

ANNAPOLIS JUNCTION BUSINESS PARK

SITE ANALYSIS

- TOTAL SITE AREA: WITHOUT ROAD R/W: 8.024 AC.
- TOTAL NUMBER OF PARCELS: 4. PARCEL "A" 2.150 AC., PARCEL "B" 1.596 AC., PARCEL "C" 1.984 AC., PARCEL "D" 2.294 AC.
- DEED REFERENCE: 07671/212 F-04-107, P.N. 1701B
- THE SUBJECT PROPERTY IS ZONED M2 PER THE FEBRUARY 2, 2004 COMPREHENSIVE ZONING PLAN.
- TAX MAP: 48 GRID: 14 PARCEL: 120 ELECTION DISTRICT: 6
- PARKING TABULATION:

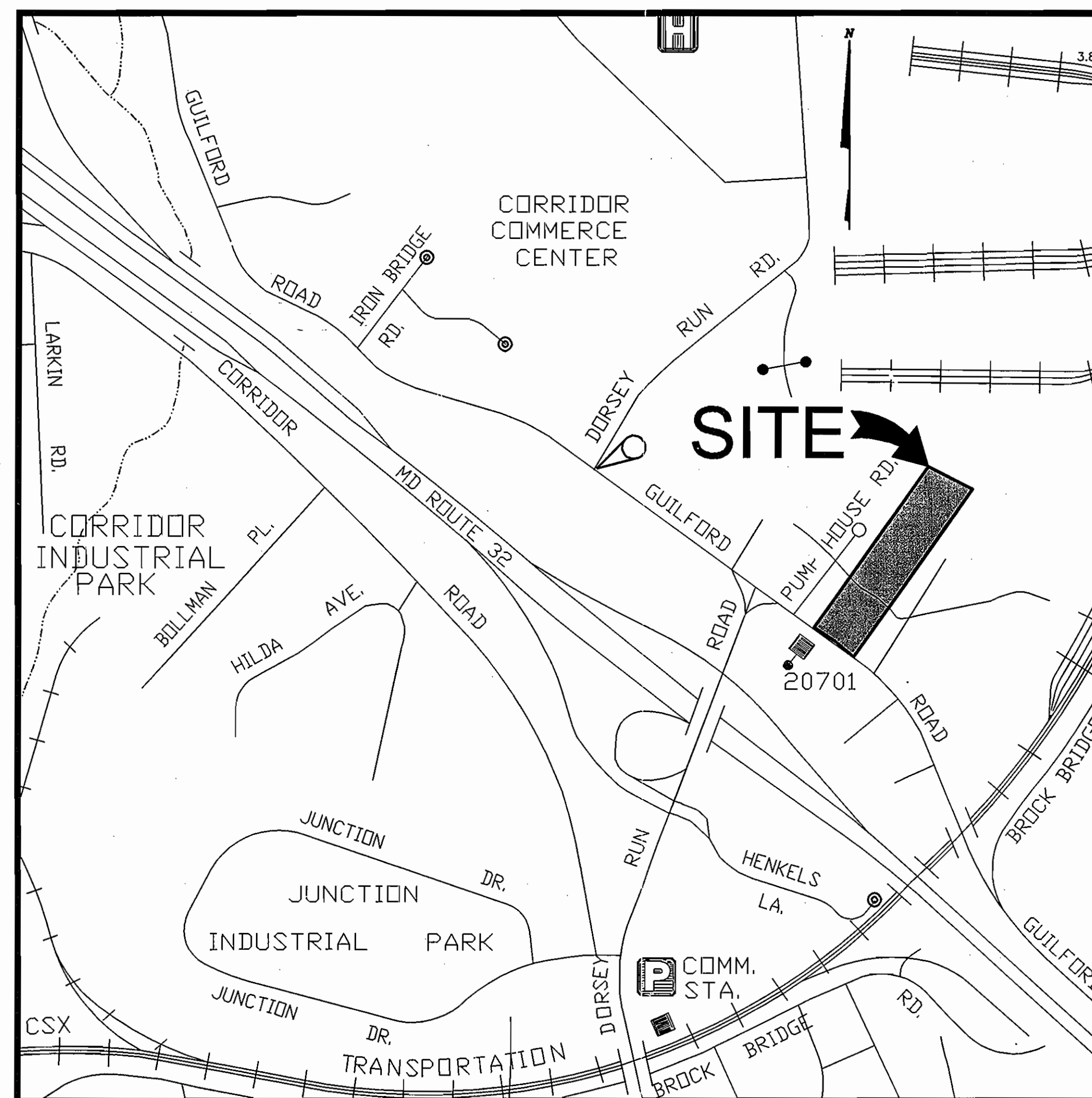
PROVIDED:	10	
220 SPACES (INCLUDING 9 HANDICAP SPACES)		
7. SITE AREA TABULATION: (WITHOUT ROAD R/W)		
A. TOTAL PARCEL AREA:	8.024 AC. (PARCELS A-D)	
B. TOTAL BUILDING AREA:	2,505 AC. 31.2% COVERAGE	
C. PARCEL AREA: PARCEL "A" 2.150 AC., PARCEL "B" 1.596 AC., PARCEL "C" 1.984 AC., PARCEL "D" 2.294 AC.		
D. BUILDING AREA:		
PARCEL "A"		
OFFICE - 11,750 SF @ 3.3/1000 S.F.	= 35.3	34.0
WAREHOUSE - 20,250 SF @ 0.5 P.S./1000 S.F.	= 40.5	10.9
	44.9	45 REQ'D
PARCEL "B"		
OFFICE - 9,500 SF @ 3.3/1000 S.F.	= 28.5	
WAREHOUSE - 13,138 SF @ 0.5 P.S./1000 S.F.	= 26.6	
	38.0	38 REQ'D
PARCEL "C"		
OFFICE - 9,500 SF @ 3.3/1000 S.F.	= 28.5	28.5
WAREHOUSE - 13,000 SF @ 0.5 P.S./1000 S.F.	= 26.4	1.1
WAREHOUSE MEZZANINE	0.1	
	29.4	30 REQ'D
PARCEL "D"		
OFFICE - 16,000 SF @ 3.3/1000 S.F.	= 48.5	
WAREHOUSE - 16,000 SF @ 0.5 P.S./1000 S.F.	= 32.0	0.6
WAREHOUSE MEZZANINE	0.1	
	60.4	61 REQ'D
	61.4	62
PARKING REQUIRED:		P.S. 486 215

NOTE:
THERE IS NO MANUFACTURING OR ASSEMBLY IN THE WAREHOUSE AREAS.
ANY FUTURE CHANGES WILL HAVE TO BE ADDRESSED IN THE HOWARD COUNTY RED LINE REVISION PROCESS FOR APPROVAL.

- OWNER:
WILHELM BUSINESS ENTERPRISES, LLC
10979 GUILFORD ROAD
ANNAPOLIS JUNCTION, MARYLAND 20701
- PROPOSED USE IS OFFICE AND WAREHOUSE.
- THE STORMWATER MANAGEMENT FACILITY IS TO CONSIST OF SWM BASINS, UNDERGROUND SAND FILTER FOR WATER QUALITY, CHANNEL PROTECTION AND 10 YEAR STORM VOLUME. STORMWATER MANAGEMENT FOR THE IMPROVEMENTS SHOWN ON THIS PLAN ARE BASED ON MEASURED IMPERVIOUS AREAS USING REDEVELOPMENT CRITERIA. ANY ADDITIONAL CONSTRUCTION ON THIS SITE SHALL REQUIRE FURTHER EVALUATION OF THE STORMWATER MANAGEMENT PROVISIONS.
- TOTAL DISTURBED AREA = 349,351 S.F. = 8.02 AC±
- PROPOSED BUILDINGS:
PARCEL "A", BUILDING 1 - 32,000 SF, 1-LEVEL, 34.2% BUILDING COVERAGE
PARCEL "B", BUILDING 2 - 22,638 SF, 1-LEVEL, 32.6% BUILDING COVERAGE
PARCEL "C", BUILDING 3 - 22,500 SF, 1-LEVEL, 26% BUILDING COVERAGE
PARCEL "D", BUILDING 4 - 32,000 SF, 1-LEVEL, 32% BUILDING COVERAGE
- THERE ARE NO WETLANDS/WETLANDS BUFFERS WITHIN THE LIMIT OF DISTURBANCE SHOWN FOR DEVELOPMENT ON THIS SITE PLAN.

ADDRESS CHART	
LOT/PARCEL #	STREET ADDRESS
PARCEL "A"	10981 GUILFORD ROAD
PARCEL "B"	10979 GUILFORD ROAD
PARCEL "C"	10977 GUILFORD ROAD
PARCEL "D"	10975 GUILFORD ROAD

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
ANNAPOLIS JUNCTION BUSINESS PARK				PARCEL S A-D	
PLAT #	GRID #	ZONING	TAX MAP NO.	ELECT DISTR	CENSUS TRACT
1701B	14	M-2	48	2	6069.01
WATER CODE		SEWER CODE			
B 02		4150000			



VICINITY MAP

SCALE: 1"=600'

BENCH MARK

48G4-HOWARD CO. SURVEY CONTROL, BRASS DISK SET
IN TOP OF CONC. MONUMENT S/E COR. OF
GUILFORD RD. & DORSEY RUN RD.
N 531519.243 E 1371653.850 EL. 206.647 FT.
48GB-N 532530.284 E 1370623.784

OWNER/DEVELOPER

WILHELM BUSINESS ENTERPRISES, L.L.C.
10979 GUILFORD ROAD, SUITE A
ANNAPOLIS JUNCTION, MD 20701
C/O DIANNA WILHELM 443-661-1400

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARD AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF UTILITIES AT (410) 313-4900 AT LEAST FIVE WORKING DAYS PRIOR TO STARTING ANY EXCAVATION WORK.
- SITE AREA: 8.024 AC. ±
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- EXISTING TOPOGRAPHY REFLECTS FIELD SURVEY BY CENTURY ENGINEERING SYSTEM (NAD 83).
- COORDINATES AND BEARING ARE BASED UPON THE MD STATE PLAN SYSTEM (NAD 83).
- EXISTING WATER AND SEWER SHOWN IS PUBLIC.
- STORMWATER MANAGEMENT: QUANTITY AND QUALITY MANAGEMENT IS PROVIDED BY ON-SITE FACILITIES. THE FACILITIES CONSIST OF UNDERGROUND SAND FILTER FOR WATER QUALITY AND DRY POND FOR THE CPV VOLUME AND 10 YEAR STORM QUANTITY CONTROL.
- ALL EXISTING WATER AND SEWER IS PER CONTRACT #'S: 653W, 24317 & 44-1829D.
- NO EXISTING PUBLIC STORM DRAIN ON SITE.
- ALL CURB RADI IS 5' UNLESS NOTED OTHERWISE.
- UTILITY INFORMATION TAKEN FROM APPROVED FINAL CONSTRUCTION PLANS FOR DEVELOPMENT, CONTRACT NO. 44-1829-D, 44-3367-D, 24-3417 & 653-W.
- ALL SIDEWALKS SHALL BE 5' WIDE EXCEPT WHERE DIMENSIONED OTHERWISE.
- CONTRACTOR SHALL UTILIZE PVC FOR ALL SEWER HOUSE CONNECTIONS. CONTRACTOR SHALL UTILIZE D.I.P. (CL 51) FOR WATER SERVICE CONNECTION. (FIRE & DOMESTIC)
- USE HOWARD COUNTY TRENCH BEDDING CLASS "C" FOR STORM DRAINS.
- PAVED AREAS INDICATED ARE PRIVATE EXCEPT AS NOTED.
- PROJECT BACKGROUND: SEE DEPT. OF PLANNING & ZONING FILE NUMBERS: SDP-80-073, WP-04-073, F-04-107
- ALL PROPOSED RAMP SHALL BE IN ACCORDANCE WITH CURRENT A.D.A. STANDARDS. MAXIMUM SIDEWALK CROSS SLOPE SHALL BE TWO PERCENT. PROVIDE A FIVE-FOOT BY FIVE-FOOT LEVEL (2 PERCENT MAX.) LANDING AT THE TOP AND BOTTOM OF ALL RAMP AND BUILDING ENTRANCES AND EXITS.
- ALL PROPOSED SITE UTILITIES ARE TO TERMINATE 5' FROM THE BUILDING. THE BUILDING PLUMBER SHALL CONNECT TO AND EXTEND THESE UTILITIES TO THE INSIDE OF THE BUILDING.
- FOR GAS, TELEPHONE AND ELECTRIC ROUTING, SEE SEPARATE PLAN.
- TOPOGRAPHY OBTAINED BY CENTURY ENGINEERING ON SEPTEMBER, 2003
- "THE FOREST CONSERVATION OBLIGATION OF 1.49 ACRES OF REFORESTATION FOR THIS PROJECT HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$32,452.20 TO THE HO. CO. FOREST CONSERVATION FUND."
- THE LANDSCAPE SURETY IS INCLUDED IN THE DEVELOPERS AGREEMENT. THE SURETY IS IN THE AMOUNT OF \$39,360.
- LIGHTING FIXTURE DETAILS SHOWN ON SHEET 21 OF 24.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION REGULATIONS.
- ALL OUTDOOR LIGHTING ON THIS SITE SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.
- THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT (410)313-1880.
- WP-04-073 APPROVED ON 1-6-04 FOR SUBDIVISION SECTIONS 16.144(g) AND (F) TO NOT BE REQUIRED TO SUBMIT SKETCH AND PRELIMINARY PLANS FOR A MAJOR (NON RESIDENTIAL) SUBDIVISION. CONDITIONS AS FOLLOWS:
 - THE PROPOSED PARCELS SHALL HAVE SHARED VEHICULAR ACCESS AND PARKING AND A SHARED VEHICULAR ACCESS AND PARKING EASEMENT INDICATED ON THE FUTURE FINAL PLAT FOR THE PROPERTY.
 - THE PROPOSED PARKING LOTS AND PARKING LOT ISLANDS SHALL COMPLY WITH THE DESIGN REQUIREMENTS OF THE LANDSCAPE MANUAL.
 - A LOADING/UNLOADING FACILITY THAT COMPLIES WITH THE REQUIREMENTS OF ZONING REGULATIONS SECTION 133.F SHALL BE INDICATED FOR EACH BUILDING ON THE FUTURE SITE DEVELOPMENT PLAN(S) FOR THE PROPOSED PARCELS.
 - COMPLIANCE WITH THE WITH THE ENCLOSED HEALTH DEPARTMENT AND DIVISION OF ENVIRONMENTAL AND COMMUNITY PLANNING COMMENTS IS REQUIRED.
- ALL PUBLIC ROAD IMPROVEMENTS, SIDEWALK AND STREET TREES ARE TO BE CONSTRUCTED AS PER CAPITAL PROJECT NO. J-4175 & B-3885.

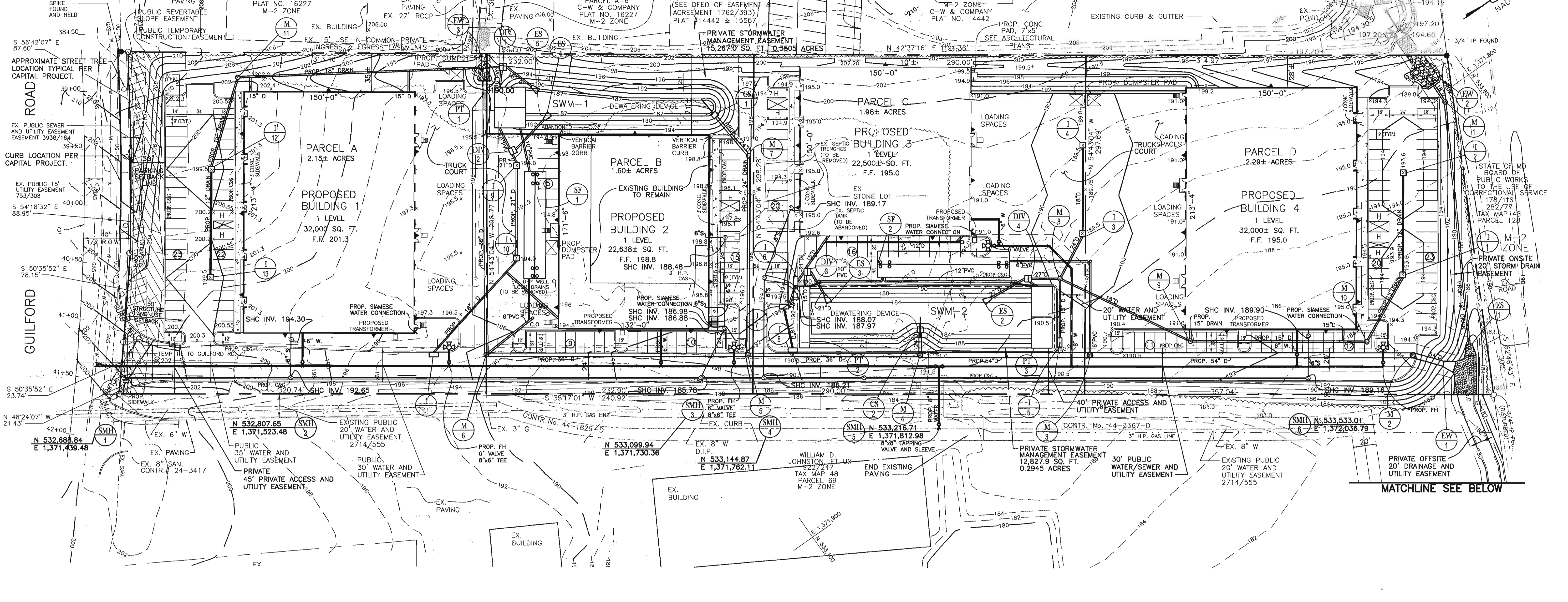
SHEET INDEX

SHEET NUMBER	DRAWING TITLE
1	COVER SHEET
2	SITE PLAN
3	SITE UTILITY PLAN
4	SITE DETAILS
5	STORM DRAIN PROFILES
6	STORM DRAIN PROFILES
7	EROSION AND SEDIMENT CONTROL PLAN
8	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
9	EROSION AND SEDIMENT CONTROL DETAILS
10	EROSION AND SEDIMENT CONTROL DETAILS
11	STORMWATER MANAGEMENT PLAN
12	STORMWATER MANAGEMENT NOTES AND DETAILS
13	STORMWATER MANAGEMENT DETAILS
14	STORMWATER MANAGEMENT DETAILS
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17	STORMWATER VAULT DETAILS
18	VAULT DETAILS
19	VAULT DETAILS
20	DRAINAGE AREA MAP
21	BUILDING ELEVATIONS & OUTDOOR LIGHTING DETAIL
22	DEMOLITION PLAN
23	FINAL LANDSCAPING PLAN
24	FOREST STAND DELINEATION PLAN

Date	No	Revision Description
		APPROVED: DEPARTMENT OF PLANNING AND ZONING
		APPROVED: <i>[Signature]</i> 11/19/04 CHIEF-DEVELOPMENT ENGINEERING DIVISION DATE
		APPROVED: <i>[Signature]</i> 11/23/04 CHIEF-DIVISION OF LAND DEVELOPMENT DATE
		APPROVED: <i>[Signature]</i> 1/29/04 DIRECTOR DATE
ANNAPOLIS JUNCTION BUSINESS PARK		
PARCELS A-D		
TAX MAP 48 GRID 14 PARCEL 120		
ELECTION DISTRICT No. 6		
HOWARD COUNTY, MARYLAND		
CENTURY ENGINEERING, INC.		
CONSULTING ENGINEERS, PLANNERS, SURVEYORS		
32 WEST ROAD		
TOWSON, MARYLAND 21204		
(410) 823-8070		
COVER SHEET		
Des By	G.L.	Scale 1"=40'
Drn By	E.B.D.	Date JULY 19, 2004
Chk By		Approved
Proj No	23249.00	DRAWING NO
		1 OF 24

AS-BUILT

NOTE:
ALL PUBLIC ROAD IMPROVEMENTS, SIDEWALK
AND STREET TREES ARE TO BE CONSTRUCTED
AS PER CAPITAL PROJECT NO. J-41758 &
B-3885.



THE FOLLOWING MINIMUM STRUCTURE AND USE SETBACK REQUIREMENTS SHALL BE OBSERVED:

- FROM ANY EXTERNAL PUBLIC STREET RIGHT OF WAY.....50 FEET EXCEPT FOR FENCES AND PARKING USES.....30 FEET
- FROM ANY INTERNAL PUBLIC STREET RIGHT OF WAY.....50 FEET
- FROM ANY RESIDENTIAL DISTRICT.....150 FEET HOWEVER, IF THE RESIDENTIAL DISTRICT IS SEPARATED FROM THE M-2 DISTRICT BY A PUBLIC STREET RIGHT OF WAY, ONLY THE SETBACKS FROM A PUBLIC STREET RIGHT OF WAY SHALL APPLY.

OWNER/DEVELOPER
WILHELM BUSINESS ENTERPRISES, L.L.C.
10979 GUILFORD ROAD, SUITE A
ANNAPOLIS JUNCTION, MD 20701
C/O DIANNA WILHELM 443-661-1400

NOTE:
WATER METER TO BE PRIVATE
AND INSIDE OF BUILDING.

NOTE:
OFFSITE GRADING FOR DITCH AUTHORIZED BY
OWNER OF PROPERTY AS PER LETTER DATED

LEGEND

- ⊕ POWER POLE
- ⊕ GUY WIRE
- ⊕ WATER VALVE
- ⊕ GAS VALVE
- ⊕ FIRE HYDRANT
- ⊕ HAND BOX
- ⊕ TREE
- ⊕ COMPUTED
- ⊕ LIGHT POLE
- EX. WOODS
- EX. WATER
- EASEMENT
- EX. UG-FO
- EX. GAS
- EX. CURB
- EX. SAN
- PROP. CURB
- SOILS LIMITS
- ◀ PROPOSED LIGHTS



Date	No	Revision Description
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
		11/9/04
CHIEF-DEVELOPMENT ENGINEERING DIVISION		
		11/23/04
CHIEF-DIVISION OF LAND DEVELOPMENT		
		11/23/04
DIRECTOR		
		11/23/04

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

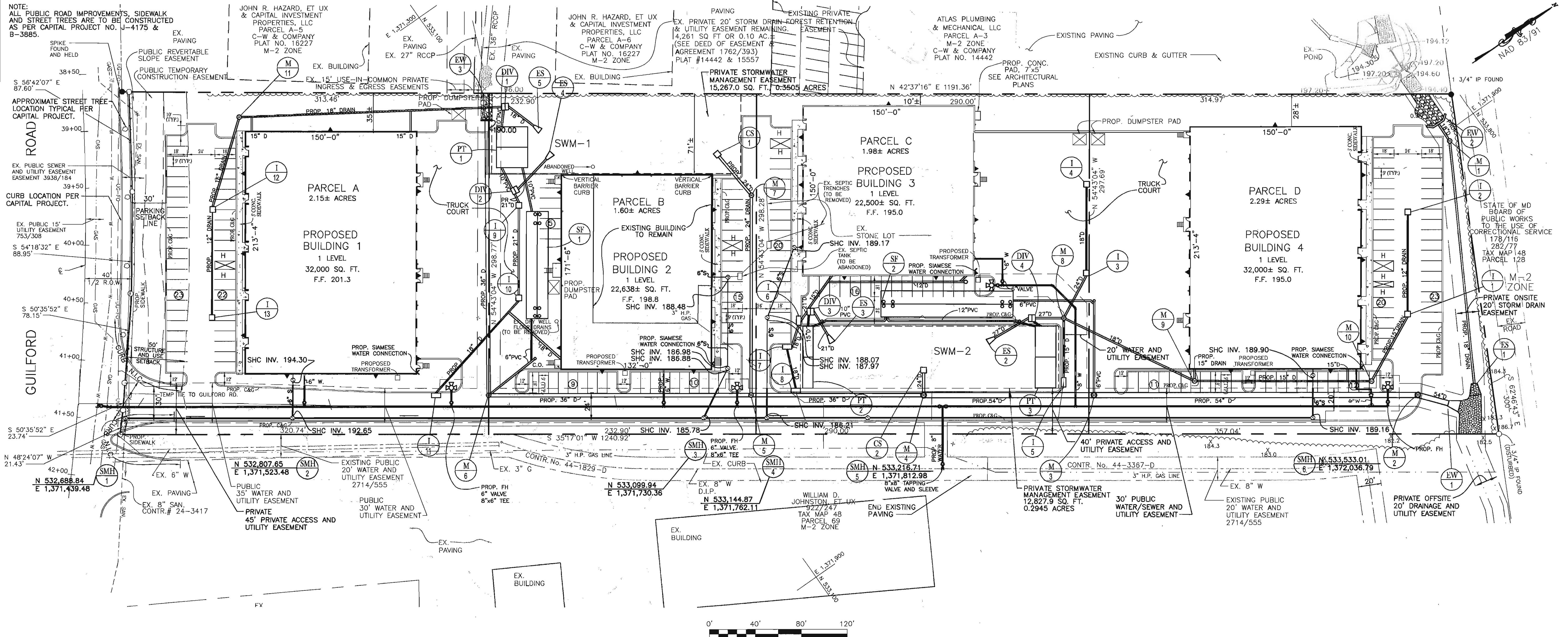
CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

SITE PLAN

Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Dn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	2 OF 24
Chk By		Approved			

SDP-04-98

NOTE:
ALL PUBLIC ROAD IMPROVEMENTS, SIDEWALK AND STREET TREES ARE TO BE CONSTRUCTED AS PER CAPITAL PROJECT NO. J-4175 & B-3685.



Date	No.	Revision Description
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>William D. Johnston</i>	11/9/04	DATE
CHIEF-DEVELOPMENT ENGINEERING DIVISION		
<i>Conita Hamilton</i>	11/23/04	DATE
CHIEF-DIVISION OF LAND DEVELOPMENT		
<i>Mark A. Meyer</i>	1/25/05	DATE
DIRECTOR		

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

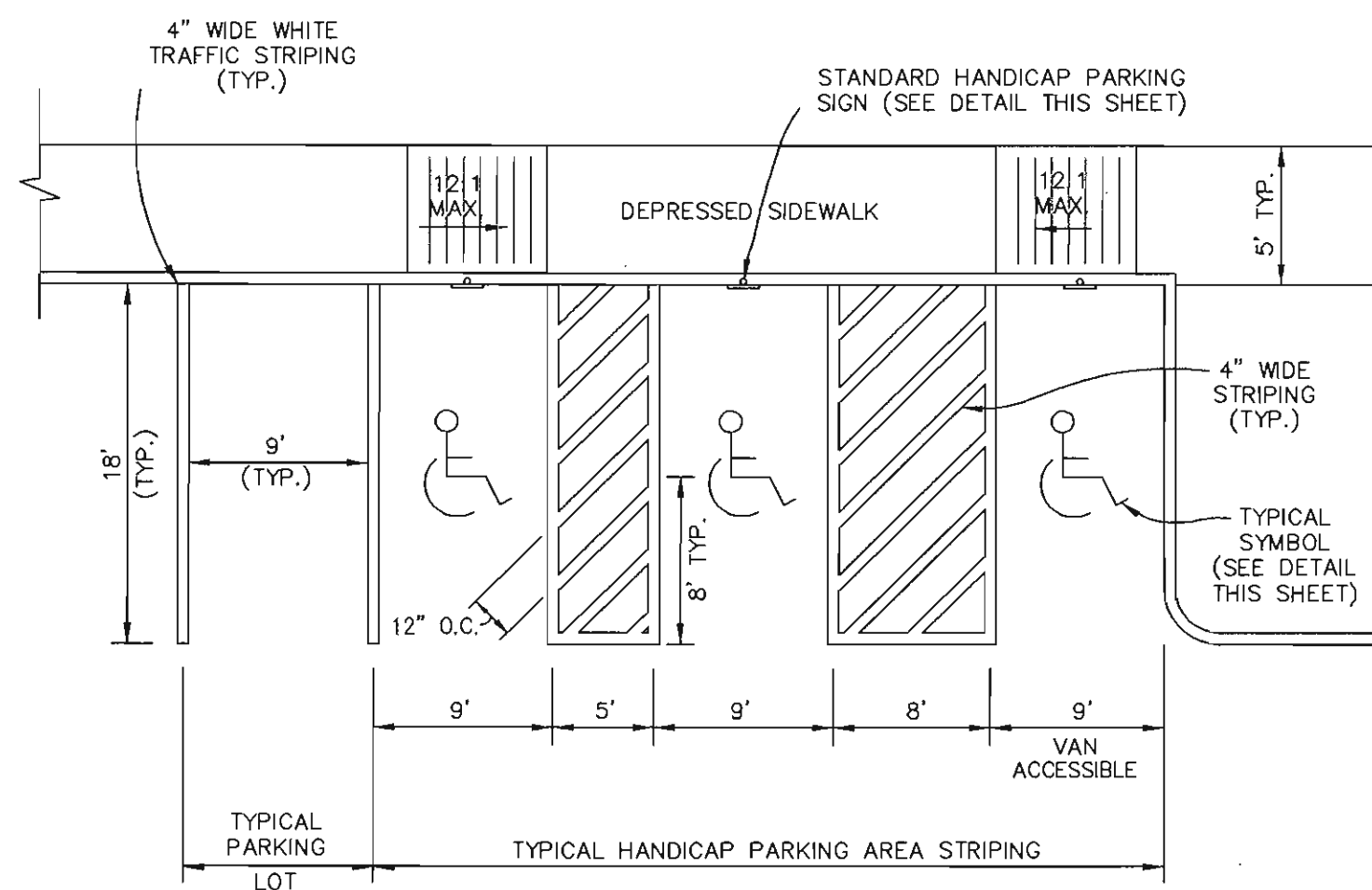


CENTURY ENGINEERING, INC.
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SITE UTILITY PLAN

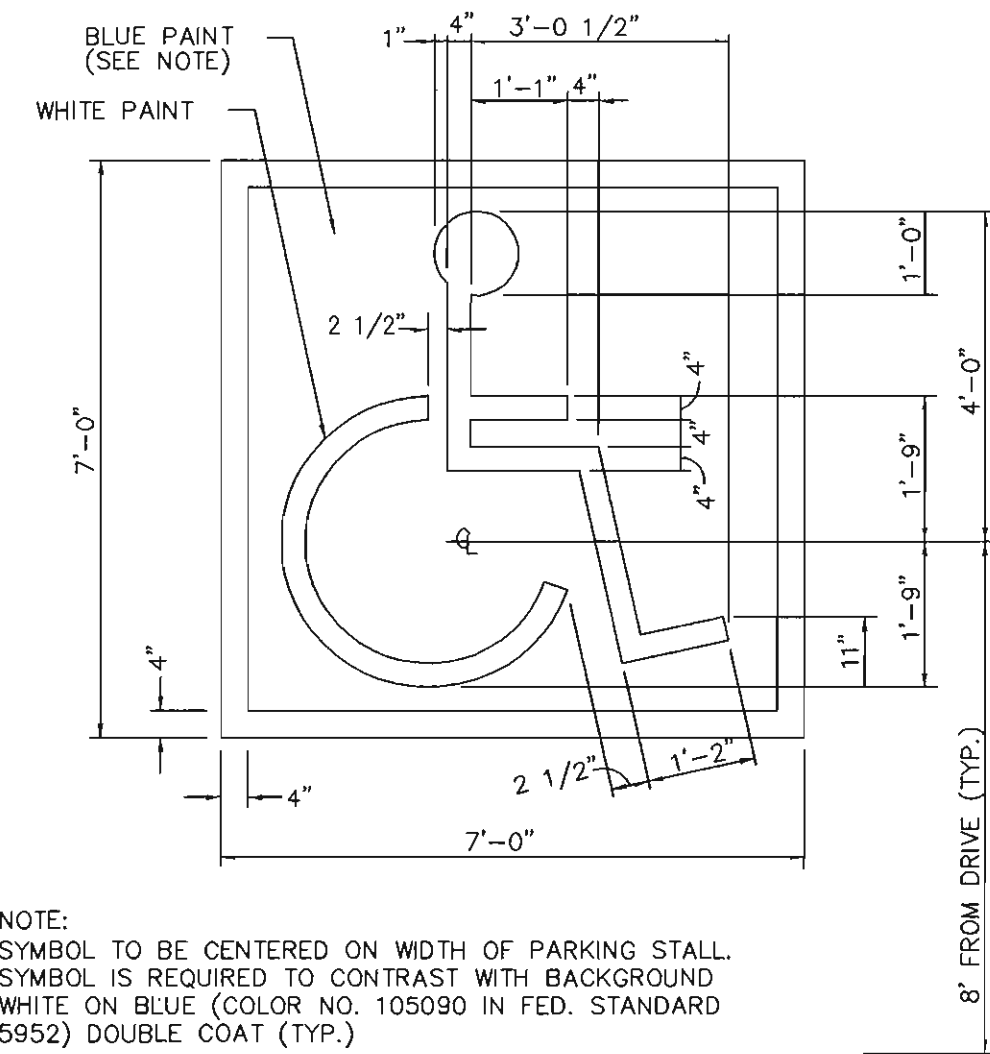
OWNER/DEVELOPER
WILHELM BUSINESS ENTERPRISES, L.L.C.
10979 GUILFORD ROAD, SUITE A
ANNAPOLIS JUNCTION, MD 20701
C/O DIANNA WILHELM 443-661-1400

Des By: G.L.	Scale: 1"=40'	Proj No: 23249.00
Drn By: E.B.D.	Date: JULY 19, 2004	DRAWING NO.
Chk By:	Approved:	3 OF 24



TYPICAL STRIPING DETAILS FOR PARKING AND HANDICAP SPACES

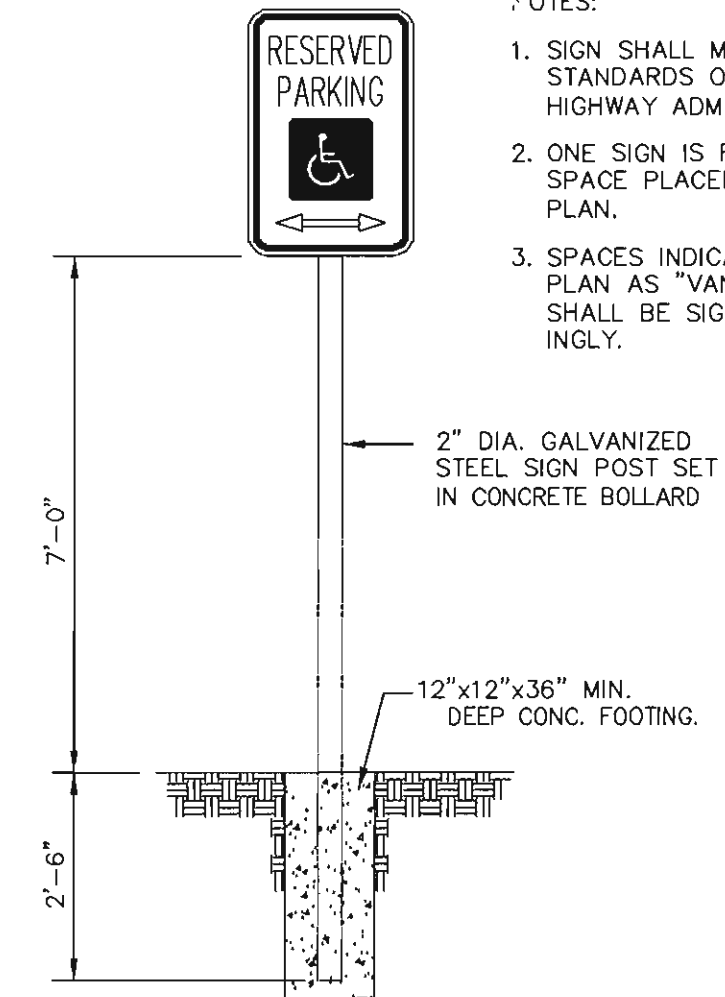
N.T.S.



NOTE: SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND WHITE ON BLUE (COLOR NO. 105090 IN FED. STANDARD 5952) DOUBLE COAT (TYP.)

PAINTED HANDICAP PARKING SYMBOL

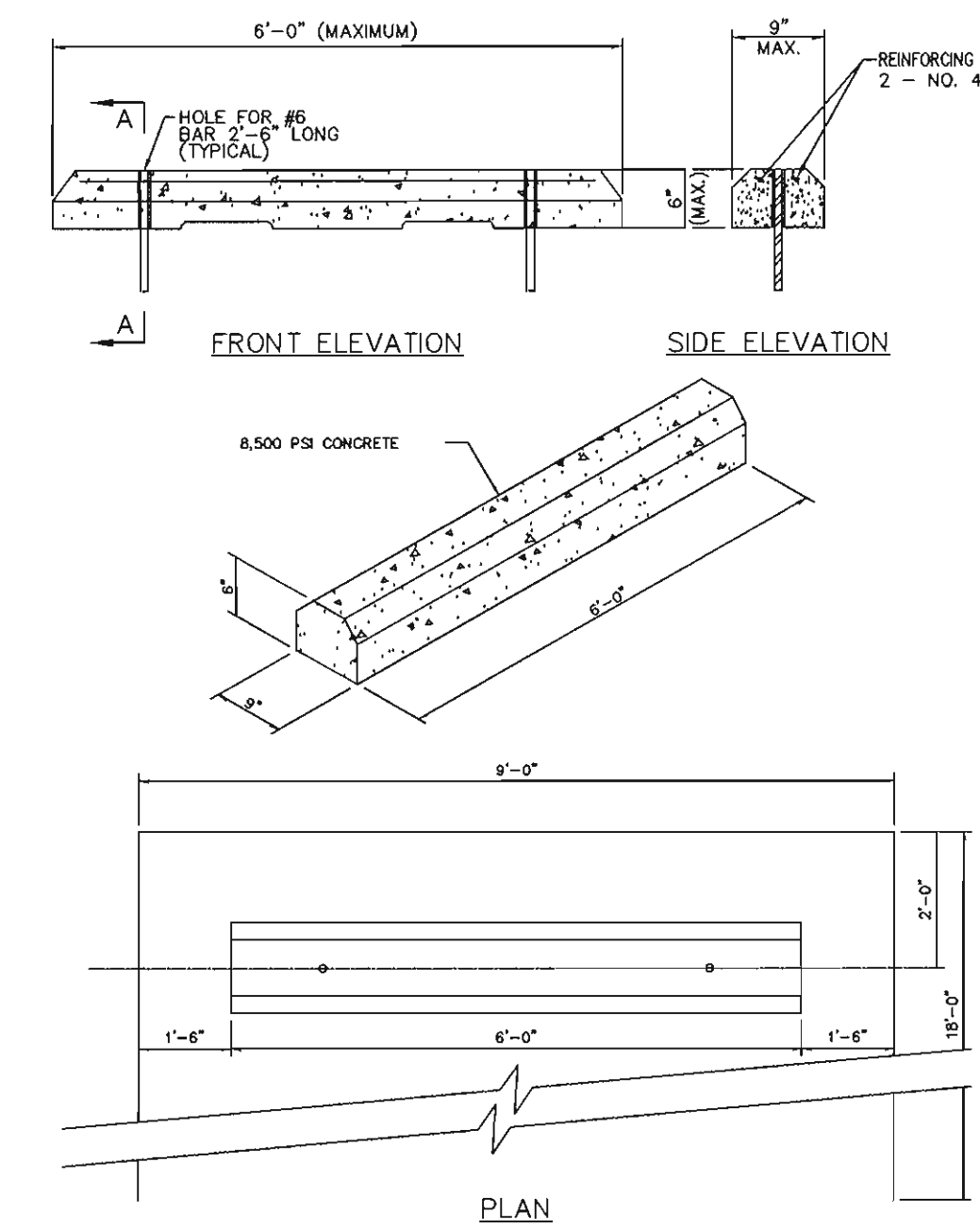
N.T.S.



NOTES:
1. SIGN SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION.
2. ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON PLAN.
3. SPACES INDICATED ON SITE PLAN AS "VAN ACCESSIBLE" SHALL BE SIGNED ACCORDINGLY.

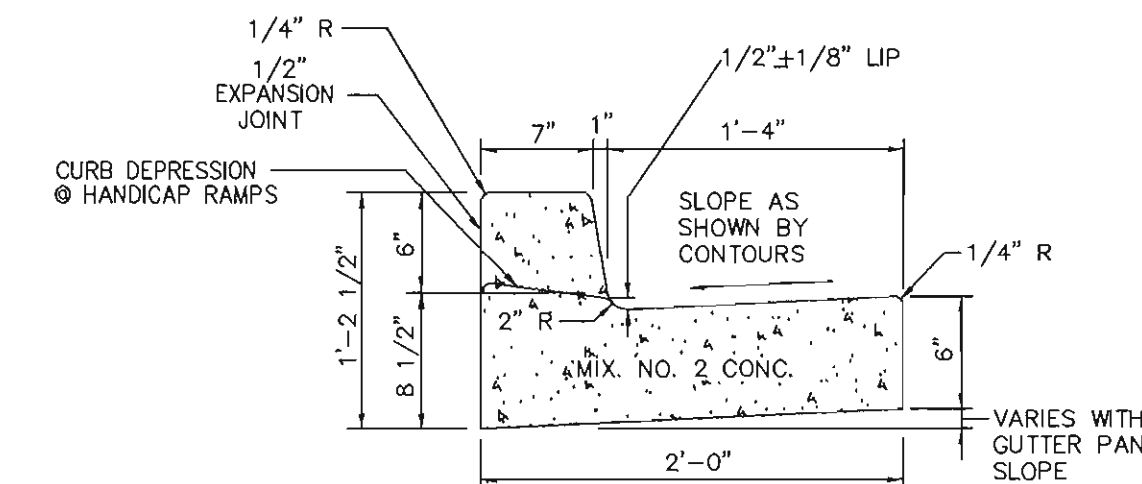
HANDICAP PARKING SIGN DETAIL

N.T.S.



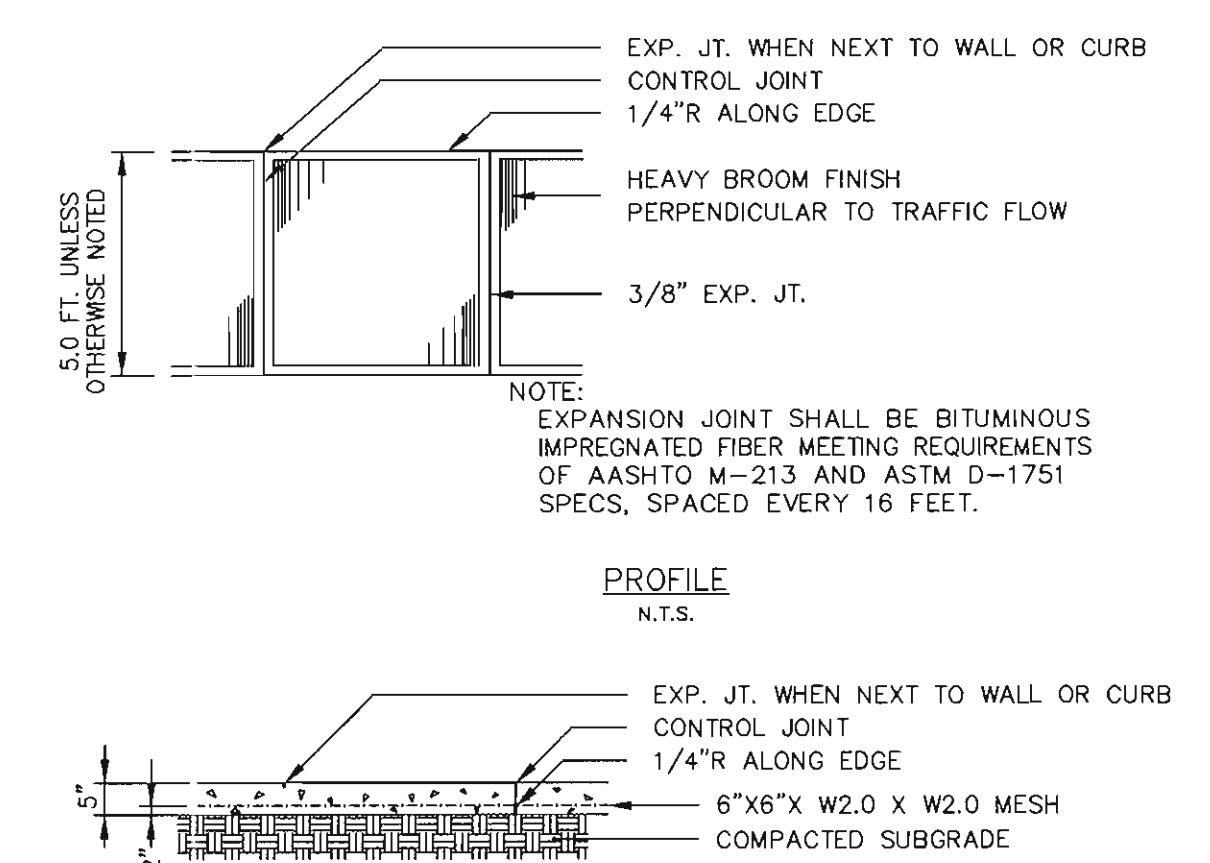
PRECAST CONCRETE WHEEL STOP

N.T.S.



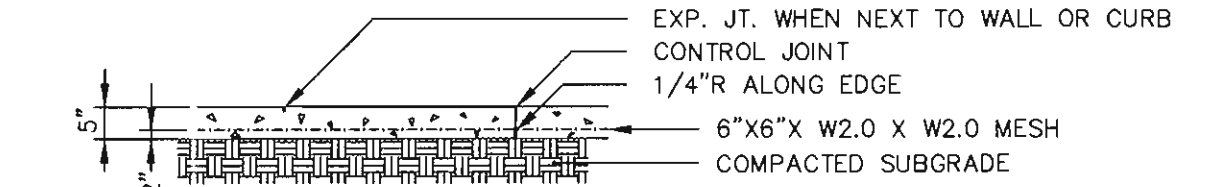
CURB & GUTTER DETAIL

N.T.S.



PROFILE

N.T.S.



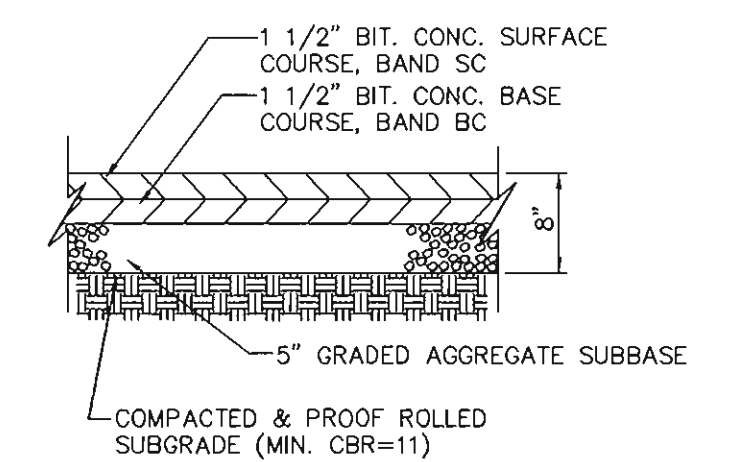
NOTE: EXPANSION JOINT SHALL BE BITUMINOUS IMPREGNATED FIBER MEETING REQUIREMENTS OF AASHTO M-213 AND ASTM D-1751 SPECS. SPACED EVERY 16 FEET.

SECTION

N.T.S.

CONCRETE WALK

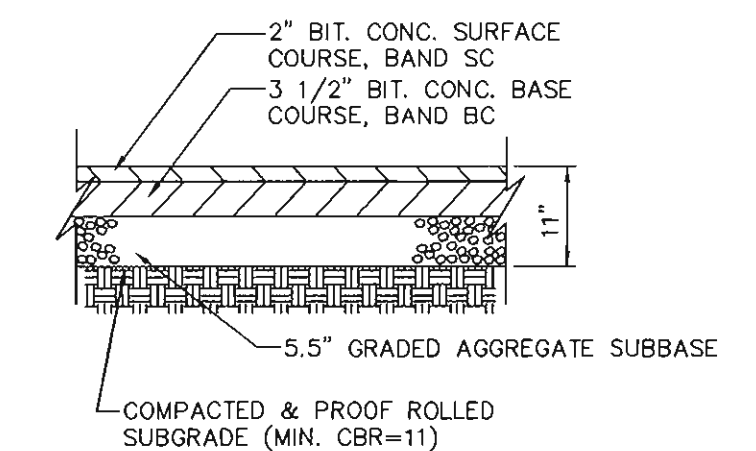
N.T.S.



MODIFIED PAVING DETAIL

(FOR USE AS DIRECTED IN PASSENGER VEHICLE PARKING AREAS ONLY)

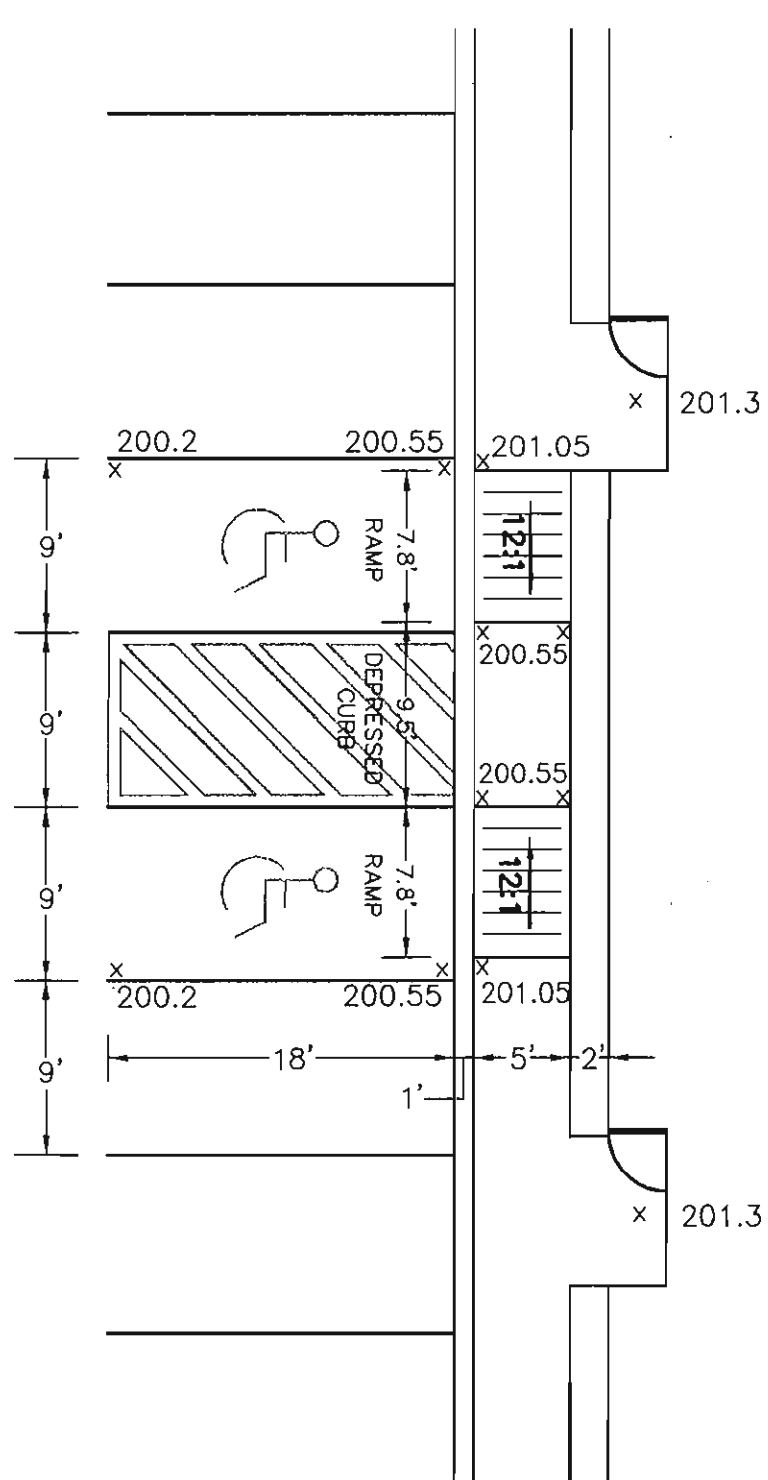
N.T.S.



