

AS-BUILTS FOR CHERRYWOOD PARC PLAT 5

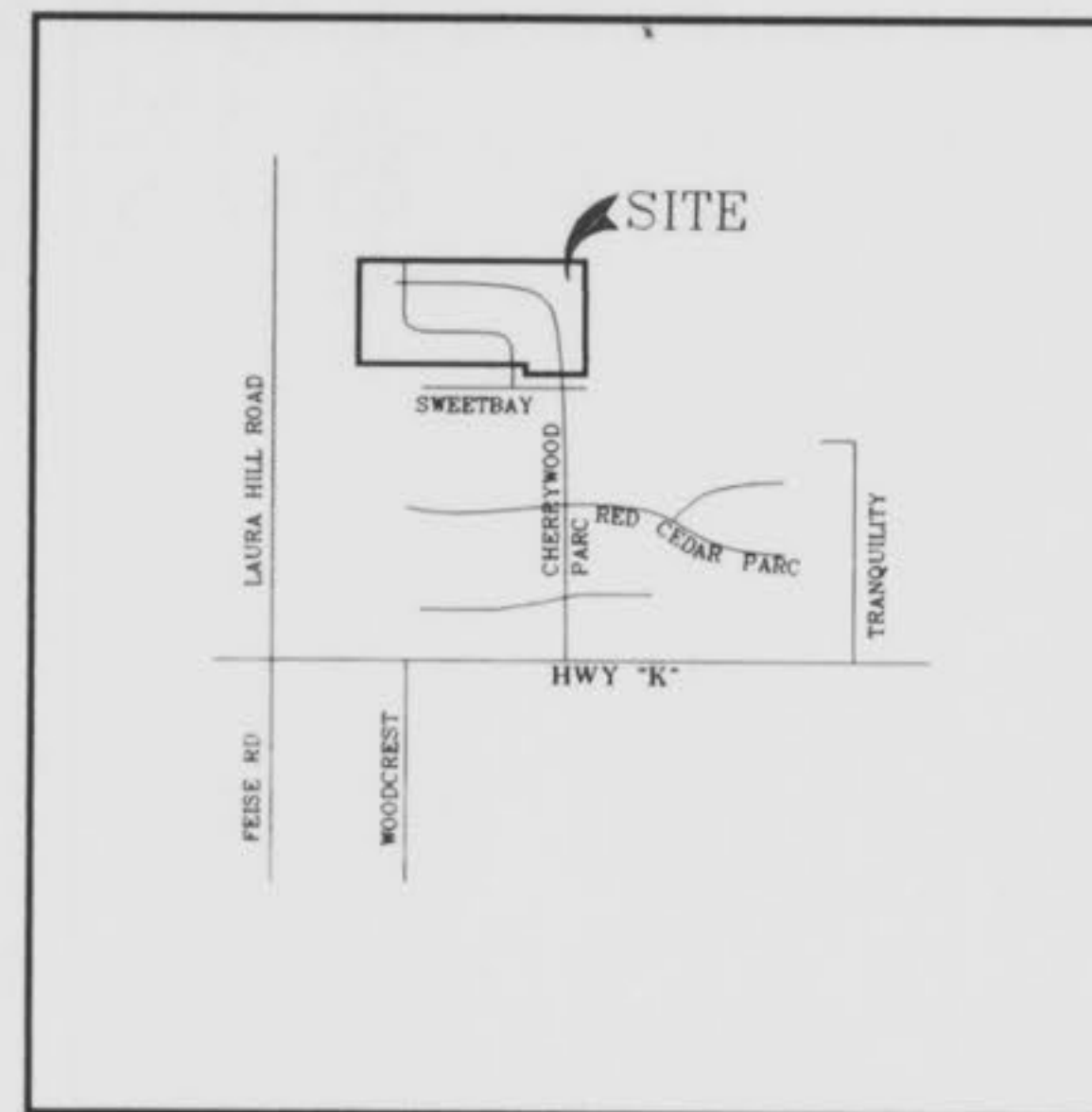
A TRACT OF LAND BEING PART OF THE SOUTHWEST 1/4 OF SECTION 4, TOWNSHIP 46 NORTH, RANGE 3 EAST CITY OF O'FALLON, ST. CHARLES COUNTY, MISSOURI

