CONSTRUCTION PLANS

OF

GLYNN VILLAGE PLAT 3

CITY OF WAUKEE
DALLAS COUNTY, IOWA

FOR

HUBBELL REALTY COMPANY

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

PROJECT BENCHMARK:

SE TAB BOLT ON HYDRANT AT SW CORNER WARRIOR LANE & UNIVERSITY AVENUE
ELEV=1028.39

GENERAL NOTES

1. All work shall comply with applicable city, and county codes, ordinances, regulations and rules. Including Waukee standard specifications for public improvements
2. All debris spilled on the streets or adjacent property shall be promptly removed by the Contractor.
3. All construction procedures and materials to meet or exceed minimum requirements of City of Waukee.
4. All work shall be done in accordance with current OSHA codes and standards. Nothing indicated on these plans shall relieve the Contractor from complying with any and all appropriate safety regulations.
5. The Contractor shall furnish and place all necessary signs and barricades during construction in accordance with the Manual of Uniform Traffic Control Devices for Streets and Highways.
6. The Contractor shall be responsible for giving the City of Waukee proper notice for their required inspections.
7. The Contractor shall be responsible for obtaining any and all required permits for performing the work.
8. Work shall include connection to existing public utilities and any and all fittings, cleanouts and appurtenances required by codes.
9. The Contractor is responsible for clearing & grubbing the site, and removal & disposal of any deleterious and excess materials from the site.
10. The Contractor shall place silt fence around all storm sewer inlet locations, steep slopes, or as directed by the City.
11. Any damage done to the existing fences, yards or other structures outside the construction limits shall be repaired at the Contractor's expense.

WATER MAINS

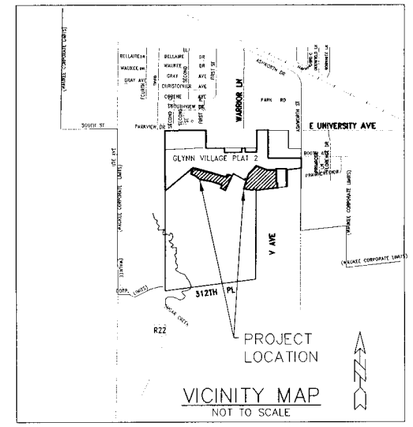
1. The Contractor shall arrange and pay for the required taps to the public water main.
2. Water main shall have a minimum of 5.5 feet cover.
3. All hydrants shall be 18" minimum from sidewalks.
4. The contractor shall verify before placing F.H.'s that no part of the F.H. shall be closer than 18" to a proposed sidewalk. F.H.'s shall also be placed on the extension of lot lines as shown on the plans. Additional stakes for lot corners and sidewalks shall be set.

SANITARY SEWERS

1. The sanitary sewer pipe bedding shall be granular encasement.
2. Vertical separation between sanitary sewer and water main and storm sewer shall be 1.50 feet minimum.

PCC PAVING

1. All subgrade under slab to be compacted to 95% Standard Proctor density for a minimum of 12". Recommended moisture content range 0% to +4% of optimum.
2. Moisten subgrade prior to placing concrete.
3. Concrete shall have minimum 28-day compressive strength of 4000 psi.
4. Aggregate shall be Class 4.
5. Concrete surfaces shall be burlap finish. Check surface with template. No deviation over 1/8" in 10' is permitted. All concrete shall slope to drain.
6. All concrete shall be cured with an ASTM C309 Type 2 water based white pigmented curing compound per IDOT Sec. 4105
7. Saw cut joints as soon as concrete has set enough to prevent tearing of the concrete adjacent to the joint and prior to any cracking.
8. Saw cuts to be 1/8" to 1/4" wide; Depth: longitudinal T/3, transverse T/4.
9. Longitudinal joint spacing shall not be greater than 12'. Joint layout shall be approved by the Engineer.
10. Bars at longitudinal joints to be #5 X 30" deformed at 30" o.c. and shall be epoxy coated.
11. All joints shall be filled with W-R Meadows D-164 Hot Pour Rubber Base Joint Sealer or approved equal.
12. The Contractor to barricade slab for 14 days after placing.
13. Street thicknesses shall be 7-inch non-reinforced.
14. Submit design mix as designed by independent testing laboratory prior to placing any concrete.
15. All work to comply with current ACI standards.



VICINITY MAP
NOT TO SCALE

NOTE: SEE STORM WATER POLLUTION PREVENTION PLAN FOR EROSION CONTROL MEASURES

PREPARED BY:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

PLANS APPROVED BY CITY OF WAUKEE

DATE: _____

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3. GRADING PLAN – ENTIRE SITE
4. GRADING PLAN – EAST
5. GRADING PLAN – WEST
6. SE AIDAN STREET. - SANITARY & WATER
7. SE WADDELL WAY – SANITARY & WATER
8. EMERSON LANE – SANITARY & WATER
9. HANNAH LANE & SNYDER STREET SANITARY & WATER
10. SE AIDAN STREET. – PAVEMENT & STORM SEWER
11. SE WADDELL WAY – PAVEMENT & STORM SEWER
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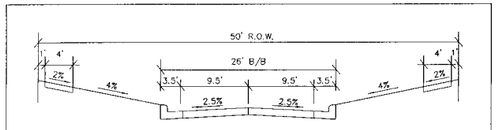
13. HANNAH LANE & SNYDER STREET PAVEMENT & STORM SEWER
14. EMERSON LANE – GREENBELT STORM SEWER
15. SE AIDAN STREET – GREENBELT STORM SEWER & TRAIL
16. DETAILS



TYPICAL ROADWAY CROSS-SECTION (7" NON-REINFORCED P.C.C.)
NOT TO SCALE

PROFESSIONAL ENGINEER — LICENSED — DOUGLAS J. SALTSGAVER 11993 — IOWA

ENGINEERING CERTIFICATION

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT, SPECIFICATION OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT PERSONAL SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

DOUGLAS J. SALTSGAVER, P.E. #11993
MY REGISTRATION RENEWAL DATE IS DECEMBER 31, 2008

PAGES OR SHEETS COVERED BY THIS SEAL
1-16

RECORD DRAWINGS
OF SANITARY AND STORM SEWER STRUCTURE TOPS AND FLOWLINES AND HORIZONTAL LOCATION OF SERVICES FOR SANITARY AND WATER. DATE: 07/23/07

7005.00

1

GLYNN VILLAGE PLAT 3

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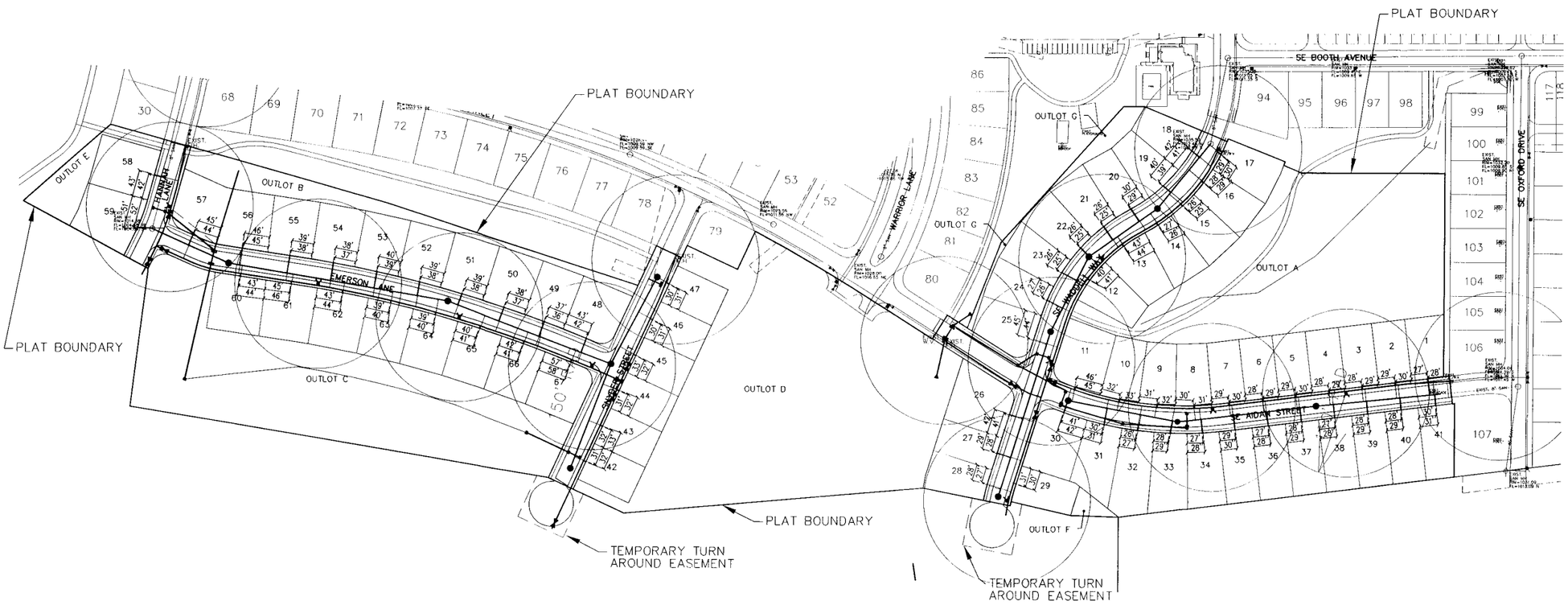

RECORD DRAWINGS 2

GLYNN VILLAGE PLAT 3 - PROJECT MAP

LOCATION:	SCALE: 1" = 100'	DESIGNED BY: DJS	DRAWN BY: TEB
	DWG: 7003PRJ.DWG	CHECKED BY: DJS	DATE: 07/23/07
	FIELD BOOK:	SHEET 2 OF 16	FILE NO.: 7005

NO.	REVISION	DATE	BY	FOR:

ERG
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Engineers and Surveyors
2413 GRAND AVENUE
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(515) 288-4823