TYPICAL PAVING DETAIL

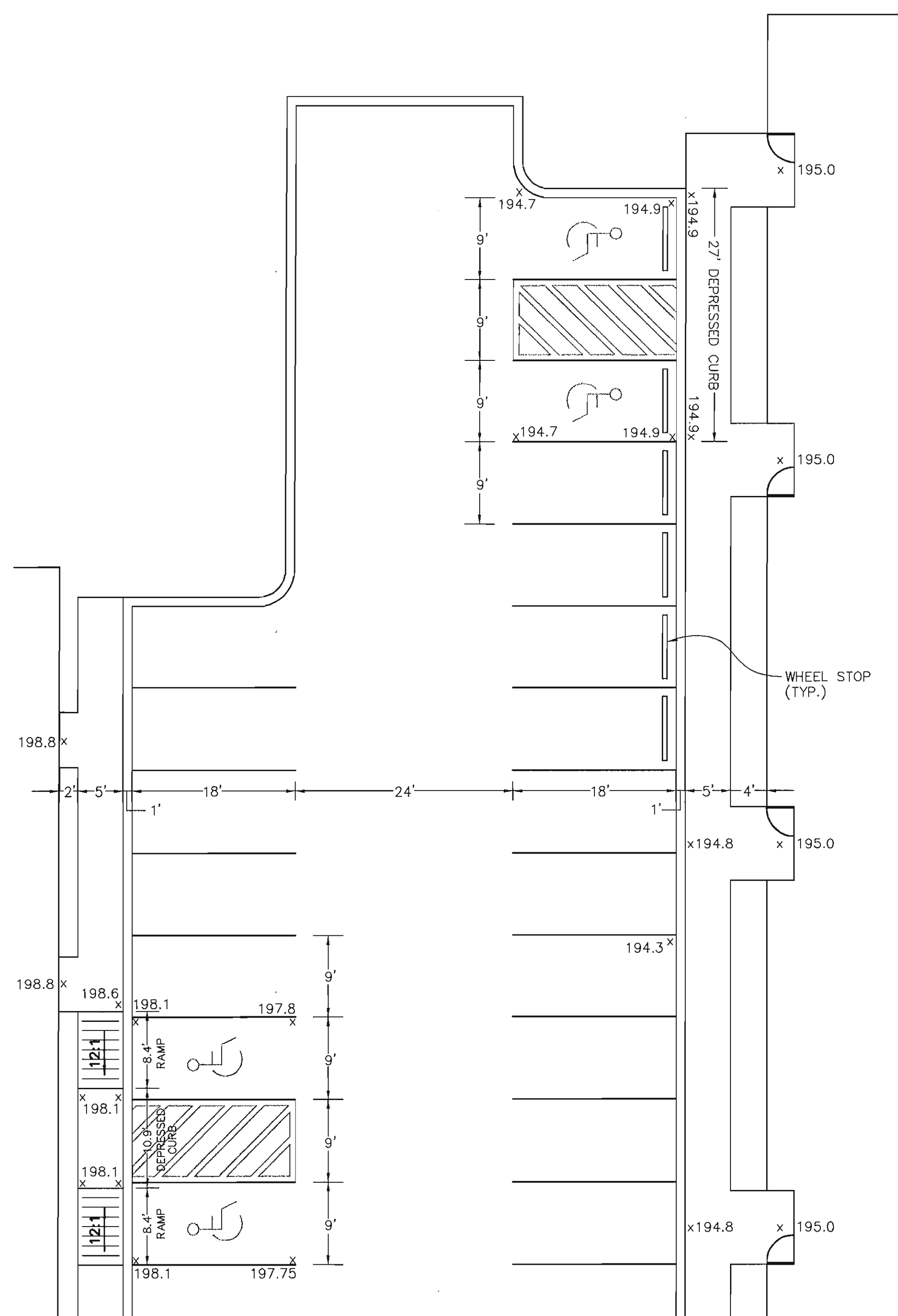
N.T.S.

NOTE: PAVING SECTIONS ABOVE ARE AS RECOMMENDED BY ECS, LTD. CONSULTING ENGINEERS IN A REPORT DATED 11/12/01.



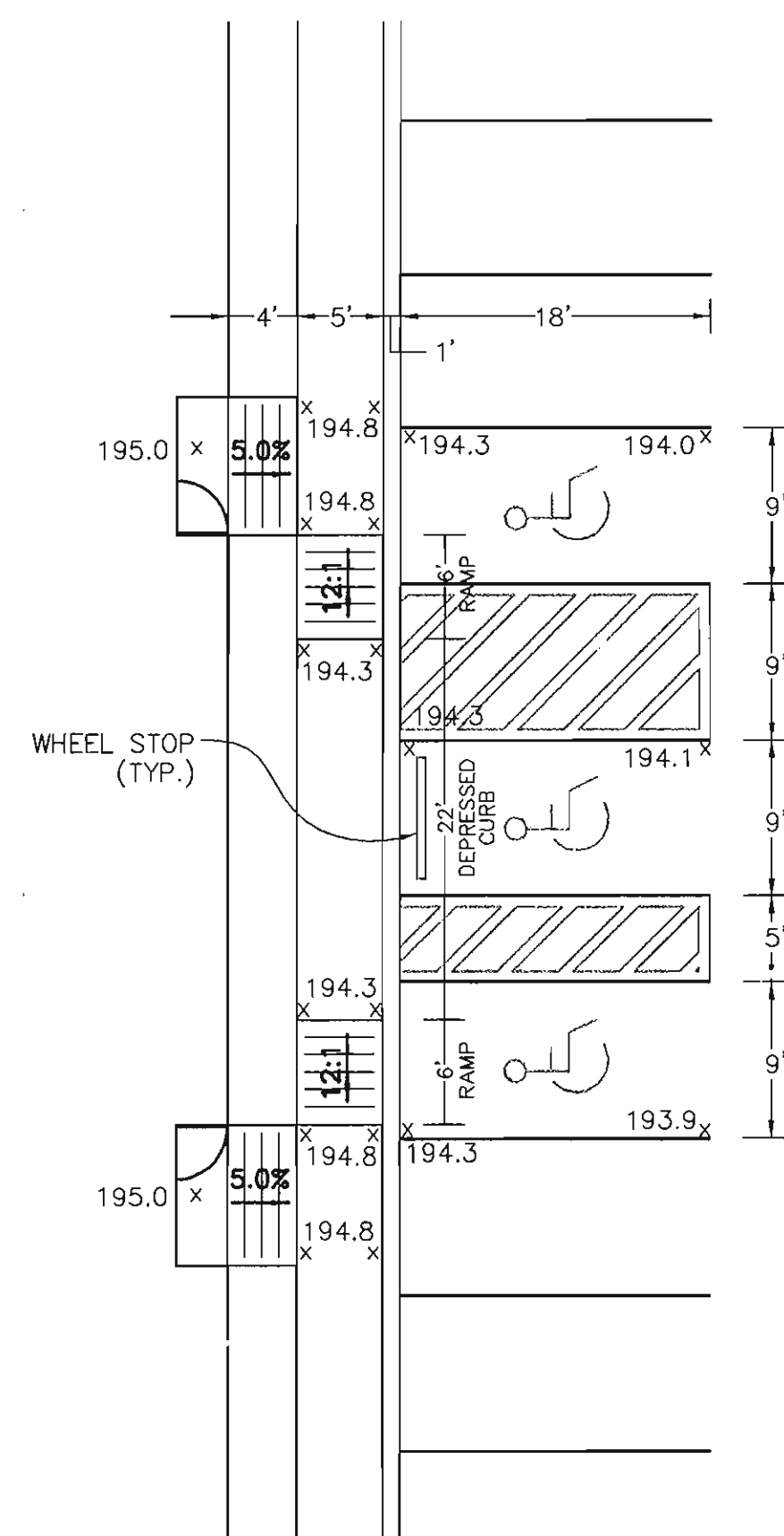
HANDICAP PARKING DETAIL PARCEL A

SCALE: 1" = 10'



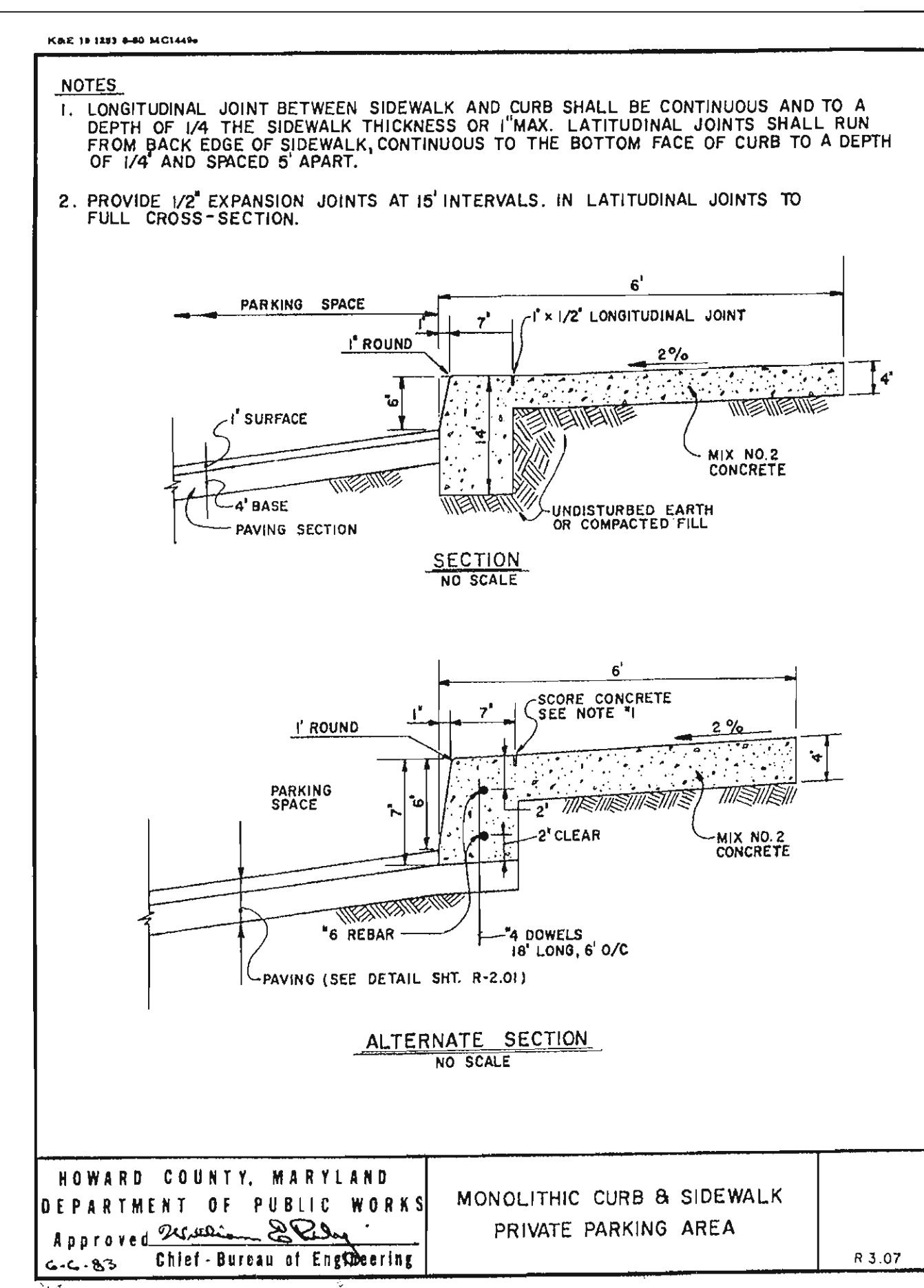
HANDICAP PARKING DETAIL - PARCELS B & C

SCALE: 1" = 10'



HANDICAP PARKING DETAIL PARCEL D

SCALE: 1" = 10'



HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
G.C. 83 Chief - Bureau of Engineering

MONOLITHIC CURB & SIDEWALK
PRIVATE PARKING AREA

R 3.07



Date	No.	Revision Description
		APPROVED: DEPARTMENT OF PLANNING AND ZONING
		CHIEF-DEVELOPMENT ENGINEERING DIVISION
		CHIEF-DIVISION OF LAND DEVELOPMENT
		DIRECTOR

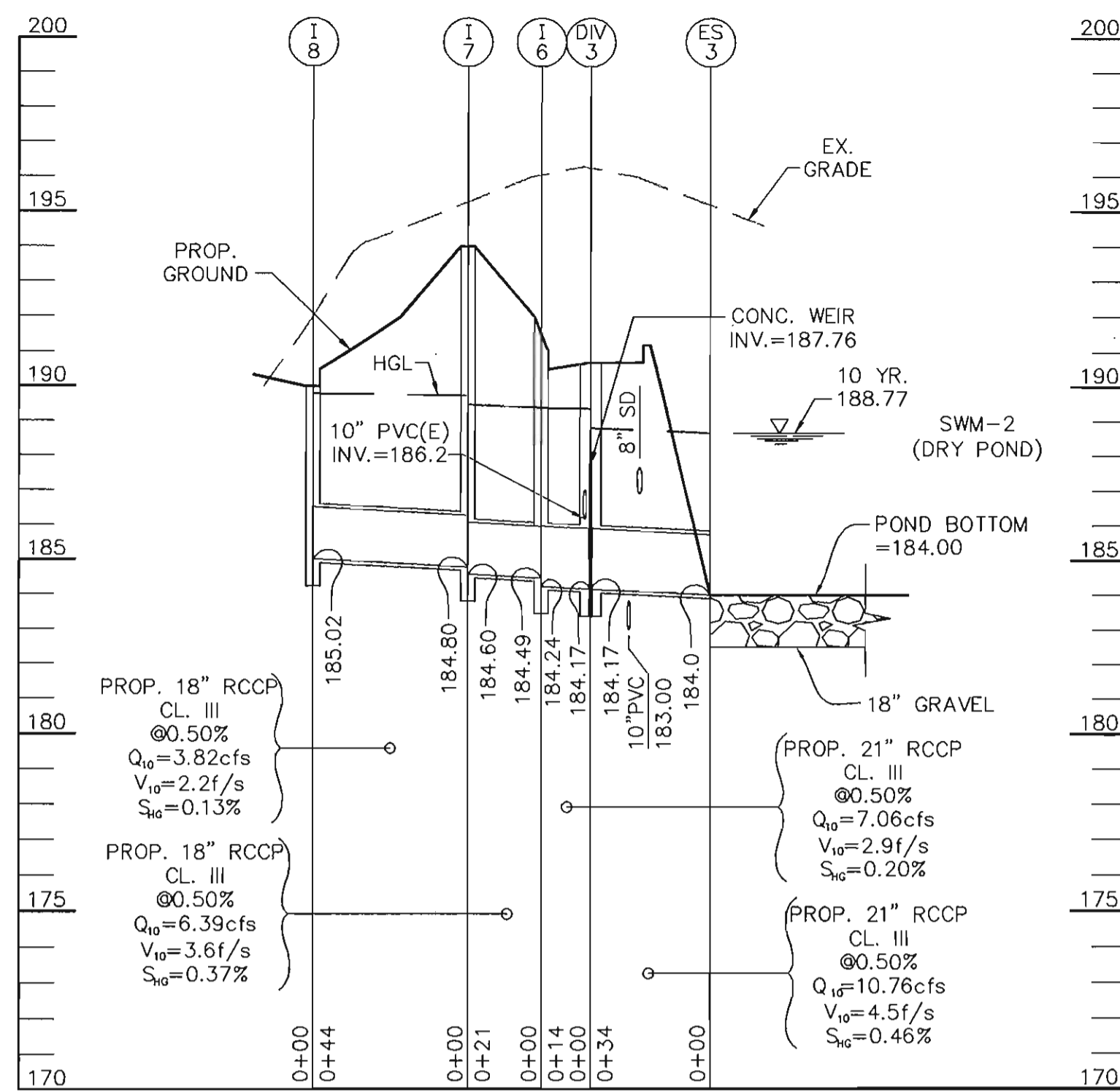
ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
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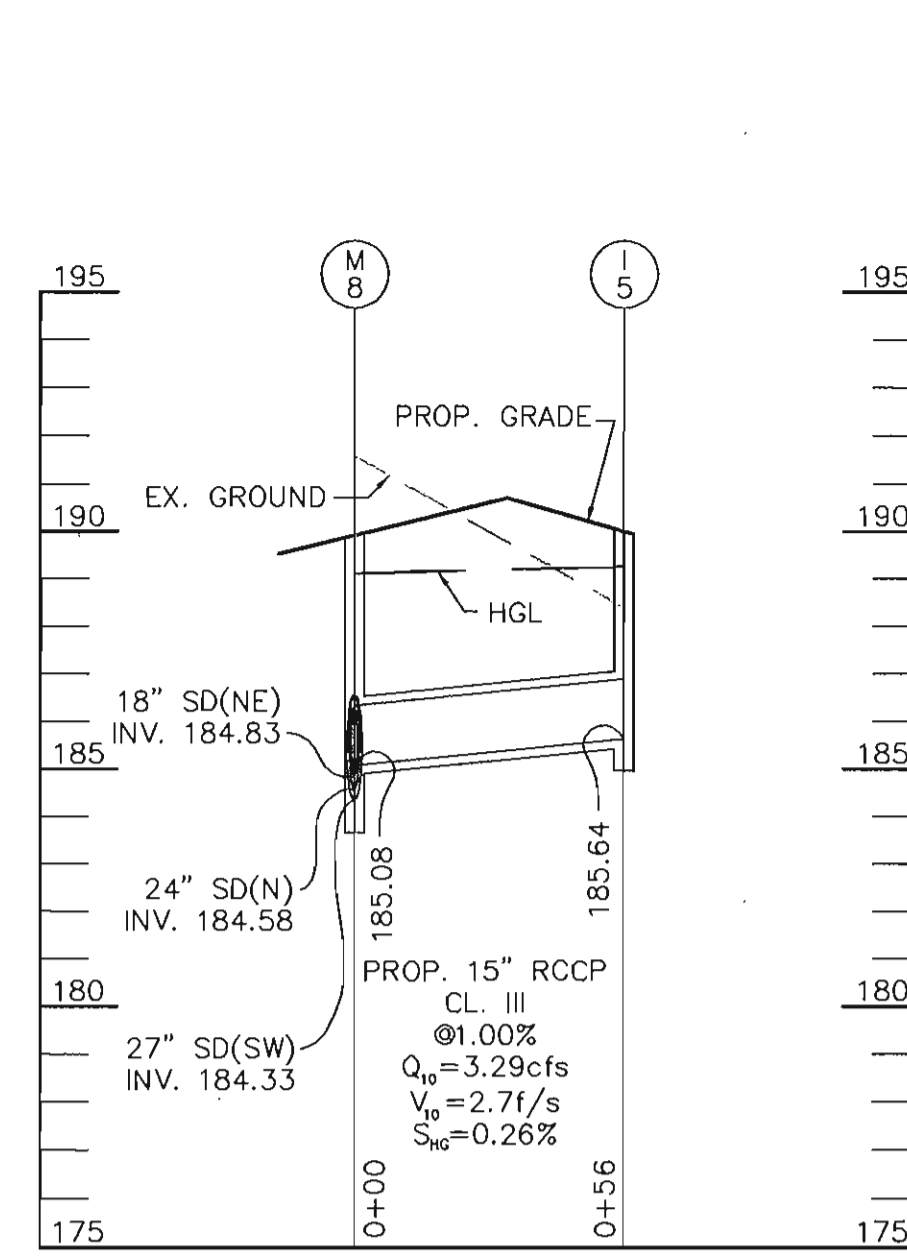
SITE DETAILS

Des By	G.L.	Scale	AS SHOWN	Proj No	23249.00
Drn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	
Chk By		Approved			4 OF 24

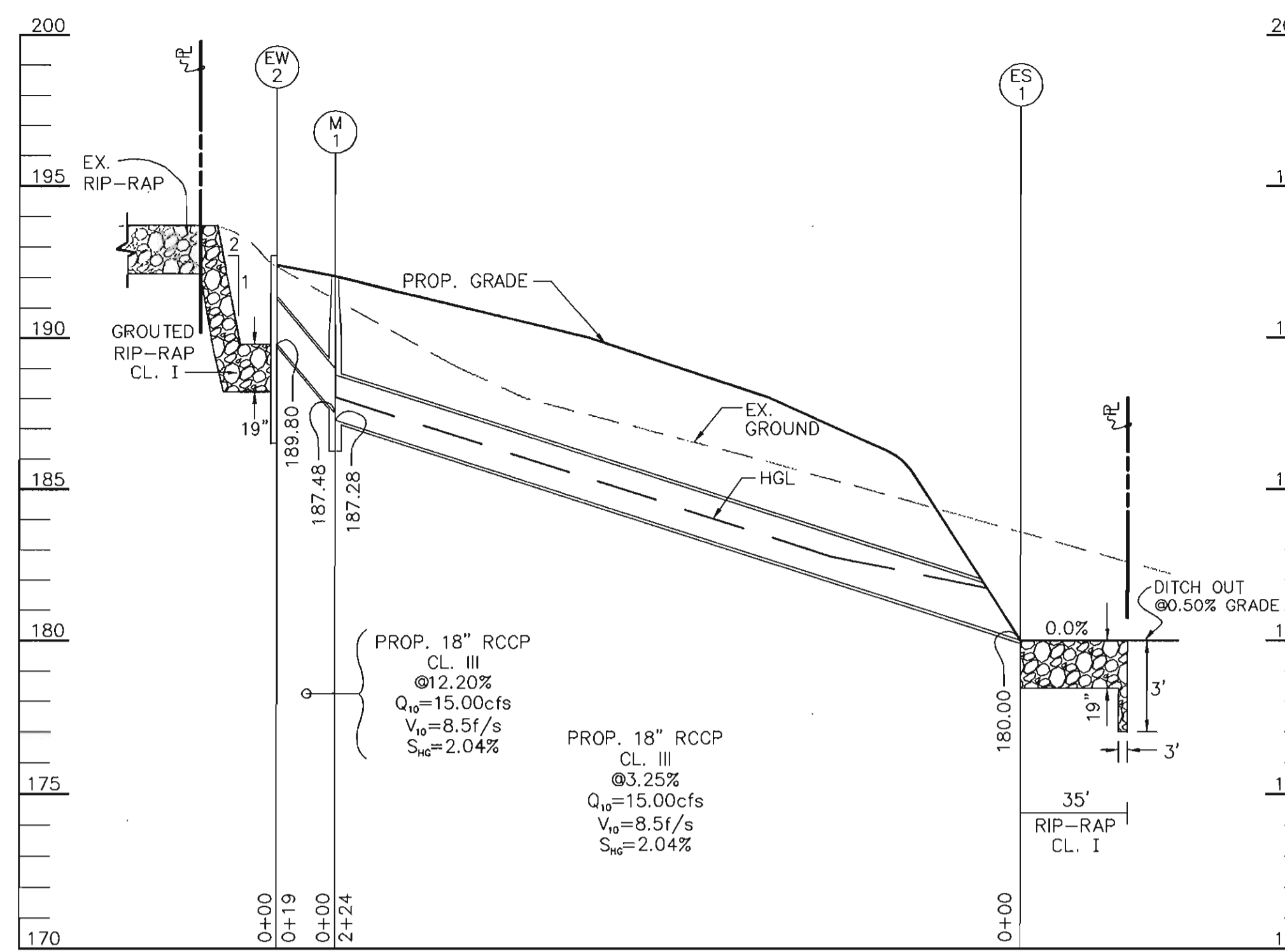
SDP-04-98



STORM DRAIN PROFILE
SCALE: 1"=40' HORZ.
1"=4' VERT.



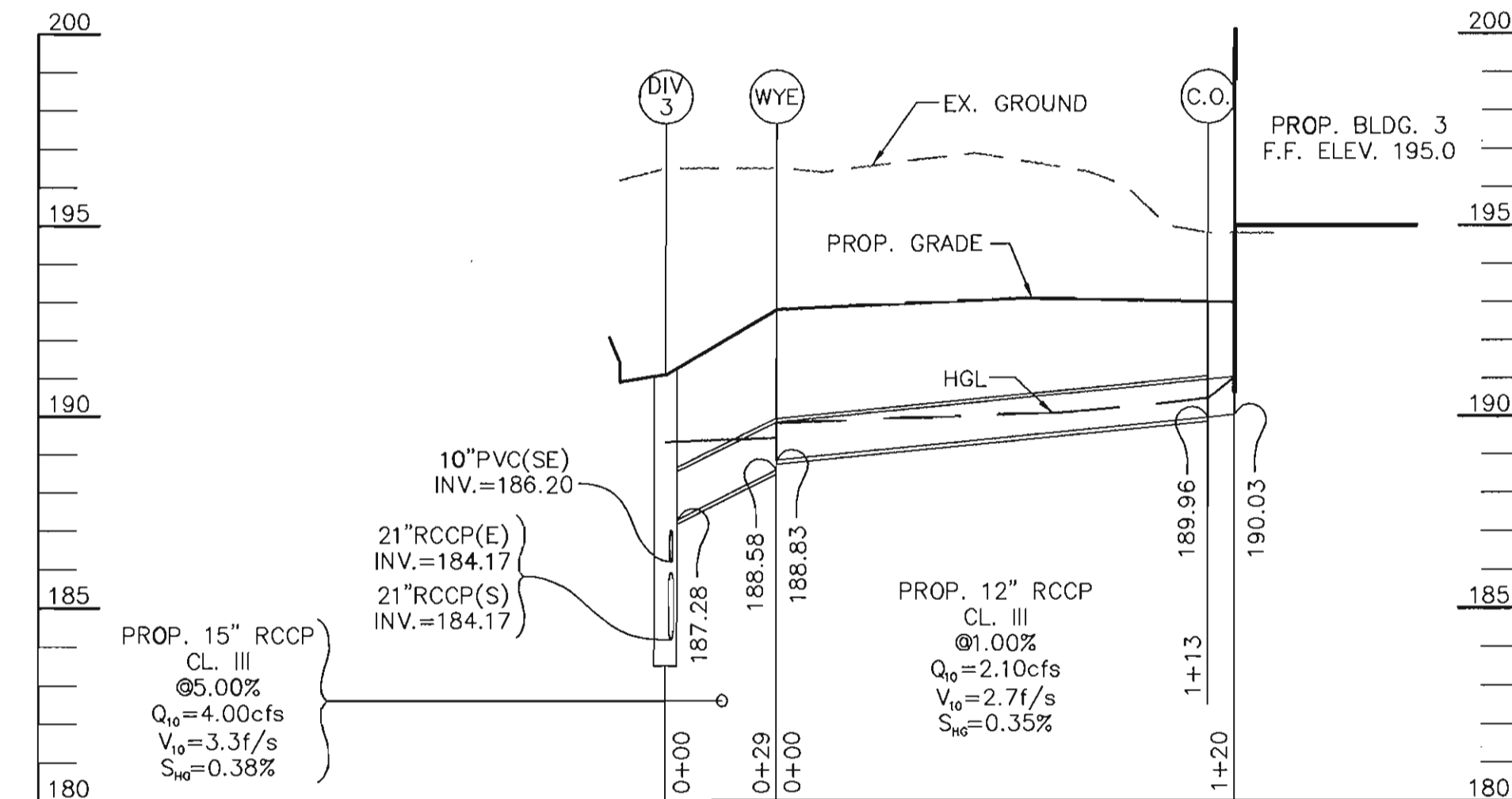
STORM DRAIN PROFILE
SCALE: 1"=40' HORZ.
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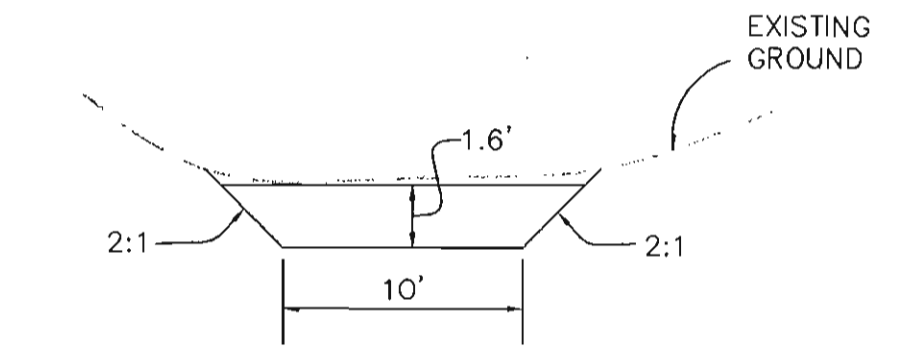
STORM DRAIN PROFILE
SCALE: 1"=40' HORZ.
1"=4' VERT.

STRUCTURE SCHEDULE				
INLET No.	TYPE	DETAIL No.	TOP ELEV.	INV. OUT
I-1	DBL. "S"	SD 4.23	193.60	188.74
I-2	DBL. "S"	SD 4.23	193.60	189.46
I-5	DBL. "S"	SD 4.23	190.00	185.64
I-6	DBL. "S"	SD 4.23	191.50	184.24
I-7	DBL. "S"	SD 4.23	194.00	184.60
I-8	DBL. "S"	SD 4.23	190.00	185.07
I-12	DBL. "S"	SD 4.23	199.50	194.80
I-13	DBL. "S"	SD 4.23	199.50	195.53
MANHOLE No.	TYPE	DETAIL No.	RIM ELEV.	
M-1	STD. PRECAST	G 5.11	192.00	
M-8	STD. PRECAST	G 5.11	190.00	
M-9	STD. PRECAST	G 5.11	191.28	
M-10	STD. PRECAST	G 5.11	193.80	
M-11	STD. PRECAST	G 5.11	202.90	
ENDWALL No.	TYPE	DETAIL No.	TOP ELEV.	INV. OUT
EW-2	"A"	SD 5.11		189.80
CTRL STRUCT No.	TYPE	DETAIL No.	RIM ELEV.	
DIV-1	SEE DETAIL SHEET 19		195.95	
DIV-3	SEE DETAIL SHEET 19		191.20	
END SECTION No.	TYPE	DETAIL No.	TOP ELEV.	INV. OUT
ES-1	"A"	SD 5.51		180.00
ES-3	"A"	SD 5.51		184.00
ES-5	"A"	SD 5.51		187.00

PIPE SCHEDULE			
TYPE & SIZE	CLASS	QUANTITY, L.F.	REMARKS
12" R.C.C.P.	III	304	
15" R.C.C.P.	III	390	
18" R.C.C.P.	III	775	
18" R.C.C.P.	IV	112	
21" R.C.C.P.	III	48	
21" R.C.C.P.	IV	141	
24" R.C.C.P.	III	266	
36" R.C.C.P.	III	626	
42" R.C.C.P.	III	457	



STORM DRAIN PROFILE
SCALE: 1"=40' HORZ.
1"=4' VERT.

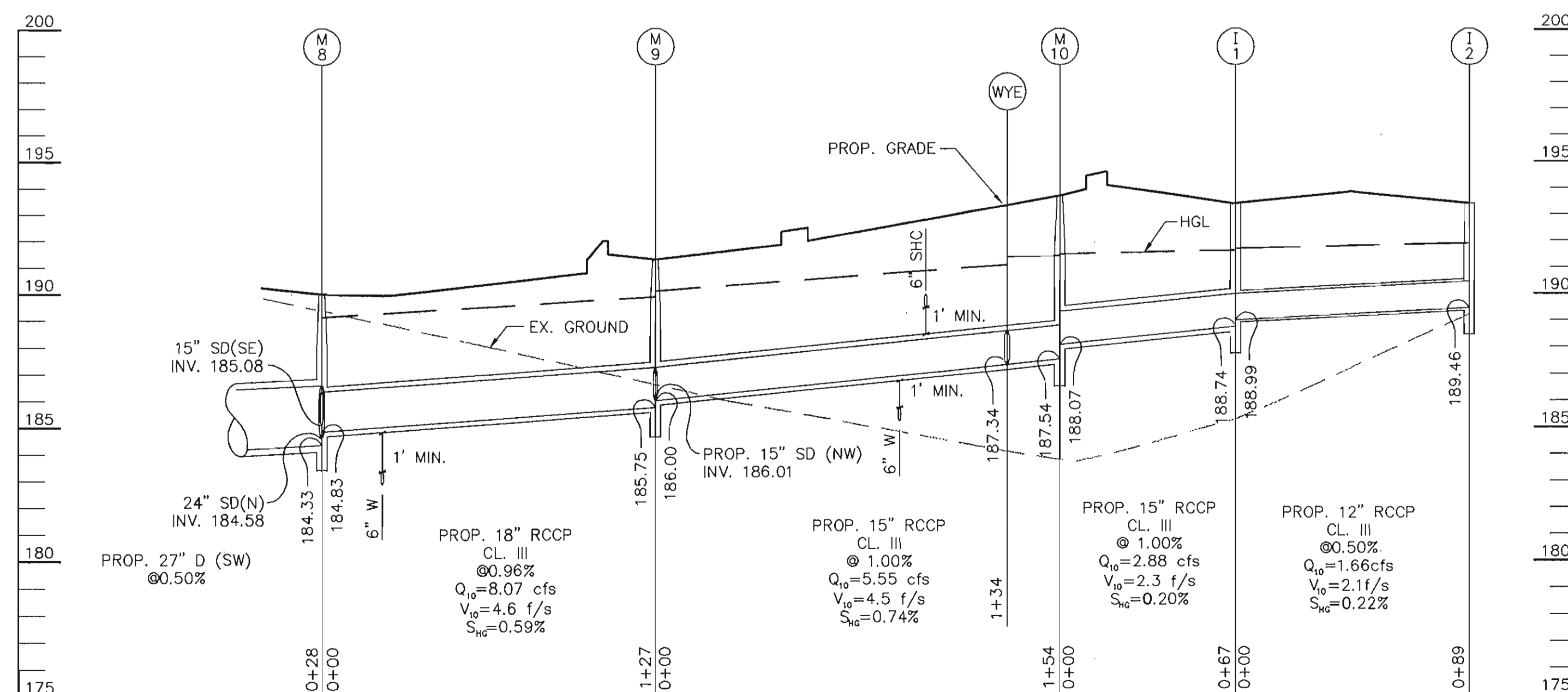


TYPICAL OFFSITE DITCH SECTION
NO SCALE

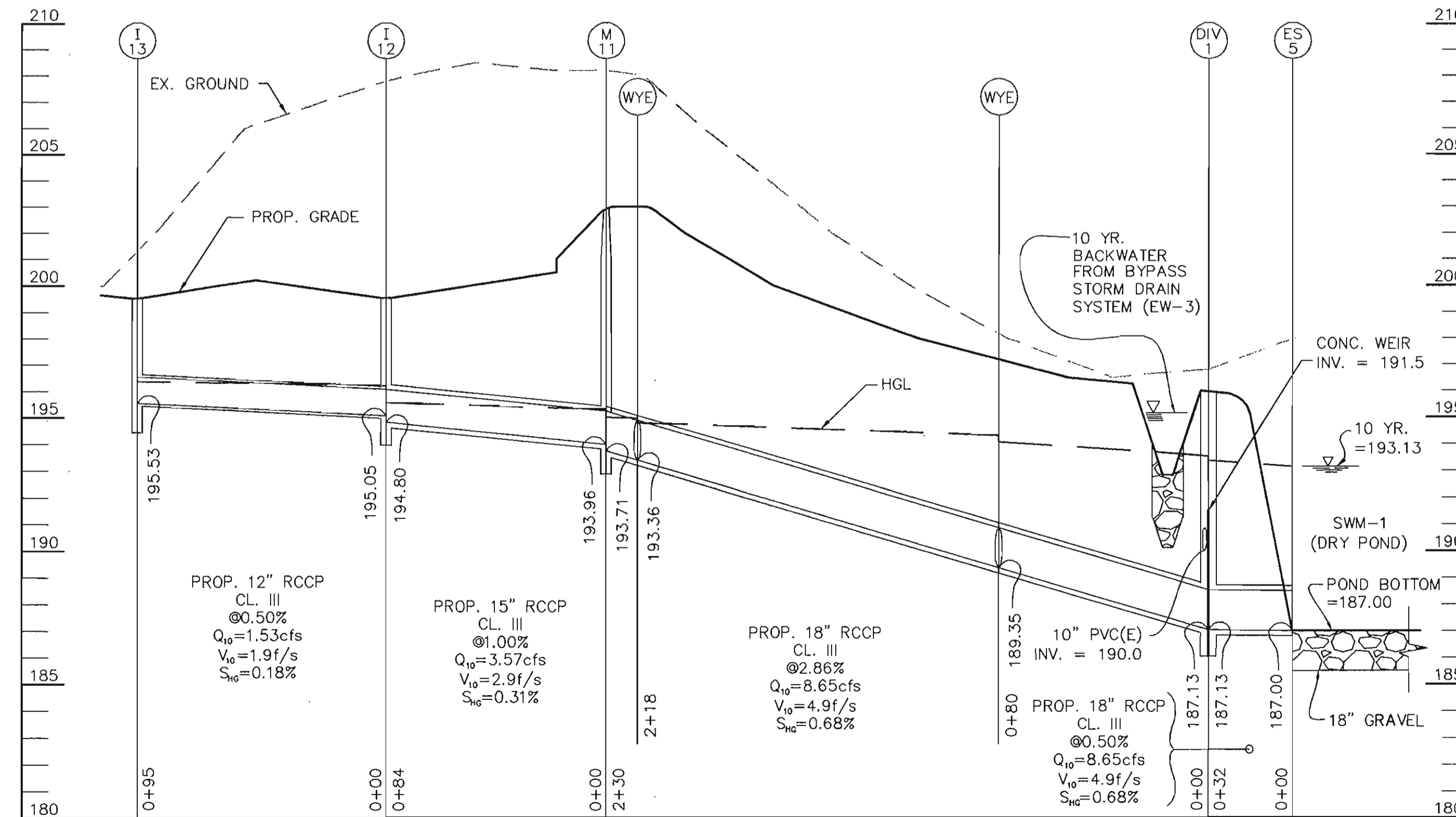
NOTE:
USE EROSION CONTROL MATTING.
SEE DETAIL SHEET 9 OF 24.



$Q_p=95.32\text{cfs}$
 $V_p=4.0\text{f/s}$
 $S_w=0.47\%$



STORM DRAIN PROFILE
SCALE: 1"=40' HORZ.
1"=4' VERT.



STORM DRAIN PROFILE
SCALE: 1"=40' HORZ.
1"=4' VERT.

Date	No.	Revision	Description

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 11/21/04
 CHIEF-DEVELOPMENT ENGINEERING DIVISION
[Signature] 11/23/04
 CHIEF-DIVISION OF LAND DEVELOPMENT
[Signature] 11/29/04
 DIRECTOR

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

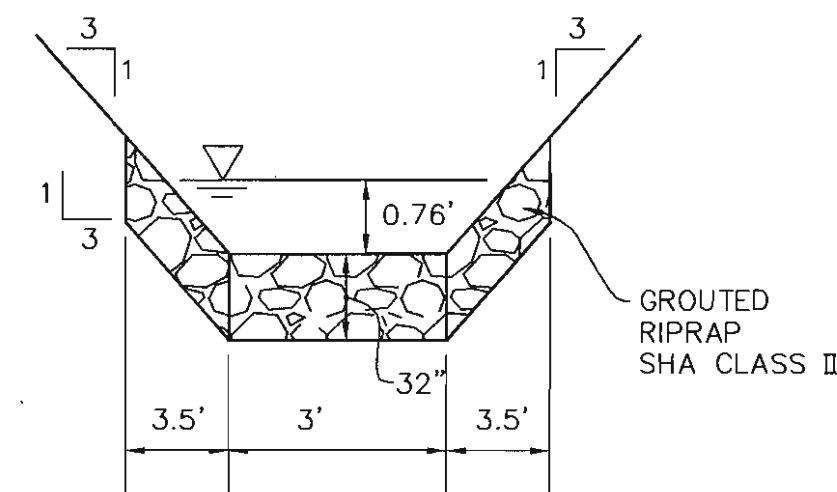
CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

STORM DRAIN PROFILES

Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Drn By	E.B.D.	Date	MAY 24, 2004	DRAWING NO	5 OF 24
Chk By		Approved			

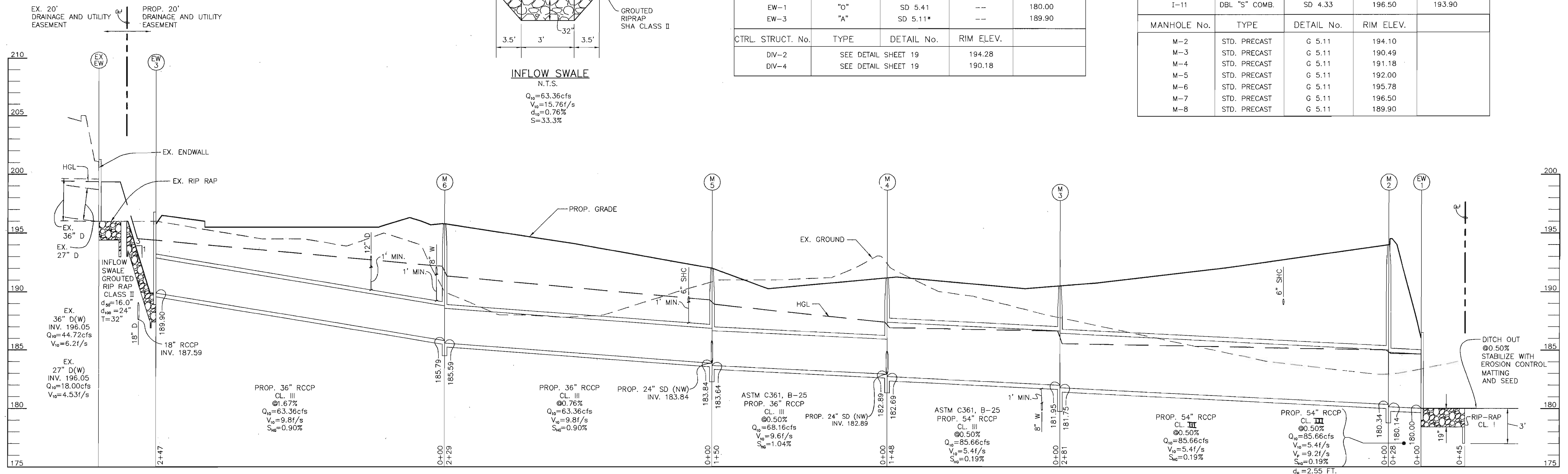
STRUCTURE SCHEDULE				
END SECTION No.	TYPE	DETAIL No.	TOP ELEV.	INV. OUT
ES-2	"A"	SD 5.51	--	184.00
ES-4	"A"	SD 5.51	--	187.00
ENDWALL No.	TYPE	DETAIL No.	TOP ELEV.	INV. OUT
EW-1	"O"	SD 5.41	--	180.00
EW-3	"A"	SD 5.11*	--	189.90
CTRL. STRUCT. No.	TYPE	DETAIL No.	RIM ELEV.	
DIV-2	SEE DETAIL SHEET 19		194.28	
DIV-4	SEE DETAIL SHEET 19		190.18	

STRUCTURE SCHEDULE				
INLET No.	TYPE	DETAIL No.	TOP ELEV.	INV. OUT
I-3	DBL "S" COMB.	SD 4.33	189.50	184.80
I-4	DBL "S"	SD 4.23	189.50	185.69
I-9	DBL "S"	SD 4.23	194.00	187.30
I-10	DBL "S"	SD 4.23	194.00	189.12
I-11	DBL "S" COMB.	SD 4.33	196.50	193.90
MANHOLE No.	TYPE	DETAIL No.	RIM ELEV.	
M-2	STD. PRECAST	G 5.11	194.10	
M-3	STD. PRECAST	G 5.11	190.49	
M-4	STD. PRECAST	G 5.11	191.18	
M-5	STD. PRECAST	G 5.11	192.00	
M-6	STD. PRECAST	G 5.11	195.78	
M-7	STD. PRECAST	G 5.11	196.50	
M-8	STD. PRECAST	G 5.11	189.90	

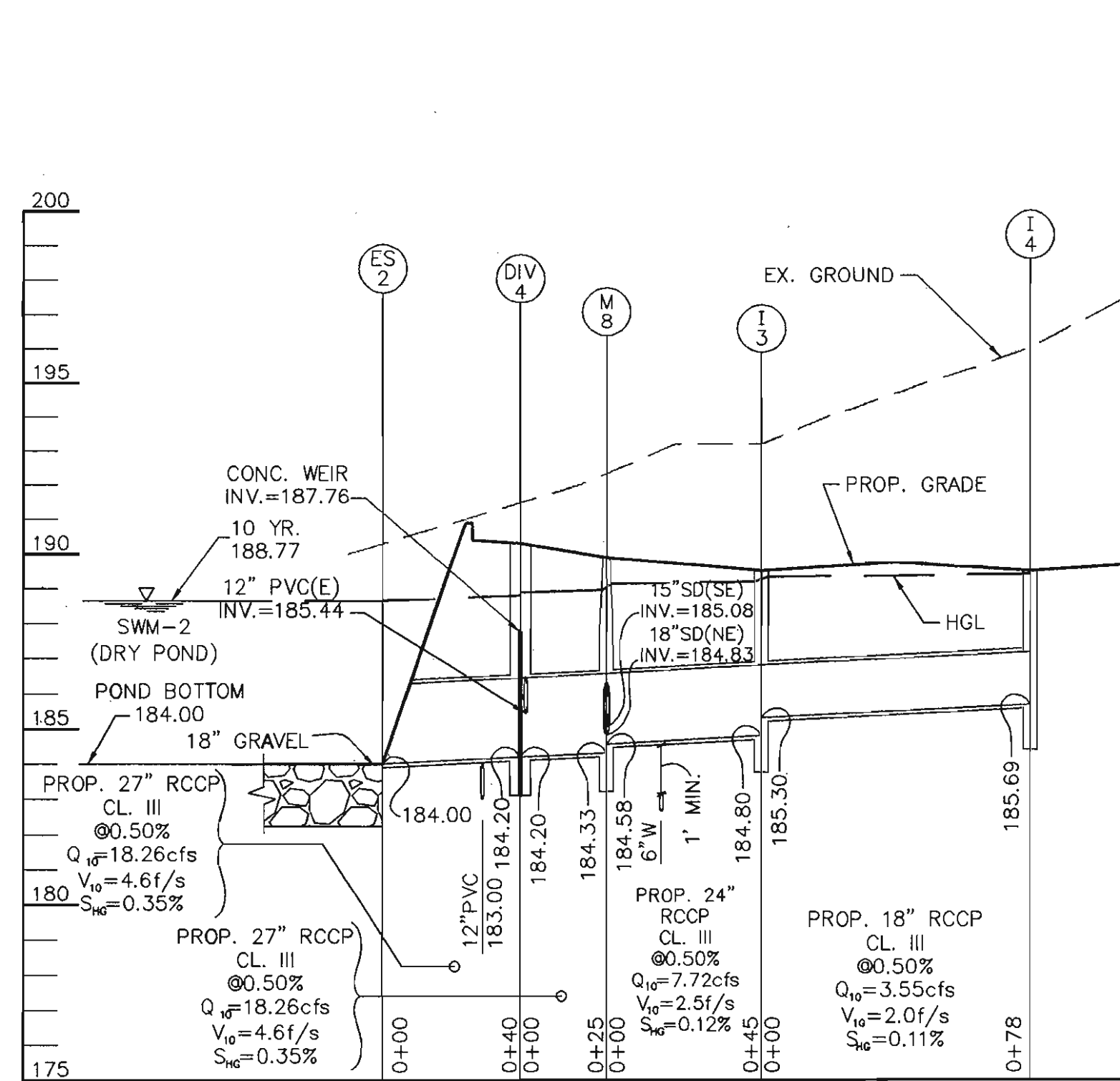


INFLOW SWALE

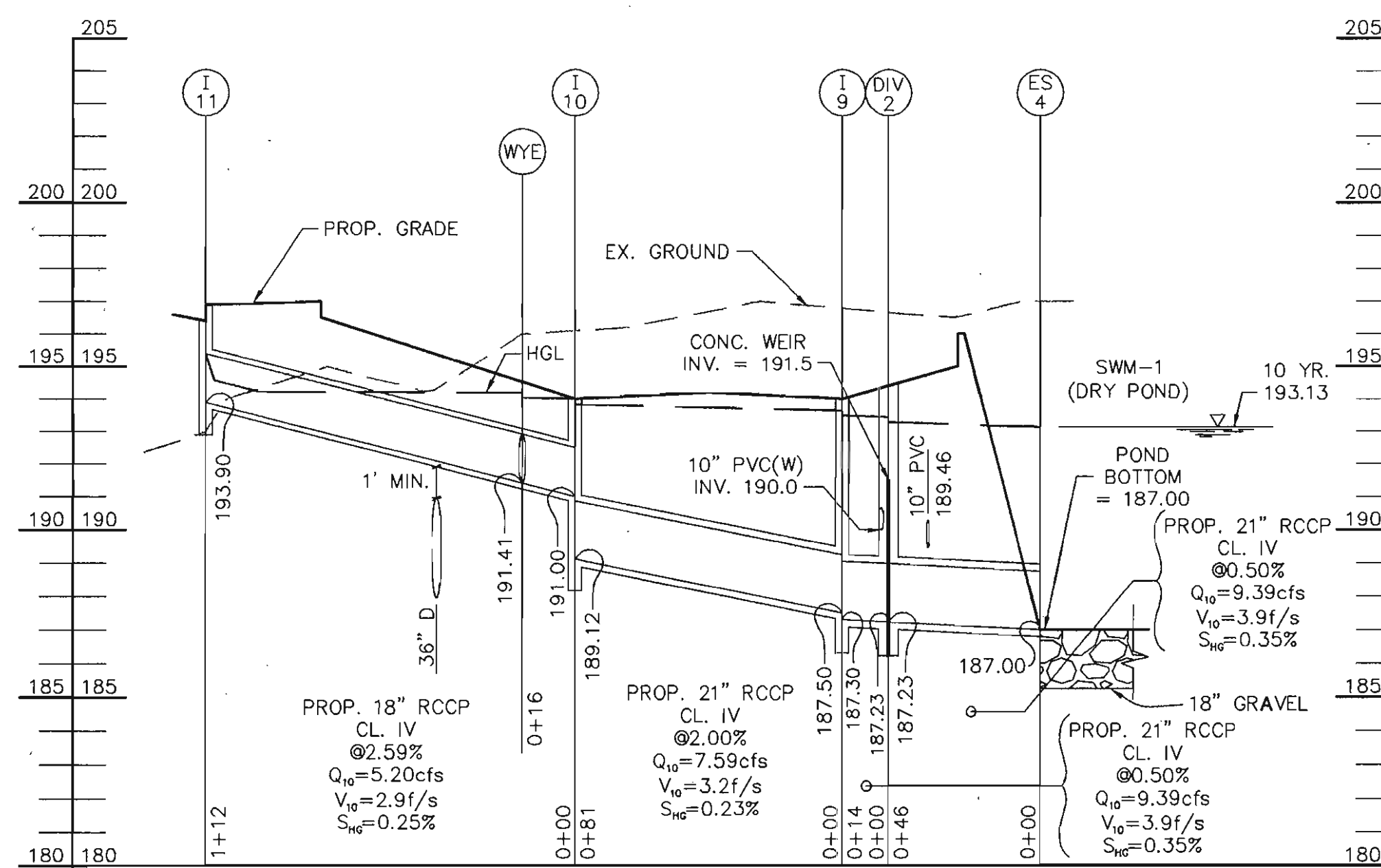
N.T.S.
 $Q_{10} = 63.36 \text{ cfs}$
 $V_{10} = 15.76 \text{ f/s}$
 $d_{10} = 0.76 \text{ f}$
 $S = 33.3\%$



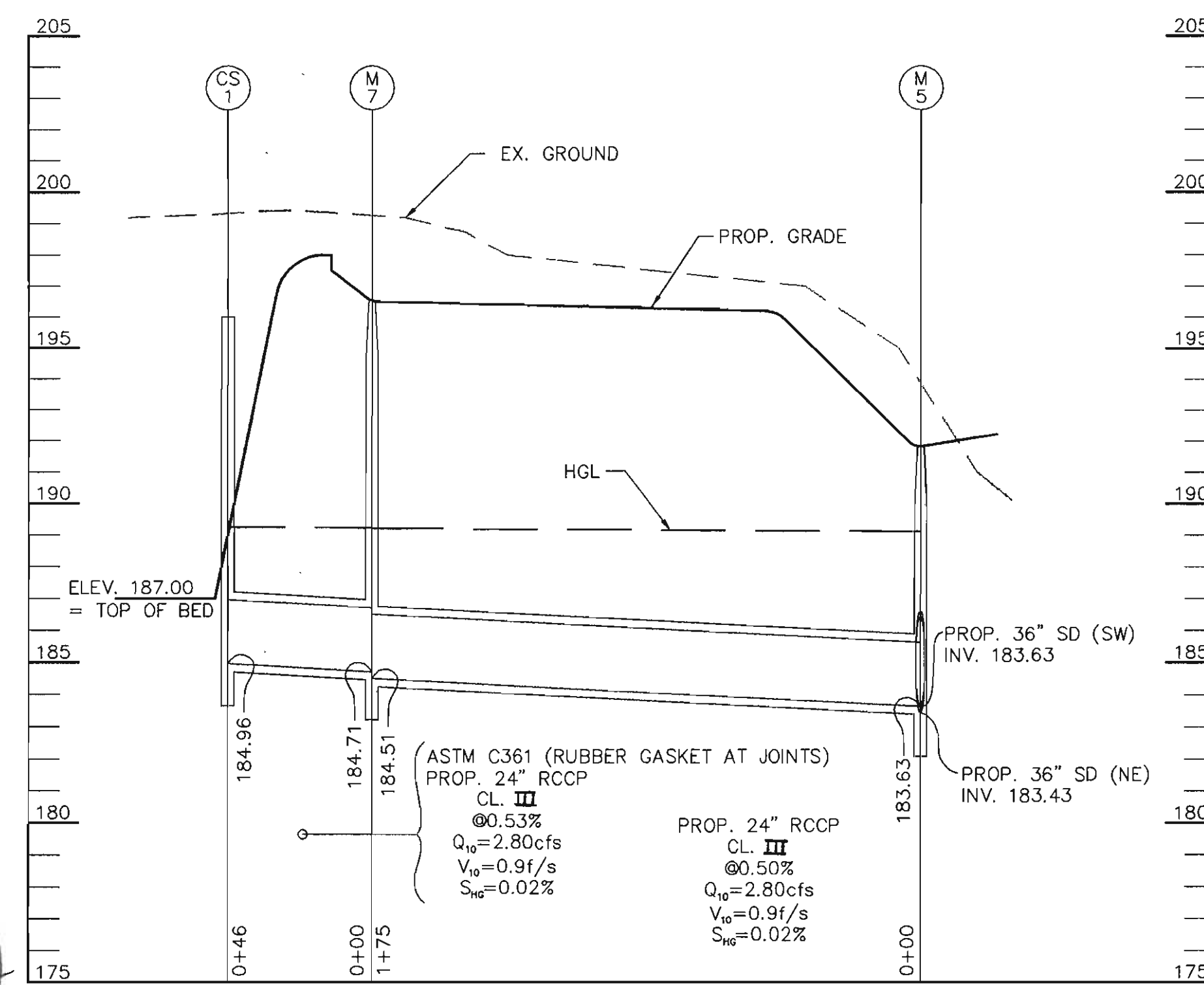
STORM DRAIN PROFILE
 SCALE: 1"=40' HORIZ.
 1"=4' VERT.