GENERAL NOTES

- Underground utilities have been plotted from available information and therefore their locations shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans, shall be the responsibility of the contractor, and shall be located prior to any grading and/or construction of improvements.
- The sediment control plan should be implemented before grading begins. No graded area is to remain bare without being seeded and mulched. When deemed necessary, positive steps should be exercised to prevent this soil from damaging adjacent properties and silting up all storm drainage systems whether on site or off site.
- Erosion control shall not be limited to what is shown on the plans. The contractor shall take whatever means necessary to prevent siltation from entering adjacent roadways, properties, and ditches. Such control might include channeling runoff into sediment basins, channeling runoff into areas where an extra row of straw bales are used. A silt fence might be considered, if necessary.
- No area shall be cleared without permission of the developer.
- Owner/Developer assumes full responsibility as to the performance of the grading operation and assurance that all properties and County and State roads will be adequately protected.
- Soil preparation and re-vegetation shall be performed according to Appendix A of the Model Sediment and Erosion Control Regulations for Urban Development.
- Where natural vegetation is removed during grading, vegetation shall be re-established in such a density as to prevent erosion. Permanent type grasses shall be established as soon as possible or during the next seeding period after grading has been completed. Refer to Appendix A of St. Charles Soil and Water Conservation District - Model Sediment and Erosion Control Regulations.
- 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 unsuitable 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 rollers, vibratory rollers or high speed impact type drum rollers acceptable to the Soils Engineer. The rollers 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 rejections 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 to at least 85 percent of the maximum density as determined by the Modified AASHTO T-180 Compaction Test (ASTM-D1557). 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 repetition of the sequence. The acceptable moisture contents during the filling operation are those at which satisfactory dry densities can be obtained. The acceptable moisture contents during the filling operation in the remaining areas are from 2% to 8% 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 operations continue when the temperature is such as to permit the layer under placement to freeze.
- All cut and fill slopes should be a maximum of 3:1 after grading.
- All fill including filled places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90% of maximum density as determined by the Modified AASHTO T-180 Compaction Test (ASTM D1557). All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proof rolling and compaction.
- Fill placed within proposed street R.O.W. shall be compacted to 90% M.O.D. Proctor and be 2% below to 6% above optimum moisture content.
- Soft soil in the bottom and banks of any existing or former pond site should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed right-of-way locations or on storm sewer locations.
- Temporary siltation control measures (structural) shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
- If straw bales or silt fences are destroyed by heavy rains, vandalism, etc., they are to be replaced immediately by contractor.
- When grading operations are completed or suspended for more than thirty (30) days, permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be provided according to the Designated Officials recommendation. Refer to Appendix A of St. Charles Soil and Water Conservation District - Model Sediment and Erosion Control Regulations. All finished grades (areas not to be disturbed by improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate of 100 pounds per 1000 square feet when seeded.
- All low places whether on site or off site should be graded to allow drainage. This may be accomplished with temporary ditches. Any off site drainage easements shall be acquired before off site grading operations begin.
- Water main shall be Class 200, SDR 21 or "Ultra-Blue" PVC, installed with tracer tape and locator wire.
- All existing trash and debris on-site must be removed and disposed of off-site.
- 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.
- Earth quantities were obtained from aerial grid mapping with contours of two-foot intervals, with a tolerance of plus or minus one foot or one-half (1/2) contour intervals.
- The shrinkage factor is subject to change, due to soil conditions (types and moisture content), weather conditions, and the percentage of compaction actually achieved at the time of the year grading is performed. As a result, adjustments in final grade may be required. If adjustments need to be made, the contractor shall contact St. Charles Engineering and Surveying prior to completion of the grading.
- The total yardage of this project is based on a 15% shrinkage factor.
- The vertical grading tolerance shall be plus or minus 0.2 feet for all rough grading.
- Any wells and/or springs which may exist on this property should be located and sealed in a manner acceptable to the City of O'Fallon.
- 8" P.V.C. sanitary sewer pipe shall meet the following standards: A.S.T.M. D-3034 SDR35, with wall thickness compression joint A.S.T.M. D-3212. An appropriate rubber seal water stop as approved by the sewer district shall be installed between P.V.C. pipe and masonry structures.
- The Contractor shall prevent all storm/surface water, mud or construction debris from entering the existing sanitary sewer system.
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance with Missouri D.N.R. Specification 10CSR-8.120 (7) (E).
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
- All sanitary laterals shown on plan are to be constructed of 4 inch P.V.C. pipe.
- All PVC sanitary sewer pipe is to be SDR-35 or equal with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate backfill over pipe shall consist of some size "clean" or "minus" stone from springline of pipe to 6 inches above the top of pipe.
- Brick shall not be used on sanitary manholes.
- All creek crossings shall be grouted rip-rap as directed by District Inspectors. (All grout shall be high slump ready mix concrete).
- All storm sewers shall be Reinforced A.S.T.M. C-76, Class III minimum, unless otherwise shown on the plans.
- All corrugated steel pipe shall conform to the requirements of AASHTO M-36 and shall be fully coated with bituminous material conforming to the requirements of AASHTO M-190. Corrugated steel pipe shall be helical pipe with reformed ends. Pipes shall be joined using either huggar bands with rubber o-ring gaskets or universal corrugated bands with sponge neoprene gaskets. All gasket materials shall conform to ASTM D-1056.
- All standard curb inlets are to have front-of-inlet 2' (two feet) behind curb, within public right-of-way, unless otherwise noted.
- Concrete Pipe Joints shall be M.S.D. Type "A" Approved Compression Joints and shall conform to the requirements of the Specification for Joints and Circular Concrete Sewer and Culvert Pipe, using flexible, watertight, rubber-type gaskets A.S.T.M. C-443 Band-Type Gaskets depending entirely on cement for adhesion and resistance to displacement during jointing shall not be used.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- All trench backfills under paved areas shall be granular backfill, and water jetted. All other trench backfills may be earth material (free of large clods or stones) and shall be water jetted.
- All sewer tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
- Gas, water, and other underground utilities shall not conflict with the depth or horizontal location of existing and proposed sanitary and storm sewers including house laterals.
- Easements shall be provided for storm sewers, sanitary sewers, and all utilities on the record plot. See record plot for location, size, and width of easements.
- The use of High Density Polyethylene Corrugated Pipe with smooth interior wall will be permitted as an acceptable alternative to R.C.P. outside of the Public R/W. Pipe shall meet A.S.T.M. D-3212 A.S.H.T.O. M-294-921. Concrete Flared End Sections, Manholes and Inlet Structures shall be required. Bedding shall be per ASTM D 2224, Water/Soil Pipe gasket & joint required.
- Fire Hydrants shall be 6 inch 3 way with auxiliary valve, Mueller "Centurion" or Clow "Eddy".
- The contractor shall place the "steamer" outlet of the fire hydrant toward the street.
- The contractor shall place all fire hydrants within (3') three feet of the street curb.
- Blow-off hydrants and water meters shall not be located in sidewalks or driveways.
- All streets within this set of improvement plans shall be Publicly maintained.
- All streets and right-of-ways shown on these improvement plans will be dedicated to the City of O'Fallon for public use forever.
- Sidewalk curb ramps, ramp and accessible parking spaces shall be constructed in accordance with the current approved "Americans with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall take precedence and the Project Engineer shall be notified by the contractor prior to any construction.
- The most stringent of the above requirements shall apply.
- All construction and materials shall conform to the City of O'Fallon, St. Charles County Water District No. 2, O'Fallon Fire Protection District and Duckett Creek Sewer District Standards and Specifications.
- 48 hours notice shall be given to Duckett Creek Sewer District before construction of sanitary sewers, St. Charles County Water District No. 2, before construction of water mains, City of O'Fallon before grading begins, before construction of storm sewers and before construction of pavement in order to allow scheduling of required inspections.
- All sanitary sewer building connections have been designed so that the minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection is not less than the diameter of the pipe plus the vertical distance of 2'-1/2 feet.
- Existing sanitary sewer service shall not be interrupted.
- Maintain access to existing residential driveways and streets.
- Pre-manufactured adapters shall be used at all PVC to DIP connections. Rubber boot / Mission-type couplings will not be allowed.