7005.00

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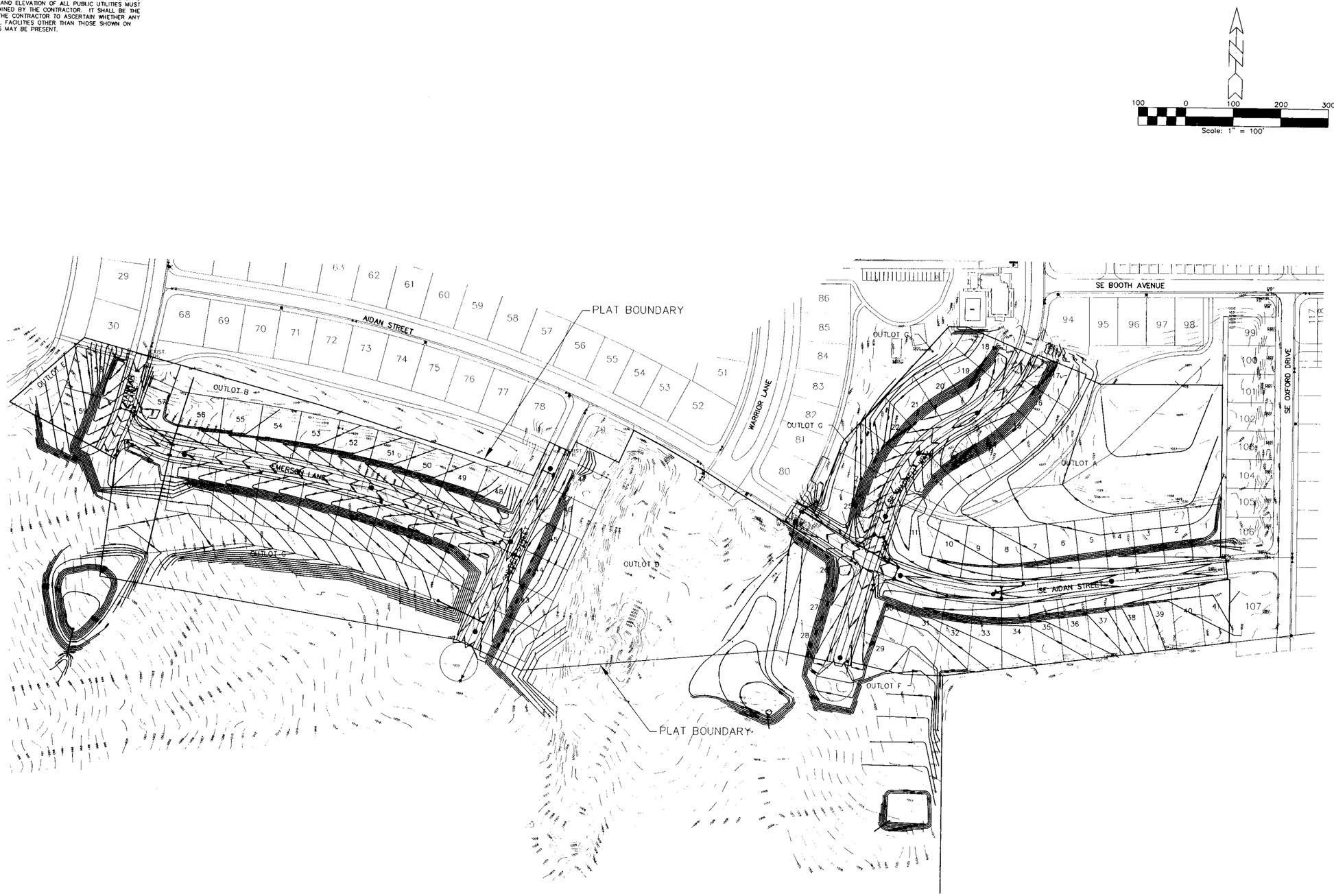

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GLYNN VILLAGE PLAT 3 - GRADING PLAN

SCALE:	1" = 100'
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FIELD BOOK:	
DESIGNED BY:	DJS
CHECKED BY:	DJS
SHEET 3 OF 16	
DRAWN BY:	TEB
DATE:	07/23/07
FILE NO.:	7005

LOCATION:

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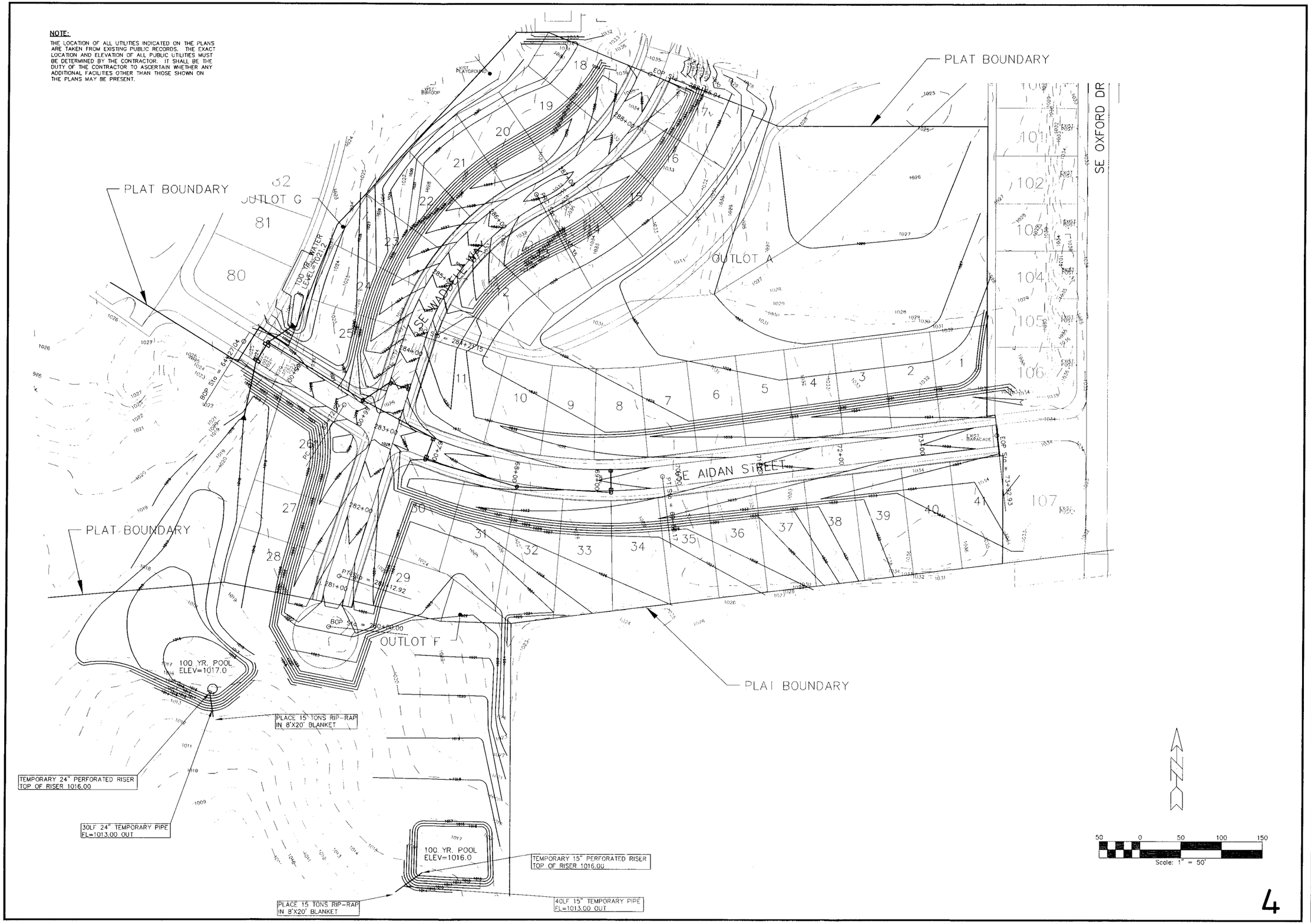

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GLYNN VILLAGE PLAT 3 EAST GRADING PLAN

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: DJS	DRAWN BY: TEB	
DWG: 7005GR02.DWG	CHECKED BY: RPV	DATE: 07/23/07	
FIELD BOOK:	SHEET 4 OF 16	FILE NO.: 7005	

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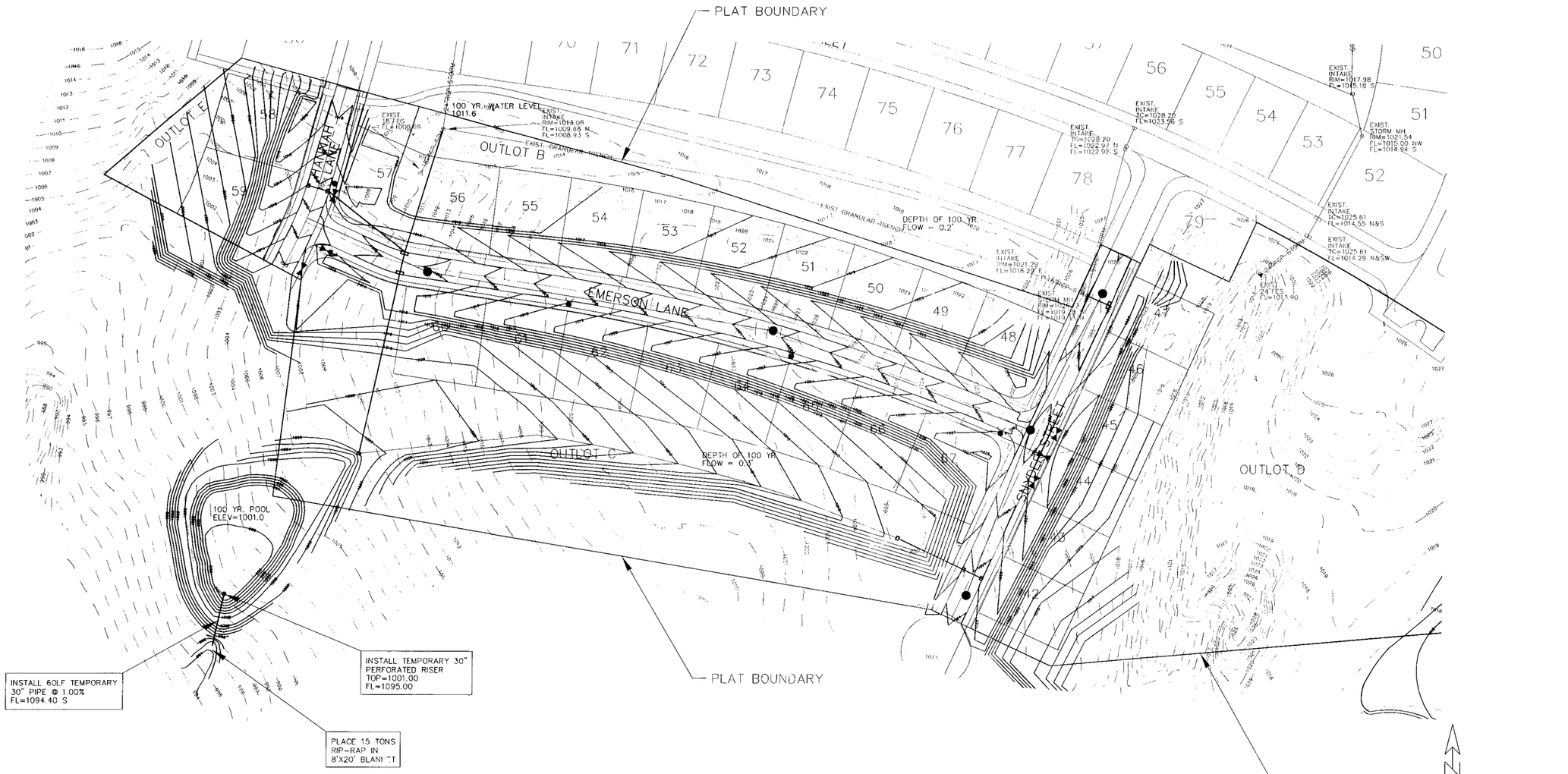

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GLYNN VILLAGE PLAT 3 WEST GRADING PLAN

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LOCATION:

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DRAWN BY:	TEB		
DWG:	7005GRD1.DWG	CHECKED BY:	RPV
DATE:	07/23/07		
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FILE NO.:	7005		