STORM DRAIN PROFILE
 SCALE: 1"=40' HORIZ.
 1"=4' VERT.



STORM DRAIN PROFILE
 SCALE: 1"=40' HORIZ.
 1"=4' VERT.



STORM DRAIN PROFILE
 SCALE: 1"=40' HORIZ.
 1"=4' VERT.

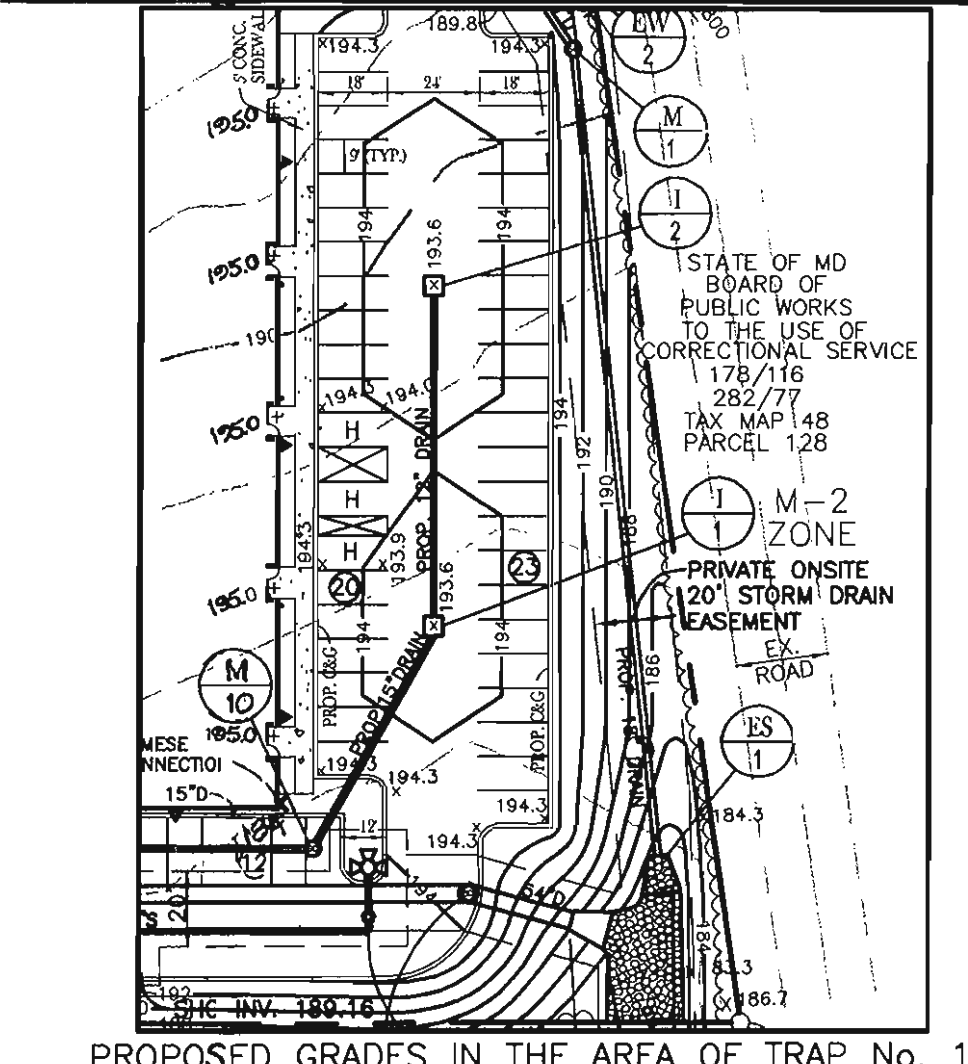
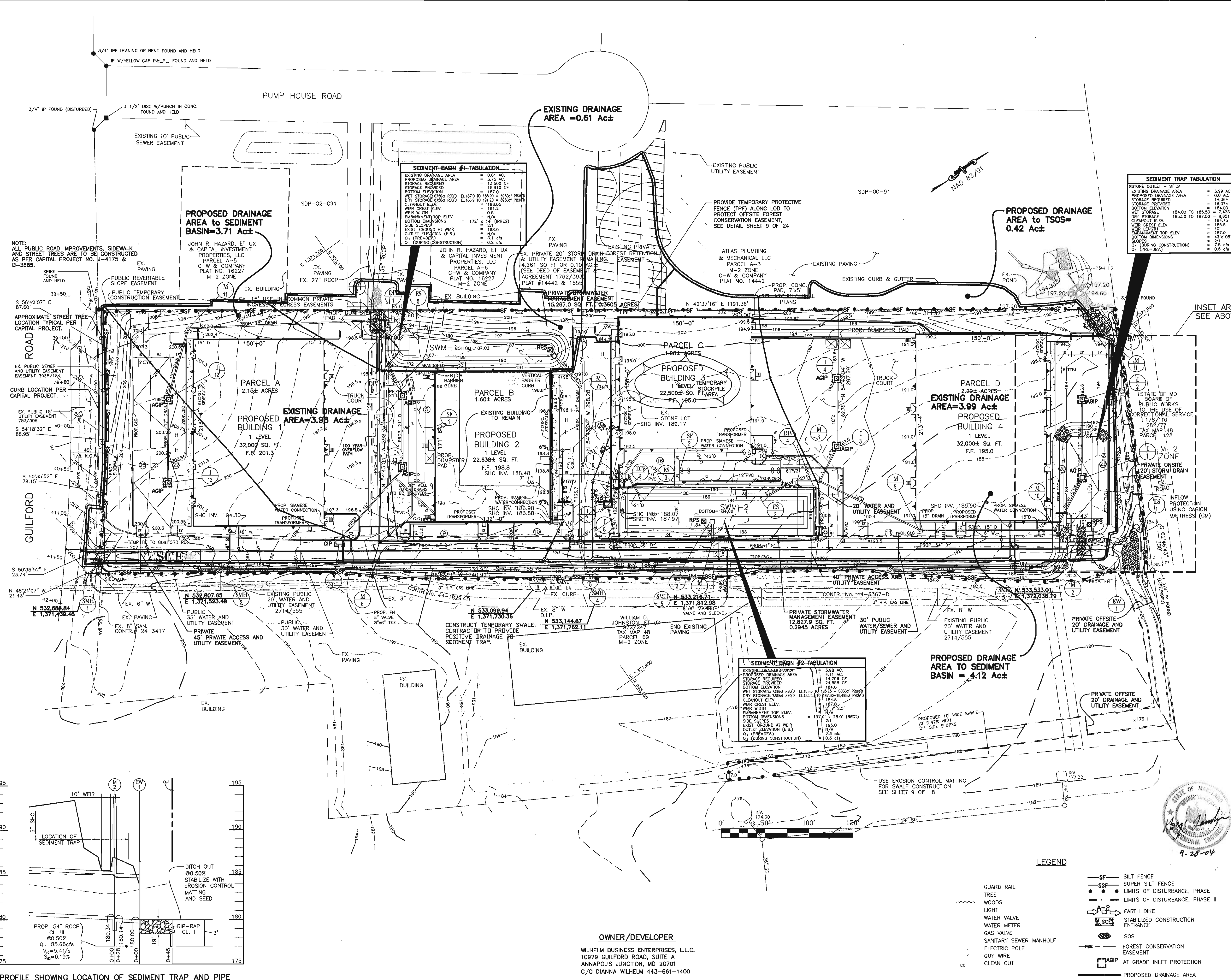
Date	No.	Revision Description
		APPROVED: DEPARTMENT OF PLANNING AND ZONING
		CHIEF-DEVELOPMENT ENGINEERING DIVISION
		CHIEF-DIVISION OF LAND DEVELOPMENT
		DIRECTOR

ANNAPOLIS JUNCTION BUSINESS PARK
 PARCELS A-D
 TAX MAP 48 GRID 14 PARCEL 120
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS
 32 WEST ROAD
 TOWSON, MARYLAND 21204
 (410) 823-8070

STORM DRAIN PROFILES

Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Dwn By	E.B.D.	Date	MAY 24, 2004	DRAWING NO	
Chk By		Approved			6 OF 24



PROPOSED GRADES IN THE AREA OF TRAP No. 1

NOTE: TREES, SHRUBS, OR OTHER WOODY VEGETATION WILL NOT BE ALLOWED WITHIN 25' OF THE INLET STRUCTURE IN THE POOL AREA, AND NOT ALLOWED ON OR WITHIN 15' OF ANY PORTION OF THE EMBANKMENT.

Date	No.	Revision Description

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Henry J. Saylor 9-23-04
SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Dianna J. Wilhelm 9-25-04
SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

Jim Meyer 10/1/04
U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

Dianna J. Wilhelm 4/1/04
HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cheryl Danner 11/9/04
CHIEF-DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 11/23/04
CHIEF-DIVISION OF LAND DEVELOPMENT DATE

Frank H. Hays 11/24/04
DIRECTOR DATE

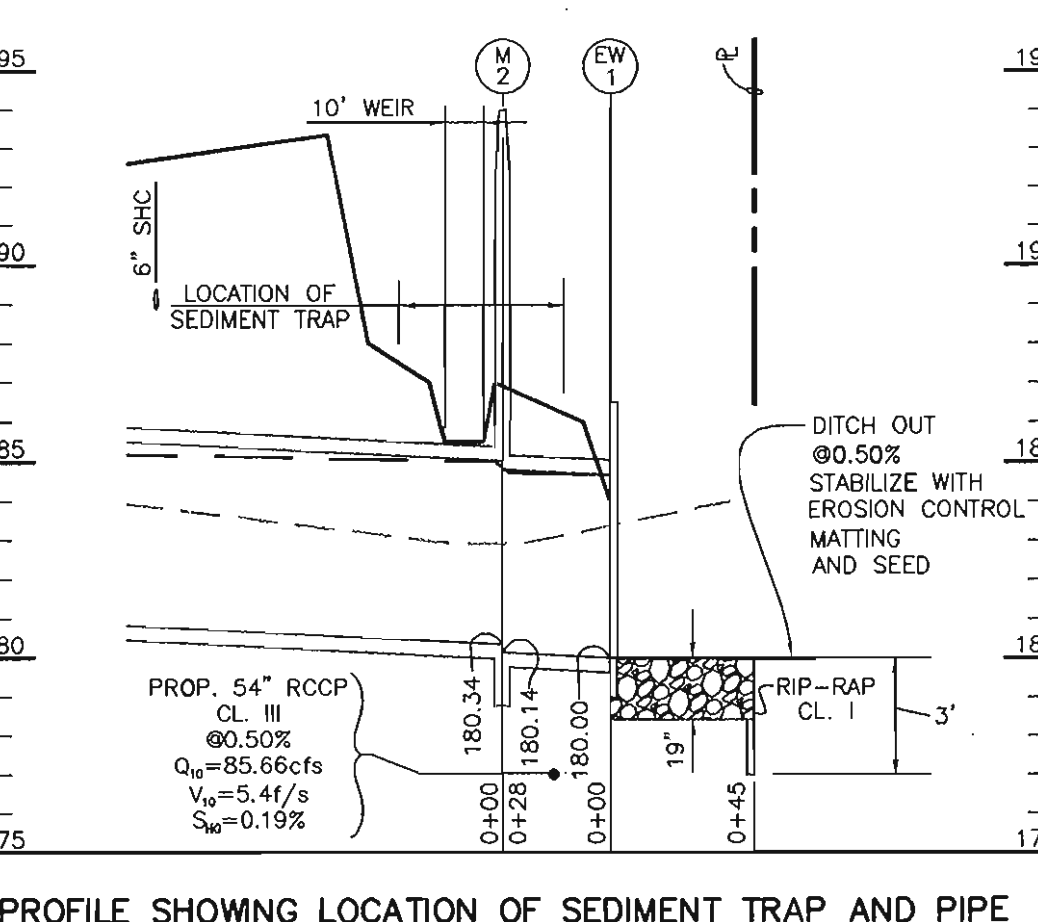
ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D

TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

EROSION AND SEDIMENT CONTROL PLAN

Des By	G.L.	Scale	1"=50'	Proj No	23249.00
Drn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	
Chk By		Approved			7 OF 24



PROFILE SHOWING LOCATION OF SEDIMENT TRAP AND PIPE

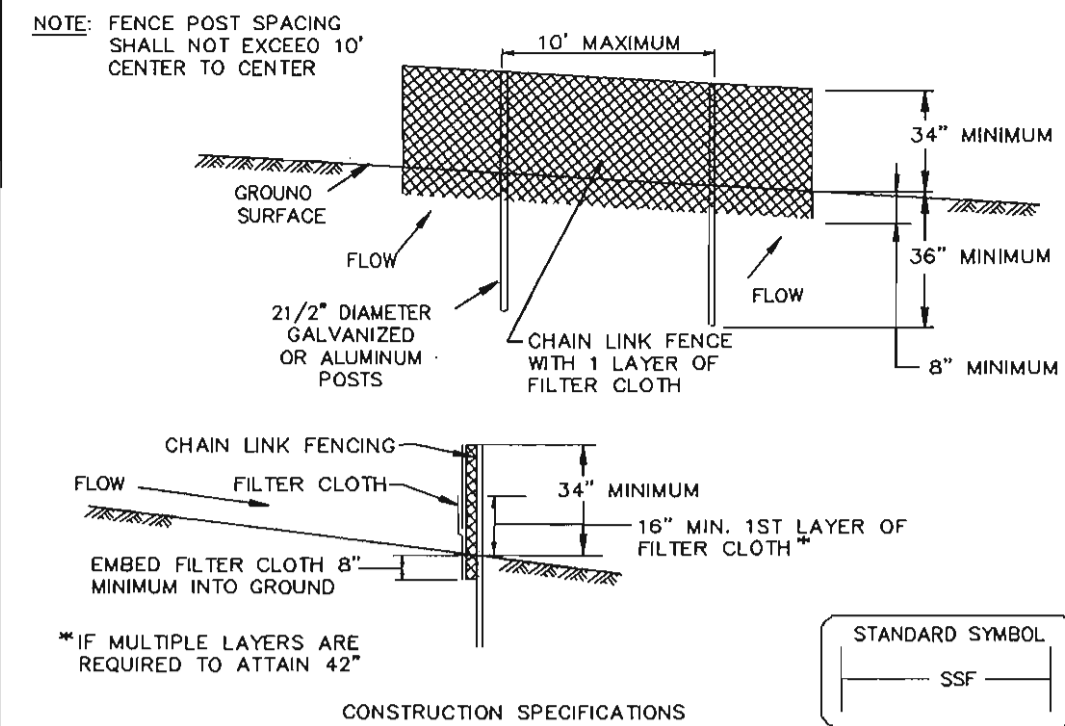
SCALE: 1"=40' HORIZ.
1"=4' VERT.

OWNER/DEVELOPER
WILHELM BUSINESS ENTERPRISES, L.L.C.
10979 GUILFORD ROAD, SUITE A
ANNAPOLIS JUNCTION, MD 20701
C/O DIANNA WILHELM 443-661-1400

- LEGEND**
- SF SILT FENCE
 - SSP SUPER SILT FENCE
 - LIMITS OF DISTURBANCE, PHASE I
 - LIMITS OF DISTURBANCE, PHASE II
 - ▲ EARTH DIKE
 - WATER VALVE
 - WATER METER
 - GAS VALVE
 - SANITARY SEWER MANHOLE
 - ELECTRIC POLE
 - GUY WIRE
 - CLEAN OUT
 - PROPOSED DRAINAGE AREA
 - EXISTING DRAINAGE AREA
 - TEMP. PROTECTIVE FENCE



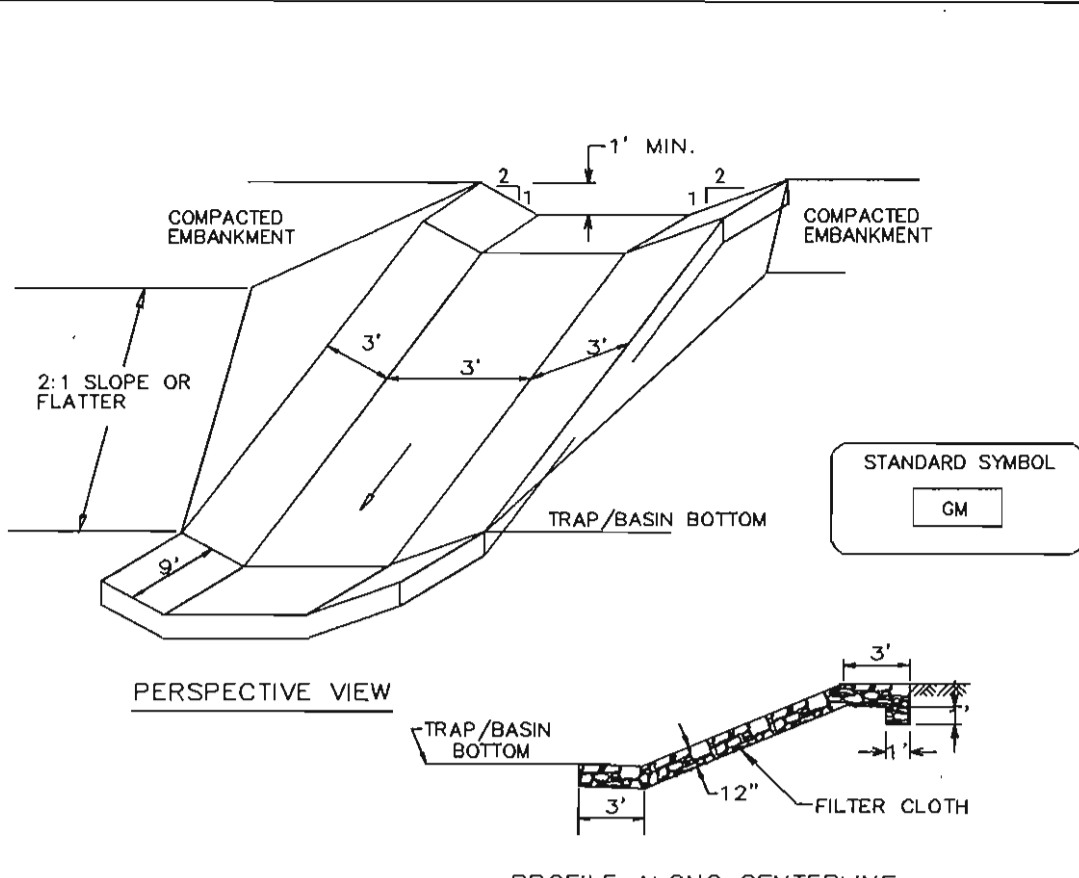
DETAIL 33 - SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS
1. FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers H-28-3 and E-15-3.

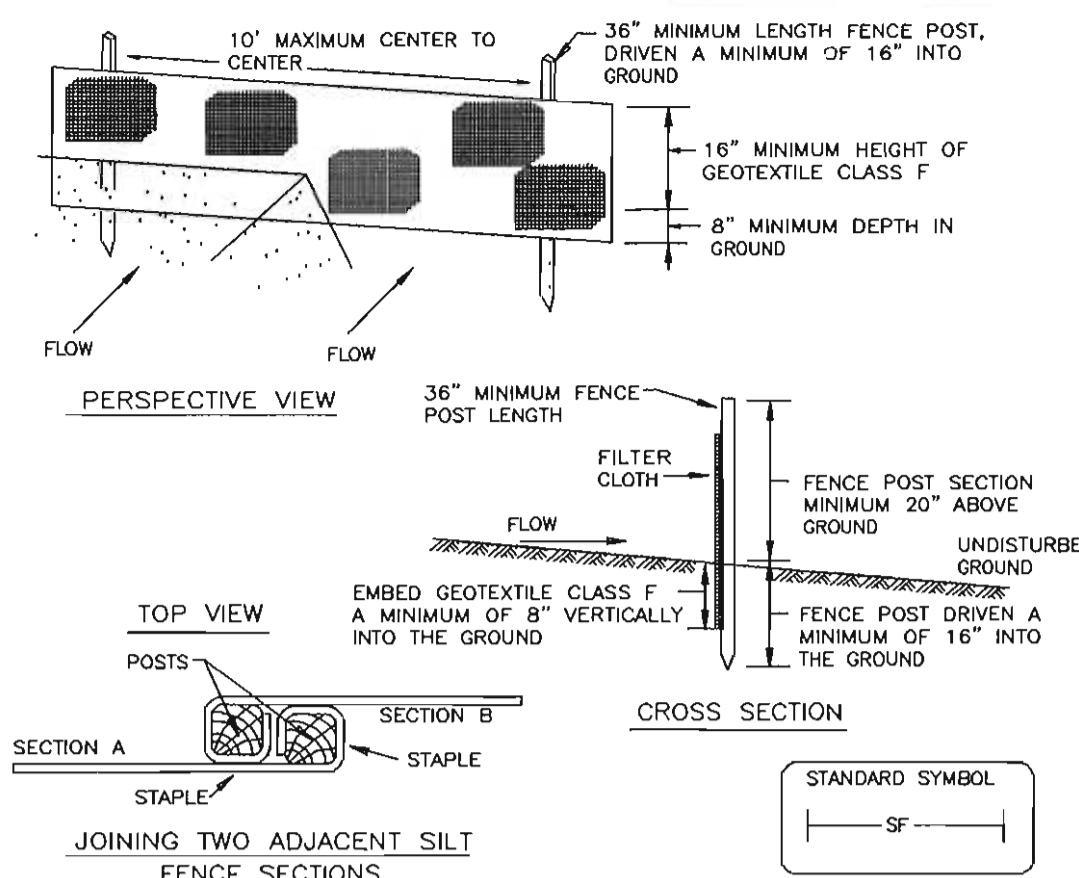
DETAIL 6 - GABION INFLOW PROTECTION



CONSTRUCTION SPECIFICATIONS
1. Gabion inflow protection shall be constructed of 9' x 3' x 9' gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers B-7-2 and E-15-3.

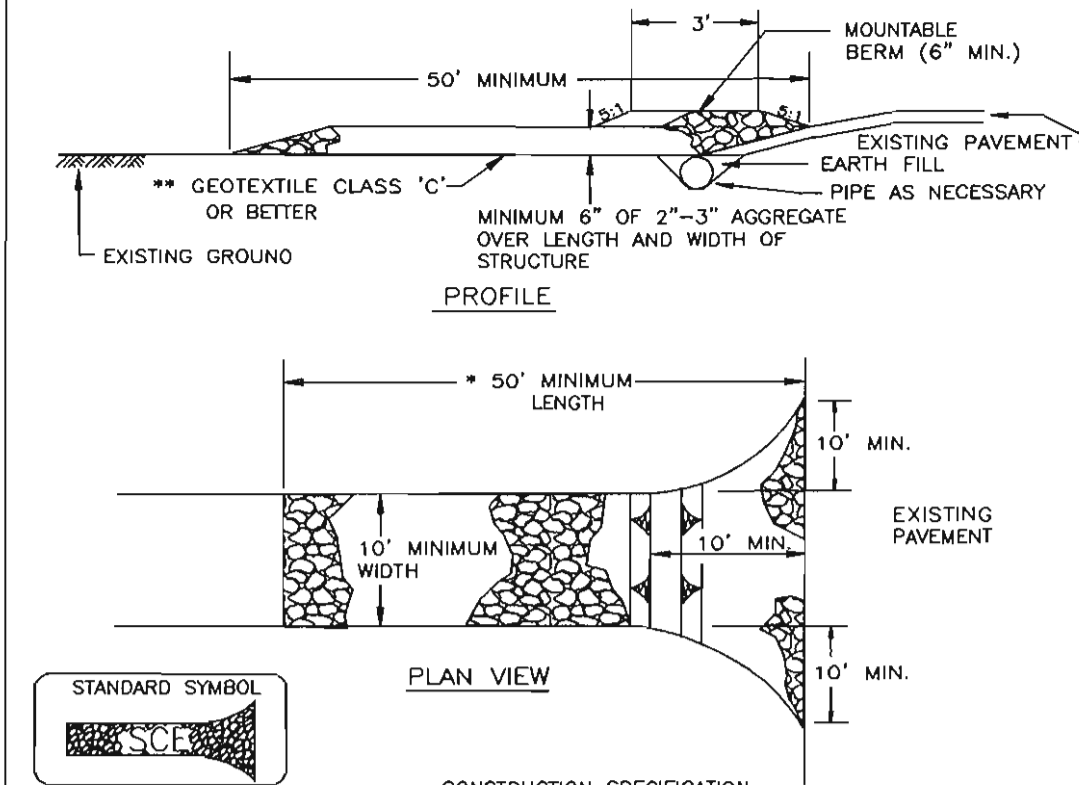
DETAIL 22 - SILT FENCE



CONSTRUCTION SPECIFICATIONS
1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" x 1 1/2" SQUARE (MINIMUM) CUT OR 1 3/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers E-15-3 and E-15-3.

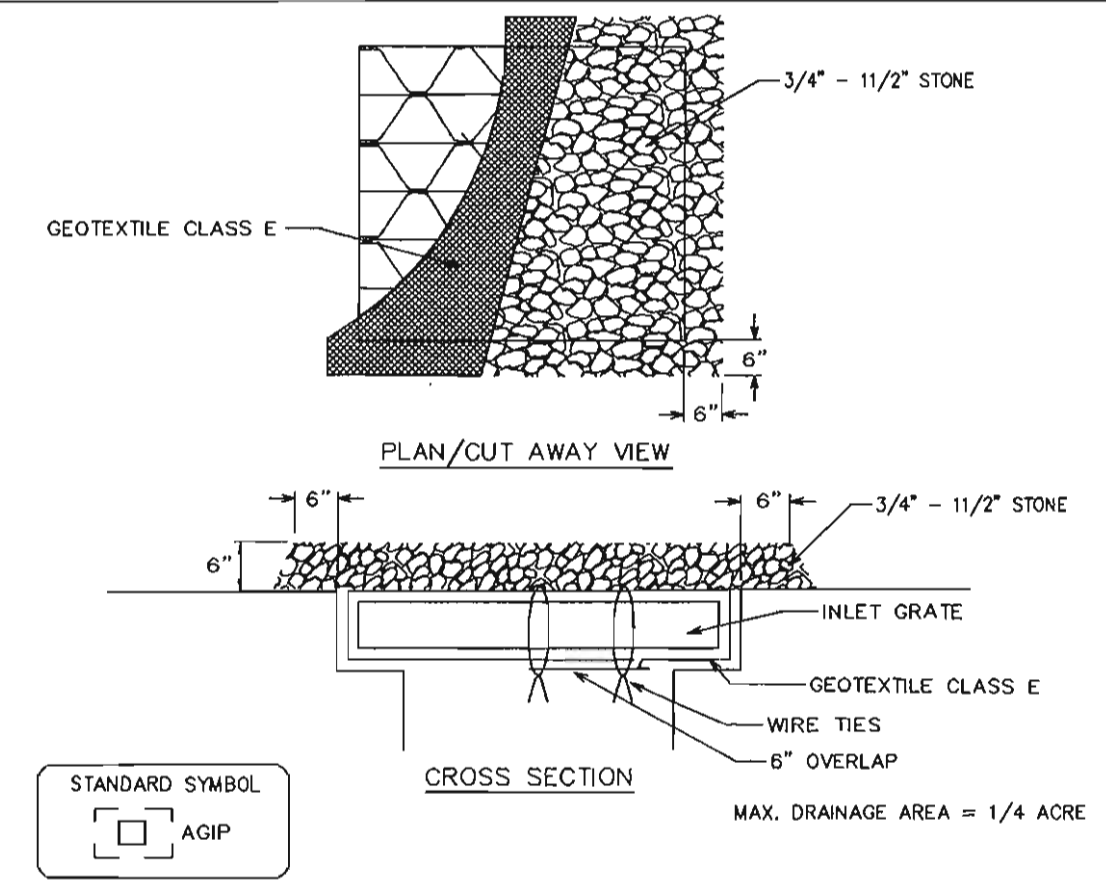
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATION
1. LENGTH - MINIMUM OF 50' (*30' FOR SINGLE RESIDENCE LOT).
2. WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers F-17-3 and F-17-3.

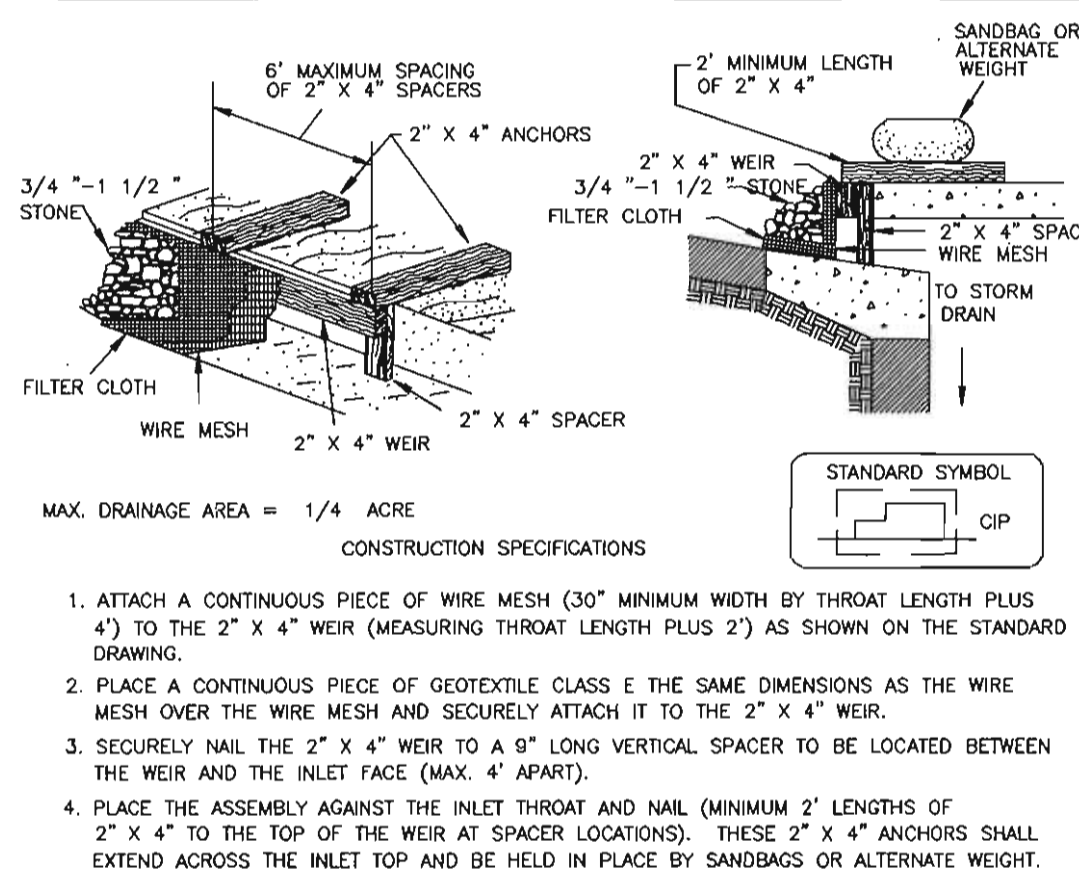
DETAIL 23B - AT GRADE INLET PROTECTION



CONSTRUCTION SPECIFICATIONS
1. LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers E-16-5A and E-16-5A.

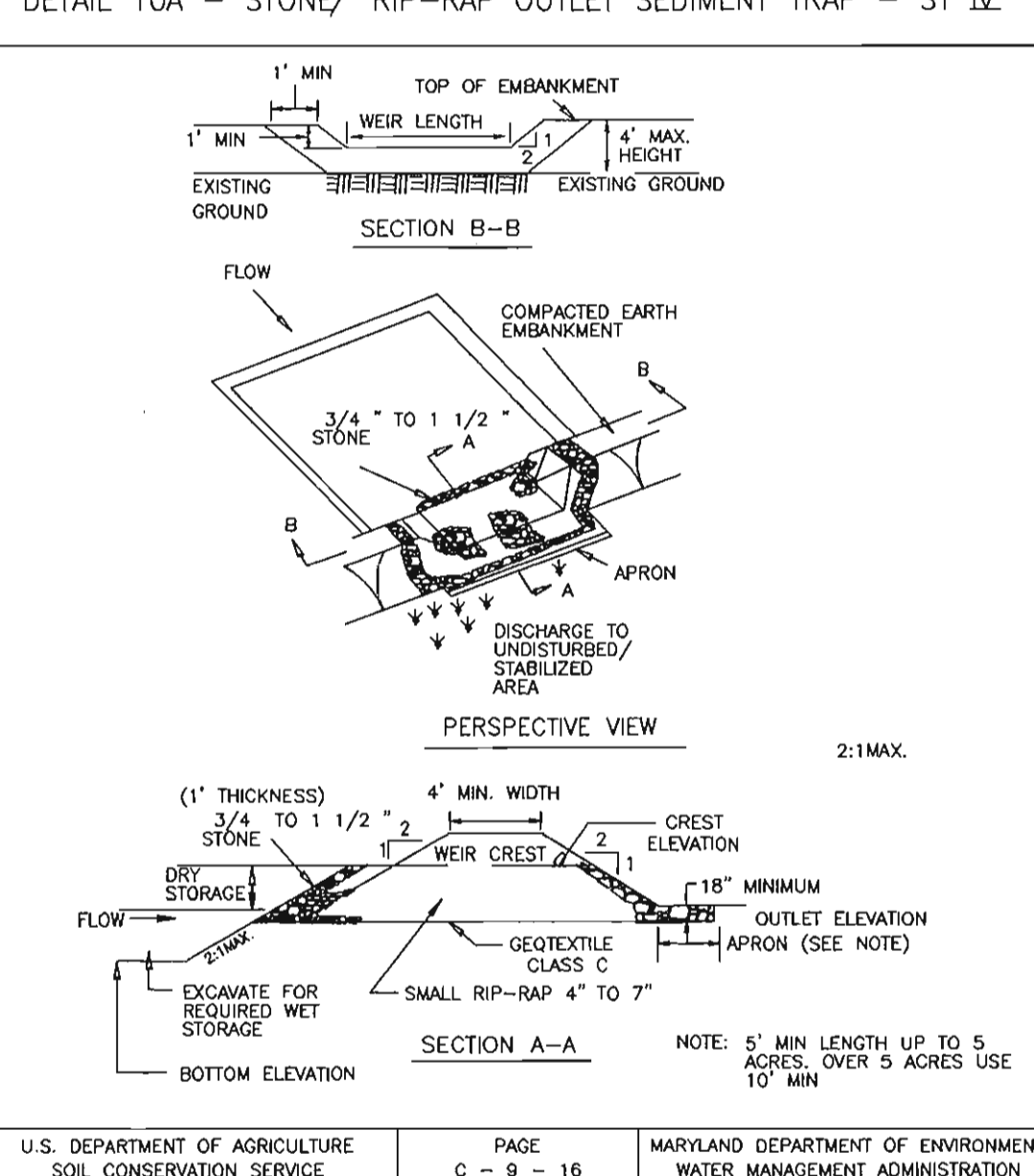
DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



CONSTRUCTION SPECIFICATIONS
1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30" MINIMUM WIDTH BY THROAT LENGTH PLUS 4") TO THE 2' x 4" WEIR (MEASURING THROAT LENGTH PLUS 2") AS SHOWN ON THE STANDARD DRAWING.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers E-16-5B and E-16-5B.

DETAIL 10A - STONE/ RIP-RAP OUTLET SEDIMENT TRAP - ST IV



CONSTRUCTION SPECIFICATIONS
1. THE AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.

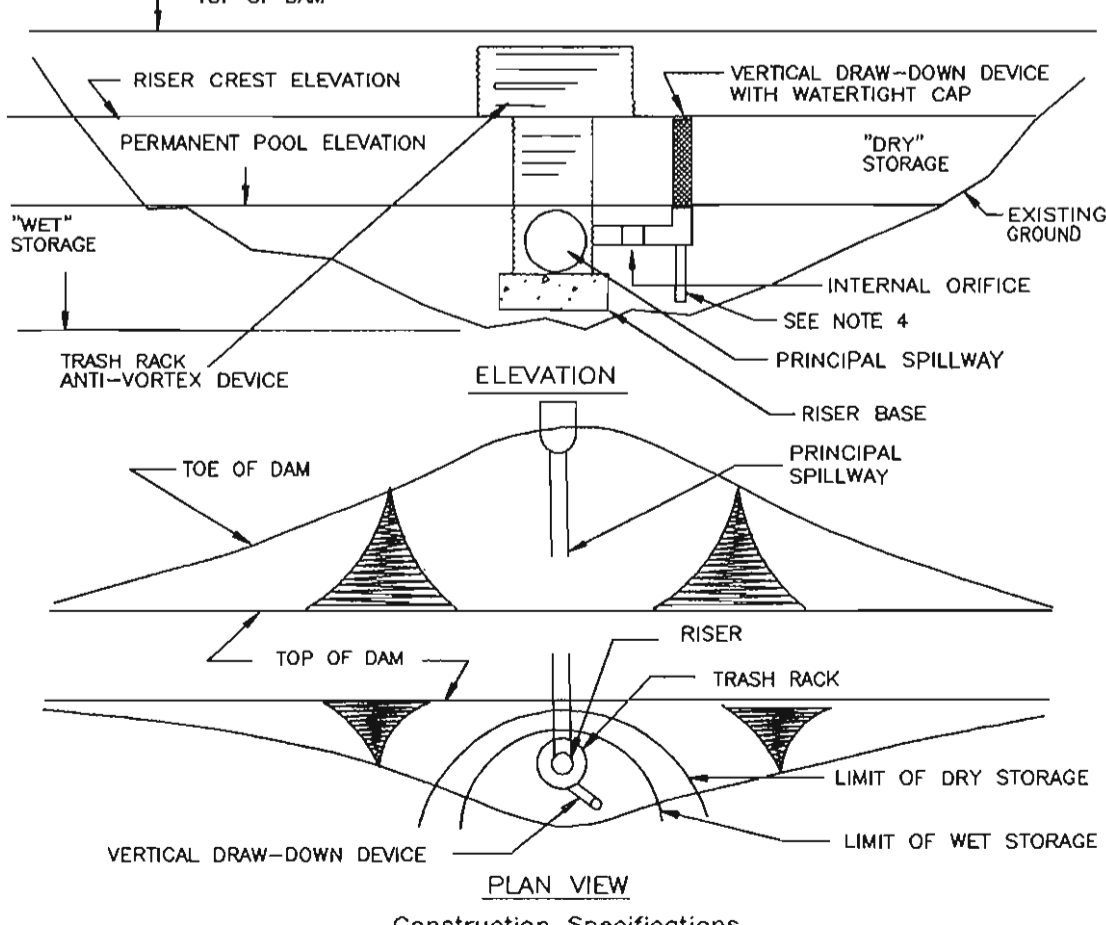
Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers C-9-16 and C-9-16A.

STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV

CONSTRUCTION SPECIFICATIONS
1. THE AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers C-9-16A and C-9-16A.

BASIN DRAWDOWN SCHEMATIC VERTICAL DRAW-DOWN DEVICE



CONSTRUCTION SPECIFICATIONS
1. Perforations in the draw-down device may not extend into the wet storage.
2. The total area of the perforations must be greater than 2 times the area of the internal orifice.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers MODIFIED and WATER MANAGEMENT ADMINISTRATION.

DETAIL 30 - EROSION CONTROL MATTING

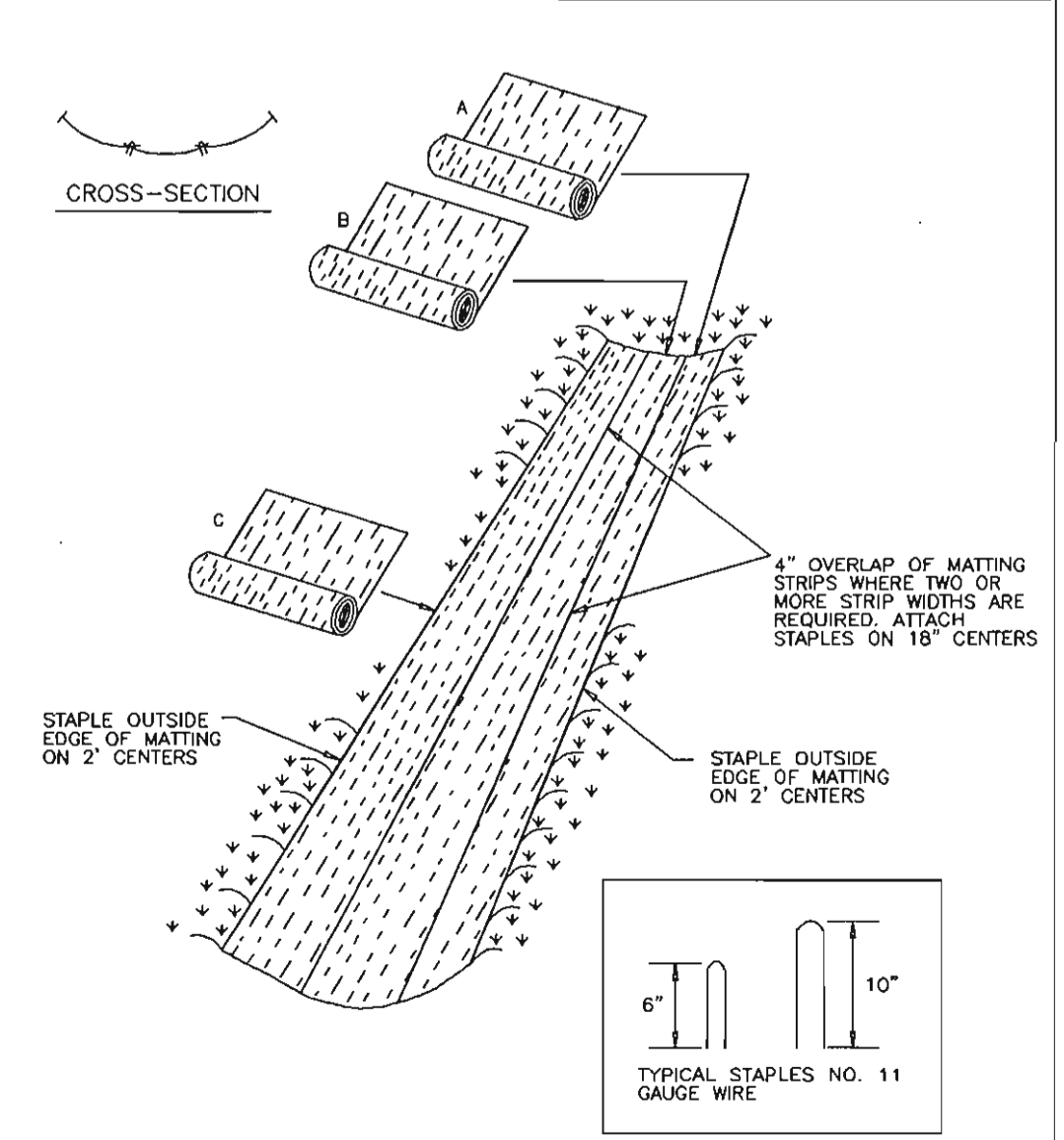
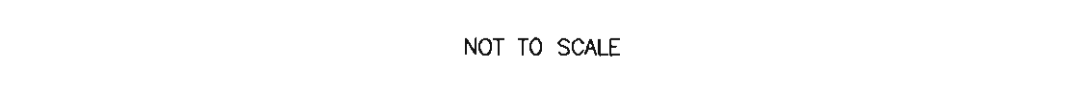


Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers C-22-2 and WATER MANAGEMENT ADMINISTRATION.

TEMPORARY PROTECTIVE FENCE (BLAZE ORANGE PLASTIC MESH FENCE)



CONSTRUCTION SPECIFICATIONS
ANCHOR POSTS SHOULD BE MINIMUM 2" STEEL U-CHANNEL OR 2"x2" TIMBER AT LEAST 6' IN LENGTH.

Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page numbers C-9-16 and C-9-16A.

Table with 3 columns: Date, No., Revision Description.

BY THE ENGINEER:

Signature of Mary J. Jordan, Date 9-28-04.

BY THE DEVELOPER:

Signature of Devin L. Wilson, Date 9-28-04.

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

Signature of Jim Meyer, Date 11/1/04.

Signature of Howard S.C.D., Date 11/1/04.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

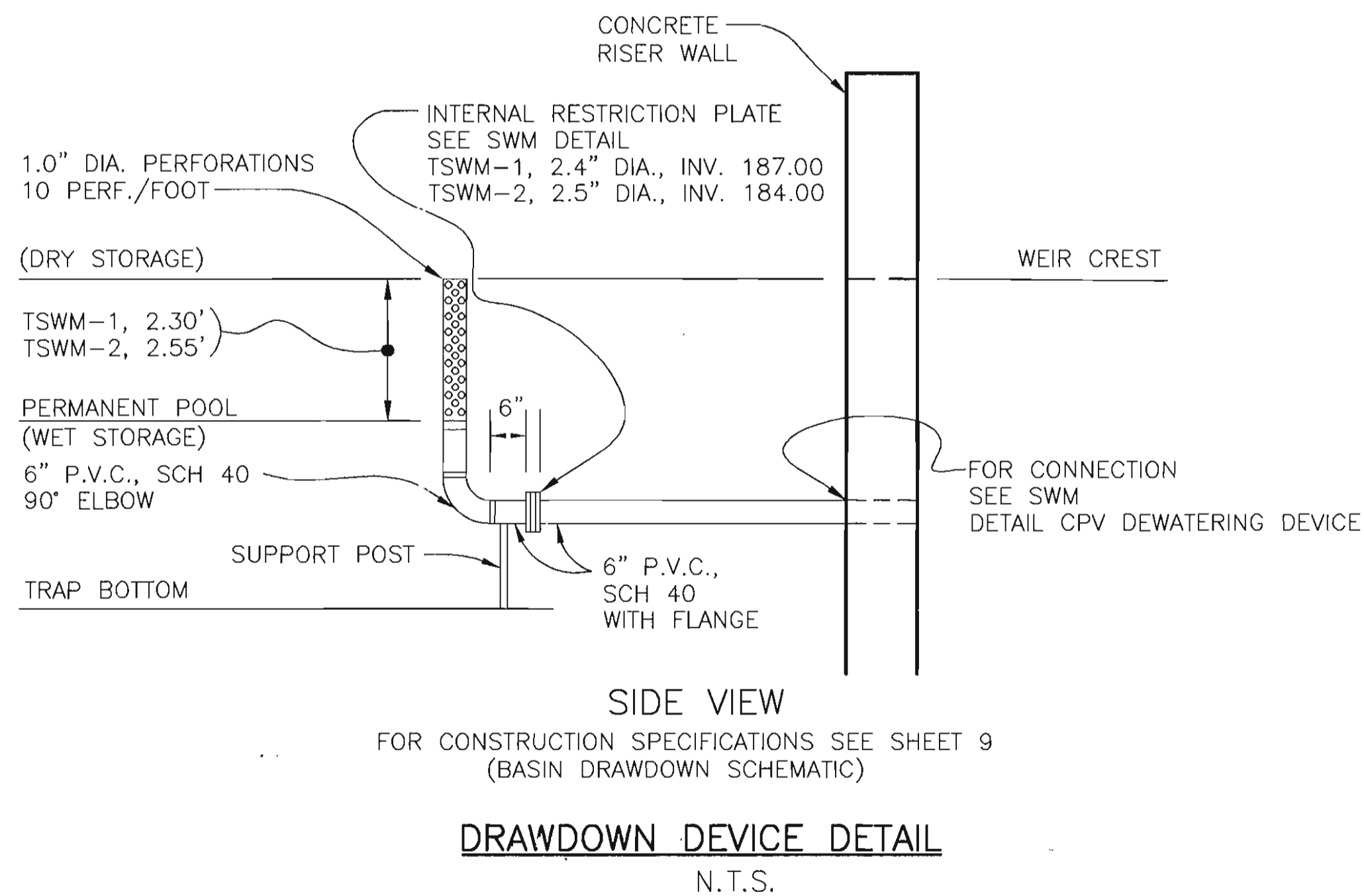
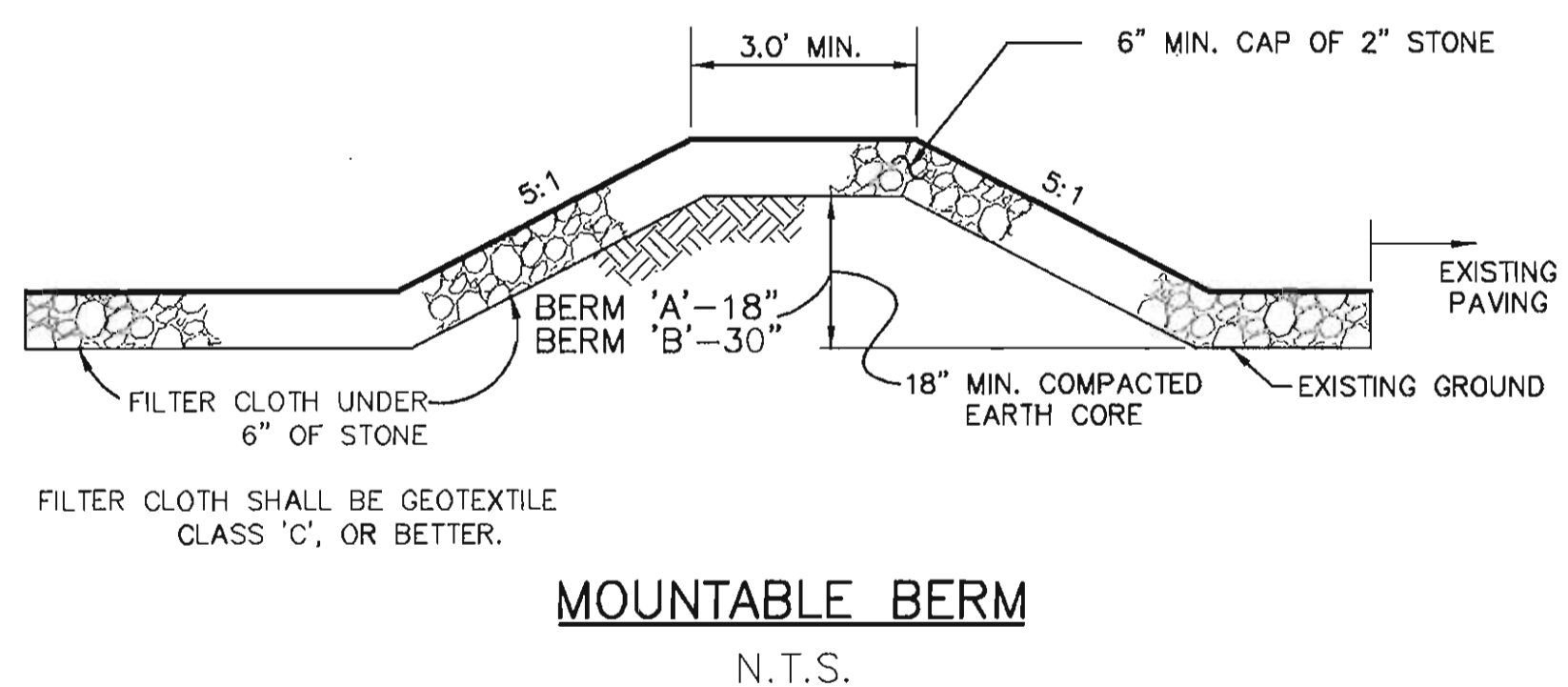
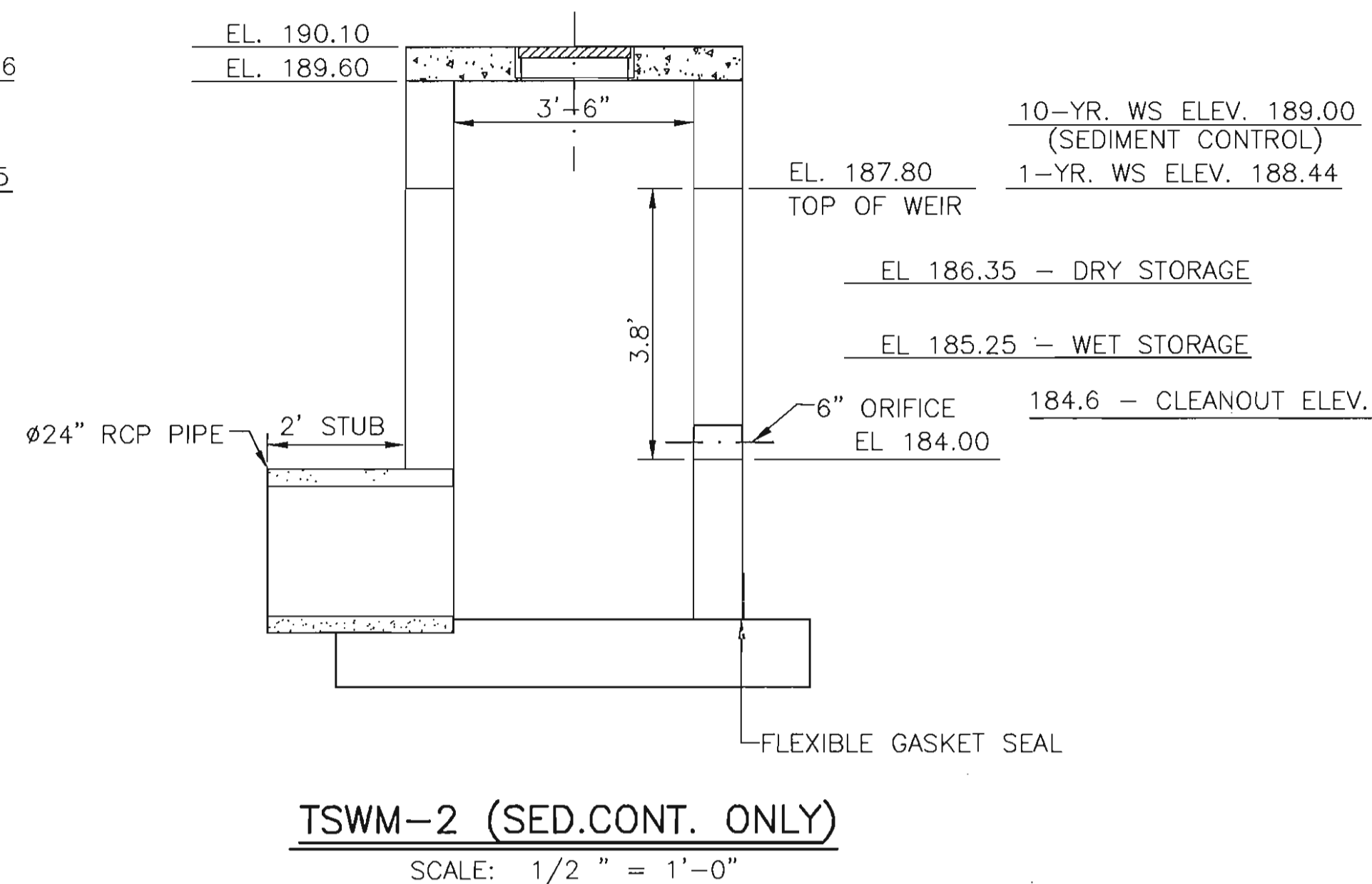
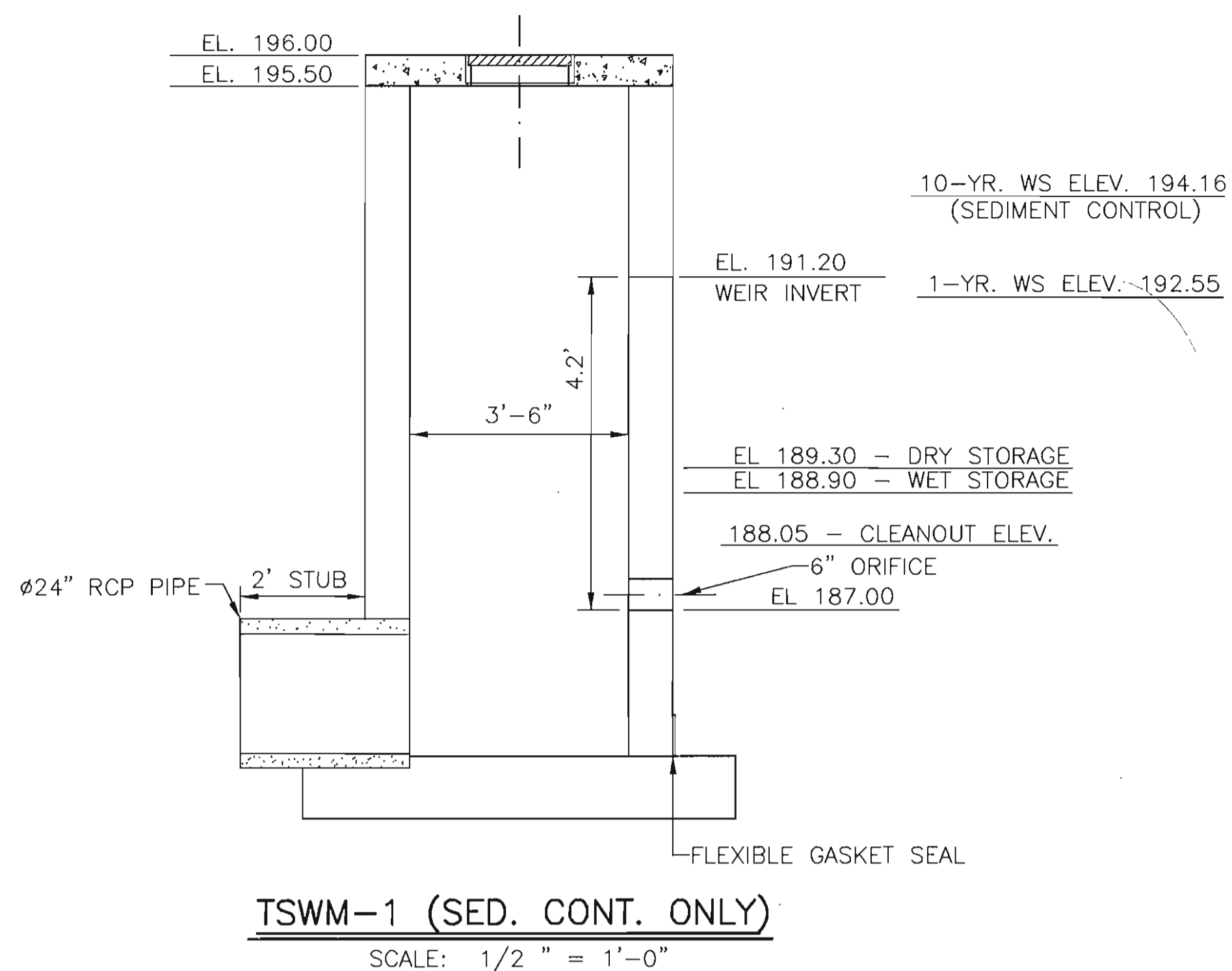
Signatures and dates of approval from Department of Planning and Zoning, Chief-Development Engineering Division, Chief-Division of Land Development, and Director.

