

GRADING NOTES

- A Geotechnical Engineer shall be employed by the owner and be on site during grading operations. All soil tests shall be verified by the Geotechnical Engineer concurrent with the grading and backfilling operations.
- The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer.
- The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
- All areas shall be allowed to drain. All low points shall be provided with temporary ditches.
- All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines, proposed roads and driveways, etc., shall be compacted to 90% maximum density as determined by the "Modified AASHTO T-180 Compaction Test" (A.S.T.M.-D-1557), or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-99. All filled places within public roadways shall be compacted from the bottom of the fill up to 90% maximum density as determined by the Modified AASHTO T-180 Compaction Test (A.S.T.M.-D-1557). All other trench backfills may be earth material (free of large clods or stones). All trench backfills shall be water jetted.
- All sanitary house connections have been designed so that the minimum vertical distance from the low point of the basement to the flow line of a sanitary sewer at the corresponding house connection is not less than the diameter of the pipe plus the vertical distance of 2 1/2 feet.
- No area shall be cleared without the permission of the Project Engineer.
- All P.V.C. sanitary sewer is to be SDR-35 or equal with clean 1/2" to 1" granular stone bedding uniformly graded. This bedding shall extend from 4" below the pipe to the springline of the pipe. Immediate backfill over pipe shall consist of some size "clean" or minus stone from springline of pipe to 12" above the top of pipe.
- All soils test shall be verified by a Soils Engineer concurrent with the grading and backfilling operations.
- Easements shall be provided for sanitary sewers, and oil utilities on the Record Plat. See Record Plat for location and size of easements.
- Maintenance and upkeep of the common ground area shall be the responsibility of the developer and/or successors.
- All water lines shall be laid at least 10 feet horizontally, from any sanitary sewer, storm sewer, or manhole. 18" vertical clearance from outside of pipe to outside of pipe shall be maintained wherever water lines cross sanitary or storm laterals, or storm lines shall be located such that the pipe will be laid at such an elevation that the top of the water line is above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote thereto as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet horizontally, of any sewer or drain it crosses.
- All water mains should be 8 inches in diameter, or larger. The pipe should have a Minimum Pressure Rating (PR) of 200 psi or SDR-21 for B" and C90E DR 13.5 Class 130 for 12" and larger pipe with blue stripe to identify as water main. All water mains of PVC material shall be listed by NSF and listed in NSF Standard 61. NSF Standard 61 is a listing which is an agency that certifies materials, such as pipe, valves, etc. for use in potable water systems among other things. Standards 61 is the (ANSI/NSF Standard 61) is a listing of certified drinking water system components. The Missouri DNR requires that product which come in contact with drinking water be listed in NSF Standard 61. If the pipe is NSF certified, it will have a stamp on the pipe that says "NSF-pw".
- Disinfection and Bacteriological testing shall be per A.W.W.A. C 651-86.
- Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory roller or H-drum impact type drum rollers assigned by the Project 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 if the fill does not meet the specified requirements. 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 placed in successive horizontal layers not exceeding 6 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 of 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 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 control values.
- 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 day, the fill 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.
- Developer must supply City construction inspectors with soil reports prior to or during site soil testing.

CATEGORY	PERCENT COMPACTION
Fill and backfill	should be compacted to the criteria specified in the following table:
Fill in building areas below footings	90%
Fill under slab, walls, and pavement	90%
Fill other than building areas	88%
Natural subgrade	88%
Pavement subgrade	90%
Pavement base course	90%

Measured as a percent of the maximum dry density as determined by modified Proctor Test (ASTM-D-1557).

Moisture content must be within 2 percent below or 4 percent above optimum moisture content if fill is deeper than 10 feet.

SEWER MEASUREMENTS

THE EXISTING SEWER LENGTHS, SIZES, FLOWLINES, DEPTHS OF STRUCTURES AND SEWERS AND LENGTHS OF EASEMENTS FOR PROPOSED EASEMENTS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS.

