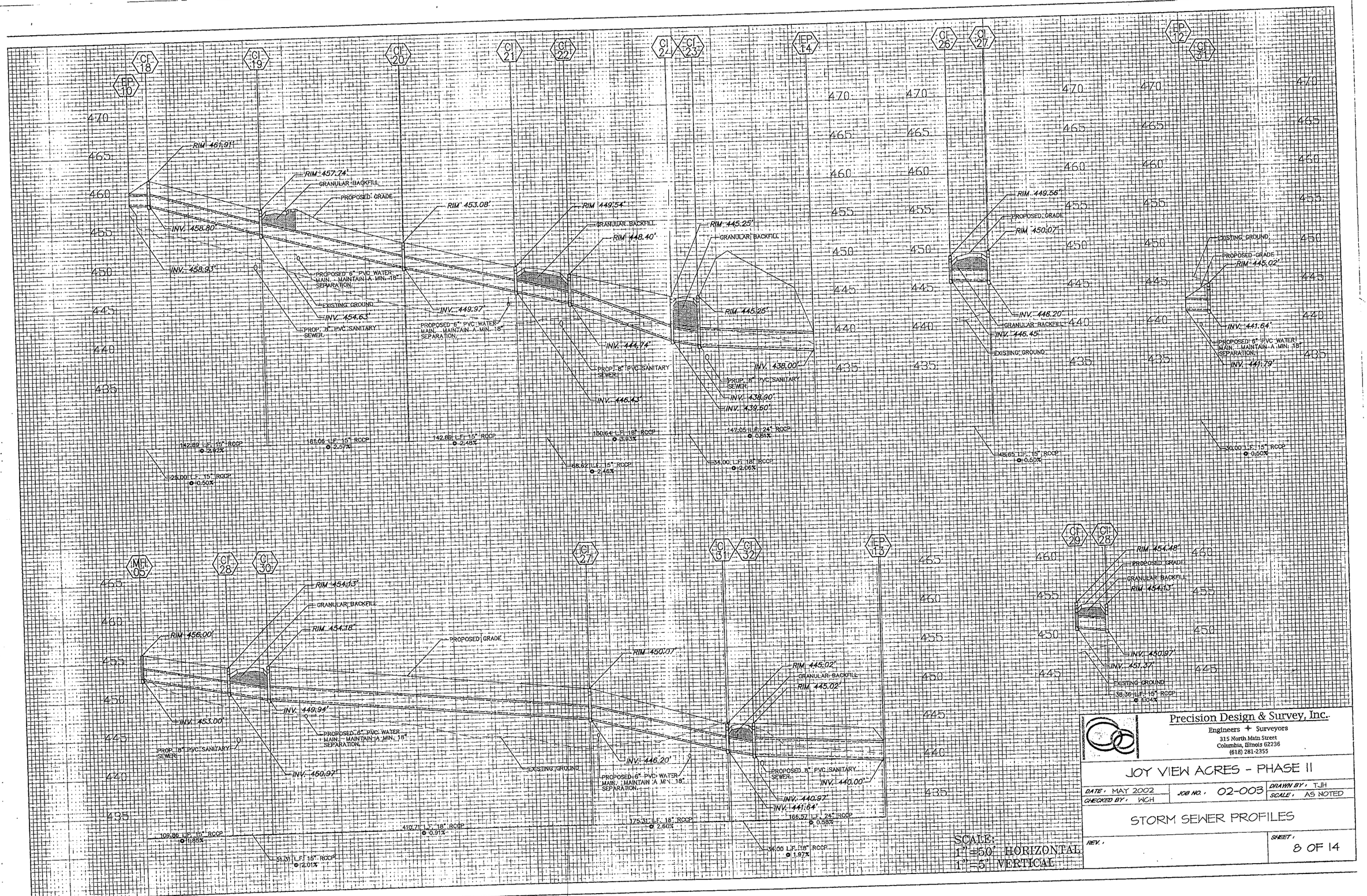
JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: AS NOTED

STREET / STORM SEWER PROFILES

REV.

SHEET: 7 OF 14



SCALE:
1"=50' HORIZONTAL
1"=5' VERTICAL

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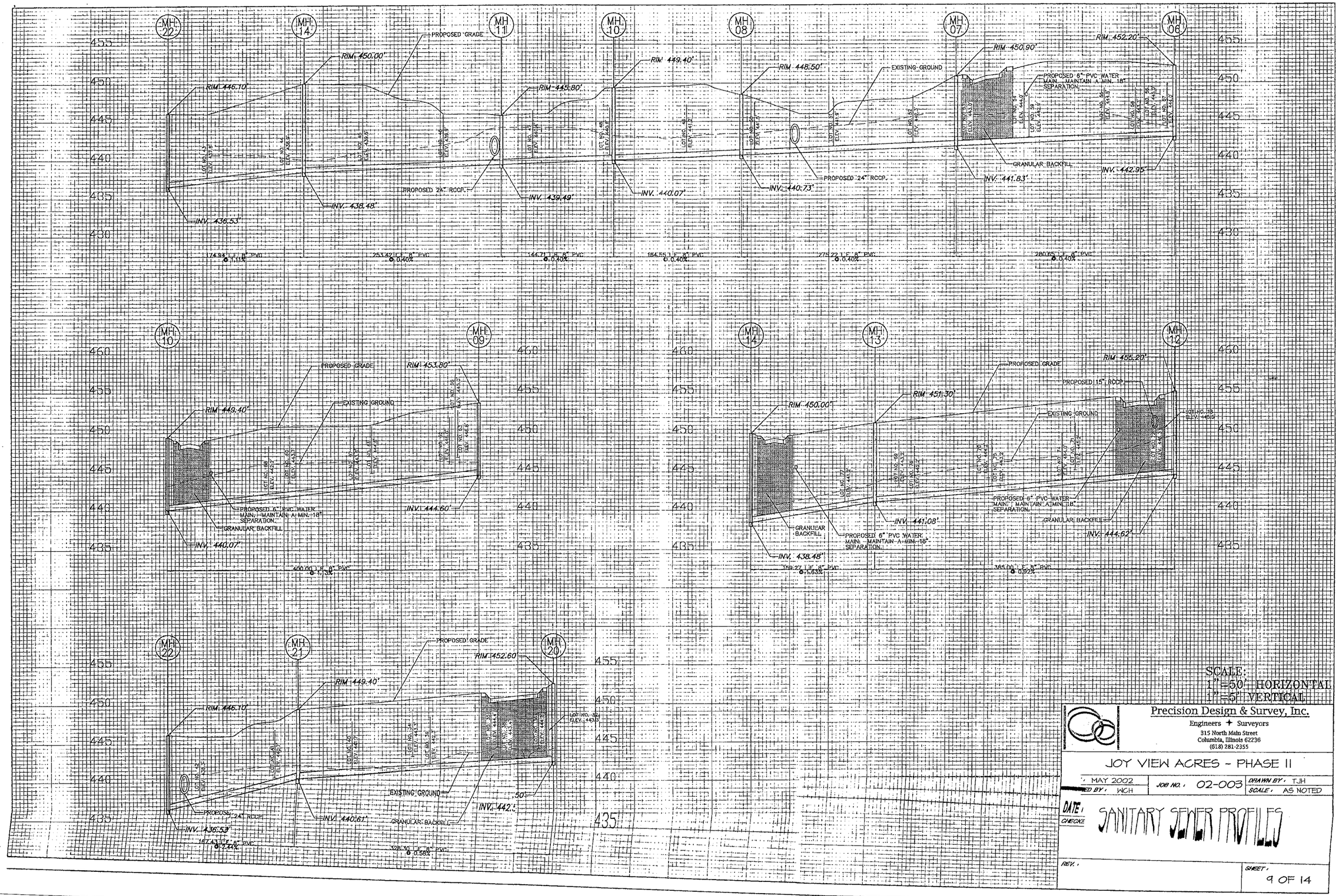
JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: AS NOTED

