

NOTES/CONDITIONS:

- THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE COUNTY OF FAIRFAX.
- THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE FAIRFAX COUNTY CODE AND IN THE PUBLIC FACILITIES MANUAL AS AMENDED. FAILURE TO COMPLY WITH THE FAIRFAX COUNTY CODE, THE PUBLIC FACILITIES MANUAL, THE APPROVED PLANS, THE PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENT PERMIT SHALL BE DEEMED A VIOLATION. THIS PLAN IS SUBJECT TO PROVISIONS OF THE CURRENT PUBLIC FACILITIES MANUAL.
- WATER DISTRIBUTION NOTE:**
ALL FIRE PROTECTION SYSTEMS WHICH ARE INSTALLED IN COMPLIANCE WITH THESE PLANS AND COUNTY OF FAIRFAX ORDINANCES SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES. WHEN NECESSARY TO TEMPORARILY REDUCE OR DISCONTINUE THE PROTECTION IN ORDER TO MAKE TESTS, REPAIRS, ALTERATIONS OR ADDITIONS, NOTIFY THE FAIRFAX COUNTY PUBLIC SAFETY COMMUNICATIONS CENTER AT 691-2131.
- A PERMIT MUST BE OBTAINED FROM THE OFFICE OF THE RESIDENT ENGINEER, VIRGINIA DEPARTMENT OF TRANSPORTATION, FAIRFAX, VIRGINIA BEFORE ANY CONSTRUCTION IS STARTED ON ANY EXISTING STATE ROUTE.
- NOTICE REQUIRED:**
CONTRACTORS SHALL NOTIFY THE "MISS UTILITY" NOTIFICATION CENTER OF PROPOSED EXCAVATION, DEMOLITION, OR BLASTING AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION, DEMOLITION, OR BLASTING IN ACCORDANCE WITH THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT. IN ADDITION, NAMES AND TELEPHONE NUMBERS SHALL ALSO BE USED TO SERVE IN AN EMERGENCY CONDITION AS REQUIRED BY SECTION 63-2-2 OF THE FAIRFAX COUNTY CODE.
CONTACT "MISS UTILITY" AT 1-800-257-7777
- COUNTY INSPECTOR SHALL BE NOTIFIED WHEN ANY IMPROVEMENTS PERTINENT TO HIS INSPECTION DUTIES ARE BEING INSTALLED. SPECIFIC REQUIREMENTS ARE:
A. SITE INSPECTOR OR AREA SUPERVISOR IS TO BE NOTIFIED AT LEAST 3 DAYS PRIOR TO START OF CONSTRUCTION.
B. A MINIMUM OF 24 HOURS NOTICE IS REQUIRED WHEN REQUESTING COMPACTION TESTS AND RESIDENTIAL OR NON-RESIDENTIAL USE PERMITS.
C. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED WHEN REQUESTING TESTS PERTAINING TO SANITARY SEWER ACCEPTANCE.
- ALL SURFACED STREETS SHALL BE MAINTAINED IN A CLEAN CONDITION; FREE OF DUST, MUD OR SNOW AT ALL TIMES. THE DEVELOPER SHALL PROVIDE ADEQUATE MEANS TO CLEAN TRUCKS AND OTHER EQUIPMENT USING SURFACED STREETS.

FLOODPLAIN NARRATIVE

THE PURPOSE OF THIS STUDY IS TO CONNECT THE EXISTING APPROVED FRANKLIN MANOR FLOODPLAIN STUDY (FAIRFAX COUNTY PLAN #7088-FP-01) WITH THE EXISTING APPROVED THOMPSON'S MOOR FLOODPLAIN STUDY (FAIRFAX COUNTY PLAN #9820-FP-01-2). THE TWO FLOODPLAIN STUDIES DELINEATED THE FLOODPLAIN ALONG TWO DIFFERENT SECTIONS OF FLATLICK BRANCH IN THE CUB RUN WATERSHED. THE LIMITS OF THE PREVIOUS STUDIES ARE SEPARATED BY 902 LINEAR FEET OF STREAM. FOR THE PURPOSES OF THIS STUDY, EXISTING BOUNDARY CONDITIONS, SUCH AS DISCHARGES AND STARTING WATER SURFACE ELEVATIONS, FROM THE AFOREMENTIONED STUDIES WERE USED.

DEWBERRY AND DAVIS PERFORMED THE EXISTING FRANKLIN MANOR FLOODPLAIN STUDY IN 1988. A DRAINAGE AREA OF 485 ACRES IN DEVELOPED CONDITIONS COMPRISED THE STUDY. CROSS-SECTIONS COVER 1200 FEET DOWNSTREAM OF THIS STUDY. THE FRANKLIN MANOR FLOODPLAIN STUDY INCLUDED THREE ROAD CROSSINGS, INCLUDING A 54" RCP, A 9" BY 8" TRIPLE BOX CULVERT, AND A 10" BY 8" TRIPLE BOX CULVERT. DUE TO THE AGE OF THE FRANKLIN MANOR STUDY, CROSS-SECTION GEOMETRY AND STRUCTURE INVERTS FROM STATIONS 19+75 TO 14+48 WERE FIELD VERIFIED. THE FIELD VERIFIED VALUES ARE DEPICTED IN THIS STUDY. FLOWS WERE TAKEN FROM THE 1984 FRANKLIN GLEN FLOODPLAIN STUDY AND THE USGS FLOODPLAIN STUDY FOR CUB RUN BASIN AND WERE VERIFIED USING THE ANDERSON METHOD AND THE USGS VA FLOOD FREQUENCY EQUATION (SEE SHEET 7). THE CHANGE IN FLOW AT STATION 10+20 REPRESENTS THE FLOW 1000' DOWNSTREAM OF THE FRANKLIN MANOR PROPERTY AT A LOCATION IN WHICH THE USGS REPORTED A DEVELOPED FLOW OF 2000 CFS (SEE SHEET 7). THE FLOW USED AT STATION 19+75 REPRESENTS THE FLOW CORRESPONDING TO THE 1984 FRANKLIN GLEN FLOODPLAIN STUDY AND A DEVELOPED FLOW OF 1535 CFS (SEE SHEET 7). THE FRANKLIN MANOR STUDY INCORPORATES THE ENTIRE DRAINAGE AREA OF THIS STUDY.

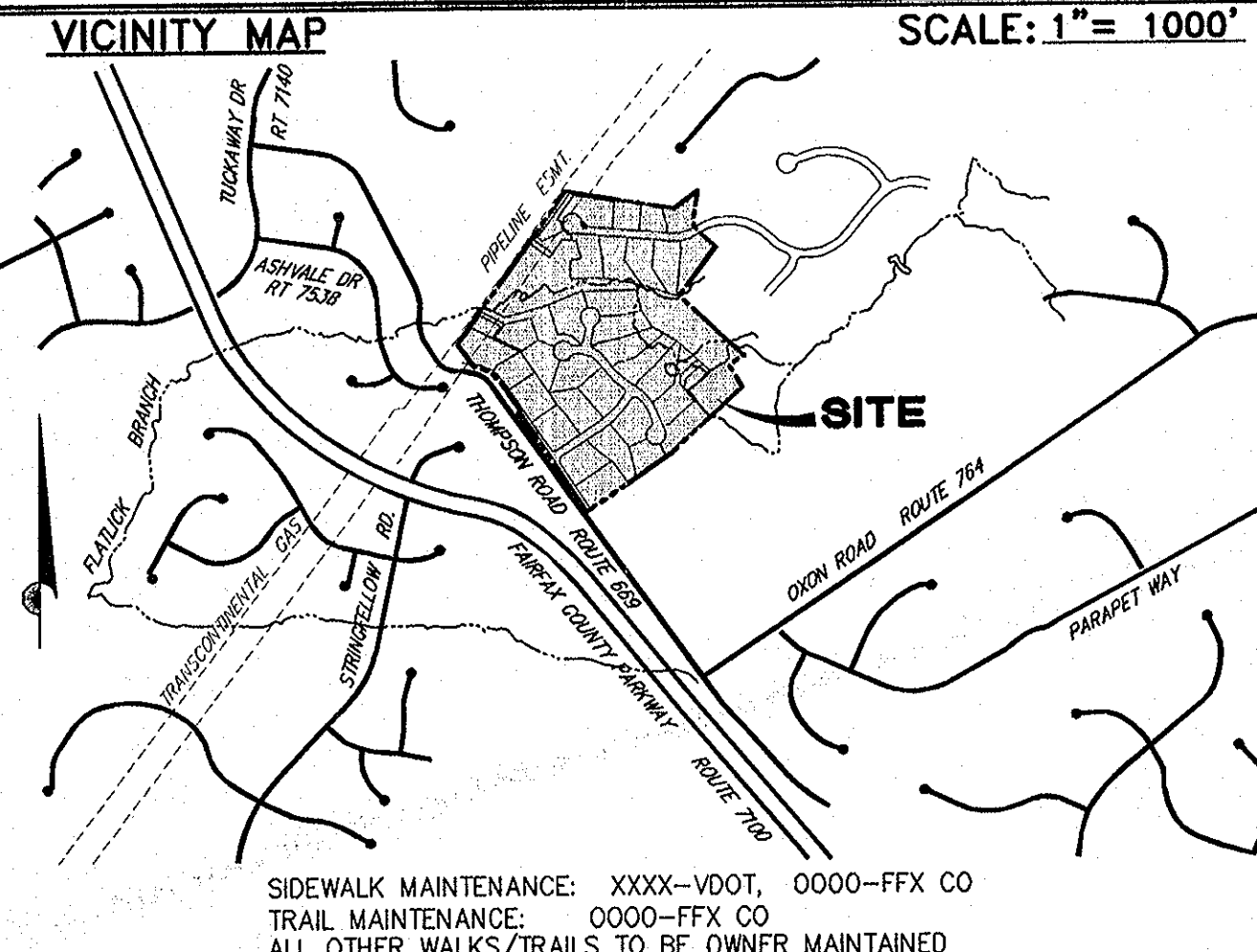
THE EXISTING THOMPSON'S MOOR FLOODPLAIN STUDY WAS PERFORMED IN 1998 BY BC CONSULTANTS, INC. THIS FLOODPLAIN STUDY CONTINUED BASELINE STATIONING USED BY DEWBERRY AND DAVIS IN THE FRANKLIN MANOR FLOODPLAIN STUDY. HOWEVER, THE THOMPSON'S MOOR FLOODPLAIN STUDY WAS PERFORMED IN METRIC UNITS (NOTE METRIC SCALE ON SHEETS 8 AND 9). THE CROSS-SECTIONS WERE SURVEYED USING THE COUNTY'S PERMANENT BENCHMARK

MOOR FLOODPLAIN STUDY INCLUDED A POND WITH A NORMAL WATER SURFACE ELEVATION OF APPROXIMATELY 359.5 FEET. A 2' CULVERT UNDER A PRIVATE DRIVEWAY WAS ALSO INCLUDED IN THE 1998 STUDY. A NARRATIVE DESCRIBING THE FLOODPLAIN METHODOLOGY AS WELL AS THE HYDROLOGIC CALCULATIONS USING THE ANDERSEN METHOD CAN BE FOUND ON SHEET 8. BOTH THE FLOWS AND THE CROSS-SECTIONS WERE USED IN ENGLISH UNITS AS PART OF THIS COMBINED STUDY.

THIS FLOODPLAIN STUDY SEEKS TO COMPLETE THE 902 LINEAR FEET SEPARATING TWO AFOREMENTIONED STUDIES. FOUR ADDITIONAL CROSS-SECTIONS WERE FIELD SURVEYED (MAXIMUM DISTANCE OF 263 FEET BETWEEN CROSS-SECTIONS). FOR THIS STUDY, CROSS-SECTIONS WERE ADDED AT STATIONS 28+22, 25+59, 22+97, AND 22+14. THE NEW SECTIONS ARE DEPICTED IN THIS STUDY AND BASED ON THE COUNTY'S PERMANENT BENCHMARK #UB-427, WHICH WAS USED IN A PREVIOUS STUDY.

FLOW CALCULATIONS FROM THE TWO AFOREMENTIONED STUDIES COMPLETELY ENCOMPASS THE DRAINAGE TO THE FOUR ADDITIONAL CROSS-SECTIONS USED TO MODEL THE 902 FEET BETWEEN THE TWO STUDIES. TRIBUTARIES OR OTHER CONFLUENCES THAT MAY CONTRIBUTE SIGNIFICANT FLOW TO THE FLOODPLAIN OF FLATLICK BRANCH ARE NOT PRESENT ALONG THE ADDITIONAL 902 LINEAR FEET OF STREAM (STATION 28+77 TO STATION 19+75). THUS, FLOWS FROM THE AFOREMENTIONED STUDIES WERE USED.

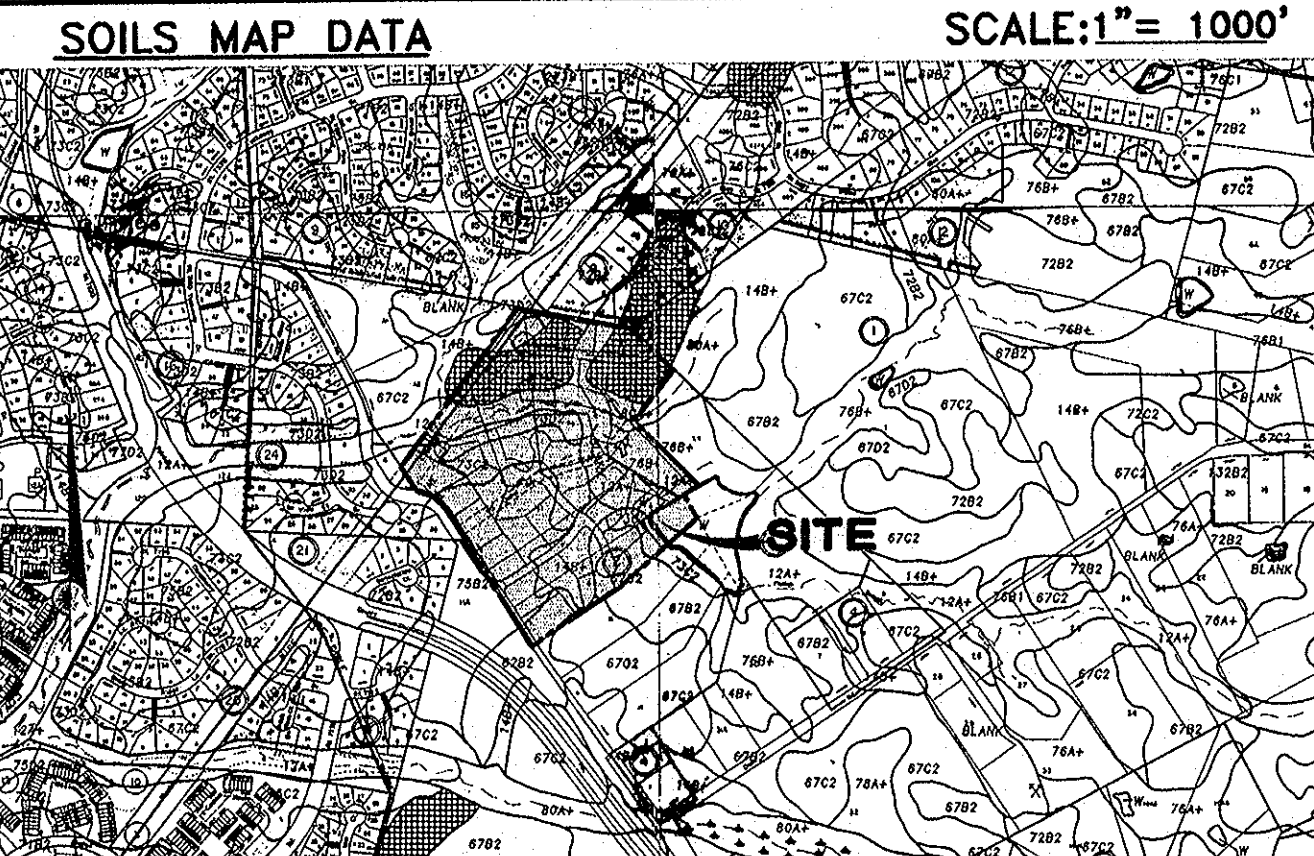
THE STARTING WATER SURFACE ELEVATION FOR STATION 10+20 WAS SET AT 328.86 TO CORRELATE WITH THE STUDY PERFORMED BY DEWBERRY AND DAVIS. ALL HEC-RAS INPUT AND OUTPUT IS INCLUDED IN THIS PLAN SET.



SIDEWALK MAINTENANCE: XXXX-VDOT, 0000-FFX CO
TRAIL MAINTENANCE: 0000-FFX CO
ALL OTHER WALKS/TRAILS TO BE OWNER MAINTAINED

TAX MAP REFERENCE NUMBER(S)

MAP PAGE #	DOUBLE CIRCLE #	BLOCK (SINGLE CIRCLE #)	LOT/PARCEL(S) #
35-3	2		E1, F1, G, B, C1, D2, M2



SOILS MAP SOURCE: COUNTY MAP; PRIVATE SOILS SCIENTIST (FOR UNMAPPED SITES)

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SUBSURFACE DRAINAGE	SLOPE STABILITY	ERODABILITY	PROBLEM CLASS
12	ROWLAND	POOR	POOR	GOOD	SLIGHT	A-YES
14	MANASSAS	FAIR	MARGINAL	GOOD	MODERATE	B-NO
62	BRECKNOCK	GOOD	FAIR	GOOD	MODERATE	C-NO
67	PENN FSL	GOOD	FAIR	GOOD	SEVERE	C-NO
73	PENN (SIL)	GOOD	FAIR	GOOD	SEVERE	C-NO
75	PENN (L)	GOOD	GOOD	GOOD	SEVERE	C-NO

SOILS WITH IDENTIFICATION NUMBERS 59, 66, 69, 141, 142, AND 152 MAY OVERLIE PARENT BEDROCK FORMATIONS WHICH HAVE BEEN FOUND TO CONTAIN NATURALLY OCCURRING ASBESTOS MINERALS. SPECIAL MINIMUM CONSTRUCTION MEASURES AND PRECAUTIONS ARE REQUIRED IN COMPLIANCE WITH HEALTH DEPARTMENT DIRECTIVES WITHIN THESE SOILS OR WITHIN FILL ORIGINATING FROM THESE SOILS.

SANITARY TREATMENT PLANT: UPPER OCCOQUAN REGIONAL
WATERSHED: CUB RUN

OWNERSHIP INFORMATION

- OWNER OF PARCEL E1: DON AND KATHLEEN SCHEUERLE
ADDRESS: 13032 THOMPSON ROAD FAIRFAX, VA 22033 DB 05287 PG 0419
- OWNER OF PARCEL F1: CLEVELAND HARLOW, JR.
ADDRESS: 13028 THOMPSON ROAD FAIRFAX, VA 22033 DB 03762 PG 0275
- OWNER OF PARCEL B: RYAN LEE GUYER
ADDRESS: 13100 THOMPSON ROAD FAIRFAX, VA 22033 DB 06525 PG 1531
- OWNER OF PARCEL C1: NAME WITHHELD
ADDRESS: 13060 THOMPSON ROAD FAIRFAX, VA 22033 DB 02737 PG 0027
- OWNER OF PARCEL G: FRANK AND JOAN MARIE McDONALD
ADDRESS: 13024 THOMPSON ROAD FAIRFAX, VA 22033 DB 03375 PG 0381
- OWNER OF PARCEL D2: SCOTT AND PATRICIA MEYER
ADDRESS: 13042 THOMPSON ROAD FAIRFAX, VA 22033 DB 07549 PG 1874
- OWNER OF PARCEL M2: KATHERINE AND RONALD MAINES
ADDRESS: 13422 ELLIOTT ANN COURT HERNDON, VA 20171 DB 11353 PG 0966

REVIEW FEE COMPUTATION

PLAN TYPE	QUANTITY	FEE	COUNTY USE ONLY
FLOODPLAIN STUDY (FP)			
\$1.15 PER BASELINE FOOT	902 L.F.	= \$1,037	
\$250.00 PER DAM/ROAD CROSSING	0	= \$0	
TOTAL		= \$1,037	

SHEET INDEX

- COVER SHEET
- OVERALL STUDY AREA WITH CROSS-SECTIONS
- FRANKLIN MANOR FLOODPLAIN STUDY (FOR INFORMATION ONLY)
- FRANKLIN MANOR FLOODPLAIN STUDY (FOR INFORMATION ONLY)
- FRANKLIN MANOR FLOODPLAIN STUDY (FOR INFORMATION ONLY)
- THOMPSON'S MOOR FLOODPLAIN STUDY (FOR INFORMATION ONLY)
- THOMPSON'S MOOR FLOODPLAIN STUDY (FOR INFORMATION ONLY)
- FLOODPLAIN DELINEATION PLAN- EXISTING CONDITIONS: STA 07+75 - STA 21+00
- FLOODPLAIN DELINEATION PLAN- EXISTING CONDITIONS: STA 21+00 - STA 34+00
- FLOODPLAIN DELINEATION PLAN- EXISTING CONDITIONS (PLAN VIEW): STA STA 21+00 - STA 34+00
- FLOODPLAIN DELINEATION PLAN- EXISTING CONDITIONS: STA 34+00 - STA 44+69
- FLOODPLAIN DELINEATION PLAN- EXISTING CONDITIONS (PLAN VIEW): STA 34+00 - STA 44+69
- STREAM CROSS-SECTIONS- EXISTING CONDITIONS: STA 44+66 - STA 36+19
- STREAM CROSS-SECTIONS- EXISTING CONDITIONS: STA 34+22 - STA 22+97
- STREAM CROSS-SECTIONS- EXISTING CONDITIONS: STA 22+14 - STA 7+75
- HEC-RAS INPUT/OUTPUT DATA- EXISTING CONDITIONS
- HEC-RAS INPUT/OUTPUT DATA- EXISTING CONDITIONS
- HEC-RAS INPUT/OUTPUT DATA- EXISTING CONDITIONS
- HEC-RAS INPUT/OUTPUT DATA- EXISTING CONDITIONS

COUNTY OF FAIRFAX
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES

JOB NO: 9820 - FP-02
TITLE: Thompson Rd Pophub

Approval Recommended: [Signature]

APPROVED: [Signature] Date: 8/24/03

APPROVED FOR ENGINEERING ONLY. NOT FOR CONSTRUCTION

ENGINEER'S/SURVEYOR'S CERTIFICATE:
THIS PROPERTY IS IN THE NAME OF SEE THIS SHEET AS RECORDED IN DEED BOOK _____ PAGE _____ OF THE LAND RECORDS OF FAIRFAX COUNTY, VA

PROFESSIONAL SEAL AND SIGNATURE: [Signatures]

DATE: _____ DATE: _____ DATE: _____

DESIGNATED PLANS EXAMINER CERTIFICATE

1st SUBMISSION REVIEWED & RECOMMENDED FOR SUBMISSION: _____
2nd SUBMISSION REVIEWED & RECOMMENDED FOR APPROVAL: _____

DESIGNATED PLANS EXAMINER: _____
DATE: _____ REG. NO.: _____

RECOMMEND APPROVAL: _____
DATE: _____

FAIRFAX COUNTY DEPT OF PUBLIC WORKS (STREET LIGHTS)
PUBLIC WATER AGENCY
LIQUID WASTE DISPOSAL
SPECIAL PROJECTS BRANCH (GEOTECHNICAL)
SPECIAL PROJECTS BRANCH (WATER QUALITY/E & S/ STORM DRAINAGE)
FAIRFAX COUNTY FIRE MARSHAL
NORTHERN VIRGINIA SOIL & WATER CONSERVATION DISTRICT
FAIRFAX COUNTY HEALTH DEPARTMENT
VIRGINIA DEPARTMENT OF TRANSPORTATION
PLAN REVIEWER-SITE REVIEW BRANCH
SITE REVIEW BRANCH CHIEF

APPROVED: _____
DATE: _____ BY: _____ DIRECTOR OF ENVIRONMENTAL MANAGEMENT; FAIRFAX COUNTY, VA

THIS PLAN SHALL EXPIRE WITHOUT NOTICE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE COUNTY CODE. REVISIONS DO NOT EXTEND THE APPROVAL PERIOD. THE APPROVAL PERIOD IS INDEPENDENT OF THE AGREEMENT EXPIRATION DATE.

THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE PUBLIC SANITARY SEWER

APPROVAL NOTES / CONDITIONS:

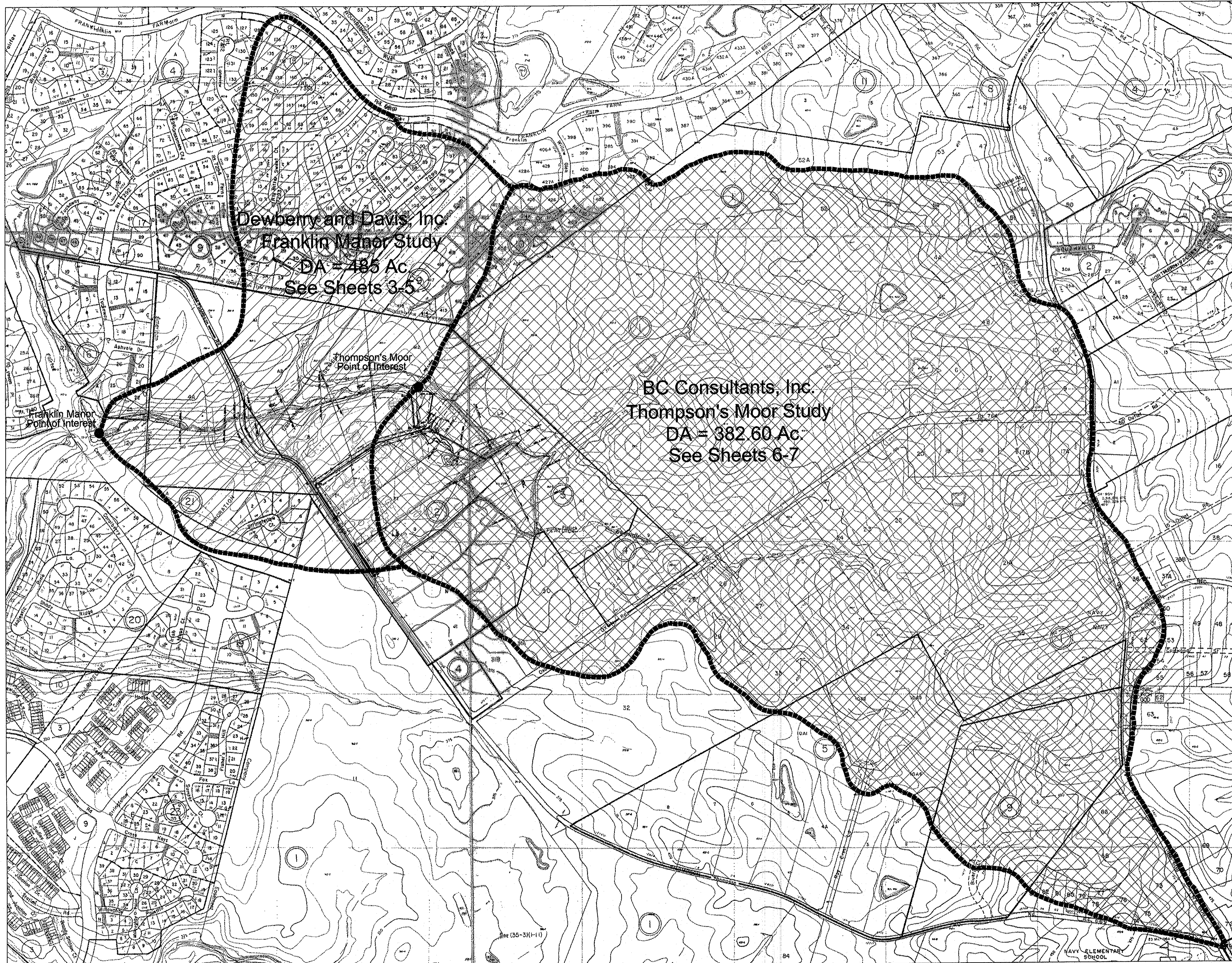
CERTIFIED ARCHITECT/ENGINEER OR SURVEYOR: **BC Consultants** (703) 449-8100

{ } OWNER TRUSTEE SEE THIS SHEET NAME PHONE { } A CORPORATION { } A PARTNERSHIP { } AN INDIVIDUAL

{ } DEVELOPER CONTRACT OWNER LESSEE SEE THIS SHEET ADDRESS AND ZIP CODE NAME PHONE { } A CORPORATION { } A PARTNERSHIP { } AN INDIVIDUAL

DESIGN ENGINEER / SURVEYOR
BC Consultants
 Planner - Engineer - Surveyor - Landscape Architects
 12800 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
 (703) 449-8100 Fax: (703) 449-8108
 www.bcconsultants.com
 PROJECT COORDINATOR: [Signature]
 CHECKED BY: SUBMITTED BY: DFE
 COUNTY REVIEWER: [Signature]
 COUNTY NUMBER: 0000-FP-01-9820-FP-02-1
 PLAN CONTROL TECHNICIAN: [Signature]
 SHEET 1 OF 19
 FLOODPLAIN STUDY
THOMPSON ROAD PROPERTY
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA
 OSDA Ref: Copy 1

OVERALL DRAINAGE MAP
SCALE 1" = 300'



Dewberry and Davis, Inc.
Franklin Manor Study
DA = 485 Ac.
See Sheets 3-5

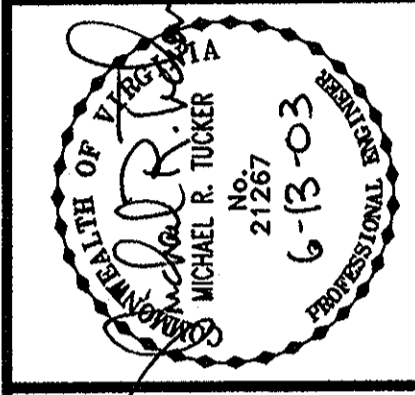
BC Consultants, Inc.
Thompson's Moor Study
DA = 382.60 Ac.
See Sheets 6-7

PERMANENT COUNTY BENCHMARK DESCRIPTION

STATE: Virginia	TYPE OF MARK:	AGENCY (ESTABLISHED BY):
COUNTY: Fairfax	STATION:	DEU Surveys
TAX MAP:	DE-427	PLANNING ON MARK: Chris Square
OWNER:		ELEVATION OF UNDISTURBED:
HERODON:		REVISION: REVISION:
		DATE: 1/27/2008
		PROJECT:

Starting at the intersection of Lees Corner Road and Thompson Road proceed N+ along Thompson Road for approximately 2.3 miles to house #12710. UE is Chris Square on the south end of a conc. retaining wall on east side of a gravel driveway approximately 40' north of S of Thompson Road.