ALL PUBLIC SEWERS ARE LOCATED IN DESIGNATED EXISTING OR PROPOSED EASEMENTS EXCEPT AS FOLLOWS:



SIGNER: DARRYL R. OAKLEY
P.E./S.
NUMBER: 67
DATE: LS-2285

AS-BUILTS NOTE:
ALL DISTANCE AND AREA CALCULATIONS ARE FROM
CENTER OF STRUCTURE AND LAND SURFACE.

GENERAL NOTES

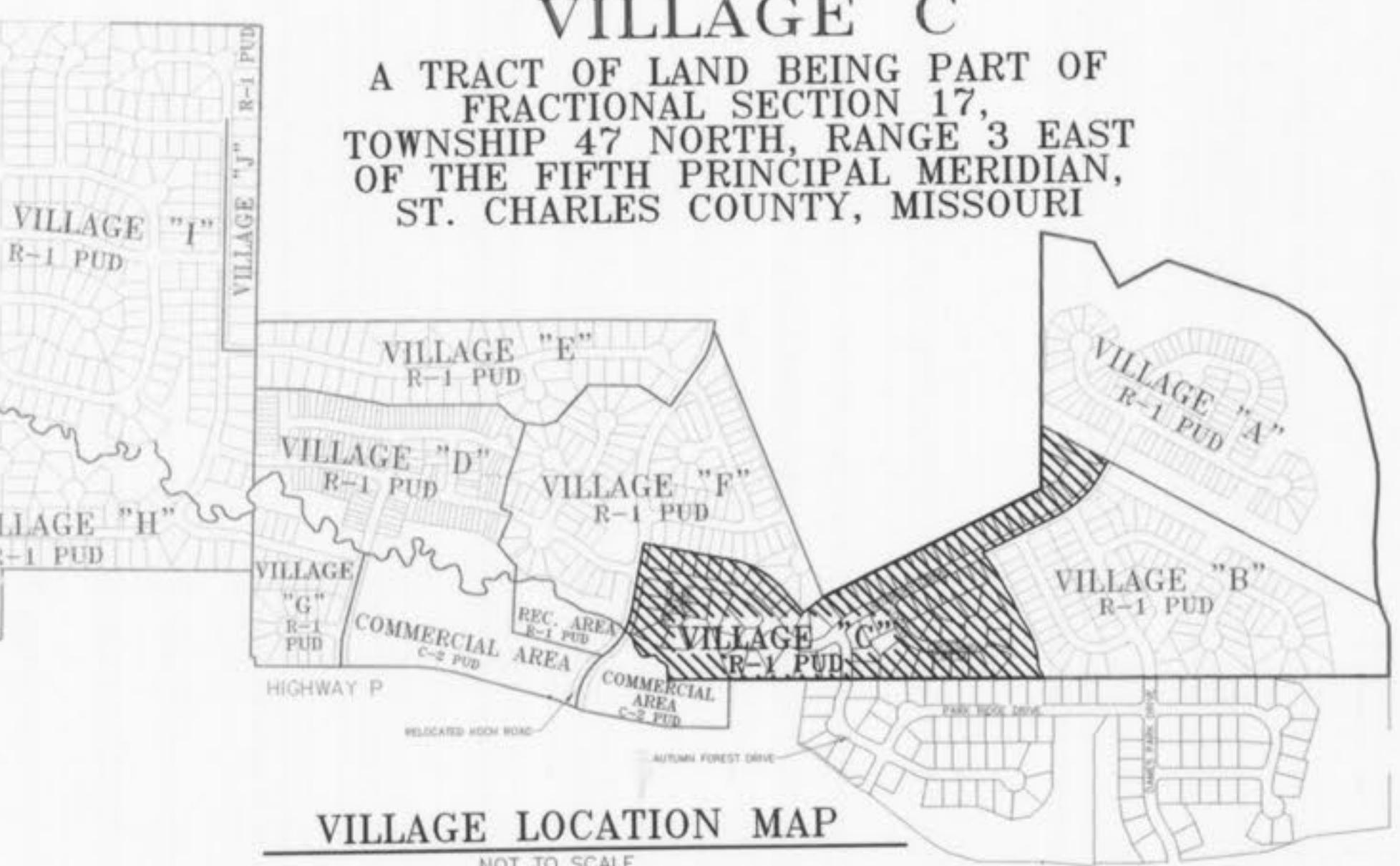
- Underground utilities have been plotted from available information and therefore their locations shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans shall be the responsibility of the contractor, and shall be located prior to any grading or construction of the improvements.
- All manhole tops & flowlines built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
- Sanitary sewer pipe shall meet the following standards: A.S.T.M.-D-3034 SDR-35, with wall thickness compression joint A.S.T.M.-D-3232. An appropriate rubber seal watertight as approved by the City of O'Fallon sewer district shall be installed between P.V.C. pipe and masonry structures.
- All trench backfills under paved areas shall be granular backfill, and shall be Modified compacted to 90% of the maximum density determined by the "AASHTO T-180 Compaction Test" (A.S.T.M.-D-1557). All other trench backfills may be earth material (free of large clods or stones). All trench backfills shall be water jetted.
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- Developer must supply City construction inspectors with soil reports prior to or during site soil testing.

