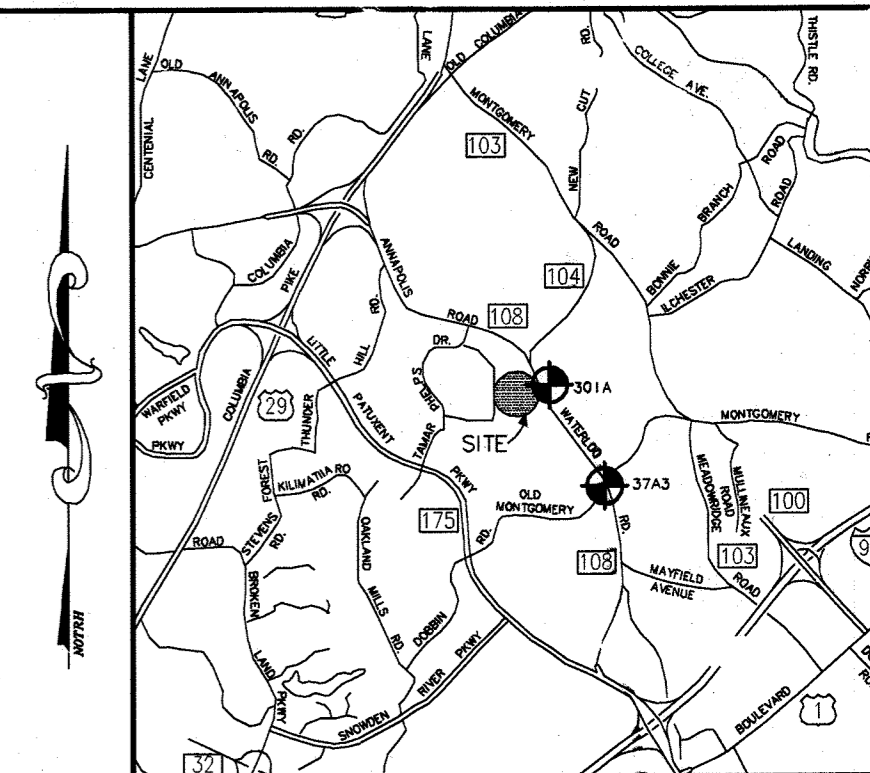


**GENERAL NOTES:**

1. THE TOPOGRAPHY SHOWN IS BASED UPON A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY WHITNEY, BAILEY, COX & MAGNANI, LLC IN OCT. 2002 AND REFLECTS SITE CONDITIONS AS OF THAT DATE.
2. HORIZONTAL COORDINATES AND DIRECTIONS SHOWN HEREON ARE REFERRED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM, NAD 83, AS DETERMINED FROM THE FOLLOWING HOWARD COUNTY CONTROL SURVEY MONUMENTS BY MEANS OF G.P.S. OBSERVATIONS AS PUBLISHED:  
# 301A : N 567,750.958 E 1,364,842.598 HO.CO.MON.& DISK  
# 37A3 : N 561,130.798 E 1,369,913.218 HO.CO.MON.& DISK
3. ELEVATIONS SHOWN HEREON ARE REFERRED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988 (NGVD 88) AS DETERMINED FROM THE FOLLOWING HOWARD COUNTY CONTROL SURVEY MONUMENTS BY MEANS OF G.P.S. OBSERVATIONS AS PUBLISHED:  
# 301A ELEV.= 499.130' HO.CO.MON.& DISK  
# 37A3 ELEV.= 384.934' HO.CO.MON.& DISK
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF ANY WORK.
5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES BEFORE COMMENCING ANY WORK. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE COST OF REPAIR OF ANY AND ALL DAMAGES WHICH OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES TO REMAIN.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" AT 1-800-257-7777 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION WORK.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY INVERTS AND CLEARANCES FROM NEW WORK PRIOR TO START OF ANY WORK.
8. ALL DISTURBED AREAS NOT STABILIZED WITH STRUCTURES, PAVING, AND PLANTINGS SHALL BE STABILIZED WITH FOUR INCHES OF TOPSOIL, SEED, MULCH, AND WATER TO ESTABLISH AN ADEQUATE GROWTH OF VEGETATION.
9. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS AND/OR THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
10. THE TOPS OF ALL FRAMES, GRATES, AND COVERS OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF CONTRACT AND/OR DISTURBANCE SHALL BE ADJUSTED TO THE NEW GRADES.
11. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES.
12. NUMERICAL DIMENSIONS AND ELEVATIONS SHOWN SHALL SUPERSEDE ANY DISCREPANCY IN THE SCALING ON THE DRAWINGS.
13. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
14. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
15. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
16. ALL EXTERIOR LIGHT FIXTURES SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS ON-SITE AWAY FROM ALL ADJOINING RESIDENTIAL USE PROPERTIES. OUTDOOR LIGHTING SHALL BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
17. EXISTING WATER IS PUBLIC AND BASED ON CONTRACT NO. 2785-D-W&S
18. EXISTING SEWER IS PUBLIC AND BASED ON CONTRACT NO. 2785-D-W&S
19. THE PAVEMENT DETAILS SHOWN ON THESE PLANS REFLECT THE HOWARD COUNTY MINIMUM STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING, THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITE TESTING OF THE FINISHED SUBGRADE. THE TESTING AND GEOTECHNICAL ENGINEER SHALL BE FURNISHED BY THE CONTRACTOR. APPROVAL FROM THE COUNTY SHALL BE OBTAINED IF THE ON-SITE TESTING REQUIRES PAVEMENT DESIGN TO BE CHANGED.
20. FOREST CONSERVATION FOR THIS PROJECT IS EXEMPT UNDER SECTION 16.1202.b.1 (iii) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS. BECAUSE THE LIMIT OF DISTURBANCE IS THE SAME OR LESS THAN THE DEVELOPMENT APPROVED UNDER PREVIOUS PLAN, SDP-80-79 AND WP-89-144
21. THERE IS NO FLOODPLAIN ON THIS SITE SINCE THE DRAINAGE AREA THROUGH THE SITE IS LESS THAN 30 ACRES.
22. THERE ARE NO WETLANDS ON THIS SITE.
23. STORMWATER MANAGEMENT QUALITY CONTROL IS PROVIDED BY A DETENTION POND. QUANTITY CONTROL IS PROVIDED BY AN UNDERGROUND SANDFILTER (WQV). THESE FACILITIES SHALL BE OWNED AND MAINTAINED BY HOWARD COUNTY.
24. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
25. NO LANDSCAPE SURETY IS REQUIRED FOR THIS PROJECT BECAUSE THIS IS A GOVERNMENT FACILITY.

# SITE DEVELOPMENT PLAN HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION

TAX MAP 37 PARCEL 521



VICINITY MAP  
SCALE: 1"=5,000'

**INDEX OF DRAWINGS**

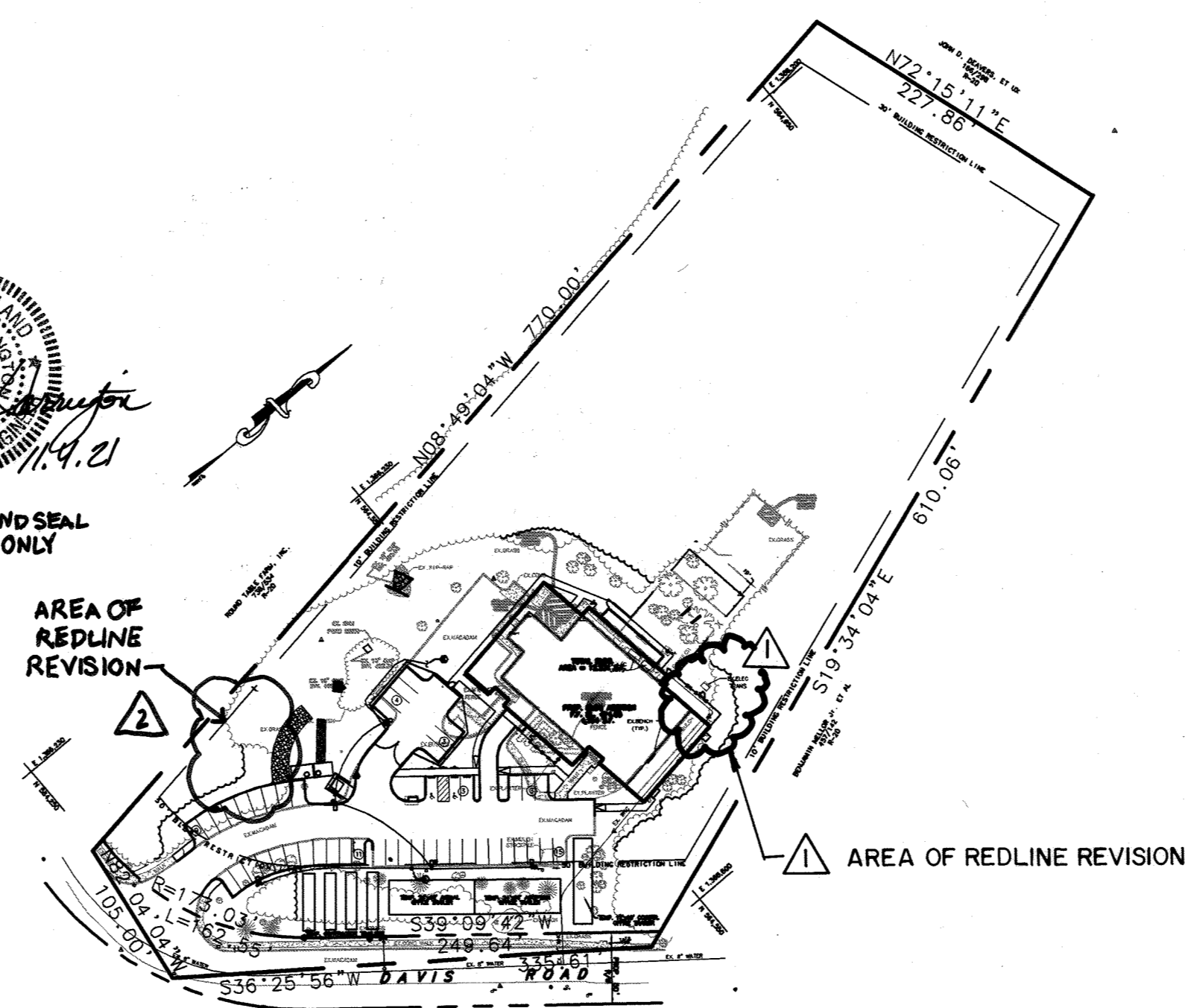
SHEET No.	DWG. No.	DESCRIPTION
* SHEET 1 OF 22	C-1	Title Sheet
SHEET 2 OF 22	C-2	Existing Conditions Plan
SHEET 3 OF 22	C-3	Demolition Plan
* SHEET 4 OF 22	C-4	Layout Plan
* SHEET 5 OF 22	C-4.1	Site Details
SHEET 6 OF 22	C-5	Grading Plan
* SHEET 7 OF 22	C-6	Geometry Plan
* SHEET 8 OF 22	C-7	Utility Plan
SHEET 9 OF 22	C-7.1	Utility Profiles & Drainage Area Map
SHEET 10 OF 22	C-8	Sediment & Erosion Control Plan
SHEET 11 OF 22	C-8.1	Sediment, Erosion Control Notes
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SHEET 16 OF 22	C-9	Landscape Plan
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SHEET 18 OF 22	C-10	Site Lighting Plan, Notes & Details
SHEET 19 OF 22	C-11.1	Stormwater Management Plan
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SHEET 21 OF 22	C-11.3	Stormwater Management Details
SHEET 22 OF 22	C-11.4	Stormwater Management Boring Logs