BC Consultants
Planners • Engineers • Surveyors • Landscape Architects
12800 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
(703)449-8100 (703)449-8108 (Fax)
www.bccon.com



OVERALL FLOODPLAIN STUDY MAP
THOMPSON ROAD
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

BC REVISIONS
OWNER: WINCHESTER HOMES 6905 ROCKLEDGE DRIVE SUITE 800 BETHESDA, MD 20817
DESIGNED BY: ML
DRAFTED BY: CAD
CHECKED BY: MRT
DATE: JUNE, 2003
SCALE: HOR: 1" = 300' VERT.
SHEET 2 OF 19
CO. NO. 0000-XX-00
CAD NAME: 7060FLD.DWG
LAYOUT: OVERALL
FILE NO. 97060-33

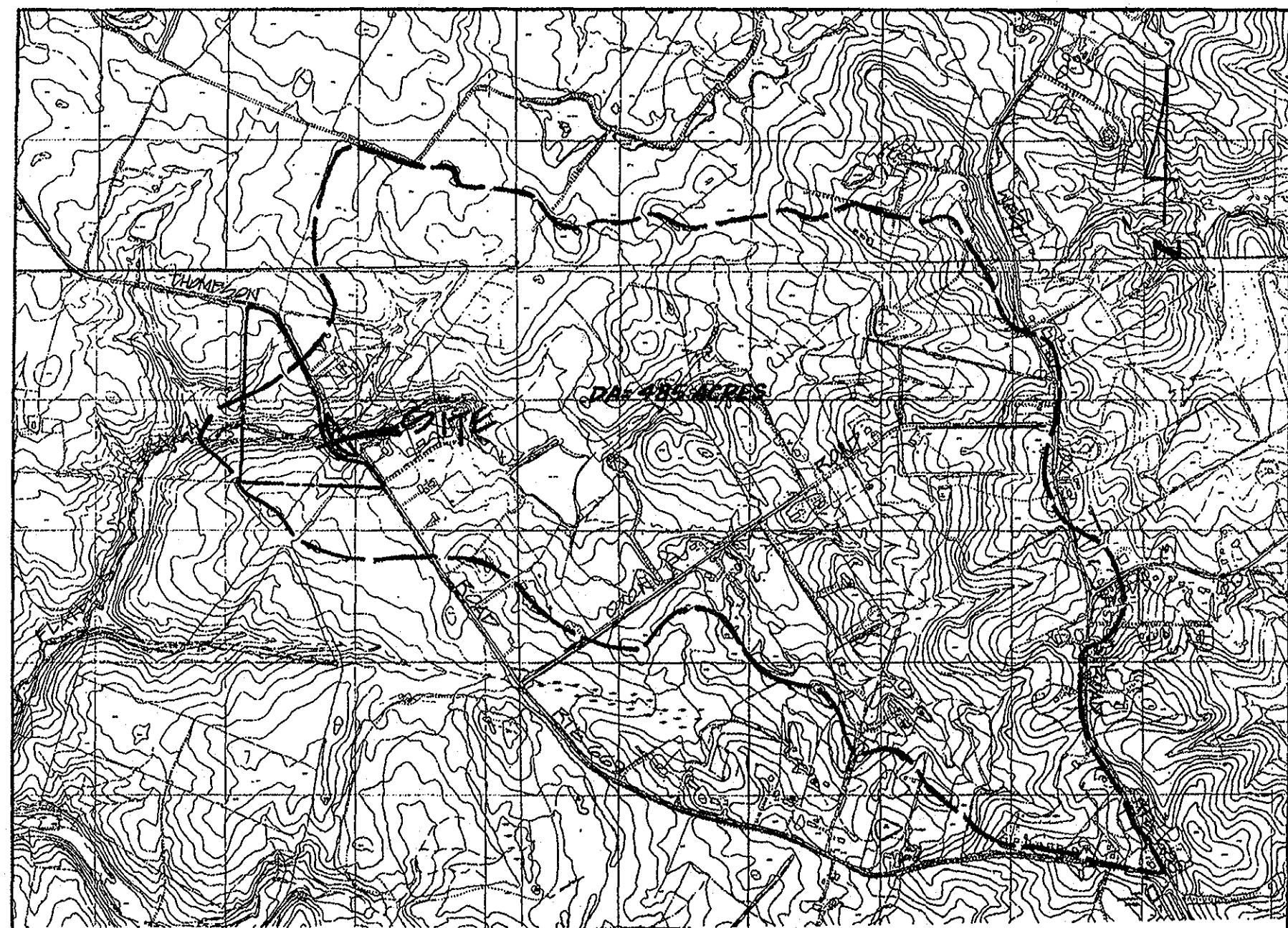
V:\PROJECTS\7060\CAD\FILES\FLOOD STUDY\7060FLD.DWG, OVERALL, 01/27/2008 05:41:14 PM

PLOT: 7060FLD-BRDR, 7060BAS

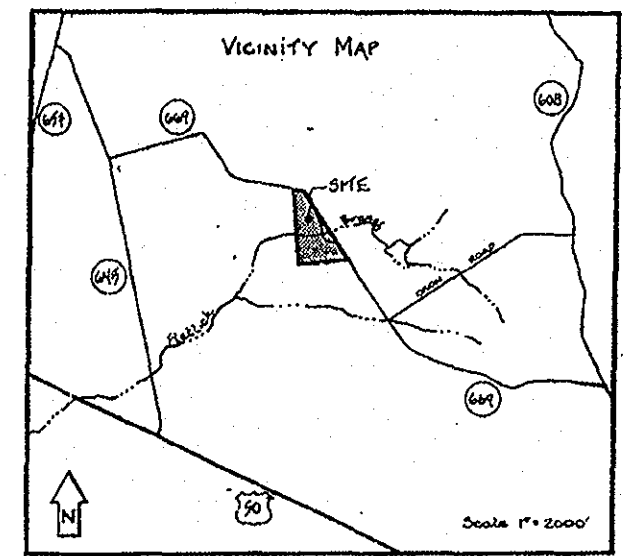
FLOOD PLAIN STUDY

REC'D
1-13-03
FFXC

Dewberry & Davis
Architectural Registration Planners Surveyors



Drainage Basin Map
Scale: 1" = 500'



COUNTY OF FAIRFAX
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF FLOOD CONTROL
OFFICE OF FLOOD CONTROL
2200 GOLF LINKS DRIVE
FAIRFAX, VIRGINIA 22031
APPROVED: [Signature]
DATE: 01/13/03

PRINTED
JAN 7 2003
DEWBERRY & DAVIS

COUNTY NUMBER	7038-FP-01	SHEET	AS SHOWN
MAP REFERENCE	35-3 (11) 4,5,6,7	OF	5
DATE	NOV 1987		
PRICE	\$1500.00		

7038-FP-01-1 ACR

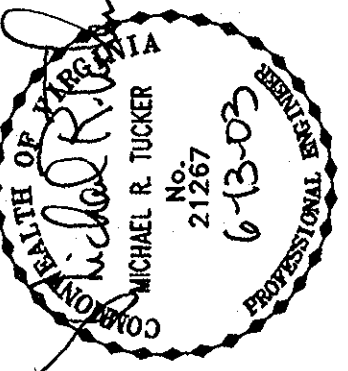
COVER SHEET
FRANKLIN MANOR
PLATLUCK BRANCH FLOOD PLAIN STUDY
PLATLUCK BRANCH, FAIRFAX COUNTY, VIRGINIA

NO.	DESCRIPTION	APPROVED BY	DATE

REVISIONS BY: Dewberry & Davis

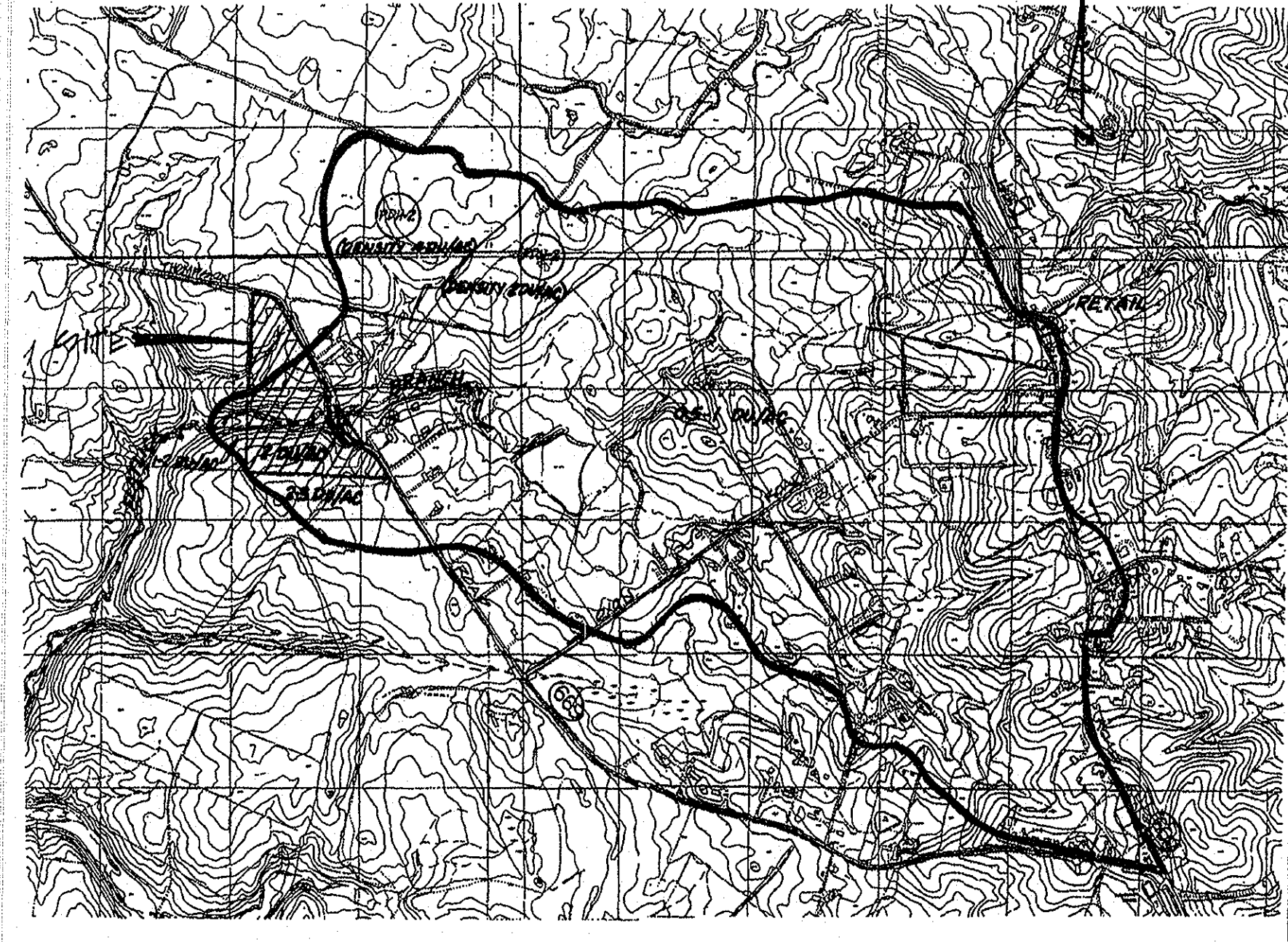


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THIS SHEET FOR INFORMATION ONLY

FRANKLIN MANOR FLOODPLAIN STUDY
THOMPSON ROAD
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

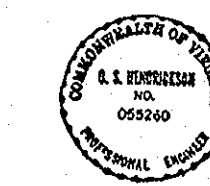


Land Use Map
Scale: 1" = 500'
(Preliminary Construction)
Sources: FAIRFAX COUNTY COMPREHENSIVE LAND USE PLAN
ADOPTED: JUNE 2002
FAIRFAX COUNTY ZONING MAPS, 1998
FAIRFAX COUNTY ZONING MAPS, 1992
FAIRFAX COUNTY ZONING MAPS, 1987
PROPOSED SITE DEVELOPMENT, 2003

REC'D
1-13-03
FFXC

Dewberry & Davis
Architectural Registration Planners Surveyors

COUNTY NUMBER	7038-FP-01	SHEET	AS SHOWN
MAP REFERENCE	35-3 (11) 4,5,6,7	OF	5
DATE	NOV 1987		
PRICE	\$1500.00		

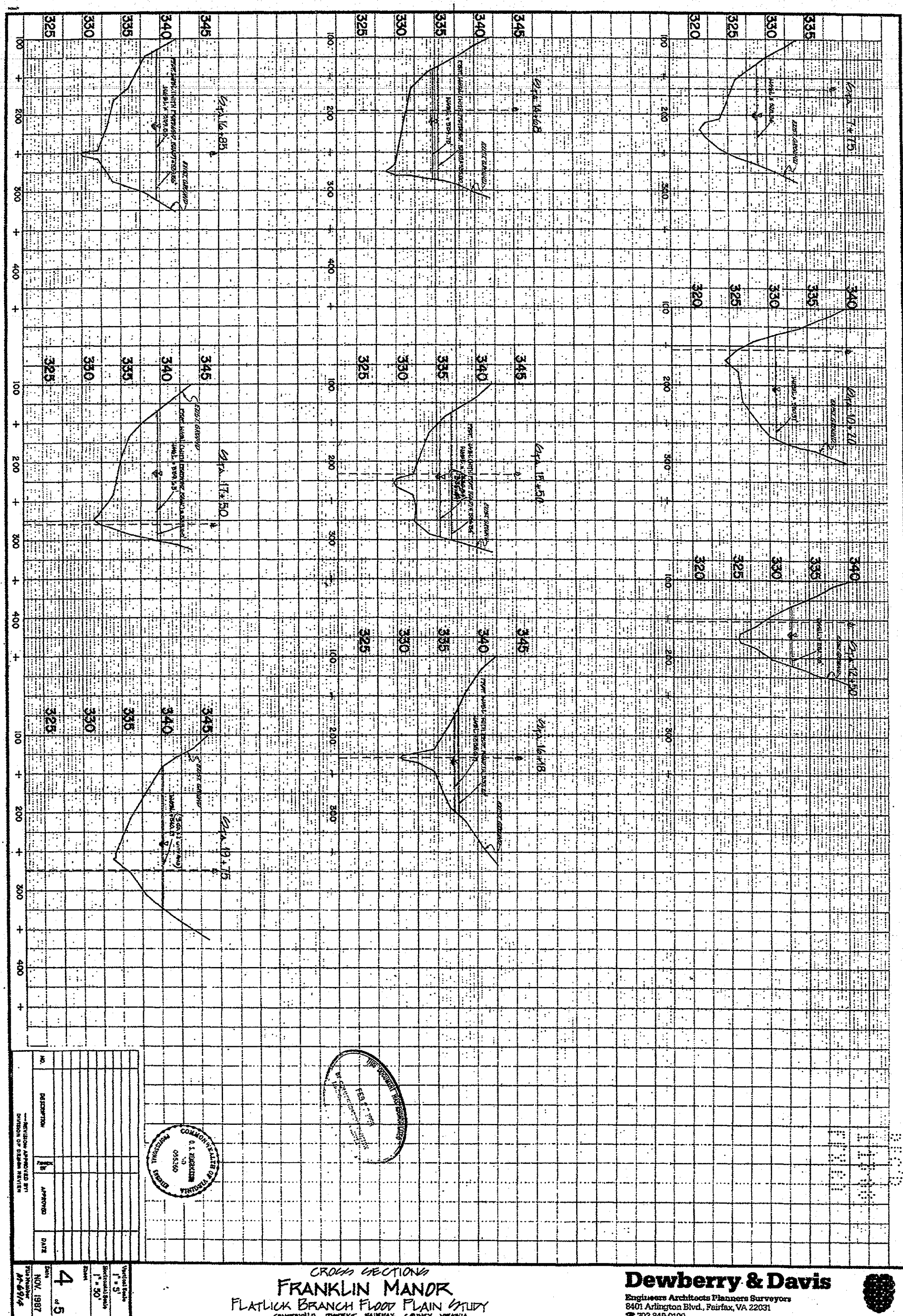
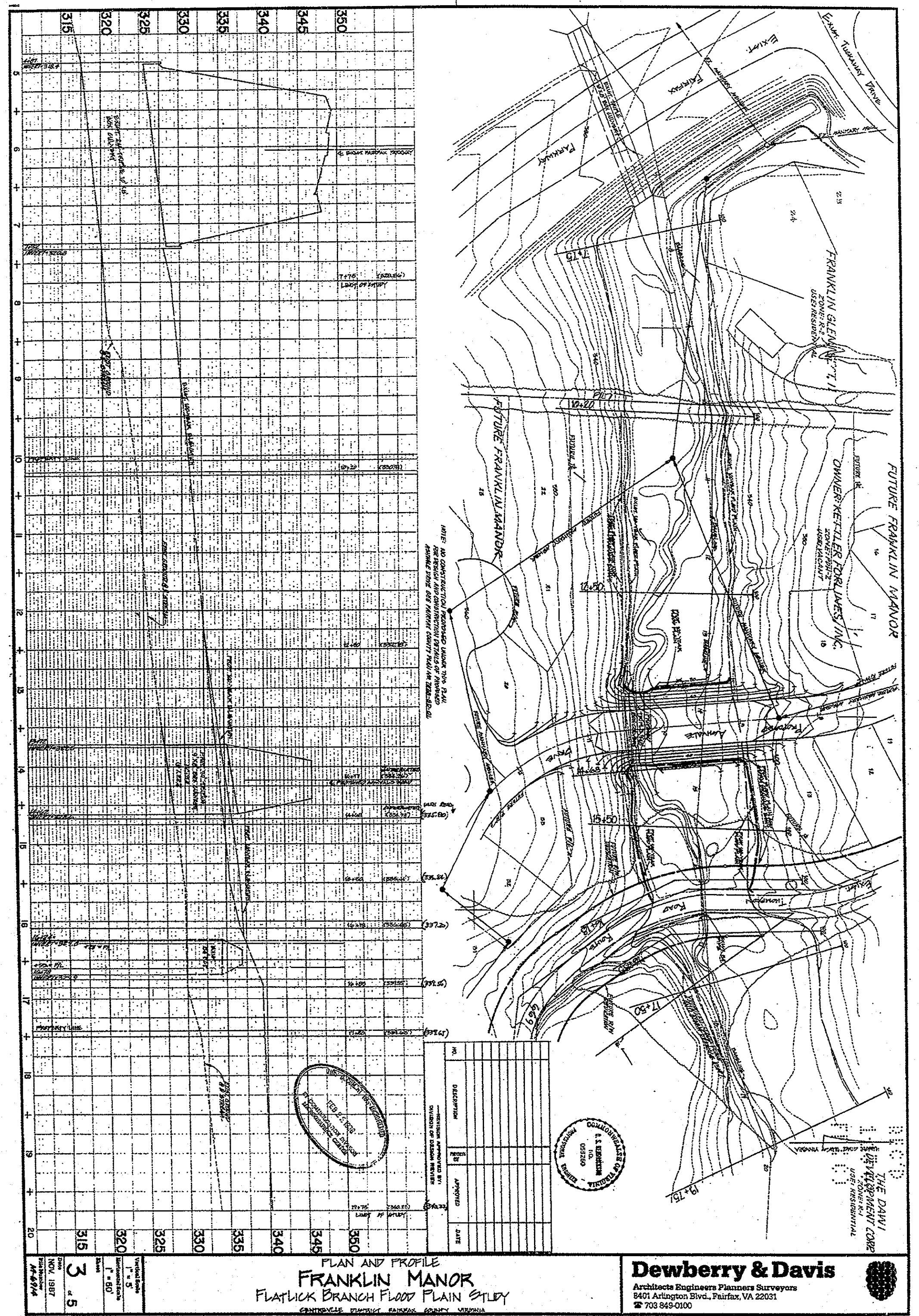


FRANKLIN MANOR FLOODPLAIN STUDY
LAND USE & IMPERVIOUS AREA CALCULATIONS
FRANKLIN MANOR
PLATLUCK BRANCH FLOOD PLAIN STUDY
PLATLUCK BRANCH, FAIRFAX COUNTY, VIRGINIA

DESIGNED BY: ML
DRAFTED BY: CAD
CHECKED BY: MRT
DATE: JUNE, 2003
SCALE: HOR. NTS
VERT.
SHEET 3 OF 19
CO. NO. 0000-XX-00
CAD NAME: 7060-FLD-FM
LAYOUT: FM-1
FILE NO. 97060-33

NO.	DESCRIPTION	APPROVED BY	DATE

PROJECT: 7060 CAD FILE: 7060-FLD-FM-1, 6/12/2003, 5:58:03 PM



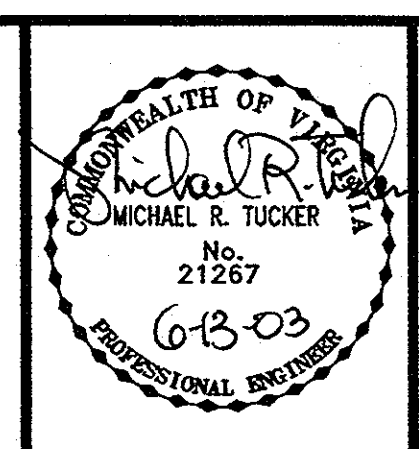
THIS SHEET FOR INFORMATION ONLY

BC REVISIONS	
DESIGNED BY: ML	
DRAWN BY: CAD	
CHECKED BY: WRT	
DATE: JUNE, 2003	
SCALE: HOR. NTS	
VERT.	
SHEET 4 OF 19	
CO. NO. 0000-XX-00	
CAD NAME: 7080-FLD-FM	
LAYOUT: FM-2	
FILE NO. 97080-33	

FRANKLIN MANOR FLOODPLAIN STUDY

THOMPSON ROAD

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

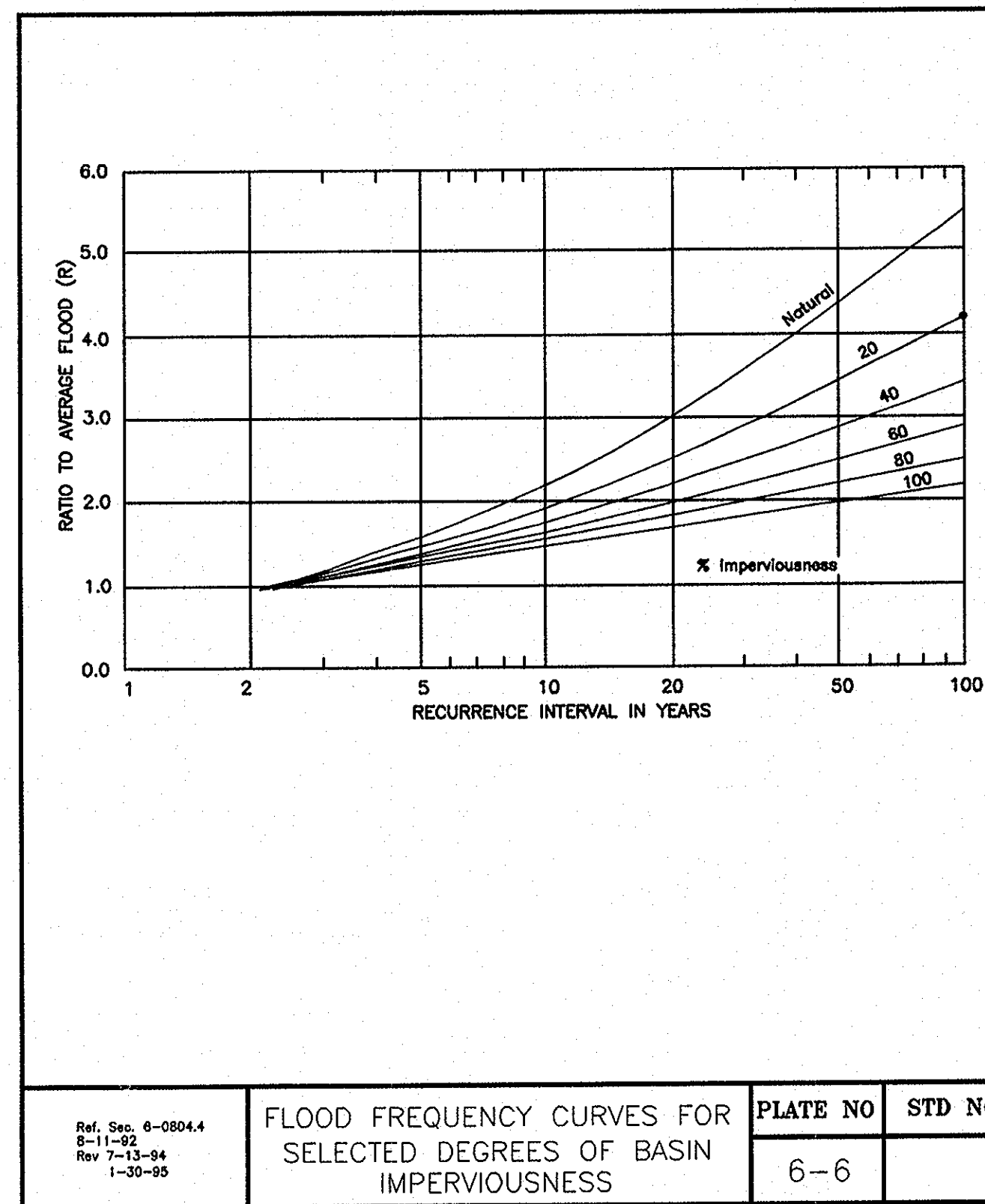


BC Consultants

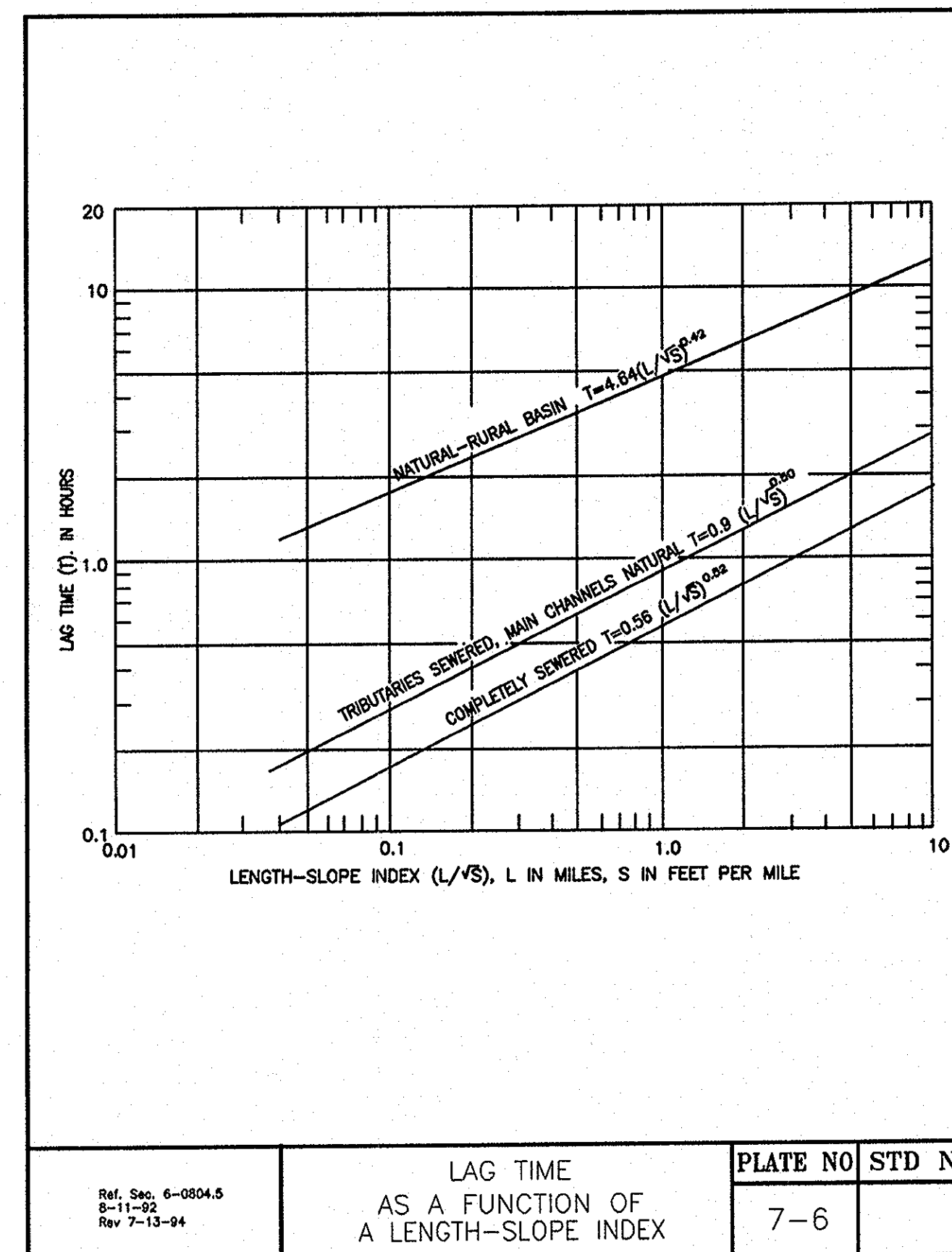
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www.bccon.com

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



**FOR INFORMATION PURPOSES ONLY
NOTE METRIC SCALE**

ANDERSON METHOD COMPUTATIONS

- I = Percent Impervious
= 20% (SEE PFM Table 6.6)
- K = Coefficient of Imperviousness
= 1.00 + 0.015 (I)
= 1.00 + 0.015 (20)
= 1.30
- R = Flood Frequency Ratio (100 Year Storm)
= 4.20 (PFM Plate 6-6)
- A = Watershed Area
= 382.60 Ac. (154.85 ha)
= 0.5978 Sq. Mi.
- x = Area Exponent
= 1.00 (200 Ac < A < 640 Ac)
- Y = 0.90 (PFM Plate 7-6)
- z = 0.50 (PFM Plate 7-6)
- L = 1.42 Mi.
- S = 88.00 Ft./Mi.
- T = $Y * (L / S^{0.5})^z$
= $0.9 * (1.42 / (88^{0.5}))^{0.5}$
= 0.350159581
- Q = Peak 100 Year Flow (Anderson Formula)
= $230 * K * R * A^x * T^{(-0.48)}$
= $230 * 1.3 * 4.2 * 0.598 * 0.35^{(-0.48)}$
= 1,242.3 CFS
(35.18 CMS)

METRIC SYSTEM NOTE

HYDROLOGIC COMPUTATIONS PERFORMED IN ENGLISH UNITS, WITH ALL STRUCTURES AND WATER SURFACES CONVERTED TO METRIC UNITS.