- Pressure testing shall be performed immediately following disinfection, the piping shall be pumped to a pressure (at the lowest point in the project) of 150 PSI or higher where applicable. The pressure shall be held for 24 hours. All piping shall be tested to be 150 PSI as determined by the District. In such cases the test pressure shall be set by the District and two pressure tests shall be conducted. The first test shall be with the fire hydrant auxiliary valves open and be to 150 PSI. The second test shall be with the fire hydrant auxiliary valves closed and be to the highest pressure of the two. All pumping equipment and piping shall be provided by the contractor. After achieving the test pressure, the piping shall be left closed for a period of two (2) hours. At the end of this time the pressure drop shall not exceed 2 PSI. In addition, if the pressure appears, in the judgment of the District's representative, to be continuing to drop, the test shall be continued for another two (2) hours and if any further drops occur, the test shall be considered a failure. The contractor shall be required to repair the piping until the leakage is corrected, the piping must be re-disinfected and the pressure tested again until satisfactory results are achieved.
- Wheat Fescue - 80 lbs./ac.
- Smooth Brome - 100 lbs./ac.
- Combined Fescue @ 40 lbs./ac. and Brome @ 50 lbs./ac.
- Temporary:
 - Wheat or Rye - 90/120 lbs./ac. (2.0/2.5 lbs. per 1000 square feet)
 - Oats - 80 lbs./ac. (2 lbs. per 1000 square feet)
- Seeding Periods:
 - Fescue or Brome - February 1 to June 1
 - Wheat or Rye - August 1 to November 1
 - Oats - January 1 to June 1, July 15 to November 15
- Mulch Rates: 70-115 lbs. per 1000 sq. feet (3000-5000 lbs. per acre)
 - Nitrogen - 30 lbs./ac.
 - Phosphate - 60 lbs./ac.
 - Potassium - 30 lbs./ac.
 - Lime - 600 lbs./ac. ENM*
- Fertilizer Rates:
 - Nitrogen - 30 lbs./ac.
 - Phosphate - 60 lbs./ac.
 - Potassium - 30 lbs./ac.
 - Lime - 600 lbs./ac. ENM*

A SET OF AS BUILT PLANS FOR HYLAND GREEN

VILLAGE C

A TRACT OF LAND BEING PART OF
FRACTIONAL SECTION 17,
TOWNSHIP 47 NORTH, RANGE 3 EAST
OF THE FIFTH PRINCIPAL MERIDIAN,
ST. CHARLES COUNTY, MISSOURI



VILLAGE LOCATION MAP

NOT TO SCALE

VEGETATIVE ESTABLISHMENT For Urban Development Sites APPENDIX A

Seeding Rates:

Permanent:

Tall Fescue - 80 lbs./ac.