**LEGEND**

EXISTING	PROPOSED
EX. BLDG.	NEW BLDG.
BT. PAVING	
CONCRETE SIDEWALK	
CURB	
STORM DRAIN	
SANITARY	
WATER	
GAS	
STEAM	
ELECTRIC	
TELEPHONE	
ELEC/TELE DUCT	
VALVE	
HYDRANT	
MANHOLE	
INLET	
CONTOUR	
FENCE	
TREE	
PROPERTY LINE	
LIMIT OF DISTURBANCE	
OUTDOOR LIGHT	
SOIL BOUNDARY	
ZONING BOUNDARY	
EASEMENT	



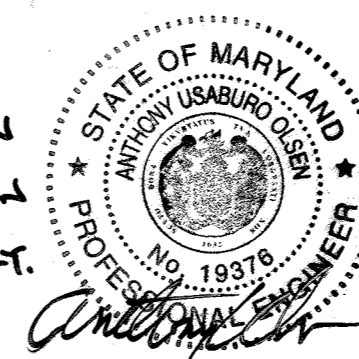
THIS SIGNATURE AND SEAL IS FOR REVISION 2 ONLY



\* DENOTES SHEETS SUBMITTED AS REDLINE REVISION TO SDP-03-101

PLAN  
SCALE: 1"=100'

NOTE:  
THIS CERTIFICATION APPLIES TO REVISION 1 CORRECTIONS ONLY.



**SITE DATA ANALYSIS:**

- A. TOTAL PROJECT AREA: 4.945 AC.±
- B. AREA OF PLAN SUBMISSION: 76,114 S.F./1.75 AC.±
- C. LIMIT OF DISTURBED AREA: 70,471 S.F./1.62 AC.±
- D. PRESENT ZONING: R-20
- E. EXISTING USE OF SITE: GOVERNMENT FACILITY
- F. PROPOSED USE OF SITE: GOVERNMENT FACILITY
- G. NUMBER OF EXISTING PARKING SPACES ON SITE: 34 P.S.
- H. NUMBER OF PARKING SPACES REQUIRED ON SITE: 3.3 SPACES/1000 S.F. (12,231 S.F.)=(40.36) 41 P.S.
- I. NUMBER OF PARKING SPACES PROVIDED: 39 STANDARD PARKING SPACES, 2 HANDICAP SPACES, 7 COUNTY VEHICLE PARKING. TOTAL PARKING SPACES PROVIDED: 48
- J. BUILDING COVERAGE OF SITE: EXISTING BUILDING COVERAGE: 8,127 S.F. / 0.19 AC ±, PROPOSED BUILDING COVERAGE: 12,231 S.F. / 0.28 AC.±, TOTAL BUILDING COVERAGE = 12,231 S.F. / 0.28 AC.± ± 1.75 AC.± (AREA OF SUBMISSION) = 16%
- K. PAVING COVERAGE OF SITE: EXISTING PAVING COVERAGE: = 21,151.29 S.F. / 0.48 AC. ±, PROPOSED PAVING COVERAGE: = 19,209 S.F. / 0.44 AC.±, TOTAL PAVING COVERAGE = 19,209 S.F./0.44 AC.± ± 1.75 AC.± ( AREA OF SUBMISSION ) = 25.14%
- L. APPLICABLE DPZ FILE REFERENCE: SDP-80-79, WP-89-144, CONTRACT# 28085
- M. TAX ACCT.# 06-455271

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS
6/9/2016	1	ADD STANDBY GENERATOR AND FENCE
10/8/2021	2	ADD CONCRETE PAD AND FREEZER

**TITLE SHEET**

PROJECT TITLE:  
**HOWARD COUNTY  
ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WR** Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
WHITNEY, BAILEY, COX & MAGNANI, LLC

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-1
GRID NO.: 1	1 of 22
PARCEL NO.: 521	

**OWNER/DEVELOPER**

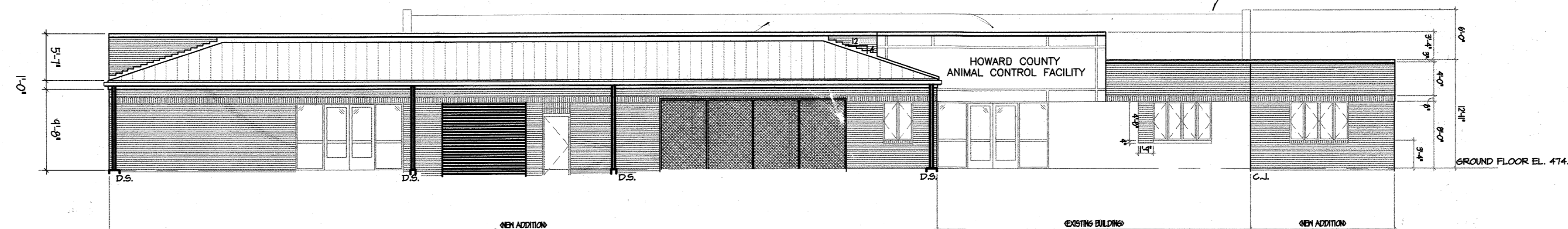
HOWARD COUNTY, MD.  
C/O DEPT. OF PUBLIC WORKS  
BUREAU OF FACILITIES  
9250 BENDIX ROAD  
COLUMBIA, MD. 21045

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

Chief, Development Engineering Division: *11/4/03*  
Chief, Division of Land Development: *11/6/03*  
Director: *11/24/03*

**APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS**

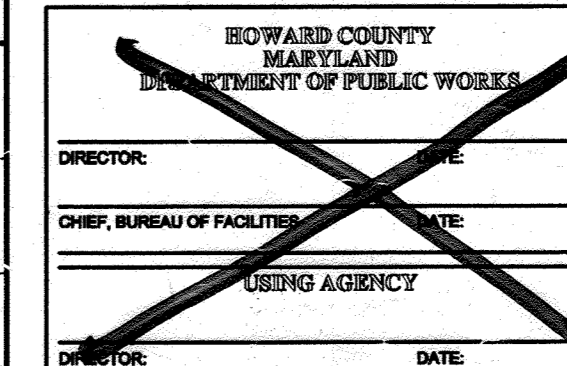
County Health Officer  
Howard County Health Department



BUILDING ELEVATION  
SCALE: 1"=10'

ADDRESS CHART	
PARCEL	STREET ADDRESS
521	8576 DAVIS ROAD COLUMBIA, MD.