FLOOD PLAIN NARRATIVE

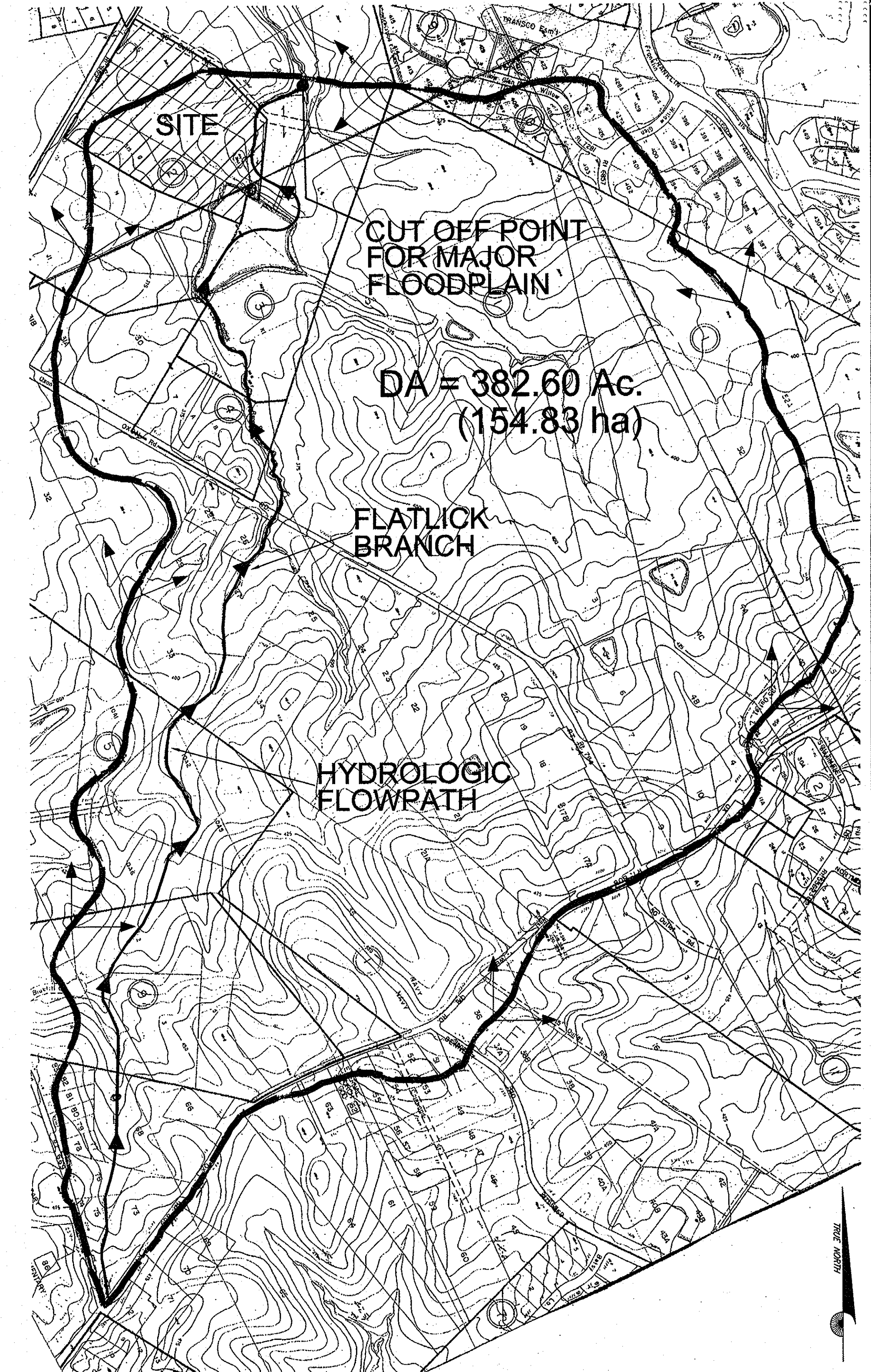
THE THOMPSON ROAD PROPERTY (9820-P-01) IS A 6.07 HECTARE SITE LOCATED IN THE CUB RUN WATERSHED. FIFTEEN LOTS ARE PROPOSED ON THIS R1 ZONED SITE. RUNNING THROUGH THE EASTERN PORTION OF THIS SITE IS A TRIBUTARY OF THE CUB RUN CALLED FLATLUCK BRANCH. AT THE DOWNSTREAM STUDY POINT, FLATLUCK BRANCH DRAINS 154.83 HECTARES. THIS DRAINAGE AREA QUALIFIES AS A MAJOR FLOODPLAIN. HOWEVER, THE CUTOFF POINT FOR THE MAJOR FLOODPLAIN LIES AT STATION 8+77 WHERE THE STUDY BEGINS. THE BASELINE STATIONING FOR THIS FLOOD PLAIN STUDY IS CONSISTENT WITH THE STATIONING OF THE FRANKLIN MANOR FLOOD PLAIN STUDY (7038-FP-01) PERFORMED BY DEWBERRY & DAVIS IN 1987. PLEASE NOTE THAT THIS BASELINE STATIONING HAS BEEN CONVERTED FROM FEET TO METERS.

IN A MEETING WITH MR. JOHN LEHMAN OF THE SPECIAL PROJECTS BRANCH ON JULY 13TH, 1998, THE DETAILS OF THIS FLOODPLAIN STUDY WERE DISCUSSED. IT WAS RECOMMENDED THAT THE LAST DOWNSTREAM CROSS-SECTION BE PULLED BACK TO STATION 8+77 SO THAT IT LIES UPSTREAM FROM THE NEARBY TRIBUTARY. HOWEVER, IN THE INTEREST OF CONSERVANCY, WE WERE DIRECTED TO INCLUDE THE ACREEGE FLOWING THROUGH THE NEARBY TRIBUTARY IN OUR OVERALL FLOODPLAIN COMPUTATIONS. ADDITIONAL TOPICS DISCUSSED WERE THE LOCATIONS OF THE OTHER NINE CROSS-SECTIONS AND THE MANNING'S N-FACTOR FOR THESE CROSS-SECTIONS. IT WAS SUGGESTED THAT A CONSERVATIVE N-FACTOR OF 0.1 BE USED FOR ALL CHANNEL SECTIONS AND OVBANKS. THE HYDROLOGY COMPUTATIONS ON SHEET 2 WERE PERFORMED USING THE ANDERSON METHOD. THE FLOODPLAIN ANALYSIS WAS PERFORMED USING THE HEC-RAS SOFTWARE DEVELOPED BY THE U.S. ARMY CORPS OF ENGINEERS.

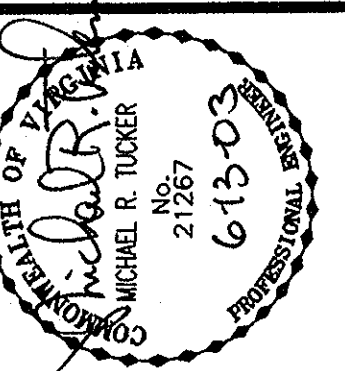
A PRIVATE DRIVEWAY RUNS THROUGH AN EXISTING INGRESS/EGRESS EASEMENT DOWN THE NORTHEAST BOUNDARY OF THE THOMPSON ROAD PROPERTY, AND THIS DRIVEWAY CROSSES OVER THE STREAM BED AT STATION 9+46. THE CROSSING CONSISTS OF AN EARTHEN EMBANKMENT WITH A 600MM CULVERT IN THE STREAM BED. THIS EMBANKMENT WAS INITIALLY DESIGNED TO MAINTAIN ACCESS THROUGH THE INGRESS/EGRESS EASEMENT, HOWEVER, FIELD OBSERVATION INDICATES THAT THIS STREAM CROSSING IS RARELY USED. THE 100-YEAR FLOOD WILL SUBSTANTIALLY OVERTOP THIS EMBANKMENT.

BEGINNING AT STATION 11+79 THIS STUDY MUST TAKE INTO ACCOUNT A LARGE, EXISTING WET POND WHICH LIES PARTIALLY ON THE THOMPSON ROAD SITE. THE NORMAL WATER SURFACE ELEVATION FOR THIS POND WAS FIELD DETERMINED AT APPROXIMATELY 109.600, AND THIS WATER SURFACE WAS TREATED AS THE CHANNEL BOTTOM FOR THE 100-YEAR STORM FLOW. ALTHOUGH THE WATER SURFACE WOULD, IN REALITY, PROVIDE VERY LITTLE HYDRAULIC RESISTANCE, THIS PORTION OF THE FLOODPLAIN WAS ANALYZED USING THE SAME 0.1 N-FACTOR. THE DAM EMBANKMENT FOR THIS POND HAS A DRAWDOWN STRUCTURE CONSISTING OF A 200MM DUCTILE IRON PIPE. IN THE INTEREST OF CONSERVANCY, IT WAS ASSUMED THAT THIS PIPE WAS CLOGGED AND THAT THE ENTIRE 100-YEAR STORM FLOWS THROUGH THE SPILLWAY CHANNEL AT STATION 11+79. AS THE FLOW SURFACE NECKS DOWN TO THE LIMITS OF THE SPILLWAY, THE FLOW OVER THE WATER SURFACE BACKS UP AND ROUTES THROUGH THE LIMITING HYDRAULICS OF CROSS-SECTION 11+79. THIS "DETENTION" EFFECT IS EVIDENCED BY THE VERY LOW VELOCITIES AND FROUDE NUMBERS FOR CROSS-SECTIONS 12+54, 13+06, 13+62.

DRAINAGE REACH MAP
SCALE 1:5000
ENGLISH TOPO SCALED TO METRIC

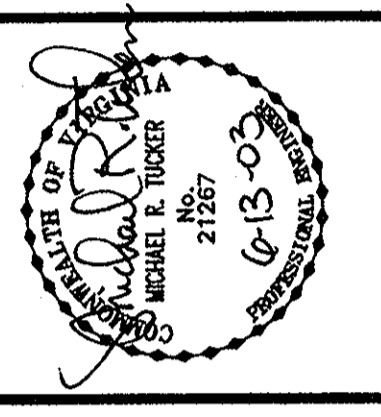


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HYDROLOGY CALCULATIONS & NARRATIVE
THOMPSON'S MOOR
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

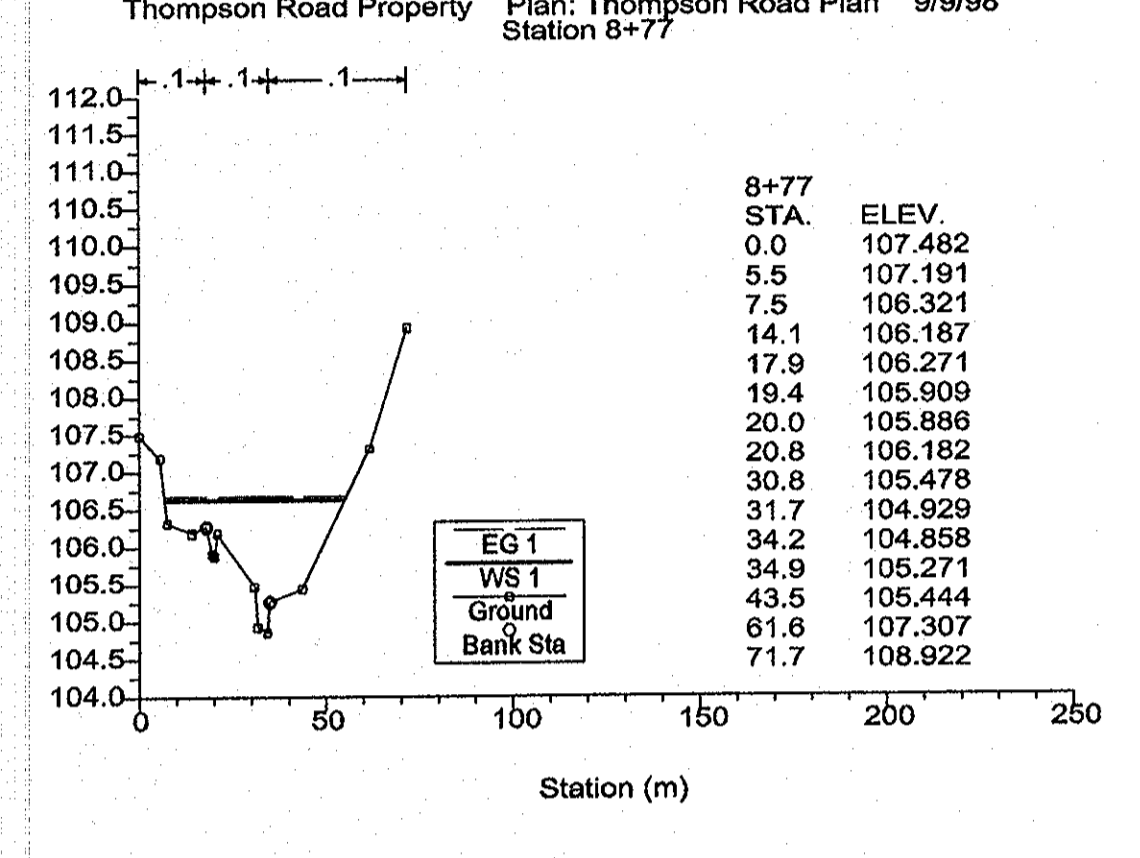
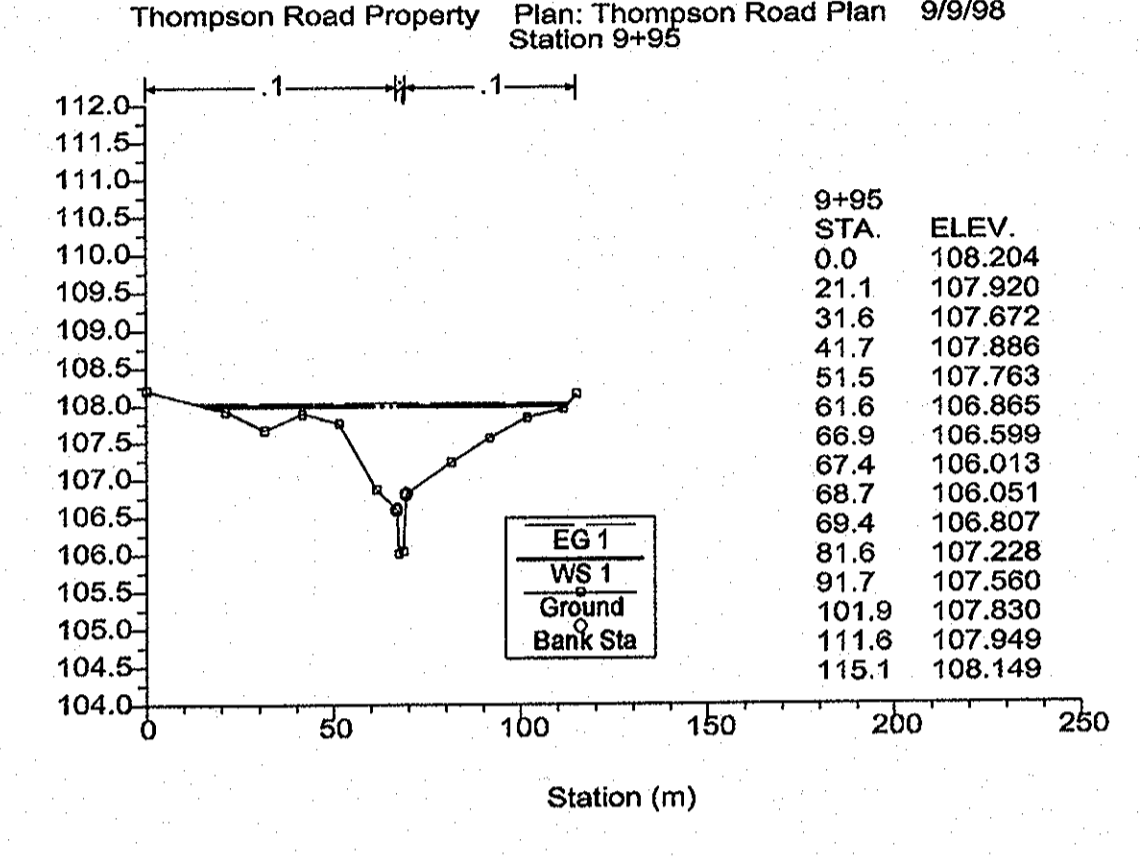
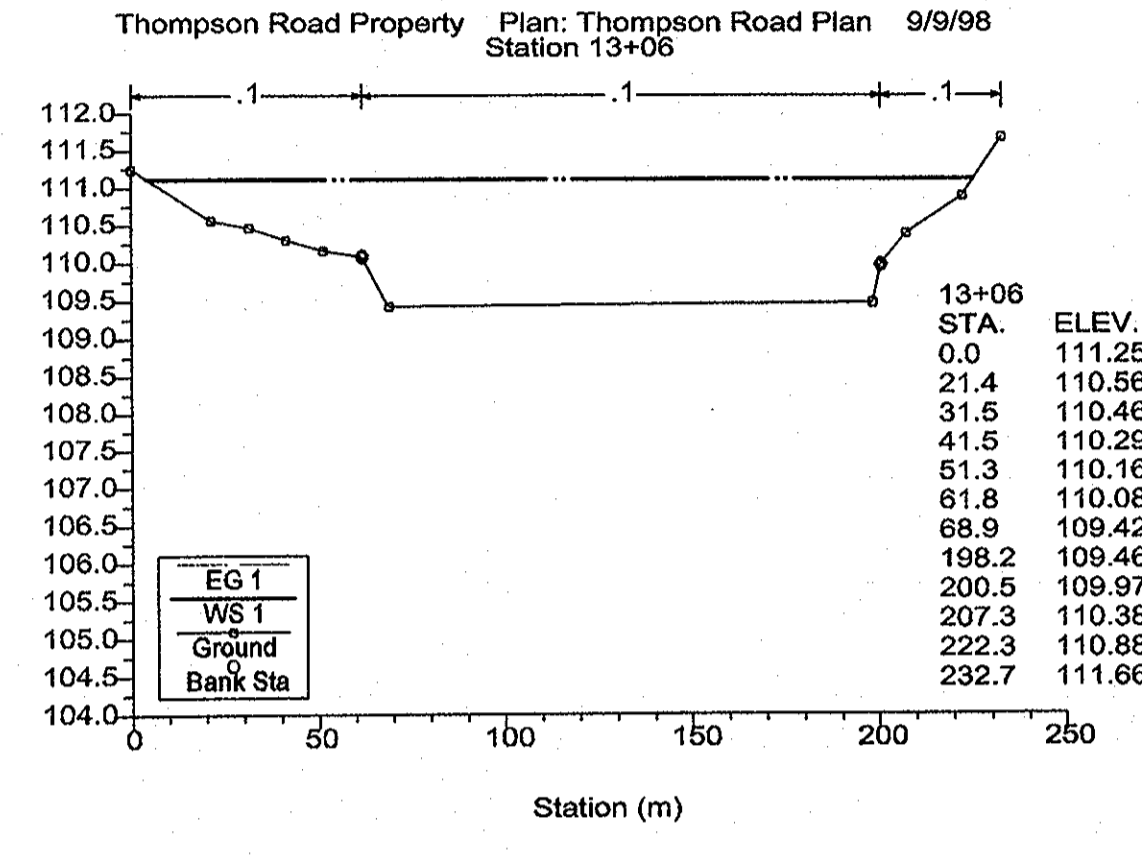
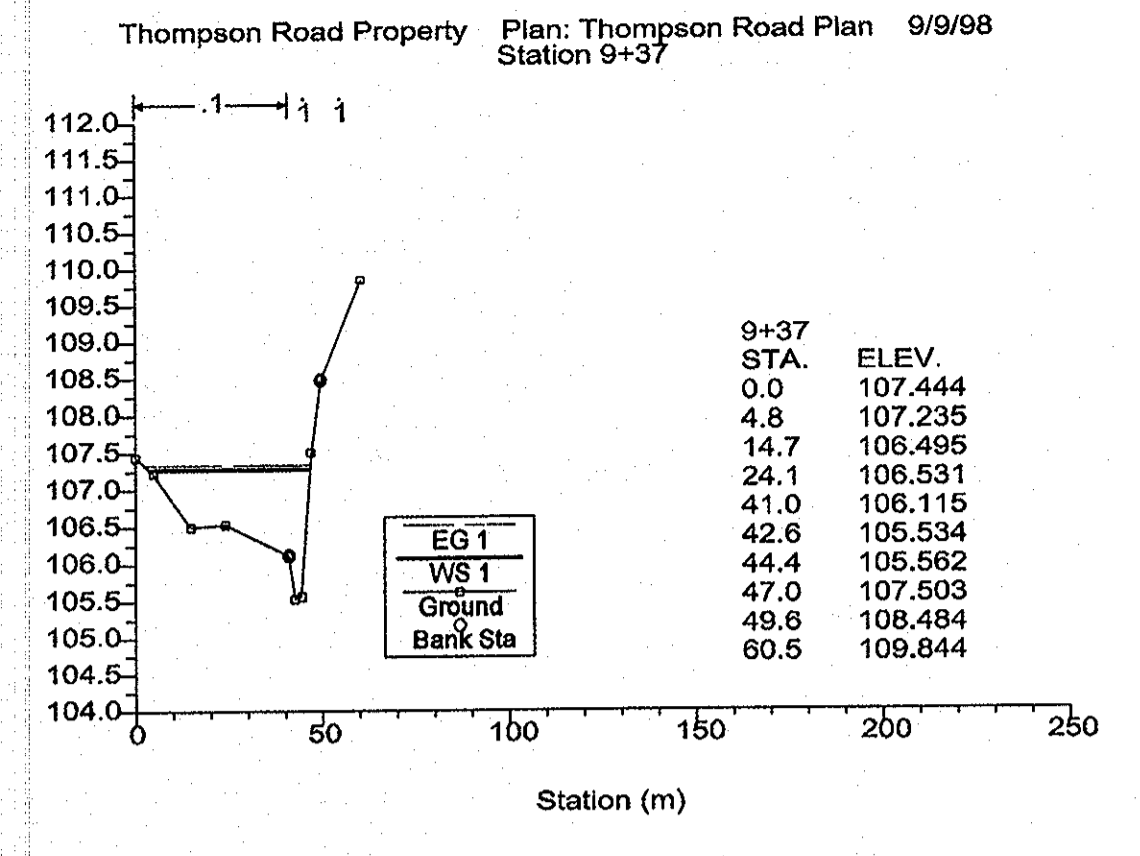
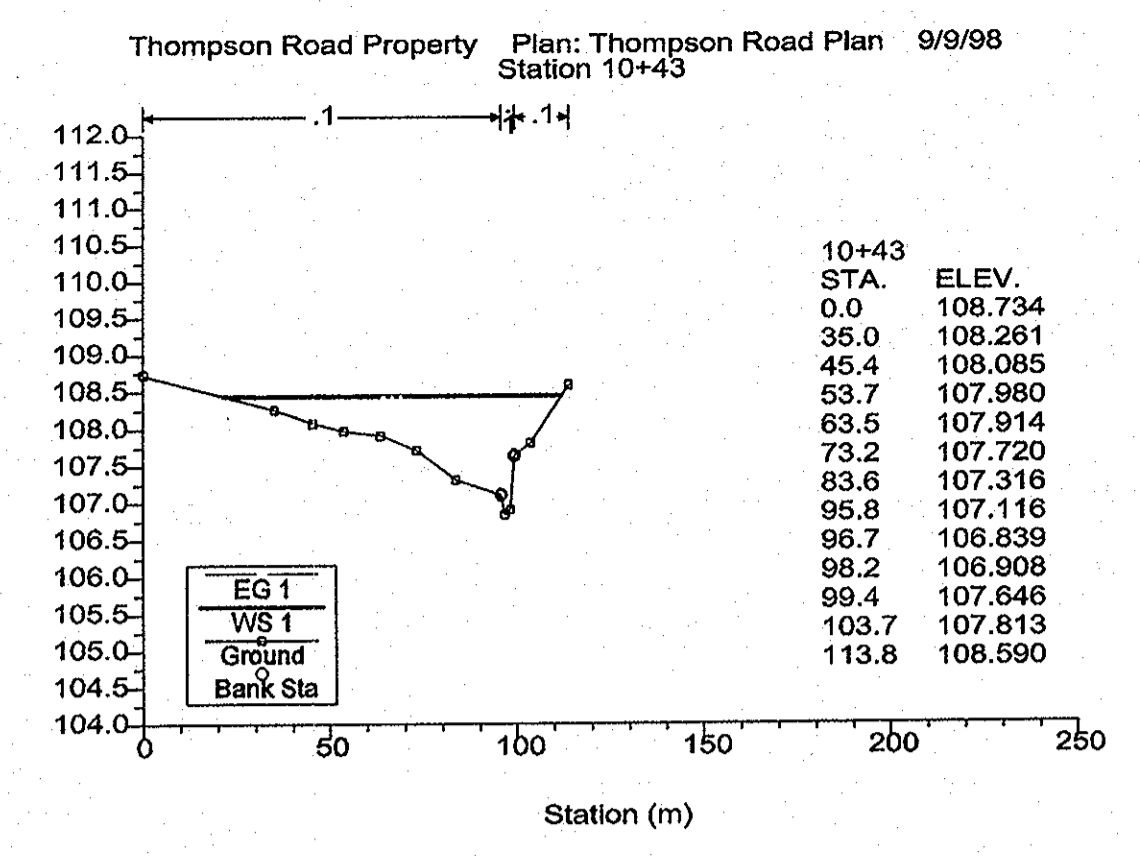
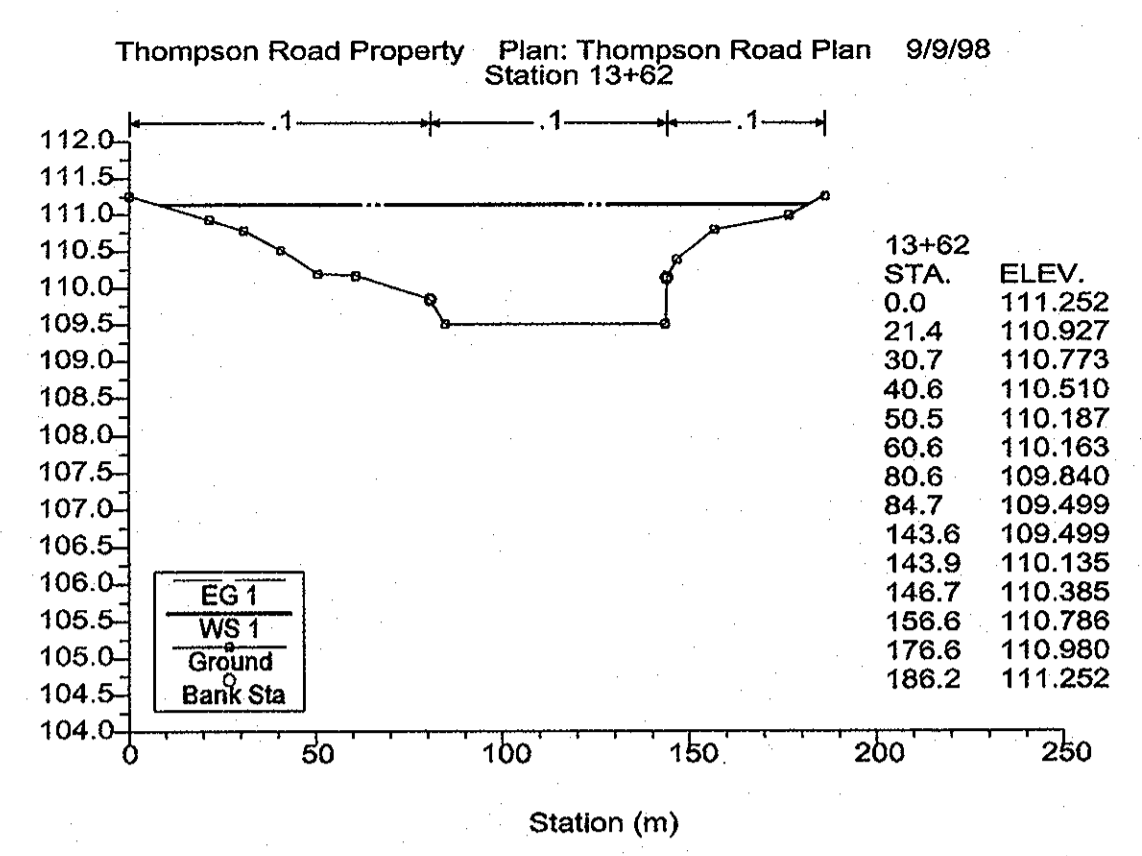
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DRAFTED BY: CAD
CHECKED BY: MRT
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SHEET 6 OF 19
CO. NO. 9820-FP-01
FILE NO. 97060-33
CADD NAME: 7060FLD-TM