ANNAPOLIS JUNCTION BUSINESS PARK PARCELS A-D TAX MAP 48 GRID 14 PARCEL 120 ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC. CONSULTING ENGINEERS, PLANNERS, SURVEYORS 32 WEST ROAD TOWSON, MARYLAND 21284 (410) 823-8070

EROSION AND SEDIMENT CONTROL DETAILS

Table with 3 columns: Des By, Scale, Proj No. Includes details for G.L., AS SHOWN, and 23249.00.



RISER NOTES:

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SWM POND/SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS AND THE MSHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS SECTIONS 414 AND 416.
- ALL CONCRETE SHALL BE MIX NO. 3 (FC=3500 PSI)
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A615, GRADE 60. ALL REINFORCING STEEL SHALL BE AS INDICATED ON THE RISER STRUCTURAL DETAILS. CONCRETE COVER OVER THE REINFORCING STEEL SHALL BE A MINIMUM OF 2" MEASURED FROM THE INSIDE FACE OF WALLS AND FROM THE TOP SURFACE OF THE REINFORCING STEEL IN THE BOTTOM AND SIDES OF THE FOOTING. CUT REINFORCING STEEL AT PIPES AND OPENINGS.
- CONSTRUCTION JOINTS BETWEEN WALLS AND FOOTING SHALL BE ROUGH FLOATED SUFFICIENTLY TO THOROUGHLY CONSOLIDATE THE SURFACE AND SHALL BE INTENTIONALLY LEFT IN A ROUGHENED CONDITION.
- PROVIDE 1/4" CHAMFER FOR ALL CORNERS ABOVE GRADE.
- CONTRACTOR SHALL USE GALVANIZED OR STAINLESS STEEL BOLTS TO FASTEN TRASH RACK TO CONCRETE WALL.

Date	No.	Revision Description
BY THE ENGINEER:		
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.		
<i>Norge Seaton</i>		9-28-04
SIGNATURE OF ENGINEER		DATE
BY THE DEVELOPER:		
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.		
<i>Daniel L. McMillen</i>		9-28-04
SIGNATURE OF DEVELOPER		DATE
REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.		
<i>Jim Myers / as.</i>		11/1/04
U.S. NATURAL RESOURCES CONSERVATION SERVICE		DATE
THIS DEVELOPMENT PLAN IS AS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.		
<i>Keith A. ...</i>		11/1/04
HOWARD S.C.D.		DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>...</i>		11/1/04
CHIEF-DEVELOPMENT ENGINEERING DIVISION		DATE
<i>...</i>		11/23/04
CHIEF-DIVISION OF LAND DEVELOPMENT		DATE
<i>...</i>		11/23/04
DIRECTOR		DATE

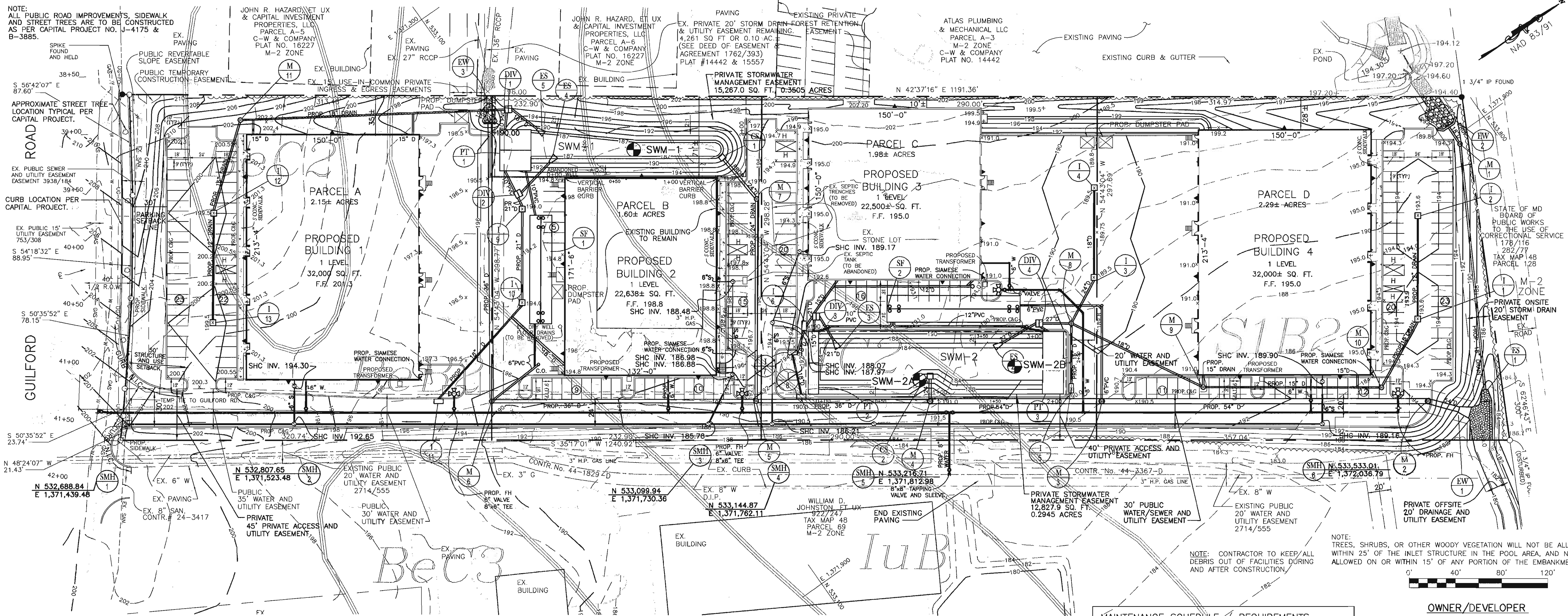
ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND



CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

**EROSION AND
SEDIMENT
CONTROL DETAILS**

Des By	G.L.	Scale	AS SHOWN	Proj No	23249.00
Drn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	10 OF 24
Chk By		Approved			



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT PONDS

3.4.6 FILTERING MAINTENANCE CRITERIA (MDE SWM DESIGN MANUAL)

THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED/REPAIRED WHEN DRAWDOWN TIMES WITHIN THE CHAMBER EXCEED 36 HOURS. TRASH AND DEBRIS SHALL BE REMOVED AS NECESSARY.

SEDIMENT SHOULD BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN SIX INCHES.

WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHES SUBSTANTIALLY (E.G. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH MATERIAL. THE REMOVED SEDIMENTS SHOULD BE DISPOSED IN AN ACCEPTABLE MANNER (E.G. LANDFILL). SILT/SEDIMENT SHOULD BE REMOVED FROM THE FILTER BED WHEN THE ACCUMULATION EXCEEDS ONE INCH.

DIRECT MAINTENANCE ACCESS SHALL BE PROVIDED TO THE PRETREATMENT AREA AND THE FILTER BED.

CONSTRUCTION OF SAND FILTERS SHALL CONFORM TO THE SPECIFICATIONS OUTLINED IN APPENDIX B.3.

SITE AREA TABULATION

TOTAL AREA OF SITE :	8.299 Acres
TOTAL R/W DEDICATION :	0.275 Acres
TOTAL NET BUILDABLE LOT :	8.024 Acres
MAX. IMPERVIOUS ALLOWED :	6.820 Acres
	(85% per ZONING)
TOTAL IMPERVIOUS PROPOSED :	5.895 Acres

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

MAINTENANCE SCHEDULE / REQUIREMENTS

THE STORMWATER MANAGEMENT FACILITIES SHALL BE MAINTAINED BY THE PROPERTY OWNER AS FOLLOWS:

1. REMOVAL OF ACCUMULATED PAPER, TRASH, AND DEBRIS AS NECESSARY;
2. ANNUAL INSPECTION AND REPAIR OF THE STRUCTURES AND PERFORATED PIPE.

OWNER/DEVELOPER
 WILHELM BUSINESS ENTERPRISES, L.L.C.
 10979 GUILFORD ROAD, SUITE A
 ANNAPOLIS JUNCTION, MD 20701
 C/O DIANNA WILHELM 443-C61-1400

SOIL BORINGS

FACILITY	TYPE	HAZARD CLASS
SWM-1	EXCAVATED, DRY POND	A
SWM-2	EXCAVATED AND EMBANKMENT, DRY POND	A

PROJECT NAME	LOCATION	BORING NUMBER	DEPTH (FEET)	SOIL DESCRIPTION	REMARKS	
ANAPOLIS JUNCTION BUSINESS PARK	ANNAPOLIS JUNCTION, MARYLAND	SWM-1A	1.0	0-1.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 1.0'
			2.0	1.0-2.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 2.0'
			3.0	2.0-3.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 3.0'
			4.0	3.0-4.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 4.0'
			5.0	4.0-5.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 5.0'
			6.0	5.0-6.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 6.0'
		SWM-2A	1.0	0-1.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 1.0'
			2.0	1.0-2.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 2.0'
			3.0	2.0-3.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 3.0'
			4.0	3.0-4.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 4.0'
			5.0	4.0-5.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 5.0'
			6.0	5.0-6.0	Dark brown, moist, medium dense silty clay with sand, some gravel (SC-1)	1' to 6.0'

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION AND MEETS THE MINIMUM STANDARDS OF THE HOWARD COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT AND THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

SIGNATURE: *George Lambros*
 NAME: GEORGE LAMBROS
 P.E. NO. 6519
 DATE: 9-28-04

AS-BUILT CERTIFICATION:

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE: _____
 P.E. NO. _____
 DATE: _____

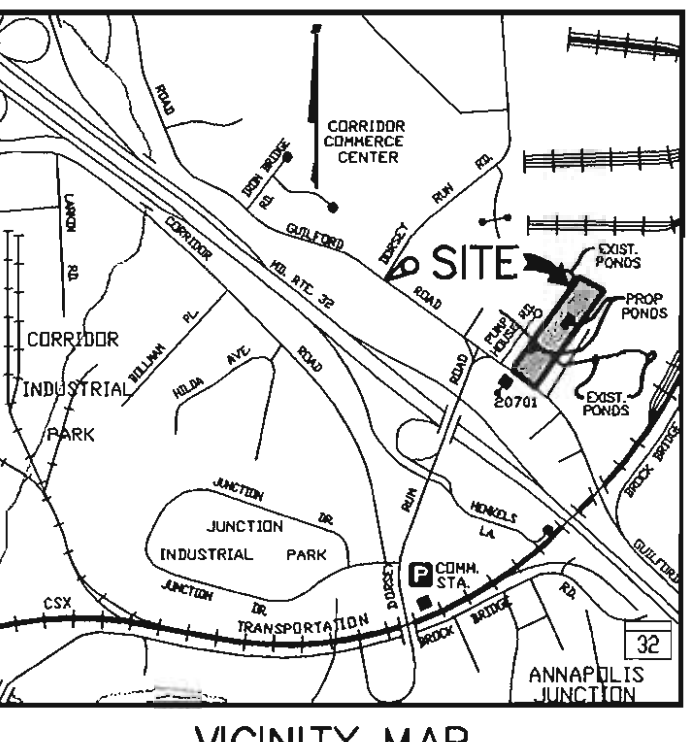
LANDOWNER'S/DEVELOPER'S CERTIFICATION:

I/WE HEREBY CERTIFY THAT ALL WORK SHOWN ON THESE CONSTRUCTION DRAWINGS WILL BE ACCOMPLISHED PURSUANT TO THESE PLANS. I/WE ALSO UNDERSTAND THAT IT IS MY/OUR RESPONSIBILITY TO HAVE THE CONSTRUCTION SUPERVISED AND CERTIFIED, INCLUDING THE SUBMITTAL OF "AS-BUILT" PLANS WITHIN THIRTY (30) DAYS OF COMPLETION, BY A REGISTERED PROFESSIONAL ENGINEER.

SIGNATURE: *Dianna L. Wilhelm*
 NAME: DIANNA L. WILHELM
 P.E. NO. 9-28-04
 DATE: 9-28-04

NOTE:

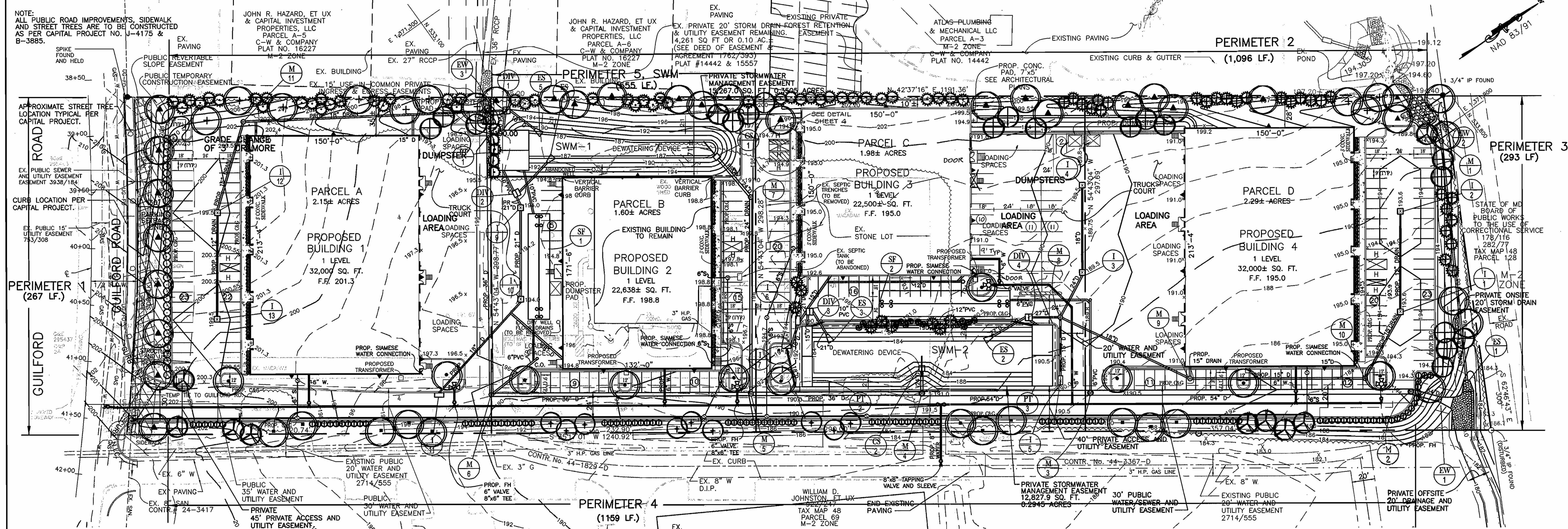
IF FUTURE ADDITIONAL IMPERVIOUS AREAS ARE PROPOSED BEYOND THE CONSTRUCTION SCOPE OF THIS PLAN, THE STORMWATER MANAGEMENT SYSTEM WILL NEED TO BE RE-EVALUATED.



STORMWATER MANAGEMENT SUMMARY TABLE - SWM-1 AND -2

REQUIREMENT	VOLUME REQUIRED (CU. FT.)	VOLUME PROVIDED (CU. FT.)	NOTES
WATER QUALITY (WQ)	20,427	20,427	100% OF REQUIRED (75% OF WQ)
RECHARGE VOLUME (Re _v)	3,763	4,006	
CHANNEL PROTECTION VOLUME (CP _v)	35,666	35,666	CP _v RELEASE RATE IS 0.47 cfs

STORMWATER MANAGEMENT TO BE PROVIDED BY UNDERGROUND SAND FILTER AND DRY POND



LANDSCAPE PLANT LIST

KEY	QTY	BOTANICAL NAME COMMON NAME	SIZE	COND	REMARKS
●	22	ACER RUBRUM 'AUTUMN FLAME' 'AUTUMN FLAME' RED MAPLE	2.5'-3' CAL	B & B	HEAVY
●	11	ZELKOVA SERRATA 'VILLAGE GREEN' 'VILLAGE GREEN' ZELKOVA	2.5'-3' CAL	B & B	HEAVY
●	10	QUERCUS PALUSTRIS PIN OAK	2.5'-3' CAL	B & B	HEAVY
●	11	ACER SACCHARUM 'GREEN MOUNTAIN'	2.5'-3' CAL	B & B	HEAVY
●	5	FRAXINUS PENNSYLVANICA 'PATMORE' 'PATMORE' GREEN ASH	2.5'-3' CAL	B & B	HEAVY
●	9	PRUNUS X OKAME OKAME CHERRY	1.5'-2' HT.	B & B	FULL HEAD
●	9	PRUNUS X YEDOENSIS YOSHINO CHERRY	1.5'-2' HT.	B & B	FULL HEAD
●	18	AMELANCHIER 'GRANDIFLORA' 'CUMULUS' SERVICEBERRY	6'-8' HT.	B & B	MULTI-STEM
●	50	PINUS STROBUS EASTERN WHITE PINE	6'-8' HT.	B & B	10' O.C.
●	28	PICEA ABIES NORWAY SPRUCE	6'-8' HT.	B & B	10' O.C.
●	9	ILEX OPACA AMERICAN HOLLY	6'-8' HT.	B & B	10' O.C.
●	106	EUONYMUS ALATUS 'COMPACTA' WINDY FLIGHTS	24'-30' HT.	B & B	5' O.C.
●	35	EUONYMUS KIATSI 'SOHOVICIUS' 'MANHATTAN' EUONYMUS	30'-36' HT.	B & B	5' O.C.
●	180	ILEX GLABRA 'SHAMROCK' 'SHAMROCK' INKBERRY	3 GAL.	CONT.	3' O.C.
●	13	MYRTA PENNSYLVANICA NORTHERN BAYBERRY (12 F / 1 M)	30'-36' HT.	B & B	5' O.C.

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Perimeter Number	1	2, 3, 4
Landscape Type	'E'	'C', 'A'
Linear Feet of Roadway Frontage/Perimeter	287 LF.	1098 LF., 1393 LF.
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	NO	NO
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	NO	NO
Number of Plants Required		
Shade Trees	7	27
Shrubs	67	54
Number of Plants Provided		
Shade Trees	8	18
Shrubs	54	8
Other Trees (2:1 substitution)	12 / 6	21 / 10.8
Shrubs (10:1 substitution)	35	106 / 10.8

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces	220
Number of Trees Required	11
Number of Trees Provided	11
Shade Trees	11
Other Trees (2:1 substitution)	11
Internal Islands Required	11
Internal Islands Provided (Min. 200 Sq. Ft.)	11

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

Category	PERIMETER 5
Linear Feet of Perimeter	555
Number of Trees Required	9
Shade Trees	14
Evergreen Trees	14
Credit for Existing Vegetation (No, Yes and %)	NO
Credit for Other Landscaping (No, Yes and %)	NO
Number of Plants Provided	
Shade Trees	7
Evergreen Trees	16
Other Trees (2:1 substitution)	2

SPECIFICATIONS FOR PLANTING

Plant Identification: All plants shall be properly marked for identification and checked. List of Plant Materials: The Contractor shall verify plant quantities prior to bidding and any discrepancies shall be brought to the attention of the Landscape Architect. The Contractor shall furnish and plant all plants required to complete the work as shown on the drawings. Substitutions shall not be made without the written approval of the Landscape Architect. This contract will be based on the bidder having verified, prior to bidding, the availability of the required plant materials as specified on the Plant List.

Plant Quantity: All shrubs shall be dense, heavy to the ground, and well grown, showing evidence of having been sheared regularly, and sound, free of plant disease or insect eggs, and shall have a healthy, normal root system. Plants shall be nursery grown. Plants shall not be pruned prior to delivery. The shape of the plant shall in general conform to its natural growth proportions unless otherwise specified. All plants including container grown shall conform to American Standard for Nursery Stock (ANSI Z601, latest edition), and shall have a well-shaped, heavy branch structure for the species. Evergreen trees are to have an internode no greater than 24" and shall be uniformly well-shaped. All plant sizes shall average at least the middle of the range given in the plant list.

Plant Spacing: Plant spacing is to scale on the plan or as shown on the plant list.

Soil Mix: Soil mix will be 2/3 existing soil and 1/3 leaf mold or equal organic material, thoroughly mixed and homogenized.

Ball Size: The ball size shall conform to the American Association of Nurserymen's publication entitled American Standard for Nursery Stock, ANSI Z601, latest edition.

Excavation: Holes for all plants shall be 18" larger in diameter than size of ball or container and shall have vertical sides. Hedges shall be planted in a trench 12" wider than ball diameter. Beds for most planting shall be entirely retailed to a depth of 8" and shall be 18" beyond the average outside edge of plant balls. A 2" layer of organic material (leaf mold) will be incorporated into plant beds by tilling again.

Planting: Backfilling shall be done with soil mix, reasonably free of stones, subsol, clay, lumps, stumps, roots, weeds, bermuda grass, litter, toxic substances, or any other material which may be harmful to plant growth or hinder grading, planting, or maintenance operations. Should any unforeseen or unsuitable planting conditions arise, such as faulty soil drainage or chemical residues, they should be called to the attention of the Landscape Architect. Architect and Owner for adjustments before planting. The plant shall be set plumb and straight and shall be staked at the time of planting. Backfill shall be well worked about the roots and settled by watering. Plants will be planted higher than surrounding grade.

Planting Detail for Evergreen and Deciduous Shrubs: NOT TO SCALE. Shows root ball, soil mix, and backfilling details.

Planting Detail for Trees: NOT TO SCALE. Shows root ball, soil mix, and backfilling details for trees up to 4" caliper.

Shrubs will be 1" higher and trees will be 3" higher. Remove rope from around tree trunks and lay back burlap from top of all B&B material. Nylon or vinyl rope and/or burlap will be completely removed from all plant material prior to planting.

Transplanting Trees by Tree Machines: Trees shall be moved by machines that provide a minimum of 9" per 1" of tree caliper. Holes are to be dug by the same size machine as the one transplanting the plant. The plant material shall be transplanted in approximately the same growing condition as it is presently growing, in terms of soil type and moisture content. Fertilize and gey as described in these plans and specifications.

Cultivation: All trenches and shrub beds shall be cultivated, edged and mulched to a depth of 3" with shredded bark. The area around isolated plants shall be mulched to at least 6" greater diameter than that of the hole. Plant beds adjacent to buildings shall be mulched to the building wall.

Maintenance: The Contractor shall be responsible during the contract and up to the time of acceptance for keeping the planting and work incidental thereto in good condition, by replanting, plant replacement, watering, weeding, cultivating, pruning and spraying, restocking and cleaning up and by performing all other necessary operations of care for promotion of good plant growth so that all work is in satisfactory condition of care for acceptance, at no additional cost to the Owner.

Fertilizer: Fertilizer shall be a slow release type contained in polyethylene perforated bags with micro-pore holes for controlled feeding, such as Easy Grow as manufactured by Specialty Fertilizer, Inc., Box 355, Suffern, New York 10901, or approved equal. The bags shall contain 1 ounce of soluble fertilizer analysis 16-18-16 per unit to last three (3) years and shall be applied during planting as recommended by the manufacturer. If fertilizer packets are not used, the Contractor shall apply granular fertilizer to the soil mix with 10-6-4 analysis, 50% organic, at the following rates: Trees @ 2-3 lbs. per caliper inch. Shrub Beds @ 3-5 lbs. per 100 sq. ft.; and Groundcover Beds @ 2-3 lbs. per 100 sq. ft.

Groundcover: All areas of groundcover shall be retailed to a depth of 6". Apply 2" of organic material and rototill until thoroughly mixed. Apply fertilizer as stated above.

Guarantee and Replacement: All material shall be unconditionally guaranteed for one (1) year. The Contractor is responsible for watering but not for losses or damage caused by mechanical injury or vandalism.

OWNER/DEVELOPER

WILHELM BUSINESS ENTERPRISES, L.L.C.
10979 GUILFORD ROAD, SUITE A
ANNAPOLIS JUNCTION, MD 20701
C/O DIANNA WILHELM 443-661-1400

Date	No.	Revision Description
		APPROVED - DEPARTMENT OF PLANNING AND ZONING
		CHIEF DEVELOPMENT ENGINEERING DIVISION
11/29/04		DATE
		CHIEF DIVISION OF LAND DEVELOPMENT
11/29/04		DATE
		DIRECTOR

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

FINAL LANDSCAPE PLAN

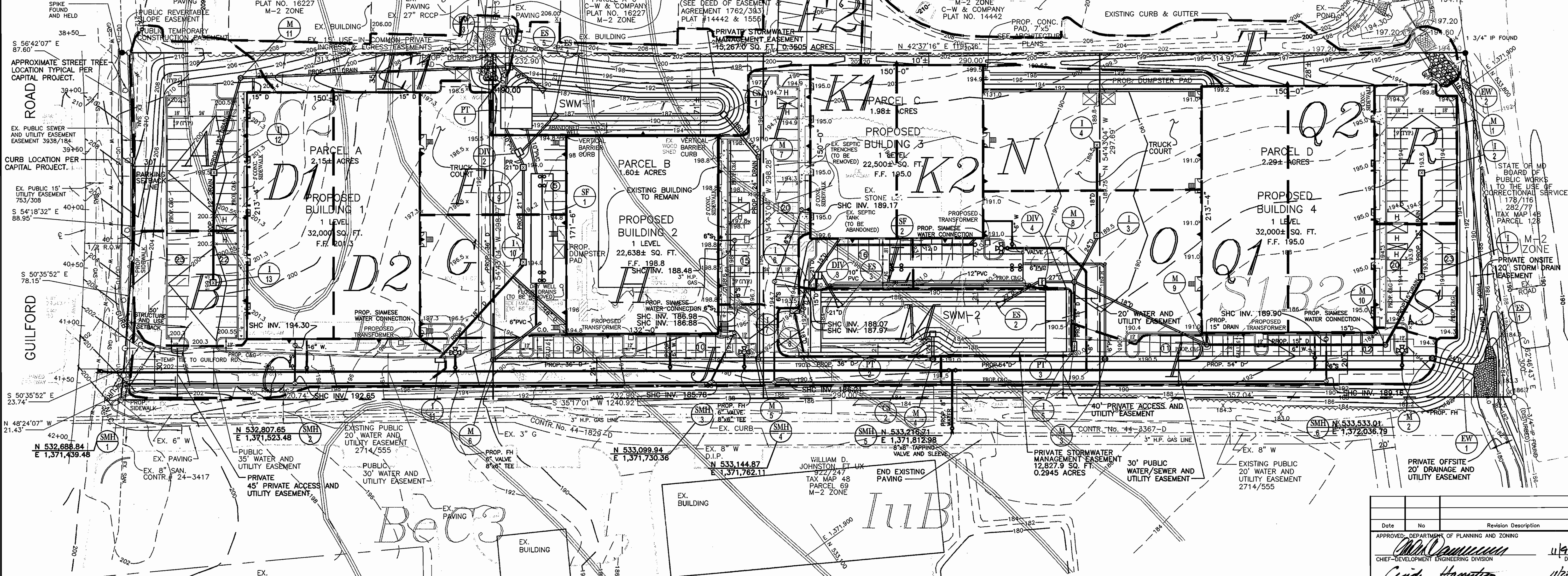
Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Drn By	M.J.R.	Date	JULY 19, 2004	DRAWING NO	23 OF 24
Chk By	J.C.R.	Approved			

EXISTING 10' PUBLIC
SEWER EASEMENT

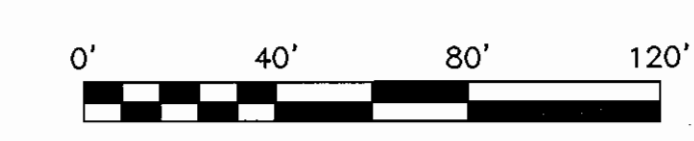
SDP-00-91



NOTE:
ALL PUBLIC ROAD IMPROVEMENTS, SIDEWALK
AND STREET TREES ARE TO BE CONSTRUCTED
AS PER CAPITAL PROJECT NO. J-41758 &
B-3885.



LABEL	AREA (s.f.)	AREA (Ac.±)	"C"	% IMP.	LABEL	AREA (s.f.)	AREA (Ac.±)	"C"	% IMP.
A	16,743	0.38	0.62	47.8	K1	11,250	0.26	0.95	100
B	9,560	0.22	0.74	69.9	K2	11,250	0.26	0.95	100
C	11,829	0.27	0.68	64.1	L	3,861	0.09	0.86	86.6
D1	16,000	0.37	0.95	100	M	15,515	0.36	0.26	0
D2	16,000	0.37	0.95	100	N	19,906	0.46	0.82	81.6
E1	11,326	0.26	0.26	0	O	22,381	0.51	0.94	98.5
E2	34,848	0.80	0.26	0	P	16,694	0.38	0.92	96.4
F	10,995	0.25	0.95	100	Q1	16,000	0.37	0.95	100
G	13,333	0.31	0.92	96.4	Q2	16,000	0.37	0.95	100
H	22,638	0.52	0.95	100	R	8,261	0.19	0.93	96.8
I	13,283	0.30	0.95	100	S	6,653	0.15	0.95	100
J	17,796	0.41	0.87	89.0	T	20,345	0.47	0.20	0



Date	No	Revision Description
11/19/04		DATE
11/23/09		DATE
11/23/09		DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF-DEVELOPMENT ENGINEERING DIVISION
 CHIEF-DIVISION OF LAND DEVELOPMENT
 DIRECTOR

ANNAPOLIS JUNCTION BUSINESS PARK
 PARCELS A-D
 TAX MAP 48 GRID 14 PARCEL 120
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

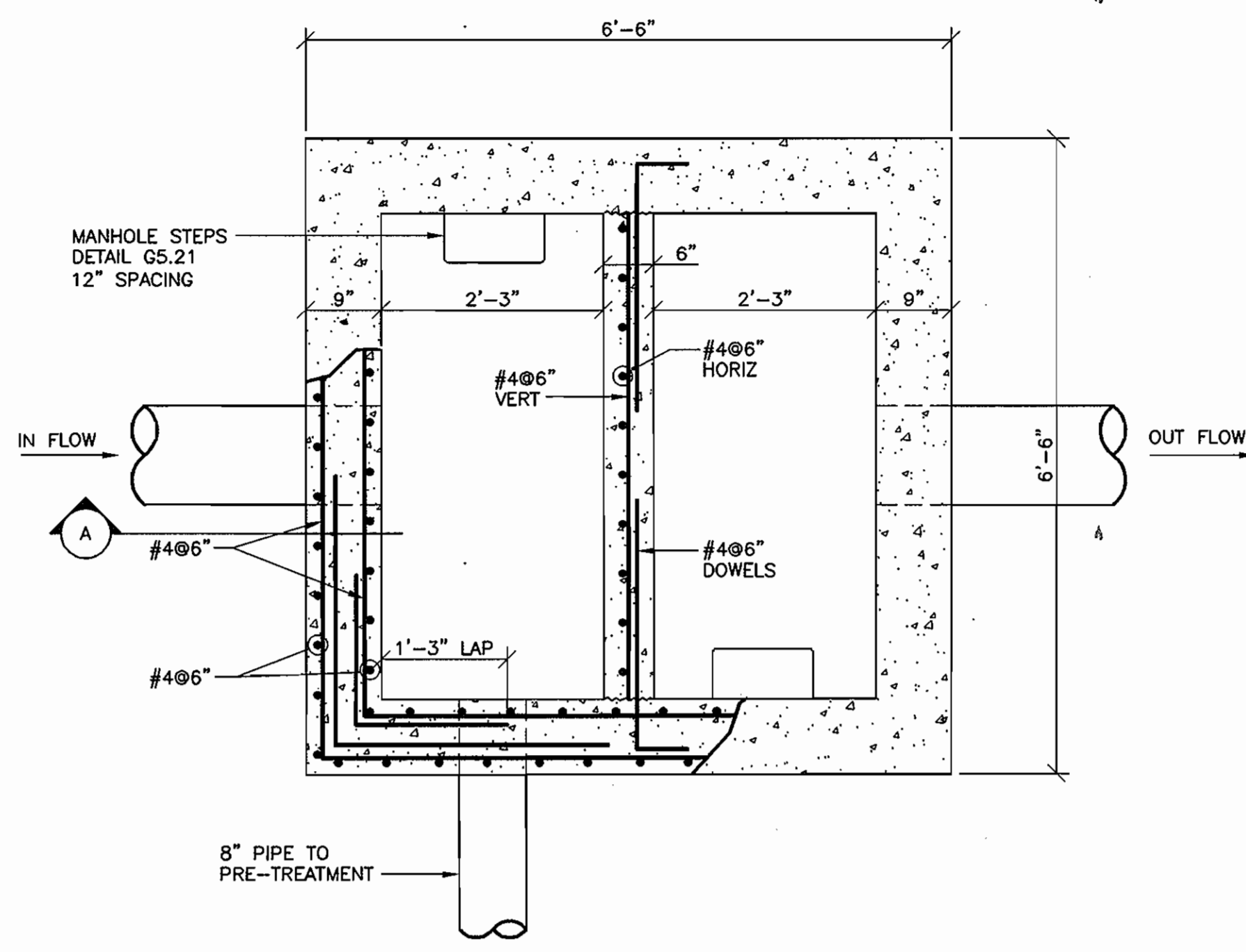
CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS
 32 WEST ROAD
 TOWSON, MARYLAND 21204
 (410) 823-8070

**DRAINAGE AREA
 MAP**

OWNER/DEVELOPER
 WILHELM BUSINESS ENTERPRISES, L.L.C.
 10979 GUILFORD ROAD, SUITE A
 ANNAPOLIS JUNCTION, MD 20701
 C/O DIANNA WILHELM 443-661-1400

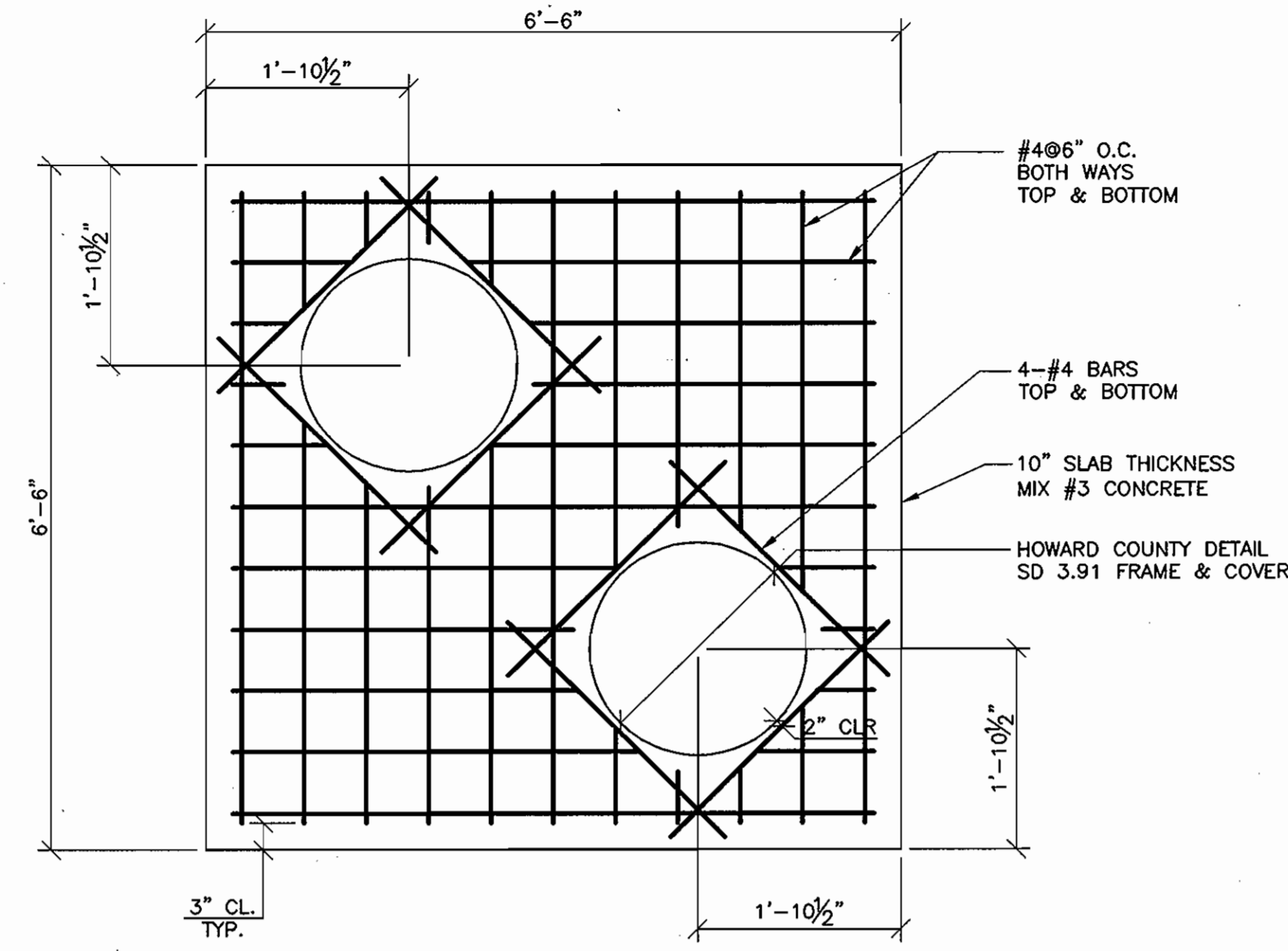
Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Dwn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	20 OF 24
Chk By	Approved				



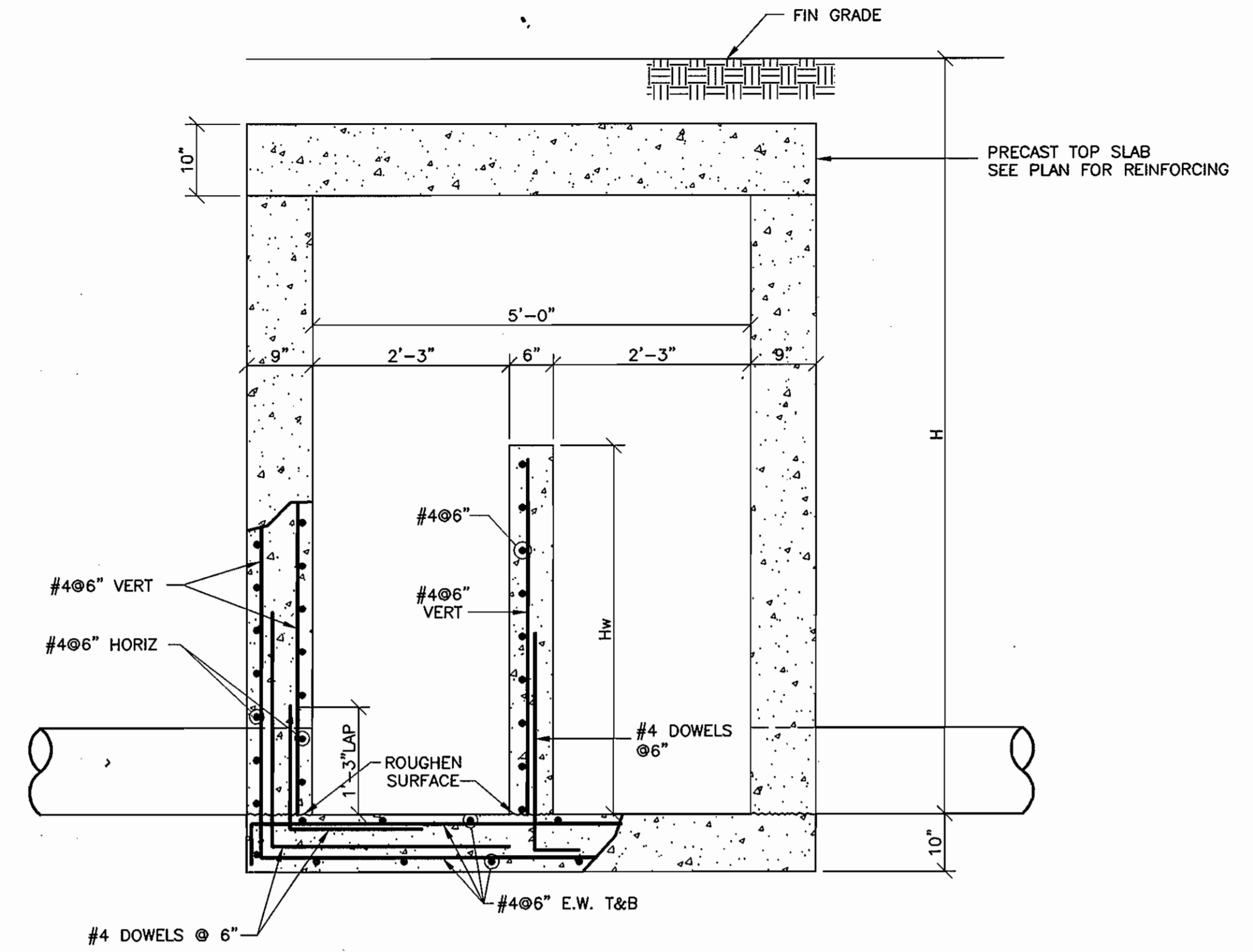


DIVERSION MANHOLE PLAN
3/4" = 1'-0"

SEE SHEET FOR PIPE SIZES AND INVERTS



DIVERSION MAHOLE PRECAST TOP SLAB
3/4" = 1'-0"



DIVERSION MANHOLE SECTION A-A
3/4" = 1'-0"

MH#	H	Hw
DIV #1	8.77'	4.27
DIV #2	6.56'	3.86
DIV #3	6.00'	3.80
DIV #4	6.00'	3.80

Date	No	Revision Description
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>[Signature]</i>	11/9/04	DATE
CHIEF-DEVELOPMENT ENGINEERING DIVISION		
<i>[Signature]</i>	11/23/04	DATE
CHIEF-DIVISION OF LAND DEVELOPMENT		
<i>[Signature]</i>	11/23/04	DATE
DIRECTOR		

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

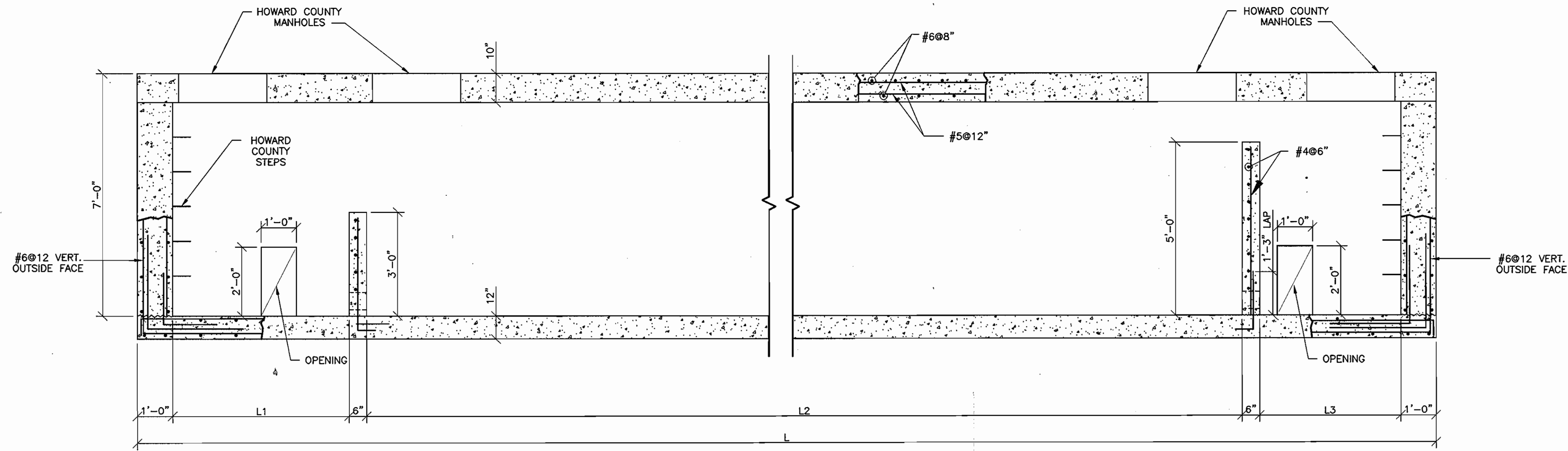
CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

VAULT DETAILS

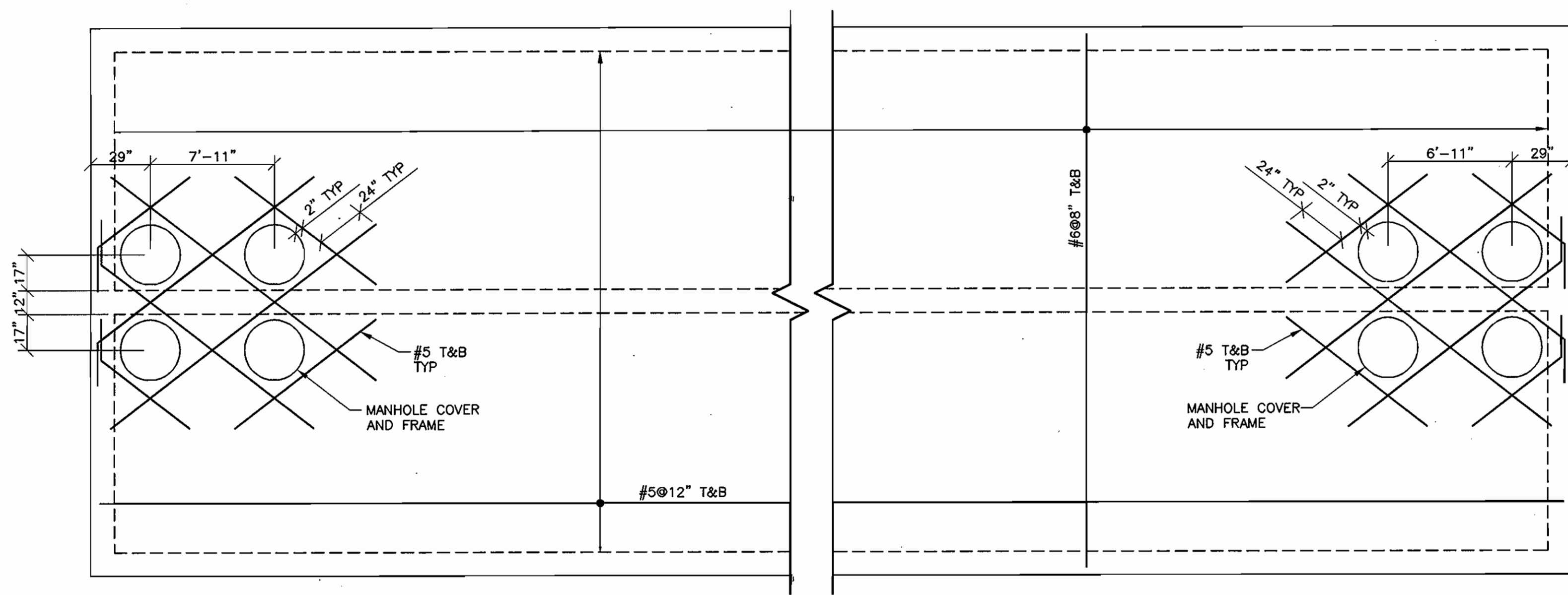
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Drn By	HLW	Date	JULY 23, 2004	DRAWING NO	19 OF 22
Chk By		Approved			