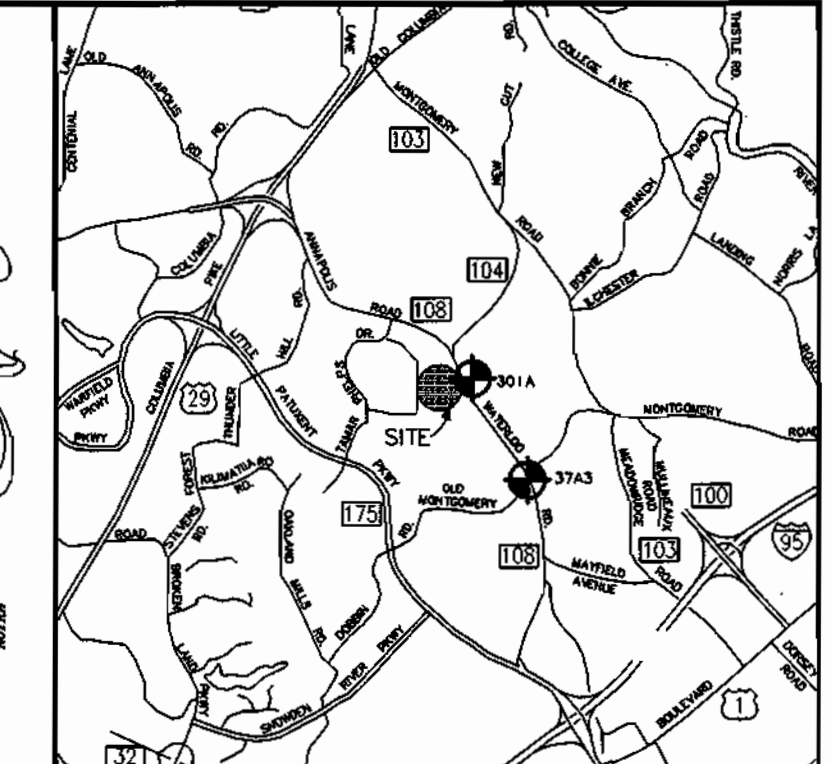
PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA	PARCEL/LOT NO.		
HOWARD COUNTY ANIMAL CONTROL FACILITY		N/A	521		
PLAT NO. OR L/F	ELOCK NO.	ZONING	TAX MAP	ELECT. DISTR.	CENSUS TRACT NO.
973/59	1	R-20	37	6th	6065.01
WATER CODE			SEWER CODE		
G-07			5335300		



MH #	TOP	DIR.	INVERT	SIZE & TYPE
S-1067	471.28	N	462.23	6"
		N/E	462.18	10"
		S/W	462.03	10"
S-1078	481.48	N/E	472.28	10"
		S/E	472.23	6"
		N/W	472.18	10"
D-1212	468.69	N	465.99	15" RCP
S-1271	479.57	E	470.42	10"
		S/W	470.37	10"
I-1479	470.90	N/W	467.65	15" RCP
D-1705	471.31	S/E	465.06	15" RCP
		S	464.96	15" RCP
		N/E	464.81	12"
		W	464.76	18"
S-1706	470.13	N	463.73	6"
		S	463.63	6"

PNV = PIPES NOT VISIBLE  
 NOTE: THE ABOVE INFORMATION REFLECT FIELD MEASUREMENTS & OBSERVATIONS AND THEY MAY DIFFER FROM PLANS BY OTHERS.(SEE GENERAL NOTES)

PT#	NORTHING	EASTING	ELEV.	DESCRIPTION
900	564,218.18	1,366,365.70	469.56	MAGNAIL
901	564,404.35	1,366,556.50	478.77	REBAR & CAP
902	564,534.98	1,366,525.15	474.92	REBAR & CAP
903	564,637.23	1,366,506.34	473.83	REBAR & CAP
904	564,709.14	1,366,454.92	469.28	REBAR & CAP
905	564,584.61	1,366,335.25	472.23	REBAR & CAP
906	564,464.45	1,366,290.35	468.53	REBAR & CAP
907	564,422.34	1,366,379.38	470.02	MAGNAIL
950	565,118.45	1,366,374.56	486.04	REBAR & CAP



VICINITY MAP  
SCALE: 1"=5,000'

**SURVEY GENERAL NOTES**

- THIS PLAT IS BASED UPON A FIELD-RUN TOPOGRAPHIC SURVEY PERFORMED BY WHITNEY, BAILEY, COX & MAGNANI, LLC IN OCTOBER, 2002 AND REFLECTS SITE CONDITIONS AS OF THAT DATE.
- HORIZONTAL COORDINATES AND DIRECTIONS SHOWN HEREON ARE REFERRED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM, NAD 83, AS DETERMINED FROM THE FOLLOWING HOWARD COUNTY CONTROL SURVEY MONUMENTS BY MEANS OF G.P.S. OBSERVATIONS AS PUBLISHED:  
 # 301A ; N 567,750.958 E 1,364,842.598 HO.CO.MON.& DISK  
 # 37A3 ; N 561,130.798 E 1,369,913.218 HO.CO.MON.& DISK
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 # 301A ELEV.= 499.130' HO.CO.MON.& DISK  
 # 37A3 ELEV.= 384.934' HO.CO.MON.& DISK
- ADDITIONAL SPOT ELEVATIONS RESIDE IN THE ELECTRONIC VERSION OF THIS DRAWING BUT ARE NOT PLOTTED HEREON.
- THE LOCATION AND DESCRIPTION OF THE UNDERGROUND UTILITIES AS SHOWN HEREON WERE BASED SOLELY UPON FIELD OBSERVATIONS AND HAVE NOT BEEN COMPARED TO OR VERIFIED WITH RECORD UTILITY DRAWINGS OR FIELD TEST PITS. THE SIZE, TYPE AND LOCATION OF THE UTILITY LINES SHOULD BE VERIFIED BY THE USER OF THIS DRAWING. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES WHICH OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES TO REMAIN.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO THE START OF ANY WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" AT 1-800-257-7777 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION WORK.
- THE WORDS "CERTIFY" OR "CERTIFICATION" AS USED HEREON ARE UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE UNDERSIGNED SURVEYOR, BASED UPON HIS BEST KNOWLEDGE, INFORMATION, AND BELIEF. AS SUCH, IT DOES NOT CONSTITUTE A GUARANTEE NOR A WARRANTY, EXPRESSED OR IMPLIED.

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**EXISTING CONDITIONS PLAN**

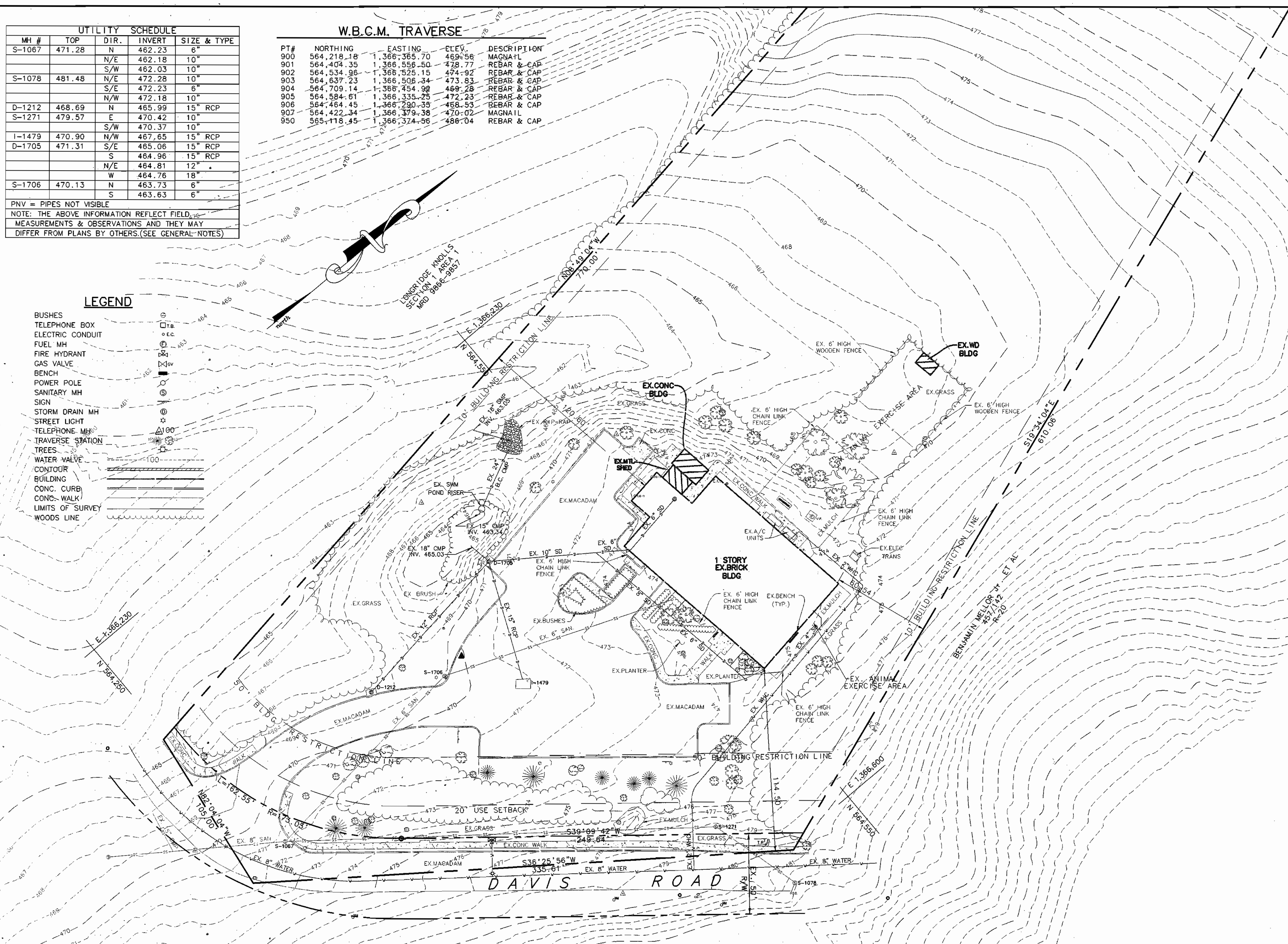
PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
 8576 DAVIS ROAD  
 HOWARD COUNTY, MARYLAND