FLOODPLAIN DATA & CROSS SECTIONS
THOMPSON'S MOOR
 SUDBURY DISTRICT
 FAIRFAX COUNTY, VIRGINIA

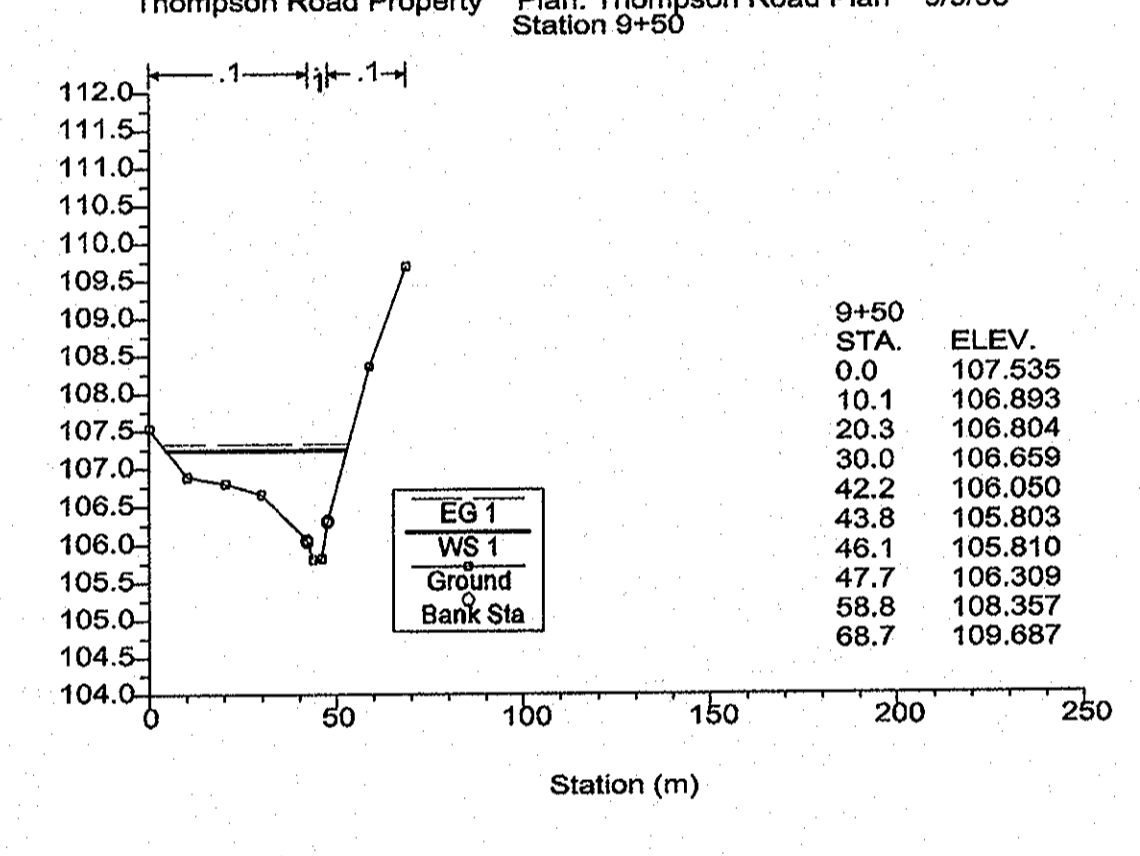
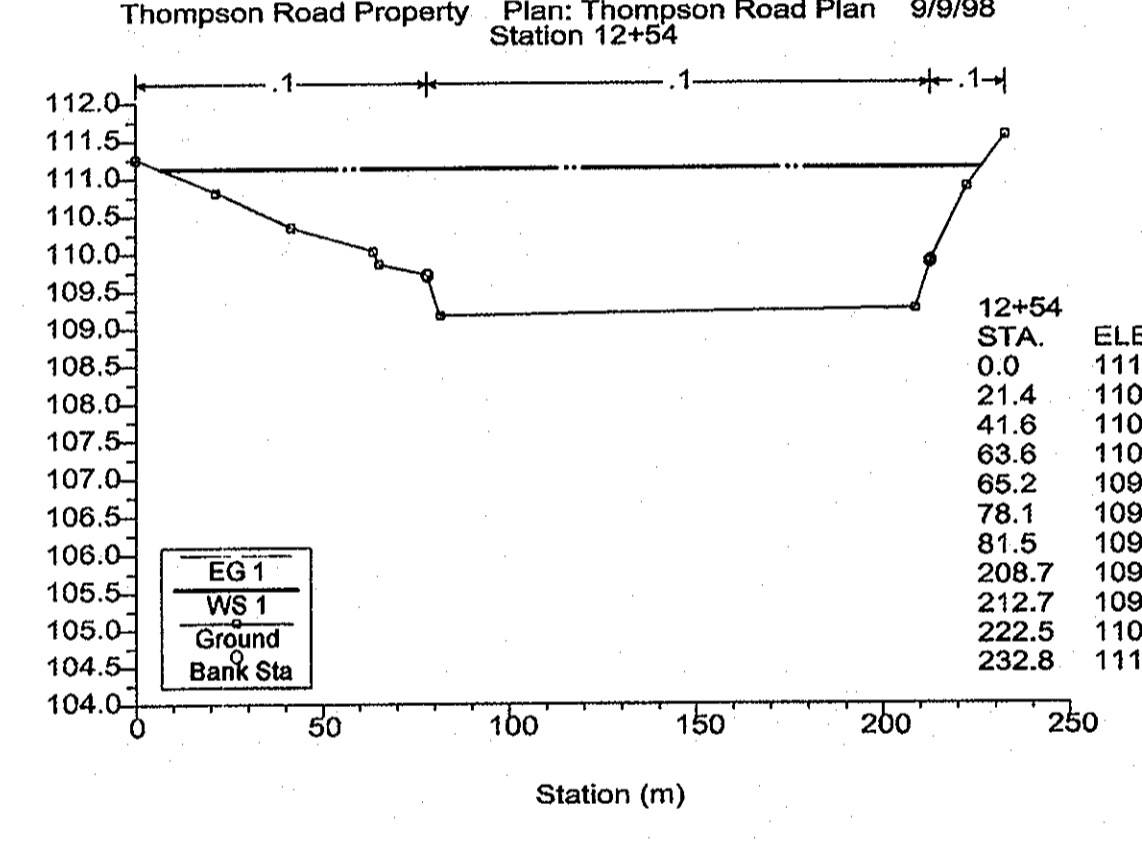
BC REVISIONS
 12/10/98 REV. N-FACTOR FOR ROAD WEIR

DESIGNED BY: DMS
 DRAFTED BY: CAD
 CHECKED BY: MRT
 DATE: SEPTEMBER, 1998
 SCALE: HOR. 1:500
 (METRIC) VERT. 1:100
 SHEET 7 OF 19
 CO. NO. 9820-FP-01
 FILE NO. 97060-33
 CADD NAME: 7060FLD-TM



Manning's Equation Computations - Normal Flow @ Station 8+77

Manning's Coefficient	0.1	
Slope	0.0115	m/m
Water Surface Elevation	106.63	m
Elevation Range	104.86 to 108.92	
Discharge	35.17	m ³ /s
Flow Area	38.4	m ²
Wetted Perimeter	48.777	m
Top Width	48.258	m
Actual Depth	1.77	m
Critical Elevation	106.08	m
Critical Slope	0.123441	m/m
Velocity	0.91	m/s
Velocity Head	0.04	m
Specific Energy	106.67	m
Froude Number	0.33	
Flow Type	Subcritical	



SUMMARY OF MANNING'S N VALUES

Reach	River Sta.	n1	n2	n3
Thompson Rd	1362	.1*	.1*	.1*
Thompson Rd	1306	.1*	.1*	.1*
Thompson Rd	1254	.1*	.1*	.1*
Thompson Rd	1179	.1*	.1*	.1*
Thompson Rd	1103	.1*	.1*	.1*
Thompson Rd	1043	.1*	.1*	.1*
Thompson Rd	995	.1*	.1*	.1*
Thompson Rd	950	.1*	.1*	.1*
Thompson Rd	946	Culvert*		
Thompson Rd	937	.1*	.1*	.1*
Thompson Rd	877	.1*	.1*	.1*

SUMMARY OF REACH LENGTHS

Reach	River Sta.	Left	Channel	Right
Thompson Rd	1362	56*	56*	56*
Thompson Rd	1306	52*	52*	52*
Thompson Rd	1254	27*	27*	27*
Thompson Rd	1179	30*	73*	116*
Thompson Rd	1103	46*	69*	71*
Thompson Rd	1043	33*	49*	55*
Thompson Rd	995	31*	45*	53*
Thompson Rd	950	14*	14*	14*
Thompson Rd	946	Culvert*		
Thompson Rd	937	45*	62*	62*
Thompson Rd	877	10*	10*	10*

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

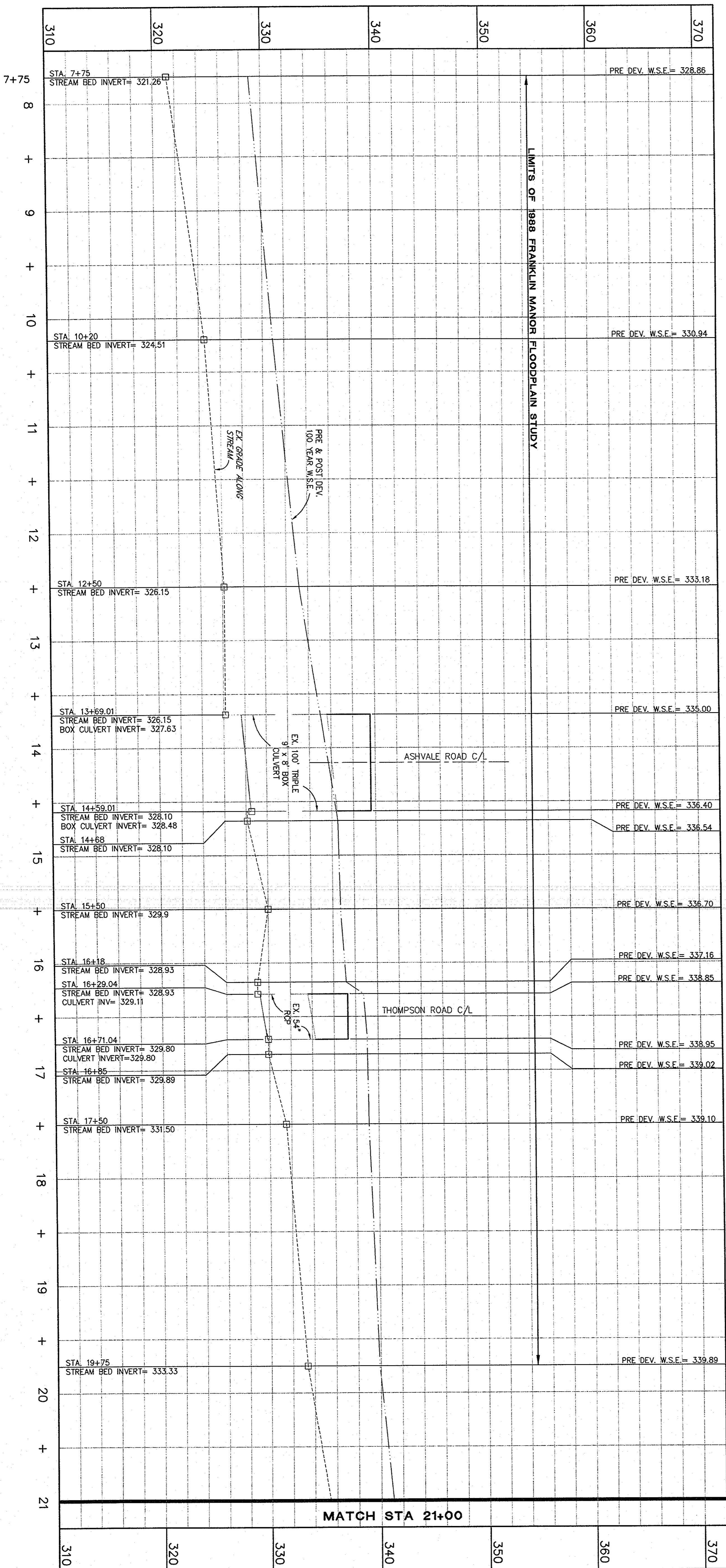
Reach	River Sta.	Contr.	Expan.
Thompson Rd	1362	.1*	.3*
Thompson Rd	1306	.1*	.3*
Thompson Rd	1254	.1*	.3*
Thompson Rd	1179	.1*	.3*
Thompson Rd	1103	.1*	.3*
Thompson Rd	1043	.1*	.3*
Thompson Rd	995	.1*	.3*
Thompson Rd	950	.1*	.3*
Thompson Rd	946	Culvert*	
Thompson Rd	937	.1*	.3*
Thompson Rd	877	.1*	.3*

FOR INFORMATION PURPOSES ONLY
NOTE METRIC SCALE

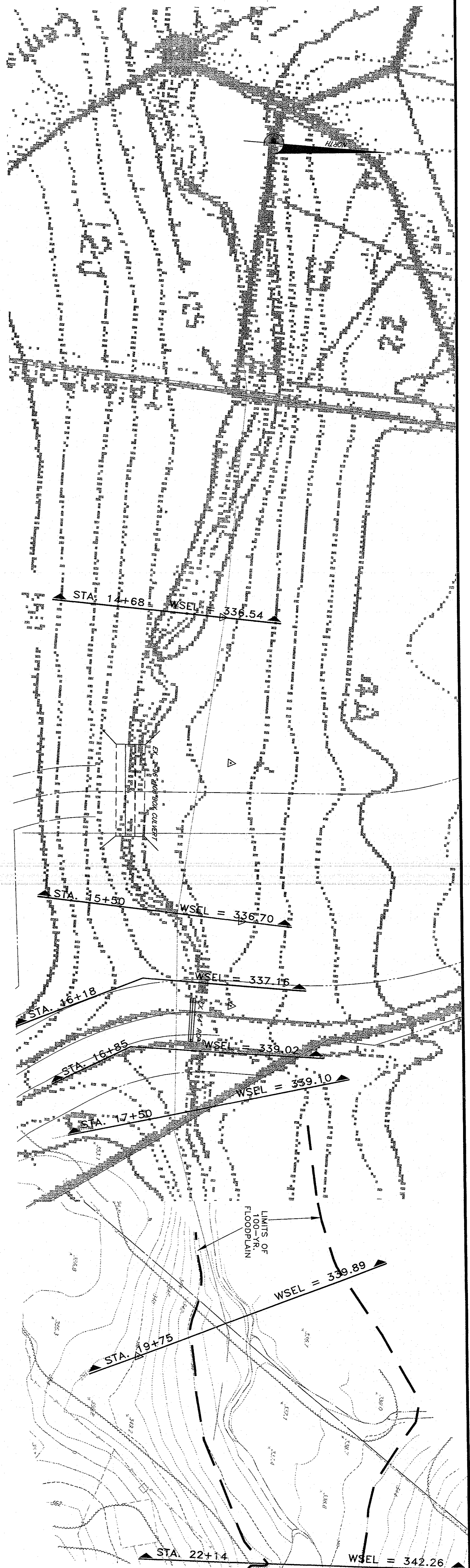
Profile Output Table - Standard Table 1

River Sta.	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude #	Chl
(m)	(m ³ /s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m ²)	(m)		
1362	35.17	109.50	111.14	*	111.14	0.000358	0.26	165.38	174.48	*	0.07
1306	35.17	109.42	111.13	*	111.13	0.000995	0.14	282.64	221.71	*	0.03
1254	35.17	109.17	111.12	*	111.12	0.000663	0.12	317.12	220.31	*	0.03
1179	35.17	109.78	111.03	*	111.11	0.018110	1.26	30.25	46.46	*	0.42
1103	35.17	108.34	109.24	*	109.32	0.042391	1.82	31.37	83.54	*	0.63
1043	35.17	106.84	108.45	*	108.47	0.007883	1.07	54.09	90.74	*	0.29
995	35.17	106.01	107.95	*	108.00	0.017050	1.65	42.26	92.96	*	0.40
950	35.17	105.80	107.41	107.03	107.46	0.010977	1.35	38.55	51.60	*	0.36
946	Culvert*										
937	35.17	105.53	107.28	*	107.33	0.013342	1.28	34.73	42.82	*	0.36
877	35.17	104.86	106.63	106.08	106.68	0.010518	0.99	38.34	48.23	*	0.32

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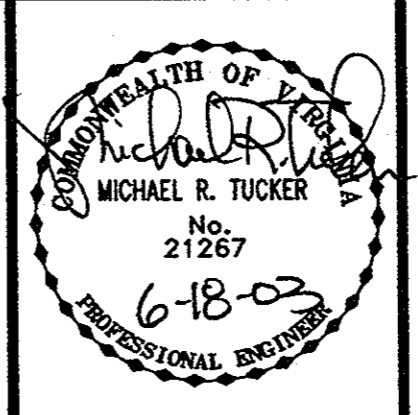
STREAM PROFILE: STA 07+75 - STA 21+00



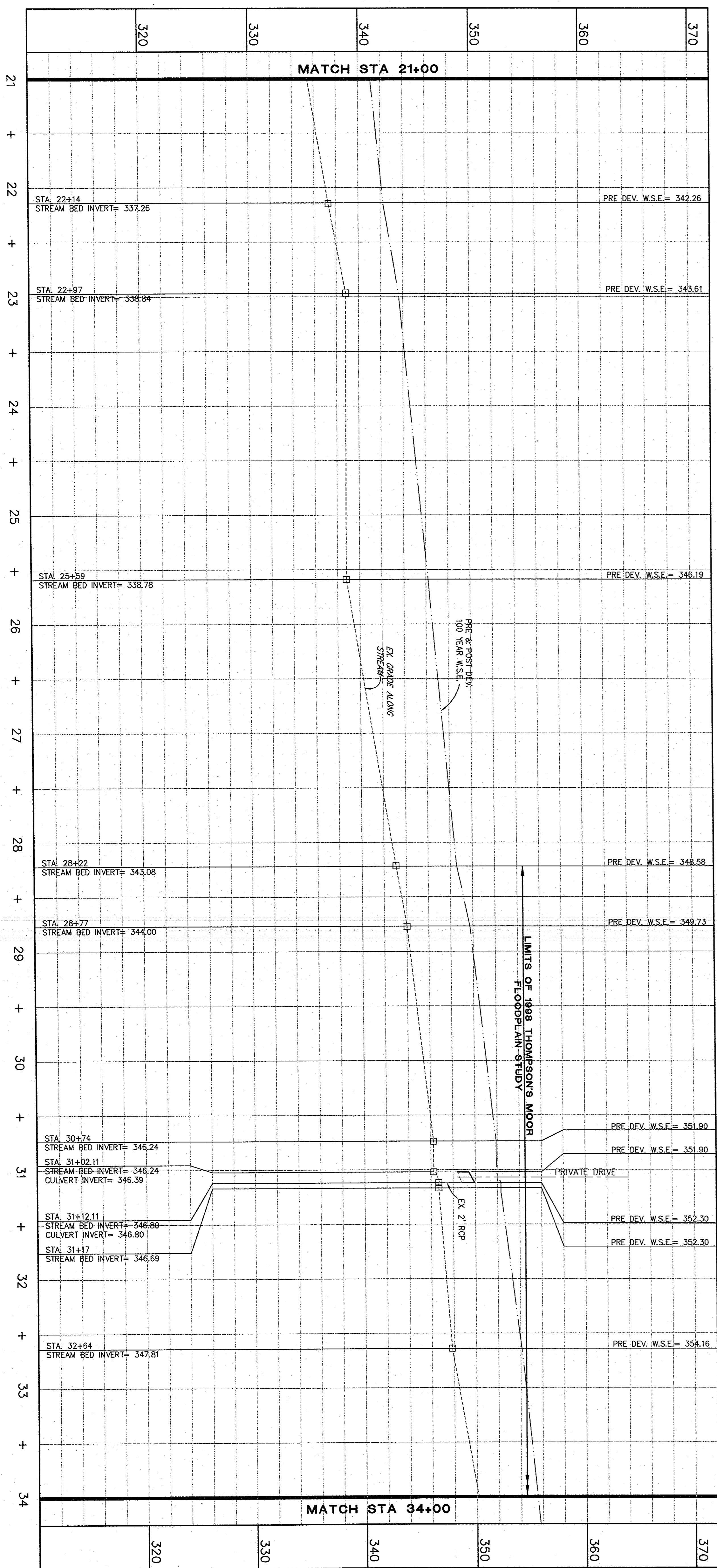
BC REVISIONS
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 DRAFTED BY: CAD
 CHECKED BY: MNT
 DATE: JUNE, 2003
 SCALE: HOR. 1" = 50'
 VERT. 1" = 5'
 SHEET 8 OF 19
 CO. NO. 0000-XX-00
 CAD NAME: 7060FLD-DEL
 LAYOUT: PROF 1
 FILE NO. 97060-33

OWNER
 WINCHESTER HOMES
 6905 ROCKLEDGE DRIVE
 SUITE 800
 BETHESDA, MD 20817

STREAM PROFILE
 STA 07+75 - STA 21+00
THOMPSON ROAD
 SULLY DISTRICT
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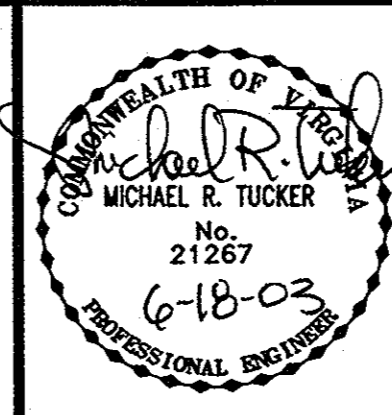


STREAM PROFILE: STA 21+00 - STA 34+00 (SEE SHEET 10 FOR PLAN VIEW)

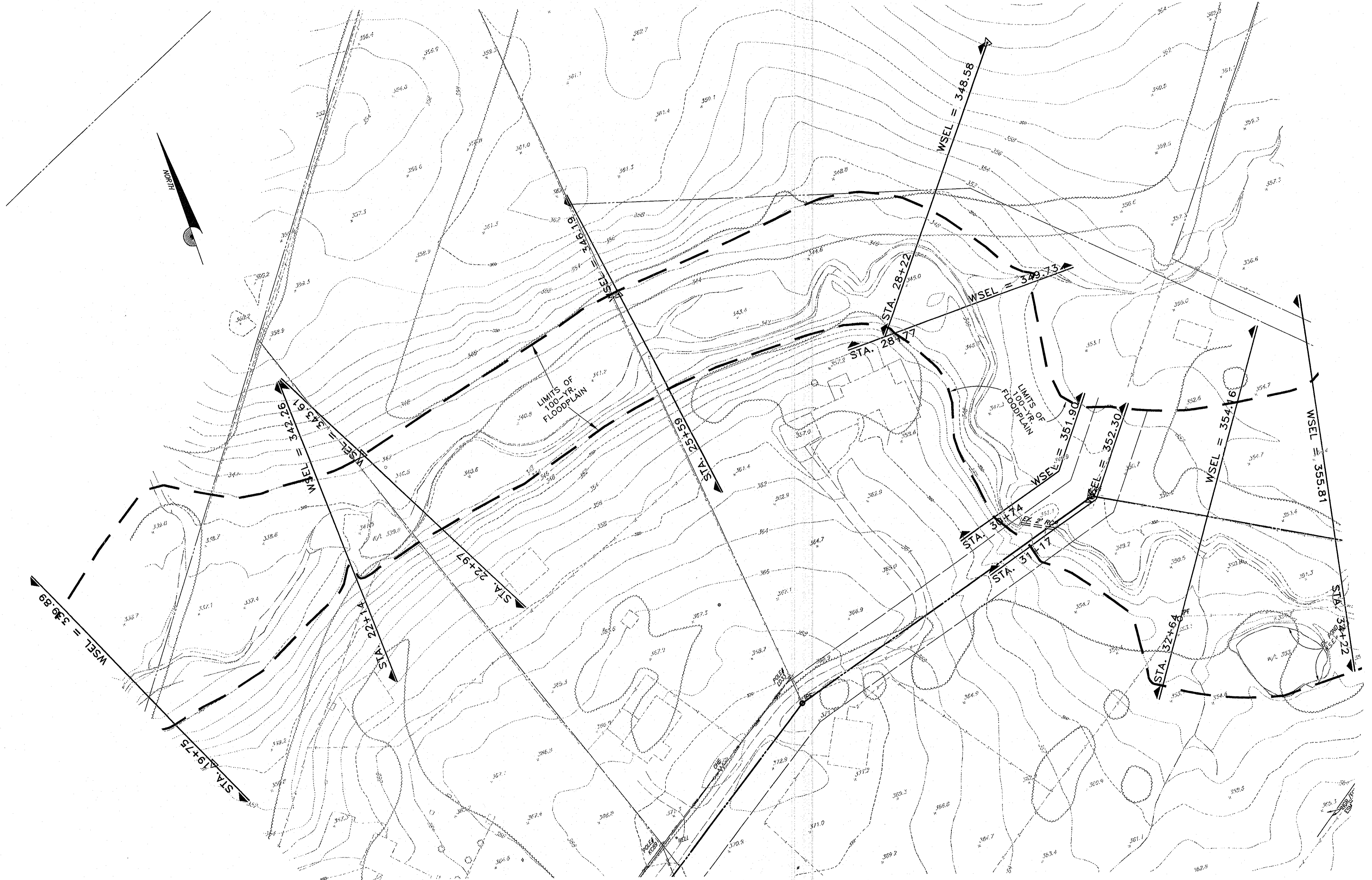
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 DRAFTED BY: CAD
 CHECKED BY: MRT
 DATE: JUNE, 2003
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 VERT = 1" = 5'
 SHEET 9 OF 19
 CO. NO. 0000-XX-00
 CAD NAME: 7060FLD-DEL
 LAYOUT: PROF 2
 FILE NO. 97060-33

OWNER
 WINCHESTER HOMES
 6905 ROCKLEDGE DRIVE
 SUITE 800
 BETHESDA, MD 20817

STREAM PROFILE
 STA 21+00 - STA 34+00
THOMPSON ROAD
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA



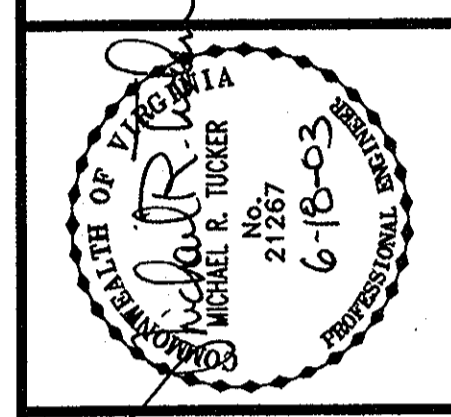
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PLAN VIEW: STA 21+00 - STA. 34+00
SEE SHEET 9 FOR PROFILE