SDP-04-98

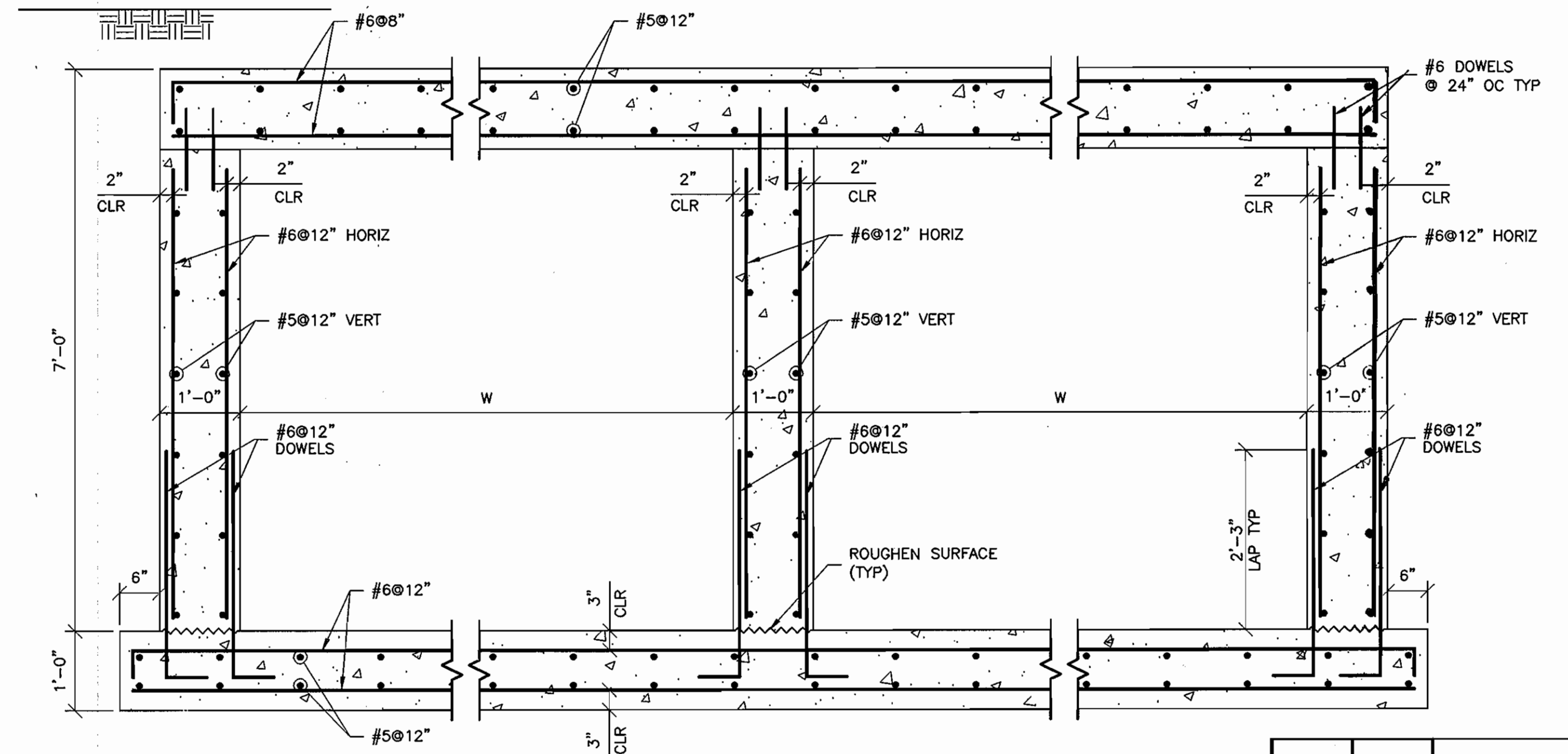




1 SIDE VIEW
3/8" = 1'-0"

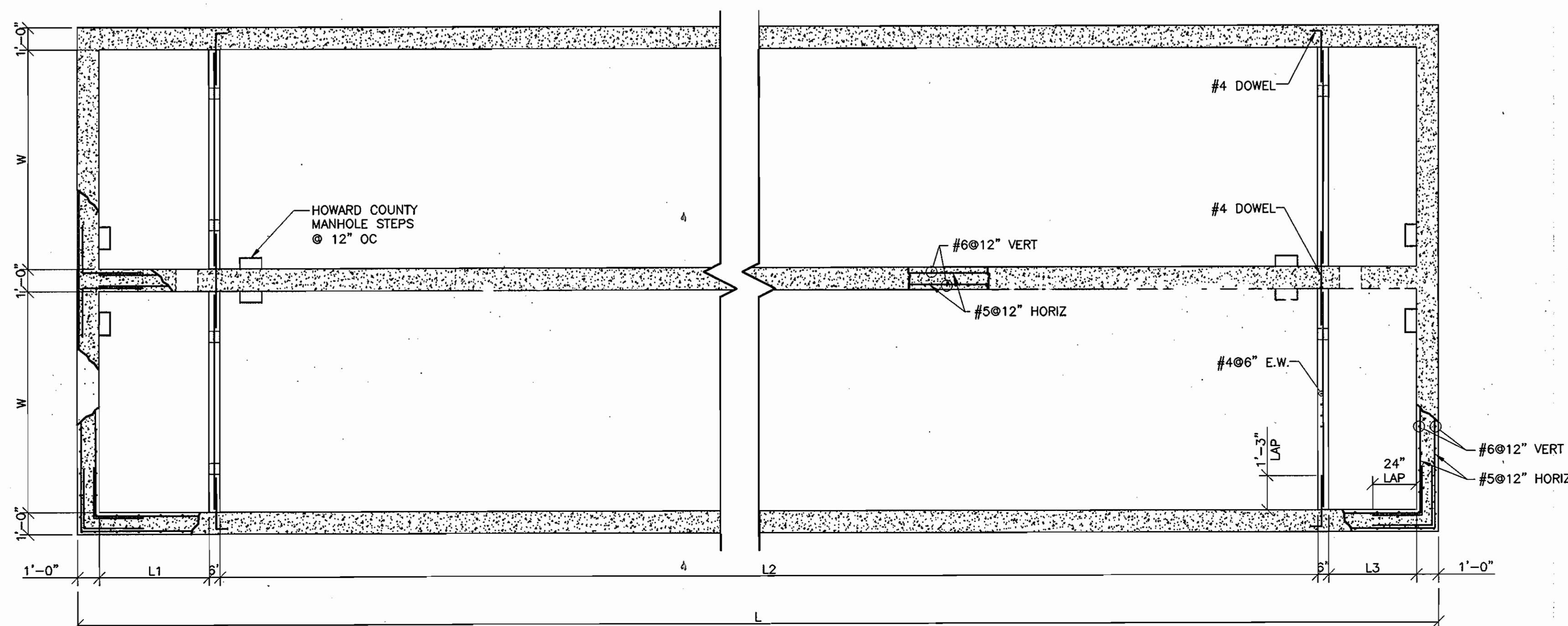


SAND FILTER VAULT TOP SLAB
1/4" = 1'-0"



END VIEW
3/4" = 1'-0"

	W	L1	L2	L3	L
SF-1	8'-0"	5'-0"	58'-0"	4'-0"	70'-0"
SF-2	10'-0"	5'-0"	72'-0"	4'-0"	84'-0"



SAND FILTER VAULT PLAN
1/4" = 1'-0"

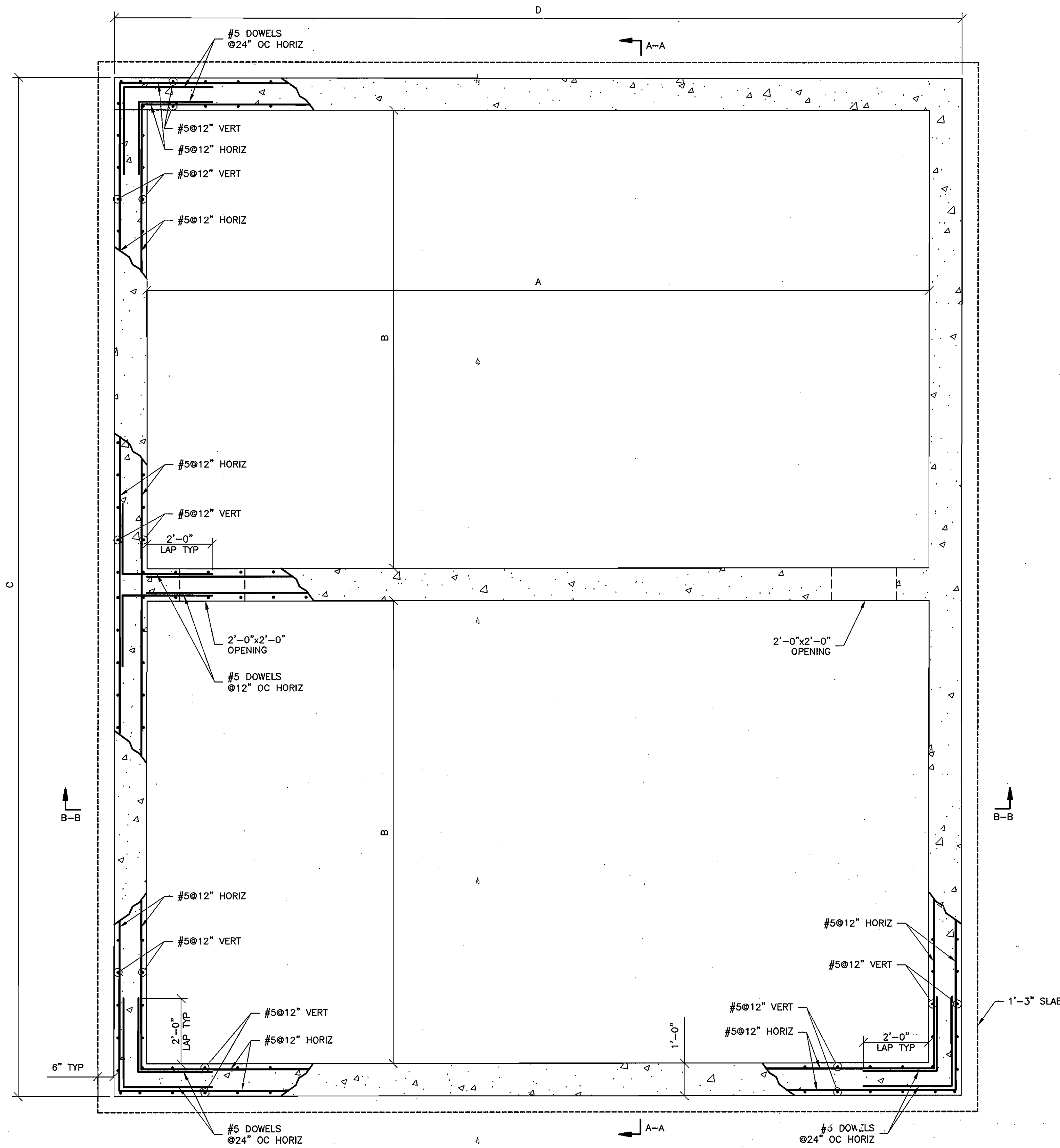
Date	No	Revision Description
		APPROVED: DEPARTMENT OF PLANNING AND ZONING
		CHIEF-DEVELOPMENT ENGINEERING DIVISION
		CHIEF-DIVISION OF LAND DEVELOPMENT
		DIRECTOR

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
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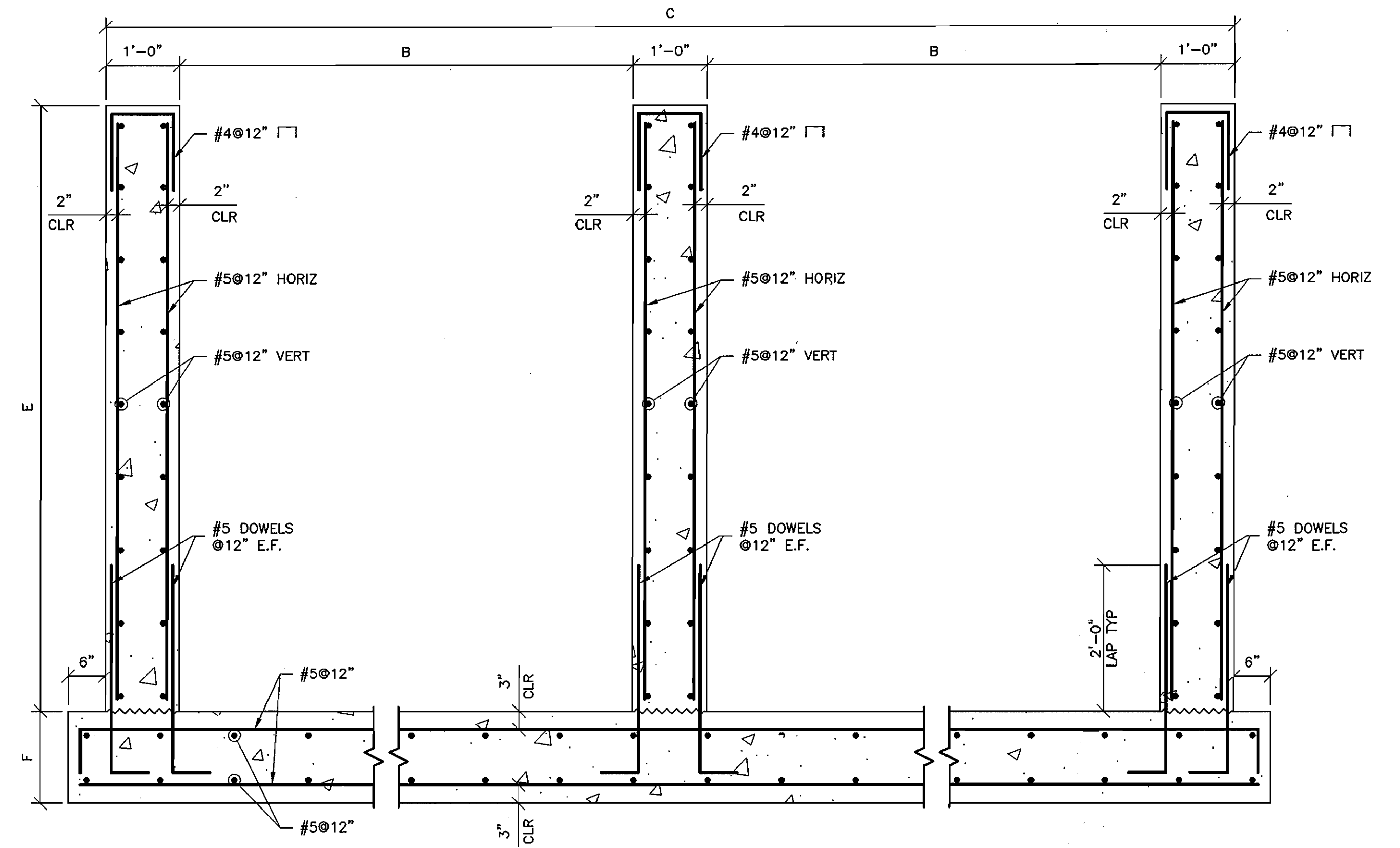
Des By	Scale	AS NOTED	Proj No
RAB			23249.00
Drn By	Date	Approved	DRAWING NO
HLW	JULY 23, 2004		18 OF 24
Chk By	Approved		



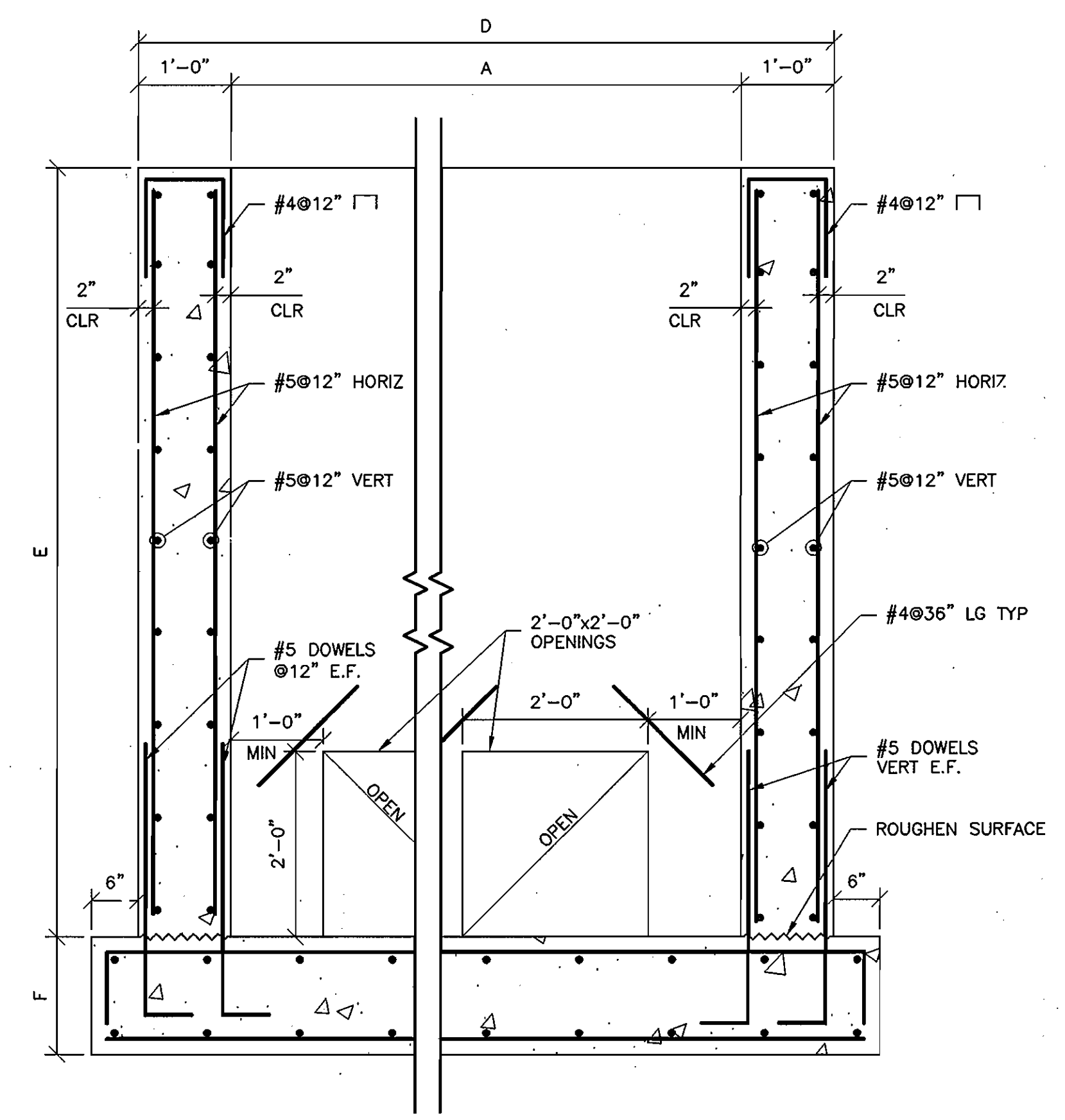
TYP. PRETREATMENT VAULT
1/8" = 1'-0"

NOTES:
1. SEE PLAN SHEETS FOR PIPE LOCATIONS.

	A	B	C	D	E	f
PT-1	24'-0"	16'-0"	35'-0"	26'-0"	7.8'	3.33'
PT-2	8'-0"	24'-0"	51'-0"	10'-0"	8.33'	2.00'
PT-3	16'-0"	24'-0"	51'-0"	18'-0"	8.33'	2.67'



SECTION A-A
3/4" = 1'-0"



SECTION B-B
3/4" = 1'-0"

Date	No	Revision Description
11/16/04		DATE
11/23/04		DATE
11/23/04		DATE

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

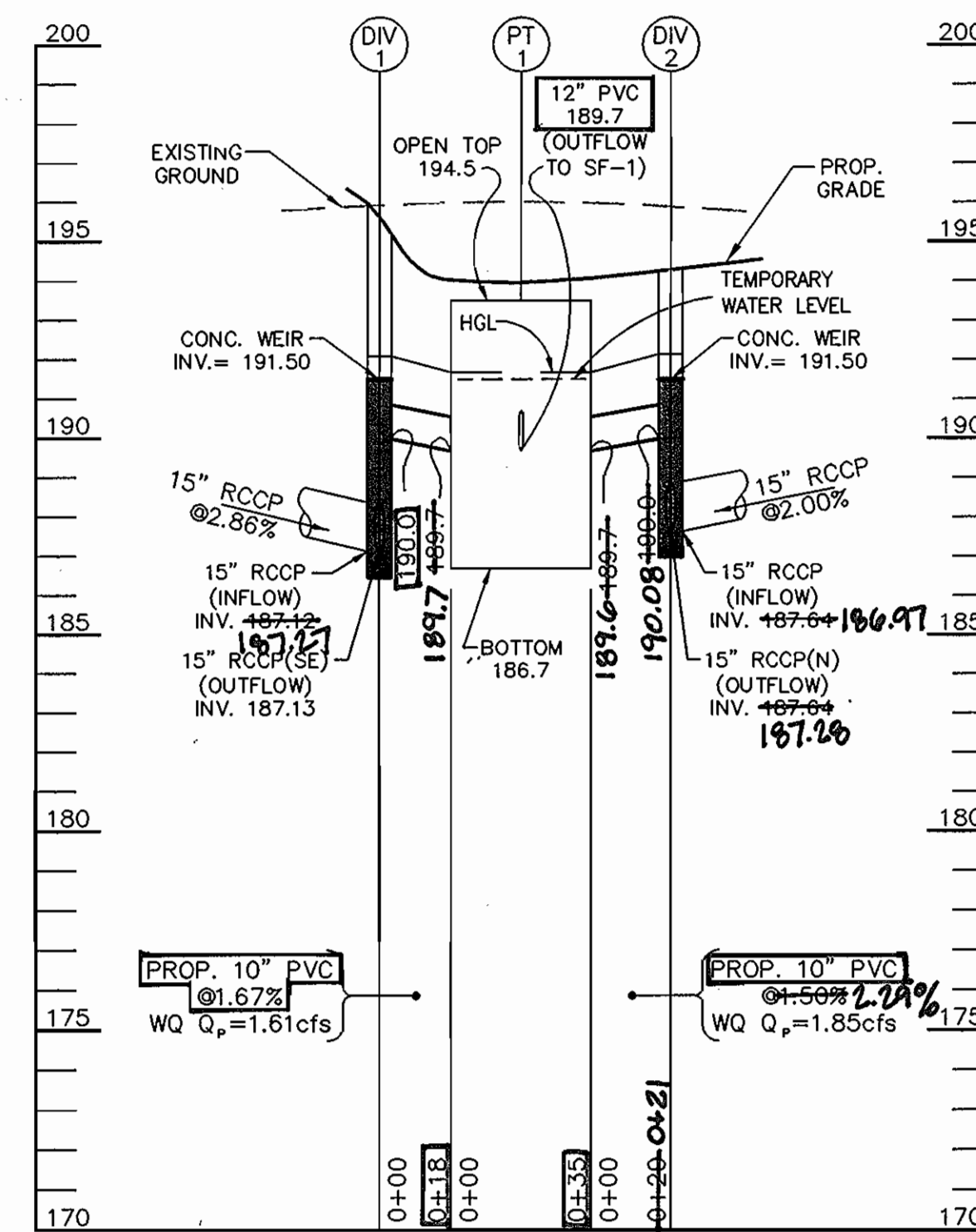
CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

STORMWATER VAULT DETAILS

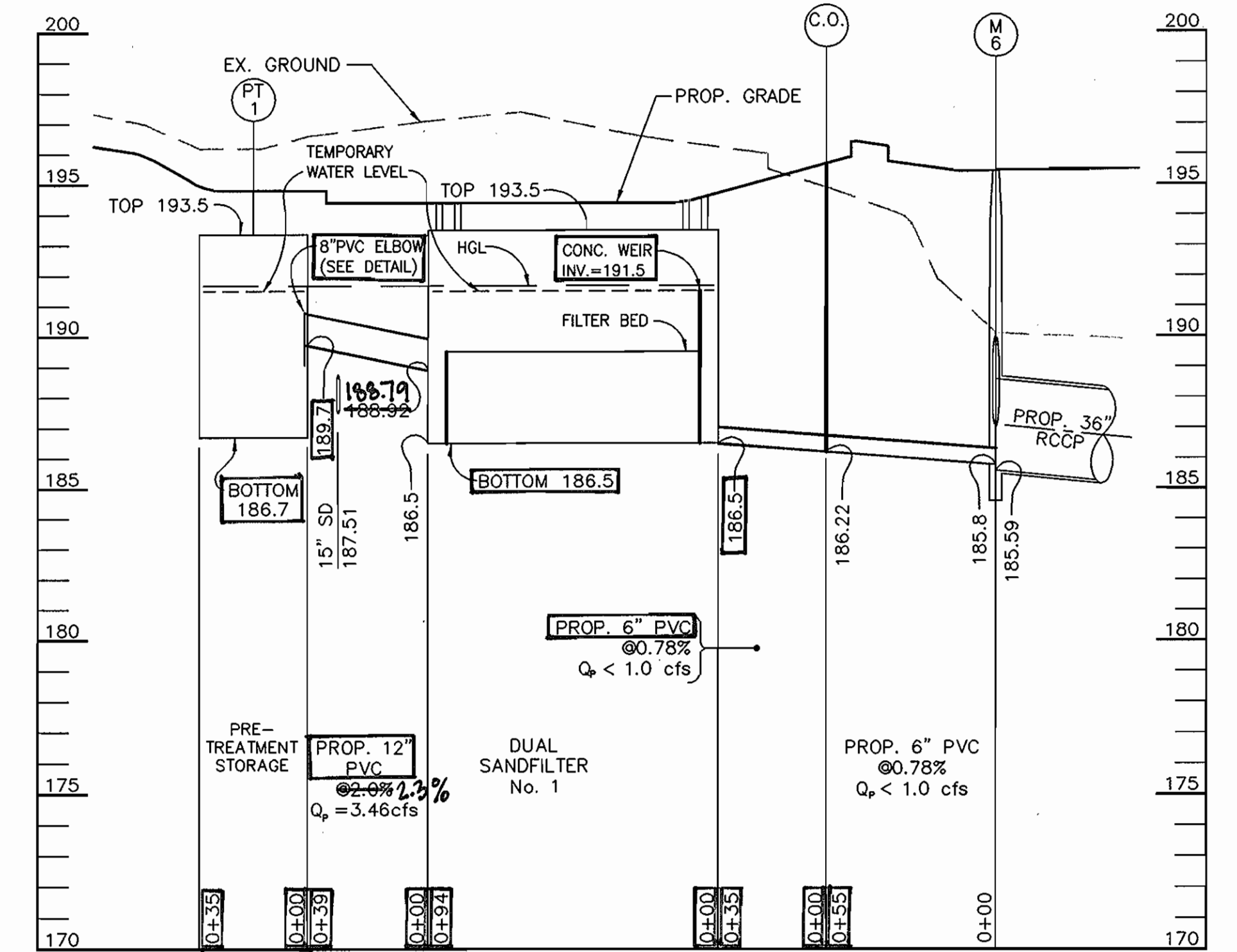
Des By	RAB	Scale	AS NOTED	Proj No	23249.00
Des By	HLW	Date	JUNE 23, 2004	DRWING NO	17 OF 24
Chk By		Approved			



NOTE:
ALL PIPE TO STRUCTURE JOINTS TO BE WATERTIGHT. USE
NON-SHRINK GROUT OR RUBBER COMPRESSION GASKET JOINTS.

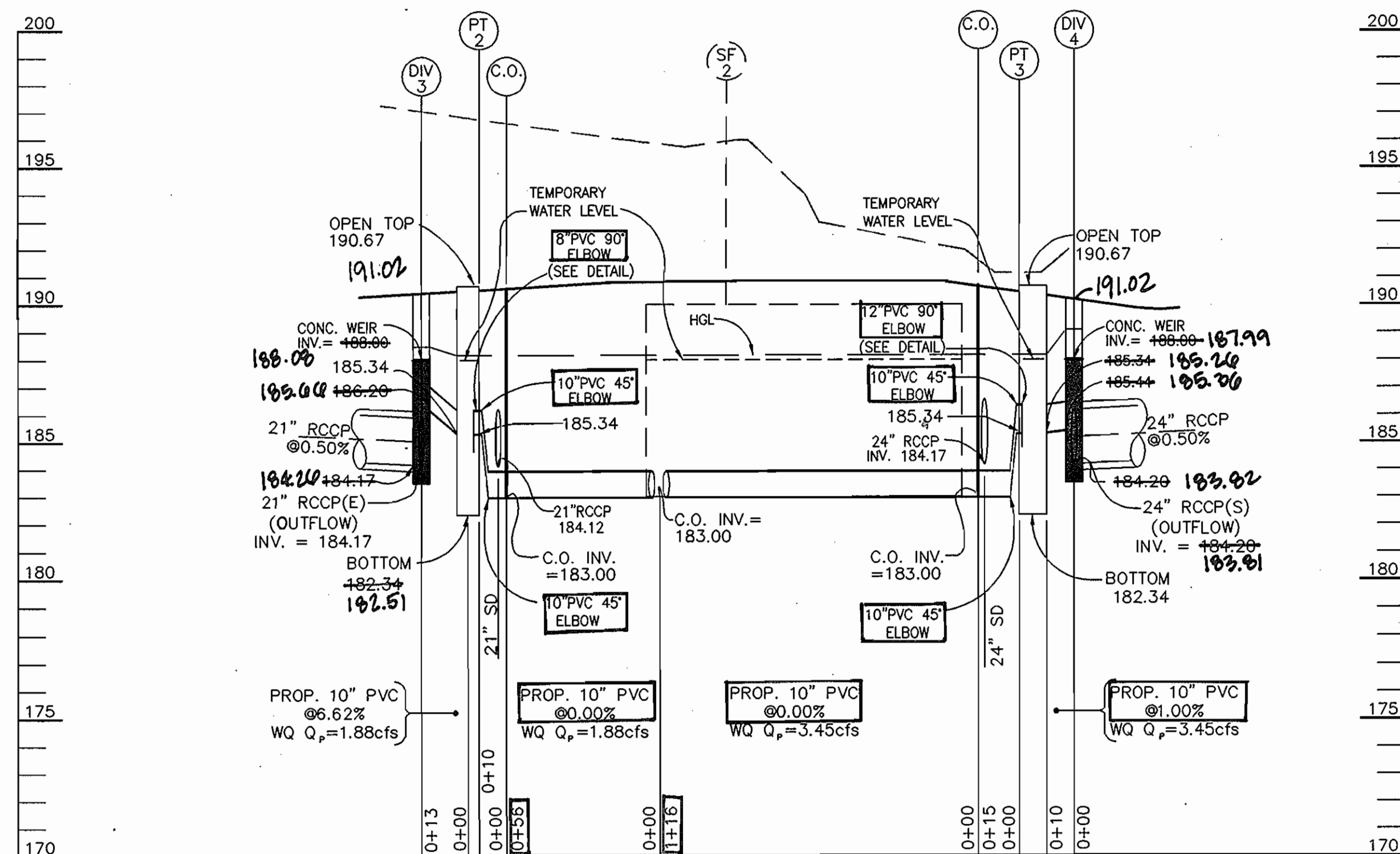


PRETREATMENT (PT No. 1) INFLOW PROFILE
SCALE: 1"=40' HORZ.
1"=4' VERT.

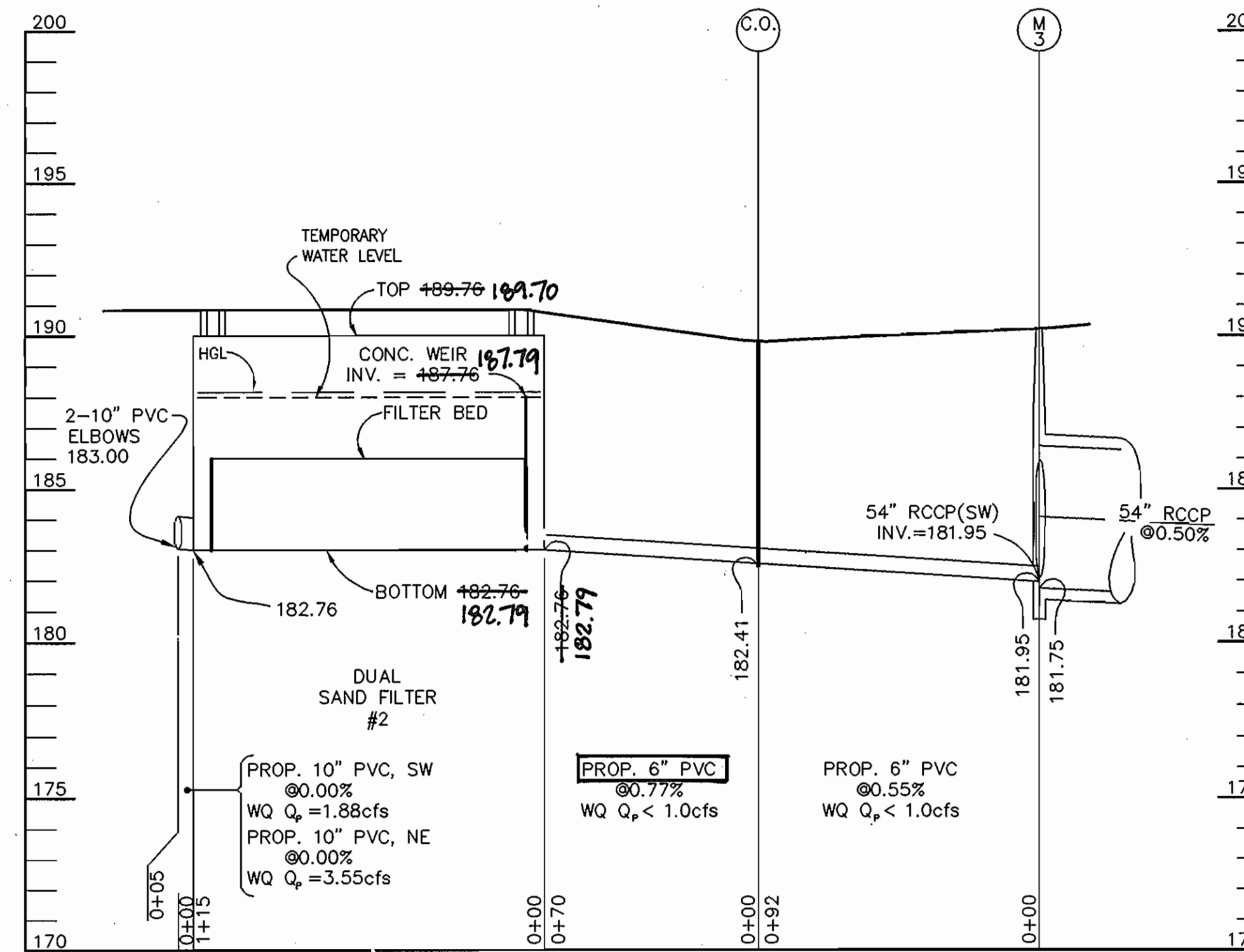


DUAL SANDFILTER No. 1
SCALE: 1"=40' HORZ.
1"=4' VERT.

NOTE:
ALL PIPE TO STRUCTURE JOINTS TO BE WATERTIGHT. USE
NON-SHRINK GROUT OR RUBBER COMPRESSION GASKET JOINTS.



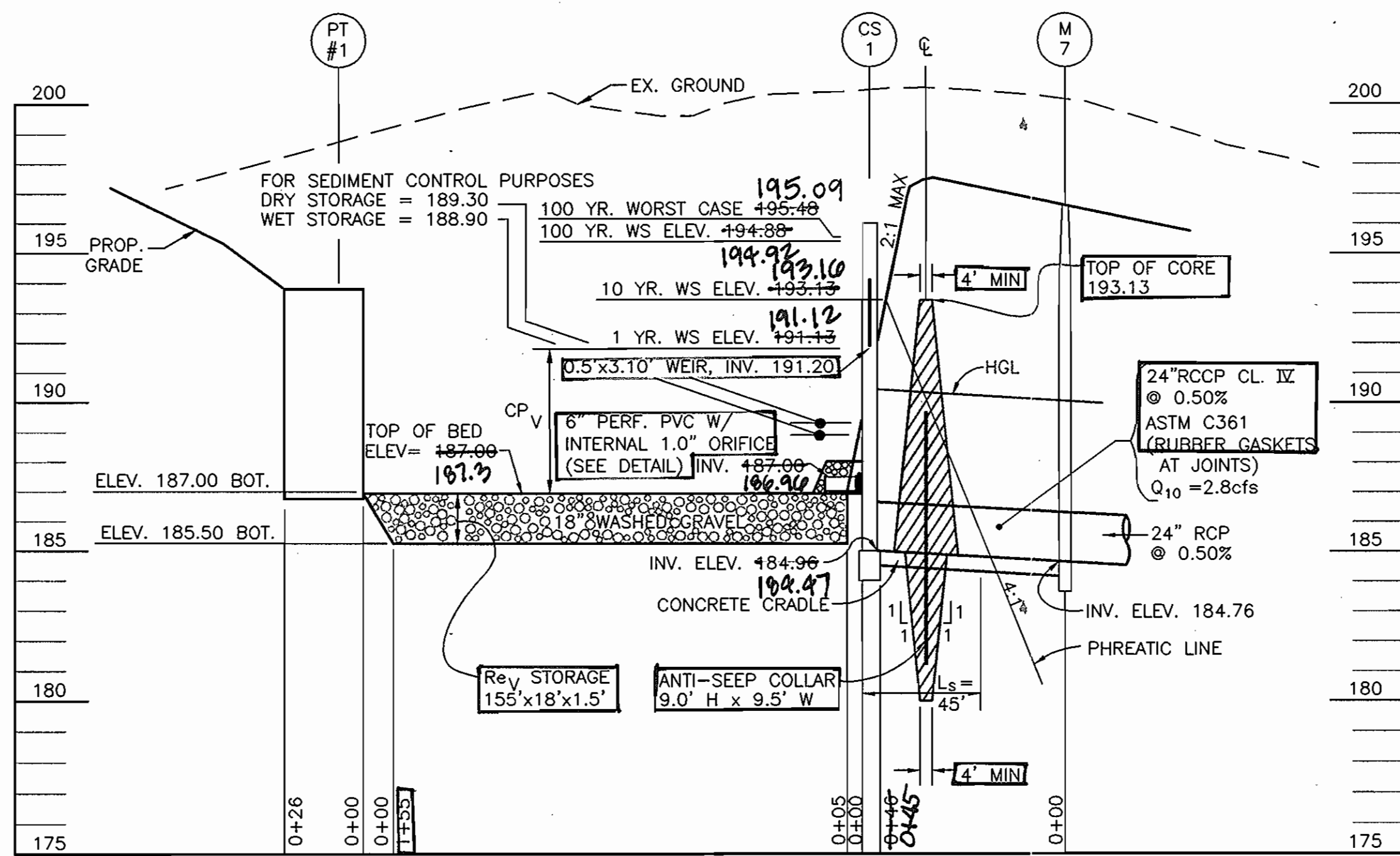
PRETREATMENT (PT No. 2 AND PT No. 3) INFLOW PROFILE
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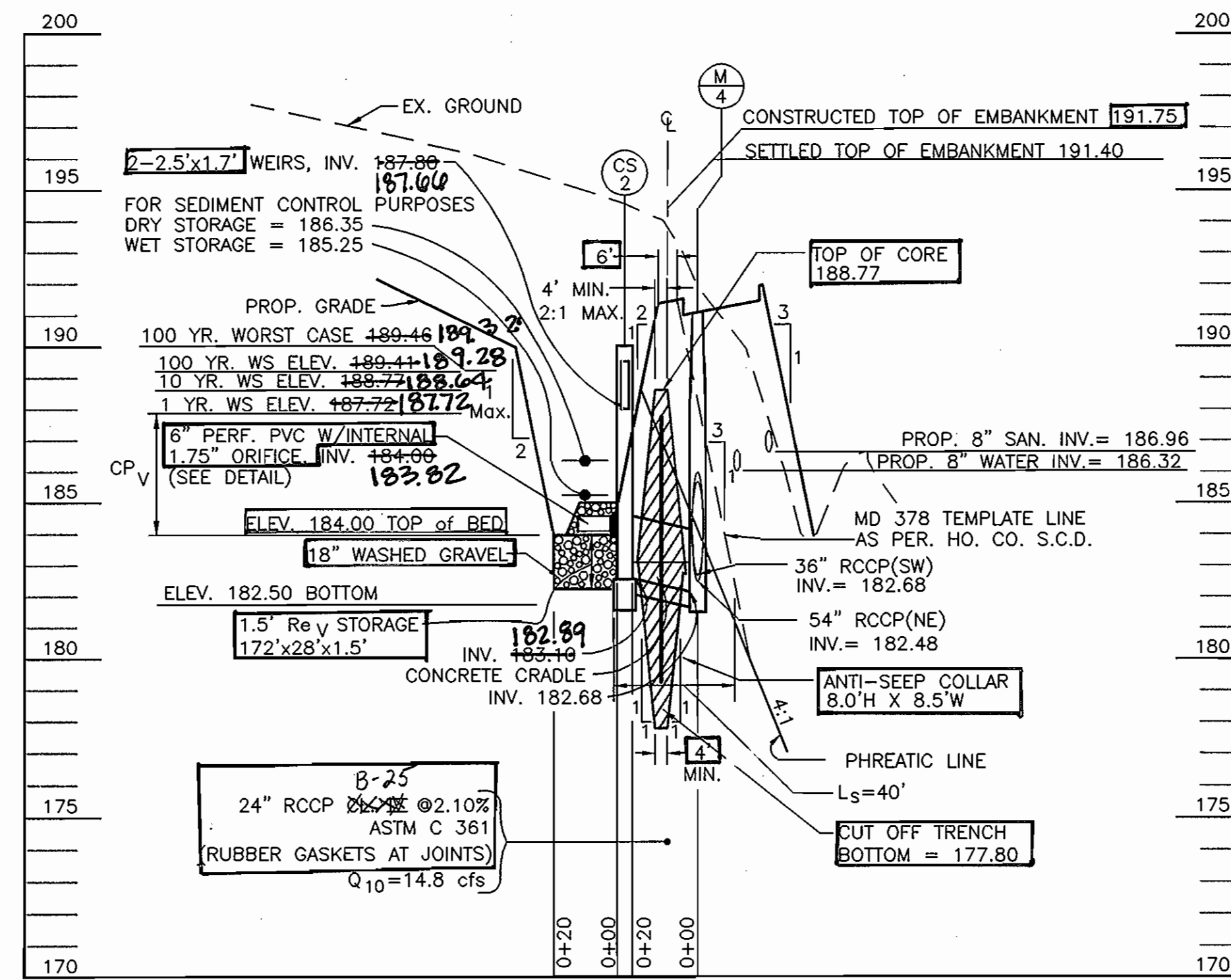
DUAL SANDFILTER No. 2
SCALE: 1"=40' HORZ.
1"=4' VERT.

Date	No	Revision Description
		APPROVED: DEPARTMENT OF PLANNING AND ZONING
		CHIEF-DEVELOPMENT ENGINEERING DIVISION
		CHIEF-DIVISION OF LAND DEVELOPMENT
		DIRECTOR
ANNAPOLIS JUNCTION BUSINESS PARK PARCELS A-D TAX MAP 48 GRID 14 PARCEL 120 ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND		
CENTURY ENGINEERING, INC. CONSULTING ENGINEERS, PLANNERS, SURVEYORS 32 WEST ROAD TOWSON, MARYLAND 21284 (410) 823-8070		
STORMWATER MANAGEMENT PROFILES		
Des By	G.L.	Scale 1"=40'
Dm By	E.B.D.	Date JULY 19, 2004
Chk By	Approved	Proj No 23249.00 DRAWING NO 16 OF 24

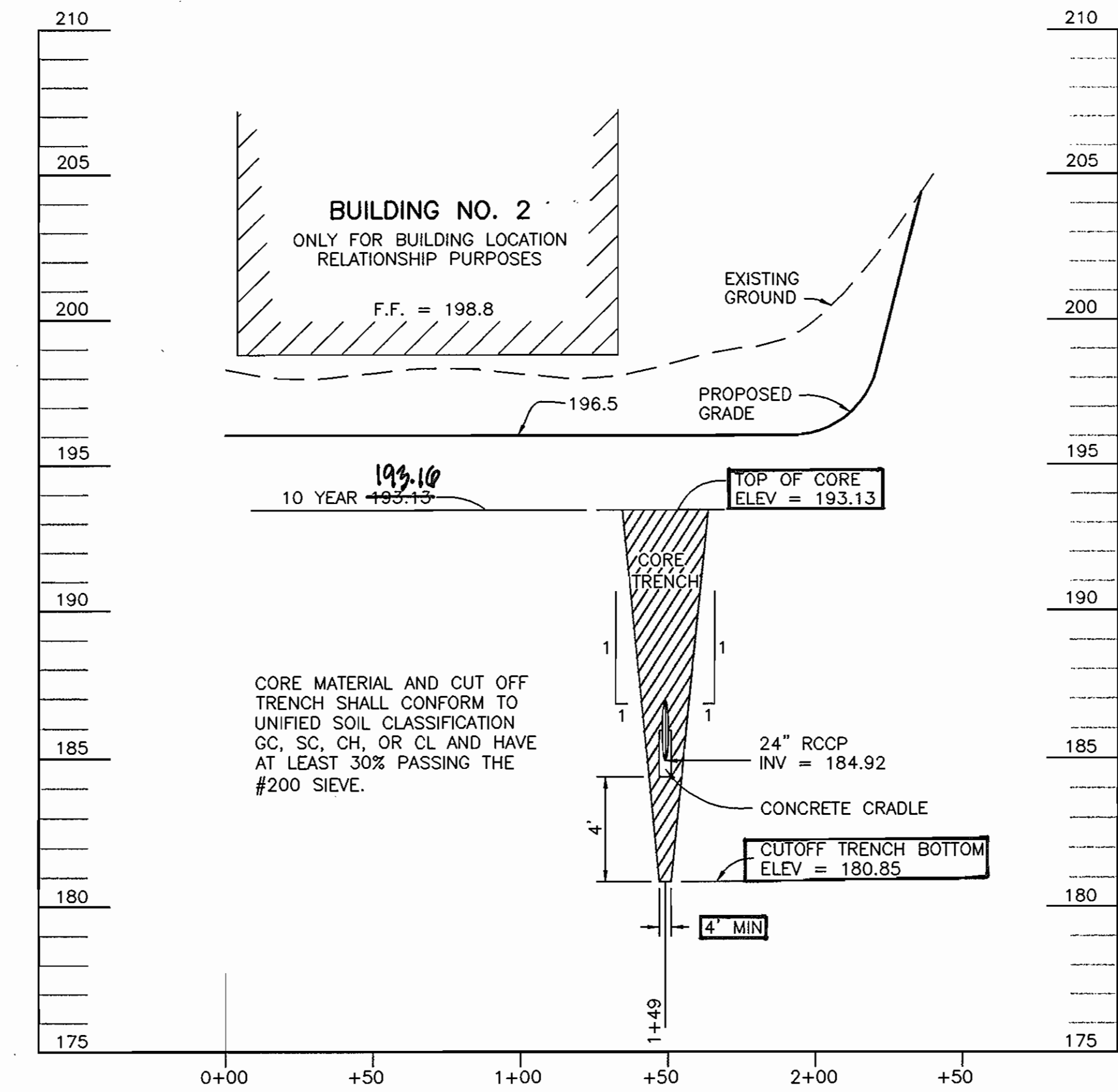
AS-BUILT



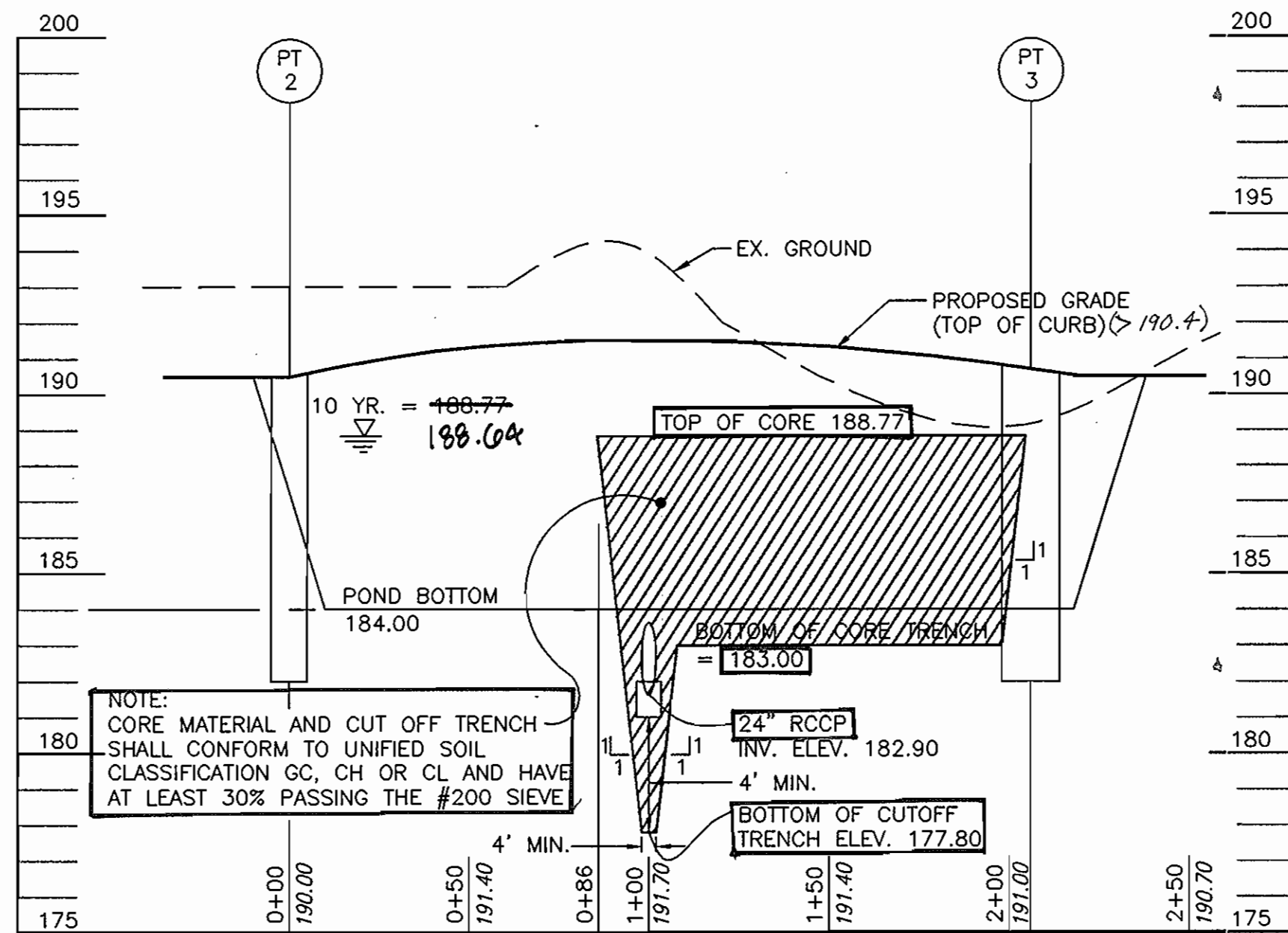
SWM-1 PROFILE
SCALE: HOR. 1"=40'
VERT. 1"=4'



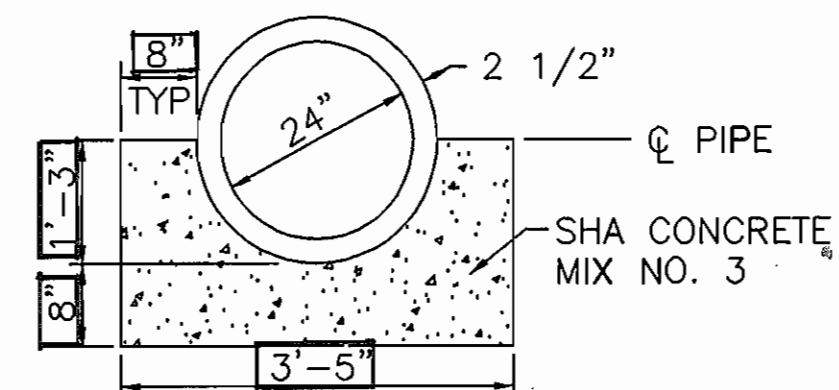
SWM-2 PROFILE
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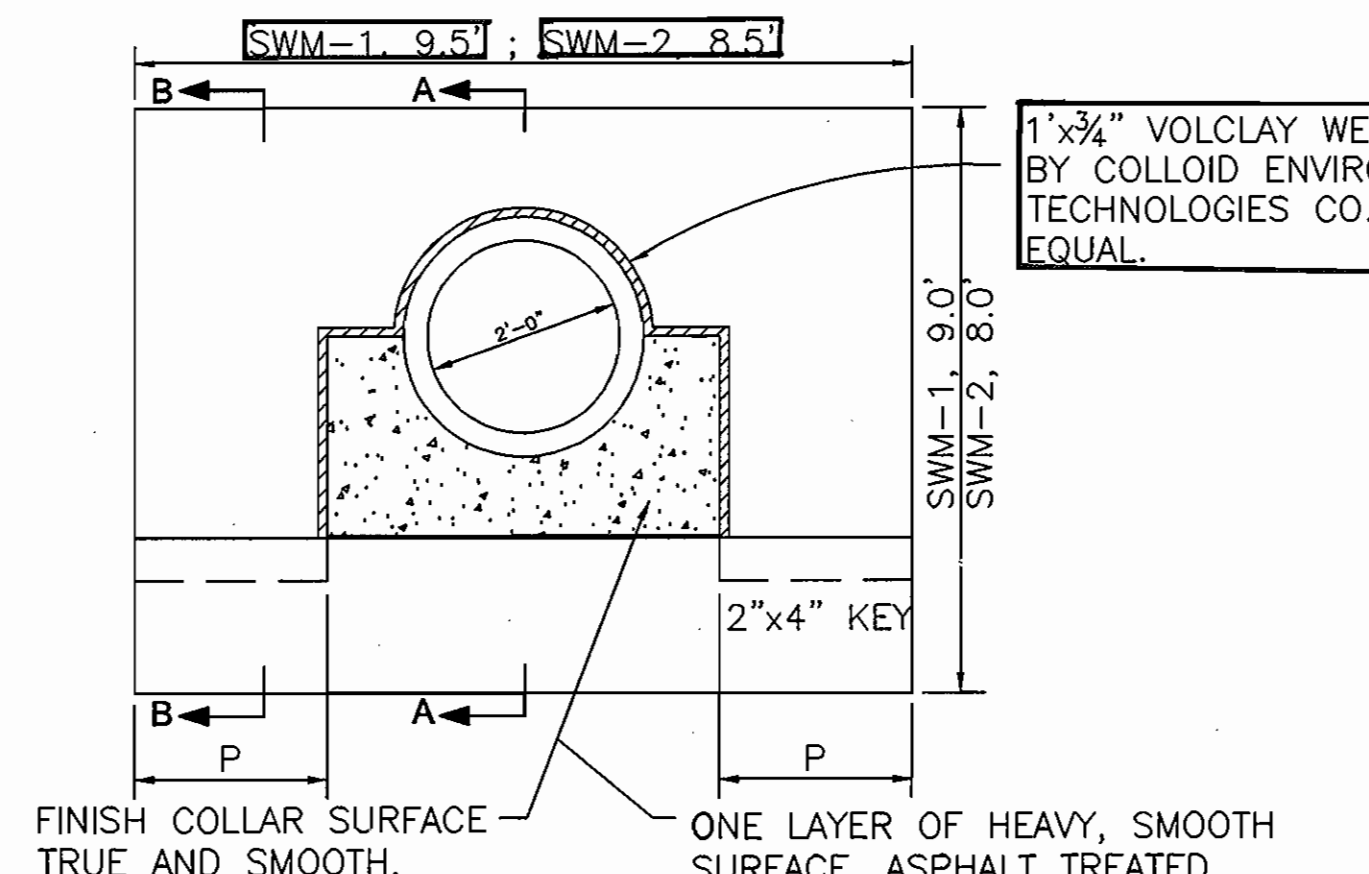
POND PERIMETER PROFILE SWM-1
SCALE: HOR. 1"=40'
VERT. 1"=4'