ENGINEERS: Consulting Engineers  
 849 Fairmount Avenue (410) 512-4500  
 Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-2
GRID NO.: 1	2 of 22
PARCEL NO.: 521	

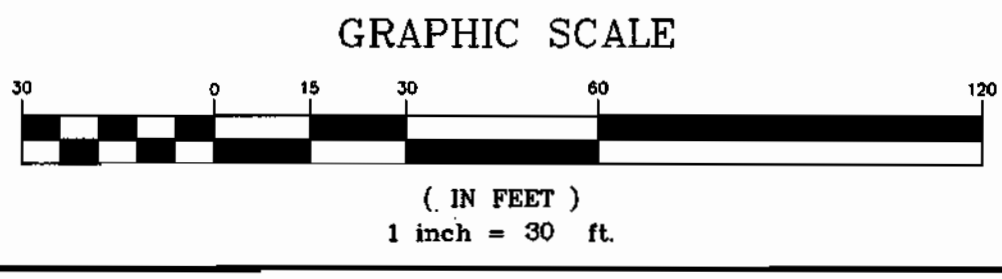
**LEGEND**

- BUSHES
- TELEPHONE BOX
- ELECTRIC CONDUIT
- FUEL MH
- FIRE HYDRANT
- GAS VALVE
- BENCH
- POWER POLE
- SANITARY MH
- SIGN
- STORM DRAIN MH
- STREET LIGHT
- TELEPHONE MH
- TRAVERSE STATION
- TREES
- WATER VALVE
- CONTOUR
- BUILDING
- CONC. CURB
- CONC. WALK
- LIMITS OF SURVEY
- WOODS LINE



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 Chief, Development Engineering Division Date 11/4/03  
  
 Chief, Division of Land Development Date 11/6/03  
  
 Director Date 11/14/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
  
 County Health Officer Date  
 Howard County Health Department

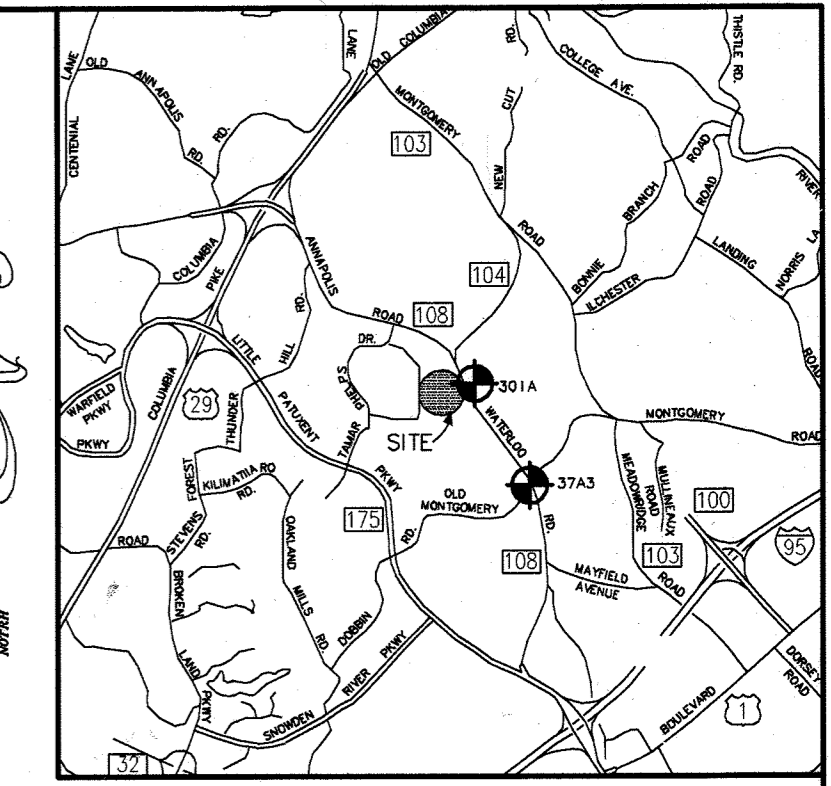


HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR: DATE  
 CHIEF, BUREAU OF PUBLIC WORKS: DATE  
 USING AGENCY: DATE  
 SUPERVISOR: DATE

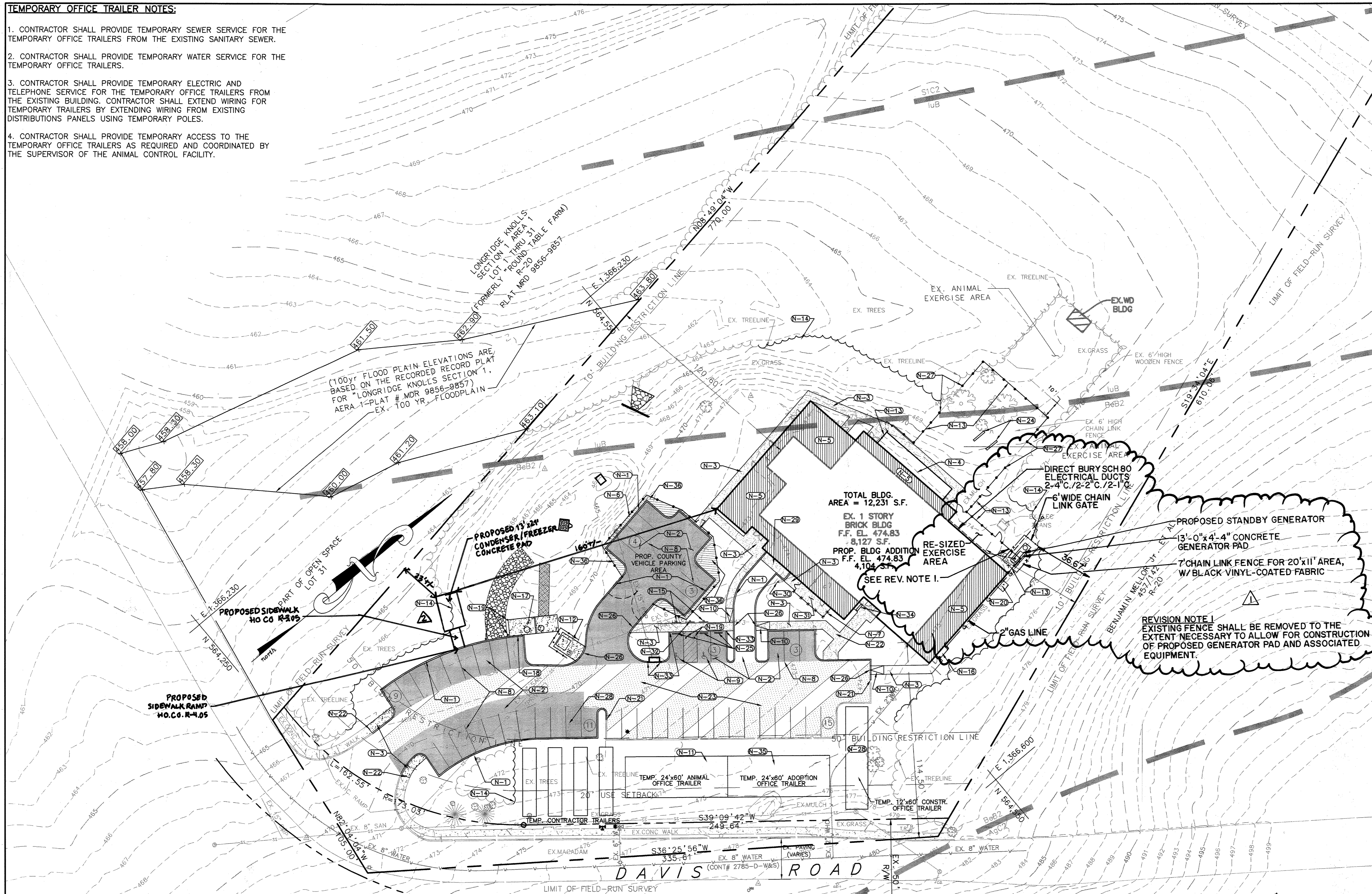


**TEMPORARY OFFICE TRAILER NOTES:**

1. CONTRACTOR SHALL PROVIDE TEMPORARY SEWER SERVICE FOR THE TEMPORARY OFFICE TRAILERS FROM THE EXISTING SANITARY SEWER.
2. CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE FOR THE TEMPORARY OFFICE TRAILERS.
3. CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRIC AND TELEPHONE SERVICE FOR THE TEMPORARY OFFICE TRAILERS FROM THE EXISTING BUILDING. CONTRACTOR SHALL EXTEND WIRING FOR TEMPORARY TRAILERS BY EXTENDING WIRING FROM EXISTING DISTRIBUTIONS PANELS USING TEMPORARY POLES.
4. CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS TO THE TEMPORARY OFFICE TRAILERS AS REQUIRED AND COORDINATED BY THE SUPERVISOR OF THE ANIMAL CONTROL FACILITY.