Smooth Brome - 100 lbs./ac.

Combined Fescue @ 40 lbs./ac. and Brome @ 50 lbs./ac.

Temporary:

Wheat or Rye - 90/120 lbs./ac. (2.0/2.5 lbs. per 1000 square feet)

Oats - 80 lbs./ac. (2 lbs. per 1000 square feet)

Seeding Periods:

Fescue or Brome - February 1 to June 1

Wheat or Rye - August 1 to November 1

Oats - January 1 to June 1, July 15 to November 15

Mulch Rates: 70-115 lbs. per 1000 sq. feet (3000-5000 lbs. per acre)

Nitrogen - 30 lbs./ac.

Phosphate - 60 lbs./ac.

Potassium - 30 lbs./ac.

Lime - 600 lbs./ac. ENM*

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

Fertilizer Rates:

Nitrogen - 30 lbs./ac.

Phosphate - 60 lbs./ac.

Potassium - 30 lbs./ac.

Lime - 600 lbs./ac. ENM*

Planting Dates:

N.T.S.

R.H.

R.W.

R.B.

R.Y.

R.S.

R.M.

R.G.

R.D.

R.C.

R.P.

R.C.P.

C.J.P.

C.P.

G.C.

A.I.

M.H.

F.E.

L.F.

C.R.P.

C.M.P.

C.J.P.

P.V.C.

C.O.

CLEAN OUT

BLOW OFF ASSEMBLY

FIRE HYDRANT

STORM SEWER

SANITARY SEWER

LEGEND

C.I.	STREET LIGHT
D.C.I.	BUILDING LINE SETBACK 20'
A.I.	SIDE YARD SETBACK 5.50'
M.H.	REAR YARD SETBACK 15'
F.E.	MINIMUM LOT WIDTH 35' AND 45'
L.F.	
C.R.P.	
C.M.P.	
C.J.P.	
P.V.C.	
C.O.	
</td	