STORM SEWER PROFILES

REV.:

SHEET: 8 OF 14



SCALE:
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1"=5' VERTICAL

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JOY VIEW ACRES - PHASE II

MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
ED BY: WCH | SCALE: AS NOTED
DATE:
CHECKE

SANITARY SEWER PROFILES

REV.:

SHEET: 9 OF 14

MH 21
MH 19
MH 17
MH 15
MH 13
EXISTING GROUND
RIM 478.70'
GRANULAR BACKFILL
LOT NO. 24 ELEV. 469.2
LOT NO. 23 ELEV. 469.6
LOT NO. 22 ELEV. 467.7
LOT NO. 21 ELEV. 466.5
LOT NO. 20 ELEV. 465.4
RIM 465.70'
PROPOSED GRADE
RIM 459.00'
PROPOSED 8" PVC WATER MAIN - MAINTAIN A MIN. 18" SEPARATION.
INV. 468.54'
INV. 451.89'
INV. 449.62'
LOT NO. 86 ELEV. 458.7
LOT NO. 85 ELEV. 458.5
LOT NO. 84 ELEV. 458.4
LOT NO. 83 ELEV. 458.2
LOT NO. 82 ELEV. 458.1
LOT NO. 81 ELEV. 458.0
RIM 449.40'
LOT NO. 78 ELEV. 446.8
LOT NO. 77 ELEV. 446.6
PROPOSED 6" PVC WATER MAIN - MAINTAIN A MIN. 18" SEPARATION.
PROPOSED 15" RCCP
GRANULAR BACKFILL
INV. 440.61'
376.70 L.F. 8" PVC @ 2.39%
322.06 L.F. 8" PVC @ 0.70%
326.30 L.F. 8" PVC @ 5.01%
EXISTING GROUND
RIM 465.70'
PROPOSED GRADE
RIM 462.90'
LOT NO. 76 ELEV. 453.8
LOT NO. 75 ELEV. 453.6
INV. 451.89'
INV. 452.22'
82.49 L.F. 8" PVC @ 0.40%
MH 35
MH 22
EXISTING MANHOLE
PROPOSED GRADE
RIM 446.10'
EXISTING GROUND
RIM 434.91' (BURIED)
INV. 436.53'
INV. 424.40'
114.36 L.F. 8" PVC @ 10.61%
MH 8
MH 6
EXISTING GROUND
RIM 465.4
RIM 459.00'
PROPOSED GRADE
LOT NO. 29 ELEV. 455.5
LOT NO. 28 ELEV. 455.1
LOT NO. 27 ELEV. 454.9
LOT NO. 26 ELEV. 454.7
LOT NO. 25 ELEV. 454.5
LOT NO. 24 ELEV. 454.3
LOT NO. 23 ELEV. 454.1
LOT NO. 22 ELEV. 453.9
LOT NO. 21 ELEV. 453.7
LOT NO. 20 ELEV. 453.5
LOT NO. 19 ELEV. 453.3
LOT NO. 18 ELEV. 453.1
LOT NO. 17 ELEV. 452.9
LOT NO. 16 ELEV. 452.7
LOT NO. 15 ELEV. 452.5
LOT NO. 14 ELEV. 452.3
LOT NO. 13 ELEV. 452.1
LOT NO. 12 ELEV. 451.9
LOT NO. 11 ELEV. 451.7
LOT NO. 10 ELEV. 451.5
LOT NO. 9 ELEV. 451.3
LOT NO. 8 ELEV. 451.1
LOT NO. 7 ELEV. 450.9
LOT NO. 6 ELEV. 450.7
LOT NO. 5 ELEV. 450.5
LOT NO. 4 ELEV. 450.3
LOT NO. 3 ELEV. 450.1
LOT NO. 2 ELEV. 449.9
LOT NO. 1 ELEV. 449.7
GRANULAR BACKFILL
INV. 452.3'
INV. 449.62'
326.30 L.F. 8" PVC @ 0.89%