LEGEND

- BUILDING LINE
- ===== EXISTING SANITARY SEWER
- ===== EXISTING STORM SEWER
- ===== PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING WOODED AREA
- SILTATION CONTROL
- CREEK OR DITCH
- FL OR FL FLOWLINE
- G --- GAS MAIN
- T --- TELEPHONE CABLE
- W --- WATER MAIN
- UE --- UNDERGROUND ELECTRIC
- OE --- OVERHEAD ELECTRIC
- SSS STREET SIGN
- GENERAL SURFACE DRAINAGE
- ☼ LIGHT STANDARD
- CLEARING AND GRADING LIMITS
- T LATERAL AND TAIL STAKE ELEVATION
- ☼ FIRE HYDRANT
- 8" WATER PROPOSED WATER MAIN
- B.O. BLOW OFF VALVE
- C.O. CLEAN OUT
- 1234 STREET ADDRESS DESIGNATOR
- MH 1 SANITARY SEWER DESIGNATOR
- AI 1 STORM SEWER DESIGNATOR



LOCATION MAP

N.T.S.

PROJECT BENCHMARK

FIRE HYDRANT AT S.E. CORNER OF DARDENNE ELEMENTARY SCHOOL "A" IN MUELLER U.S.G.S. DATUM ELEV. 574.74

DEVELOPMENT NOTES

- Area of Tract 95.01 ACRES (17.439 Acres - Plat 5)
- Present Zoning R-4 SINGLE FAMILY RESIDENTIAL
- Proposed Use SINGLE FAMILY RESIDENTIAL SUBDIVISION
- Total lots proposed 323 (64 Lots - Plat 5)
- Minimum lot area 7,500 SQ.FT.
- Site is Located in or is served by the following:
 - Water St. Charles CO. Water District #2
 - Fire O'Fallon Fire Protection District
 - Sanitary Duckett Creek Sanitary District
 - Electric Union Electric Company
 - Gas St. Charles Gas Company
 - Telephone G.T.E.

ENGINEERS CERTIFICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in the project and specifically excludes revisions after this date unless re-authenticated.

ST. CHARLES ENGINEERING AND SURVEYING



Michael Newell
MICHAEL NEWELL ENGINEERS
MISSOURI PROFESSIONAL ENGINEER NUMBER E-22483

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Dec. 19, 1997

SANITARY & STORM AS-BUILTS (AS SHOWN ON PROFILES)

PREPARED FOR:

OWEN & SONS DEVELOPMENT CO.
235 JUNGERMANN ROAD SUITE 207
ST. PETERS, MISSOURI
TELE: (314) 928-6936

CHERRYWOOD PARC PLAT 5

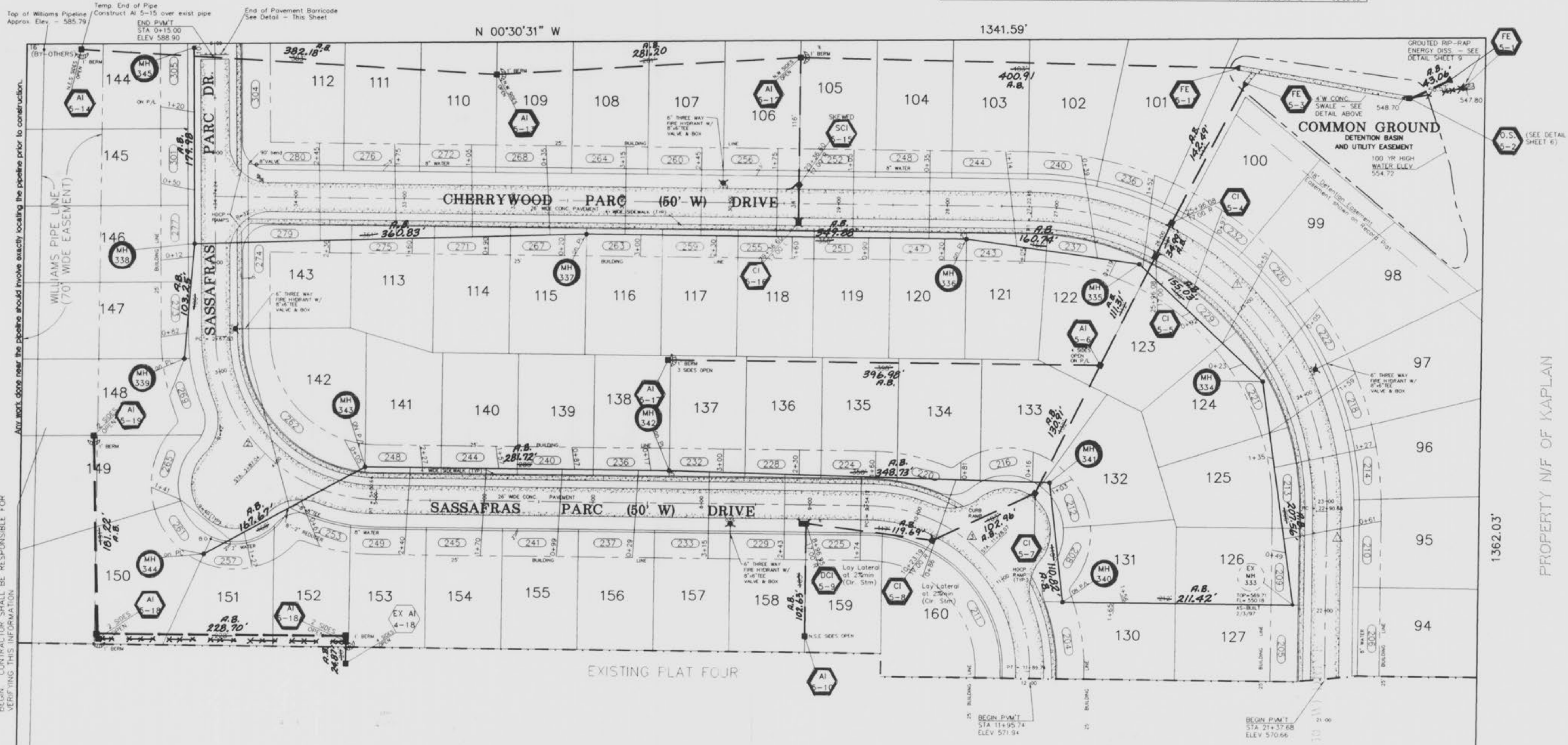
REVISED 12/30/97	SHEET 1 OF 13
	ST. CHARLES ENGINEERING & SURVEYING 801 S. FIFTH STREET, SUITE 202 ST. CHARLES, MO 63301 TEL:(314) 947-0607 FAX:(314) 947-2448
ORDER NO. 94-0306-01	DATE 12/30/97

Cherrywood Parc Plat 5 to Tranquility

NOTE: NO SILL ELEVATION SHALL BE LOWER THAN 1' ABOVE THE 100 YR. HIGHWATER ELEV IN POND. MIN ELEV=556.36

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	275	4.32	275	389	N 45°26'59" E	90°00'00"
2	150	2.33	148	210	N 44°58'14" E	89°02'31"
3	150	2.36	150	212	N 45°26'59" E	90°00'00"

N/F "K" PROPERTIES



W.A.R.N.I.N.G.
 EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT WRITTEN PERMISSION FROM
 WILLIAMS PIPELINE COMPANY
 CONTACT: TARI CUNNINGHAM, RIGHT OF WAY ADMINISTRATOR
 10200 W. 75TH STREET, SUITE 270
 SHAWNEE MISSION, KS 66204
 1-913-677-2166 OR 1-800-333-4020 (BY OTHERS)

PROPERTY N/F
 OF HARRY L. & BARBARA HUTCHINGS
 (TRUSTEES)
 1330/2003

PIPELINE IS IN THIS AREA. EXACT LOCATION AND DEPTH SHALL BE VERIFIED BEFORE ANY CONSTRUCTION IS TO BEGIN. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THIS INFORMATION.