AS-BUILTS ADDED MAY 2006

AS-BUILT SITE PLAN FOR
**HYLAND GREEN
VILLAGE C**

98-10293C

26-06



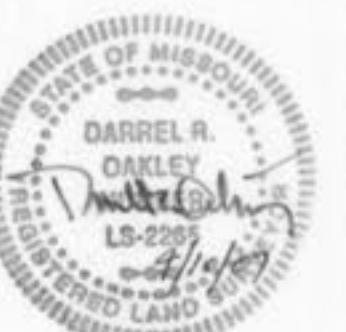
AS-BUILTS ADDED MAY 2006

AS-BUILT SITE PLAN FOR
**TYLAND GREEN
VILLAGE C**

26-06

98-10293C

SEE SHEET



AS-BUILTS ADDED MAY 2006

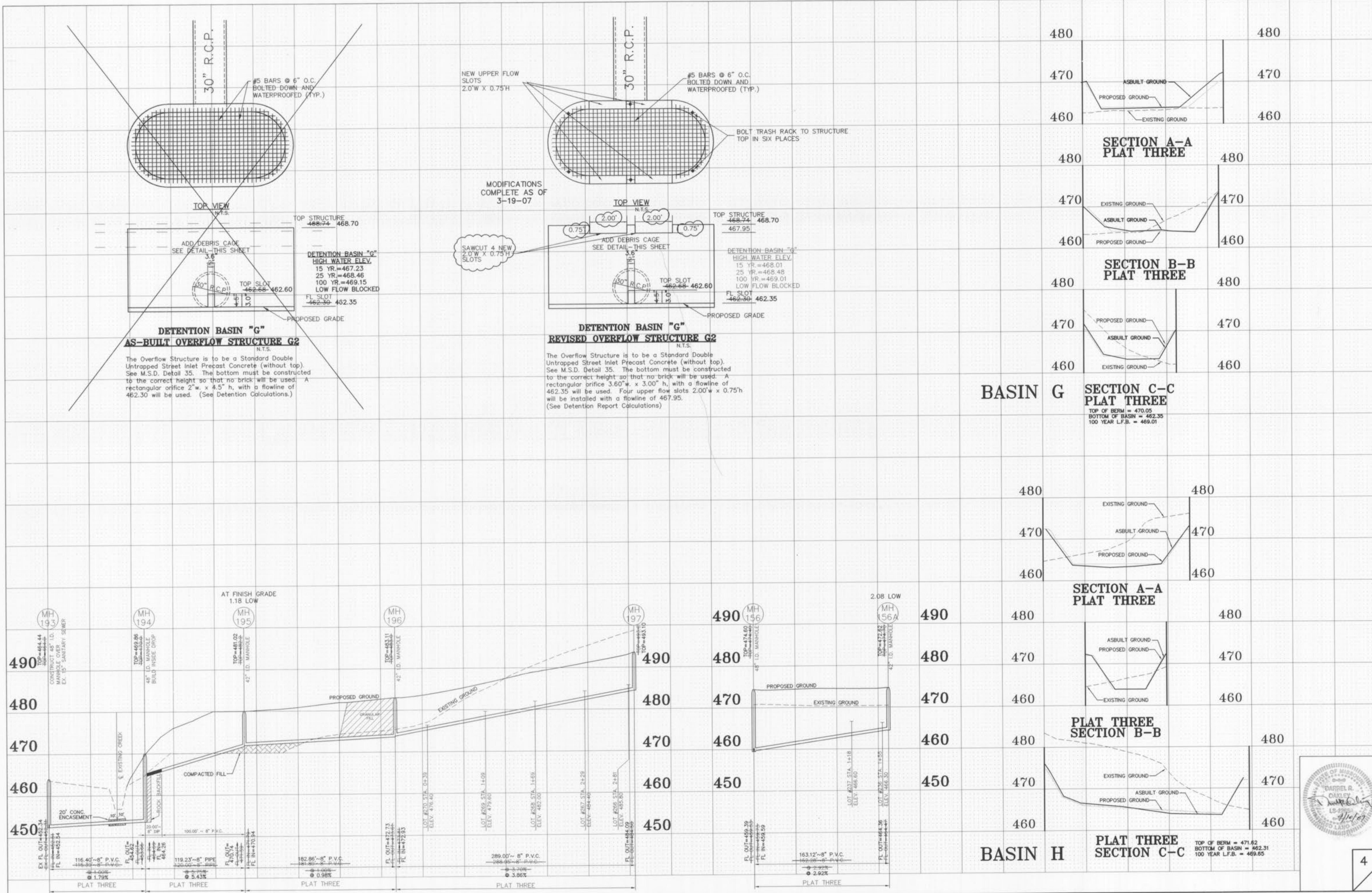
ALL SANITARY SEWER LATERAL TAILSTAKE ELEVATIONS HAVE BEEN DESIGNED FOR AN 8.0 BASEMENT POUR IN HOMES WITH THE TOP OF FOUNDATION ELEVATION BEING SET A MINIMUM 2.0 ABOVE THE TOP OF CURB ELEVATION AT THE DRIVEWAY AS REQUESTED BY DEVELOPER.

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 OR CONSTRUCTION OF THE IMPROVEMENTS.