SCALE:
1" = 50' HORIZONTAL
1" = 5' VERTICAL

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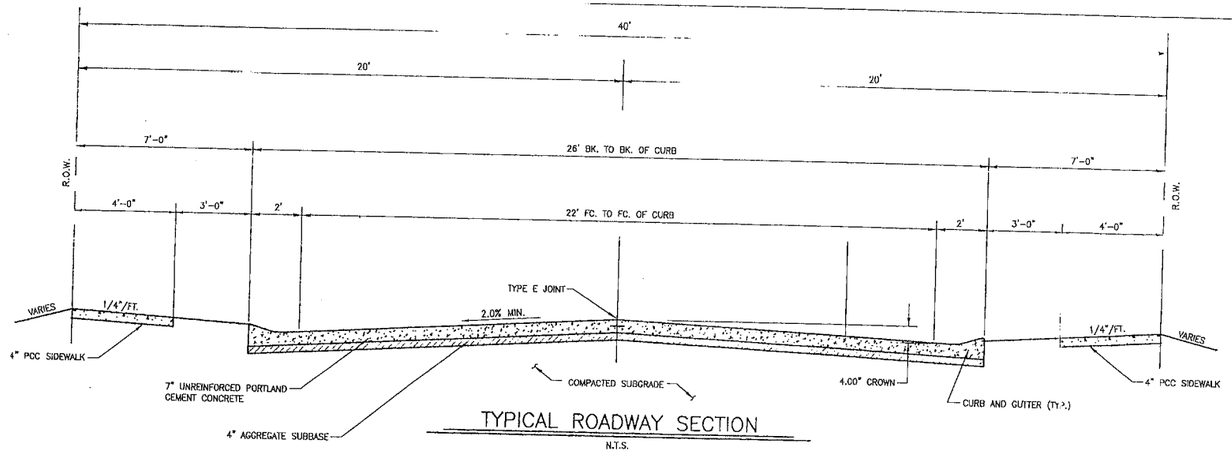
JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: AS NOTED

SANITARY SEWER PROFILES

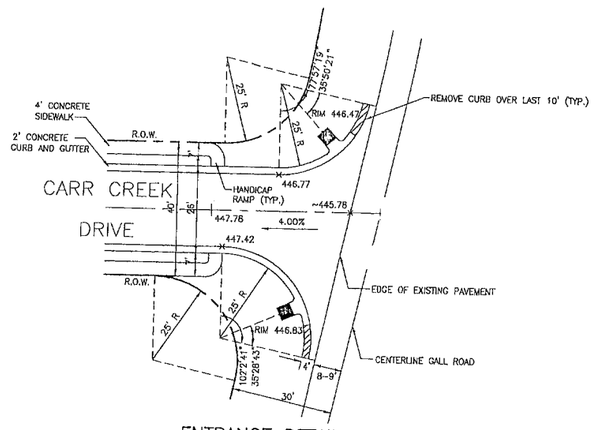
REV.:

SHEET: 10 OF 14



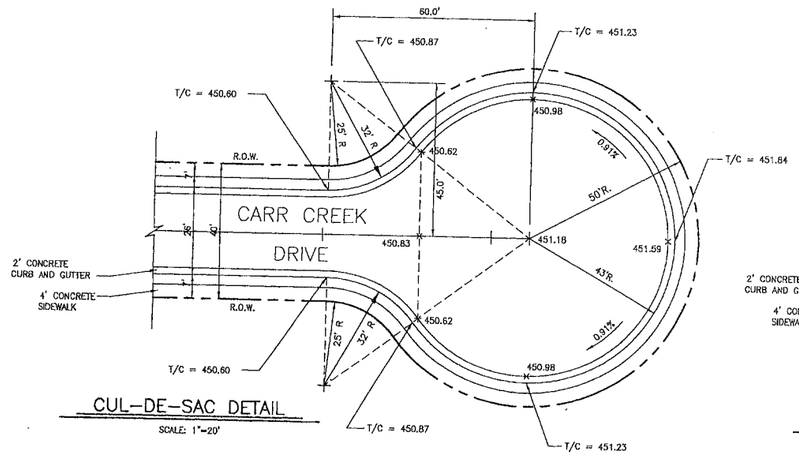
TYPICAL ROADWAY SECTION

N.T.S.



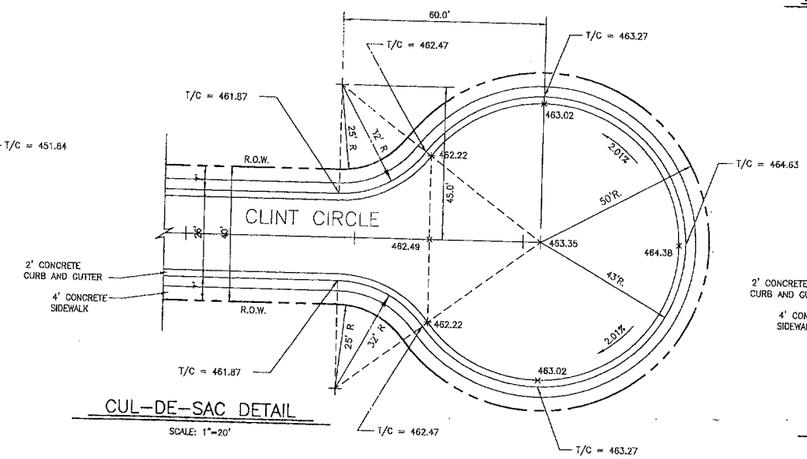
ENTRANCE DETAIL

SCALE: 1"=20'



CUL-DE-SAC DETAIL

SCALE: 1"=20'



CUL-DE-SAC DETAIL

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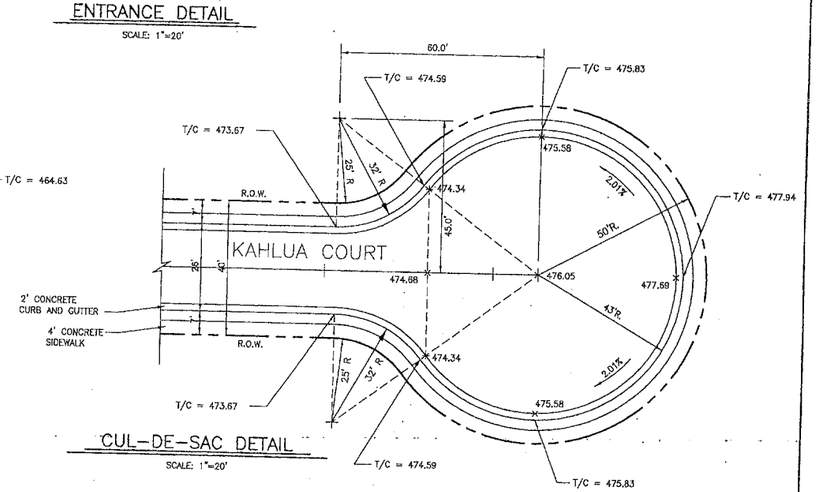
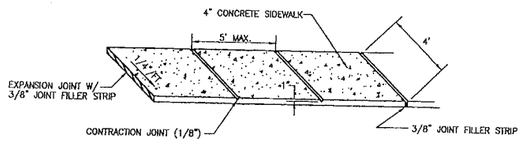


CUL-DE-SAC DETAIL

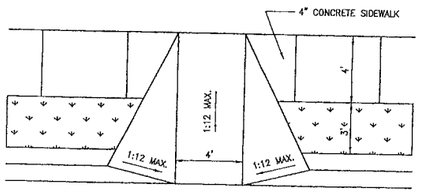
SCALE: 1"=20'



NOTES:
1) EXPANSION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 100' IN THE SIDEWALK.
2) EXPANSION MATERIAL TO BE EITHER RECESSED OR ROUTED OUT TO PROVIDE RESERVOIR FOR SEALER.
3) SEALER TO BE "SONOLASTIC" OR EQUAL, GRAY COLOR.