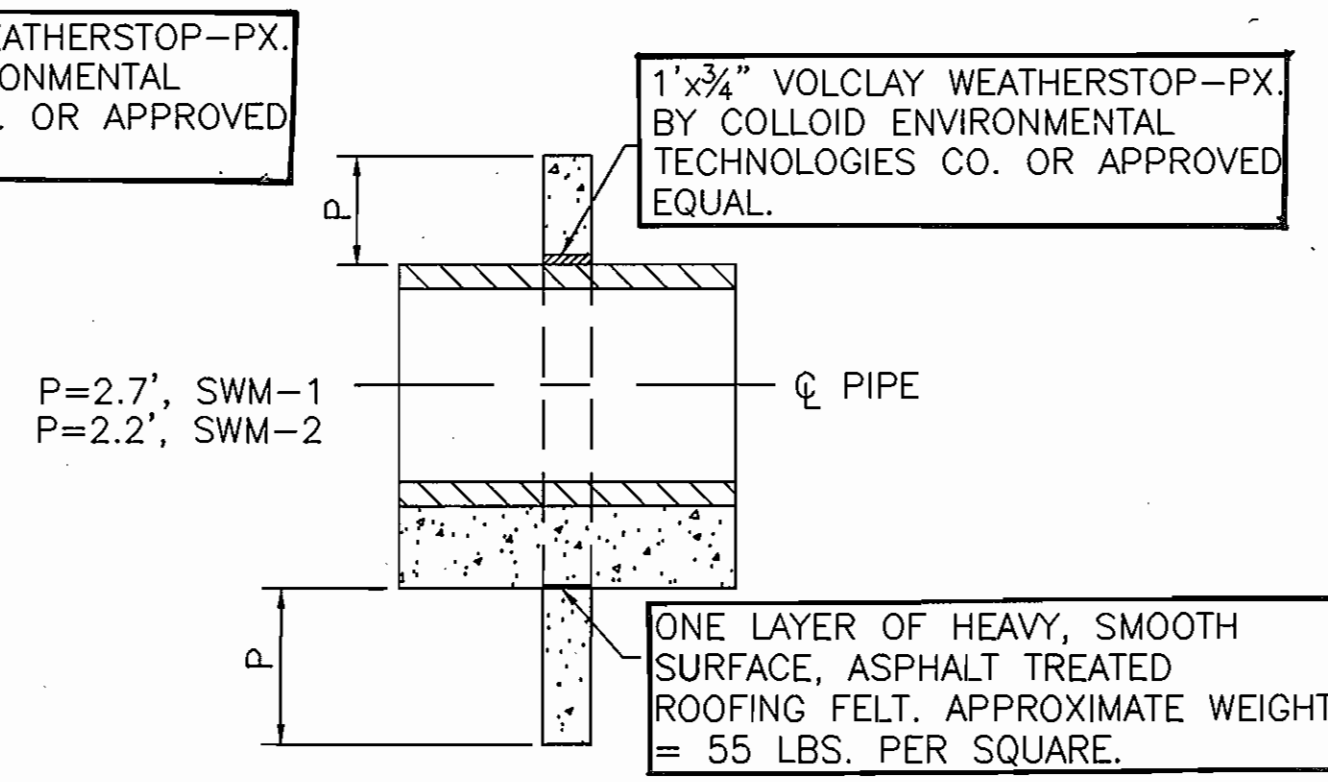
POND PERIMETER PROFILE SWM-2
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VERT. 1"=4'



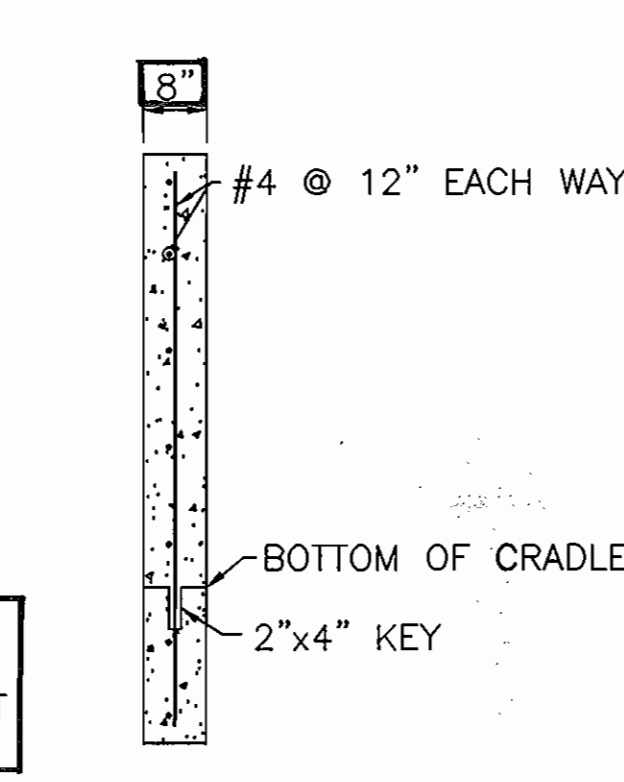
CONCRETE CRADLE DETAIL - SWM CS
SCALE: NONE



ANTI-SEEP COLLAR DETAIL - SWM CS
SCALE: NONE



SECTION A-A



SECTION B-B

Date	No.	Revision Description
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>Mr. [Signature]</i>	11/19/04	DATE
<i>Chris Hamilton</i>	11/23/04	DATE
<i>Frank [Signature]</i>	11/24/04	DATE

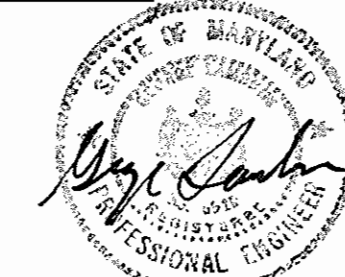
ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

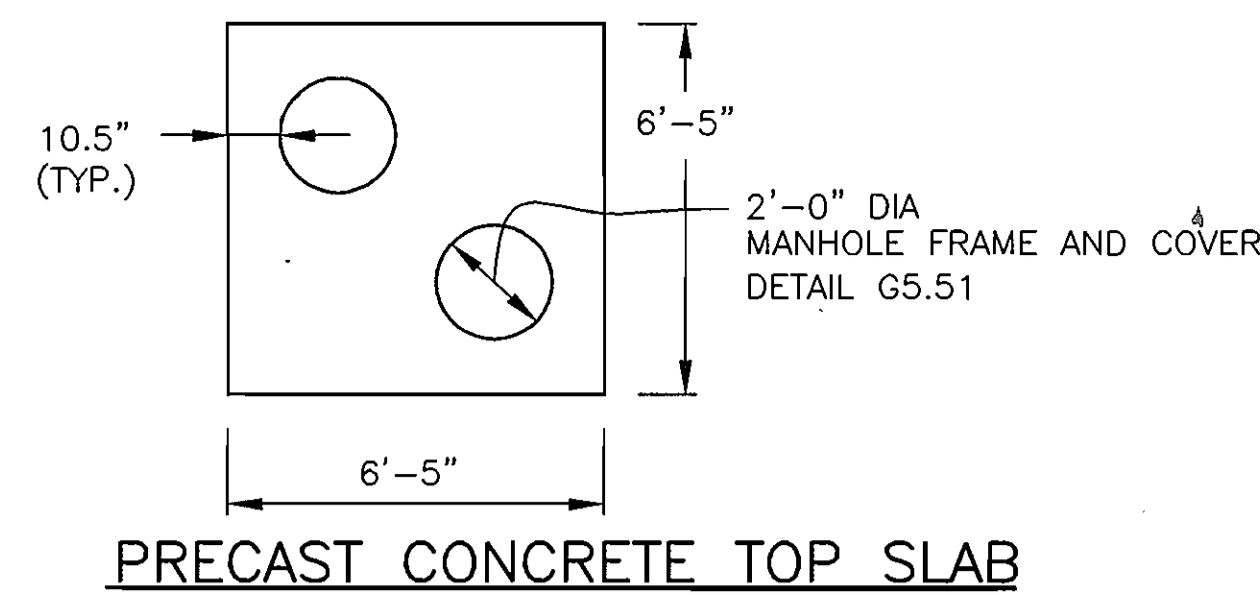
CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

STORMWATER MANAGEMENT PROFILES

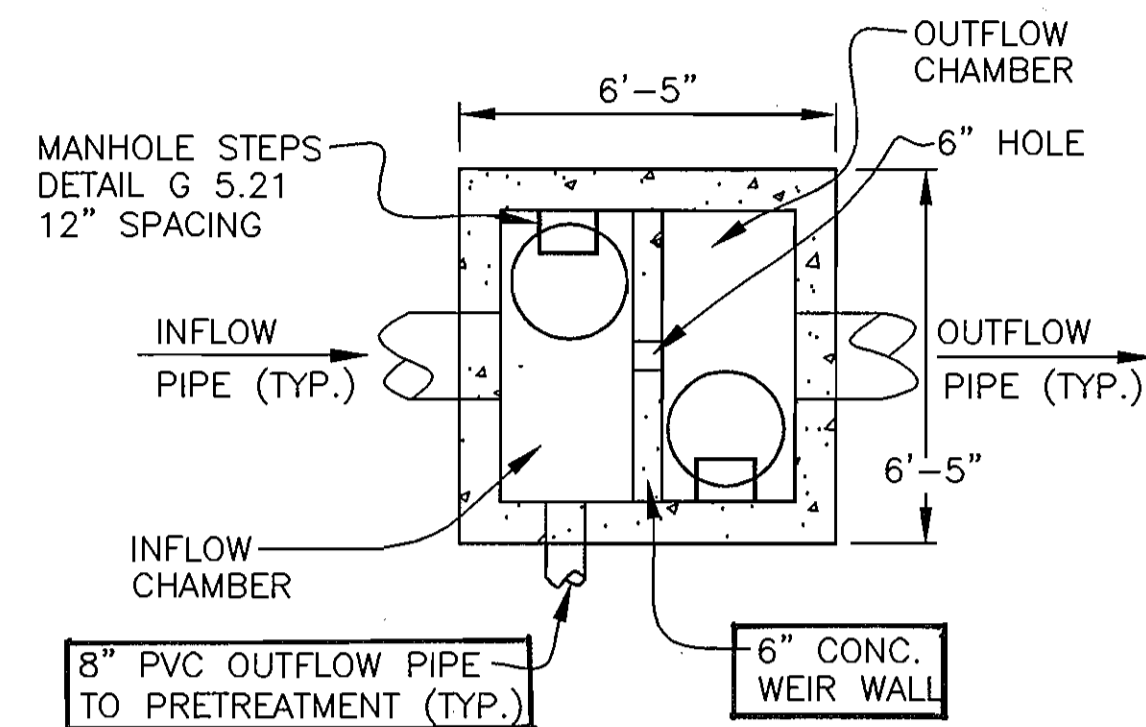
Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Des By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	15 OF 24
Chk By		Approved			

AS-BUILT



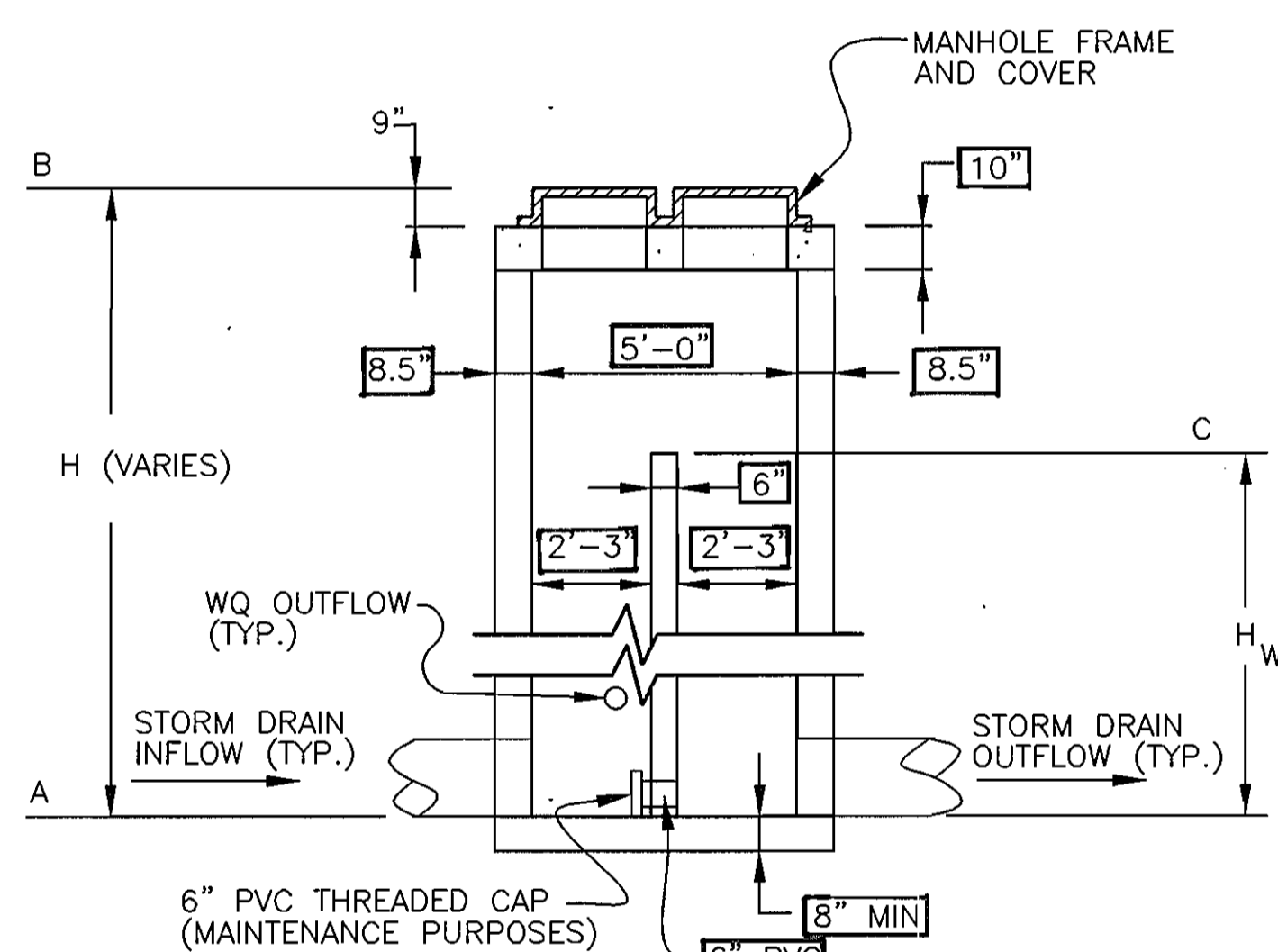


PRECAST CONCRETE TOP SLAB



NOTE:
SEE PLAN FOR PIPE ORIENTATION AND TABLE OF INVERTS

TOP VIEW



DIVERSION MANHOLE
SIDE VIEW

SCALE: 1"=2'

DIVERSION MANHOLE TABLE

MH #	MH HEIGHT H(FT.)	BOTTOM ELEVATION A(FT. ELEV.)	TOP ELEVATION B(FT. ELEV.)	WEIR ELEVATION C(FT. ELEV.)	CONC. WEIR HEIGHT H _w (FT. ELEV.)	INFLOW PIPE SIZE AND INVERT	OUTFLOW PIPE SIZE AND INVERT	WQ OUTFLOW PIPE SIZE AND INVERT
DIV #1	8.77	187.12	196.00	191.50	4.27	15" RCP 187.13	15" RCP 187.13	10" PVC 190.00
DIV #2	6.56	187.64	194.20	191.50	3.86	15" RCP 187.64	15" RCP 187.64	10" PVC 190.00
DIV #3	6.00	184.17	190.70	188.00	3.80	21" RCP 184.17	21" RCP 184.17	10" PVC 186.20
DIV #4	6.00	184.20	190.20	188.00	3.80	24" RCP 184.20	24" RCP 184.20	10" PVC 185.44

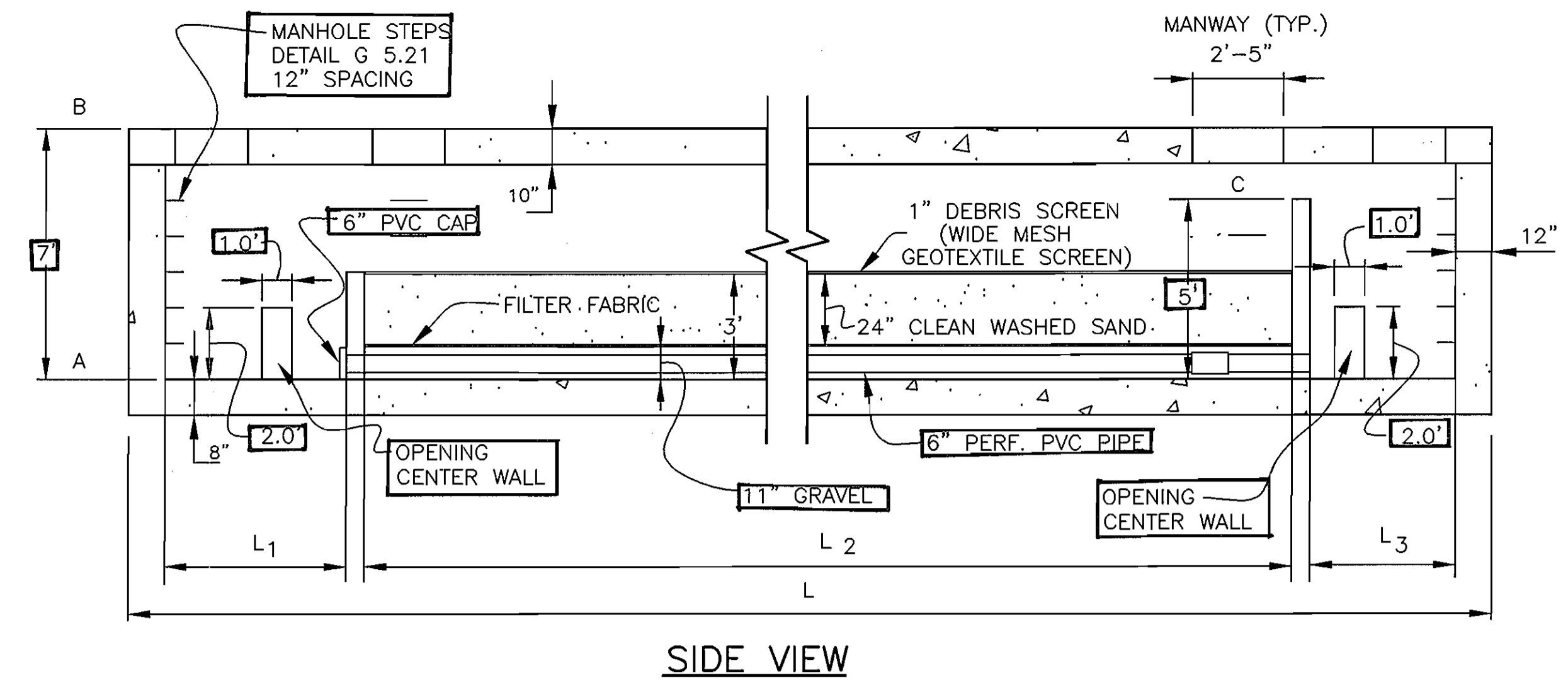
SAND FILTER VAULT TABLE

VAULT #	BOTTOM ELEVATION A(FT.)	TOP ELEVATION B(FT.)	WEIR ELEVATION C(FT.)	INFLOW CHAMBER L ₁ (FT.)	SAND FILTER CHAMBER L ₂ (FT.)	OUTFLOW CHAMBER L ₃ (FT.)	TOTAL LENGTH L(FT.)	WIDTH W(FT.)
SF #1	186.54	197.5	191.5	5.0'	84.0'	4.0'	94.0	8.0'
SF #2	182.76	189.76	187.76	5.0'	85.0'	4.0'	94.0	10.0'
	182.79	189.70	187.79		105.0'	3.9'	115.1'	

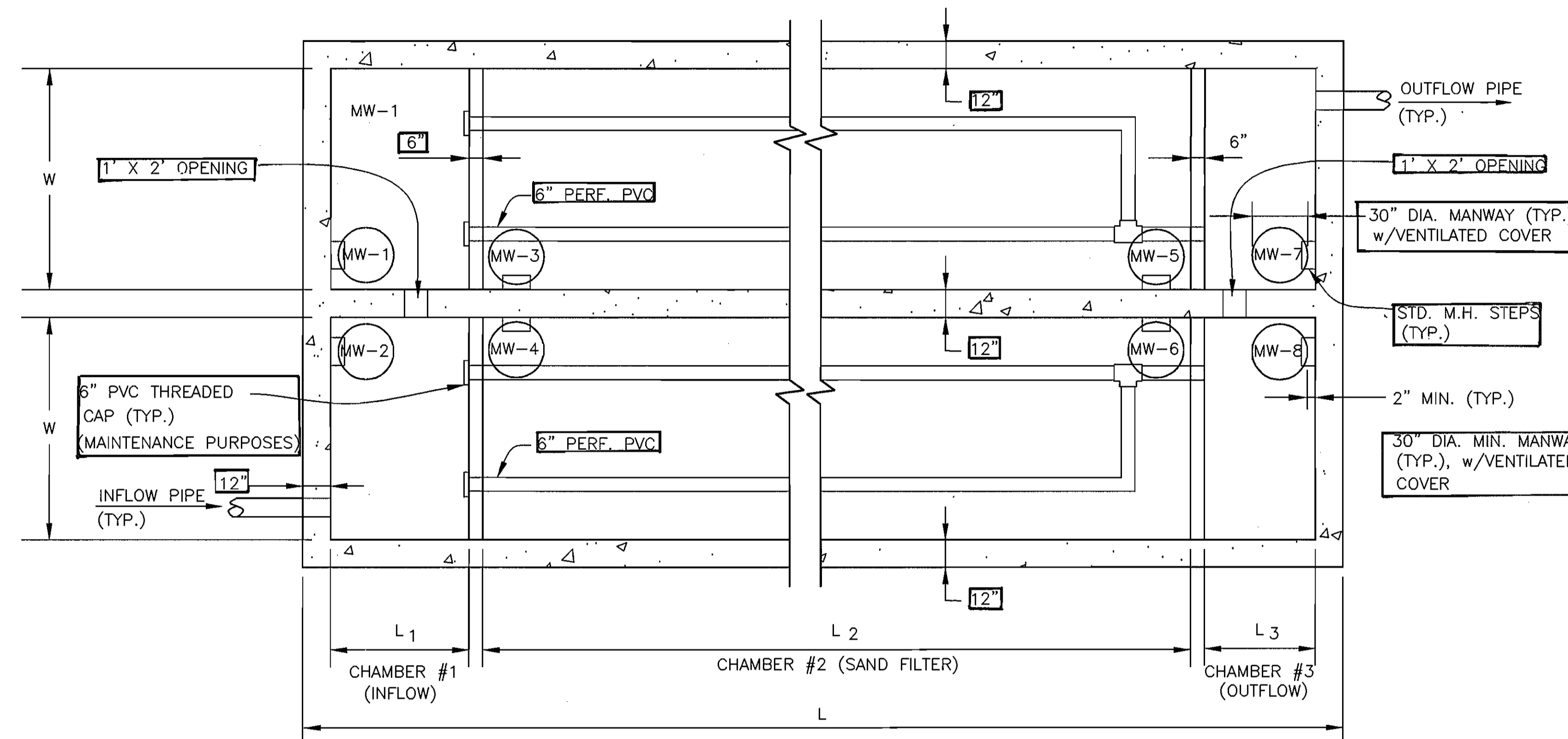
MANWAY ELEVATION TABLE

ALL MANWAY COVERS TO BE VENTILATED

MANWAY	SF-1 (FEET ELEVATION)	ELEVATION DIFFERENCE BETWEEN MANWAY AND VAULT TOP (FEET)	SF-2 (FEET ELEVATION)	ELEVATION DIFFERENCE BETWEEN MANWAY AND VAULT TOP (FEET)
1	194.40	0.90	191.95	2.19
2	194.27	0.77	191.65	1.89
3	194.45	0.95	192.00	2.24
4	194.32	0.82	191.70	1.94
4 5	194.40	0.90	191.18	0.42
6	194.29	0.79	190.23	0.47
7	194.42	0.92	190.14	0.38
8	194.33	0.83	190.16	0.40



SIDE VIEW



UNDERGROUND SAND FILTER VAULT
PLAN VIEW

SCALE: N.T.S.

Table B.3.1 Material Specifications for Sand Filters

Material	Specification/Test Method	Size	Notes
sand	clean AASHTO-M-6 or ASTM-C-33 concrete sand	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
peat	ash content: < 15% pH range: 5.2 to 4.9 loose bulk density 0.12 to 0.15 g/cc	n/a	The material must be reed-sedge hemic peat, shredded, uncompacted, uniform, and clean.
leaf compost		n/a	
underdrain gravel	AASHTO-M-43	0.375" to 0.75"	
geotextile fabric (if required)	ASTM-D-4833 (puncture strength - 125 lb.) ASTM-D-4632 (Tensile Strength - 300 lb.)	0.08" thick equivalent opening size of #80 sieve	Must maintain 125 gpm per sq. ft. flow rate. Note: a 4" pea gravel layer may be substituted for geotextiles meant to "separate" sand filter layers.
impermeable liner (if required)	ASTM-D-4833 (thickness) ASTM-D-412 (tensile strength 1,100 lb., elongation 200%) ASTM-D-624 (Tear resistance - 150 lb./in) ASTM-D-471 (water adsorption: +8 to -2% mass)	30 mil thickness	Liner to be ultraviolet resistant. A geotextile fabric should be used to protect the liner from puncture.
underdrain piping	F 758, Type PS 28 or AASHTO-M-278	4" - 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes
concrete (cast-in-place)	MSHA Standards and Specs. Section 902, Mix No. 3, f _c = 3500 psi, normal weight, air-entrained; re-inforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland
concrete (pre-cast)	per pre-cast manufacturer	n/a	SEE ABOVE NOTE
non-rebar steel	ASTM A-36	n/a	structural steel to be hot-dipped galvanized ASTM-A-123



Date	No	Revision Description
11/20/04		APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF-DEVELOPMENT ENGINEERING DIVISION
11/23/04		CHIEF-DIVISION OF LAND DEVELOPMENT
11/24/04		DIRECTOR

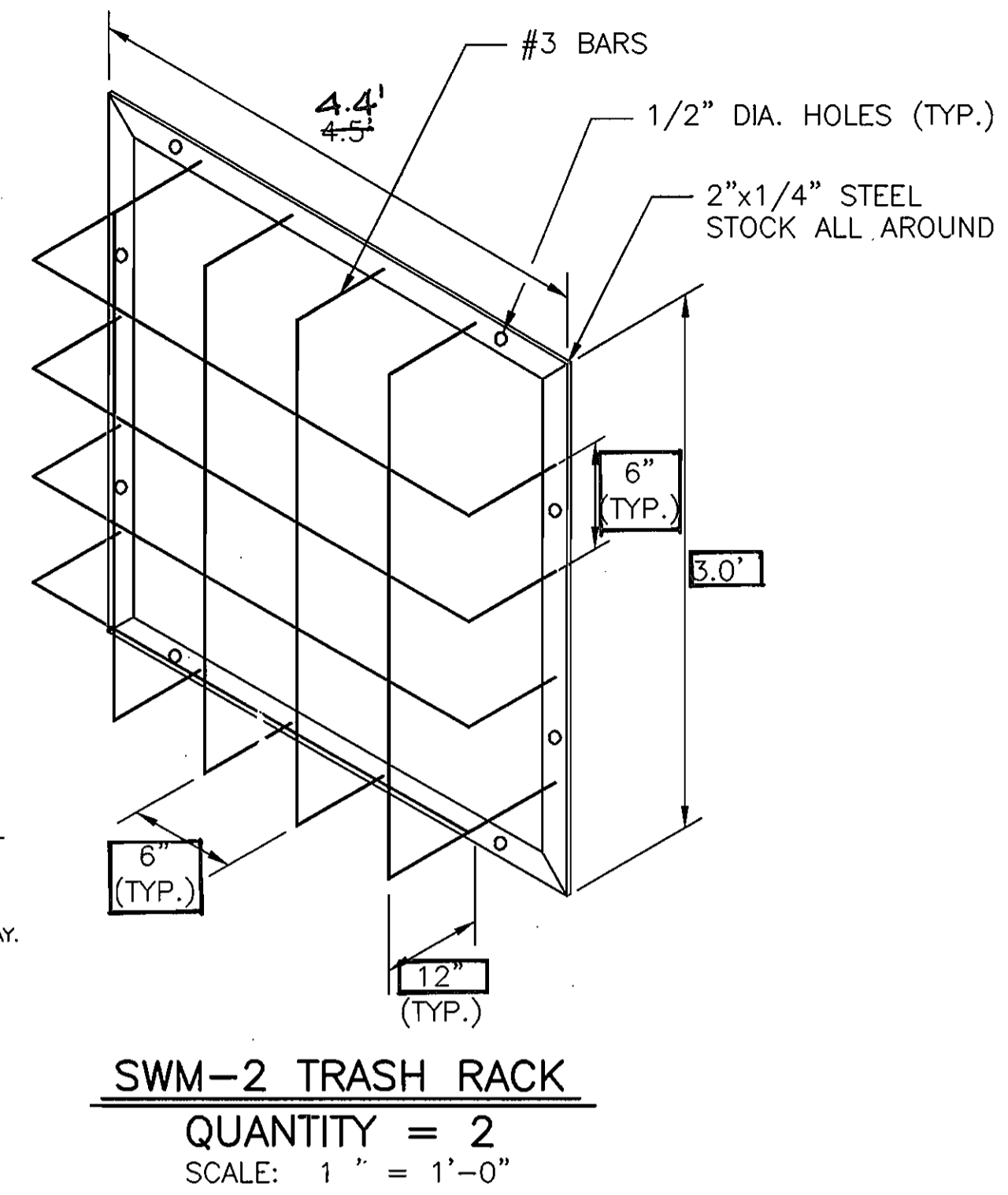
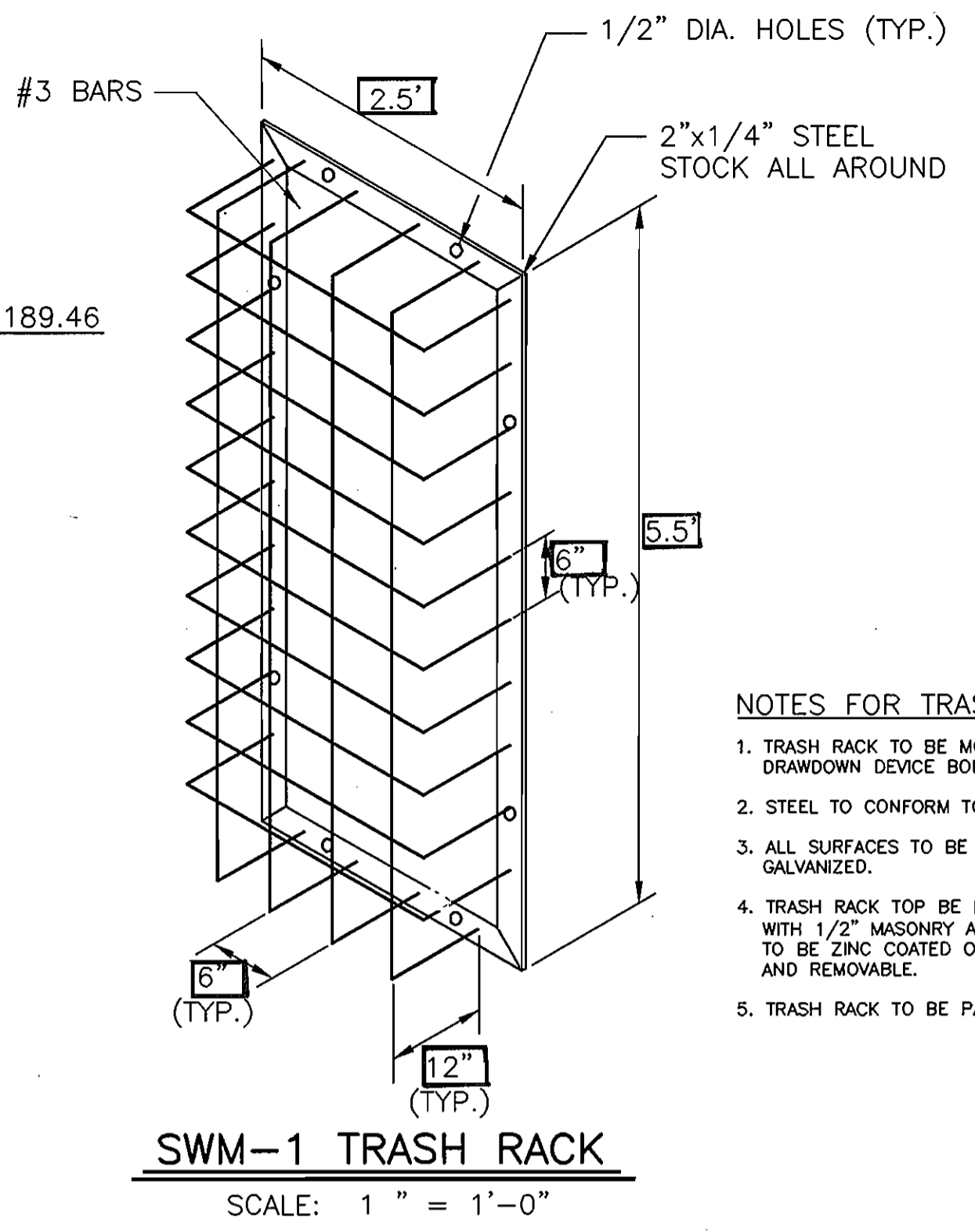
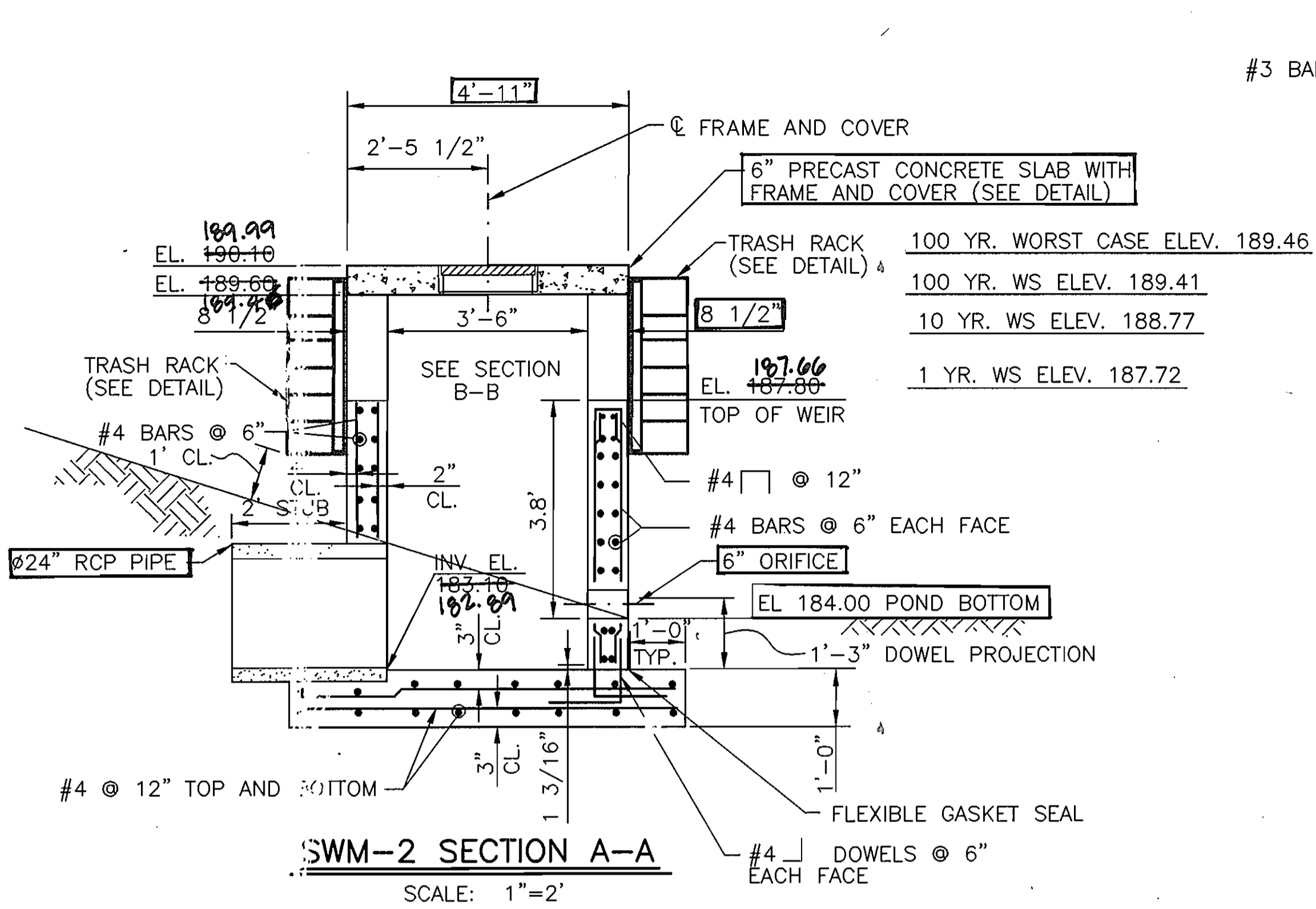
ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

**STORMWATER
MANAGEMENT
DETAILS**

Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Des By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	14 OF 24
Chk By		Approved			

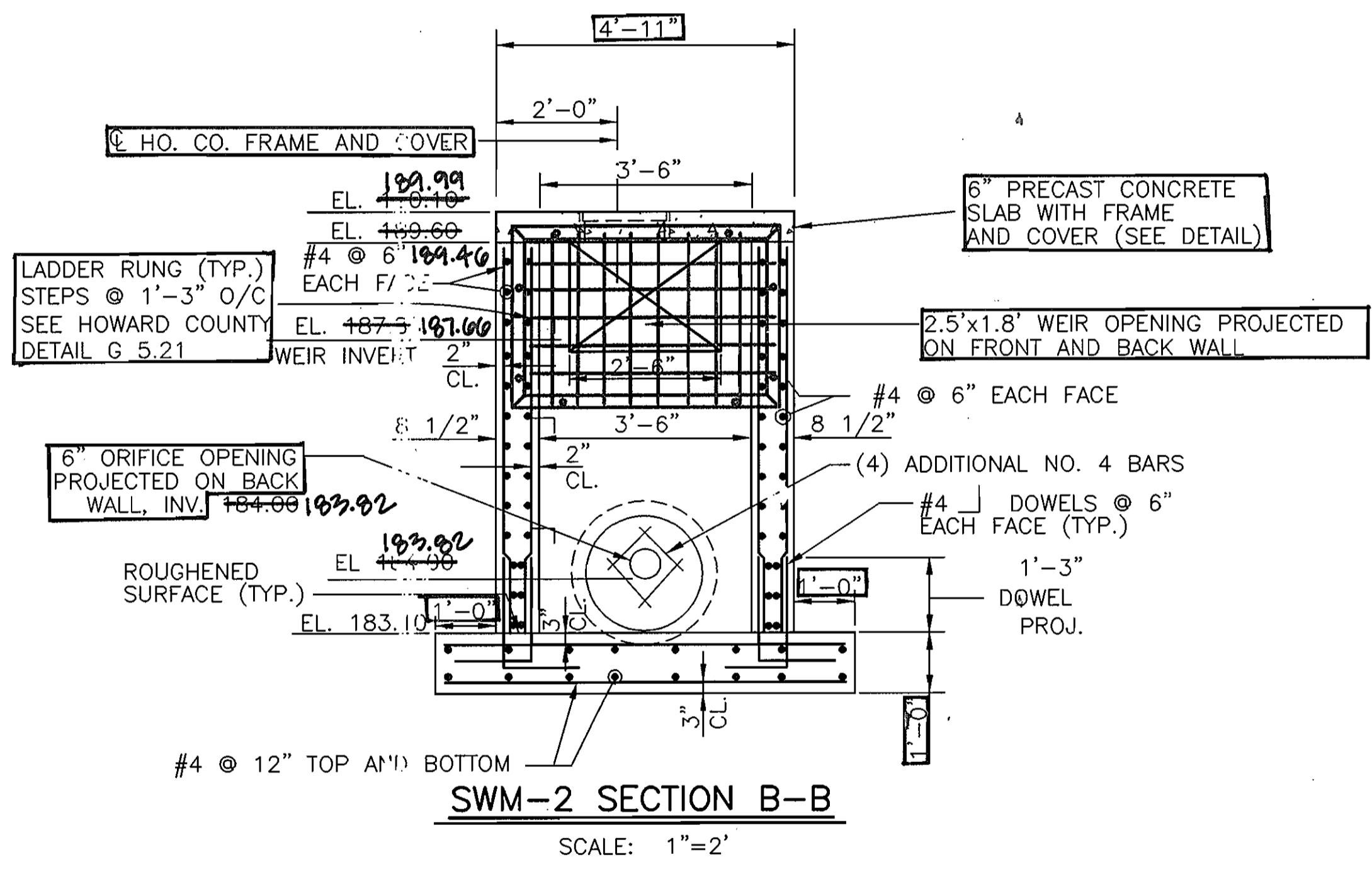
AS-BUILT



#3 BARS @ 6" o.c.	
HEIGHT OR WIDTH (FEET)	# BARS
2.0	3
2.5	4
3.0	5
3.5	6
4.0	7
4.5	8
5.0	9
5.5	10
6.0	11

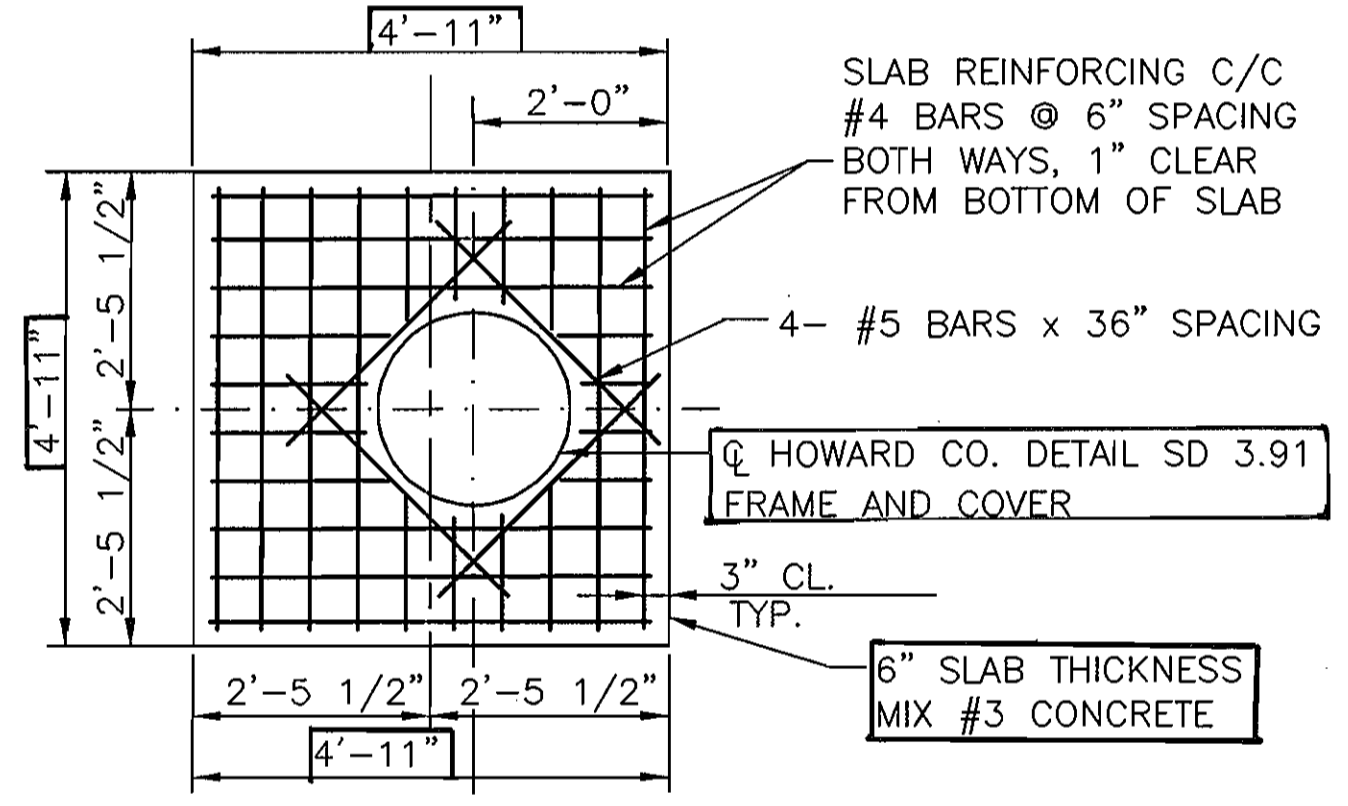
- NOTES FOR TRASH RACK**
- TRASH RACK TO BE MOUNTED USING THE DRAWDOWN DEVICE BOLTS.
 - STEEL TO CONFORM TO ASTM A-36.
 - ALL SURFACES TO BE HOT DIPPED GALVANIZED.
 - TRASH RACK TOP BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE ZINC COATED OR STAINLESS STEEL, AND REMOVABLE.
 - TRASH RACK TO BE PAINTED BATTLESHIP GRAY.

NOTE: CONCRETE MUST MEET 3500 psi COMPRESSION RATING



STRUCTURE SUMMARY SHEET - SWM-1

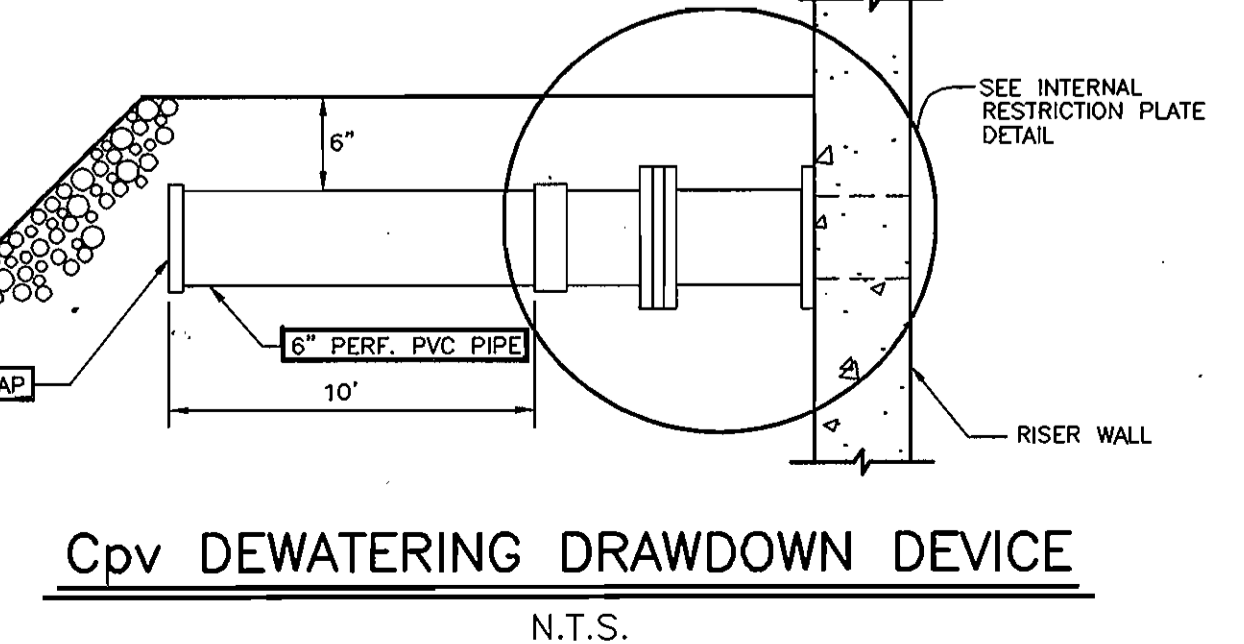
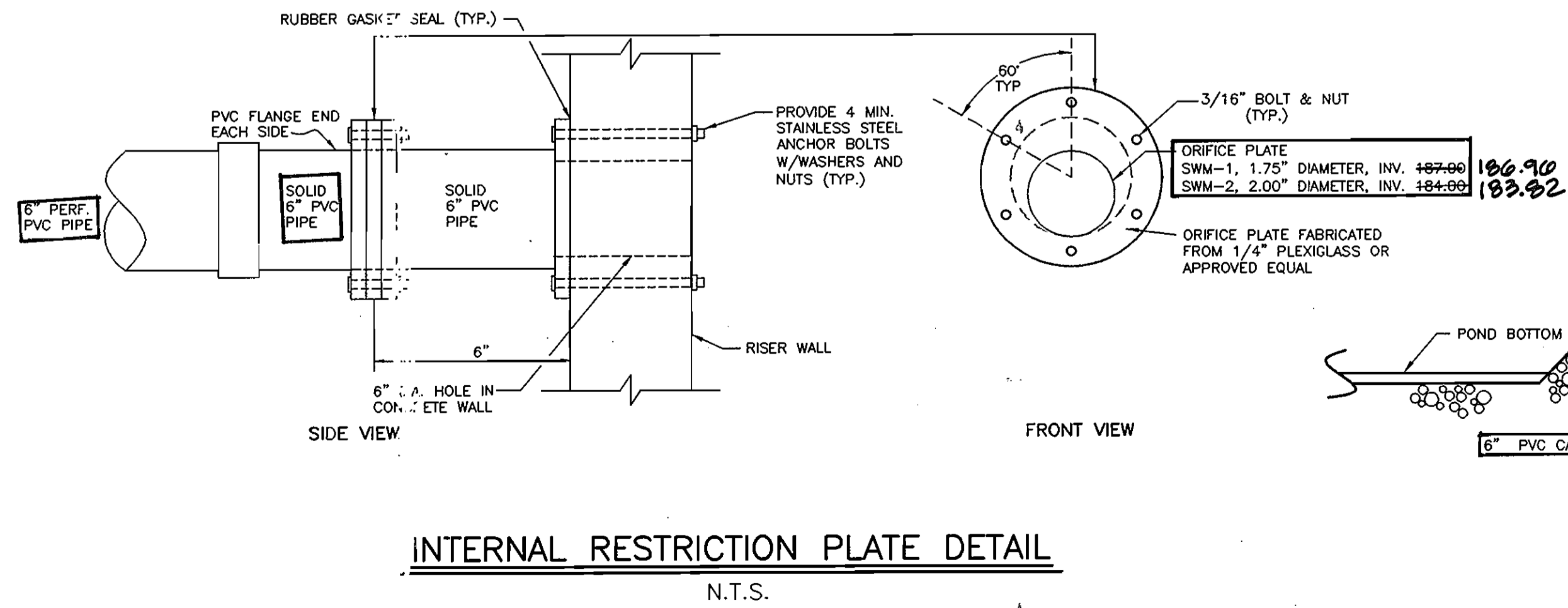
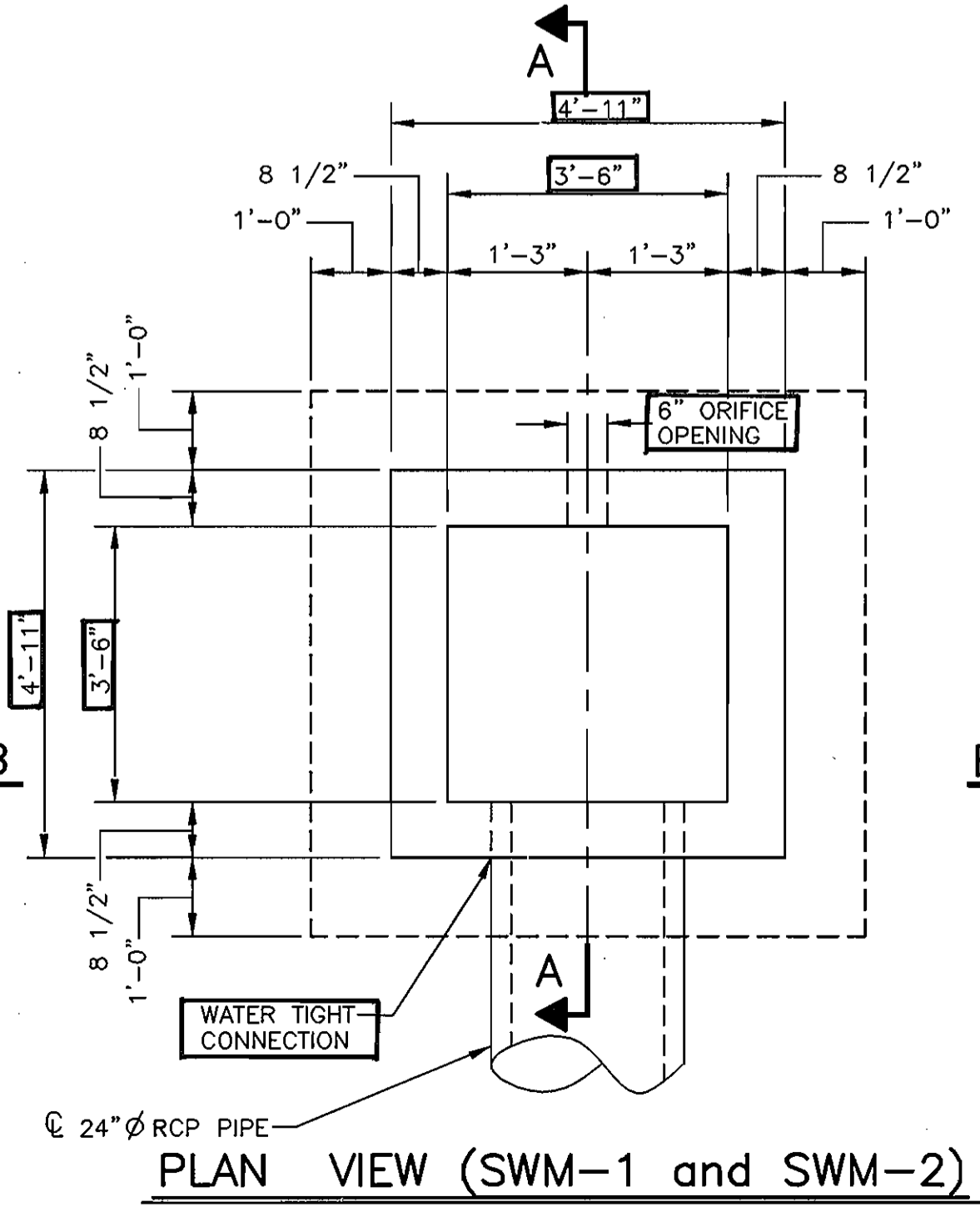
WATERSHED	DORSEY RUN
STRUCTURE TYPE	DRY POND
WATER QUALITY PROVIDED	8,044 cf
WATER QUALITY METHOD	UNDERGROUND SAND FILTER
STRUCTURE CLASSIFICATION	HAZARD CLASS A
STRUCTURE LOCATION	URBAN
STORAGE-HEIGHT PRODUCT	5.94 Ac.ft. ² ULT.
WATERSHED AREA TO FACILITY	3.748 Ac.
LEVEL OF MANAGEMENT REQUIRED	10 YEAR STORM
LEVEL OF MANAGEMENT PROVIDED	10 YEAR STORM
MINIMUM TOP WIDTH PROVIDED	N/A
MAXIMUM HEIGHT OF FILL	N/A
HEIGHT TO TOP OF WEIR	4.0 FEET
FREEBOARD REQUIRED	N/A
FREEBOARD PROVIDED	N/A



STRUCTURE SUMMARY SHEET - SWM-2

WATERSHED	DORSEY RUN
STRUCTURE TYPE	DRY POND
WATER QUALITY PROVIDED	12,383 cf
WATER QUALITY METHOD	UNDERGROUND SAND FILTER
STRUCTURE CLASSIFICATION	HAZARD CLASS A
STRUCTURE LOCATION	URBAN
STORAGE-HEIGHT PRODUCT	4.21 Ac.ft. ² ULT.
WATERSHED AREA TO FACILITY	4.106 Ac.
LEVEL OF MANAGEMENT REQUIRED	10 YEAR STORM
LEVEL OF MANAGEMENT PROVIDED	10 YEAR STORM
MINIMUM TOP WIDTH PROVIDED	N/A
MAXIMUM HEIGHT OF FILL	N/A
HEIGHT TO TOP OF WEIR	3.8 FEET
FREEBOARD REQUIRED	N/A
FREEBOARD PROVIDED	N/A

RISER TOP, PRECAST CONCRETE SLAB (SWM-1 and SWM-2)
SCALE: N.T.S.