VICINITY MAP  
SCALE: 1"=5,000'



**CONSTRUCTION NOTES**

- N-1 NEW 7" CURB & GUTTER. (SEE HO. CO. STD. DTL. #R-3.01)
- N-2 NEW BIT. CONC. PAVING (P-1). (SEE HO. CO. STD. DTL. #R-2.01,
- N-3 NEW 5' CONCRETE WALK. (SEE HO. CO. STD. DTL. #R-3.05)
- N-4 NEW DOG RUN ON CONC. WALK. (SEE ARCHITECTURAL PLANS)
- N-5 NEW BLDG. ADDITION. (SEE ARCH. PLANS.)
- N-6 NEW 8' CHAIN LINK SECURITY FENCE AND GATE.(SEE DTL. SHT. C-4.1)
- N-7 RELOCATED 6' HIGH CHAIN LINK FENCE. (SALVAGE AT DEMOLITION)
- N-8 NEW PARKING SPACE STRIPING. (SEE DTL. SHEET C-4.1)
- N-9 NEW VAN ACCESSIBLE HANDICAPPED SPACE STRIPING. (SEE DTL. SHEET C-4.1)
- N-10 NEW HANDICAPPED RAMP. (SEE DTL. SHEET C-4.1)
- N-11 TEMPORARY 24' X 60' ANIMAL OFFICE TRAILER
- N-12 NEW DUMPSTER ENCLOSURE ON CONC. PAD. (SEE DTL. SHEET C-4.1)
- N-13 REINSTALL SALVAGED 6' HIGH CHAIN LINK FENCE W/ NEW GATES WHERE SHOWN. (4 REQ'D)
- N-14 PROPOSED TREE LINE.
- N-15 NEW HANDICAP SIGNS. (SEE DTL. SHEET C-4.1)
- N-16 NEW NATURAL GAS METER ON CONC. PAD. (SEE MECHANICAL PLANS FOR DETAILS)
- N-17 NEW SAND FILTER. (SEE DTL. SHT C-11.1)
- N-18 CURB CUT TO BE COORDINATED WITH SAND FILTER STRUCTURE
- N-19 NEW BOLLARDS (SEE DTL. SHEET C-4.1)
- N-20 NEW 5'x5' CONC. PAD
- N-21 CONTRACTOR SHALL TIE PROPOSED CURB AND GUTTER INTO EX. CURB & GUTTER TO MEET LINE AND GRADE.
- N-22 7' CONC. WALK. (SEE HO. CO. STD. DTL. #R-3.05)
- N-23 OVERLAY EXISTING BIT. CONC. PAVEMENT WITH NEW BIT. CONC. TO MEET PROPOSED GRADES (1' MIN. OVERLAY)
- N-24 RELOCATE & REINSTALL BENCHES SALVAGED AT DEMOLITION
- N-25 WHEEL STOPS. (SEE DTL. SHT. C-4.1)
- N-26 DEPRESSED CURB & GUTTER
- N-27 CONTRACTOR SHALL TIE SALVAGED 4' HIGH FENCE INTO EX. REMAINING FENCE TO MEET LINE.
- N-28 TEMPORARY 12' X 60' CONSTRUCTION OFFICE TRAILER
- N-29 NEW CONC. PAVING (SEE DTL. SHEET C 4.1)
- N-30 CONTRACTOR SHALL PROVIDE MAIN LINE CLEANOUT PER HOWARD CO. STD. DETAIL #S-3.21 TOP OF CLEANOUT: EL.=74.50 INVERT SHALL MEET EX. 6" SAN. FOR LINE & GRADE
- N-31 PROP. CONC. SLAB FOR CAT EXERCISE AREA. (SEE STRUCTURAL DRAWINGS)
- N-32 NEW "NO PARKING IN ACCESS AISLE" SIGN
- N-33 NEW NOSED DOWN CURB (NOSE DOWN OVER 2')
- N-34 REPLACE EX. WOOD BENCH SALVAGED AT DEMOLITION
- N-35 TEMPORARY 24' X 60' ADOPTION OFFICE TRAILER
- N-36 CONTRACTOR SHALL PROVIDE MIN. 4" DEPTH OF # 57 WASHED STONE ON WEED BLOCKING FABRIC.

**REVISION NOTE 1**  
EXISTING FENCE SHALL BE REMOVED TO THE EXTENT NECESSARY TO ALLOW FOR CONSTRUCTION OF PROPOSED GENERATOR PAD AND ASSOCIATED EQUIPMENT.

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS
6/9/2016	1	ADD STANDBY GENERATOR AND FENCE
10/8/2021	2	ADD CONCRETE PAD AND FREEZER

**LAYOUT PLAN**

PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS:  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**  
Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)

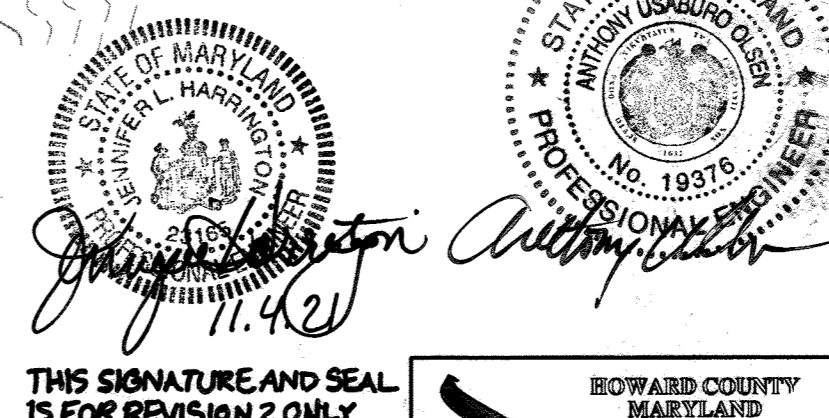
DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT # 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-4
GRID NO.: 1	
PARCEL NO.: 521	4 of 22

**Note:**  
THIS CERTIFICATION APPLIES TO REVISION 1 CORRECTIONS ONLY.

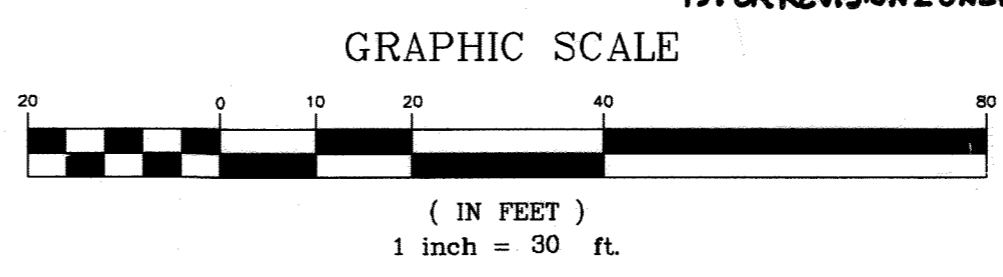
See Landscape Plan, sheet 16 of 22 (S-A);  
\* note regarding removal of temporary trailers & installation of plant material

**NOTE TO CONTRACTOR:**

CONTRACTOR CAN PURCHASE THE HOWARD COUNTY STANDARD DETAILS FOR CONSTRUCTION REFERENCED ON THIS PLAN AT THE BUREAU OF CENTRAL SERVICES, 3450 COURTHOUSE DRIVE, ELLICOTT CITY, MD..



THIS SIGNATURE AND SEAL IS FOR REVISION 2 ONLY



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division Date 11/4/03

Chief, Division of Land Development Date 11/6/03

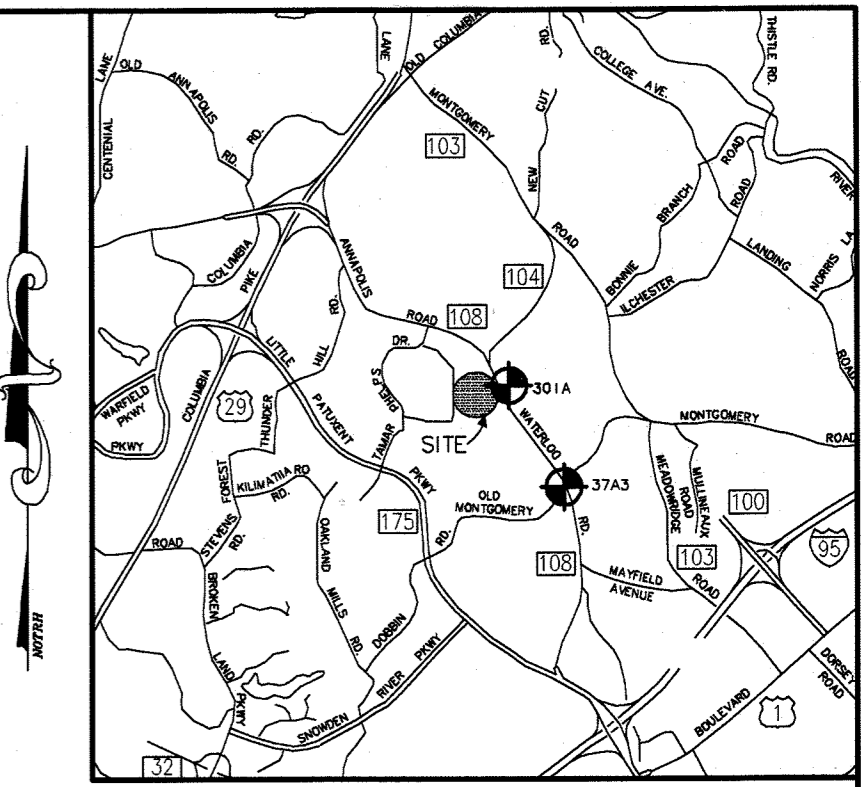
Director Date 11/2/03

---

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

County Health Officer Date

Howard County Health Department



VICINITY MAP  
SCALE: 1"=5,000'