PCC SIDEWALK DETAIL

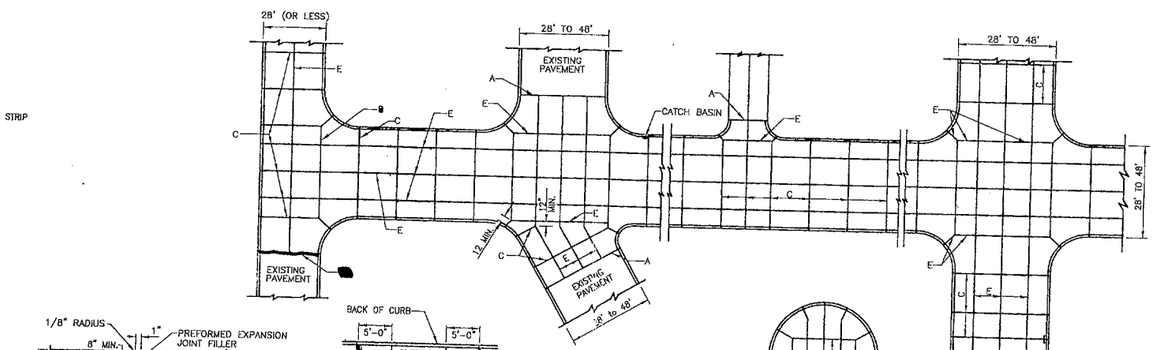
N.T.S.

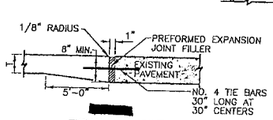


HANDICAP RAMPS SHALL BE PLACED AT THE LOCATIONS SHOWN AND NO STEEPER THAN AN 8% GRADE. RAMPS SHALL BE BUILT IN ACCORDANCE WITH THE "ILLINOIS ACCESSIBILITY CODE" DATED MAY 1, 1988 BY THE STATE OF ILLINOIS.

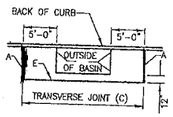
TYPICAL HANDICAP RAMP DETAIL

N.T.S.

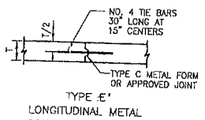




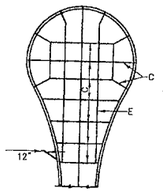
EXPANSION JOINT
(TYP. EVERY 600' MAX.)



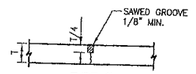
CATCH BASIN DETAIL



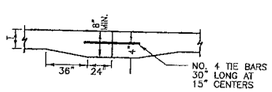
TYPE 'E' LONGITUDINAL METAL CONSTRUCTION JOINT



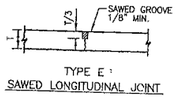
CUL DE SAC FULLY PAVED



TYPE C SAWED TRANSVERSE JOINT



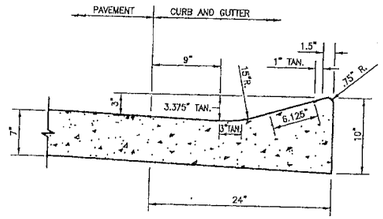
TYPE D
TIED TRANSVERSE CONSTRUCTION JOINT



TYPE E
SAWED LONGITUDINAL JOINT

PAVEMENT JOINT DETAILS

N.T.S.



MONOLITHIC CURB AND GUTTER DETAIL

N.T.S.

Precision Design & Survey, Inc.
Engineers + Surveyors
315 North Main Street
Columbia, Illinois 62236
(618) 281-2355

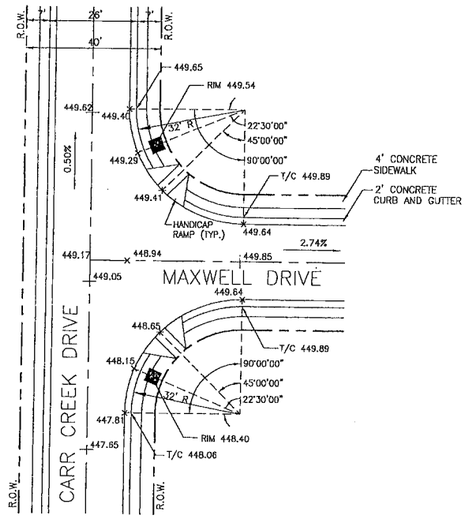
JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: WCH | SCALE: N/A

SITE DETAILS

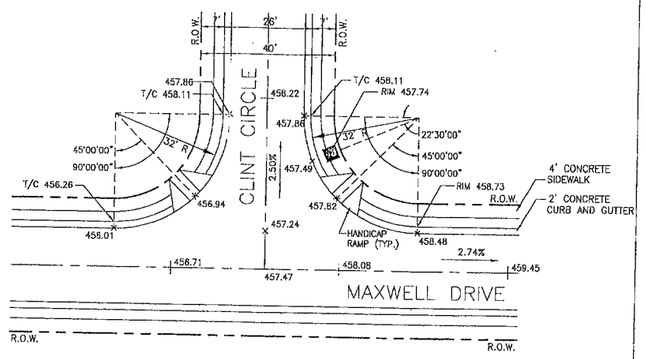
REV.: 9/26/02 - TYPICAL ROADWAY SECTION TYPE A EXPANSION JOINT, AND CURB & GUTTER DETAIL AS PER CITY OF COLUMBIA

SHEET: 11 OF 14



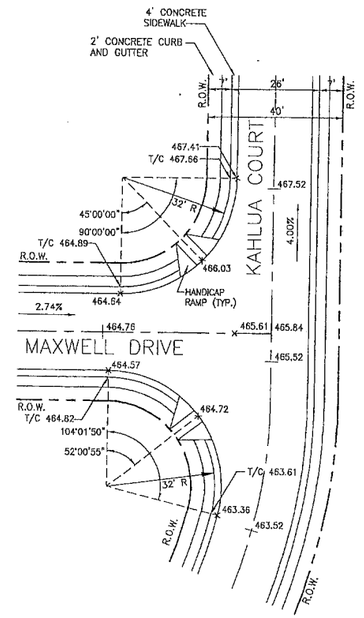
INTERSECTION DETAIL

SCALE: 1"=20'