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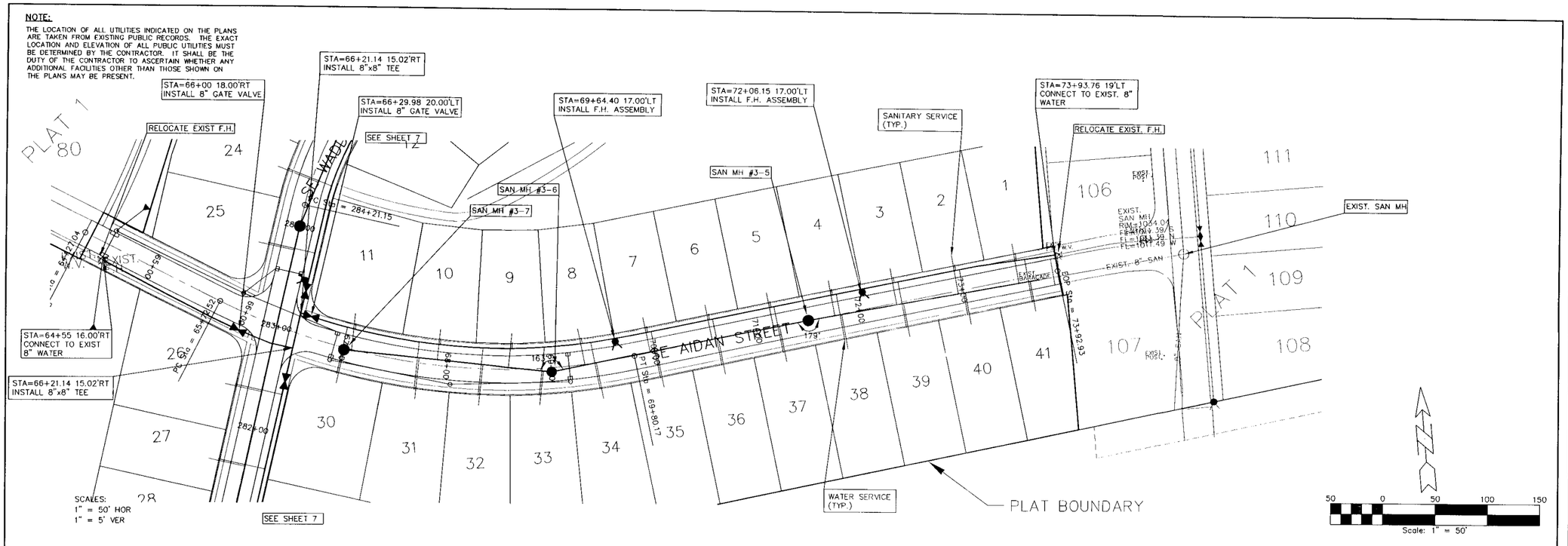

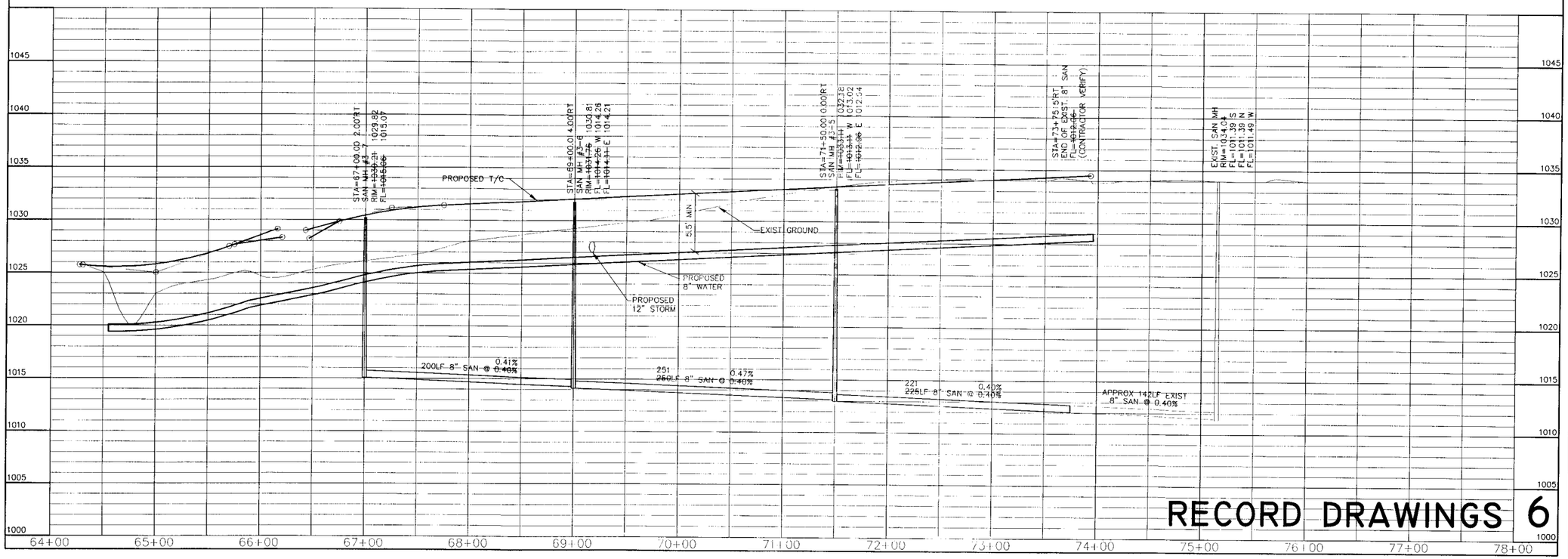

SE ADAIN STREET - SANITARY AND WATER

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: DJS	DRAWN BY: TEB
	DWG: 7005PP6.DWG	CHECKED BY: DJS	DATE: 07/23/07
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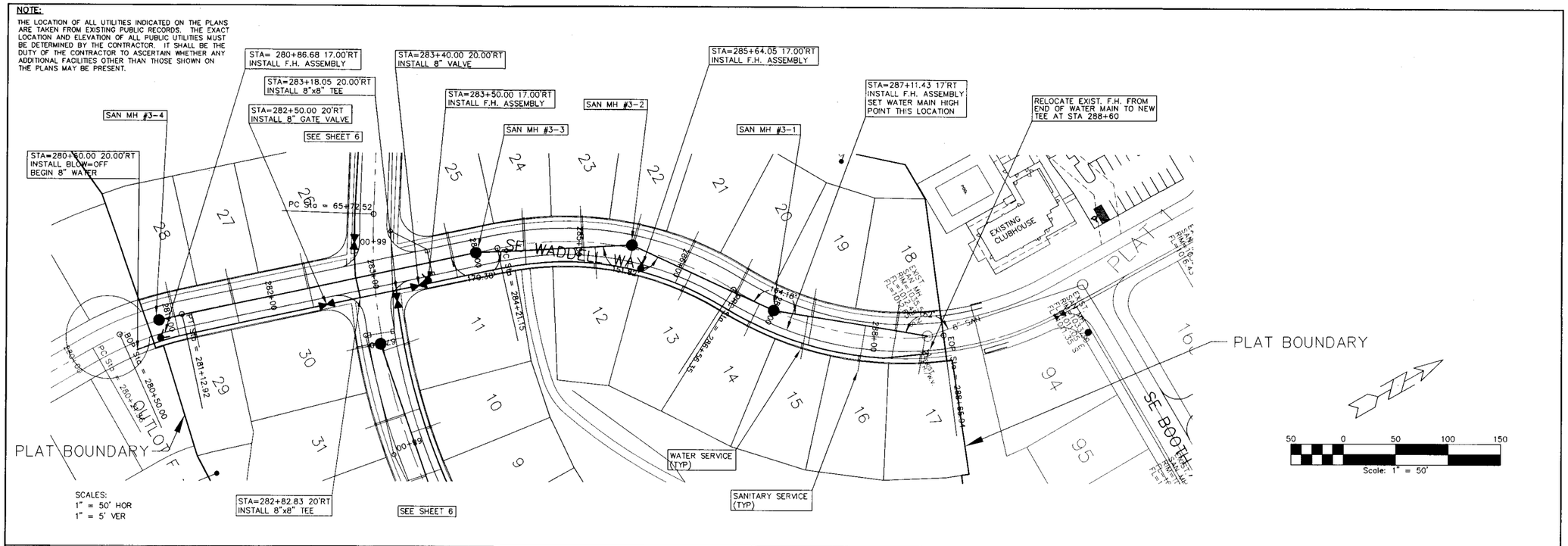

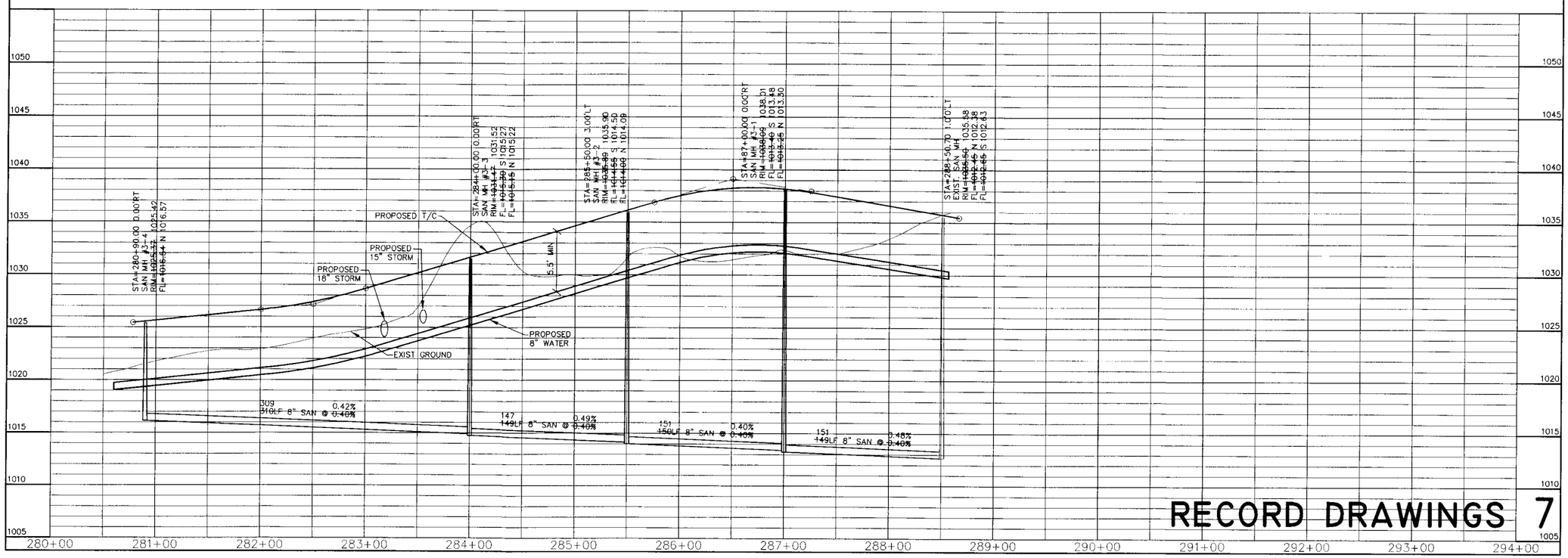

RECORD DRAWINGS

SE WADDELL WAY - SANITARY AND WATER

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: DJS	DRAWN BY: TEB
	DWG: 7005PP7.DWG	CHECKED BY: DJS	DATE: 07/23/07
	FIELD BOOK:	SHEET 7 OF 16	FILE NO.: 7005