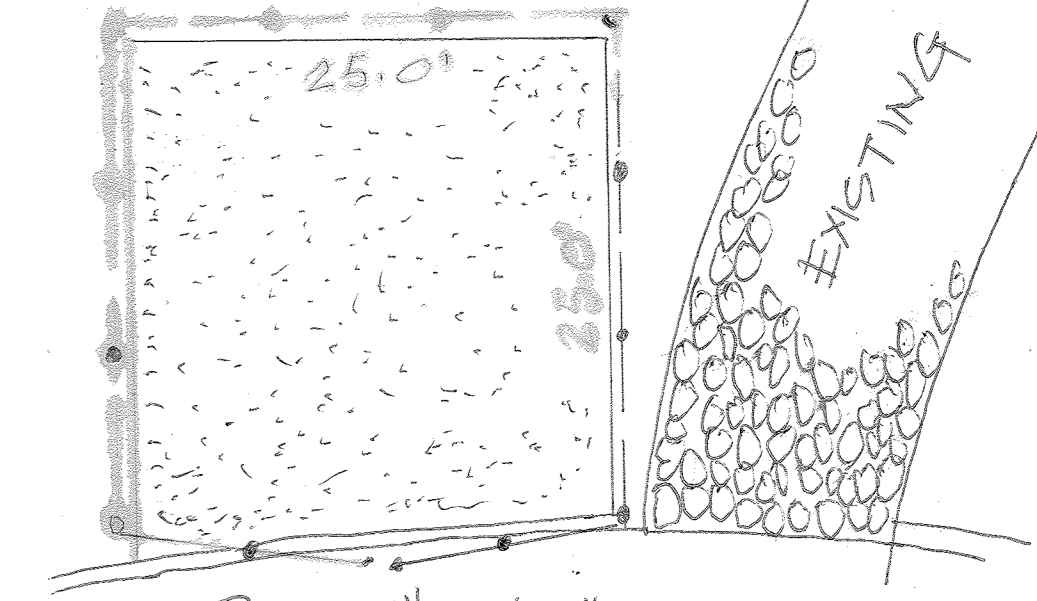


(100YR FLOOD PLAIN ELEVATIONS ARE BASED ON THE RECORDED RECORD PLAT FOR "LONGRIDGE KNOLLS SECTION 1, LOT 1, THRU 31 FORMERLY 'ROUNDTABLE FARM' PLAT MFD 9856-9857"

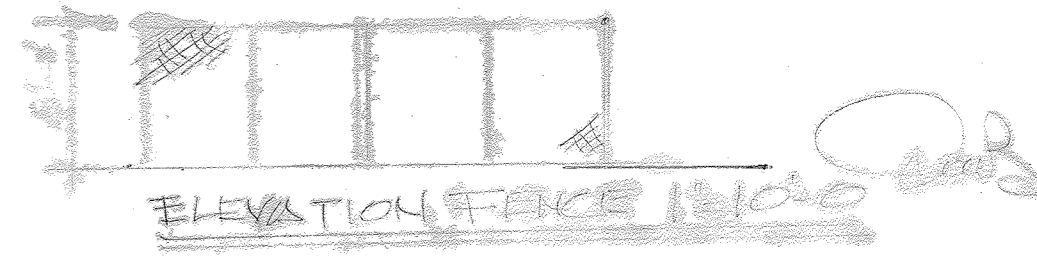
NOTE: THE PROPOSED LOD IS 200 SF AND IS EXEMPT FROM SWM. FOR ANY FUTURE REVISIONS WHERE THE CUMULATIVE LOD EXCEEDS 600 SF SWM WILL BE PROVIDED (DASHED LINE REPRESENTS LOD)

MAINTAIN POSITIVE DRAINAGE ON AND ADJACENT TO CONCRETE PAD; PROVIDE 2% MAX CROSS-SLOPE; PROVIDE 5% MAX LONGITUDINAL SLOPE

TOTAL BLDG. AREA = 12,231 S.F.  
EX. 1 STORY BRICK BLDG  
F.F. EL. 474.83  
8,177 S.F.  
PROP. BLDG ADDITION  
F.F. EL. 474.83  
4,104 S.F.



PLAN 1"=10'-0"



NOTE: ALL ELEVATIONS ON ROADWAYS ARE TO BOTTOM OF CURB UNLESS OTHERWISE NOTED (TC)

LIMIT OF DISTURBANCE:  
70,471 S.F./1.62 AC.±

CAPITAL PROJECT #P-4918

10/8/2021	2	ADD CONCRETE PAD AND FREEZER
DATE	NO.	REVISIONS

GRADING PLAN

PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

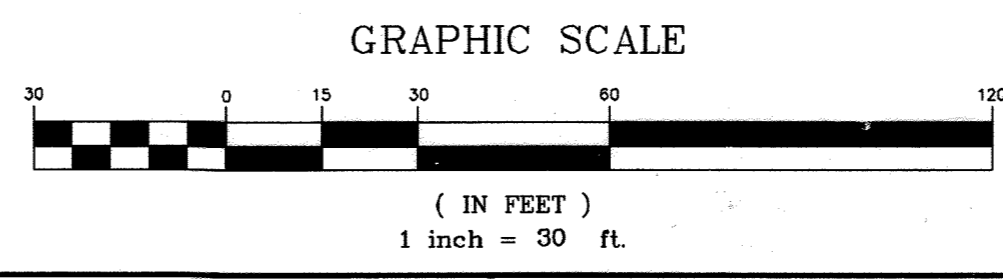
ENGINEERS: **WR** Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-5
GRID NO.: 1	6 of 22
PARCEL NO.: 521	

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division Date 11/4/03  
 Chief, Division of Land Development Date 11/6/03  
 Director Date 11/14/03