Dec. 19, 1997
 SANITARY & STORM AS-BUILTS
 (AS SHOWN ON PROFILES)

HORIZ. SCALE: 1"=50'

Cherrywood Parc Plat 5 As-Built

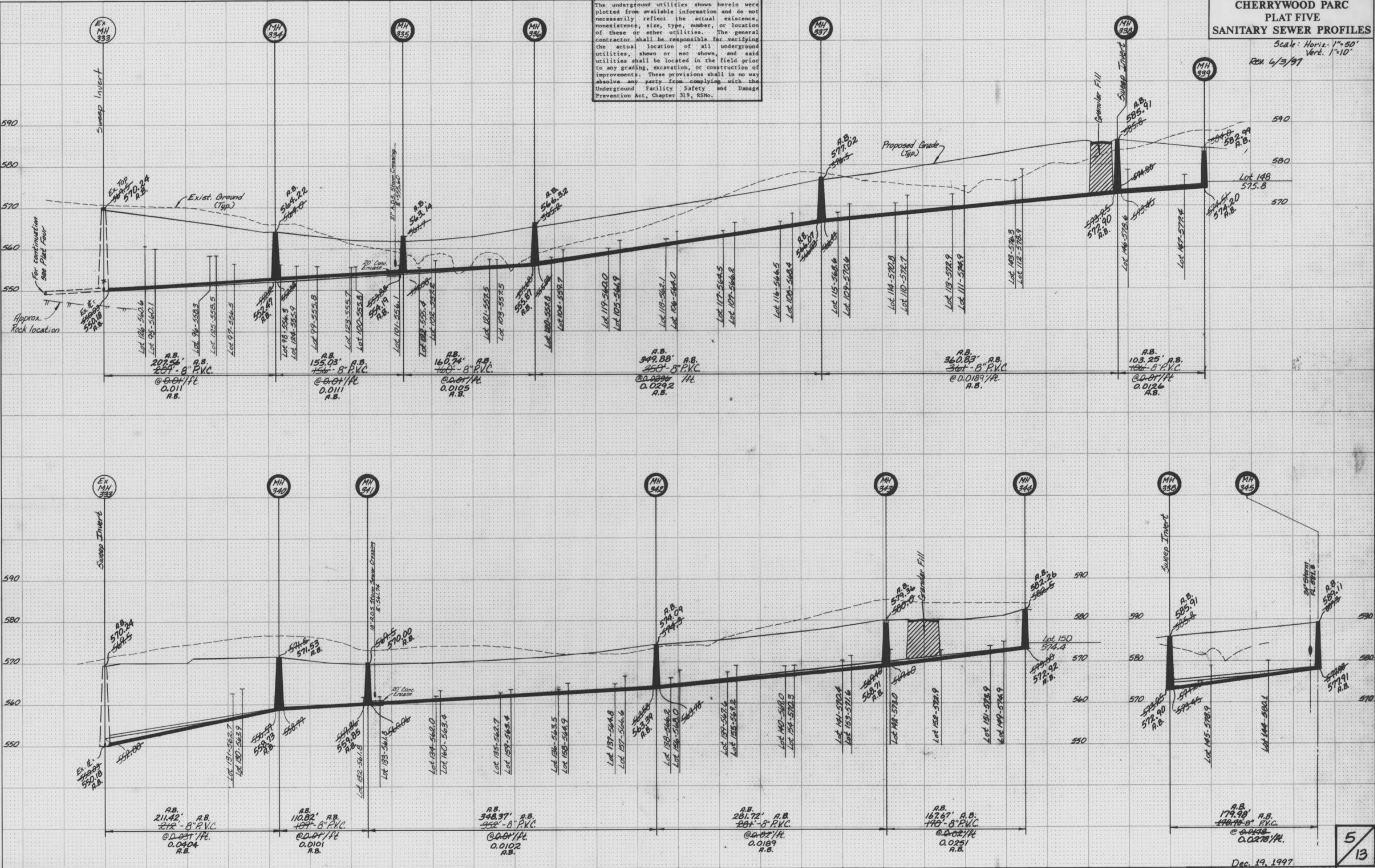
**CHERRYWOOD PARC
PLAT FIVE
SANITARY SEWER PROFILES**

Scale: Horiz. 1"=50'
Vert. 1"=10'
Rev. 6/3/97

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.

DATE	
BY	
SURVEYED	
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DATE	
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MINI-PLOT FEDERAL 40 SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
NATIONAL PRIORITY
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Dec. 19, 1997
**SANITARY & STORM AS-BUILTS
(AS SHOWN ON PROFILES)**

**CHERRYWOOD PARC
PLAT FIVE
STORM SEWER PROFILES**

Rev. 9/16/97

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NOTE:
The use of High Density Polyethylene Corrugated Pipe with smooth interior wall will be permitted as an acceptable alternative to R.C.P. outside of the Public R/W. Pipe shall meet A.S.T.M. D-2321 A.A.S.H.T.O. M-294-921. Concrete Flared End Sections, Manholes and Inlet Structures shall be required. Bedding shall be per A.S.T.M. D-2321, Water/Soil Tight gasket and joint required.