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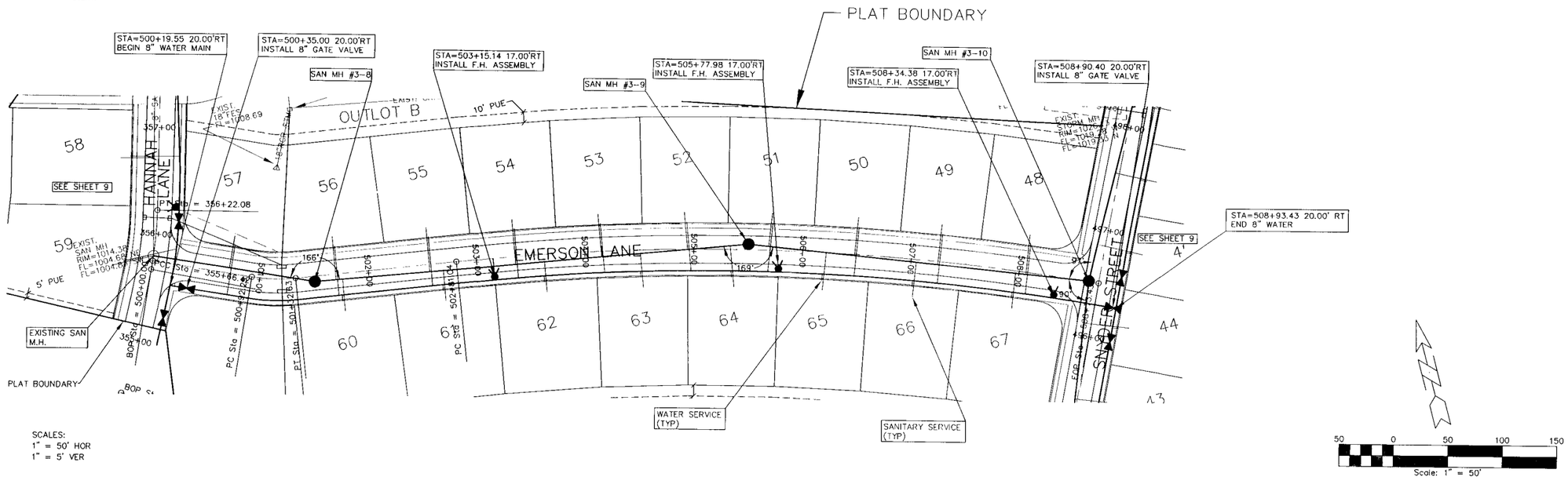
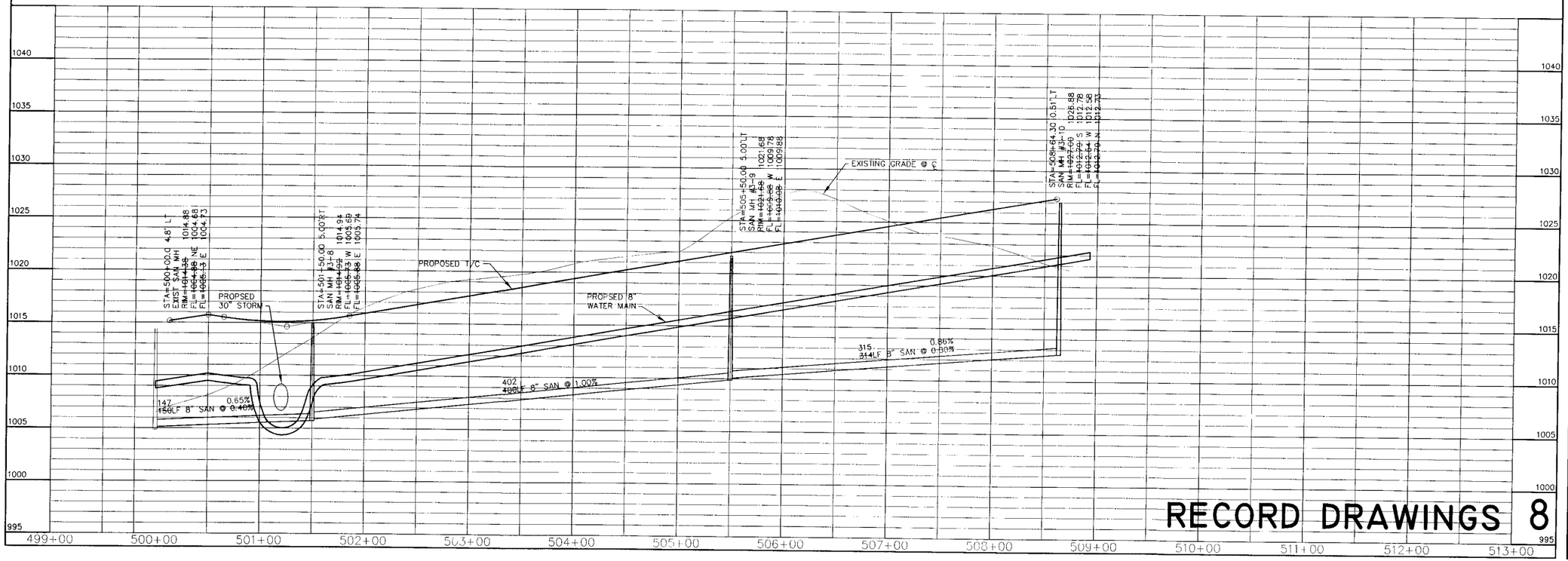


SCALES:
1" = 50' HOR
1" = 5' VER



RECORD DRAWINGS 8

EMERSON LANE - SANITARY AND WATER

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 7005PP8.DWG
FIELD BOOK:
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CHECKED BY: DJS
SHEET 8 OF 16
DRAWN BY: TEB
DATE: 07/23/07
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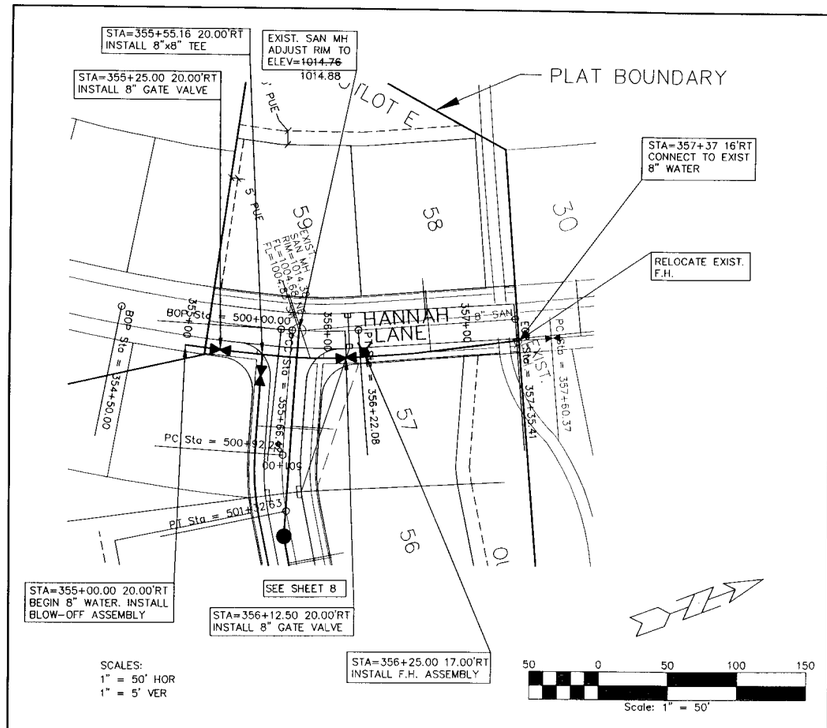

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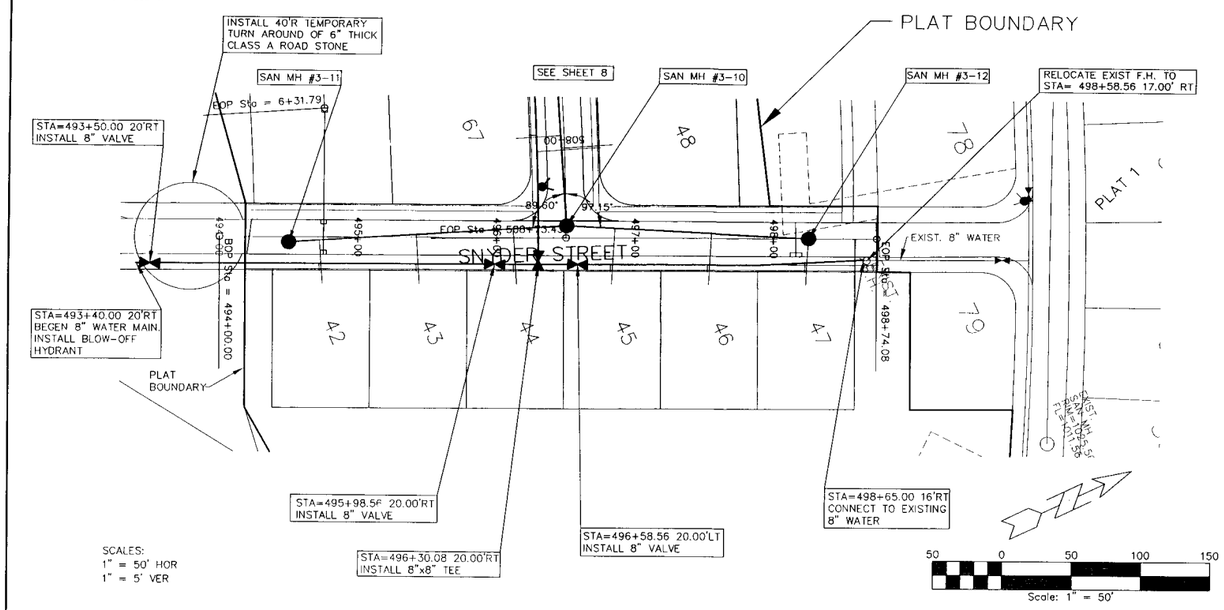

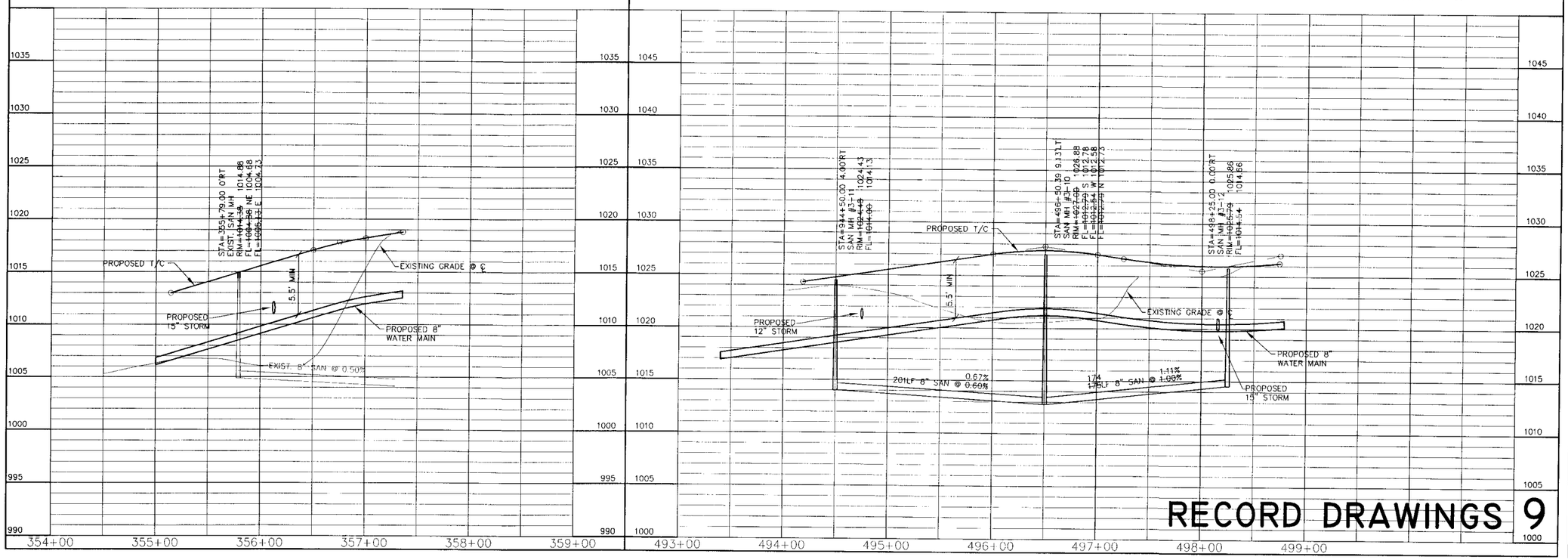

RECORD DRAWINGS 9

HANNAH LANE & SNYDER STREET - SANITARY AND WATER

SCALE:	1" = 50'
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DESIGNED BY:	DJS
CHECKED BY:	DJS
SHEET	9 OF
DRAWN BY:	TEB
DATE:	07/23/07
FILE NO.:	7005

LOCATION:

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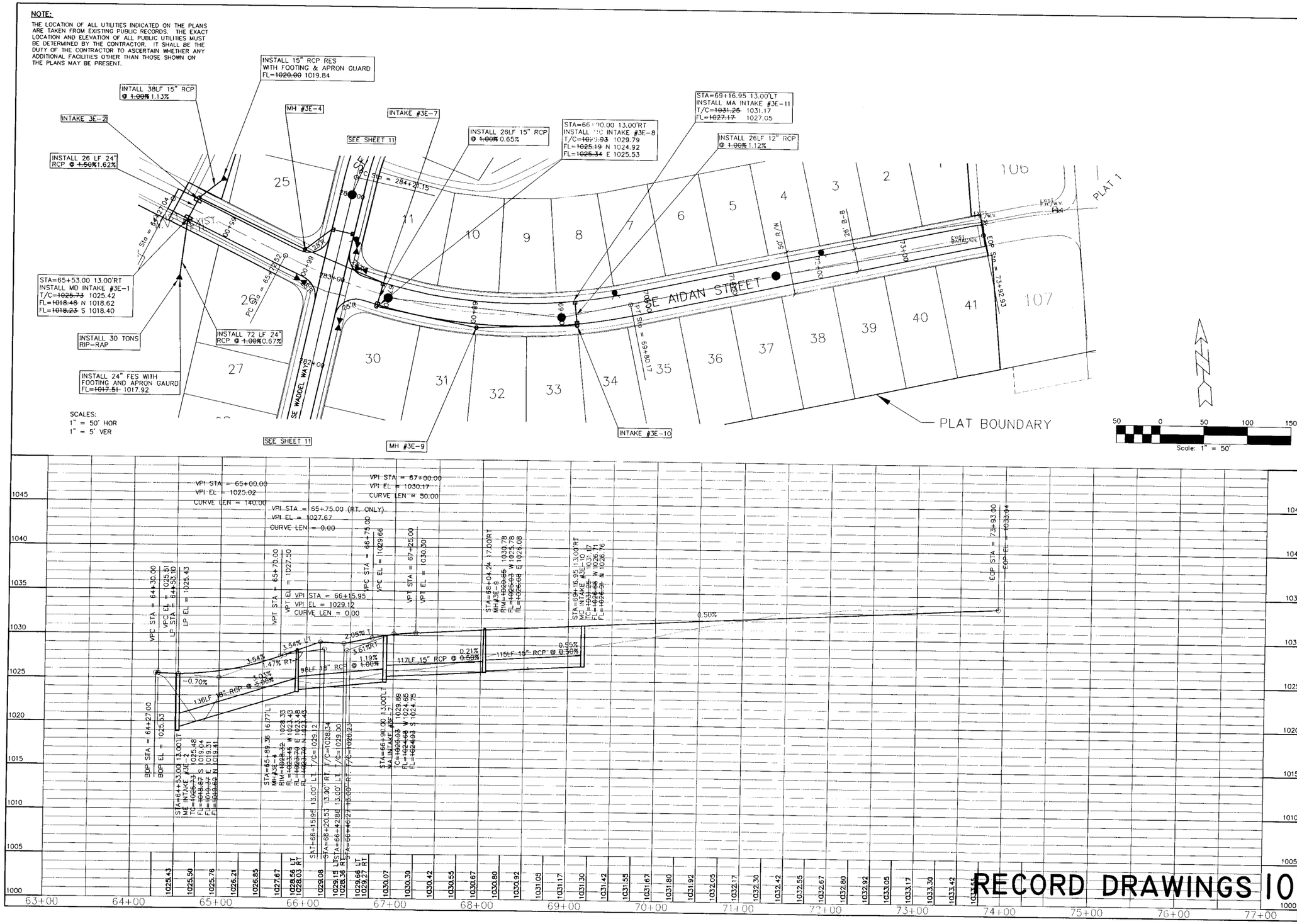

SE ADAIN STREET - PAVEMENT AND STORM

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: DJS	DRAWN BY: TEB
	DWG: 7005PP10.DWG	CHECKED BY: DJS	DATE: 07/23/07
	FIELD BOOK:	SHEET 10 OF	FILE NO.: 7005

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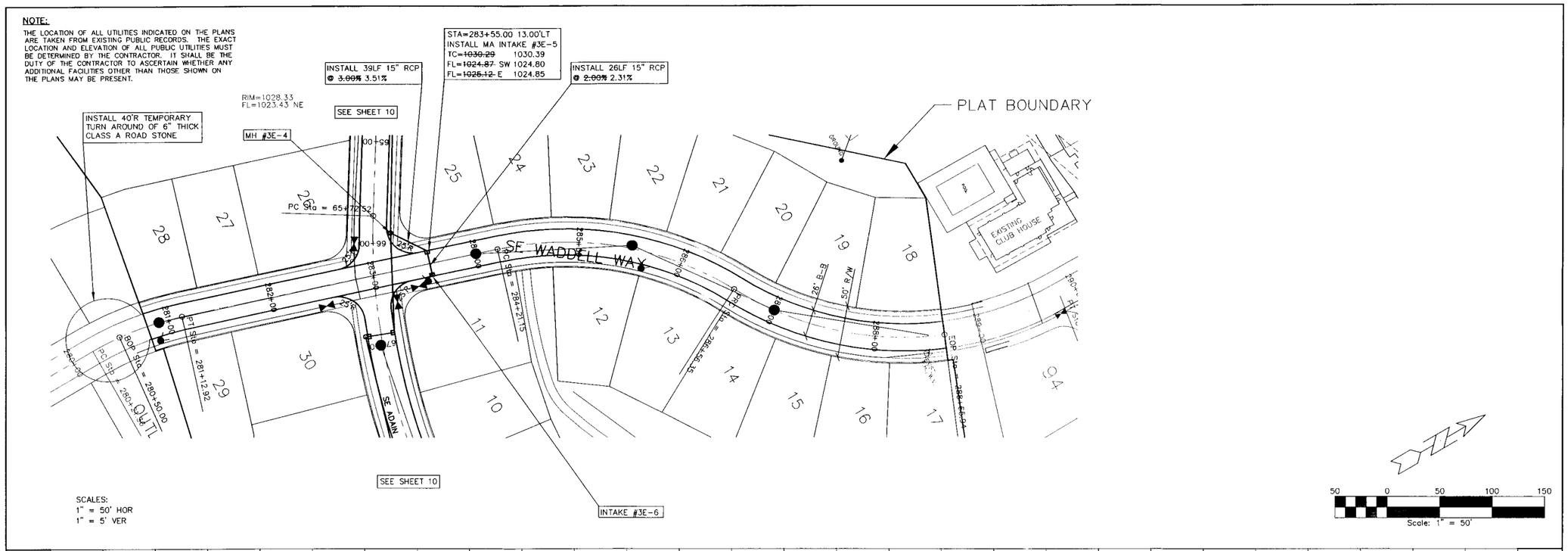

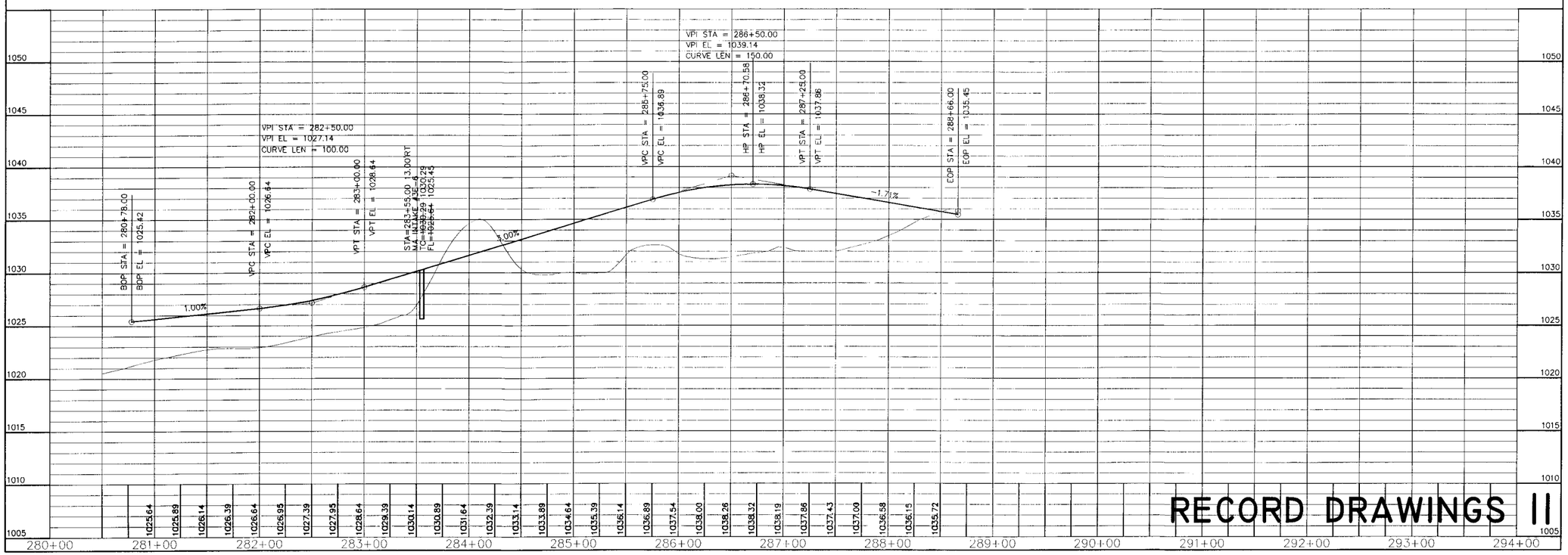

SE WADDELL WAY - PAVEMENT AND STORM

LOCATION:	
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FIELD BOOK:	
DESIGNED BY:	DJS
CHECKED BY:	DJS
SHEET	11 OF
DRAWN BY:	TEB
DATE:	07/23/07
FILE NO.:	7005

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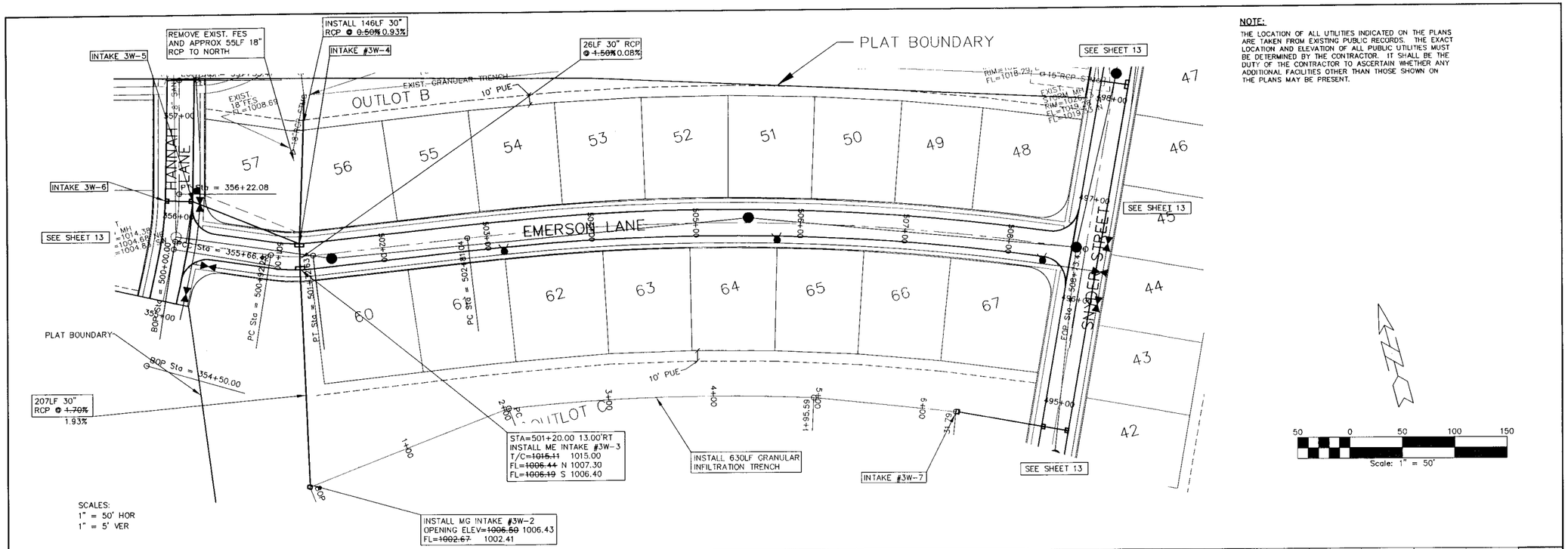