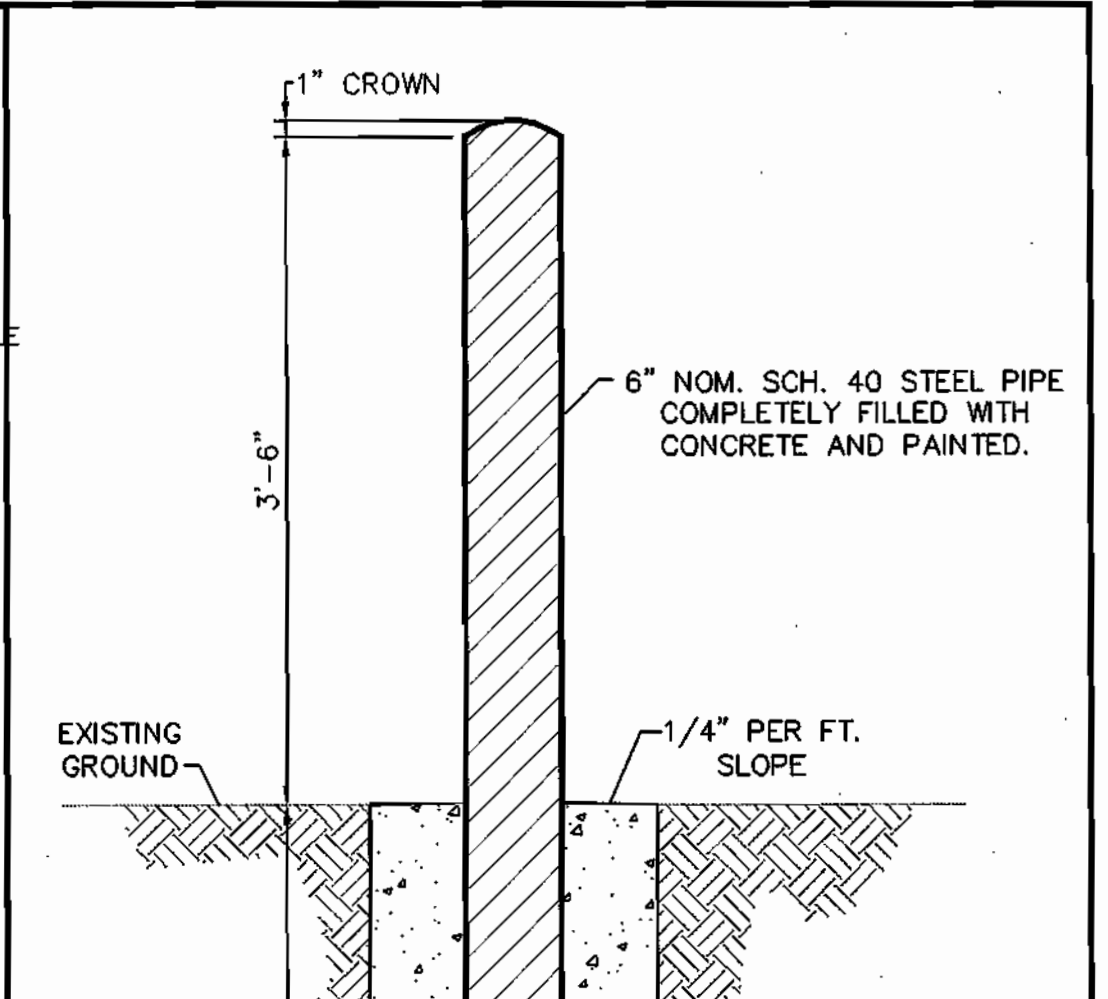
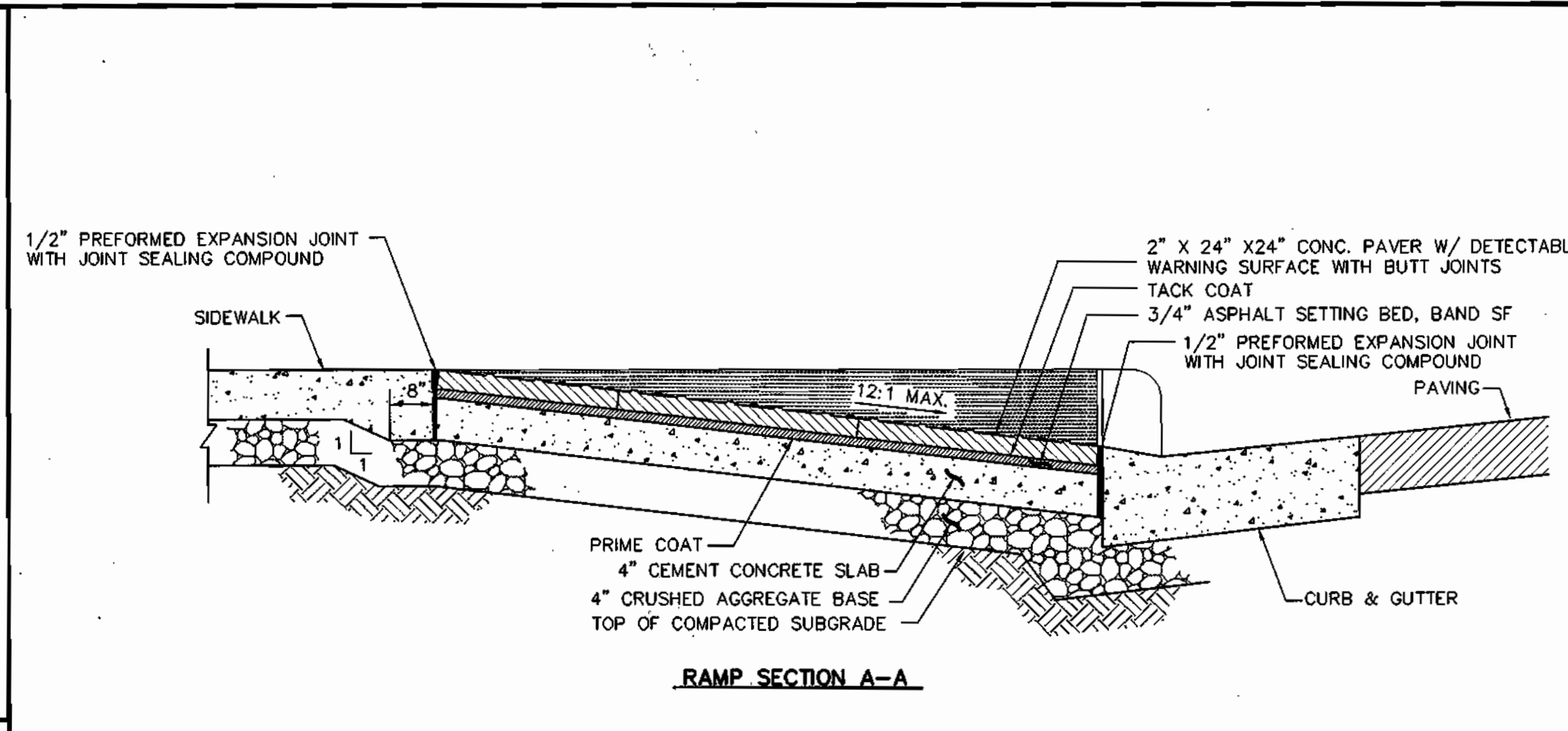
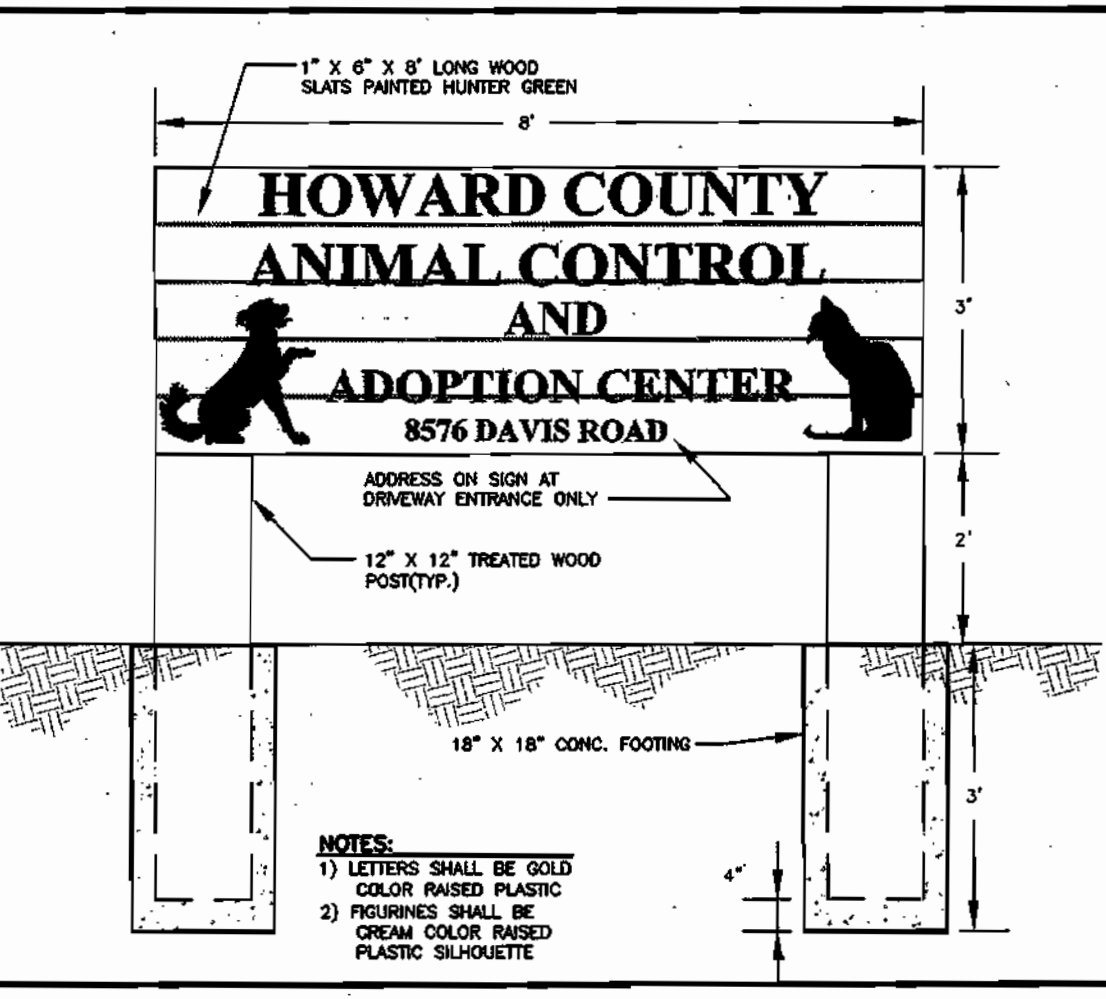
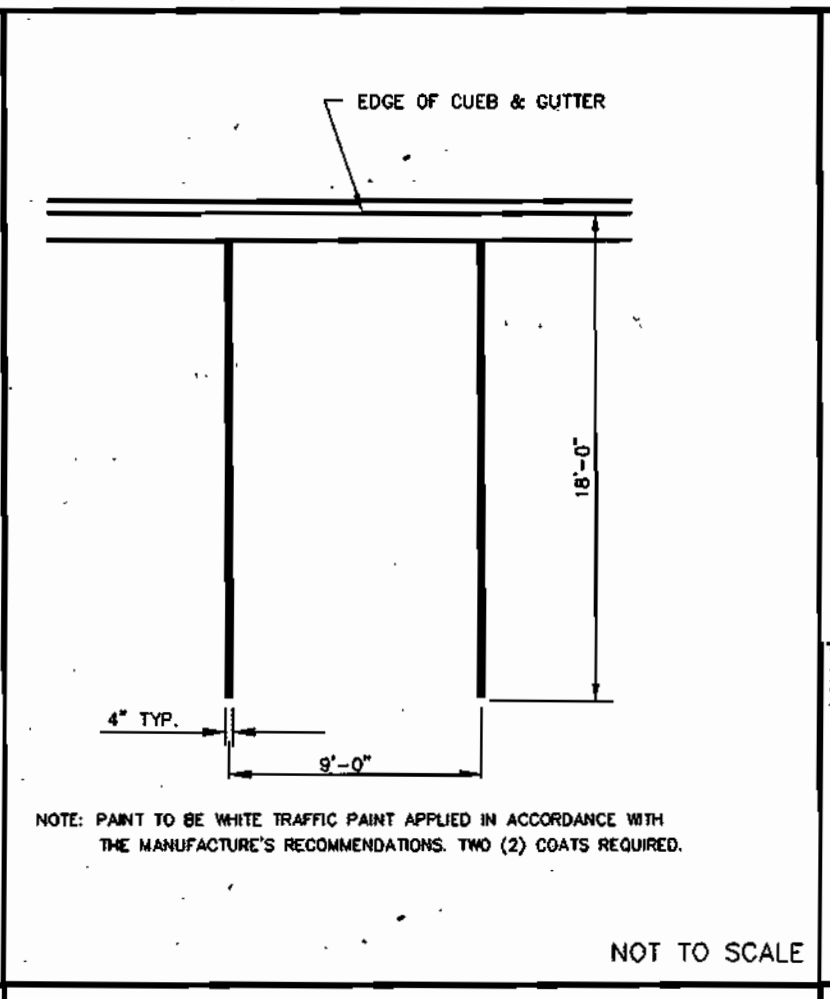
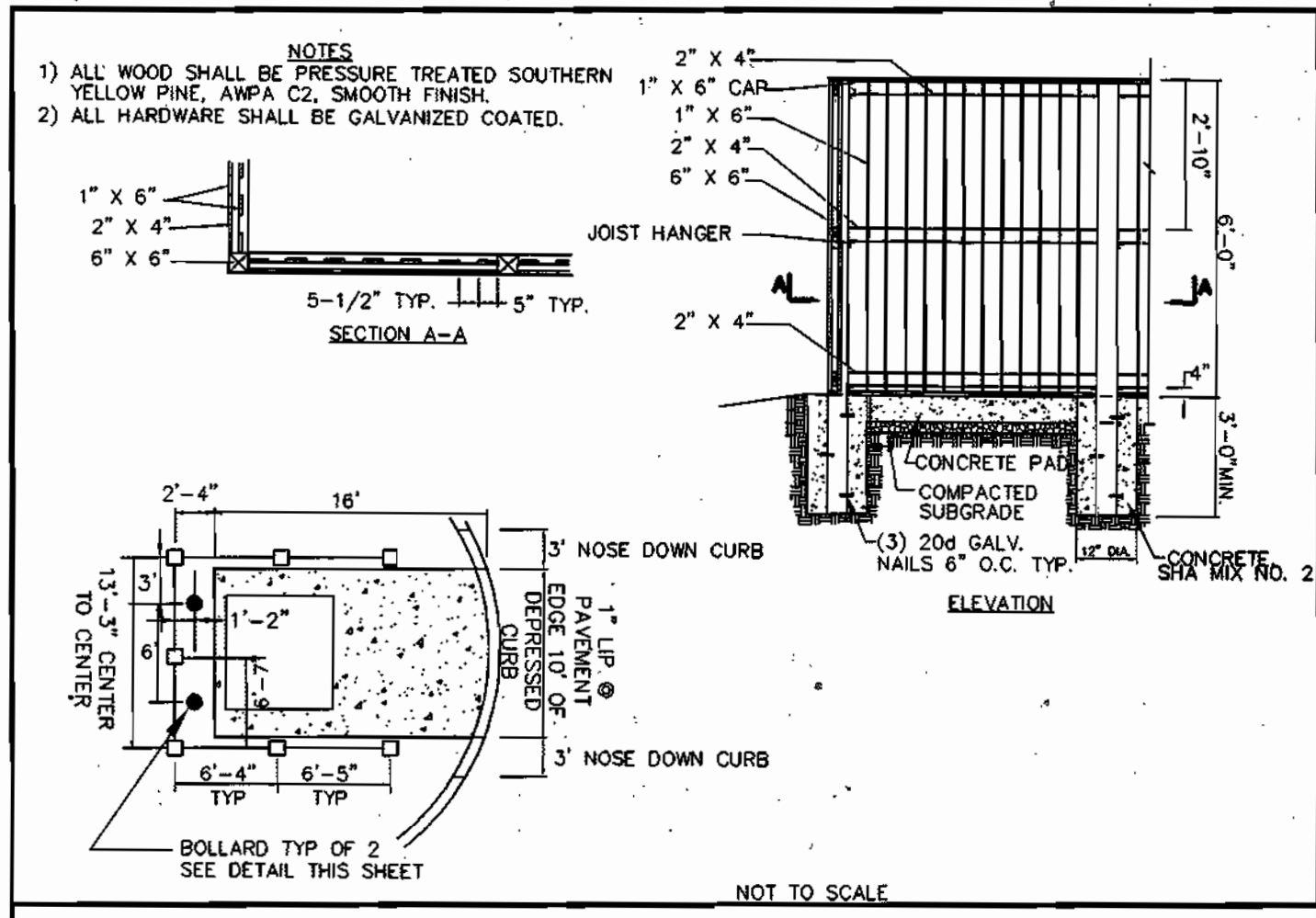
APPROVED: FOR PUBLIC WATERS AND PUBLIC SEWERAGE SYSTEMS  
 County Health Officer Date  
 Howard County Health Department