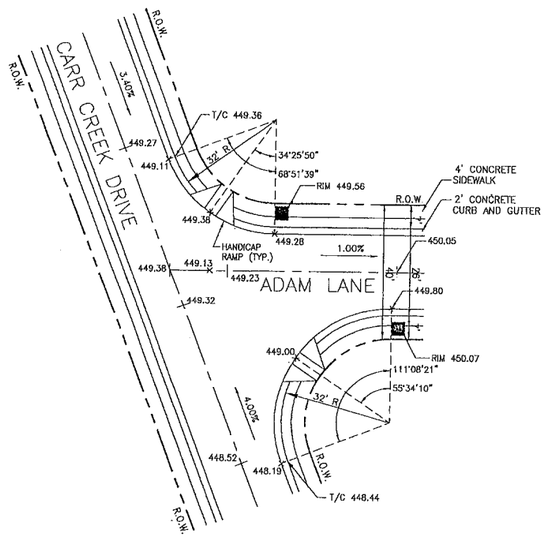
INTERSECTION DETAIL

SCALE: 1"=20'



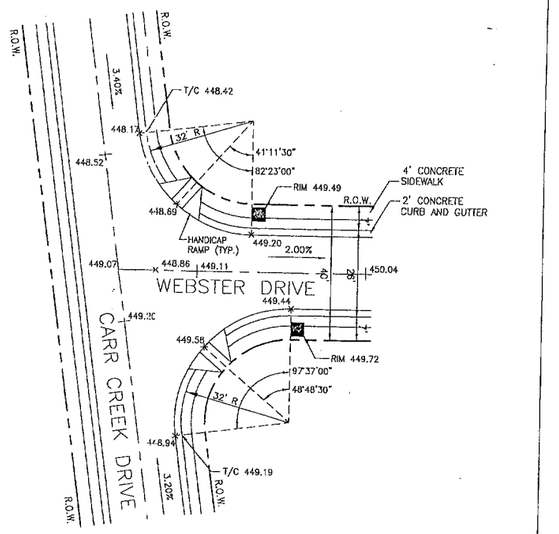
INTERSECTION DETAIL

SCALE: 1"=20'



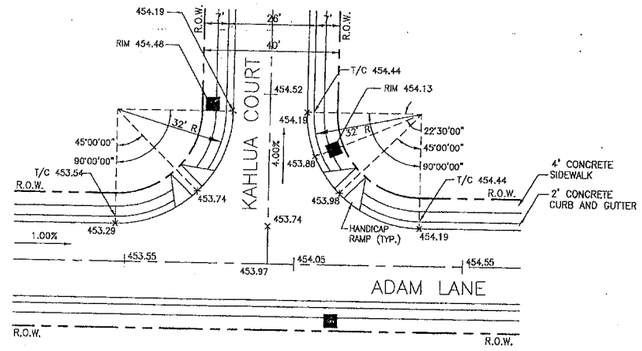
INTERSECTION DETAIL

SCALE: 1"=20'



INTERSECTION DETAIL

SCALE: 1"=20'



INTERSECTION DETAIL

SCALE: 1"=20'

Precision Design & Survey, Inc.
Engineers + Surveyors
315 North Main Street
Columbia, Illinois 62236
(618) 281-2355

JOY VIEW ACRES - PHASE II

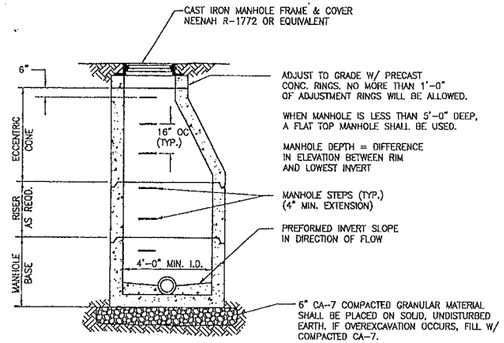
DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH

CHECKED BY: WCH | SCALE: N/A

SITE DETAILS

REV.:

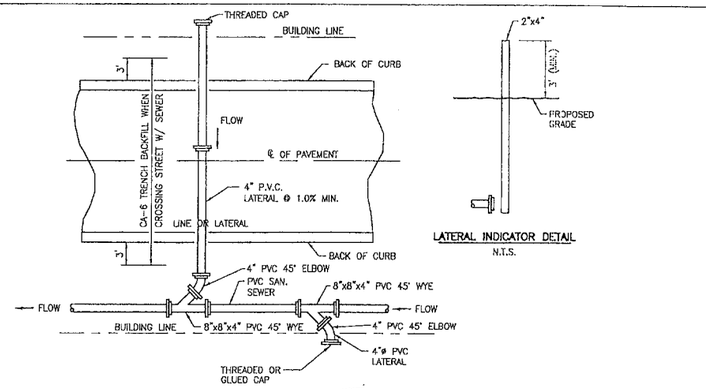
SHEET: 12 OF 14



NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478
2. EXCAVATION FOR MANHOLE INSTALLATIONS WHICH EXTEND UNDER OR WITHIN 3' OF THE PROPOSED BACK OF CURB SHALL BE BACKFILLED WITH CA-6 GRANULAR MATERIAL.

TYPICAL SANITARY SEWER MANHOLE DETAIL

N.T.S.



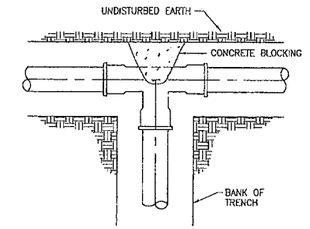
LATERAL INDICATOR DETAIL

N.T.S.

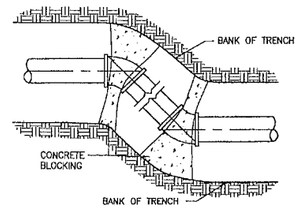
NOTE:
AN 8' LONG 2"x4" SHALL BE PROVIDED AT THE END OF EACH LATERAL. THE END OF EACH LATERAL SHALL EXTEND A MINIMUM OF 2' BEYOND THE PROPOSED BUILDING LINE. THE 2"x4" SHALL BE PAINTED GREEN WITH A MIN. OF 3' EXPOSED FOR FUTURE EXTENSION. CONTRACTOR TO SUPPLY AS-BUILT LATERAL LOCATION INCLUDING STATIONING OF LATERAL FROM DOWNSTREAM SEWER MANHOLE AND DISTANCE LEFT OR RIGHT FROM MAIN.