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EMERSON LANE - PAVEMENT AND STORM

SCALE: 1" = 50'	DESIGNED BY: DJS	DRAWN BY: TEB	
DWG: 7005PP12.DWG	CHECKED BY: DJS	DATE: 07/23/07	
FIELD BOOK:	SHEET 12 OF	FILE NO.: 7005	

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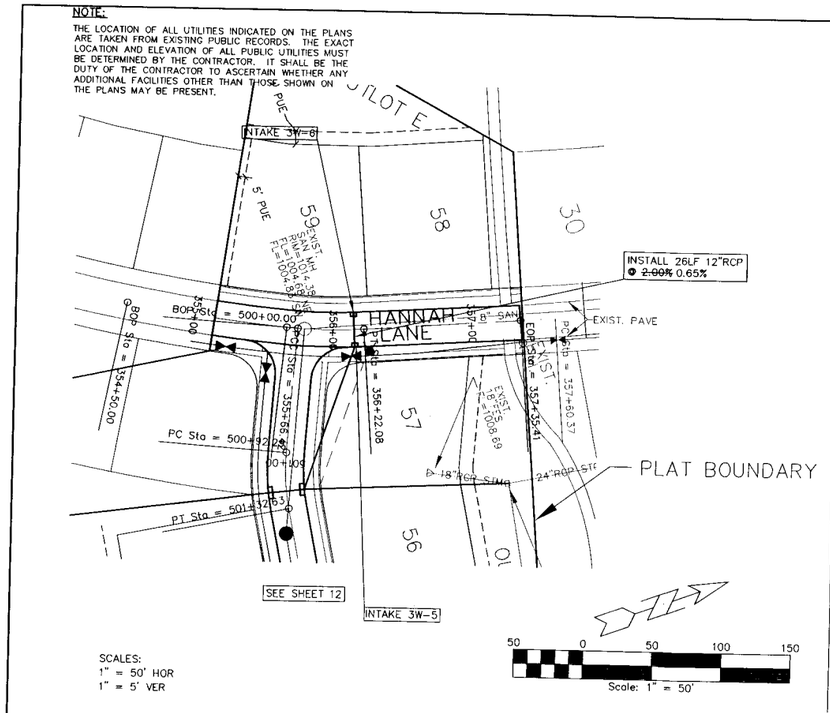

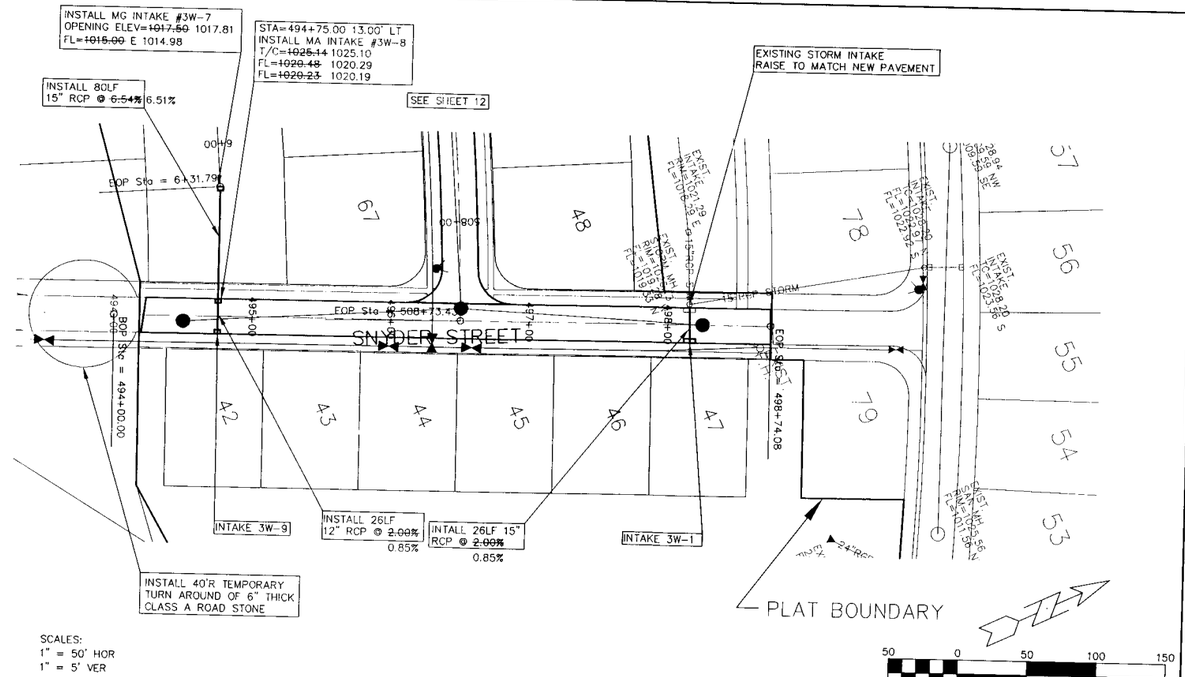

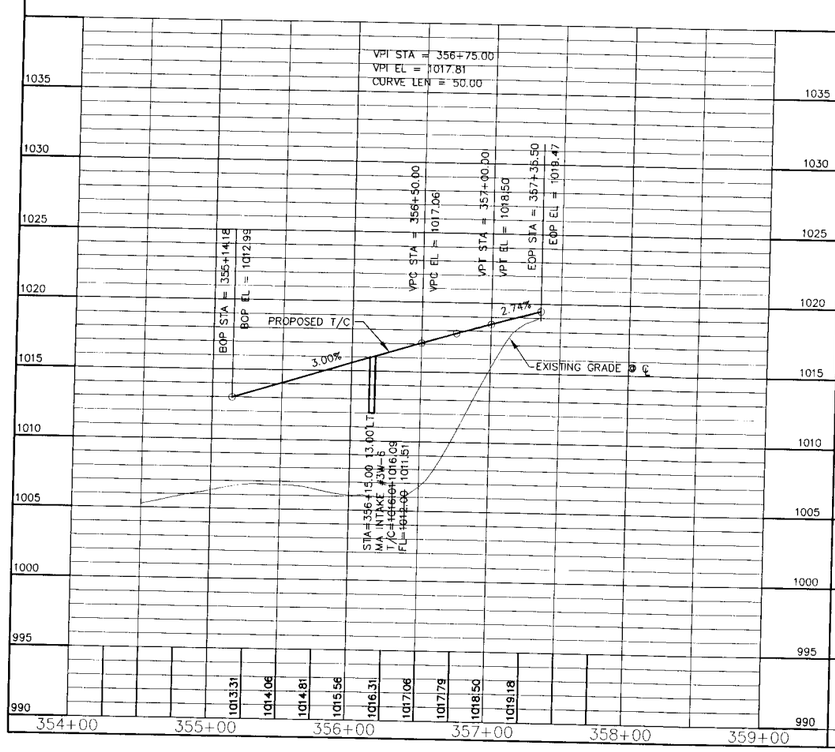

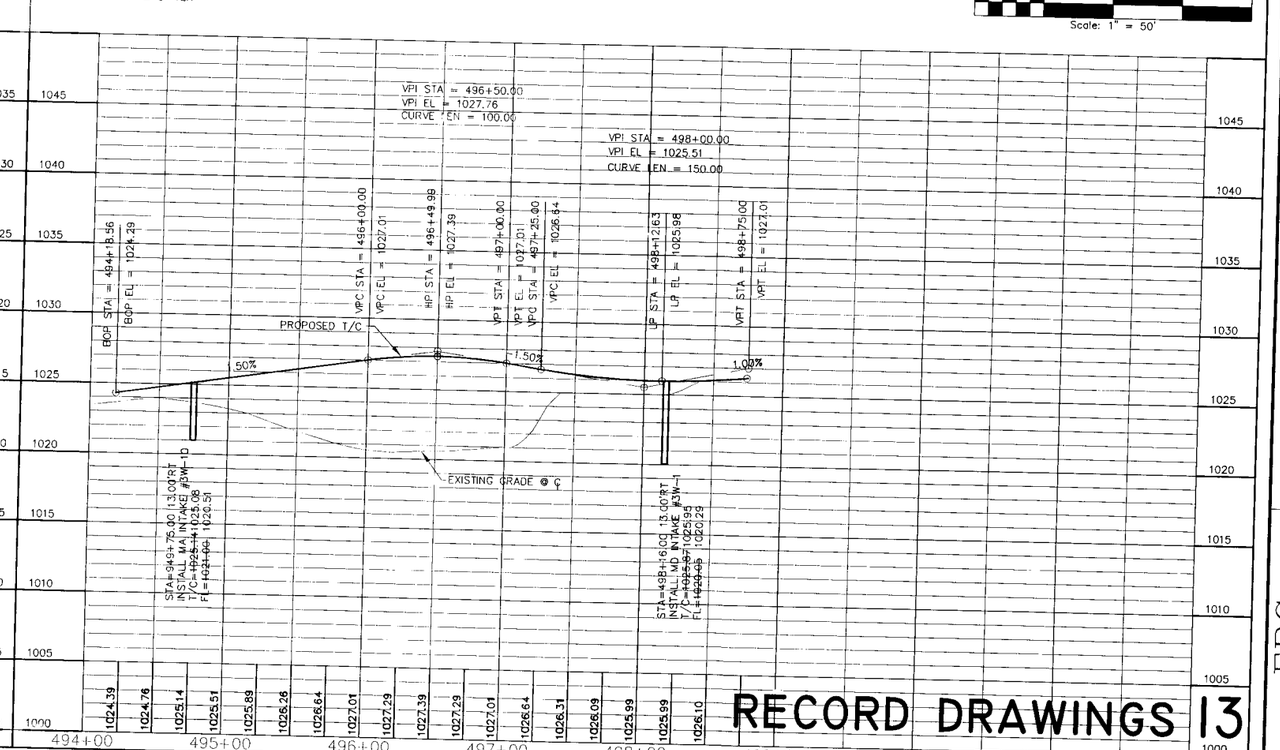

RECORD DRAWINGS 13

HANNAH LANE & SNYDER STREET - PAVEMENT AND STORM

SCALE: 1" = 50'	DESIGNED BY: DJS	DRAWN BY: TEB	
DWG: 7005PP13.DWG	CHECKED BY: DJS	DATE: 07/23/07	
FIELD BOOK:	SHEET 13 OF	FILE NO.: 7005	

LOCATION:

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(515) 288-4823

7005.00

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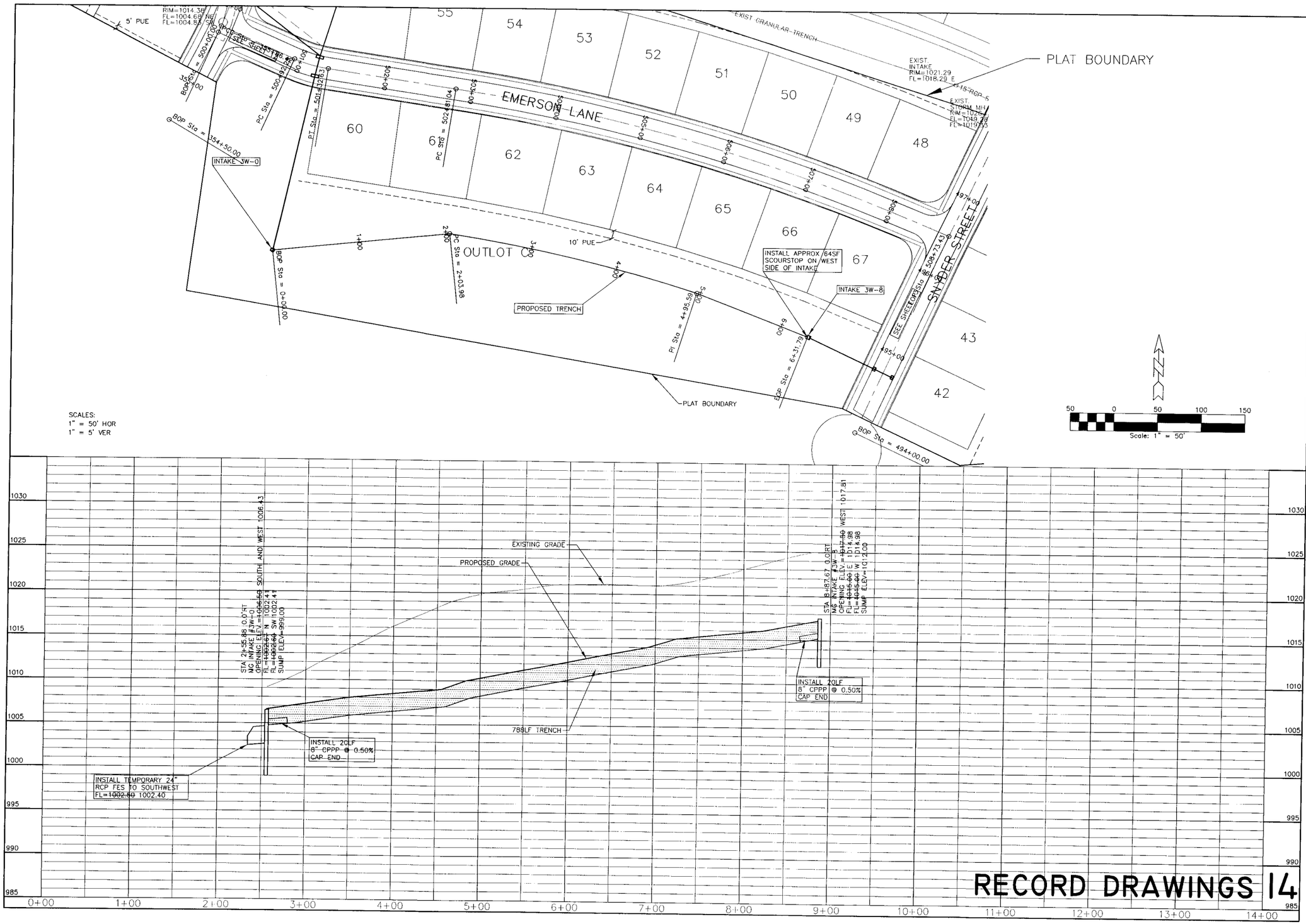

EMERSON LANE - GREENBELT STORM SEWER

LOCATION:

SCALE:	1" = 50'	DRAWN BY:	TEB
DWG:	7005PP14.DWG	DATE:	07/23/07
FIELD BOOK:		SHEET 14 OF	7005

NO.	REVISION	DATE	BY	FOR:

FRG
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Engineers and Surveyors
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DES MOINES, IOWA 50312
(515) 288-4823

7005.00

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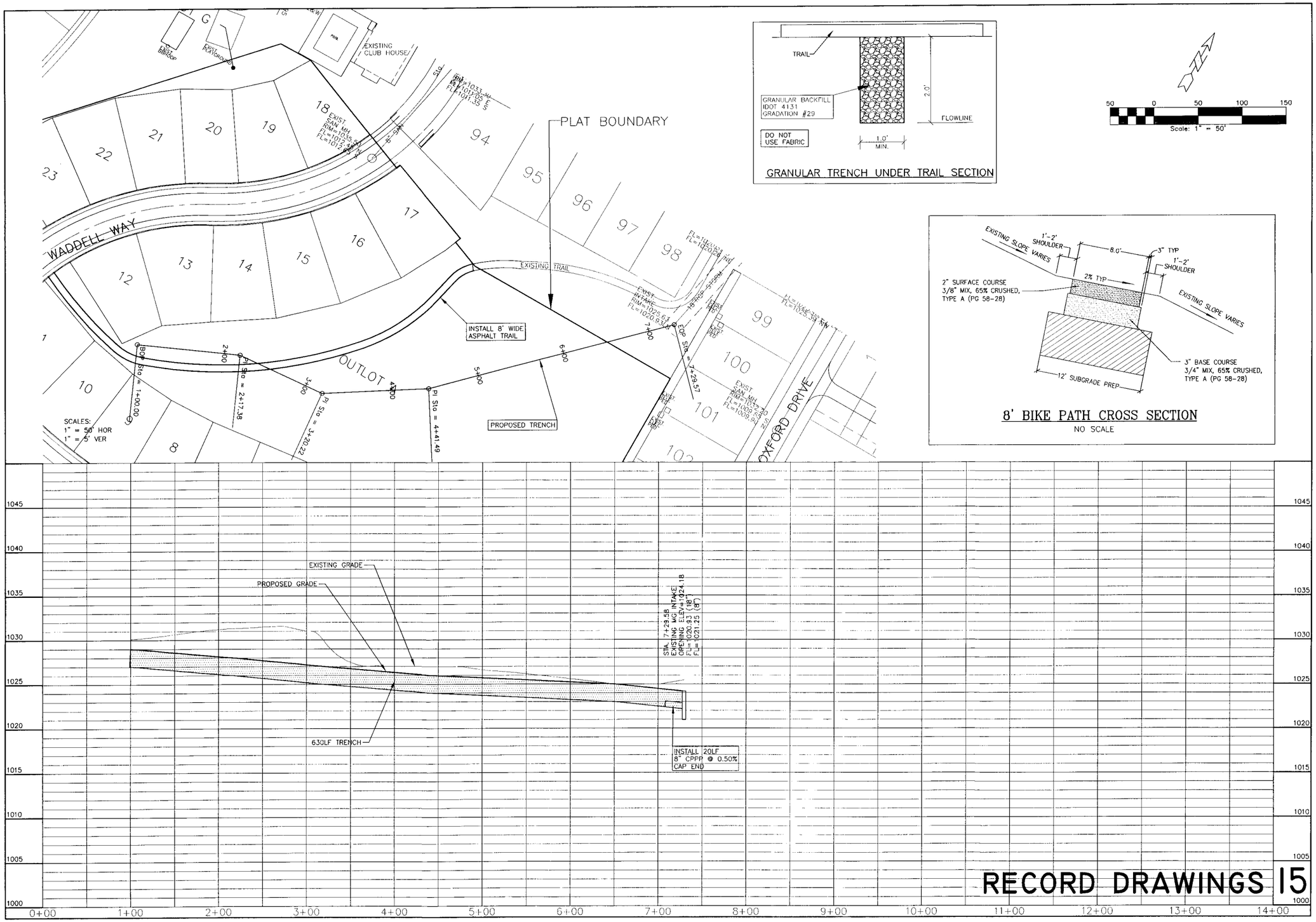

AIDAN STREET - GREENBELT STORM SEWER AND TRAIL

SCALE: 1" = 50'	DESIGNED BY: DJS	DRAWN BY: TEB	
DWG: 7005PP15.DWG	CHECKED BY: DJS	DATE: 07/23/07	
FIELD BOOK:	SHEET 15 OF	FILE NO.: 7005	

LOCATION:

FOR:

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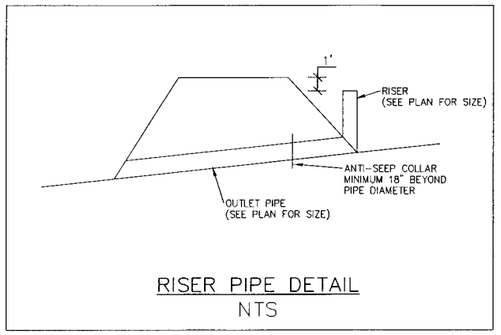
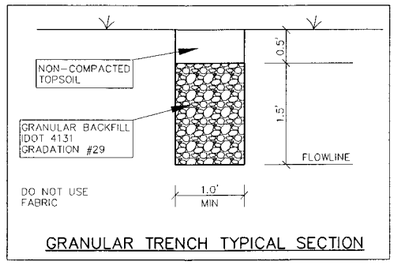
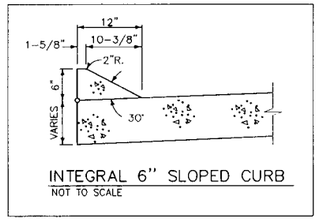