AS BUILT SANITARY PROFILES
**HYLAND GREEN
VILLAGE C**

98-10

MAY 2006

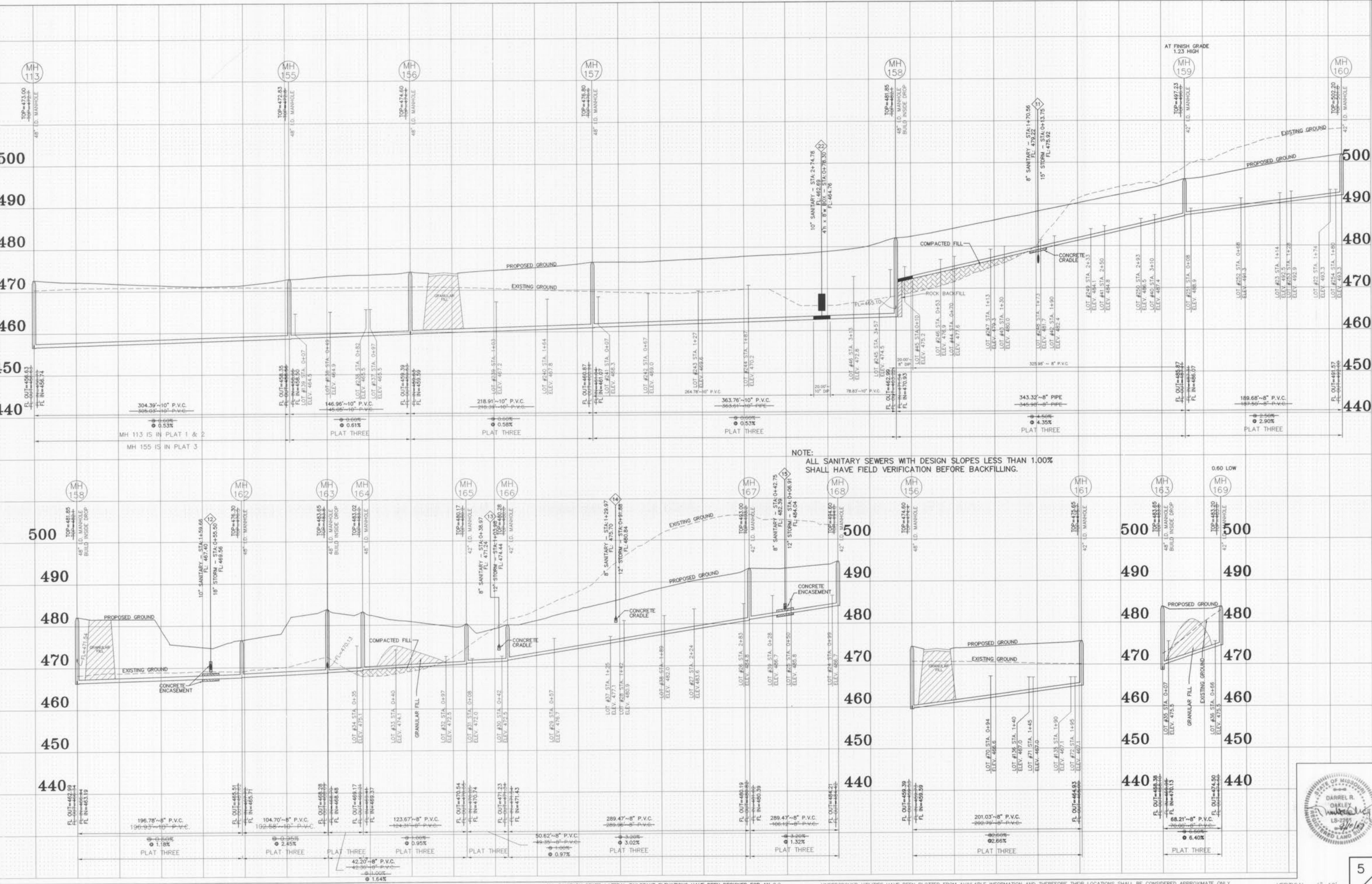