FINAL SURVEY
DATE: _____ BY: _____
SURVEYED: _____ PLOTTED: _____
TEMPLATE: _____
NOTE BOOK: _____
NO. _____ AREA CHECKED: _____

ORIGINAL SURVEY
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TEMPLATE: _____
NOTE BOOK: _____
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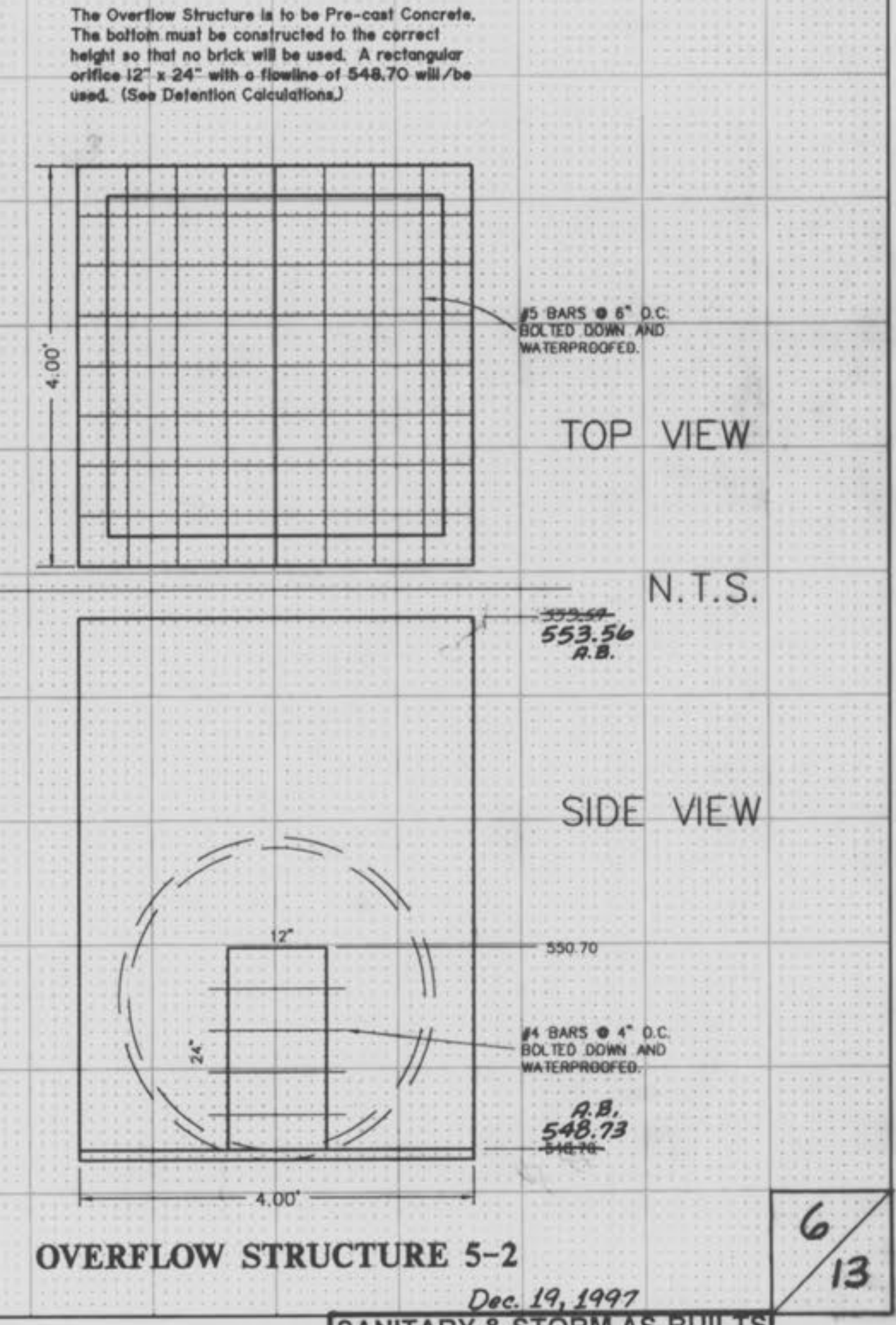
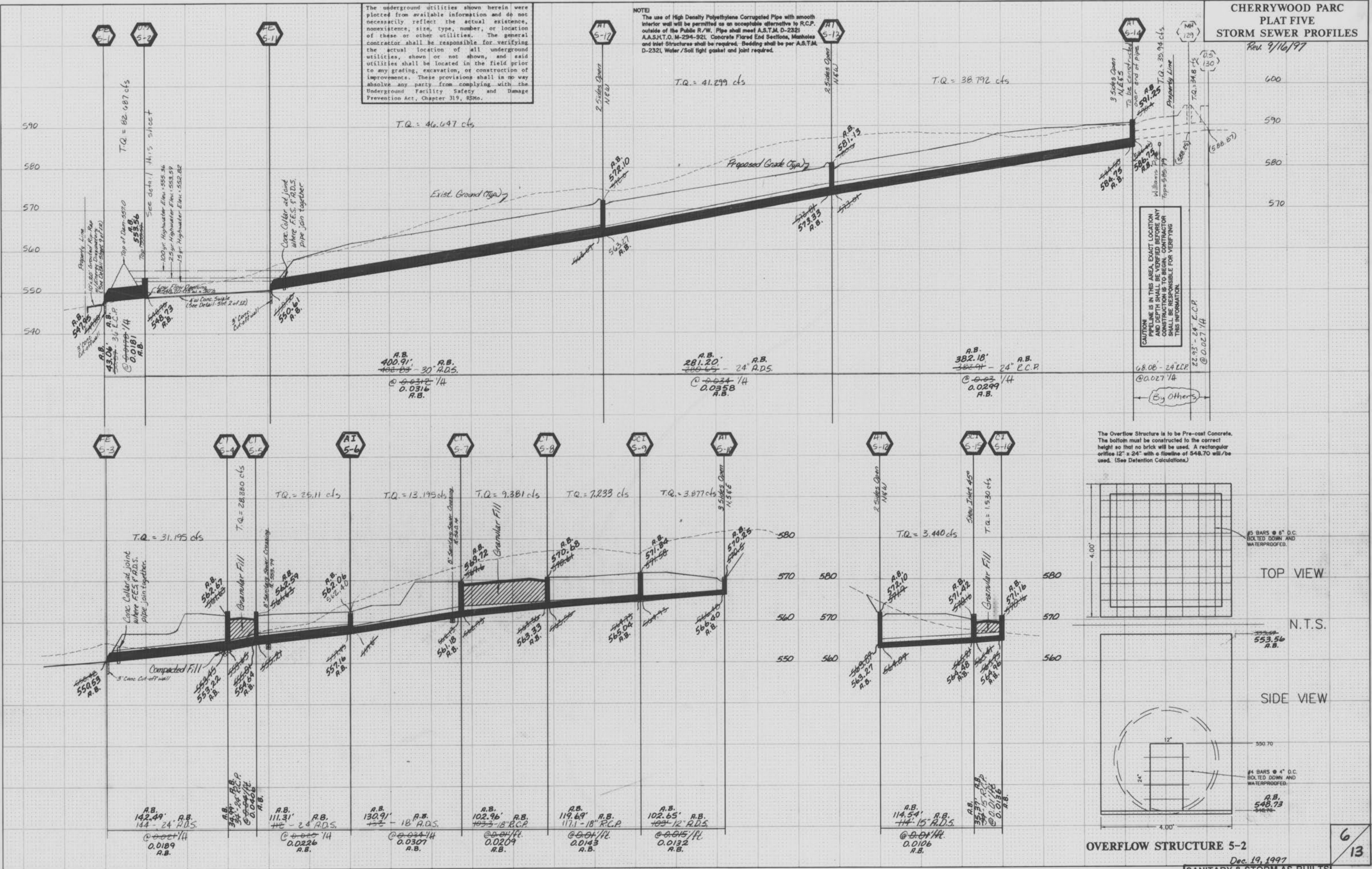