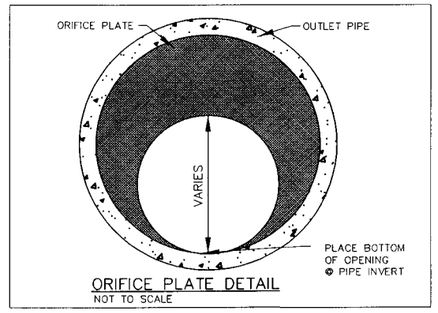
RISER PIPE DETAIL
NTS



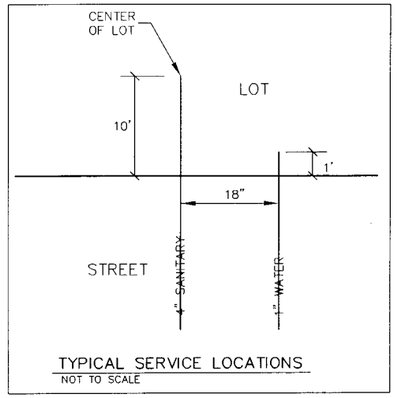
GRANULAR TRENCH TYPICAL SECTION



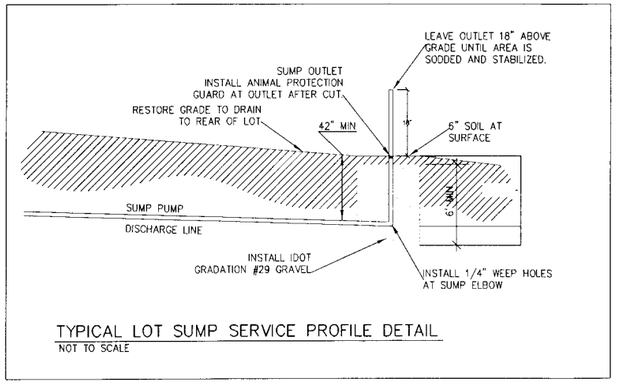
INTEGRAL 6" SLOPED CURB
NOT TO SCALE



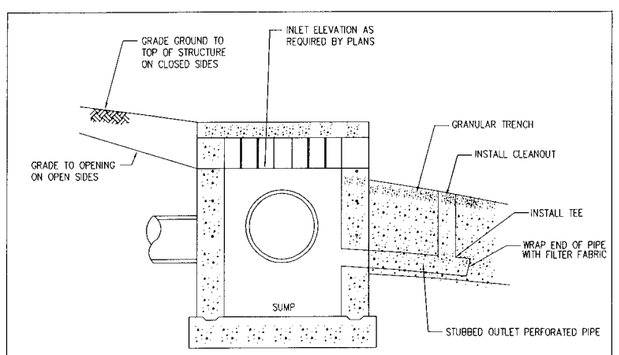
ORIFICE PLATE DETAIL
NOT TO SCALE



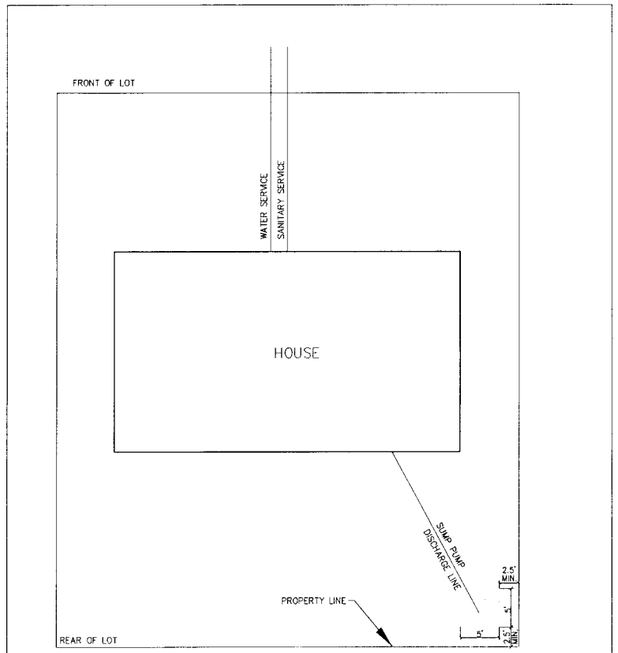
TYPICAL SERVICE LOCATIONS
NOT TO SCALE



TYPICAL LOT SUMP SERVICE PROFILE DETAIL
NOT TO SCALE

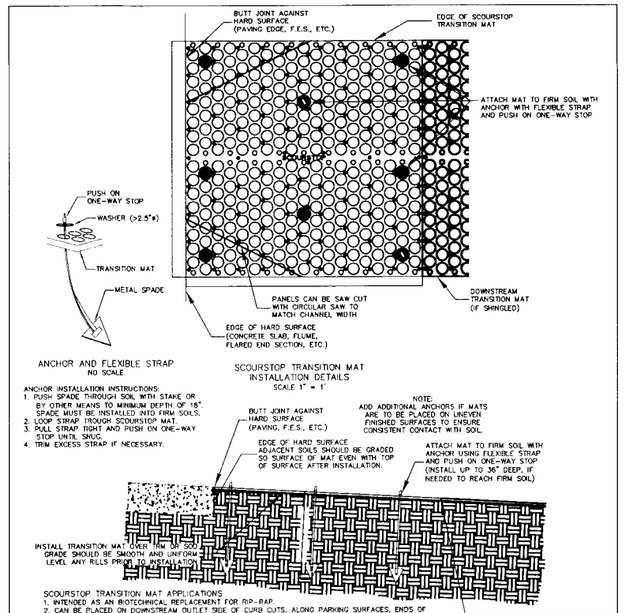


AREA TYPE "M-G" OUTLET
NOT TO SCALE



NOTE: SUMP PITS TO BE INSTALLED BY INDIVIDUAL HOMEBUILDER. PIT SHALL BE LOCATED A MINIMUM OF 1' OUTSIDE OF ANY REAR OR SIDE YARD EASEMENTS. SUMP PITS SHALL BE LOCATED ON THE LOW SIDE OF THE LOT.

TYPICAL LOT SUMP SERVICE PLAN DETAIL
NOT TO SCALE



ANCHOR INSTALLATION INSTRUCTIONS:
1. PUSH SPADE THROUGH SOIL WITH STAKE OR BY OTHER MEANS TO MINIMUM DEPTH OF 18". SPADE MUST BE INSTALLED INTO FIRM SOILS.
2. LOOP STRAP THROUGH SCOURSTOP MAT.
3. PULL STRAP TIGHT AND PUSH ON ONE-WAY STOP UNTIL SNUG.
4. TRIM EXCESS STRAP IF NECESSARY.

SCOURSTOP TRANSITION MAT
INSTALLATION DETAILS
SCALE 1" = 1'

NOTE:
ADD ADDITIONAL ANCHORS IF MATS ARE TO BE PLACED ON UNEVEN FINISHED SURFACES TO ENSURE CONSISTENT CONTACT WITH SOIL.

SCOURSTOP TRANSITION MAT APPLICATIONS
1. INTENDED AS AN BIOTECHNICAL REPLACEMENT FOR RIP-RAP.
2. CAN BE PLACED ON DOWNSTREAM OUTLET SIDE OF CURB CUTS, ALONG PARKING SURFACES, ENDS OF CONCRETE FLUMES OR PIPE FIXTURES.
3. PRIMARY USE TO PROVIDE TRANSITION FROM SMOOTH CONCRETE OR OTHER HARD SURFACE TO TURF REINFORCEMENT MATS (TRMs), SOD, REINFORCED SOD, OR BARE GROUND.
4. ELIMINATES NEED TO INSTALL TRENCH CHECK ON UPSTREAM END OF ADJOINING TRM.
5. SCOURSTOP STANDARD SIZE IS 4' X 4' X 5/8" SHEET WITH MULTIPLE VOIDS FOR VEGETATION GROWTH, PROVIDING SOIL PROTECTION FOR THE SUSCEPTIBLE, EROSIVE AREA DIRECTLY BELOW OUTLETS UNTIL SHEAR FORCE HAS DISSIPATED THROUGH DOWNSTREAM AREA EXPANSION.
6. PRIMARY BENEFITS OVER RIP-RAP ARE: UTILIZATION OF VEGETATION, LOWER INSTALLATION COSTS, LOWER LONG TERM MAINTENANCE, AESTHETICALLY PLEASING MOWABLE GRASS SURFACE, AND IMPROVED SAFETY THROUGH ABSENCE OF JAGGED ROCKS AND TRAPPED DEBRIS.

PREFERRED INSTALLATION SPECIFICATIONS
1. MINIMUM APPLICATION IS 4 FOOT LENGTH.
2. USE WITH OUTLET PIPE SIZES OF 72" OR LESS. PIPE OUTLET FOOTINGS SHOULD NOT EXTEND PAST END OF PIPE, HEADWALL OR FLARED END SECTION.
3. REMOVE AND REPLACE SATURATED SOILS FOR A SOLID BASE. TRICKLE FLOWS COULD BE CAPTURED WITH A SUB-SURFACE DRAIN.
4. CAN BE INSTALLED AS A BUTT JOINT, OR PERMANENTLY ATTACHED TO THE HARD SURFACE.
5. AVOID IMPACT EROSION ONTO THE MATS ARISING FROM 45% CHANGE IN SLOPE BETWEEN DISCHARGE AND OUTLET CHANNEL SLOPES.
6. INSURE LOCATION HAS ADEQUATE SUNLIGHT FOR HEALTHY VEGETATION, OTHERWISE CONSIDER UTILIZING THE HIGH PERFORMANCE TRM INSTALLATION.
7. USE COMPOSITE TRMs ONLY IN LEVEL, LOW FLOW, LOW VOLUME OUTLETS WHERE VEGETATION IS LIKELY TO FULLY ESTABLISH.
8. INSTALL AT LEAST ONE 4' MAT LENGTH FOR EVERY 9" OF PIPE DIAMETER. PANELS MAY BE SHINGLED AS SHOWN. MATS SHALL NOT BE INSTALLED IN PARTIAL LENGTHS.
9. INSTALLATION WIDTH SHALL BE AT LEAST THE SAME SIZE AS THE HARD SURFACE OPENING, WHERE FLOWS DISCHARGE TO WIDE, FLAT AREAS. THE PREFERRED WIDTH OF INSTALLATION IN THIS CASE IS TWICE THE WIDTH OF THE OPENING. WHERE DISCHARGING TO CONFINED CHANNELS, INSTALLATION SHALL EXTEND ACROSS THE ENTIRE CHANNEL BOTTOM, AND UP SIDE SLOPES OF CHANNEL A DISTANCE OF HALF THE DIAMETER OF THE DISCHARGE PIPE OR WIDTH OF CURB OPENING.
10. RECOMMEND BUTTING PANELS TO FIT INTO AND ONTO PIPE APRONS AND CURB OPENINGS TO ALLOW WATER EXPANSION AS SOON AS POSSIBLE ONTO DOWNSTREAM CHANNEL (STABILIZED WITH TRM OR SOD). FOR A PIPE OUTLET WITH NO APRON, TRANSITION MAT SHOULD BE INSTALLED DIRECTLY ABUTTING THE END OF PIPE.
11. PRIOR TO INSTALLATION SOIL SHALL BE GRADED AS LEVEL AND SMOOTH AS POSSIBLE FOR CONSISTENT TRANSITION MAT CONTACT WITH THE SOIL. SOIL ANCHORS SHALL BE DRIVEN AT LEAST 18" DEEP, OR DEEPER AS NEEDED INTO FIRM SOIL. USE FLEXIBLE STRAPPING, FLAT WASHERS (>2.5"ø) AND ONE-WAY STOPS TO ATTACH THE TRANSITION MAT INSTALLATION INTO THE SOIL. FIRMLY PULL STRAP TO SNUG THE TRANSITION MAT DOWN AGAINST THE SOIL WITH THE WASHER AND ONE-WAY STOP. A 3-2-3 ANCHOR CONFIGURATION SHOULD BE ADEQUATE IN MOST CASES.
12. PREFERRED INSTALLATION INVOLVES UTILIZING SOD BENEATH A TURF REINFORCEMENT MAT AND THE TRANSITION MAT TO ELIMINATE THE GERMINATION PERIOD OF VEGETATION. VEGETATION IS CRITICAL TO THE LONG TERM PERFORMANCE (UNLESS A GRAVEL BASE IS PLANNED FOR). INSTALL APPROPRIATE SOIL UNDER THESE INSTALLATIONS TO IMPROVE THE GROWING ENVIRONMENT.
13. TYPE "A" INSTALLATION INSTRUCTIONS (DESIGN OUTLET VELOCITY < 16 FPS): W
INSTALLED ON AREA STABILIZED WITH SOD, ESTABLISHED VEGETATION, OR REINFORCED SOD*.
– TRIM VEGETATION TO 0.5-2.0 INCHES. REMOVE TRIMMINGS.
– INSTALL TRANSITION MAT OVER INSTALLED SOD. TO HOLD SOD IN PLACE DOWNSTREAM OF TRANSITION MAT, INSTALL WIRE STAPLES AT 8' O.C. WITHIN 4' OF UPSTREAM EDGE OF SOD.
– PULL BLADES OF GRASS FROM SOD UP THROUGH OPENINGS OF TRANSITION MAT AFTER INSTALLATION.
– IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
14. TYPE "B" INSTALLATION INSTRUCTIONS (DESIGN OUTLET VELOCITY < 16 FPS):
INSTALLED ON AREA TO BE STABILIZED WITH USE OF A TURF REINFORCEMENT MAT AND SOD.
– TRIM INSTALLED SOD TO 0.5" HEIGHT. INSTALL TRM OVER INSTALLED SOD. THEN INSTALL TRANSITION MAT OVER TRM. IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
– SOD SHOULD EXTEND TO TWICE THE LENGTH OF PROPOSED TRANSITION MAT INSTALLATION. SOD DOWNSTREAM OF MAT INSTALLATION AREA DOES NOT NEED TRIMMED BEFORE MAT INSTALLATION.
– TO HOLD SOD IN PLACE, INSTALL WIRE STAPLES AT 8' O.C. WITHIN 4' OF UPSTREAM EDGE OF SOD.

SCOURSTOP MAT

RECORD DRAWINGS

16

GLYNN VILLAGE PLAT 3 - DETAILS

SCALE:	1" = 50'	DESIGNED BY:	DJS
DWG:	7005DTL.DWG	CHECKED BY:	RPV
FIELD BOOK:		SHEET	16 OF
LOCATION:		DRAWN BY:	PJV
		DATE:	07/23/07
		FILE NO.:	7005

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