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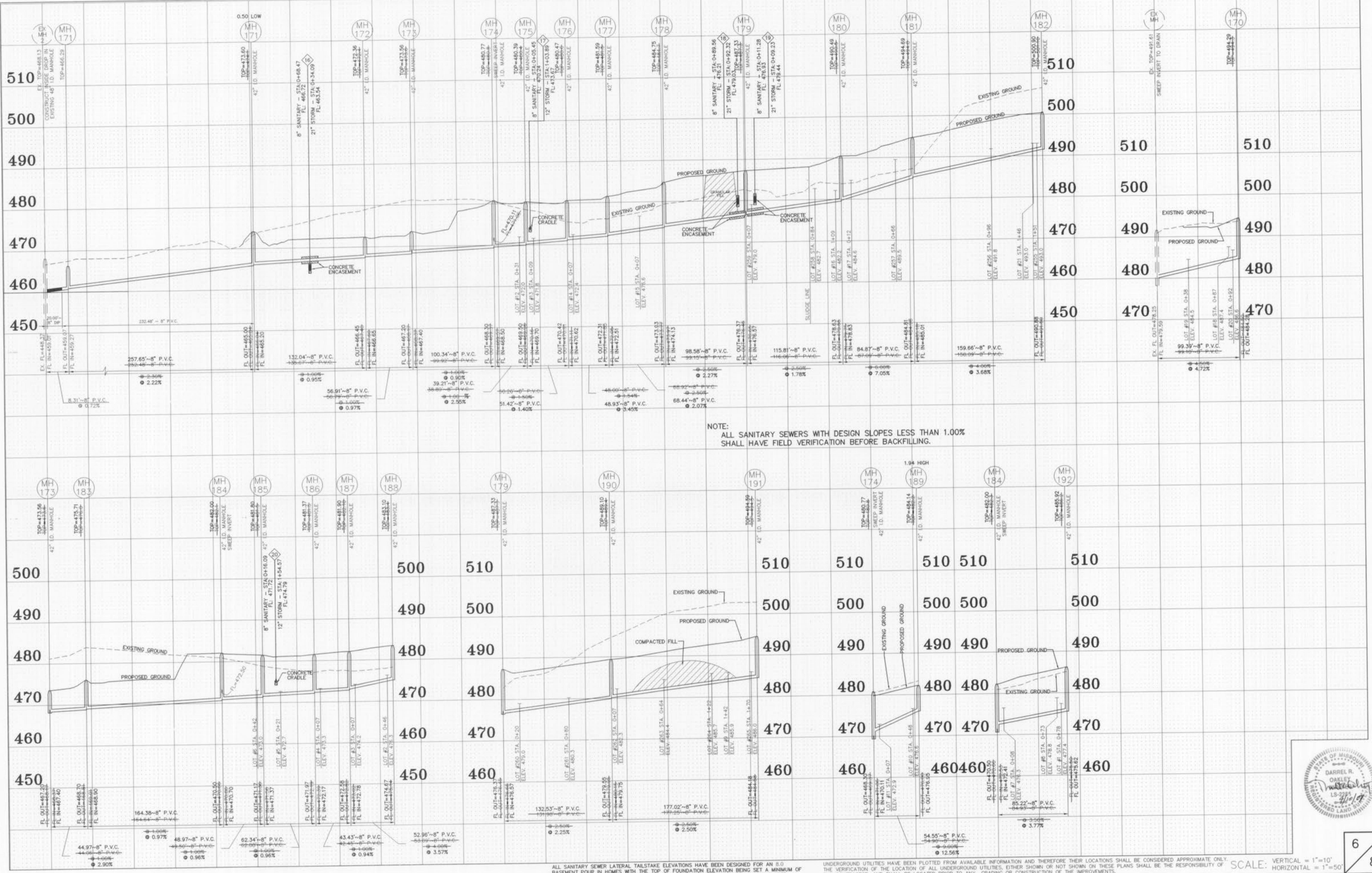
AS BUILT SANITARY PROFILES
HYLAND GREEN
VILLAGE C