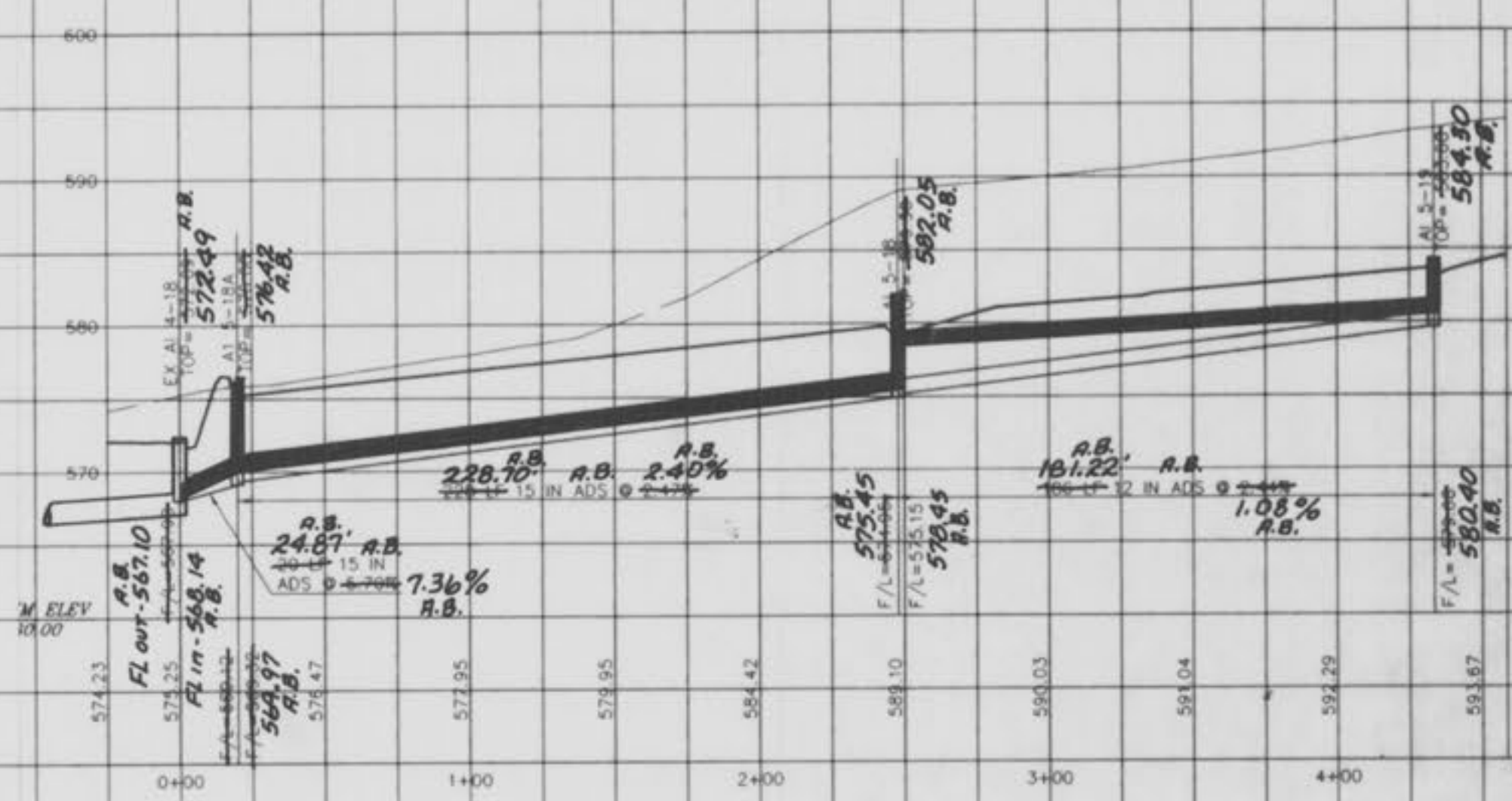
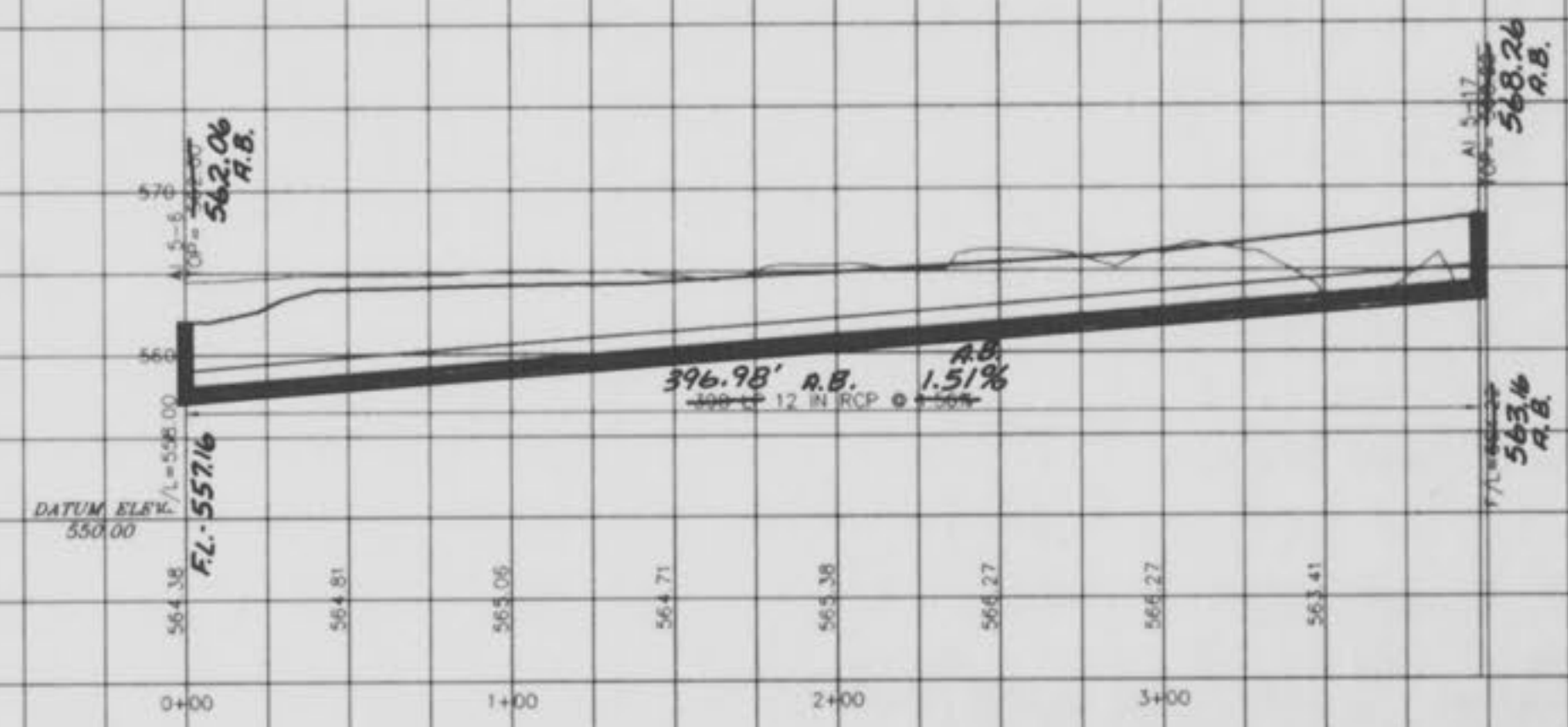


PLATE 3-FULL CROSS SECTION-FULL DOT
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(AS SHOWN ON PROFILES)



THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE OR 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 BIND ANY PERSONS OR PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSM.

THE USE OF HIGH DENSITY POLYETHYLENE CORRUGATED PIPE WITH SMOOTH INTERIOR WALL SHALL BE PERMITTED AS AN ACCEPTABLE ALTERNATIVE TO R.C.P. OUTSIDE OF THE PUBLIC R/W. PIPE SHALL MEET ASTM D-2321. JOINTS MUST BE 15" MIN. CONCRETE FLANGED END SECTIONS. MANHOLES AND INLET STRUCTURES SHALL BE REQUIRED. BEDDING SHALL BE PER ASTM D2321. WATER AND SOIL TIGHT GASKET AND JOINTS ARE REQUIRED.