Date	No.	Revision Description

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD CONSERVATION DISTRICT.

Dianne L. Withelm
SIGNATURE OF DEVELOPER
DIANNE L. WITHELM
PRINT NAME BELOW SIGNATURE
9-28-04
DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

George Lambros
SIGNATURE OF ENGINEER
GEORGE LAMBROS
PRINT NAME BELOW SIGNATURE
9-28-04
DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Jim Mays
U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE
DATE 11/1/04

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS, OF THE HOWARD SOIL CONSERVATION DISTRICT.

Paula S. S.
HOWARD SOIL CONSERVATION DISTRICT
DATE 11/1/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chris D. Harrison
CHIEF-DEVELOPMENT ENGINEERING DIVISION
DATE 11/1/04

Cindy Hamilton
CHIEF-DIVISION OF LAND DEVELOPMENT
DATE 11/23/04

Paul H. Lynch
DIRECTOR
DATE 11/23/04

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

STORMWATER MANAGEMENT DETAILS

Des By	G.L.	Scale	AS. SHOWN	Proj No	23249.00
Des By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	
Chk By		Approved			13 OF 24

SDP-04-98

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378...

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL...

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL...

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR...

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH...

MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED...

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK LAYERS...

COMPACTED - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN 10 TREAD TRACKS...

WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 1% OF THE OPTIMUM...

CUT OFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT...

EMBANKMENT CORE - THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET...

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL...

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION...

ON THE SIDES OF THE PIPE, IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIBBON CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE 7" TO ASSURE FLOWABILITY...

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION. CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

- 1. MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMER COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE... 2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.

MATERIALS - (ALUMINUM PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF ASHTO SPECIFICATION M-190 TYPE A...

- 2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC. MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RIGID INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

- 3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL...

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH...

- 4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH...

- 5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL". OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

- 1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.

- 2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING / CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING / CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES...

- 4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL". OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

ELASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

- 1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241. CORRUGATED CONCRETE POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF ASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF ASHTO M294 TYPE S...

- 3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH...

DRAINAGE DIAPHRAGMS - WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CONSTRUCTION INSPECTION.

CONCRETE CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

CARE OF WATER DURING CONSTRUCTION ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS...

Cut-off Trench Construction A representative of the Geotechnical Engineer should be present to monitor placement and compaction of fill for the embankment and cut-off trench. In accordance with NRCS-MD Code No. 378 Pond Standards/Specifications, soils considered suitable for the center of embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve.

STABILIZATION ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION SHALL INCLUDE DETAIL EROSION AND SEDIMENT CONTROL MEASURES. MAINTENANCE SCHEDULE/REQUIREMENTS

FILTER CLOTH FILTER CLOTH SHALL BE MIRAFI 1405, DUPONT TYPAR #3341 OR APPROVED EQUAL.

FUG-10-2004 11:23 HILLIS-CARNES

HILLIS-CARNES

August 10, 2004

410 830 4050 P.02/04

Wilhelm Business Enterprises, LLC 10979 Stratford Road Annapolis Junction, Maryland 20701 Attention: Ms. Dianna L. Wilhelm

12011 Guilford Road, Suite 106 P.O. Box 241 Annapolis Junction, MD 20701 Baltimore, MD 21144 Tel: 410-880-4788 Fax: 410-880-4086

Re: Additional SWM Recommendations for Annapolis Junction Business Park Howard County, Maryland HCEA Project No. 03704A

Gentlemen:

Hillis-Carnes Engineering Associates, Inc. (HCEA) is pleased to submit this letter containing additional recommendations for the proposed SWM facility (SWM-2) for the above-referenced project.

As requested, HCEA is providing additional site preparation and construction recommendations for the proposed SWM pond. The following evaluations have been developed on the basis of the project characteristics and subsurface conditions that were outlined in our original report...

Embankment Construction

The following procedures should be utilized to prepare the subgrade for embankment support and to construct the proposed embankments.

All trees, topsoil, organic materials, frozen, wet, soft or loose soils and other deleterious materials should be removed from the areas of proposed new embankment and wasted prior to the placement of fill. These stripping operations should be performed in a manner consistent with good erosion and sediment control practices and in accordance with Soil Conservation Guidelines.

After stripping operations have been completed, the exposed subgrade materials should be profiled with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. For areas that are not accessible to a dump truck, the exposed materials should be observed and tested by a geotechnical engineer or his representative utilizing a Dynamic Cone Penetrometer...

Columbia, MD - Frederick, MD - Hagerstown, MD - Salisbury, MD - Waldorf, MD - Manassas, VA

FUG-10-2004 11:24 HILLIS-CARNES

410 830 4050 P.03/04

RISER NOTES:

- 1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SWM POND/SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS AND THE MSHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS SECTIONS 414 AND 416. 2. ALL CONCRETE SHALL BE MIX NO. 3 (FC=3500 PSI) 3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A615, GRADE 60. ALL REINFORCING STEEL SHALL BE AS INDICATED ON THE RISER STRUCTURAL DETAILS. CONCRETE COVER OVER THE REINFORCING STEEL SHALL BE A MINIMUM OF 2" MEASURED FROM THE INSIDE FACE OF WALLS AND FROM THE TOP SURFACE OF THE REINFORCING STEEL IN THE BOTTOM AND SIDES OF THE FOOTING. CUT REINFORCING STEEL AT PIPES AND OPENINGS. 4. CONSTRUCTION JOINTS BETWEEN WALLS AND FOOTING SHALL BE ROUGH FLOATED SUFFICIENTLY TO THOROUGHLY CONSOLIDATE THE SURFACE AND SHALL BE INTENTIONALLY LEFT IN A ROUGHENED CONDITION. 5. PROVIDE 1 1/4" CHAMFER FOR ALL CORNERS ABOVE GRADE. 6. TRASH RACKS TO BE SHOP FABRICATED AND HOT DIPPED GALVANIZED PRIOR TO FIELD ASSEMBLY. 7. CONTRACTOR SHALL USE GALVANIZED OR STAINLESS STEEL BOLTS TO FASTEN TRASH RACK TO CONCRETE WALL.

GENERAL NOTES

- 1. UTILITIES AND TOPOGRAPHICAL FEATURES SHOWN ON THESE PLANS ARE ONLY FOR THE CONVENIENCE OF THE USER AND THERE IS NO WARRANTY OR GUARANTEE OF THE CORRECTNESS OF THE COMPLETENESS OF THE INFORMATION SHOWN. THE USER OF THESE DRAWINGS MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION. 2. AS-BUILT PLANS AND CERTIFICATION ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE STORMWATER MANAGEMENT PERMIT SECURITY WILL NOT BE RELEASED UNTIL THE AS-BUILT PLANS AND CERTIFICATION ARE APPROVED BY HOWARD COUNTY. 3. IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS AND CERTIFICATION, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT SPECIFIC STAGES DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS. 4. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SOIL CONSERVATION SERVICE MARYLAND STANDARDS AND SPECIFICATIONS POND CODE 378 NOVEMBER 1998. MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION, OCTOBER, 1993, STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIAL.

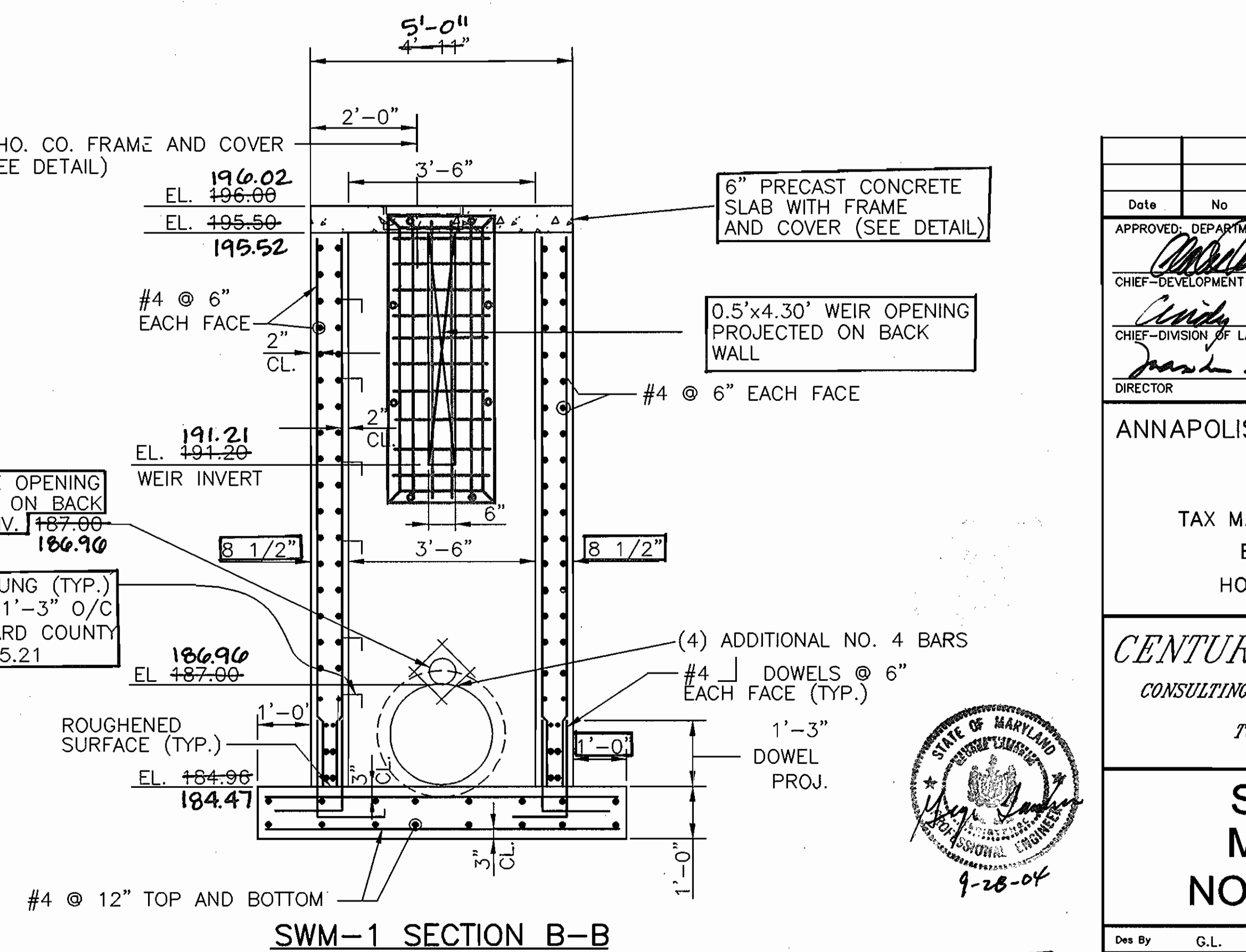
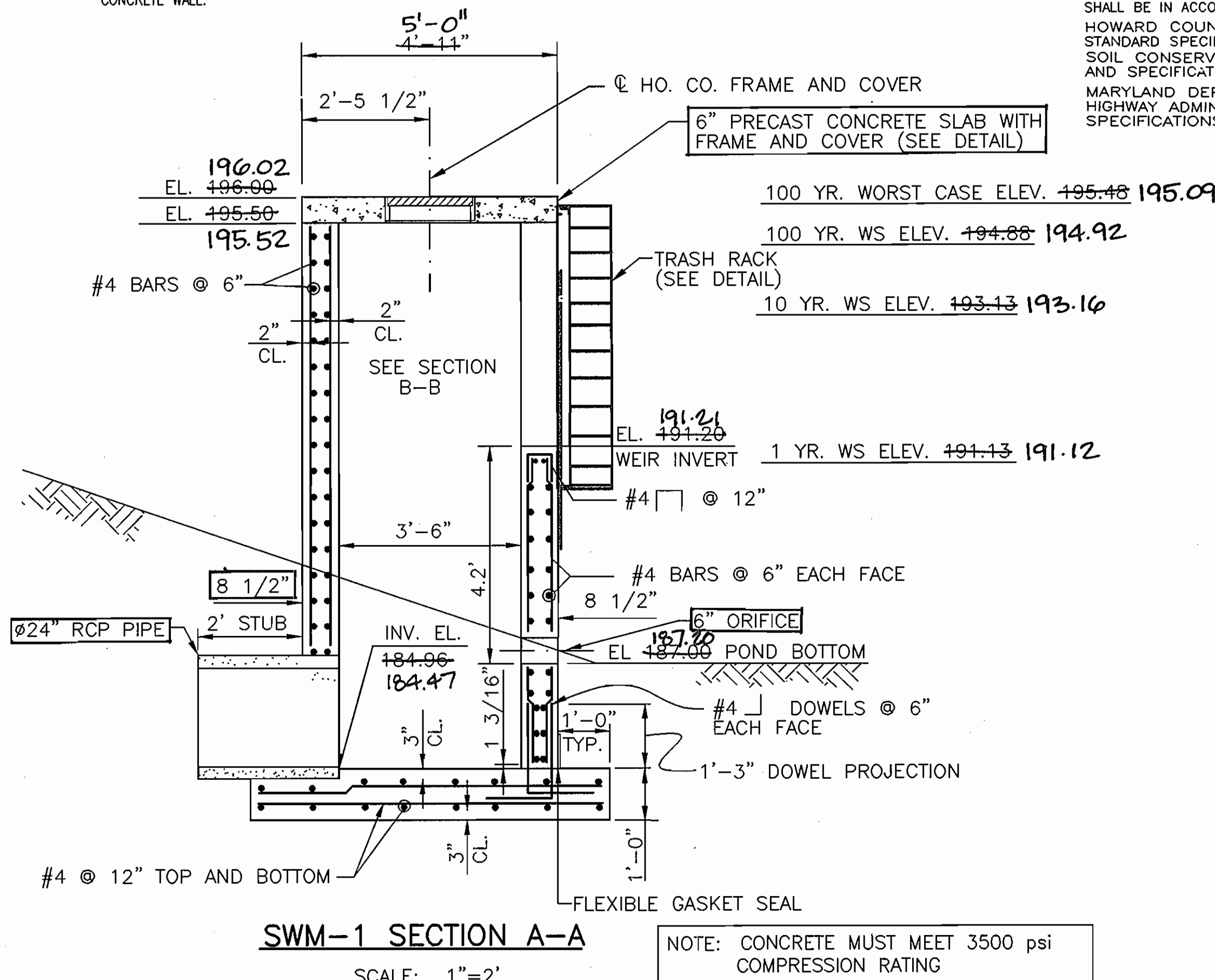


Table with columns: Date, No, Revision, Description. Includes signatures and dates for approvals.

ANNAPOLIS JUNCTION BUSINESS PARK PARCELS A-D TAX MAP 48 GRID 14 PARCEL 120 ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC. CONSULTING ENGINEERS, PLANNERS, SURVEYORS 32 WEST ROAD TOWSON, MARYLAND 21204 (410) 823-8070

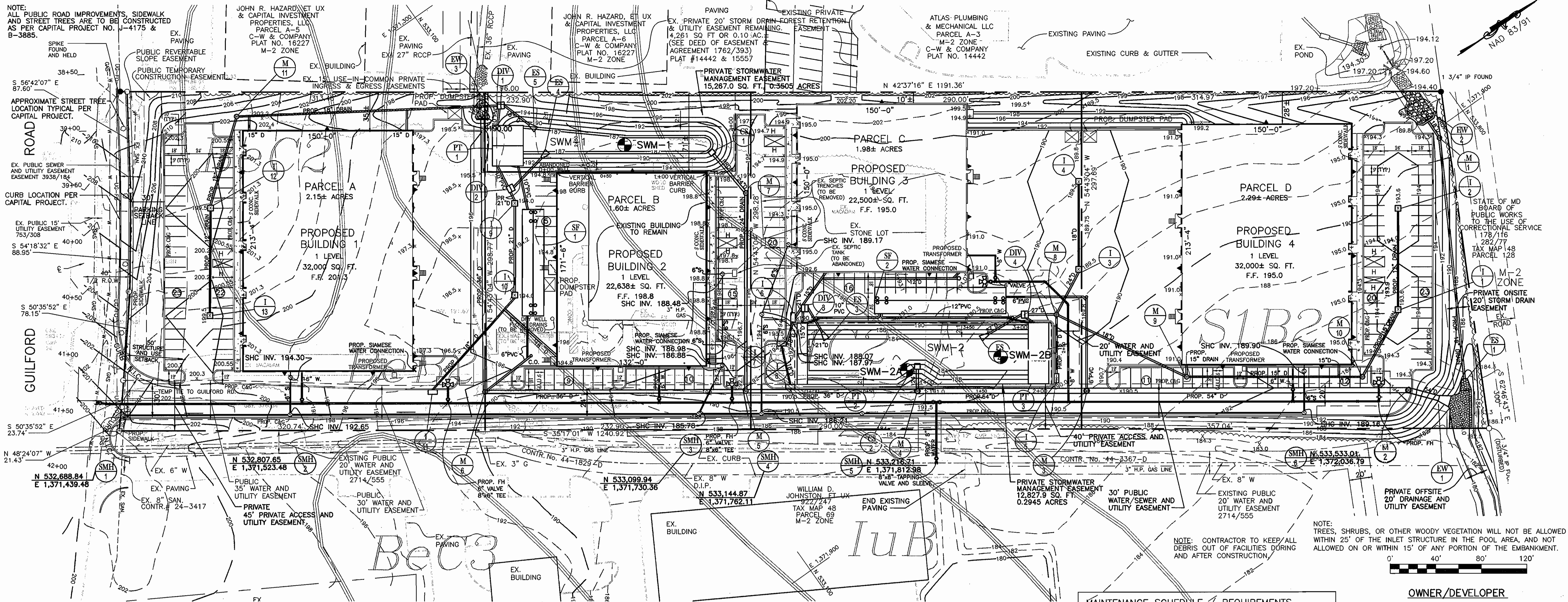
STORMWATER MANAGEMENT NOTES & DETAILS

Table with columns: Des By, Scale, Date, Proj No, Drawing No. Includes project details like 'AS-BUILT' and 'SDP-04-98'.



AS-BUILT

SDP-04-98



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT PONDS
 3.4.6 FILTERING MAINTENANCE CRITERIA (MDE SWM DESIGN MANUAL)
 THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED/REPAIRED WHEN DRAINAGE TIMES WITHIN THE CHAMBER EXCEED 36 HOURS. TRASH AND DEBRIS SHALL BE REMOVED AS NECESSARY.
 SEDIMENT SHOULD BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN SIX INCHES.
 WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHES SUBSTANTIALLY (E.G. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH MATERIAL. THE REMOVED SEDIMENTS SHOULD BE DISPOSED IN AN ACCEPTABLE MANNER (E.G. LANDFILL). SILT/SEDIMENT SHOULD BE REMOVED FROM THE FILTER BED WHEN THE ACCUMULATION EXCEEDS ONE INCH.
 DIRECT MAINTENANCE ACCESS SHALL BE PROVIDED TO THE PRETREATMENT AREA AND THE FILTER BED.
 CONSTRUCTION OF SAND FILTERS SHALL CONFORM TO THE SPECIFICATIONS OUTLINED IN APPENDIX B.3.

SITE AREA TABULATION

TOTAL AREA OF SITE :	8.299 Acres
TOTAL R/W DEDICATION :	0.275 Acres
TOTAL NET BUILDABLE LOT :	8.024 Acres
MAX. IMPERVIOUS ALLOWED :	6.820 Acres
	(85% per ZONING)
TOTAL IMPERVIOUS PROPOSED :	5.895 Acres

OPERATION, MAINTENANCE AND INSPECTION
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

MAINTENANCE SCHEDULE REQUIREMENTS
 THE STORMWATER MANAGEMENT FACILITIES SHALL BE MAINTAINED BY THE PROPERTY OWNER AS FOLLOWS:
 1. REMOVAL OF ACCUMULATED PAPER, TRASH, AND DEBRIS AS NECESSARY;
 2. ANNUAL INSPECTION AND REPAIR OF THE STRUCTURES AND PERFORATED PIPE.

OWNER/DEVELOPER
 WILHELM BUSINESS ENTERPRISES, L.L.C.
 10979 GUILFORD ROAD, SUITE A
 ANNAPOLIS JUNCTION, MD 20701
 C/O DIANNA WILHELM 443-651-1400

SOIL BORINGS

FACILITY	TYPE	HAZARD CLASS
SWM-1	EXCAVATED, DRY POND	A
SWM-2	EXCAVATED AND EMBANKMENT, DRY POND	A

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION AND MEETS THE MINIMUM STANDARDS OF THE HOWARD COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT AND THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

SIGNATURE: *George Lambros*
 PRINT NAME: GEORGE LAMBROS
 P.E. NO.: 6519
 DATE: 9-28-04

AS-BUILT CERTIFICATION:

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

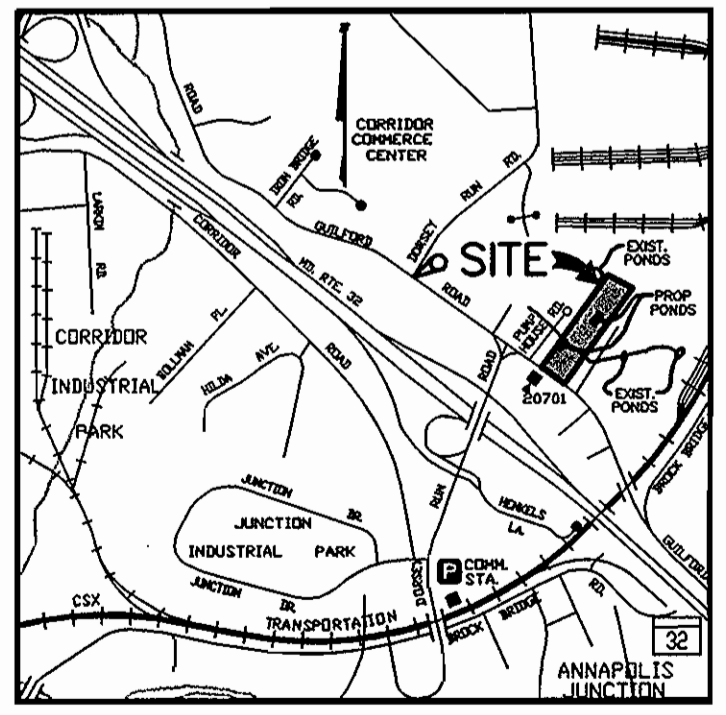
SIGNATURE: _____
 PRINT NAME: _____
 P.E. NO.: _____
 DATE: _____

LANDOWNER'S/DEVELOPER'S CERTIFICATION:

I/WE HEREBY CERTIFY THAT ALL WORK SHOWN ON THESE CONSTRUCTION DRAWINGS WILL BE ACCOMPLISHED PURSUANT TO THESE PLANS. I/WE ALSO UNDERSTAND THAT IT IS MY/OUR RESPONSIBILITY TO HAVE THE CONSTRUCTION SUPERVISED AND CERTIFIED, INCLUDING THE SUBMITTAL OF "AS-BUILT" PLANS WITHIN THIRTY (30) DAYS OF COMPLETION, BY A REGISTERED PROFESSIONAL ENGINEER.

SIGNATURE: *Dianna L. Wilhelm*
 PRINT NAME: DIANNA L. WILHELM
 P.E. NO.: _____
 DATE: 9-28-04

NOTE:
 IF FUTURE ADDITIONAL IMPERVIOUS AREAS ARE PROPOSED BEYOND THE CONSTRUCTION SCOPE OF THIS PLAN, THE STORMWATER MANAGEMENT SYSTEM WILL NEED TO BE RE-EVALUATED.



STORMWATER MANAGEMENT SUMMARY TABLE - SWM-1 AND -2

REQUIREMENT	VOLUME REQUIRED (CU. FT.)	VOLUME PROVIDED (CU. FT.)	NOTES
WATER QUALITY VOLUME (WQ _v)	20,427	20,427	100% OF REQUIRED (75% OF WQ _v)
RECHARGE VOLUME (Re _v)	3,763	4,006	
CHANNEL PROTECTION VOLUME (CP _v)	35,666	35,666	CP _v RELEASE RATE IS 0.47 cfs

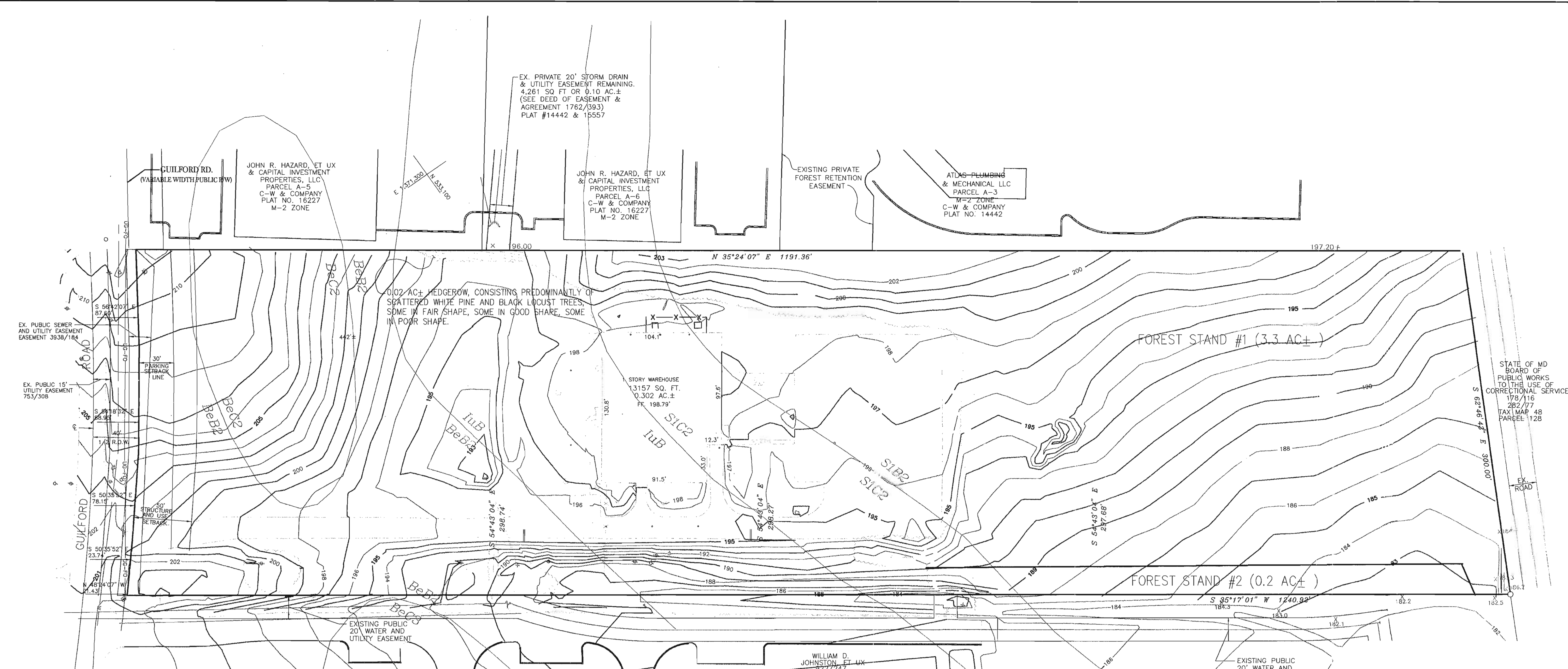
STORMWATER MANAGEMENT TO BE PROVIDED BY UNDERGROUND SAND FILTER AND DRY POND **AS BUILT**

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

DATE	SOIL DESCRIPTION	DEPTH (FEET)	REMARKS	TESTS	NOTES
09/28/04	Light brown, moist, silty sand, trace clay (SM-S)	1-2	12" no groundwater encountered	SP	
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	2-4	12" no groundwater encountered	SP	
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	4-6	12" no groundwater encountered	SP	
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	6-7	12" no groundwater encountered	SP	
09/28/04	Light brown, moist, silty sand, trace clay (SM-S)	10-10.5	12" no groundwater encountered	SP	

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

DATE	SOIL DESCRIPTION	DEPTH (FEET)	REMARKS	TESTS	NOTES
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	0-1	12" no groundwater encountered	SP	
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	1-1.5	12" no groundwater encountered	SP	
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	1-1.5	12" no groundwater encountered	SP	
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	1-1.5	12" no groundwater encountered	SP	
09/28/04	Dark brown, moist, silty sand, trace clay (SM-S)	1-1.5	12" no groundwater encountered	SP	



OWNER/DEVELOPER
 WILHELM BUSINESS ENTERPRISES, L.L.C.
 10979 GUILFORD ROAD, SUITE A
 ANNAPOLIS JUNCTION, MD 20701
 C/O DIANNA WILHELM 443-661-1400

PREPARED BY:
 HUMAN & ROHDE, INC.
 512 VIRGINIA AVENUE
 TOWSON, MARYLAND 21286
 PHONE: (410) 825-3885

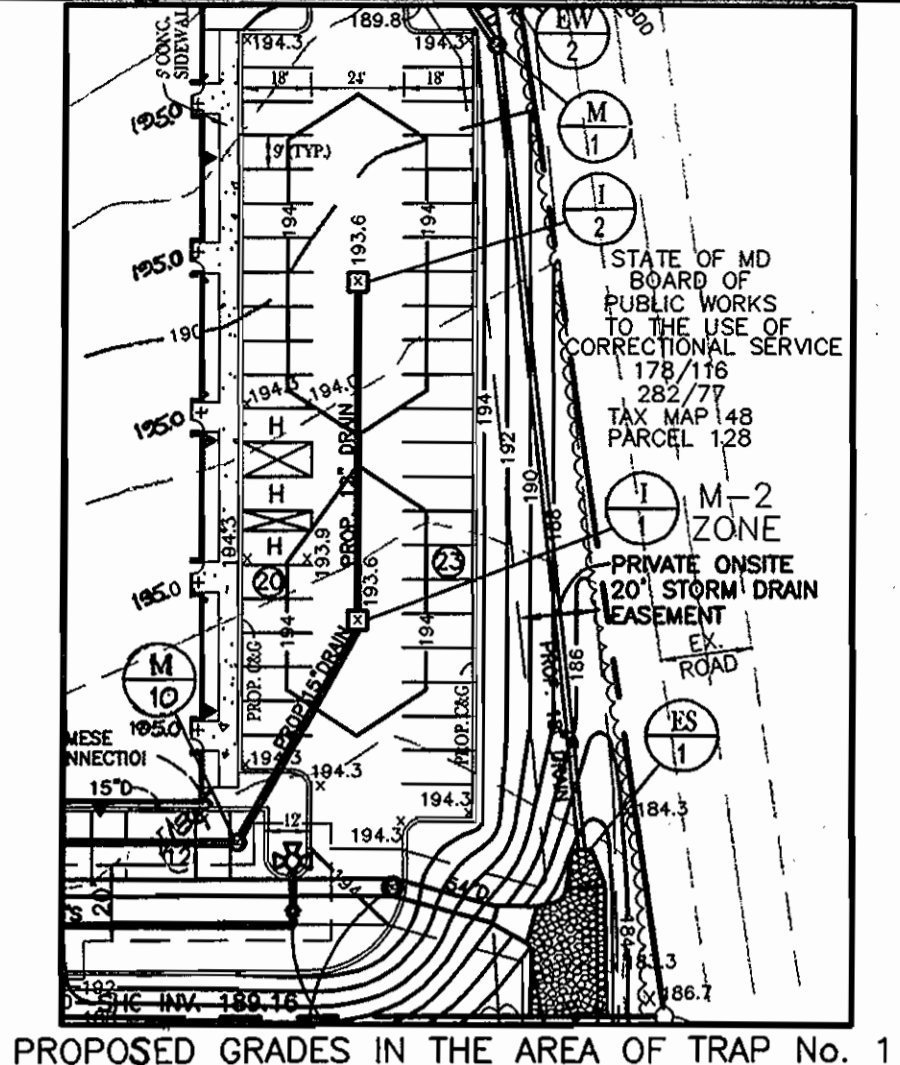
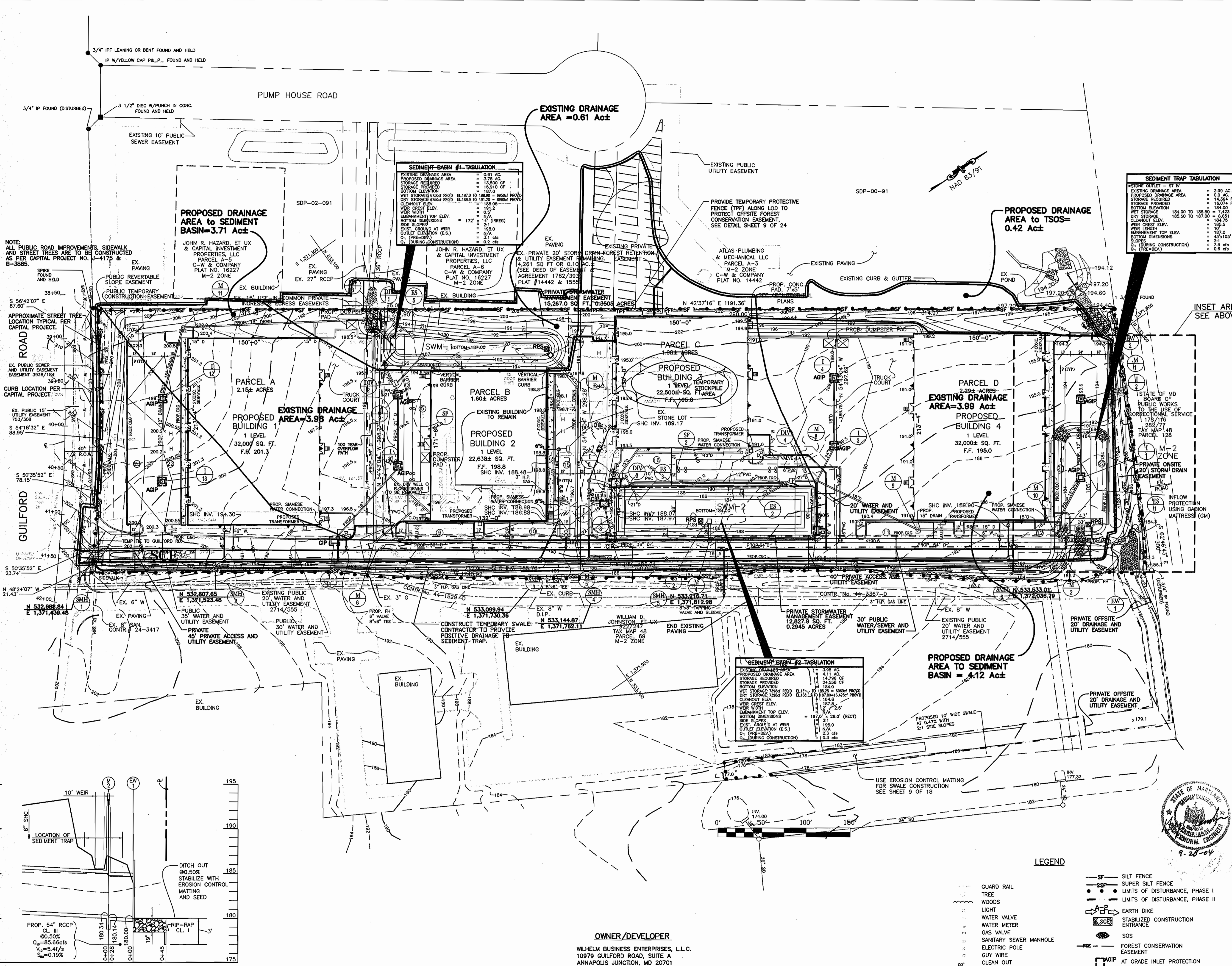
Date	No	Revision Description
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>Mark Dammann</i>		11/9/04
CHIEF-DEVELOPMENT ENGINEERING DIVISION		DATE
<i>Cathy Stambler</i>		11/23/04
CHIEF-DIVISION OF LAND DEVELOPMENT		DATE
<i>Mark Drayton</i>		11/23/04
DIRECTOR		DATE

ANNAPOLIS JUNCTION BUSINESS PARK
 PARCELS A-D
 TAX MAP 48 GRID 14 PARCEL 120
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS
 32 WEST ROAD
 TOWSON, MARYLAND 21204
 (410) 823-8070

FOREST STAND DELINEATION PLAN

Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Drn By	M.J.R.	Date	JULY 19, 2004	DRAWING NO	24 OF 24
Chk By	J.C.R.	Approved			



NOTE: TREES, SHRUBS, OR OTHER WOODY VEGETATION WILL NOT BE ALLOWED WITHIN 25' OF THE INLET STRUCTURE IN THE POOL AREA, AND NOT ALLOWED ON OR WITHIN 15' OF ANY PORTION OF THE EMBANKMENT.

Date	No.	Revision Description

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT IS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Mary Seaton
 SIGNATURE OF ENGINEER
 9-25-04
 DATE

BY THE DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Dianna Wilhelm
 SIGNATURE OF DEVELOPER
 9-25-04
 DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

Joan Meyer
 U.S. NATURAL RESOURCES CONSERVATION SERVICE
 DATE 11/1/04

THIS DEVELOPMENT PLAN IS AS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John Salty
 HOWARD S.C.D.
 DATE 11/1/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chris Williams
 CHIEF-DEVELOPMENT ENGINEERING DIVISION
 DATE 11/1/04

Crista Kammers
 CHIEF-DIVISION OF LAND DEVELOPMENT
 DATE 11/23/04

Dianna Wilhelm
 DIRECTOR
 DATE 11/24/04

ANNAPOLIS JUNCTION BUSINESS PARK
 PARCELS A-D
 TAX MAP 48 GRID 14 PARCEL 120
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

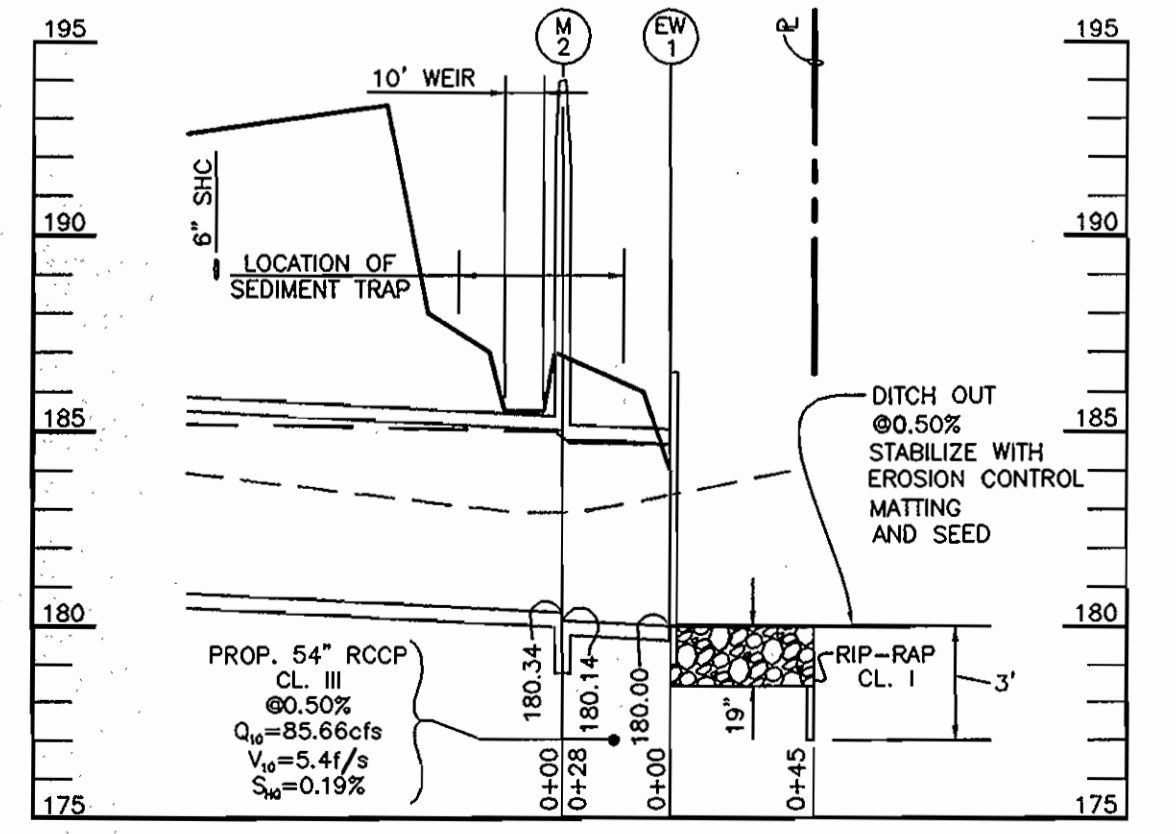
CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS
 32 WEST ROAD
 TOWSON, MARYLAND 21284
 (410) 823-8070

EROSION AND SEDIMENT CONTROL PLAN

Des By	G.L.	Scale	1"=50'	Proj No	23249.00
Dn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	7 OF 24
Chk By	Approved				

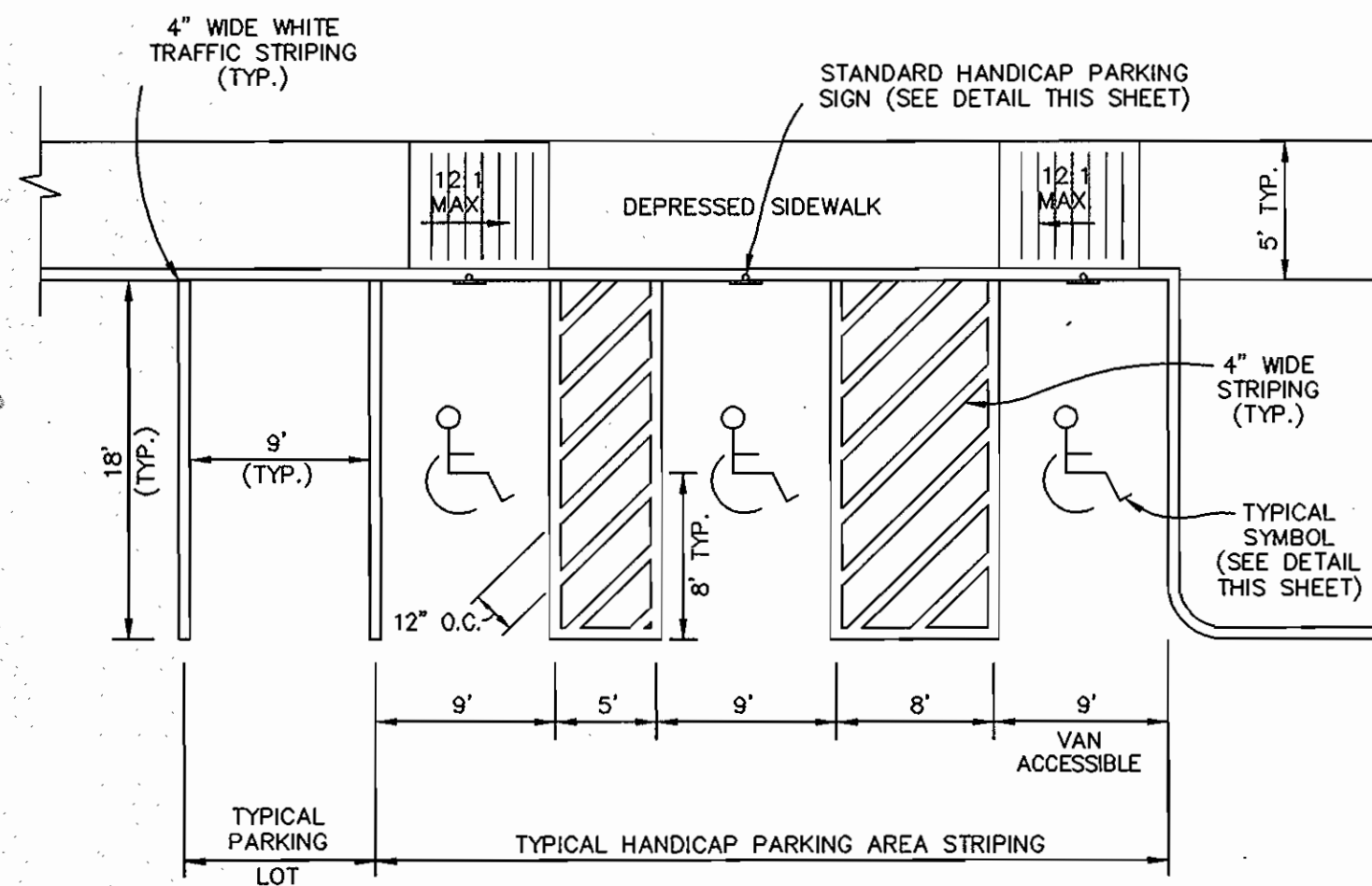


- LEGEND**
- SF - SILT FENCE
 - SSP - SUPER SILT FENCE
 - - LIMITS OF DISTURBANCE, PHASE I
 - - LIMITS OF DISTURBANCE, PHASE II
 - - EARTH DIKE
 - - WATER VALVE
 - - WATER METER
 - - GAS VALVE
 - - SANITARY SEWER MANHOLE
 - - ELECTRIC POLE
 - - GUY WIRE
 - - CLEAN OUT
 - - FOREST CONSERVATION EASEMENT
 - - PROPOSED DRAINAGE AREA
 - - EXISTING DRAINAGE AREA
 - - TEMPORARY F...OTECTIVE FENCE
 - - AGIP AT GRADE INLET PROTECTION



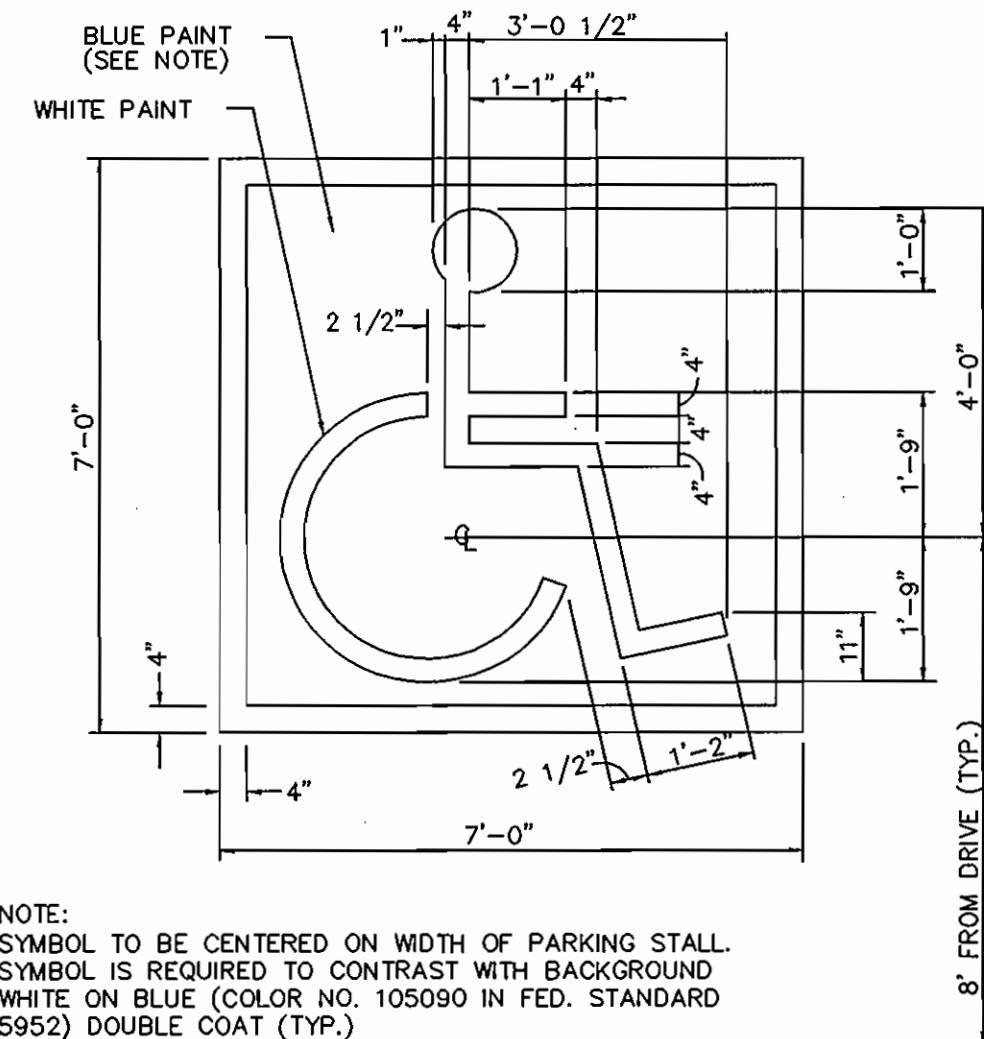
PROFILE SHOWING LOCATION OF SEDIMENT TRAP AND PIPE
 SCALE: 1"=40' HORIZ.
 1"=4' VERT.