98-10293C

MAY 2006



AS-BUILTS ADDED MAY 2006

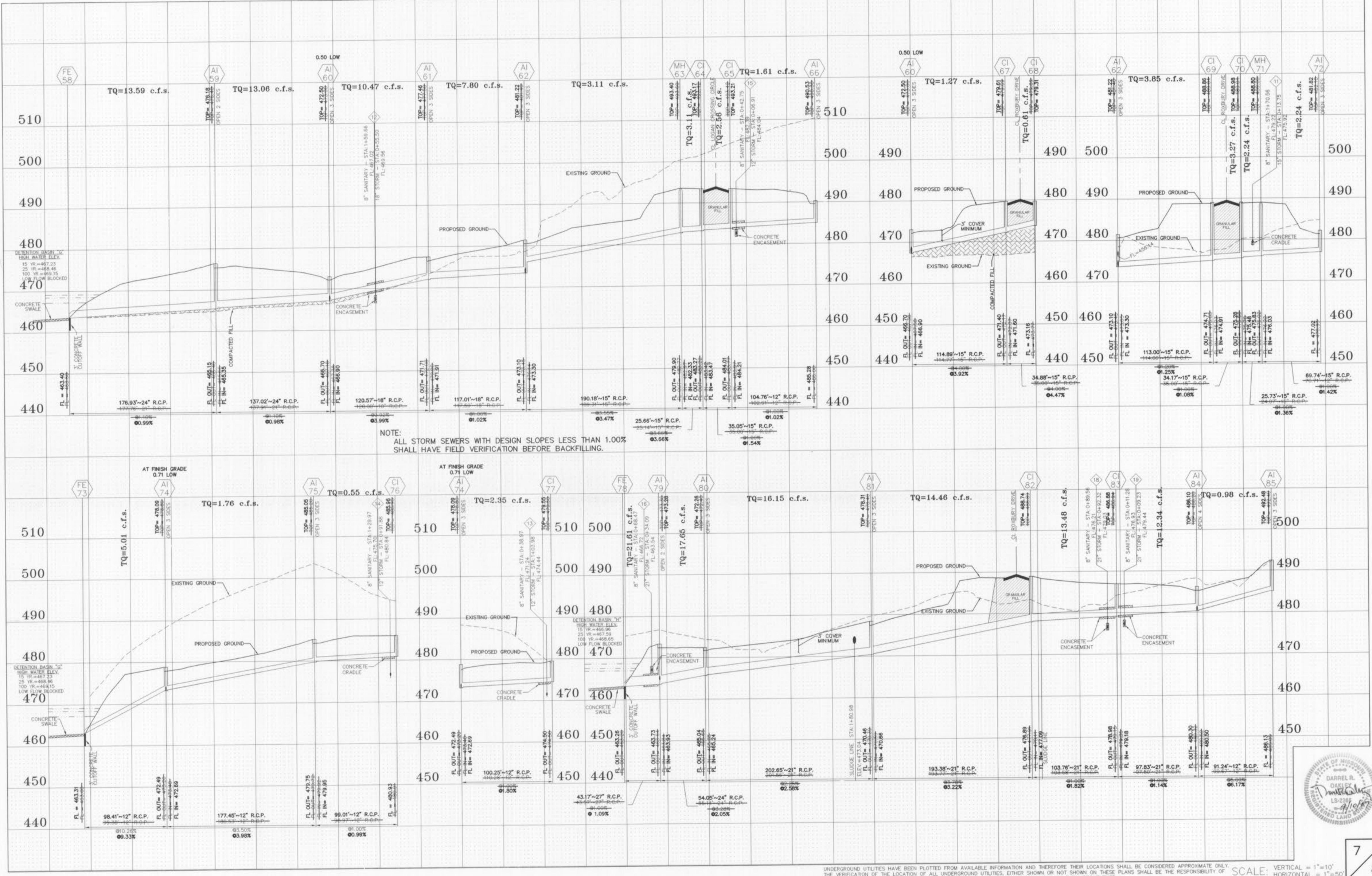


AS-BUILTS ADDED MAY 2006

AS BUILT STORM PROFILES
HYLAND GREEN
VILLAGE C

98-10293C

MAY 2006



DARREL R.
DAKLEY
REGISTERED LAND SURVEYOR
LS-2265
10/10/06

7
8

Hyland Green Village C As builts

718

AS-BUILTS ADDED MAY 2006

AS BUILT STORM PROFILES
**HYLAND GREEN
VILLAGE C**

VILLAGE C

98-10293C MAY 2006