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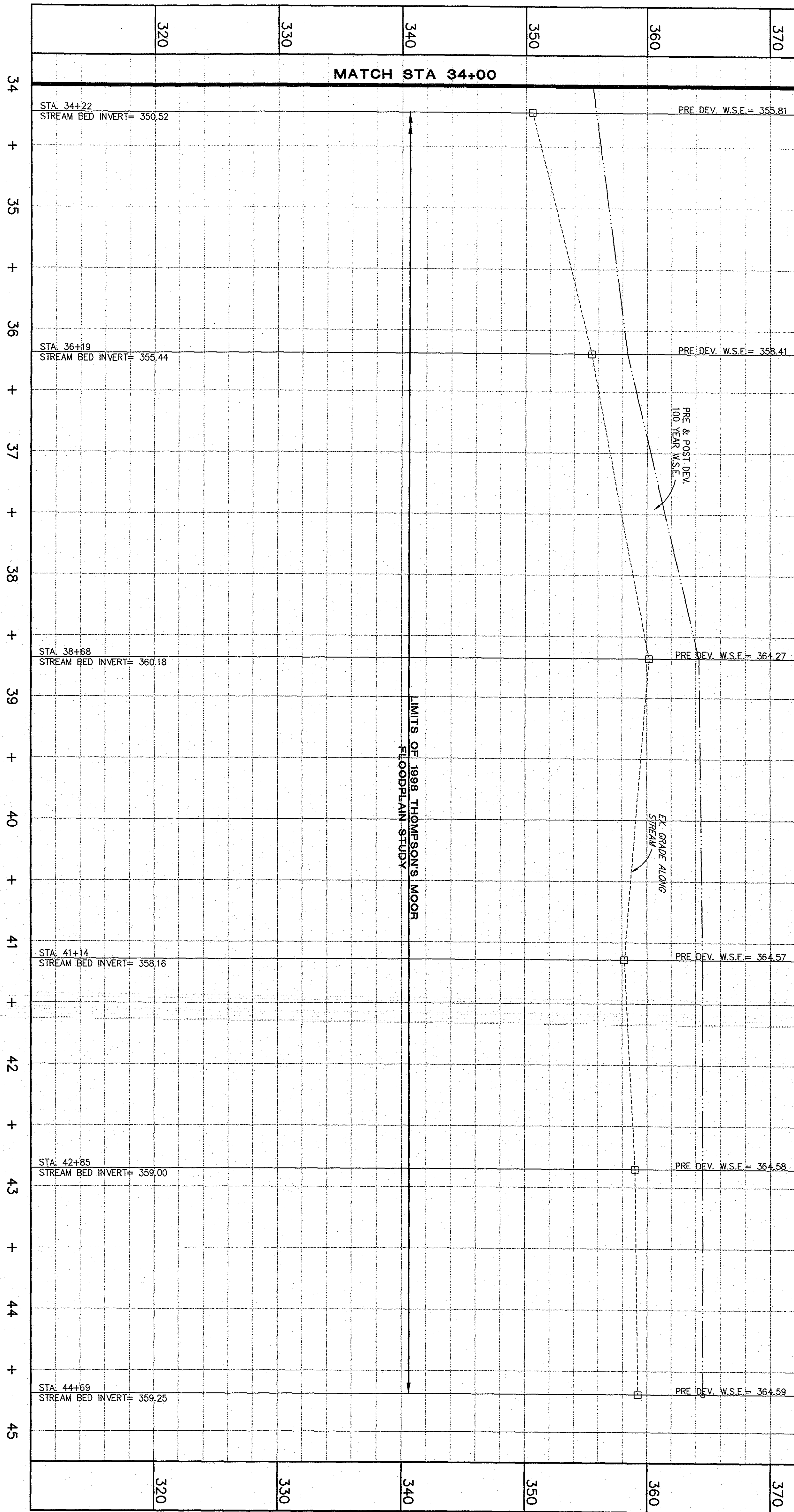
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STREAM PROFILE
 STA 21+00 - STA 34+00
THOMPSON ROAD
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA

BC REVISIONS
OWNER: WINCHESTER HOMES 9902 ROCKLEDGE DRIVE BETHESDA, MD 20817
DESIGNED BY: ML
DRAFTED BY: CAD
CHECKED BY: MRT
DATE: JUNE, 2003
SCALE: HOR. 1" = 50' VERT. 1" = 5'
SHEET 10 OF 19
CO. NO. 0000-XX-00
CAD NAME: 7060FLD-DEL
LAYOUT: PROF 2a
FILE NO. 97060-33

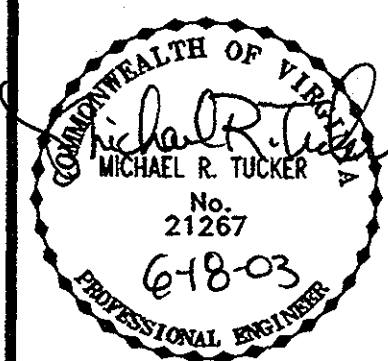
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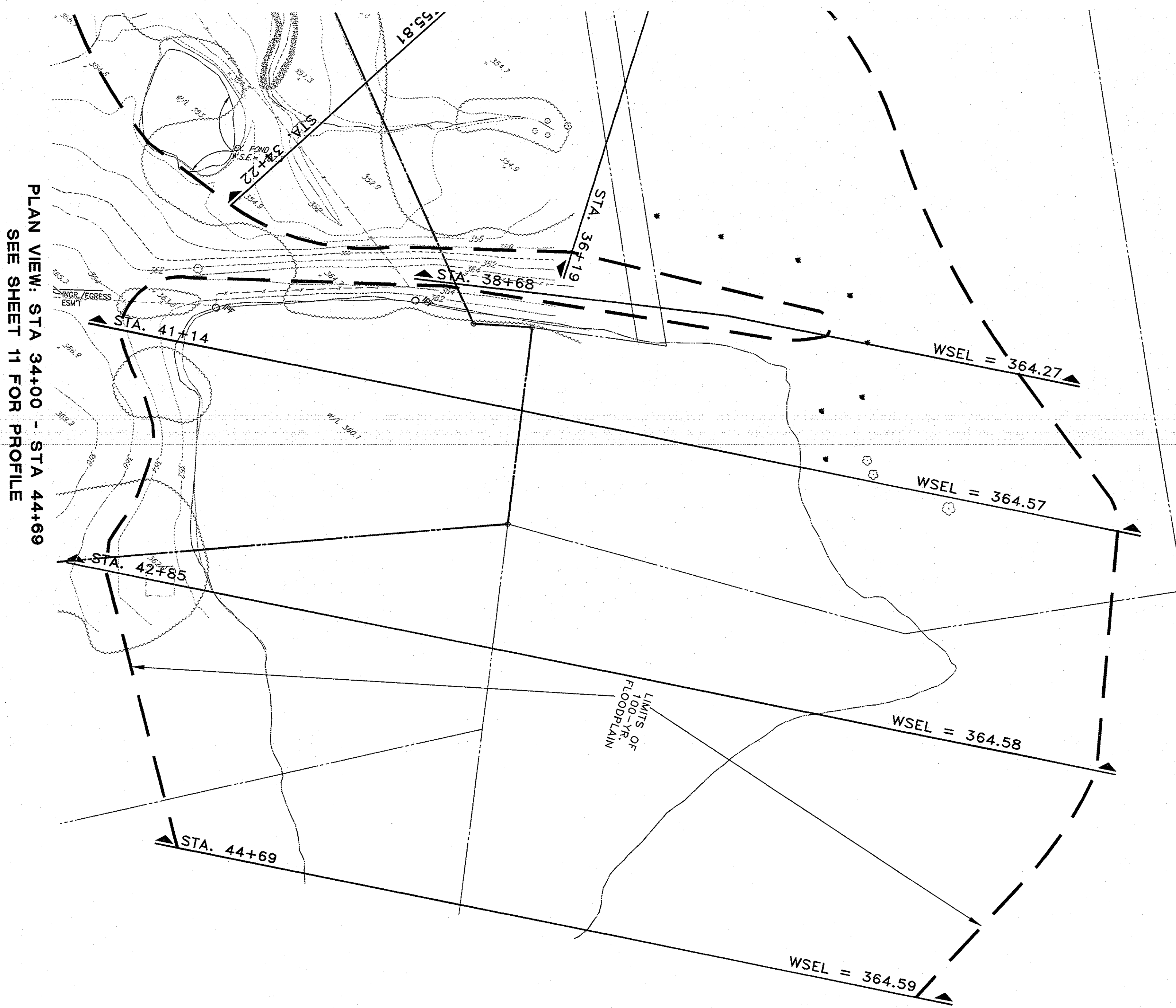
STREAM PROFILE: STA 34+00 - STA 44+69 (SEE SHEET 12 FOR PLAN VIEW)

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CAD NAME	7060FLD-DEL
LAYOUT	PROF 3
CO. NO.	0000-XX-00
SHEET	11 OF 19
SCALE:	HOR. 1" = 50' VERT. 1" = 5'
DATE:	JUNE, 2003
CHECKED BY:	MRT
DESIGNED BY:	ML
BC REVISIONS	
OWNER:	WINCHESTER HOMES 6905 ROCKLEDGE DRIVE SUITE 800 BETHESDA, MD 20817

STREAM PROFILE
 STA 34+00 - STA 44+69
THOMPSON ROAD
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA



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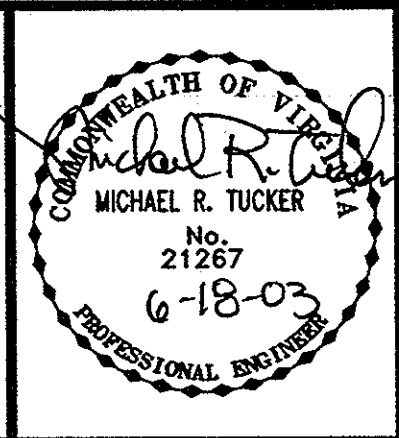


PLAN VIEW: STA 34+00 - STA 44+69
SEE SHEET 11 FOR PROFILE

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DRAWN BY: CAD	
CHECKED BY: MRT	
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VERT. 1" = 5'	
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CAD NAME: 7060FLD-DEL	
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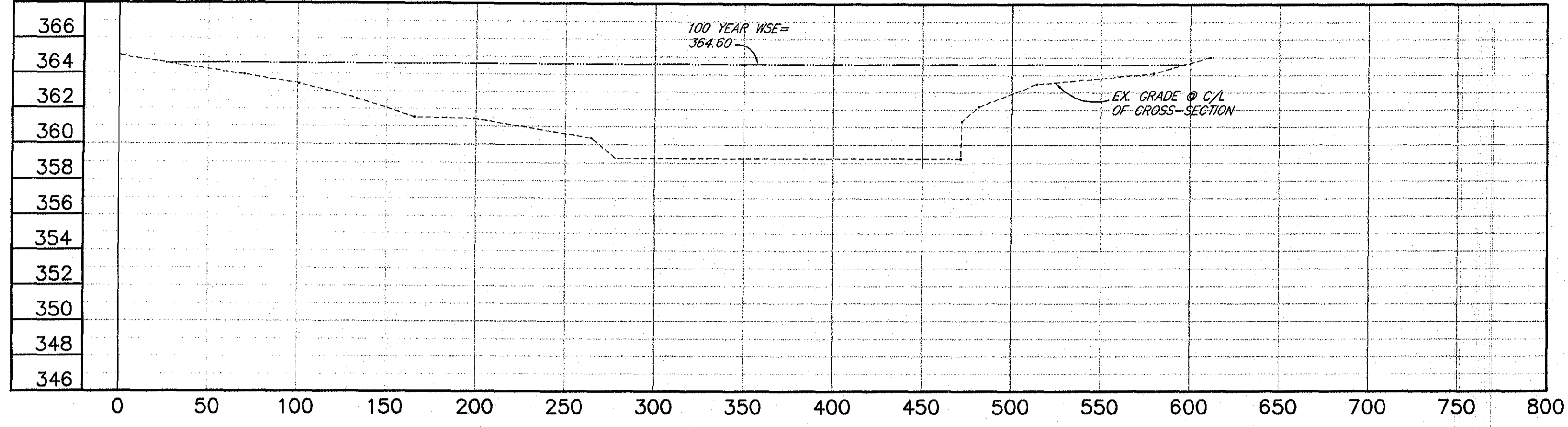
OWNER: WINCHESTER HOMES 6905 ROCKLEDGE DRIVE SUITE 800 BETHESDA, MD 20817

FLOODPLAIN DELINEATION PLAN
 STA 34+00 - STA 44+69
THOMPSON ROAD
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA

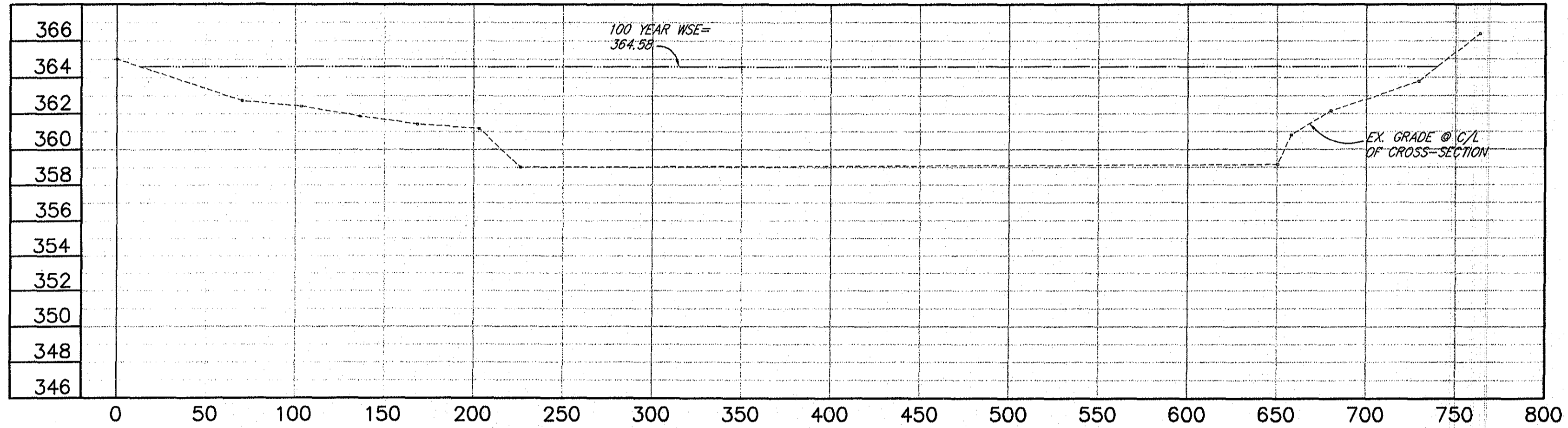


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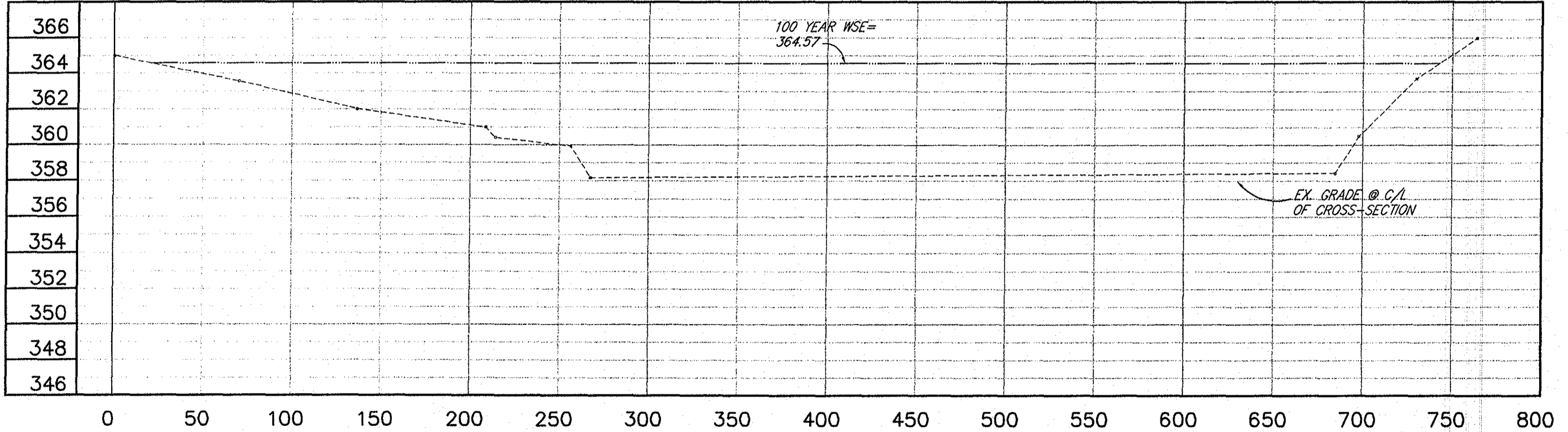
STA. 44+69 BEGIN BC CONSULTANTS APPROVED FLOODPLAIN STUDY: FAIRFAX COUNTY PLAN# 9820-FP-10-2