SEWER LATERAL DETAIL

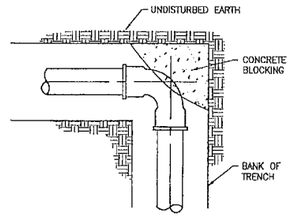
N.T.S.



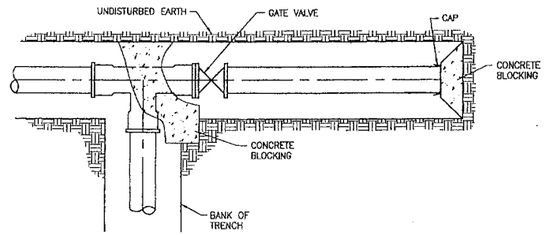
TEE



ELBOWS



90° ELBOW



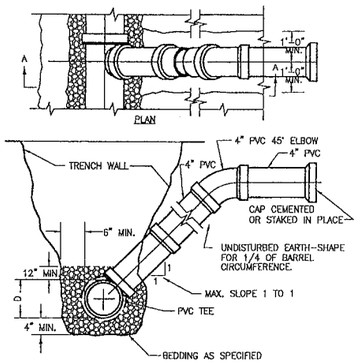
TEE WITH CAP

THRUST BLOCK DETAILS

N.T.S.

NOTES:
1) IN LIEU OF CONCRETE THRUST BLOCKING CONTRACTOR MAY SUBSTITUTE MECHANICAL THRUST BLOCKING DEVICE AS APPROVED BY THE CITY OF COLUMBIA.

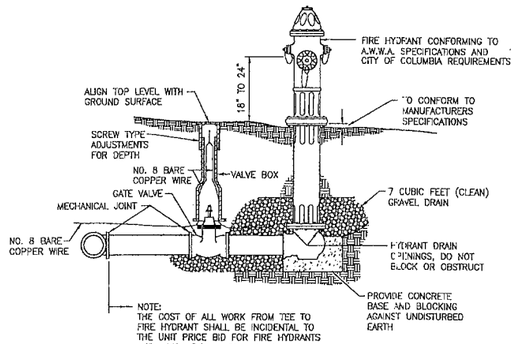
2) THRUST BLOCKS SHALL BE BUILT AGAINST UNDISTURBED SOIL WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.



NOTES:
1. RISERS SHALL BE USED IN ALL INSTANCES WHERE SEWER DEPTH IS 12' OR GREATER.
2. MAXIMUM SLOPE SHALL BE LESS THAN 1 TO 1 WHEN IT IS NECESSARY TO SECURE BEDDING IN UNDISTURBED EARTH.

SERVICE RISER

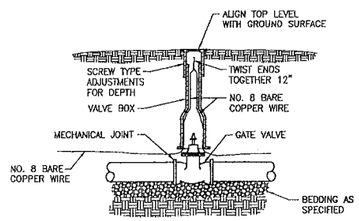
N.T.S.



STANDARD FIRE HYDRANT INSTALLATION DETAIL

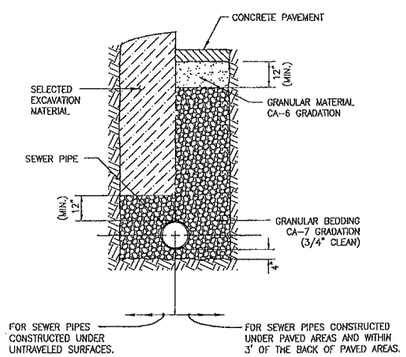
6" GATE VALVE SHALL BE INSTALLED AT LOCATION OF EACH FIRE HYDRANT

N.T.S.



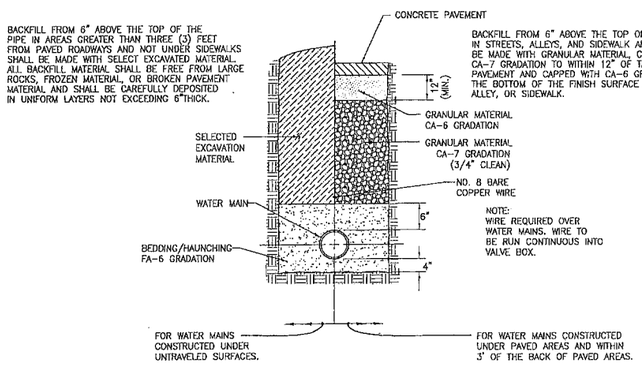
TYPICAL VALVE AND BOX DETAIL

N.T.S.



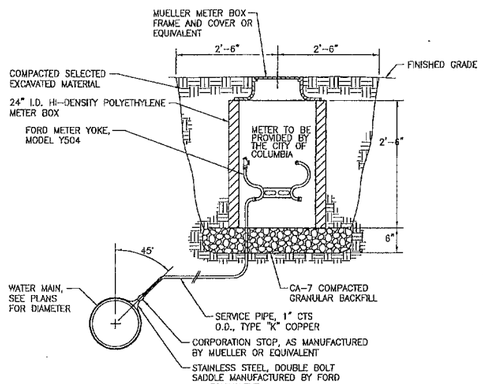
SEWER PIPE TRENCH DETAIL

N.T.S.



WATER LINE BEDDING & BACKFILL DETAIL

N.T.S.



SERVICE CONNECTION DETAIL

N.T.S.