OWNER/DEVELOPER
 WILHELM BUSINESS ENTERPRISES, L.L.C.
 10979 GUILFORD ROAD, SUITE A
 ANNAPOLIS JUNCTION, MD 20701
 C/O DIANNA WILHELM 443-661-1400



TYPICAL STRIPING DETAILS FOR PARKING AND HANDICAP SPACES

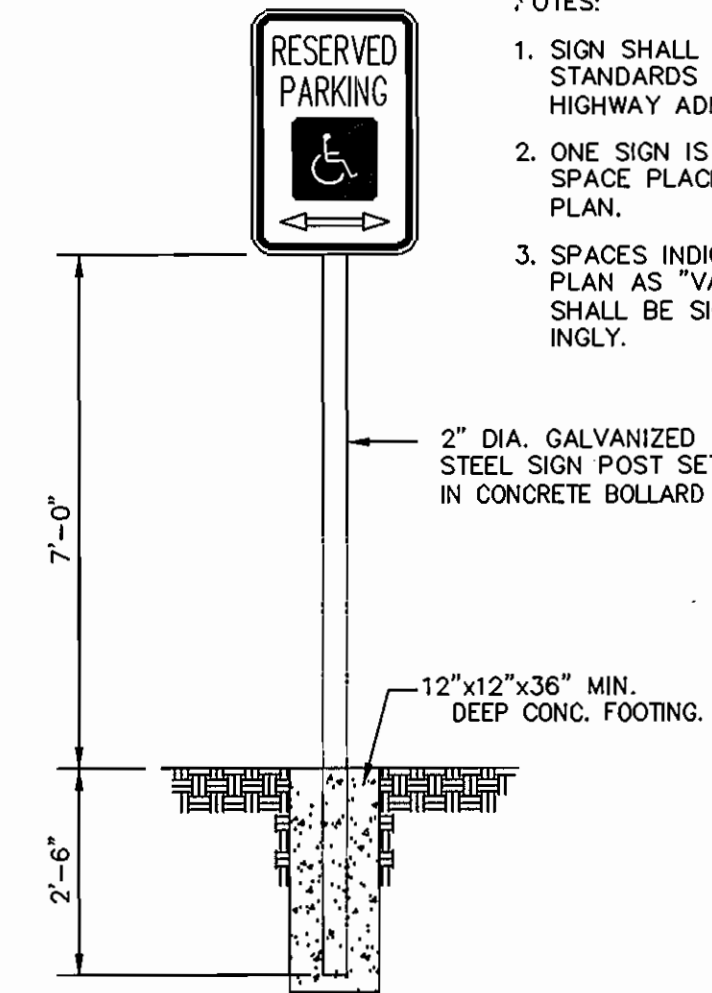
N.T.S.



NOTE: SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND WHITE ON BLUE (COLOR NO. 105090 IN FED. STANDARD 5952) DOUBLE COAT (TYP.)

PAINTED HANDICAP PARKING SYMBOL

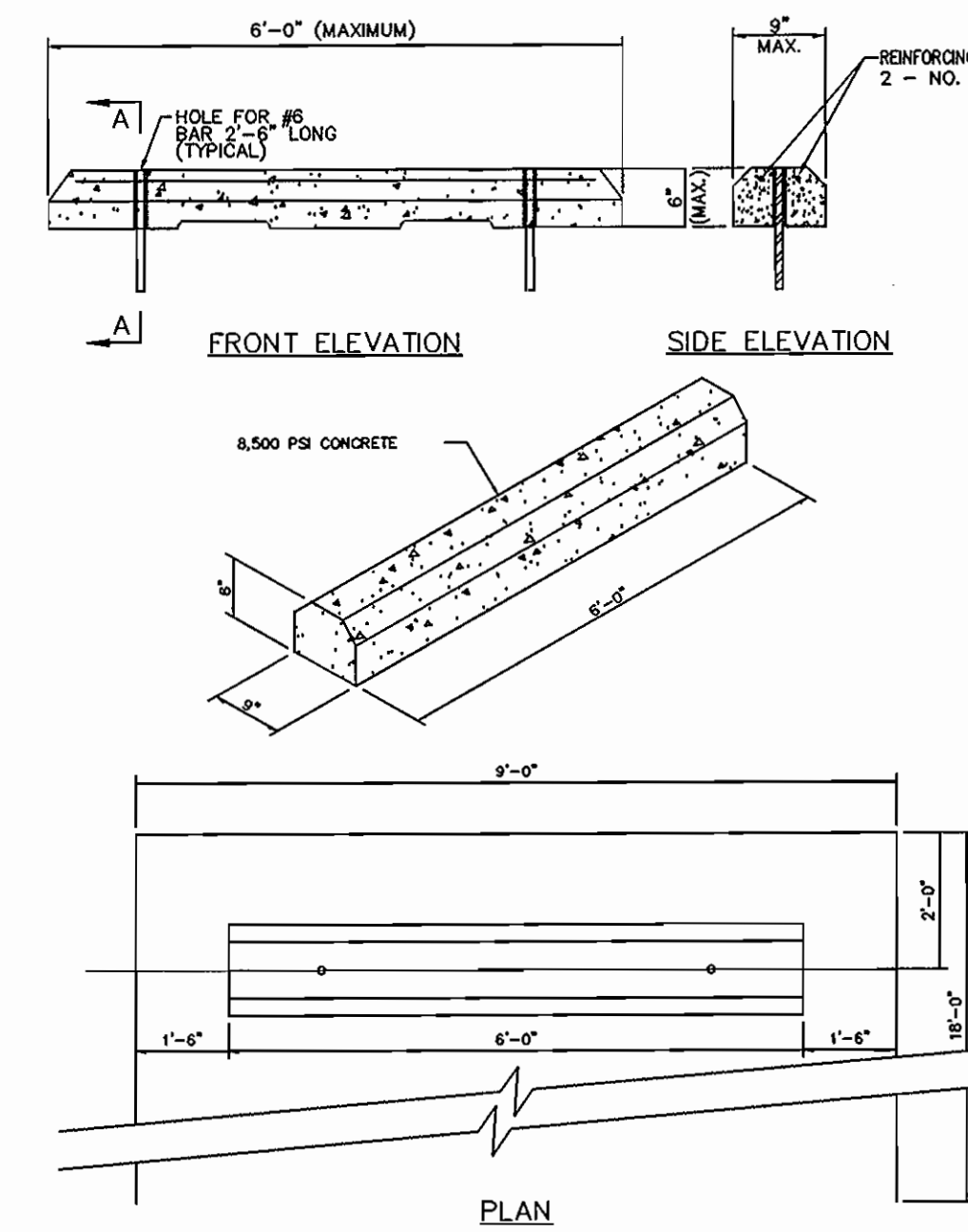
N.T.S.



- NOTES:
- SIGN SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION.
 - ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON PLAN.
 - SPACES INDICATED ON SITE PLAN AS "VAN" ACCESSIBLE SHALL BE SIGNED ACCORDINGLY.

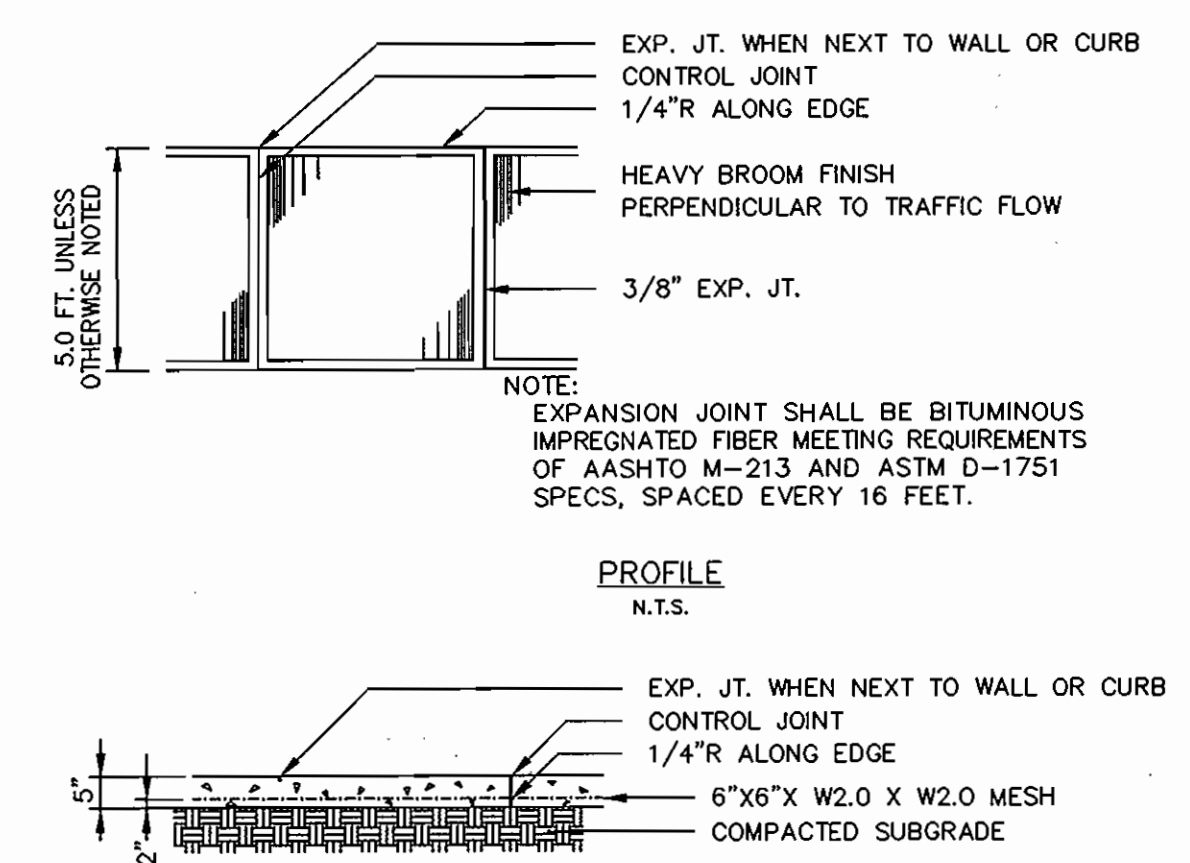
HANDICAP PARKING SIGN DETAIL

N.T.S.



PRECAST CONCRETE WHEEL STOP

N.T.S.



PROFILE

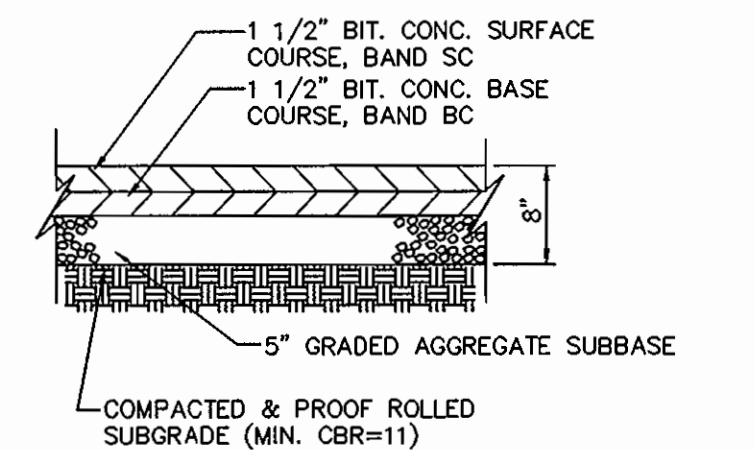
N.T.S.

SECTION

N.T.S.

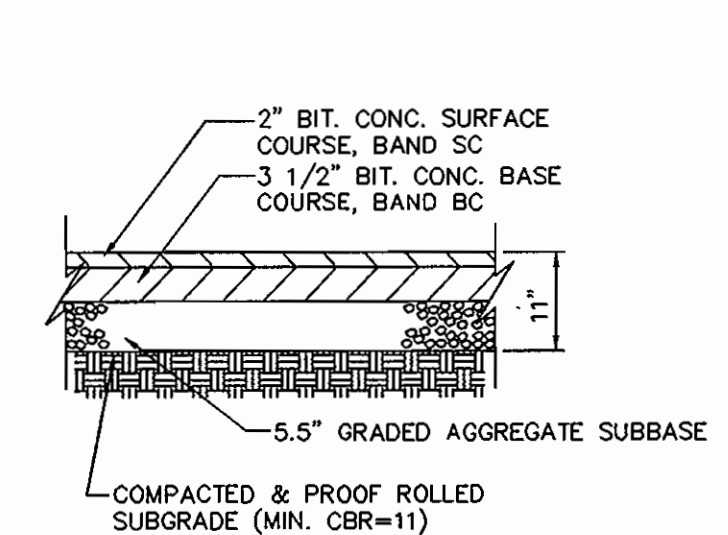
CONCRETE WALK

N.T.S.



MODIFIED PAVING DETAIL

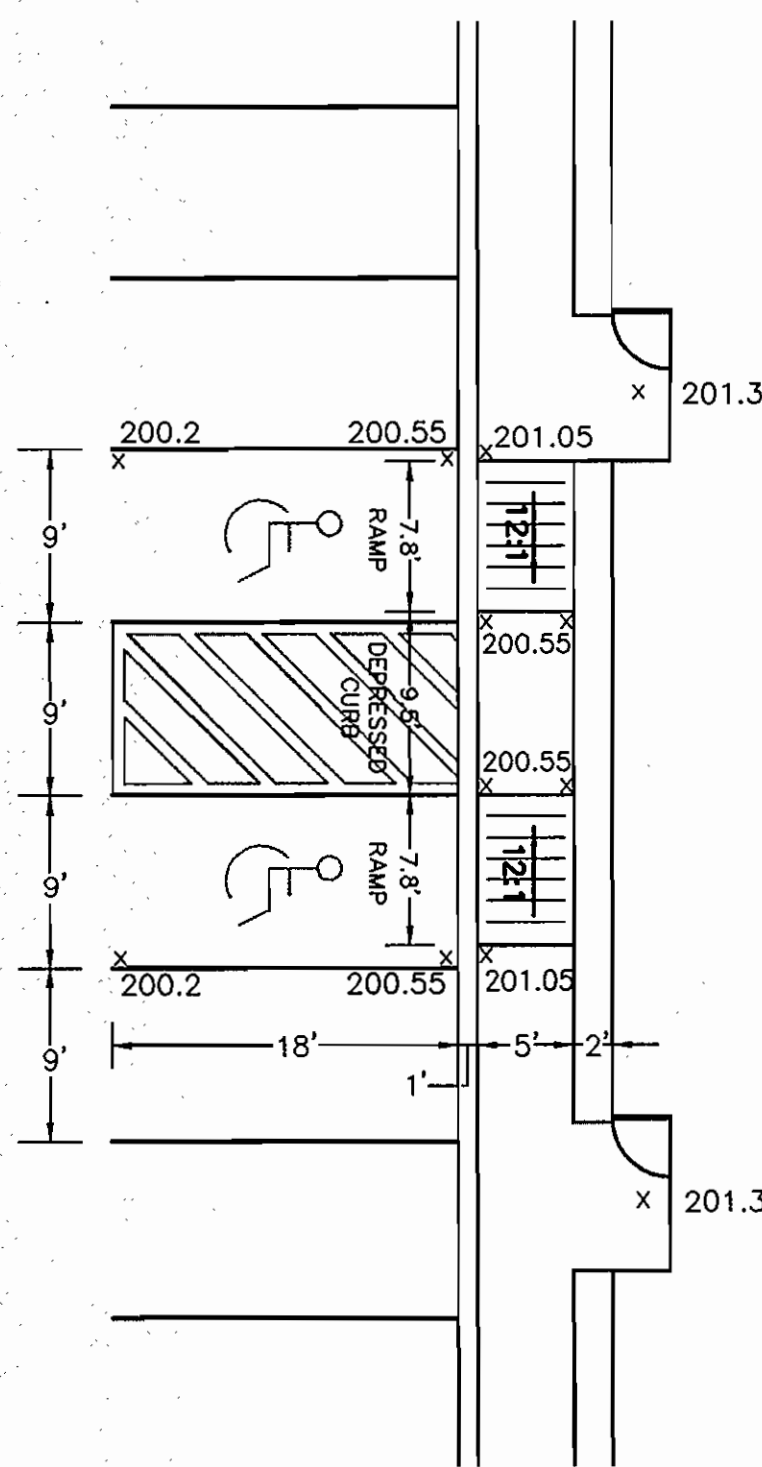
(FOR USE AS DIRECTED IN PASSENGER VEHICLE PARKING AREAS ONLY)



TYPICAL PAVING DETAIL

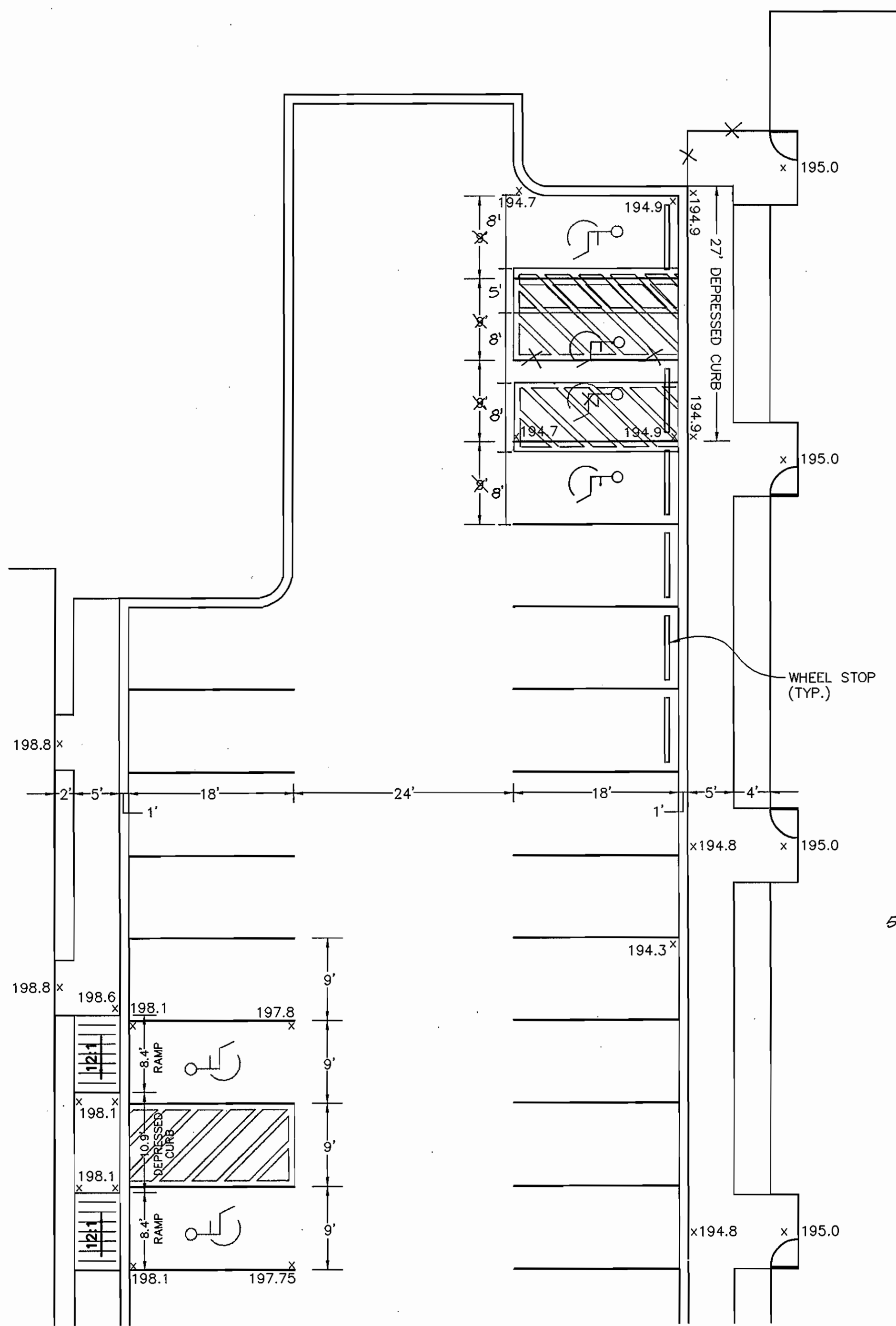
N.T.S.

NOTE: PAVING SECTIONS ABOVE ARE AS RECOMMENDED BY ECS, LTD. CONSULTING ENGINEERS IN A REPORT DATED 11/12/01.



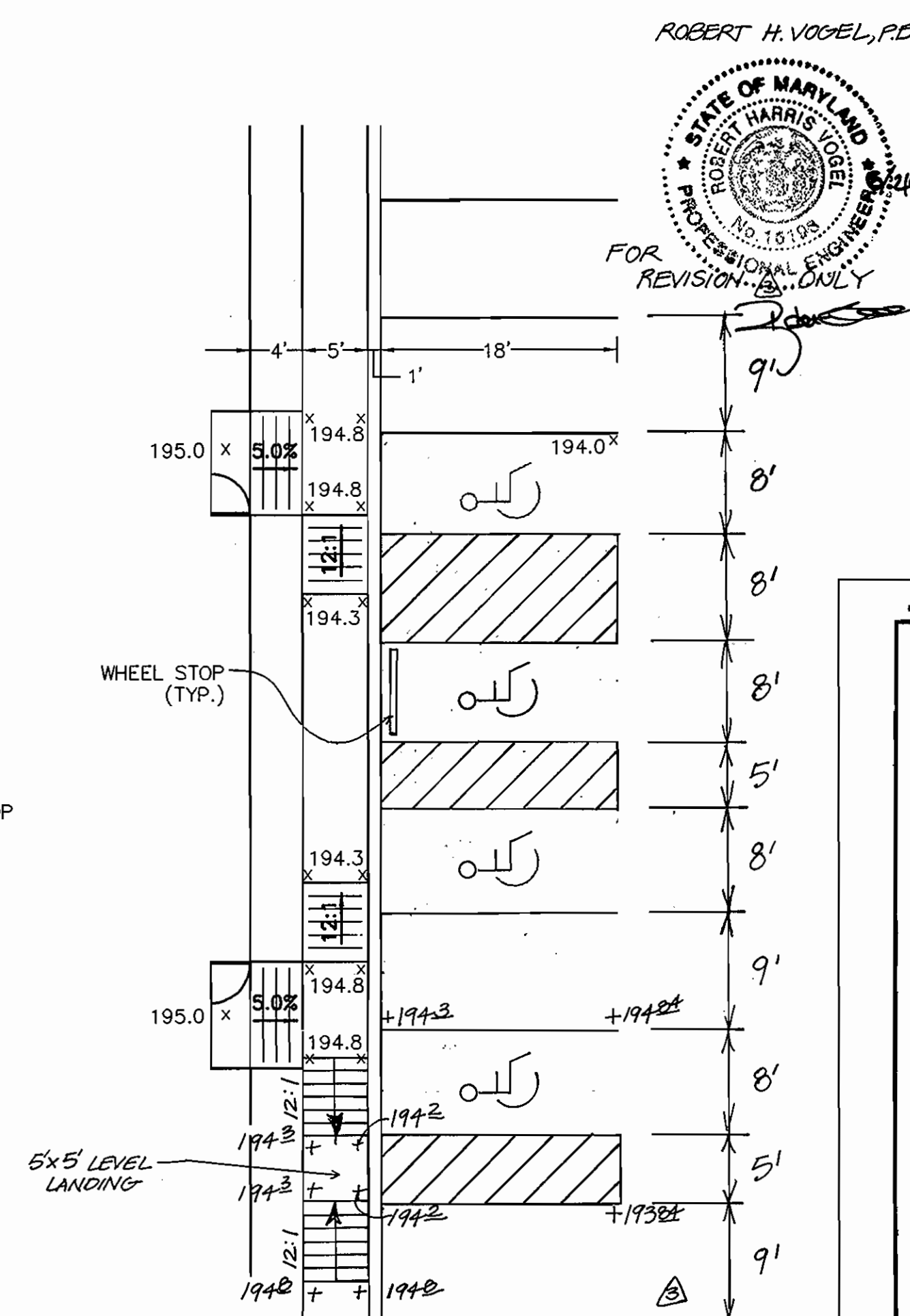
HANDICAP PARKING DETAIL PARCEL A

SCALE: 1" = 10'



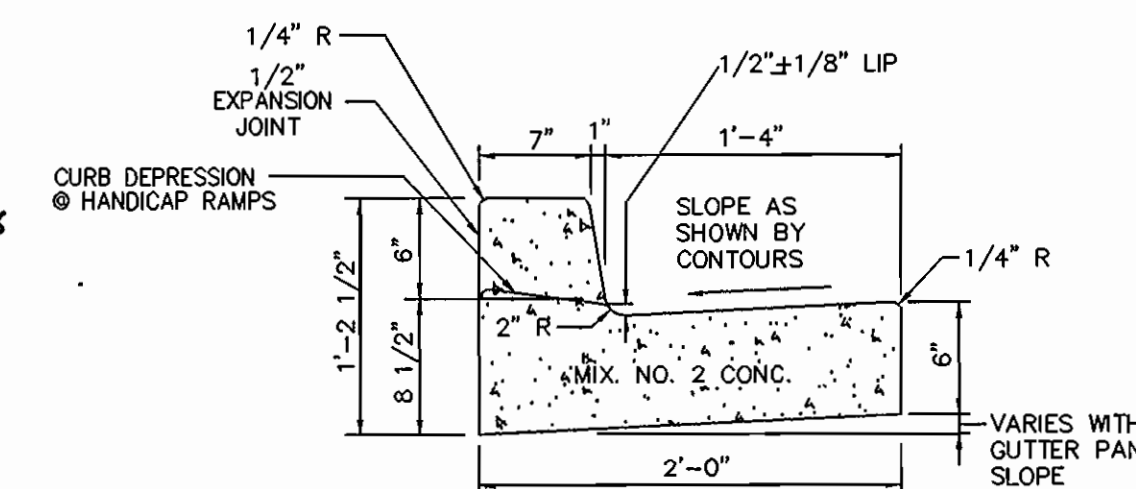
HANDICAP PARKING DETAIL - PARCELS B & C

SCALE: 1" = 10'



HANDICAP PARKING DETAIL PARCEL D

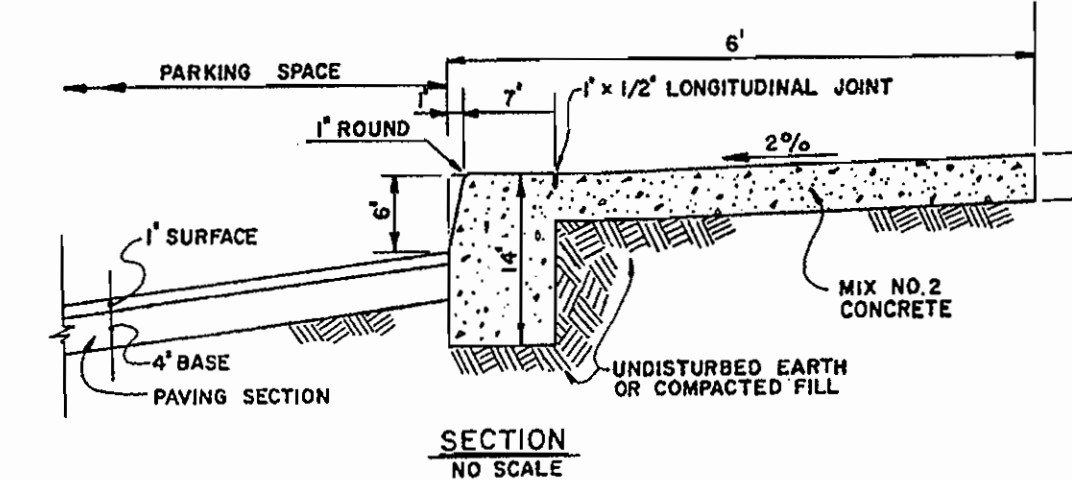
SCALE: 1" = 10'



CURB & GUTTER DETAIL

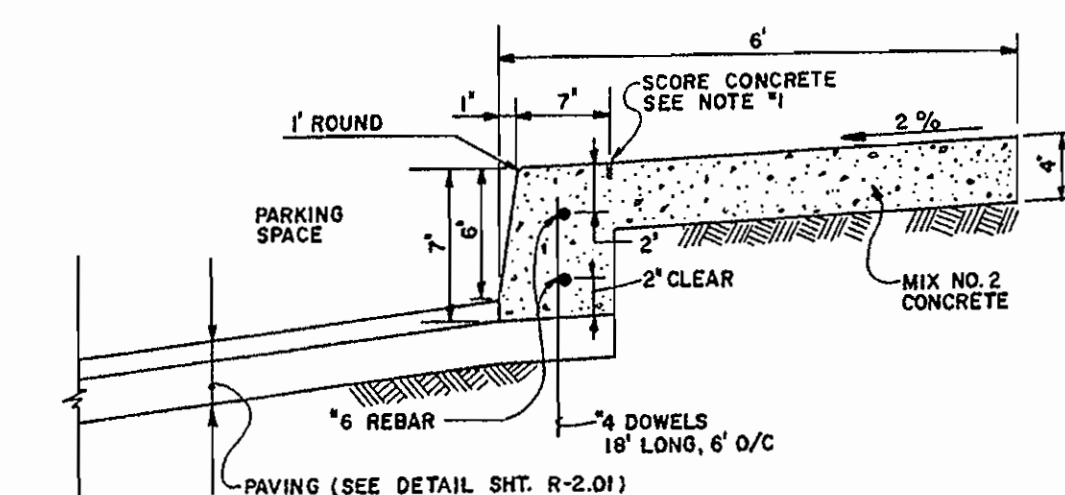
N.T.S.

- NOTES:
- LONGITUDINAL JOINT BETWEEN SIDEWALK AND CURB SHALL BE CONTINUOUS AND TO A DEPTH OF 1/4 THE SIDEWALK THICKNESS OR 1" MAX. LATITUDINAL JOINTS SHALL RUN FROM BACK EDGE OF SIDEWALK, CONTINUOUS TO THE BOTTOM FACE OF CURB TO A DEPTH OF 1/4" AND SPACED 5' APART.
 - PROVIDE 1/2" EXPANSION JOINTS AT 15' INTERVALS. IN LATITUDINAL JOINTS TO FULL CROSS-SECTION.



SECTION

NO SCALE



ALTERNATE SECTION

NO SCALE

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: [Signature]
Chief - Bureau of Engineering

MONOLITHIC CURB & SIDEWALK
PRIVATE PARKING AREA

R 3.07

4/21/08	3	REVISE PARKING TABULATION, ADD VETERINARIAN FACILITY TO BLDG D.
Date	No	Revision Description
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
[Signature]		11/24/04 DATE
[Signature]		11/24/04 DATE
[Signature]		11/29/04 DATE

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

SITE DETAILS

Des By	G.L.	Scale	AS SHOWN	Proj No	23249.00
Drn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	4 OF 24
Chk By		Approved			

SDP-04-98

NOTE:
ALL PUBLIC ROAD IMPROVEMENTS, SIDEWALK
AND STREET TREES ARE TO BE CONSTRUCTED
AS PER CAPITAL PROJECT NO. J-41758 &
B-3885.

JOHN R. HAZARD, ET UX
& CAPITAL INVESTMENT
PROPERTIES, LLC
PARCEL A-5
C-W & COMPANY
PLAT NO. 16227
M-2 ZONE

JOHN R. HAZARD, ET UX
& CAPITAL INVESTMENT
PROPERTIES, LLC
PARCEL A-6
C-W & COMPANY
PLAT NO. 16227
M-2 ZONE

PAVING
EX. PRIVATE 20' STORM DRAIN FOREST RETENTION
& UTILITY EASEMENT REMAINING
4,261 SQ. FT. OR 0.10 AC.
(SEE DEED OF EASEMENT &
ACREEMENT 1762/333)
PLAT #14442 & 15567

ATLAS-PLUMBING
& MECHANICAL LLC
PARCEL A-3
M-2 ZONE
C-W & COMPANY
PLAT NO. 14442

APPROXIMATE STREET TREE
LOCATION TYPICAL PER
CAPITAL PROJECT.

EX. PUBLIC SEWER
AND UTILITY EASEMENT
EASEMENT 3938/184

EX. PUBLIC 15'
UTILITY EASEMENT
753/308

EX. PUBLIC 15'
UTILITY EASEMENT
753/308

EX. PAVING
CONTR. # 24-3417

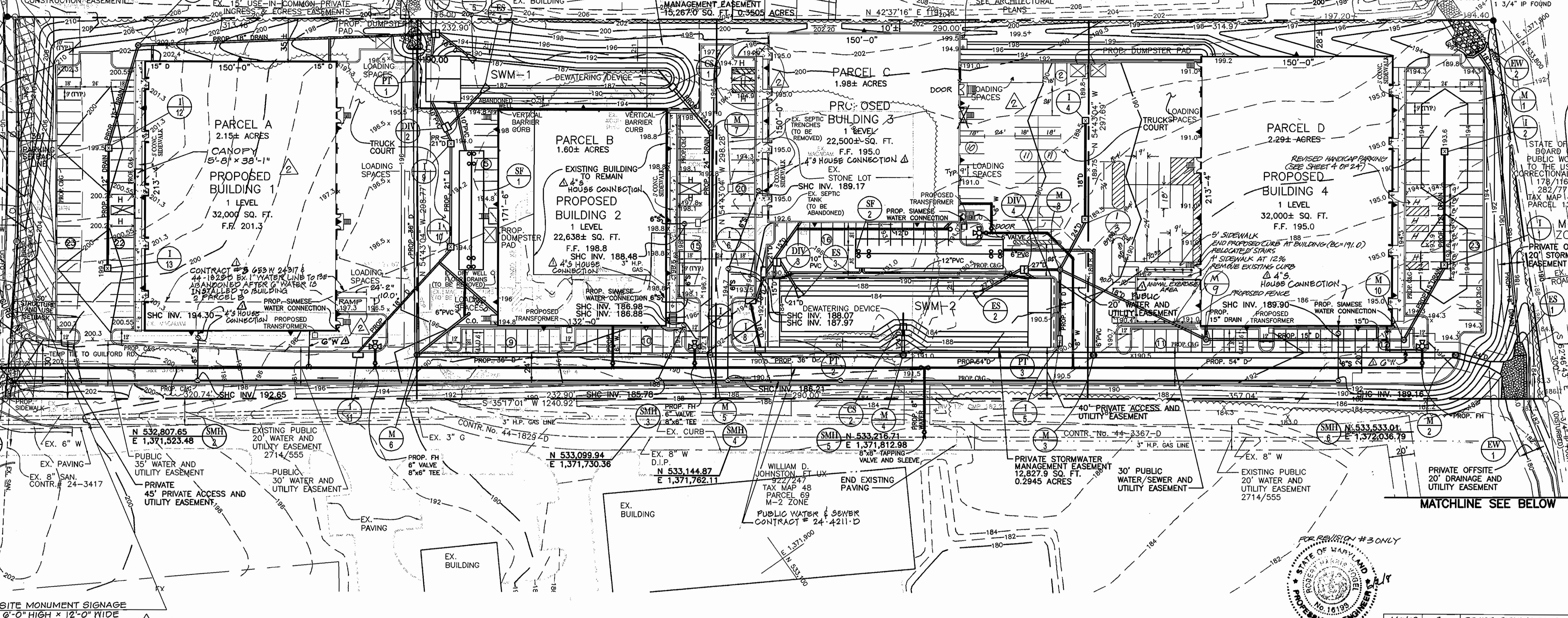
EX. 8" SAN.
CONTR. # 24-3417

EX. PAVING
CONTR. # 24-3417

EX. 8" SAN.
CONTR. # 24-3417

EX. PAVING
CONTR. # 24-3417

EX. 8" SAN.
CONTR. # 24-3417



SITE MONUMENT SIGNAGE
6'-0" HIGH X 12'-0" WIDE

THE FOLLOWING MINIMUM STRUCTURE AND USE SETBACK REQUIREMENTS
SHALL BE OBSERVED:

A. FROM ANY EXTERNAL PUBLIC STREET RIGHT OF WAY.....50 FEET
EXCEPT FOR FENCES AND PARKING USES.....30 FEET

B. FROM ANY INTERNAL PUBLIC STREET RIGHT OF WAY.....50 FEET

C. FROM ANY RESIDENTIAL DISTRICT.....150 FEET
HOWEVER, IF THE RESIDENTIAL DISTRICT IS SEPERATED FROM THE
M-2 DISTRICT BY A PUBLIC STREET RIGHT OF WAY, ONLY THE
SETBACKS FROM A PUBLIC STREET RIGHT OF WAY SHALL APPLY.

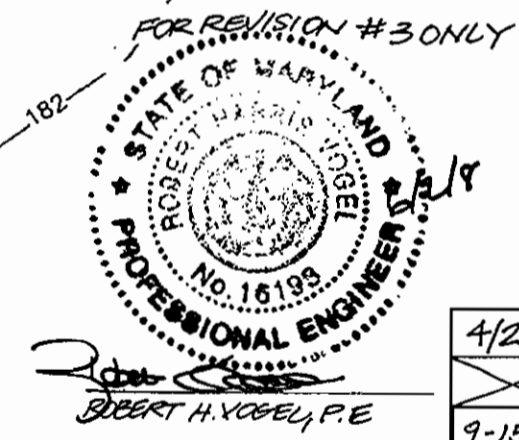
OWNER/DEVELOPER
WILHELM BUSINESS ENTERPRISES, L.L.C.
10979 GUILFORD ROAD, SUITE A
ANNAPOLIS JUNCTION, MD 20701
C/O DIANNA WILHELM 443-661-1400

NOTE:
WATER METER TO BE PRIVATE
AND INSIDE OF BUILDING.

NOTE:
OFFSITE GRADING FOR DITCH AUTHORIZED BY
OWNER OF PROPERTY AS PER LETTER DATED

LEGEND

- ⊕ POWER POLE
- ⊕ GUY WIRE
- ⊕ WATER VALVE
- ⊕ GAS VALVE
- ⊕ FIRE HYDRANT
- ⊕ HAND BOX
- ⊕ TREE
- ⊕ COMPUTED
- ⊕ LIGHT POLE
- ⊕ EX. WOODS
- ⊕ EX. WATER
- ⊕ EASEMENT
- ⊕ EX. UG-FO
- ⊕ EX. GAS
- ⊕ EX. CURB
- ⊕ EX. SAN
- ⊕ PROP. CURB
- ⊕ SOILS LIMITS
- ⊕ PROPOSED LIGHTS
- ⊕ PROPOSED STRIPING



Date	No	Revision Description
4/2/08	5	REVISE PARKING TABULATION AND VETERINARIAN FACILITY TO BLDG-D
9-15-08	6	Added parking space; stripping to Parcel "C"; added Ramp, canopy and a site monument sign on Parcel "A"
2/4/09	7	PUBLIC COMMENTS WATER & SEWER

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF-DEVELOPMENT ENGINEERING DIVISION
Dianna Wilhelm 11/9/04
CHIEF-DIVISION OF LAND DEVELOPMENT
Frank Vogel 11/23/04
DIRECTOR 11/29/04

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

SITE
PLAN

Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Drn By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	2 OF 24
Chk By		Approved			

ANNAPOLIS JUNCTION BUSINESS PARK

SITE ANALYSIS

- TOTAL SITE AREA: WITHOUT ROAD R/W: 8.024 AC.
- TOTAL NUMBER OF PARCELS: 4. PARCEL "A" 2.150 AC., PARCEL "B" 1.596 AC., PARCEL "C" 1.984 AC., PARCEL "D" 2.294 AC.
- DEED REFERENCE: 07671/212 F-04-107, P.N. 17018
- THE SUBJECT PROPERTY IS ZONED M2 PER THE FEBRUARY 2, 2004 COMPREHENSIVE ZONING PLAN.
- TAX MAP: 48 GRID: 14 PARCEL: 120 ELECTION DISTRICT: 6
- PARKING TABULATION:

PROVIDED:
240 SPACES (INCLUDING // HANDICAP SPACES)

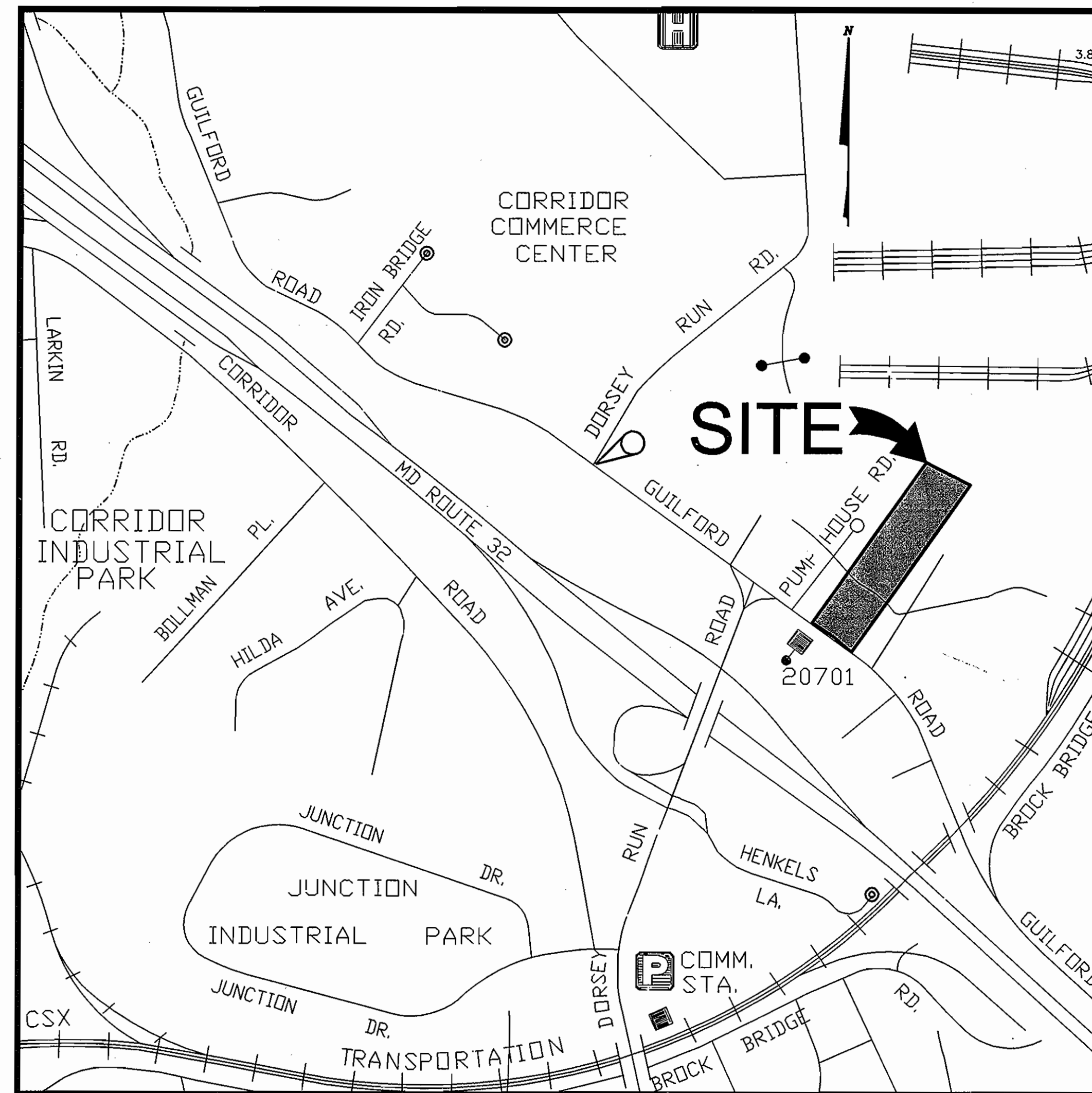
- SITE AREA TABULATION: (WITHOUT ROAD R/W)
 - A. TOTAL PARCEL AREA: 8.024 AC. (PARCELS A-D) = 36.8 = 34.0
 - B. TOTAL BUILDING AREA: 2,505 AC. 31.2% COVERAGE = 10.9
 - C. PARCEL AREA: PARCEL "A" 2.150 AC., PARCEL "B" 1.596 AC., PARCEL "C" 1.984 AC., PARCEL "D" 2.294 AC. = 44.9 = 45 REQ'D
 - D. BUILDING AREA:
 - PARCEL "A" OFFICE - 11,750 SF @ 3.3/1000 S.F. = 35.3
 - WAREHOUSE - 20,250 SF @ 0.5 P.S./1000 S.F. = 40.5
 - PARCEL "B" OFFICE - 9,500 SF @ 3.3/1000 S.F. = 28.8
 - WAREHOUSE - 13,138 SF @ 0.5 P.S./1000 S.F. = 26.3
 - PARCEL "C" OFFICE - 9,500 SF @ 3.3/1000 S.F. = 28.8
 - WAREHOUSE - 13,138 SF @ 0.5 P.S./1000 S.F. = 26.3
 - PARCEL "D" OFFICE - 11,700 SF @ 3.3/1000 S.F. = 35.1
 - WAREHOUSE - 13,100 SF @ 0.5 P.S./1000 S.F. = 26.2
 - VETERINARY ORTHOPEDIC FACILITY 10,000 SF @ 2.5/1000 SF = 40.0
 - * WAREHOUSE INCLUDES 1,100 SF MEZZANINE = 2.74
 - PARKING REQUIRED: 21.34 = 62 REQ'D P.S. 235

NOTE:
THERE IS NO MANUFACTURING OR ASSEMBLY IN THE WAREHOUSE AREAS.
ANY FUTURE CHANGES WILL HAVE TO BE ADDRESSED IN THE HOWARD COUNTY RED LINE REVISION PROCESS FOR APPROVAL.

- OWNER:
WILHELM BUSINESS ENTERPRISES, LLC
10979 GUILFORD ROAD
ANNAPOLIS JUNCTION, MARYLAND 20701
- PROPOSED USE IS OFFICE AND WAREHOUSE.
- THE STORMWATER MANAGEMENT FACILITY IS TO CONSIST OF SWM BASINS, UNDERGROUND SAND FILTER FOR WATER QUALITY, CHANNEL PROTECTION AND 10 YEAR STORM VOLUME. STORMWATER MANAGEMENT FOR THE IMPROVEMENTS SHOWN ON THIS PLAN ARE BASED ON MEASURED IMPERVIOUS AREAS USING REDEVELOPMENT CRITERIA. ANY ADDITIONAL CONSTRUCTION ON THIS SITE SHALL REQUIRE FURTHER EVALUATION OF THE STORMWATER MANAGEMENT PROVISIONS.
- TOTAL DISTURBED AREA = 349,351 S.F. = 8.02 AC±
- PROPOSED BUILDINGS:
 - PARCEL "A", BUILDING 1 - 32,000 SF, 1-LEVEL, 34.2% BUILDING COVERAGE
 - PARCEL "B", BUILDING 2 - 22,638 SF, 1-LEVEL, 32.6% BUILDING COVERAGE
 - PARCEL "C", BUILDING 3 - 22,500 SF, 1-LEVEL, 28% BUILDING COVERAGE
 - PARCEL "D", BUILDING 4 - 32,000 SF, 1-LEVEL, 32% BUILDING COVERAGE
- THERE ARE NO WETLANDS/WETLANDS BUFFERS WITHIN THE LIMIT OF DISTURBANCE SHOWN FOR DEVELOPMENT ON THIS SITE PLAN.

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARD AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF UTILITIES AT (410) 313-4900 AT LEAST FIVE WORKING DAYS PRIOR TO STARTING ANY EXCAVATION WORK.
- SITE AREA: 8.024 AC. ±
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- EXISTING TOPOGRAPHY REFLECTS FIELD SURVEY BY CENTURY ENGINEERING
- COORDINATES AND BEARING ARE BASED UPON THE MD STATE PLAN SYSTEM (NAD 83).
- EXISTING WATER AND SEWER SHOWN IS PUBLIC.
- STORMWATER MANAGEMENT: QUANTITY AND QUALITY MANAGEMENT IS PROVIDED BY ON-SITE FACILITIES. THE FACILITIES CONSIST OF UNDERGROUND SAND FILTER FOR WATER QUALITY AND DRY POND FOR THE CPV VOLUME AND 10 YEAR STORM QUANTITY CONTROL.
- ALL EXISTING WATER AND SEWER IS PER CONTRACT #S: 653W, 24317 & 44-1829D.
- NO EXISTING PUBLIC STORM DRAIN ON SITE.
- ALL CURB RADI IS 5' UNLESS NOTED OTHERWISE.
- UTILITY INFORMATION TAKEN FROM APPROVED FINAL CONSTRUCTION PLANS FOR DEVELOPMENT CONTRACT NO. 44-1829-D, 44-3367-D, 24-3417 & 653-W.
- ALL SIDEWALKS SHALL BE 5' WIDE EXCEPT WHERE DIMENSIONED OTHERWISE.
- CONTRACTOR SHALL UTILIZE PVC FOR ALL SEWER HOUSE CONNECTIONS. CONTRACTOR SHALL UTILIZE D.I.P. (CL. 51) FOR WATER SERVICE CONNECTION. (FIRE & DOMESTIC)
- USE HOWARD COUNTY TRENCH BEDDING CLASS "C" FOR STORM DRAINS.
- PAVED AREAS INDICATED ARE PRIVATE EXCEPT AS NOTED.
- PROJECT BACKGROUND: SEE DEPT. OF PLANNING & ZONING FILE NUMBERS: SDP-80-073, WP-04-073, F-04-107
- ALL PROPOSED RAMP SHALL BE IN ACCORDANCE WITH CURRENT A.D.A. STANDARDS. MAXIMUM SIDEWALK CROSS SLOPE SHALL BE TWO PERCENT. PROVIDE A FIVE-FOOT BY FIVE-FOOT LEVEL (2 PERCENT MAX.) LANDING AT THE TOP AND BOTTOM OF ALL RAMP AND BUILDING ENTRANCES AND EXITS.
- ALL PROPOSED SITE UTILITIES ARE TO TERMINATE 5' FROM THE BUILDING. THE BUILDING PLUMBER SHALL CONNECT TO AND EXTEND THESE UTILITIES TO THE INSIDE OF THE BUILDING.
- FOR GAS, TELEPHONE AND ELECTRIC ROUTING, SEE SEPARATE PLAN.
- TOPOGRAPHY OBTAINED BY CENTURY ENGINEERING ON SEPTEMBER, 2003
- THE FOREST CONSERVATION OBLIGATION OF 1.49 ACRES OF REFORESTATION FOR THIS PROJECT HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$32,452.20 TO THE HO. CO. FOREST CONSERVATION FUND.
- THE LANDSCAPE SURETY IS INCLUDED IN THE DEVELOPERS AGREEMENT. THE SURETY IS IN THE AMOUNT OF \$39,360.
- LIGHTING FIXTURE DETAILS SHOWN ON SHEET 21 OF 24.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION REGULATIONS.
- ALL OUTDOOR LIGHTING ON THIS SITE SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.
- THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT (410)313-1880.
- WP-04-073 APPROVED ON 1-6-04 FOR SUBDIVISION SECTIONS 16.144(a) AND (F) TO NOT BE REQUIRED TO SUBMIT SKETCH AND PRELIMINARY PLANS FOR A MAJOR (NON RESIDENTIAL) SUBDIVISION. CONDITIONS AS FOLLOWS:
 - THE PROPOSED PARCELS SHALL HAVE SHARED VEHICULAR ACCESS AND PARKING AND A SHARED VEHICULAR ACCESS AND PARKING EASEMENT INDICATED ON THE FUTURE FINAL PLAT FOR THE PROPERTY.
 - THE PROPOSED PARKING LOTS AND PARKING LOT ISLANDS SHALL COMPLY WITH THE DESIGN REQUIREMENTS OF THE LANDSCAPE MANUAL.
 - A LOADING/UNLOADING FACILITY THAT COMPLIES WITH THE REQUIREMENTS OF ZONING REGULATIONS SECTION 133.F SHALL BE INDICATED FOR EACH BUILDING ON THE FUTURE SITE DEVELOPMENT PLAN(S) FOR THE PROPOSED PARCELS.
 - COMPLIANCE WITH THE WITH THE ENCLOSED HEALTH DEPARTMENT AND DIVISION OF ENVIRONMENTAL AND COMMUNITY PLANNING COMMENTS IS REQUIRED.
- ALL PUBLIC ROAD IMPROVEMENTS, SIDEWALK AND STREET TREES ARE TO BE CONSTRUCTED AS PER CAPITAL PROJECT NO. J-4175 & B-3885.



VICINITY MAP

SCALE: 1"=600'

BENCH MARK

48G4-HOWARD CO. SURVEY CONTROL, BRASS DISK SET
IN TOP OF CONC. MONUMENT S/E COR. OF
GUILFORD RD. & DORSEY RUN RD.
N 531519.243 E 1371653.850 EL. 206.647 FT.
48GB-N 532530.284 E 1370623.784

OWNER/DEVELOPER

WILHELM BUSINESS ENTERPRISES, L.L.C.
10979 GUILFORD ROAD, SUITE A
ANNAPOLIS JUNCTION, MD 20701
C/O DIANNA WILHELM 443-661-1400

FOR REVISION #3 ONLY



SHEET INDEX

SHEET NUMBER	DRAWING TITLE
1	COVER SHEET
2	SITE PLAN
3	SITE UTILITY PLAN
4	SITE DETAILS
5	STORM DRAIN PROFILES
6	STORM DRAIN PROFILES
7	EROSION AND SEDIMENT CONTROL PLAN
8	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
9	EROSION AND SEDIMENT CONTROL DETAILS
10	EROSION AND SEDIMENT CONTROL DETAILS
11	STORMWATER MANAGEMENT PLAN
12	STORMWATER MANAGEMENT NOTES AND DETAILS
13	STORMWATER MANAGEMENT DETAILS
14	STORMWATER MANAGEMENT DETAILS
15	STORMWATER MANAGEMENT PROFILES
16	STORMWATER MANAGEMENT PROFILES
17	STORMWATER VAULT DETAILS
18	VAULT DETAILS
19	VAULT DETAILS
20	DRAINAGE AREA MAP
21	BUILDING ELEVATIONS & OUTDOOR LIGHTING DETAIL
22	DEMOLITION PLAN
23	FINAL LANDSCAPING PLAN
24	FOREST STAND DELINEATION PLAN

Date	No	Revision Description
4/21/00	3	REVISE PARKING TABULATION; ADD VETERINARIAN FACILITY TO BLDG. D

Date	No	Revision Description
11/9/04		DATE
11/23/04		DATE
11/29/04		DATE

ANNAPOLIS JUNCTION BUSINESS PARK
PARCELS A-D
TAX MAP 48 GRID 14 PARCEL 120
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21284
(410) 823-8070

COVER SHEET

Des By	G.L.	Scale	1"=40'	Proj No	23249.00
Des By	E.B.D.	Date	JULY 19, 2004	DRAWING NO	1 OF 24
Chk By		Approved			

SDP-04-93

AS-BUILT

[Signature]
9-20-04