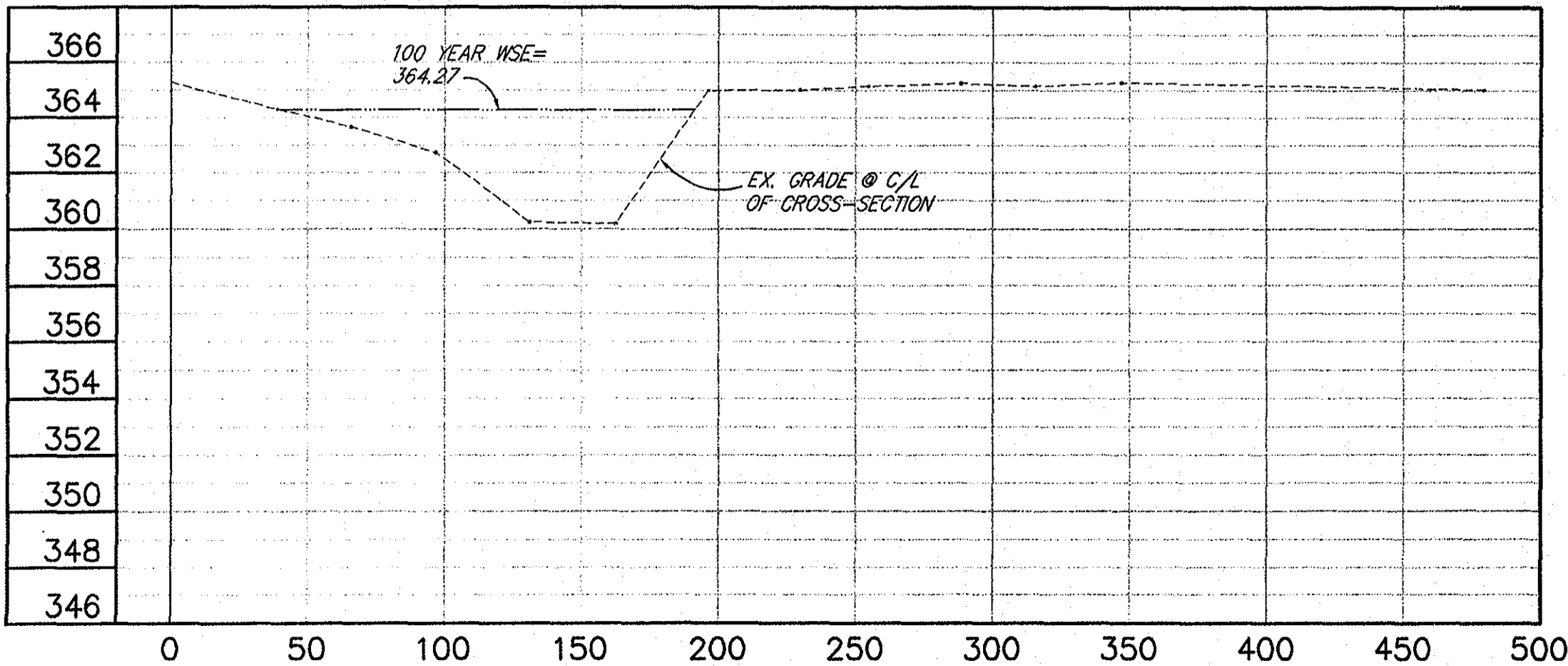
STA. 42+85



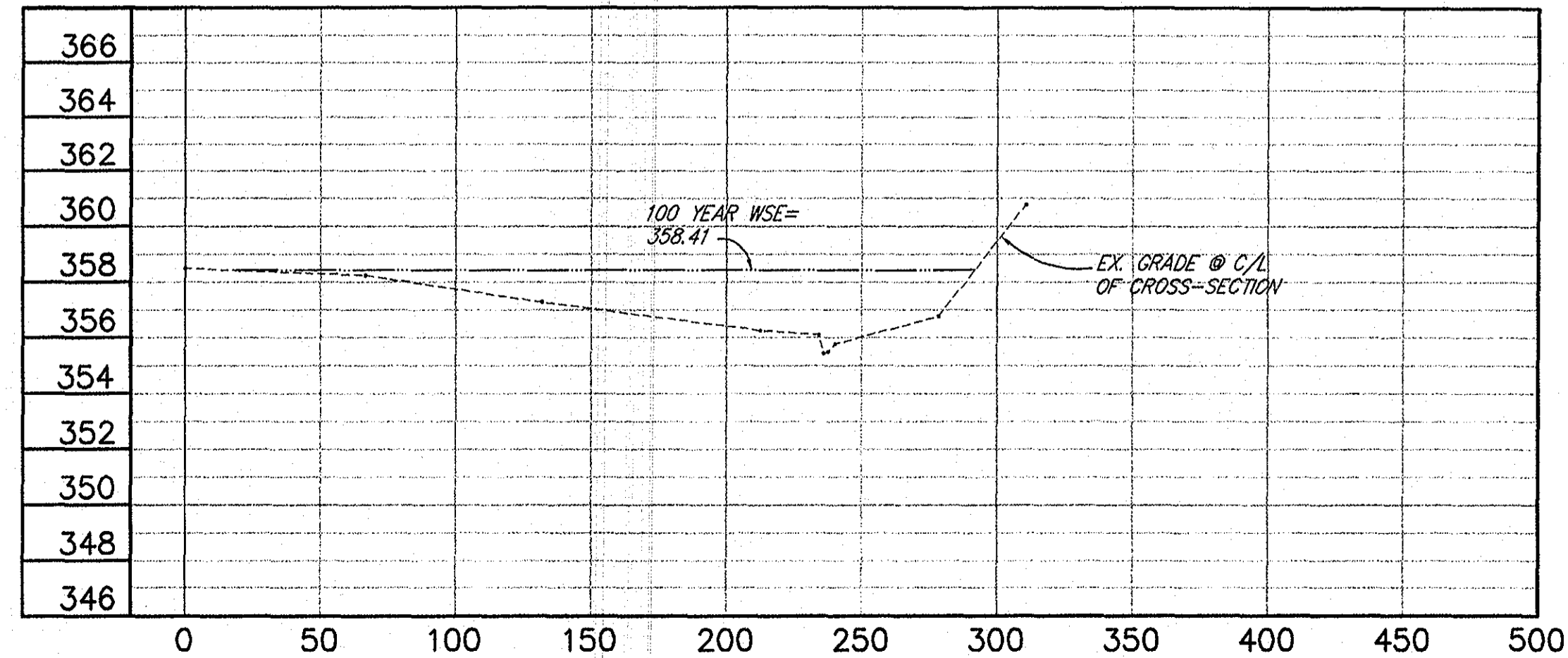
STA. 41+14



STA. 38+68



STA. 36+19



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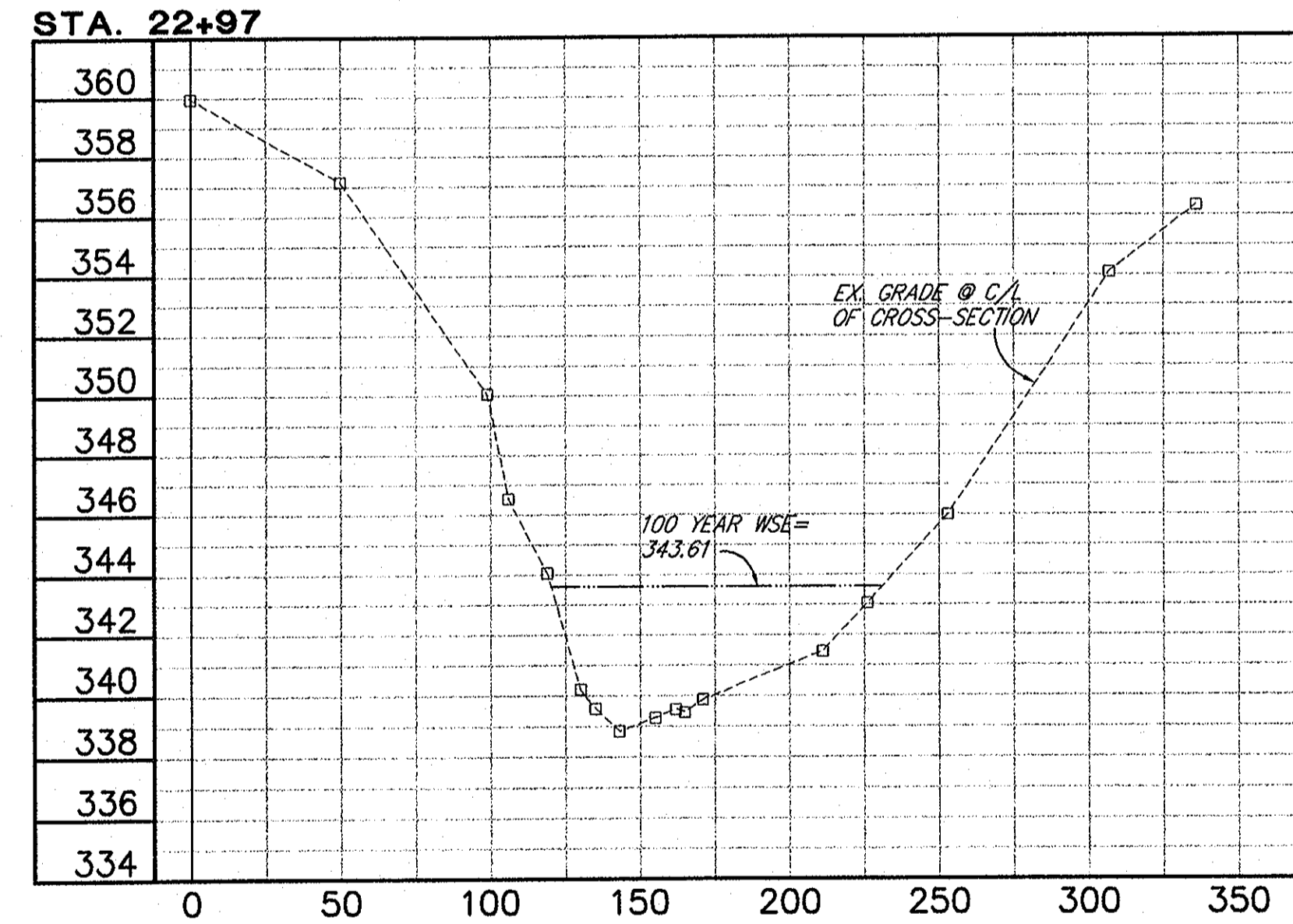
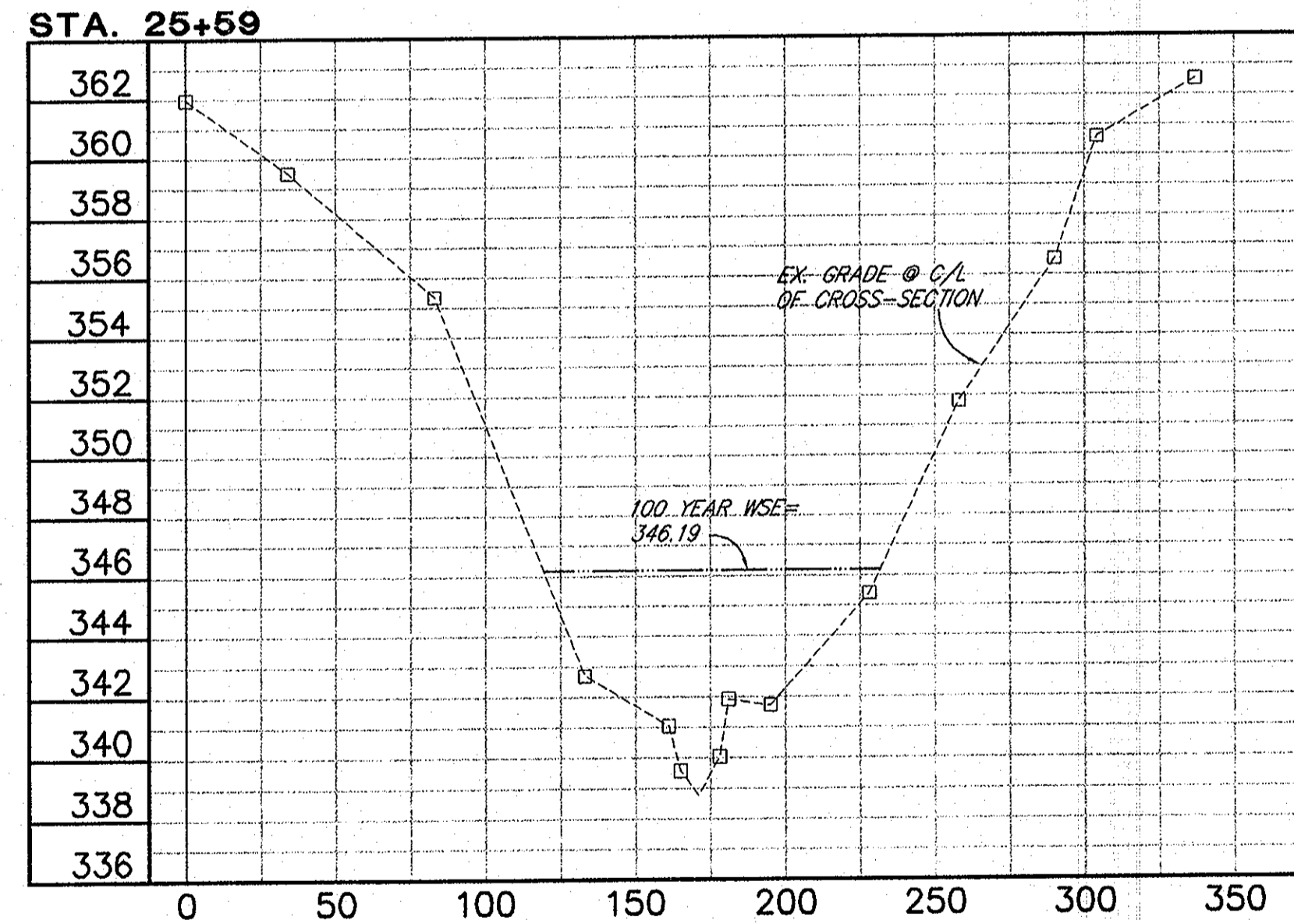
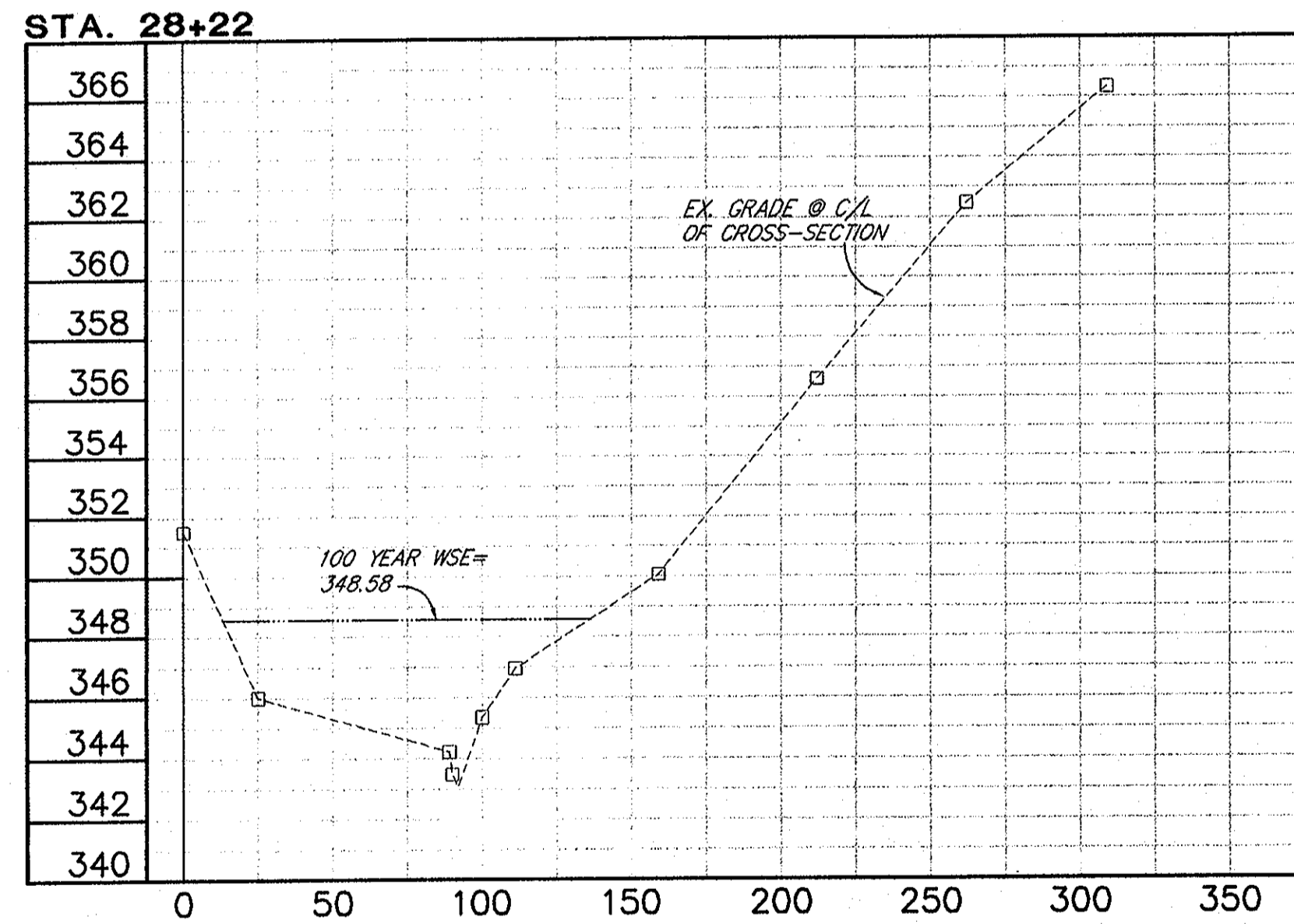
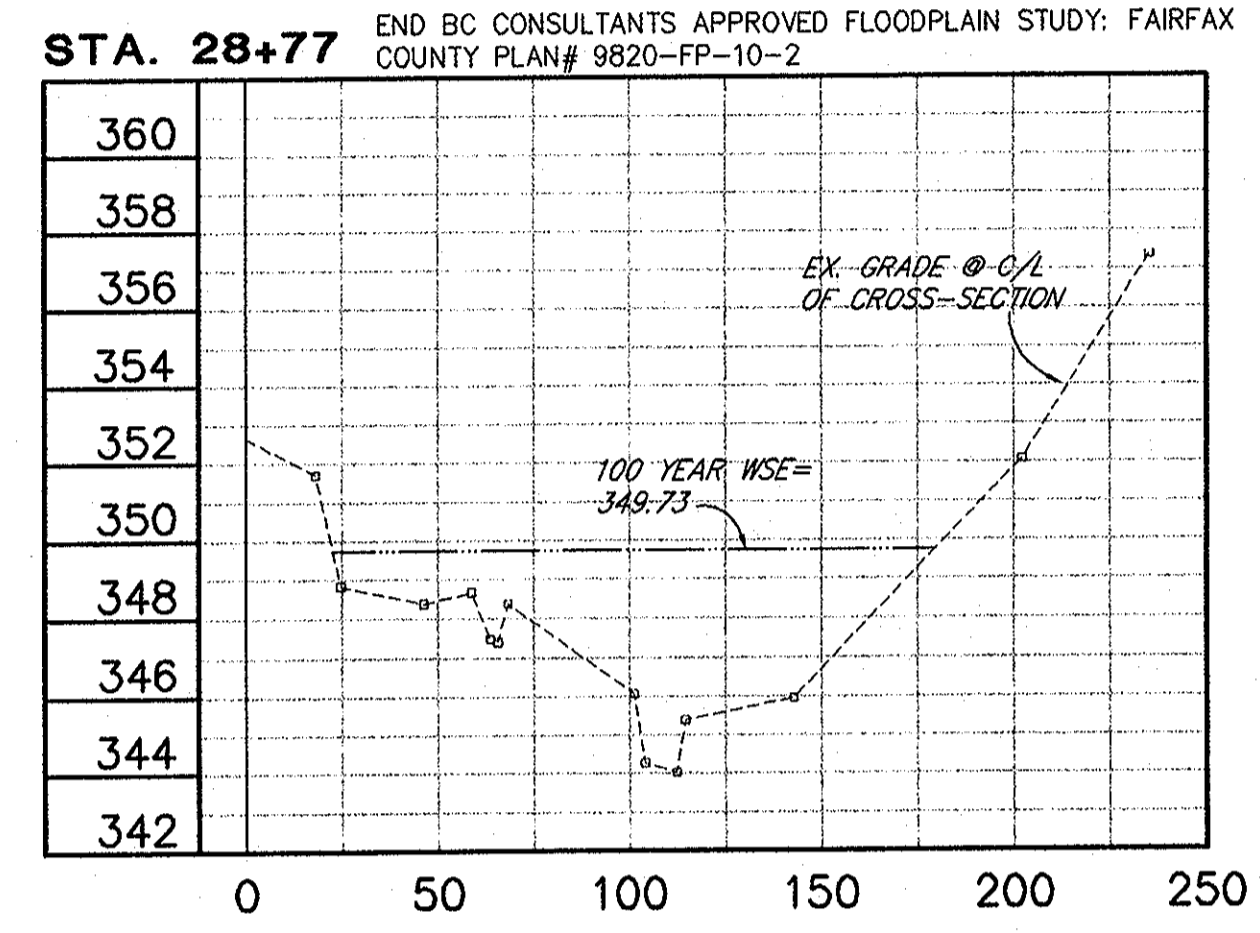
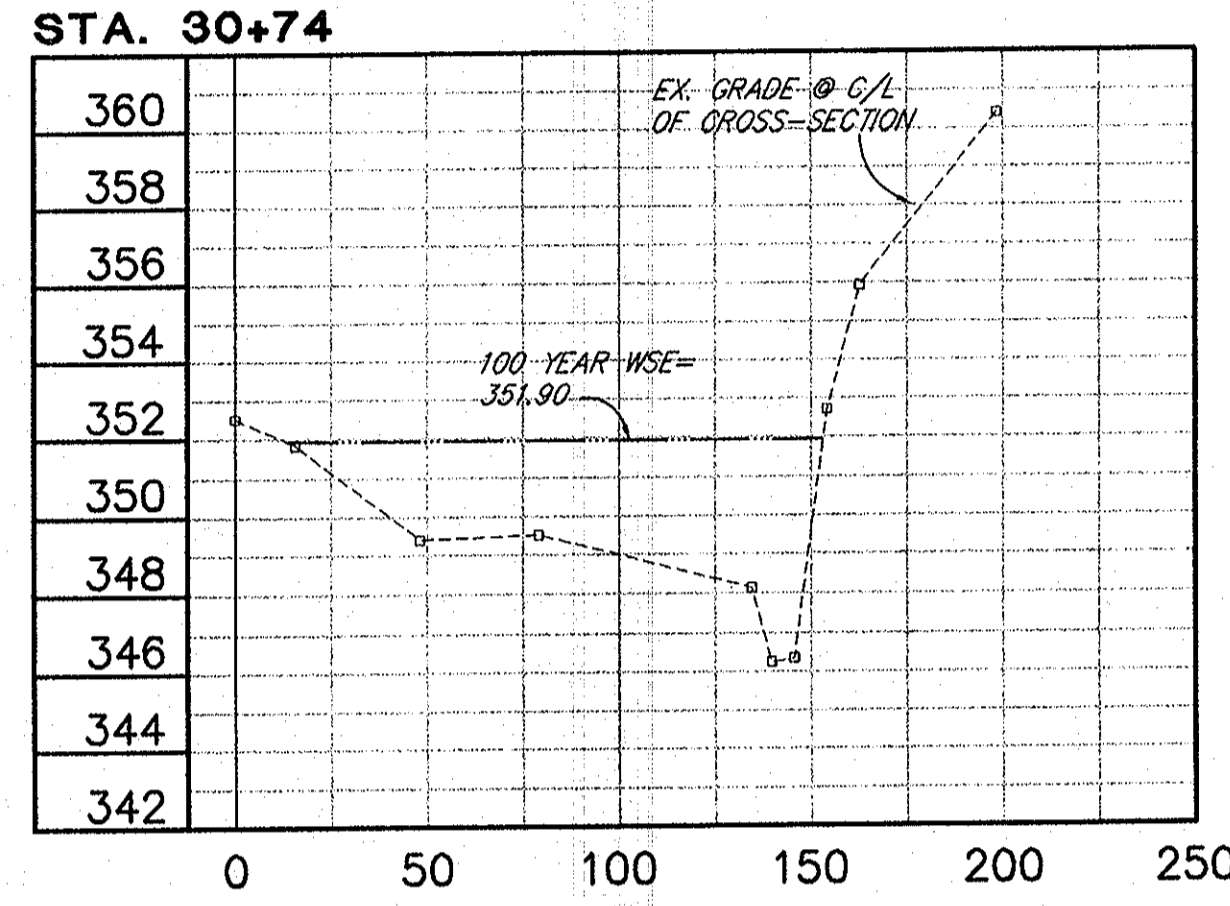
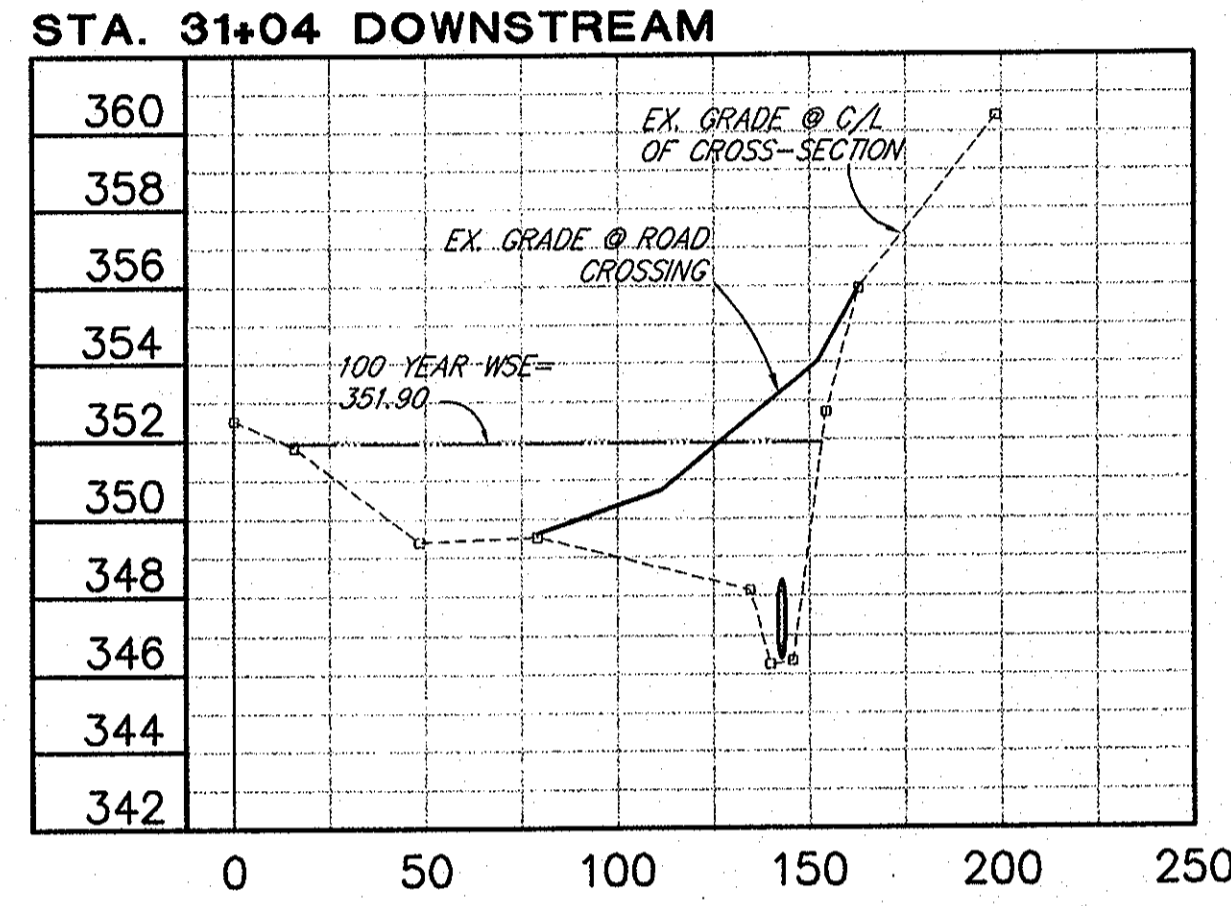
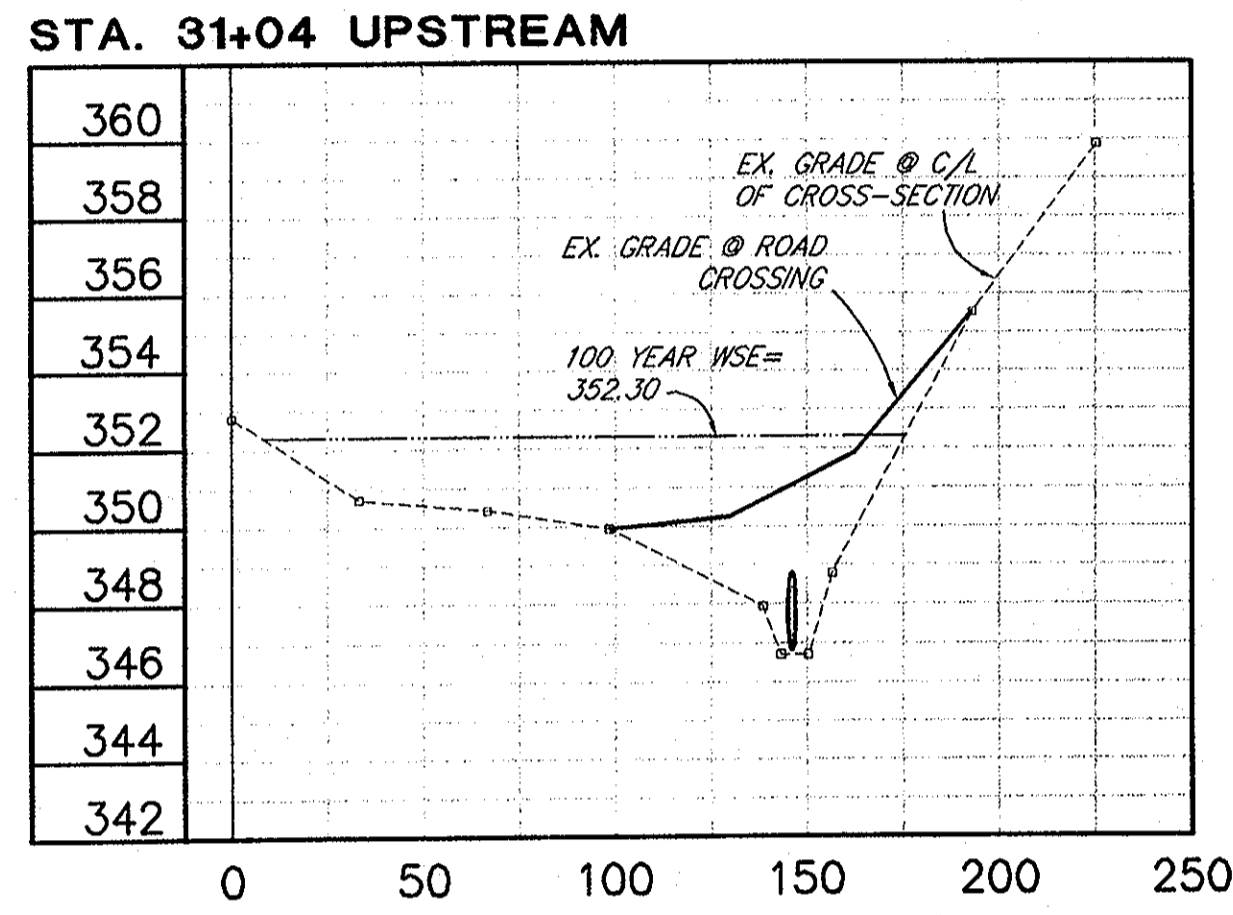
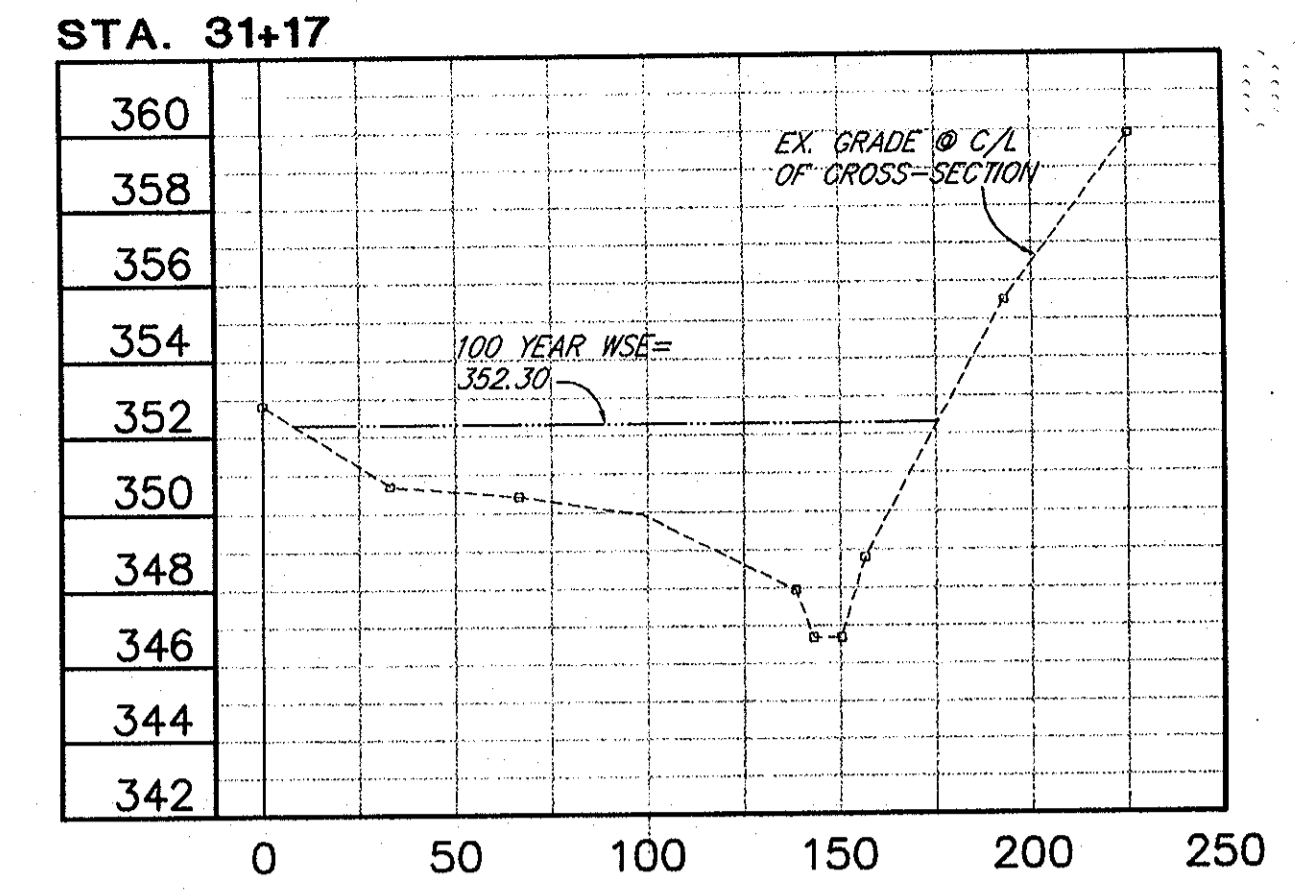
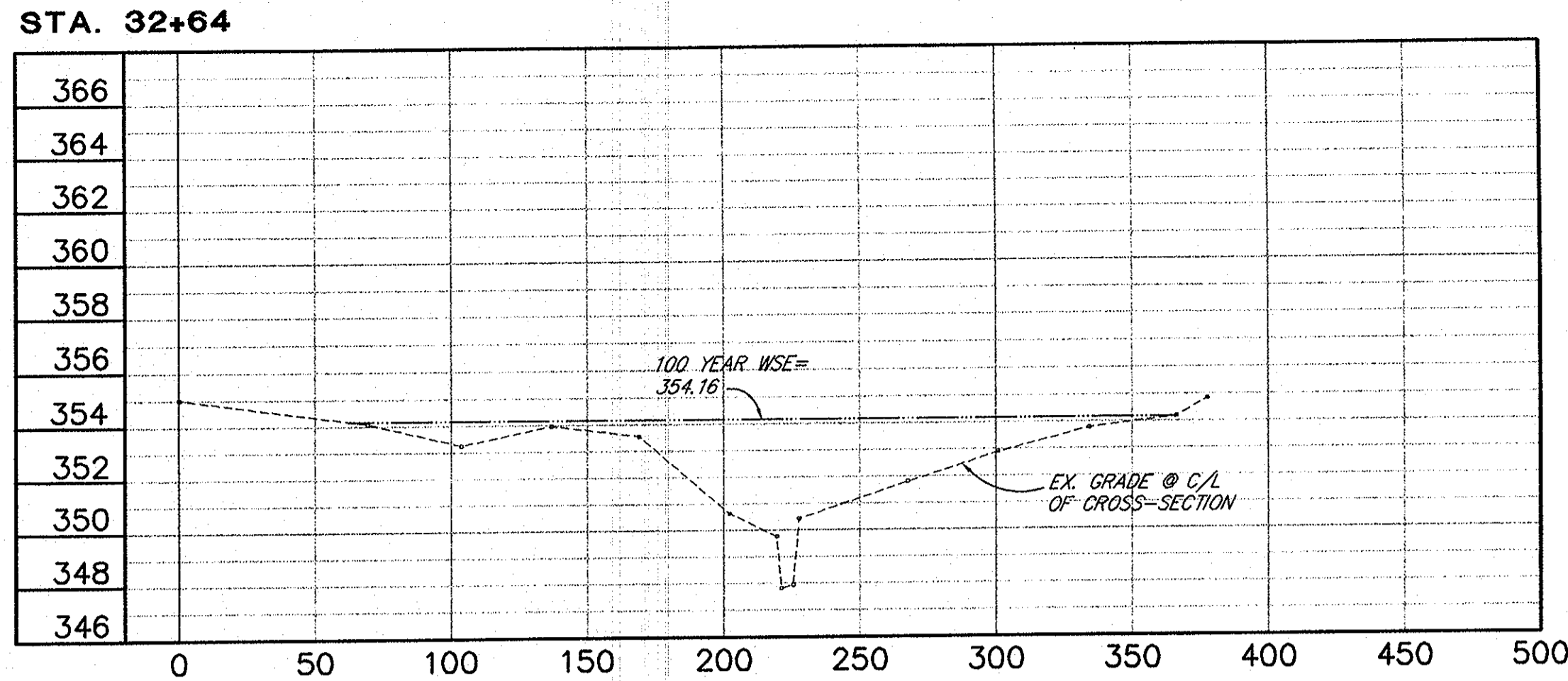
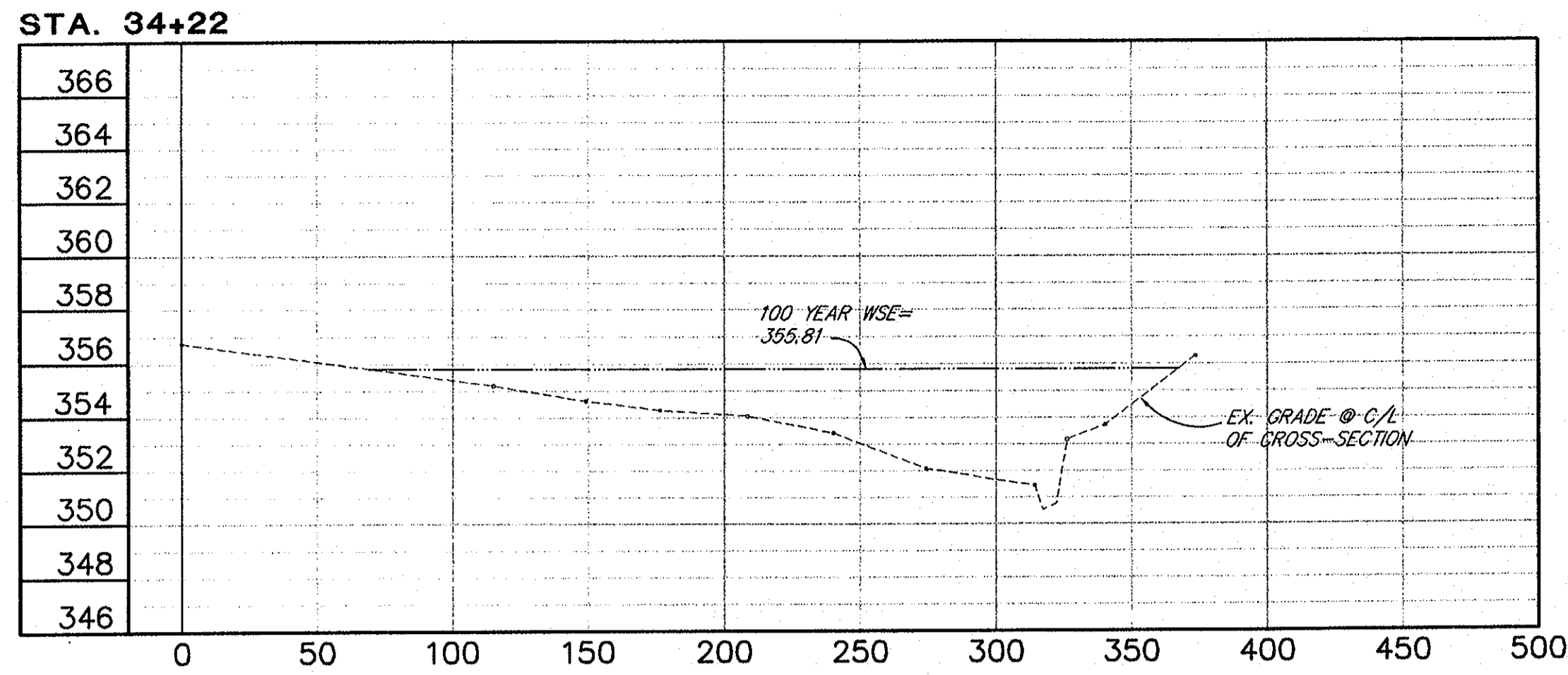
STREAM CROSS SECTIONS
 STA 44+69 - STA 36+19
THOMPSON ROAD
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA

BC REVISIONS
 OWNER:
 WINCHESTER HOMES
 6905 ROCKLEDGE DRIVE
 SUITE 800
 BETHESDA, MD 20817

DESIGNED BY: ML
 DRAFTED BY: CAD
 CHECKED BY: MRT
 DATE: JUNE, 2003
 SCALE: HOR. 1" = 50'
 VERT. 1" = 5'
 SHEET 13 OF 19
 CO. NO. 0000-XX-00
 CAD NAME: 7060FLD.DWG
 LAYOUT: XSEC 1
 FILE NO. 97060-33

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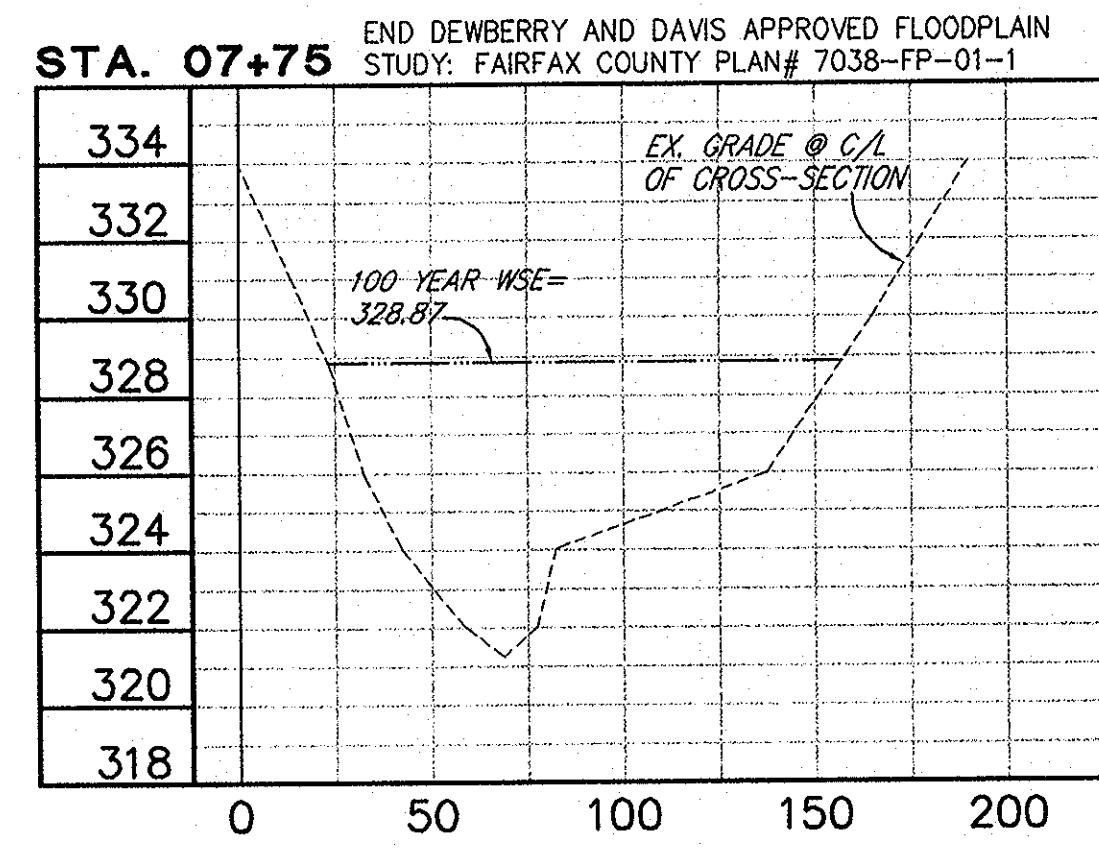
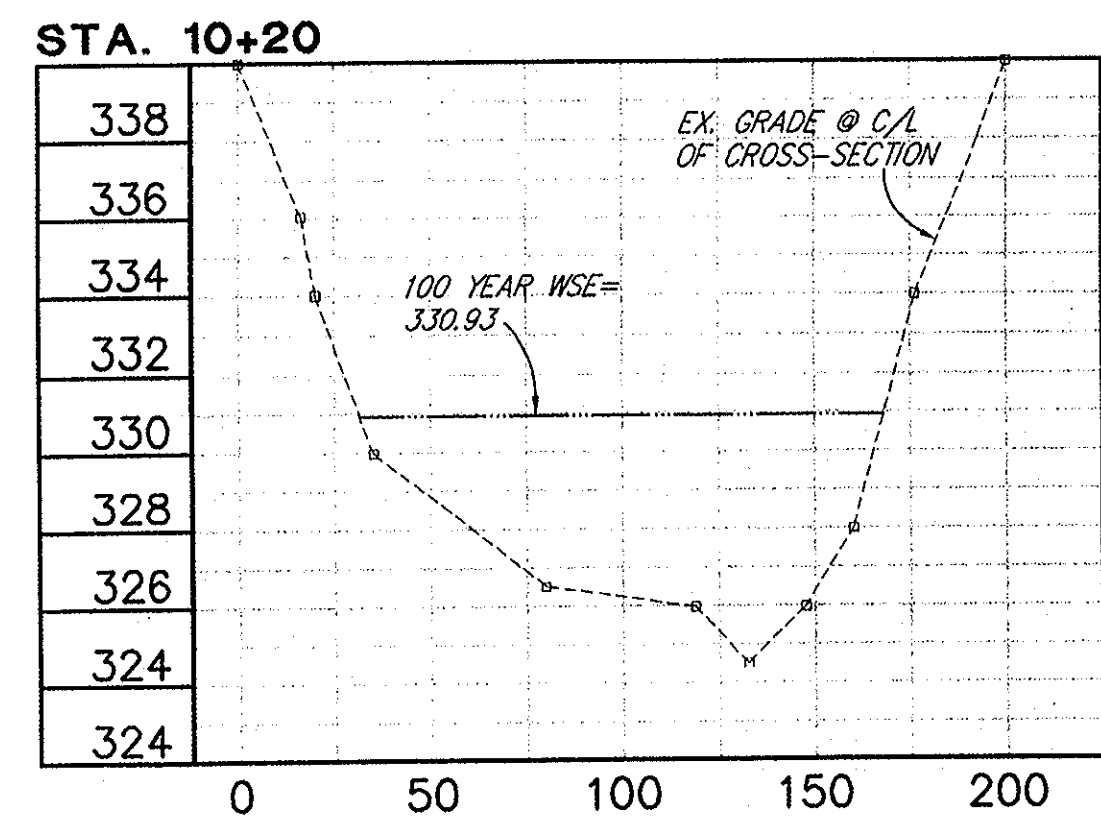
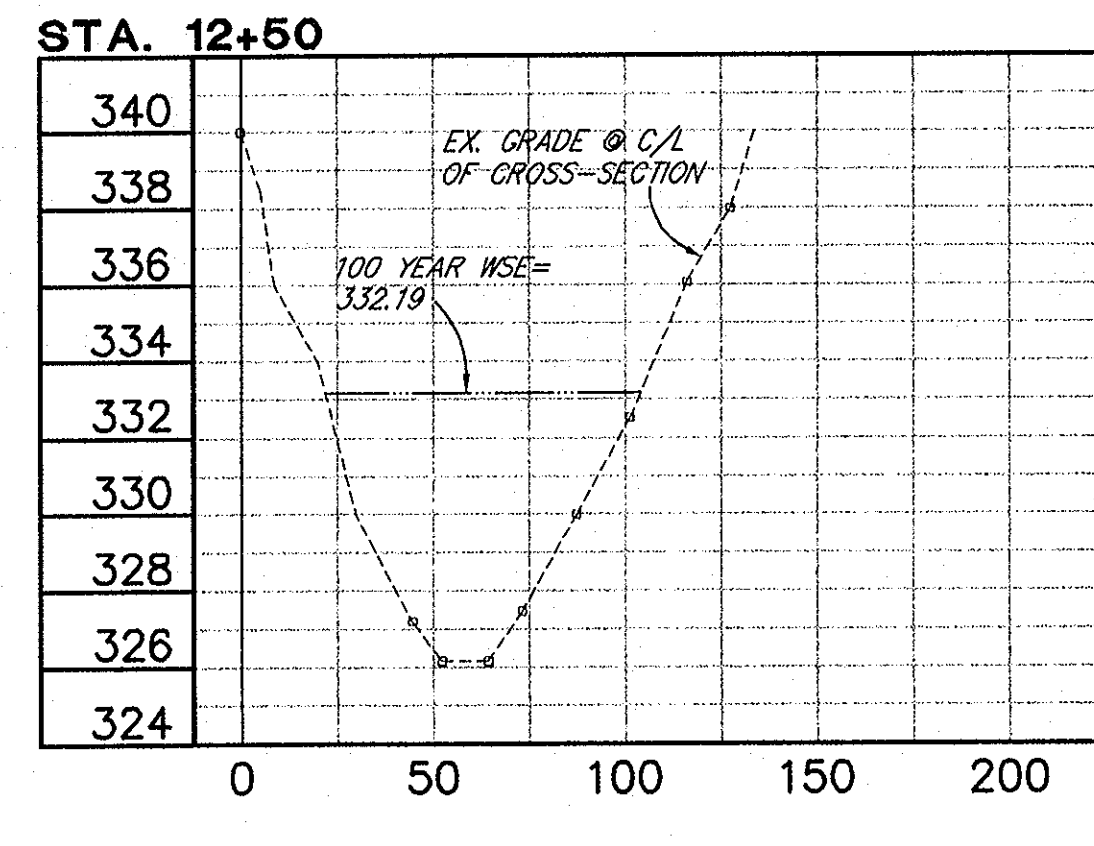
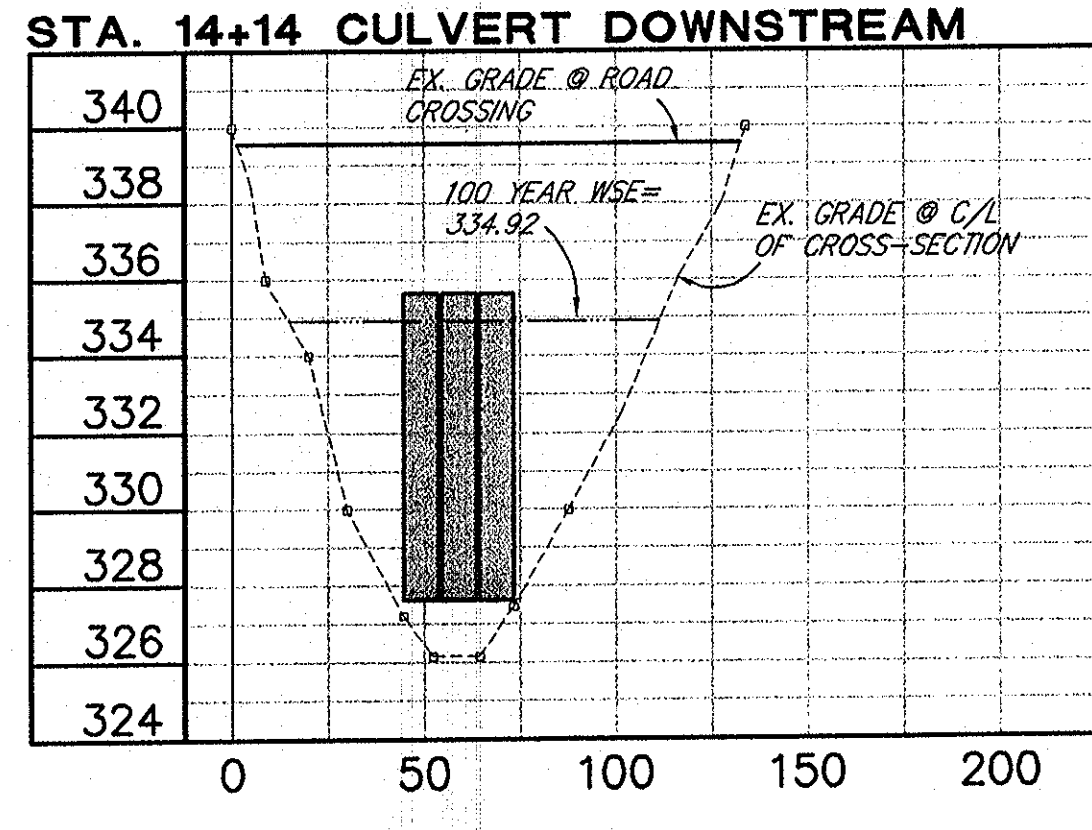
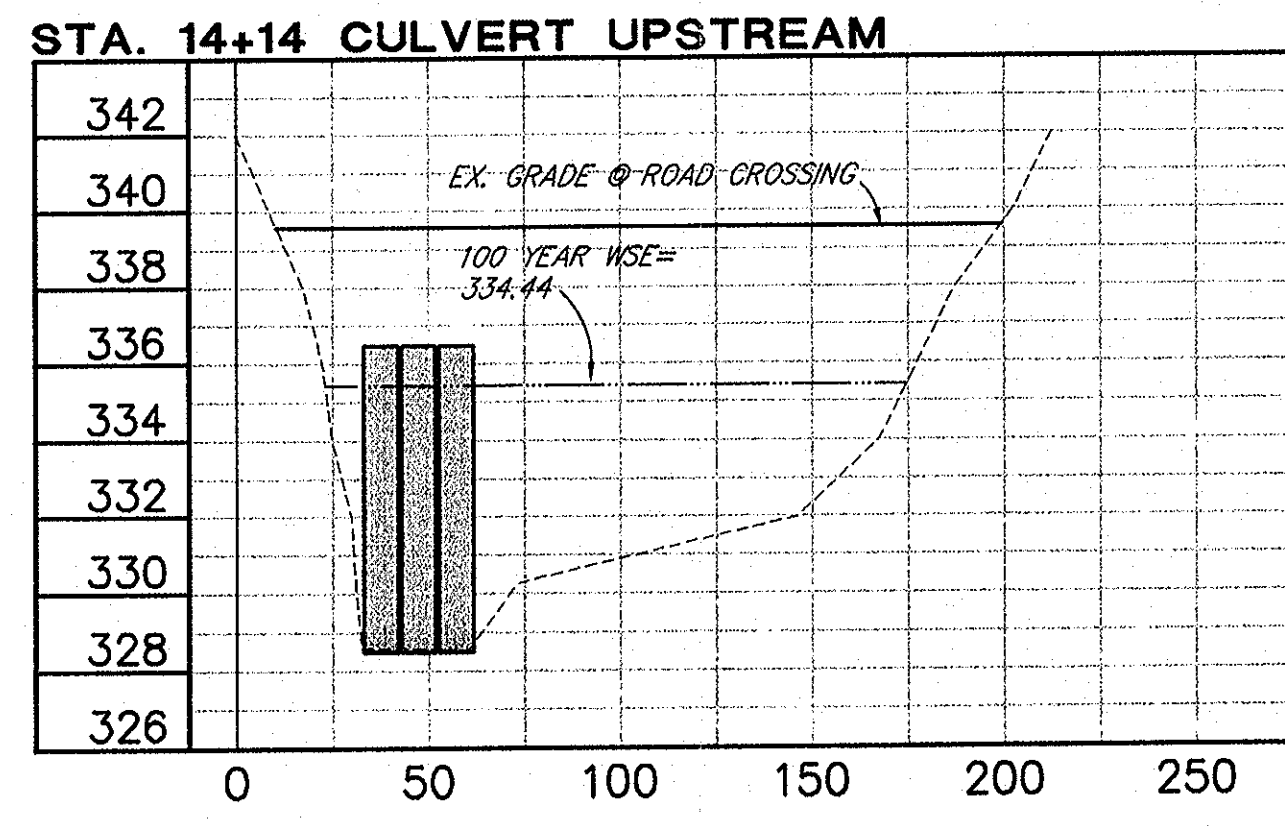
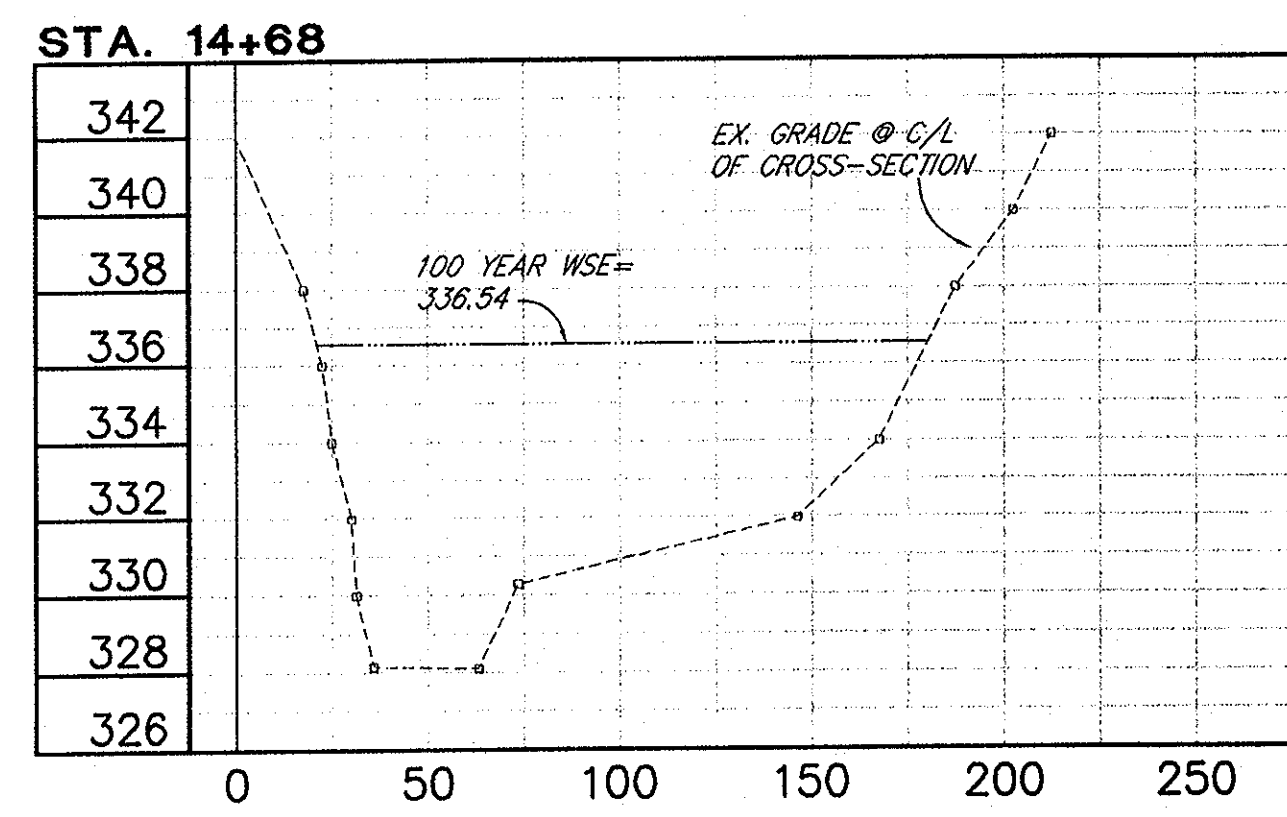
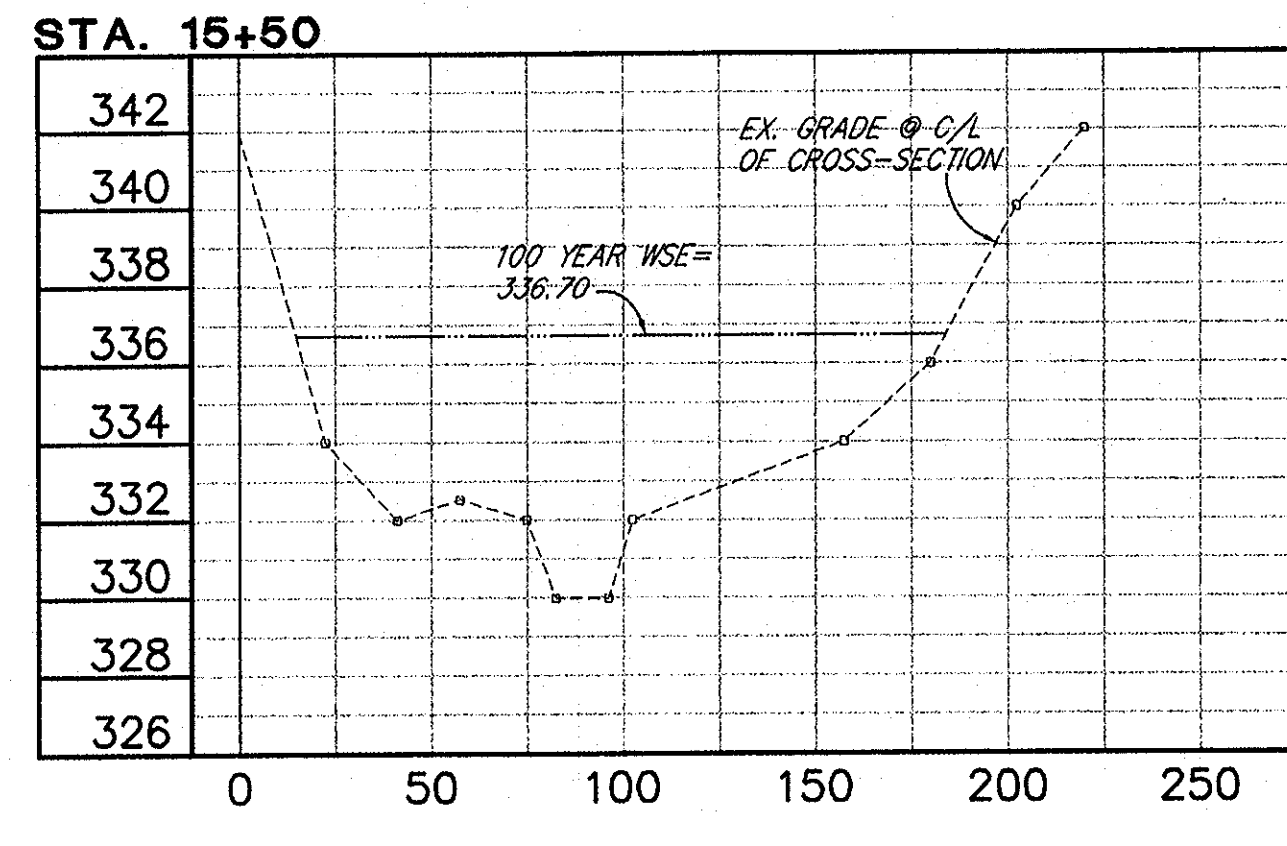
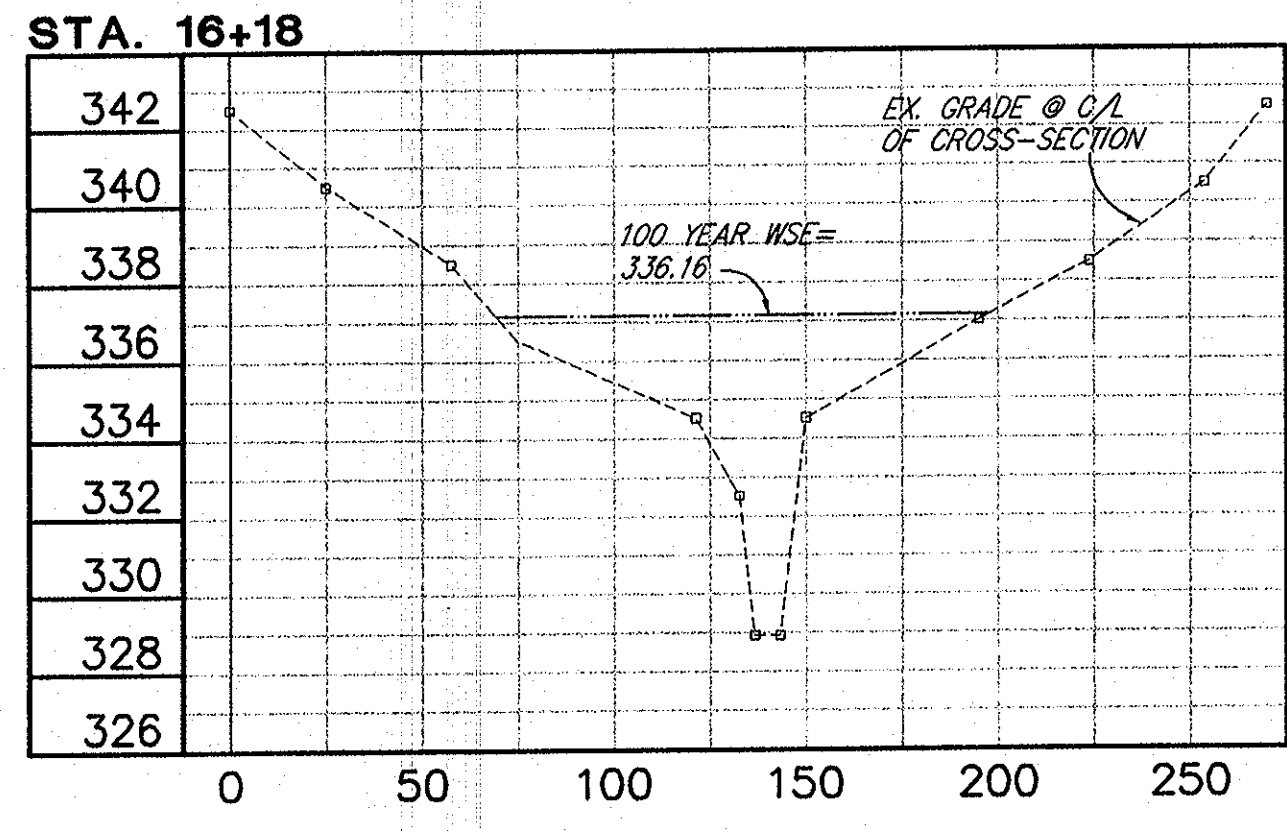
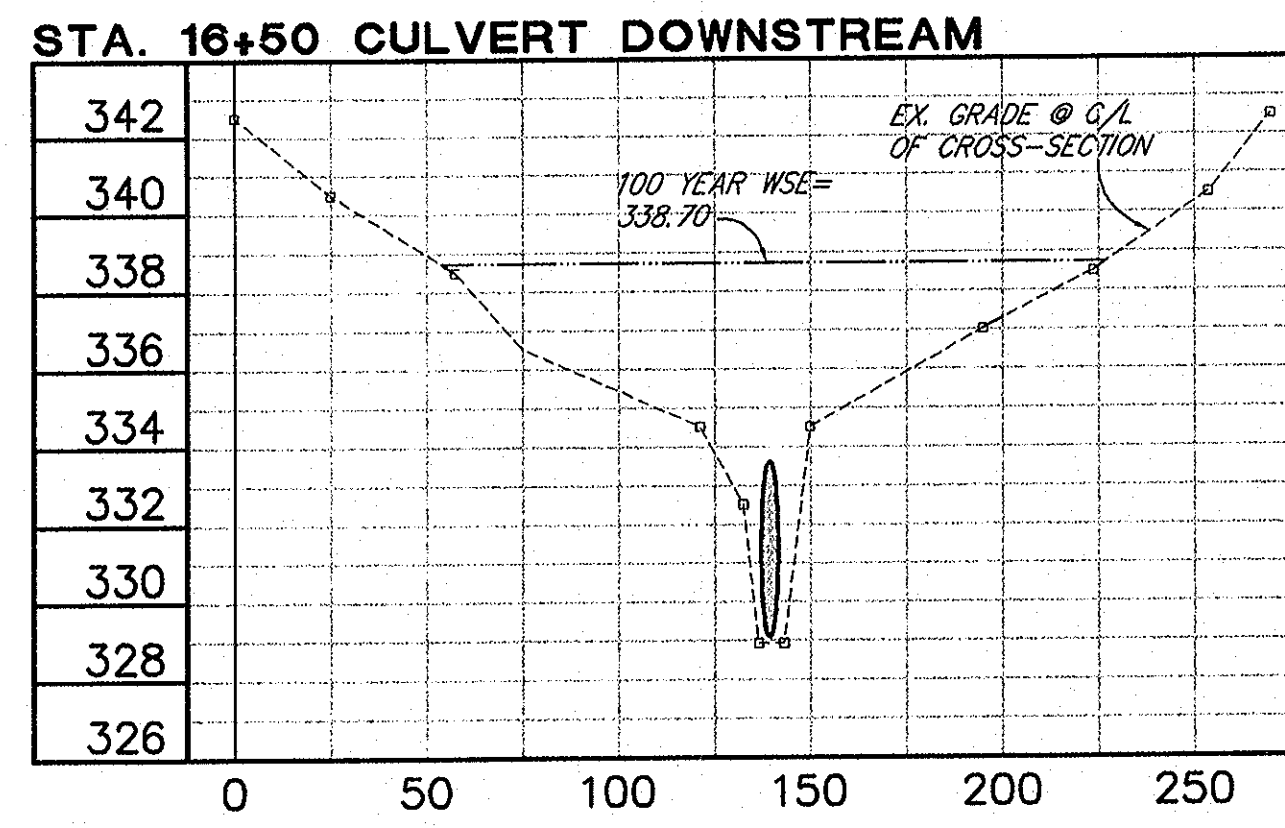
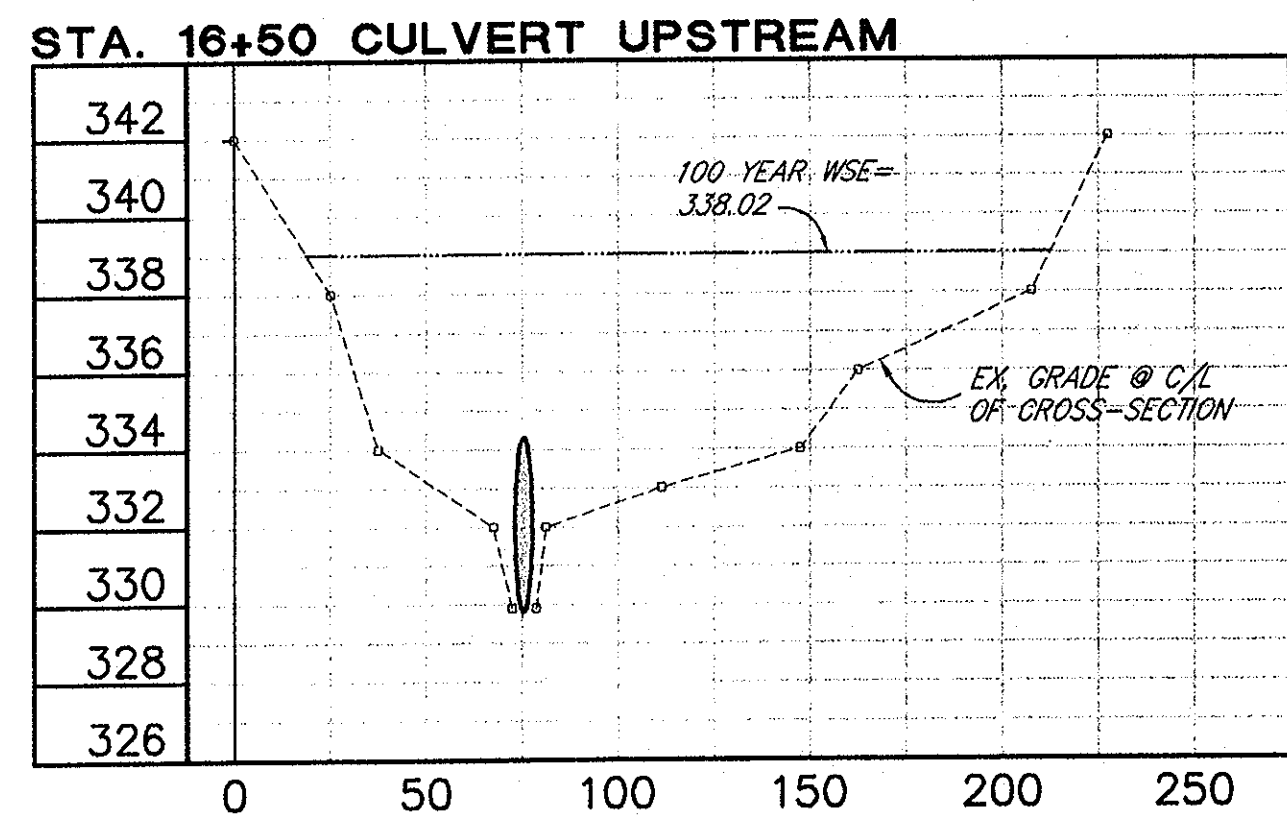
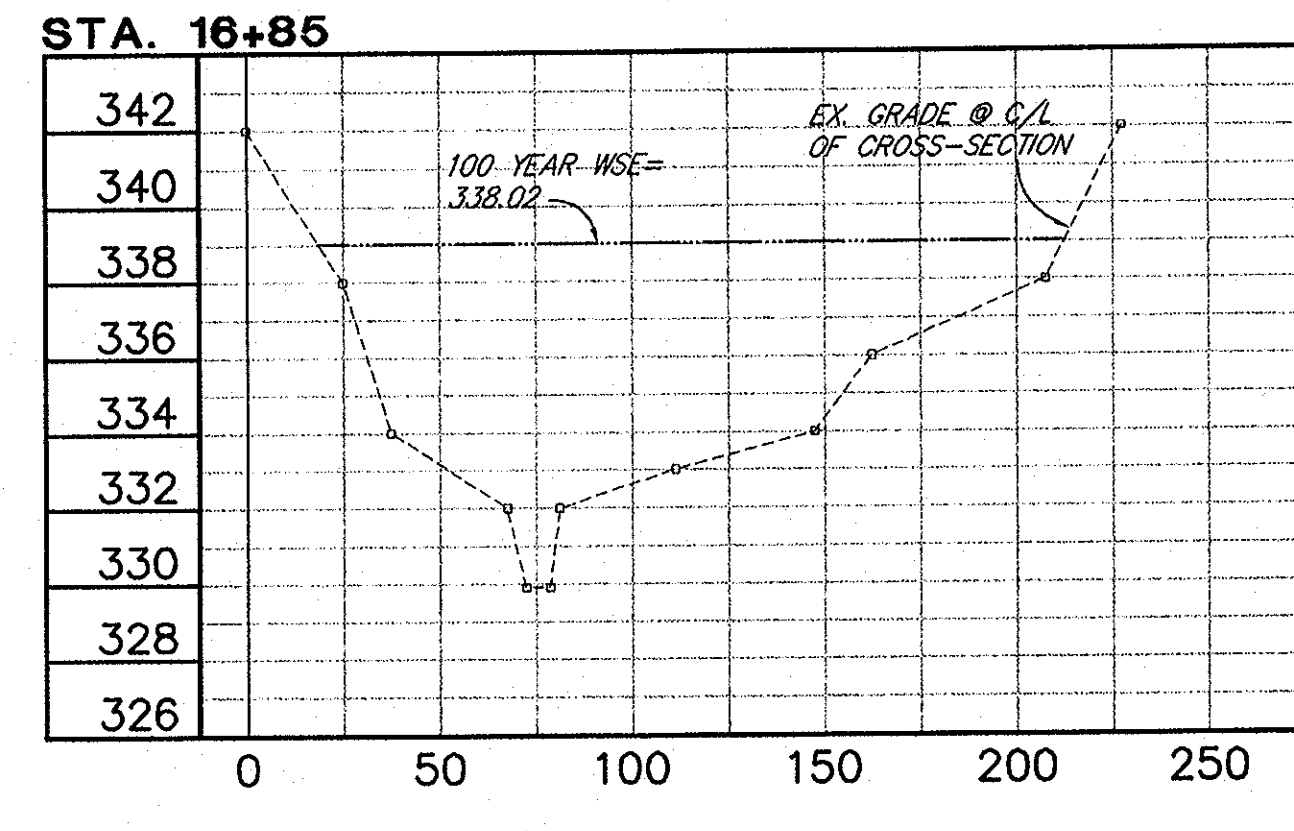
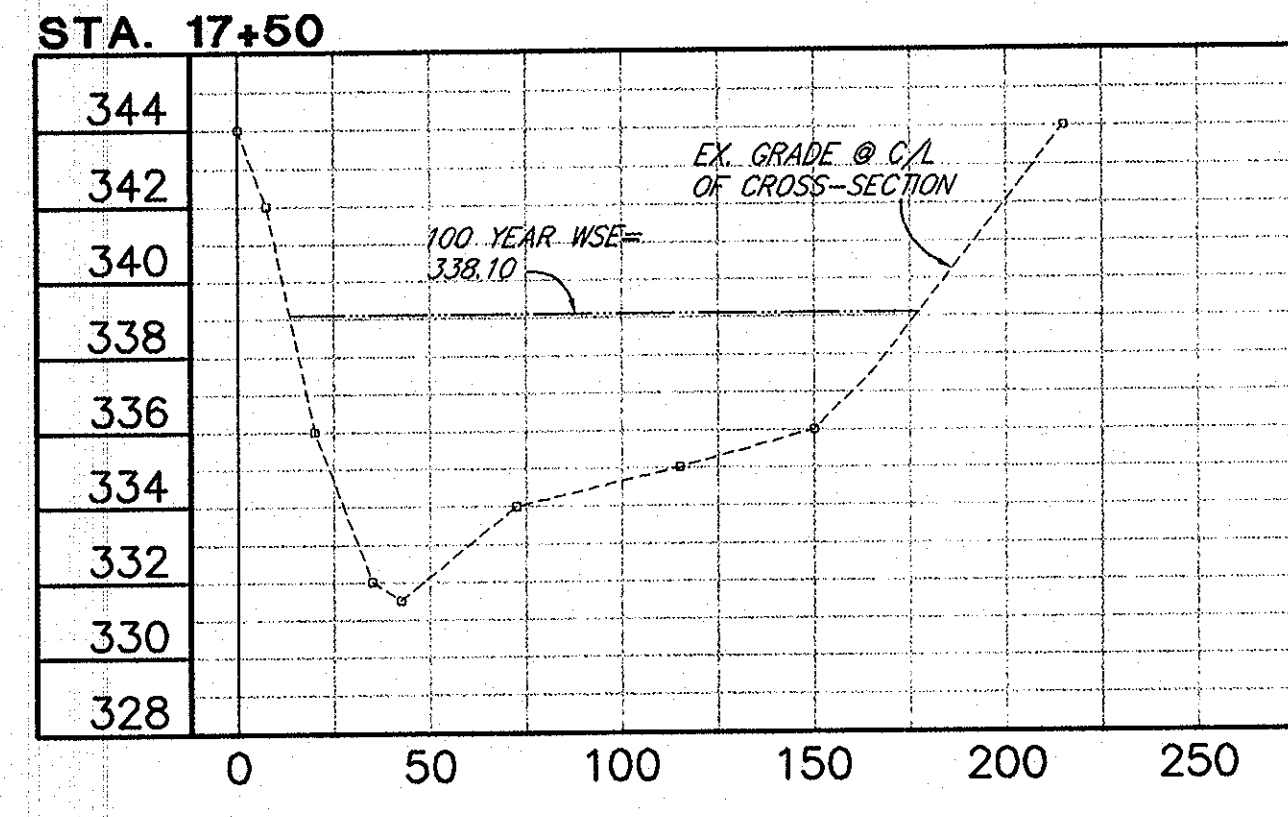
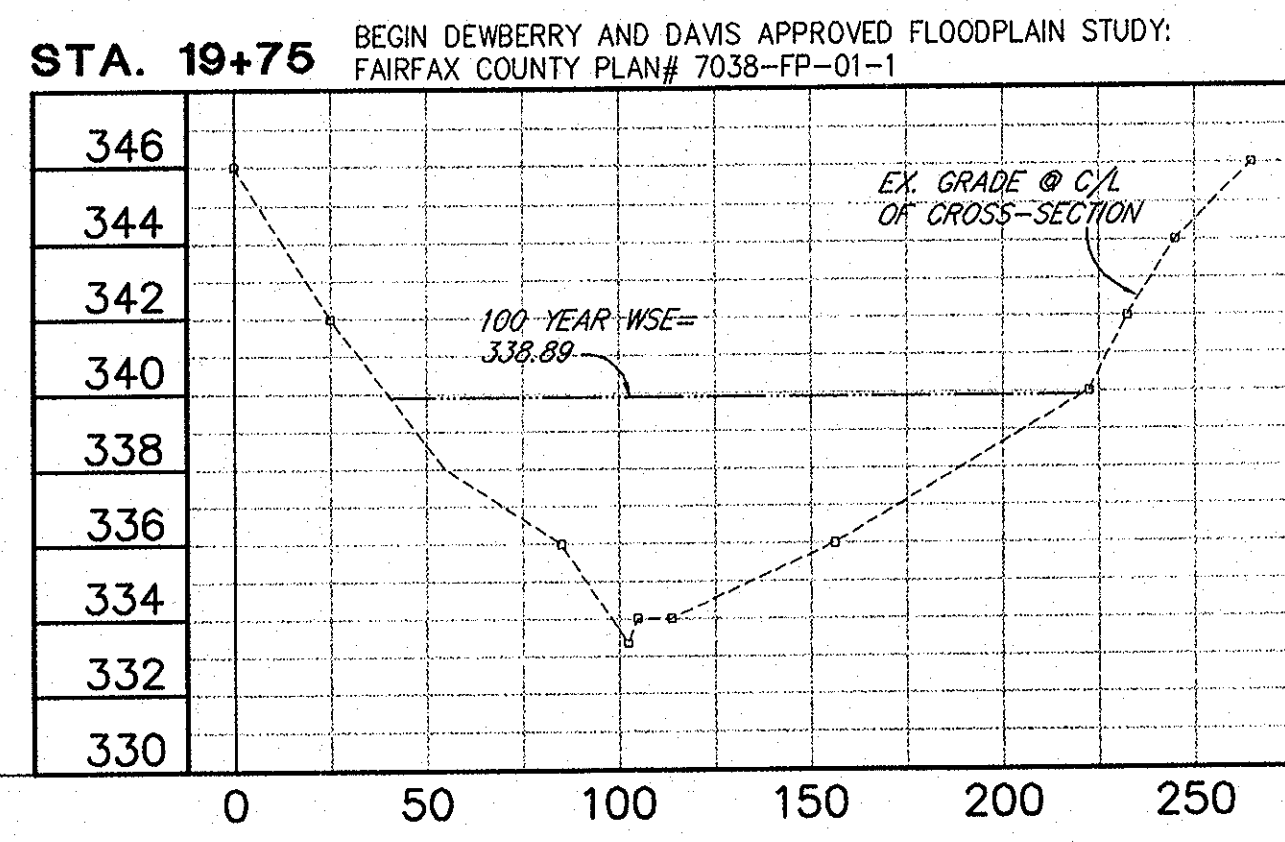
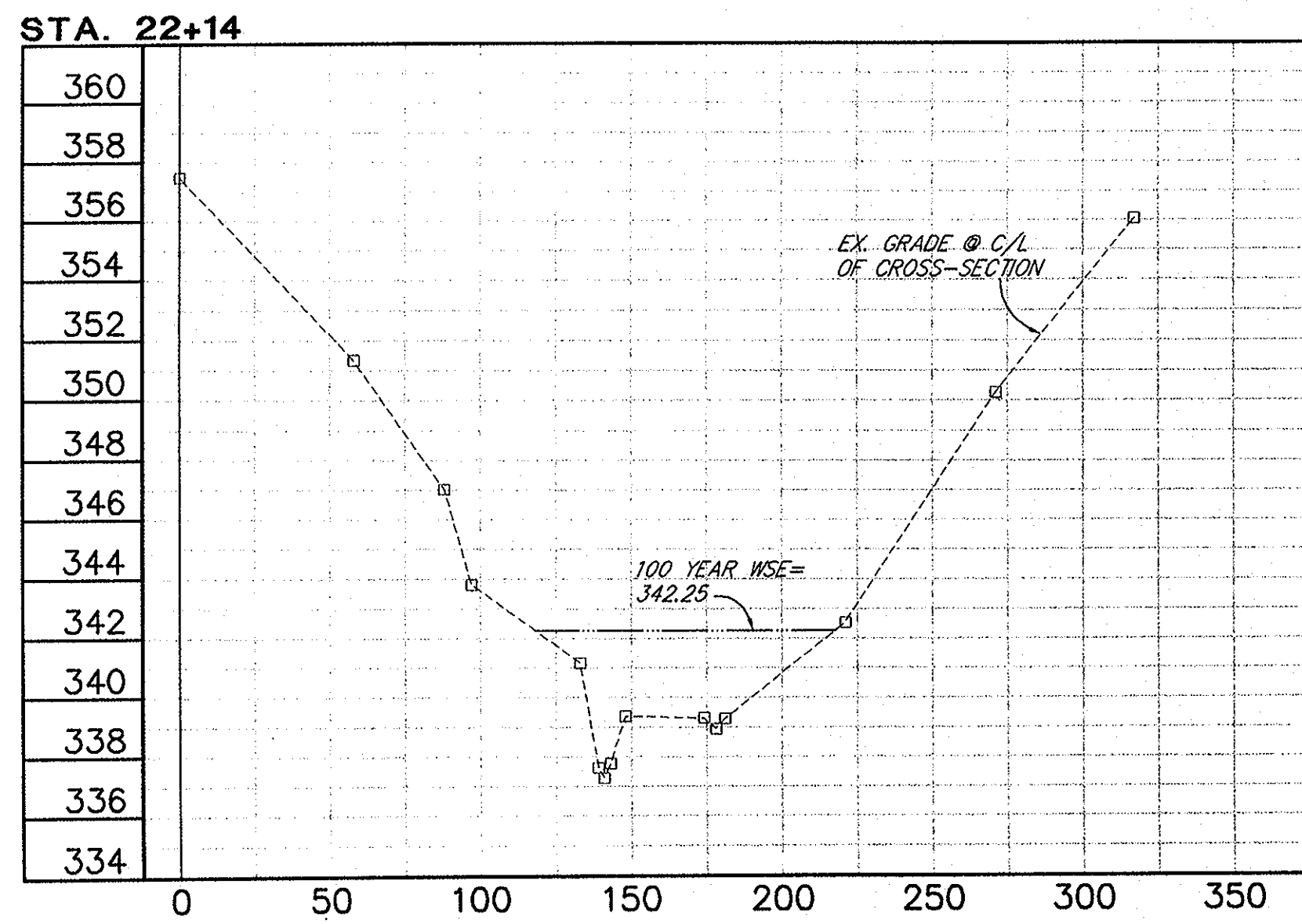
STREAM CROSS SECTIONS
 STA 34+22 - STA 22+97
THOMPSON ROAD
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA

DESIGNED BY: ML
 DRAFTED BY: CAD
 CHECKED BY: MRT
 DATE: JUNE, 2003
 SCALE: HOR. 1" = 60'
 VERT. 1" = 6'

SHEET 14 OF 19
 CO. NO. 0000-XX-00
 CAD NAME: 7060FLD.DWG
 LAYOUT: XSEC 2
 FILE NO. 97060-33

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XSEC: 7060FLD-80R 7060FLD-XSEC



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STREAM CROSS SECTIONS
 STA 22+14 - STA 14+68
THOMPSON ROAD
 SULLY DISTRICT
 FAIRFAX COUNTY, VIRGINIA

DESIGNED BY: ML
 DRAFTED BY: CAD
 CHECKED BY: MRT
 DATE: JUNE, 2003
 SCALE: HOR. 1" = 50'
 VERT. 1" = 5'

SHEET 15 OF 19
 CO. NO. 0000-XX-00
 CAD NAME: 7060FLD.DWG
 LAYOUT: XSEC 3
 FILE NO. 97060-33

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XREFS: 7060FLD-BR04, 7060SNL-XSEC

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross section. Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 3164

INPUT Description: BC Station 324+6 = Metric Sta. 9+95 Station Elevation Data num= 15 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val Sta n Val

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 354.33 * Element * Left OB * Channel * Right OB

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 3117

INPUT Description: BC Station 31+7 = Metric Sta. 9+50 Station Elevation Data num= 10 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 352.48 * Element * Left OB * Channel * Right OB

CULVERT RIVER: Flatlick Branch REACH: Thompson Rd RS: 3104

INPUT Description: 2 ft/600 mm RCP Distance from Upstream XS = 8 Deck/Roadway Width = 10 Weir Coefficient = 3.1

Upstream Bridge Cross Section Data Station Elevation Data num= 10 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val Sta n Val

Bank Sta: Left Right Coeff Contr. Expan.

Downstream Deck/Roadway Coordinates num= 4 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord

Downstream Bridge Cross Section Data Station Elevation Data num= 10 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val

Bank Sta: Left Right Coeff Contr. Expan.

Upstream Embankment side slope = 0 horiz. to 1.0 vertical Downstream Embankment side slope = 0 horiz. to 1.0 vertical

Number of Culverts = 1

Culvert Name Shape Rise Span Culvert #1 Circular 2

CULVERT OUTPUT Profile #PF 1 Culvert ID: Culvert #1 * Culv Q (cfs) * 15.04 * Culv Full Lngth (ft) * 10.00

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 3074

INPUT Description: BC Station 304+7 = Metric Sta. 9+37 Station Elevation Data num= 10 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 352.09 * Element * Left OB * Channel * Right OB

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 2877

INPUT Description: BC Station 28+77 = Metric Sta. 8+77 Station Elevation Data num= 15 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 349.92 * Element * Left OB * Channel * Right OB

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 2822

INPUT Description: BC Station 28+22 = Metric Sta. 8+60 Station Elevation Data num= 11 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 348.82 * Element * Left OB * Channel * Right OB

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross section. Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 2559

INPUT Description: BC Station 25+59 = Metric Sta. 7+80 Station Elevation Data num= 15 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 346.34 * Element * Left OB * Channel * Right OB

Number of Culverts = 1

Culvert Name Shape Rise Span Culvert #1 Circular 4.5

CULVERT OUTPUT Profile #PF 1 Culvert ID: Culvert #1 * Culv Q (cfs) * 136.16 * Culv Full Lngth (ft) * 42.00

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross section. Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1975

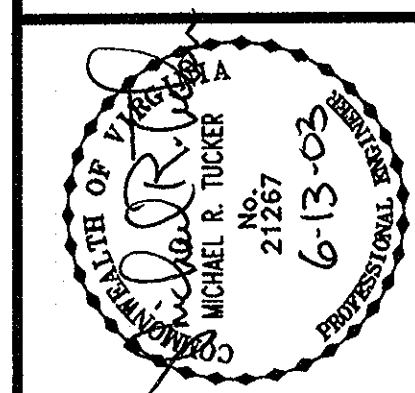
INPUT Description: Sta. 19+75 of Dewberry Study = Metric Sta. 6+01.98 Station Elevation Data num= 12 Sta Elev Sta Elev Sta Elev Sta Elev

Manning's n Values num= 3 Sta n Val Sta n Val

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 340.01 * Element * Left OB * Channel * Right OB

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INPUT/OUTPUT DATA EXISTING CONDITIONS THOMPSON ROAD SULLY DISTRICT FAIRFAX COUNTY, VIRGINIA

EC REVISIONS SHEET 17 OF 19 CO. NO. 0000-XX-00 CAD NAME: 7060FLD.DWG LAYOUT: COMP 2 FILE NO. 97060-33

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REGS: 7060FLD-BOR 7060FLD-ASC

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections. Warning: The energy loss was greater than 1.0 ft (0.3 m) between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 2297 INPUT Description: BC Station 22+97 = Metric Sta. 7+00 Station Elevation Data num= 17

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 343.86 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.25 * Wt. n-Val. * 0.100 * 0.100 * 0.100

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections. Warning: The energy loss was greater than 1.0 ft (0.3 m) between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 2214 INPUT Description: BC Station 22+14 = Metric Sta. 6+75 Station Elevation Data num= 15

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 342.82 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.56 * Wt. n-Val. * 0.100 * 0.100 * 0.100

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1750 INPUT Description: Sta. 17+50 of Dewberry Study = Metric Sta. 5+33.4 Station Elevation Data num= 10

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 339.18 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.08 * Wt. n-Val. * 0.100 * 0.100 * 0.100

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1685 INPUT Description: Sta. 16+85 of Dewberry Study = Metric Sta. 5+13.6 Station Elevation Data num= 12

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 339.07 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.05 * Wt. n-Val. * 0.100 * 0.100 * 0.100

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 339.02 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.05 * Wt. n-Val. * 0.100 * 0.100 * 0.100

CULVERT RIVER: Flatlick Branch REACH: Thompson Rd RS: 1650 INPUT Description: Existing 54" ROP under Thompson Road

Upstream Bridge Cross Section Data Station Elevation Data num= 12 * Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

Downstream Deck/Roadway Coordinates num= 2 * Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord

Downstream Bridge Cross Section Data Station Elevation Data num= 13 * Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

Upstream Embankment side slope = 0 horiz. to 1.0 vertical Downstream Embankment side slope = 0 horiz. to 1.0 vertical

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1618 INPUT Description: Sta. 16+18 of Dewberry Study = Metric Sta. 4+93.7 Station Elevation Data num= 13

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 337.74 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.58 * Wt. n-Val. * 0.100 * 0.100 * 0.100

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1550 INPUT Description: Sta. 15+50 of Dewberry Study = Metric Sta. 4+72.44 Station Elevation Data num= 12

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 336.80 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.10 * Wt. n-Val. * 0.100 * 0.100 * 0.100

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1468 INPUT Description: Sta. 14+68 of Dewberry Study = Metric Sta. 4+47.45 Station Elevation Data num= 14

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 336.60 * Element * Left OB * Channel * Right OB * Vel Head (ft) * 0.06 * Wt. n-Val. * 0.100 * 0.100 * 0.100

Upstream Embankment side slope = 0 horiz. to 1.0 vertical Downstream Embankment side slope = 0 horiz. to 1.0 vertical

CULVERT RIVER: Flatlick Branch REACH: Thompson Rd RS: 1414 INPUT Description: Proposed 9' x 8' Triple Box Culvert under Proposed Ashvale Road

Upstream Bridge Cross Section Data Station Elevation Data num= 14 * Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

Downstream Bridge Cross Section Data Station Elevation Data num= 14 * Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

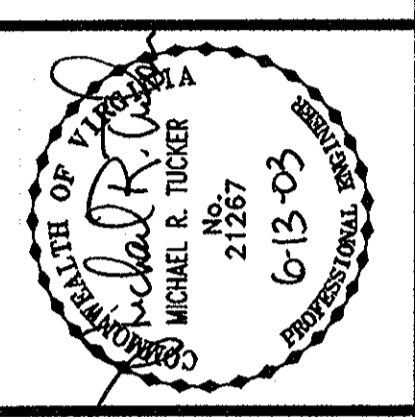
Upstream Embankment side slope = 0 horiz. to 1.0 vertical Downstream Embankment side slope = 0 horiz. to 1.0 vertical

Number of Culverts = 1 Culvert Name Shape Rise Span Culvert #1 Box 8 9

CULVERT OUTPUT Profile #PF 1 Culvert ID: Culvert #1 * Culv Q (cfs) * 1530.00 * Culv Full Lgh (ft) * 12.22

Note: The flow in the culvert is entirely supercritical.

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INPUT/OUTPUT DATA EXISTING CONDITIONS THOMPSON ROAD SULLY DISTRICT FAIRFAX COUNTY, VIRGINIA

DESIGNED BY: ML DRAFTED BY: CAD CHECKED BY: MRT DATE: JUNE, 2003 SCALE: HOR: 1"= 50' VERT: 1"= 5' SHEET 18 OF 19 CO. NO. 0000-XX-00 CAD NAME: 7060FLD.DWG LAYOUT: COMP 3 FILE NO. 97060-33

\\PROJECTS\7060\CA\FILES\7060FLD.DWG, COMP. 3, 6/12/2003 5:41:53 PM

REV: 7060FLD-880R, 7060FLD-ASC

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1250 INPUT Description: Sta. 12+50 of Dewberry Study = Metric Sta. 3+81 Station Elevation Data num= 14

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 333.48 * Element * Left OB * Channel * Right OB * * Vel Head (ft) * 0.30 * Wt. n-Val. * 0.100 * 0.100 * 0.100

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 1020 INPUT Description: Sta. 10+20 of Dewberry Study = Metric Sta. 3+10.90 Station Elevation Data num= 12

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 331.18 * Element * Left OB * Channel * Right OB * * Vel Head (ft) * 0.24 * Wt. n-Val. * 0.100 * 0.100 * 0.100

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Flatlick Branch REACH: Thompson Rd RS: 775 INPUT Description: Sta. 7+75 of Dewberry Study = Metric Sta. 2+36.22 Station Elevation Data num= 12

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 329.10 * Element * Left OB * Channel * Right OB * * Vel Head (ft) * 0.24 * Wt. n-Val. * 0.100 * 0.100 * 0.100

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 1 * E.G. Elev (ft) * 329.10 * Element * Left OB * Channel * Right OB * * Vel Head (ft) * 0.24 * Wt. n-Val. * 0.100 * 0.100 * 0.100

SUMMARY OF REACH LENGTHS River: Flatlick Branch * Reach * River Sta. * Left * Channel * Right *

Profile Output Table - Standard Table 1 * Reach * River Sta * Q Total * Min Ch El * W.S. Elev * Crit W.S. * E.G. Elev * E.G. Slope * Vel Chnl * Flow Area * Top Width * Froude # * Chi

Profile Output Table - Standard Table 2 * Reach * River Sta * E.G. Elev * W.S. Elev * Vel Head * Frctn Loss * C & E Loss * Q Left * Q Channel * Q Right * Top Width

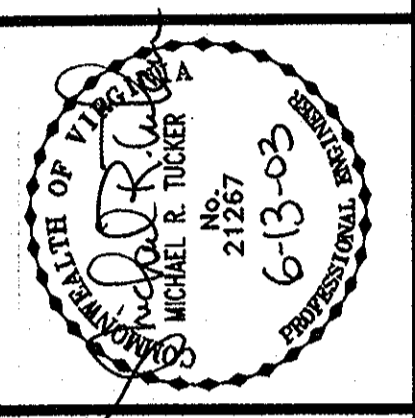
Profile Output Table - Four XS Culvert * Reach * River Sta * E.G. Elev * W.S. Elev * Vel Head * Frctn Loss * C & E Loss * Q Left * Q Channel * Q Right * Top Width

Profile Output Table - Culvert Only * Reach * River Sta * E.G. Elev * W.S. Elev * E.G. OC * Min El Weir Flow * Culv Q * Q Weir * Delta WS * Culv Vel US * Culv Vel DS

SUMMARY OF MANNING'S N VALUES River: Flatlick Branch * Reach * River Sta. * n1 * n2 * n3 *

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS River: Flatlick Branch * Reach * River Sta. * Confr. * Expan. *

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INPUT/OUTPUT DATA EXISTING CONDITIONS THOMPSON ROAD SUITY DISTRICT FAIRFAX COUNTY, VIRGINIA

DESIGNED BY: ML DRAFTED BY: CAD CHECKED BY: MRT DATE: JUNE, 2003 SCALE: HOR. 1" = 50' VERT. 1" = 5' SHEET 19 OF 19 CO. NO. 0000-XX-00 CAD NAME: 7060FLD.DWG LAYOUT: COMP 4 FILE NO. 97060-33