Precision Design & Survey, Inc.
Engineers + Surveyors
315 North Main Street
Columbia, Illinois 62236
(618) 281-2355

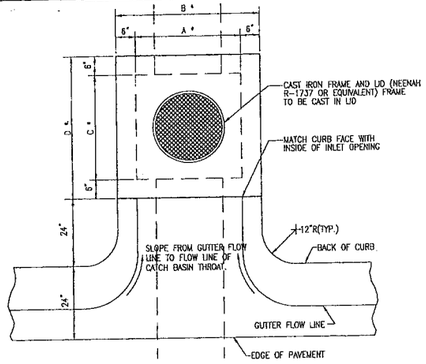
JOY VIEW ACRES - PHASE II

DATE: MAY 2002	JOB NO.: 02-003	DRAWN BY: TJH
CHECKED BY: WCH		SCALE: N/A

SANITARY SEWER & WATER DETAILS

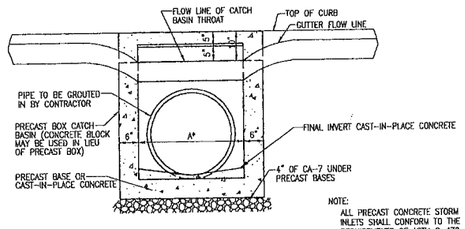
REV.: 9/26/02 - SEWER PIPE TRENCH DET., WATER LINE BEDDING & BACKFILL DET., SERVICE CONNECTION DET., AND TYPICAL VALVE & BOX DET. PER CITY OF COLUMBIA

SHEET: 13 OF 14



PLAN – CURB INLET

N.T.S.



ELEVATION – CURB INLET

N.T.S.

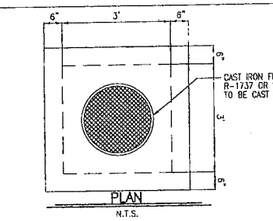
* SEE INLET SCHEDULE THIS SHEET FOR INLET DIMENSIONS

NOTE:
ALL PRECAST CONCRETE STORM INLETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.

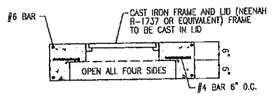
END VIEW – CURB INLET (TYP.)

N.T.S.

NOTE:
INLET BASE TO BE PRECAST (OR CAST IN FIELD) WITH A NOTCH-OUT EQUIVALENT TO THE PIPE THICKNESS TO ALLOW FOR THE PIPE INVERT TO BE THE SAME ELEVATION AS THE INVERT OF THE INLET. (TYPICAL AT ALL PIPE LOCATIONS)

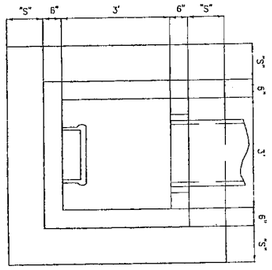


PLAN
N.T.S.



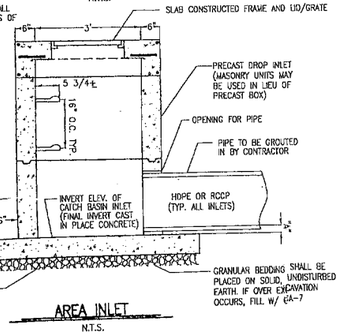
AREA INLET LID – SIDE VIEW

N.T.S.



PLAN
N.T.S.

NOTES:
1. ALL PRECAST STORM INLETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478
2. FINAL INVERT CAST IN FIELD
3. DIMENSION 'A' = PIPE THICKNESS PLUS OPENING CLEARANCE
4. DIMENSION 'S': 0" FOR DEPTHS EQUAL TO OR LESS THAN 6' AND 8" FOR DEPTHS GREATER THAN 6'
5. DIMENSION 'T': 6" FOR DEPTHS EQUAL TO OR LESS THAN 5' AND 9" FOR DEPTHS GREATER THAN 6'



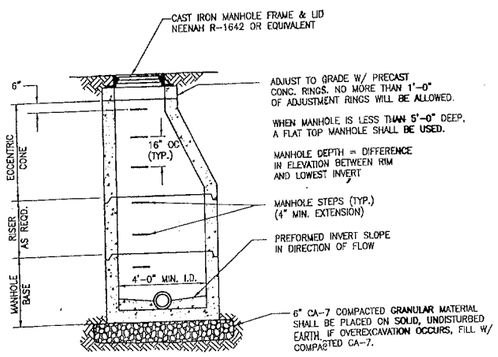
AREA INLET

N.T.S.

STORM SEWER STRUCTURE SCHEDULE

NUMBER	TYPE*	DIMENSIONS (IN) A	B	C		METER	STATION**	OFFSET
10	CI	36	48	36		N/A	0+16.41 (C)	22.5' RT.
11	CI	36	48	36		N/A	0+27.45 (C)	29.7' LT.
12	CI	36	48	36		N/A	6+31.97 (W)	17.0' RT.
13	CI	36	48	36		N/A	6+19.93 (W)	17.0' LT.
14	MH	N/A	N/A	N/A		4'	7+34.58 (C)	25.0' RT.
15	CI	36	48	36		N/A	5+87.54 (C)	17.0' RT.
16	CI	36	48	36		N/A	5+87.54 (C)	17.0' LT.
17	MH	N/A	N/A	N/A		4'	6+38.47 (C)	23.0' LT.
18	CI	36	48	36		N/A	1+41.03 (M)	17.0' RT.
19	CI	36	48	36		N/A	0+34.31 (CL)	19.2' RT.
20	CI	36	48	36		N/A	4+83.10 (M)	17.0' RT.
21	CI	36	48	36		N/A	16+48.54 (C)	19.2' RT.
22	CI	36	48	36		N/A	15+71.91 (C)	19.2' RT.
23	CI	36	48	36		N/A	14+38.80 (C)	17.0' LT.
24	CI	36	48	36		N/A	14+38.80 (C)	17.0' RT.
25	CI	36	48	36		N/A	14+01.89 (C)	35.0' RT.
26	AI	36	48	36		N/A	7+34.18 (K)	17.0' RT.
28	CI	36	48	36		N/A	6+99.38 (K)	17.0' LT.
27	CI	36	48	48		N/A	0+34.31 (K)	19.2' RT.
33	CI	48	48	36		N/A	0+47.00 (K)	17.0' LT.
29	CI	36	48	36	48	N/A	2+88.67 (A)	17.0' LT.
30	CI	36	48	36	48	N/A	10+02.56 (C)	17.0' RT.
31	CI	36	48	36	48	N/A	10+02.56 (C)	17.0' LT.
32	CI	36	48	36	48	N/A	10+02.56 (C)	17.0' LT.

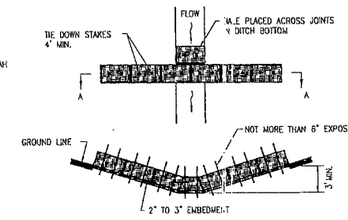
* (AI) = AREA INLET, (MH) = MANHOLE, (CI) = CURB INLET
** (A) = ADAM LANE, (G) = GRANT DRIVE, (C) = CARR CREEK DRIVE, (M) = MAXWELL DRIVE, (K) = KAHLUA COURT, (W) = WEBSTER DRIVE, (CL) = CLINT CIRCLE



NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478
2. EXCAVATION FOR MANHOLE INSTALLATIONS WHICH EXTEND UNDER OR WITHIN 3' OF THE PROPOSED BACK OF CURB SHALL BE BACKFILLED WITH CA-6 GRANULAR MATERIAL.

TYPICAL STORM SEWER MANHOLE DETAIL

N.T.S.

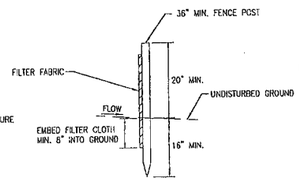


SECTION A-A
N.T.S.

STRAW DITCH OR ROLLED EXCELSIOR CHECK

N.T.S.

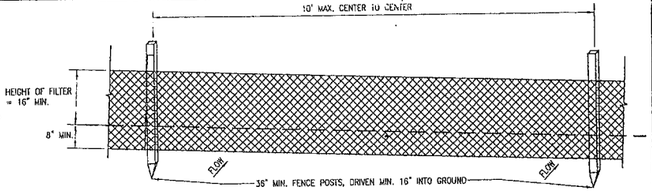
1) BALES SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL IN ORDER TO LESSEN WEAR OF THE BINDINGS AND PREVENT FAILURE OF THE BALE.
2) INSPECTION SHALL BE FREQUENT AND REPAIR AND/OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
3) BALES TO BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



SECTION
N.T.S.

SILT FENCE DETAIL

N.T.S.



PERSPECTIVE VIEW
N.T.S.

NOTES:

1. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

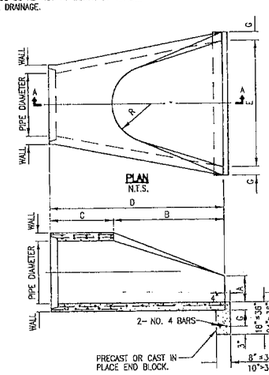
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

MATERIALS:

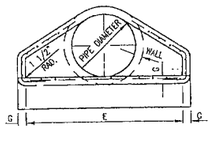
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR EQUIVALENT



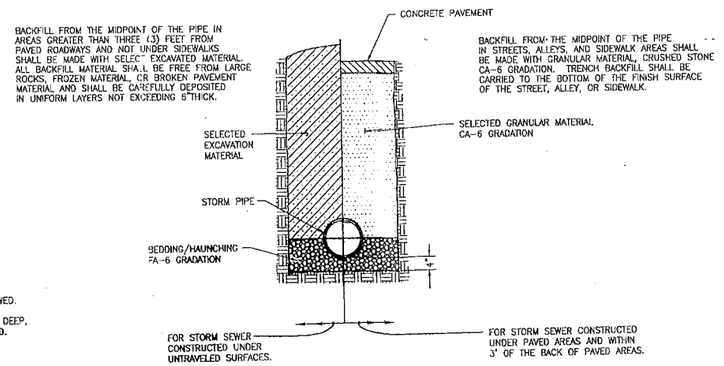
CONCRETE END SECTION SCHEDULE								
PIPE DIA	WALL	A	B	C	D	E	G	R
12	2	1	1½	1'-1"	1'-1"	2½	2	9
15	2½	1	2	1'-3"	1'-3"	3	2½	11
18	2½	2	2	1'-5"	1'-5"	3	2½	13
24	3	2½	2'-3"	3	1'-11"	1'-8"	3	16



END VIEW
N.T.S.

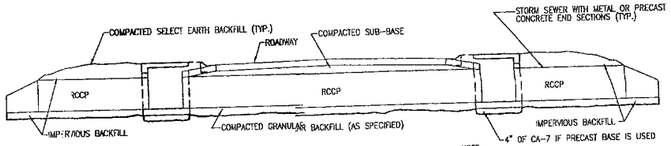
PRECAST REINFORCED CONCRETE FLARED END SECTION

N.T.S.



STORM SEWER TRENCH DETAIL

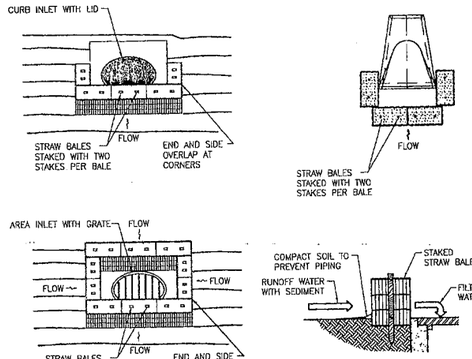
N.T.S.



NOTE:
PIPE LENGTHS SHOWN THIS SHEET DO NOT INCLUDE THE LENGTH OF THE END SECTIONS

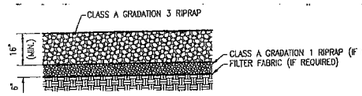
STORM SEWER BEDDING DETAIL

N.T.S.



INLET SEDIMENT BARRIER

N.T.S.



TYPICAL RIPRAP SECTION

N.T.S.

GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE SILTATION CONTROL, AS NEEDED, TO PREVENT SILTATION OF OFF-SITE PROPERTIES, UNTIL THE PAVEMENT SURFACE HAS BEEN INSTALLED AND VEGETATION IN ALL DISTURBED AREAS HAS BEEN ESTABLISHED, AT WHICH TIME HE SHALL BE RESPONSIBLE FOR ALL TEMPORARY SILTATION CONTROL, AND REPAIR OF ANY ERODED AREAS.

2. ALL DISTURBED AREA SHALL BE SEEDED AND MAINTAINED BY OWNER UNTIL VEGETATION HAS BEEN ESTABLISHED.

3. EROSION CONTROL SHALL BE PLACED IN FRONT OF INLETS AND AROUND ALL AREA INLETS DURING CONSTRUCTION.

Precision Design & Survey, Inc.
Engineers + Surveyors
315 North Main Street
Columbia, Illinois 62236
(618) 281-2355

JOY VIEW ACRES - PHASE II

DATE: MAY 2002 | JOB NO.: 02-003 | DRAWN BY: TJH
CHECKED BY: NCH | SCALE: N/A

GRADING AND DRAINAGE DETAILS

REV.: 9/26/02 - STORM SEWER TRENCH DETAIL, STORM SEWER BEDDING DETAIL, & END VIEW - CURB INLET AS PER CITY OF COLUMBIA

SHEET: 14 OF 14