Note: Pond and sandfilter shall be owned and maintained by Howard County



STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 THIS SIGNATURE AND SEAL IS FOR REVISION ONLY





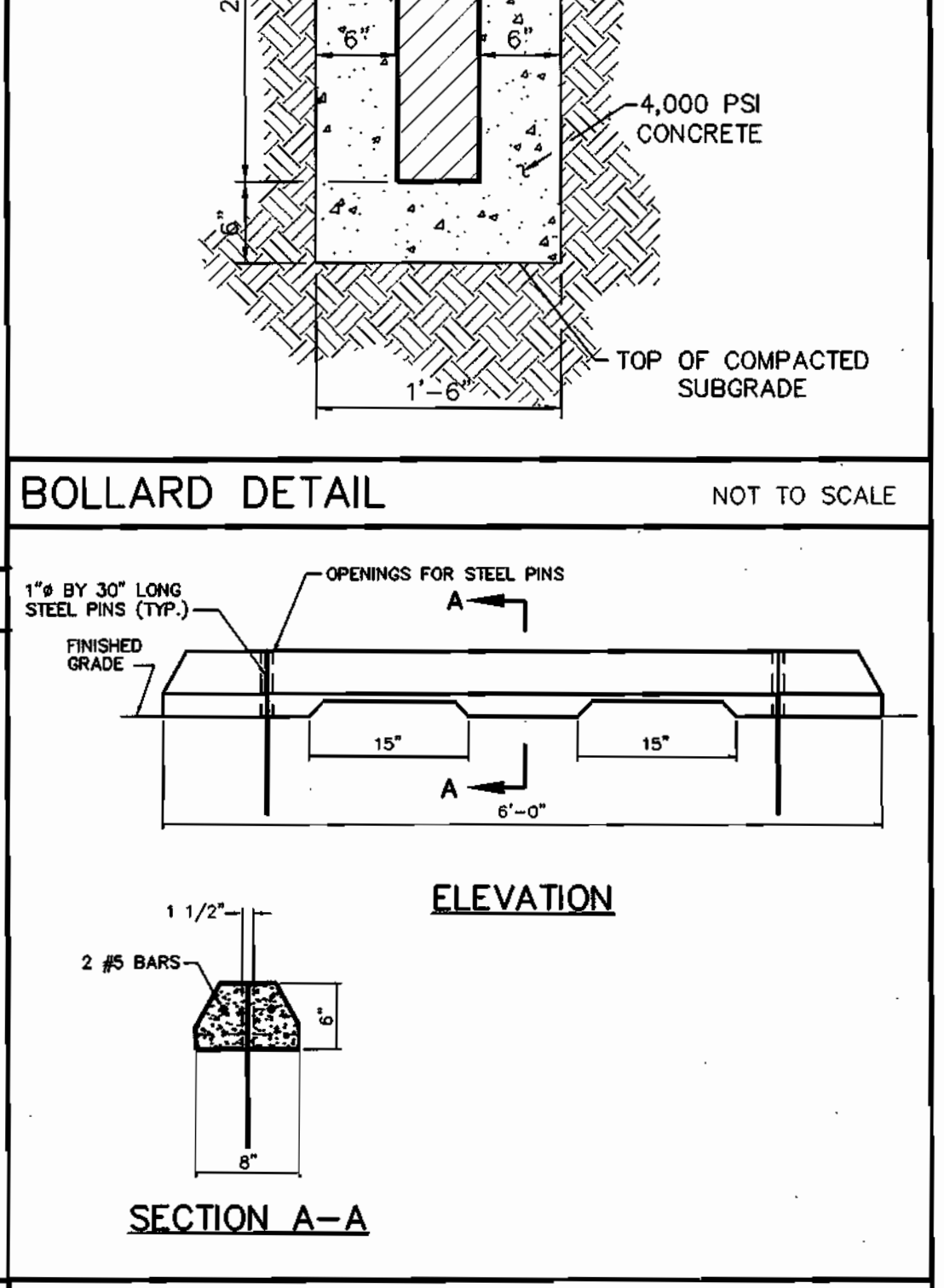
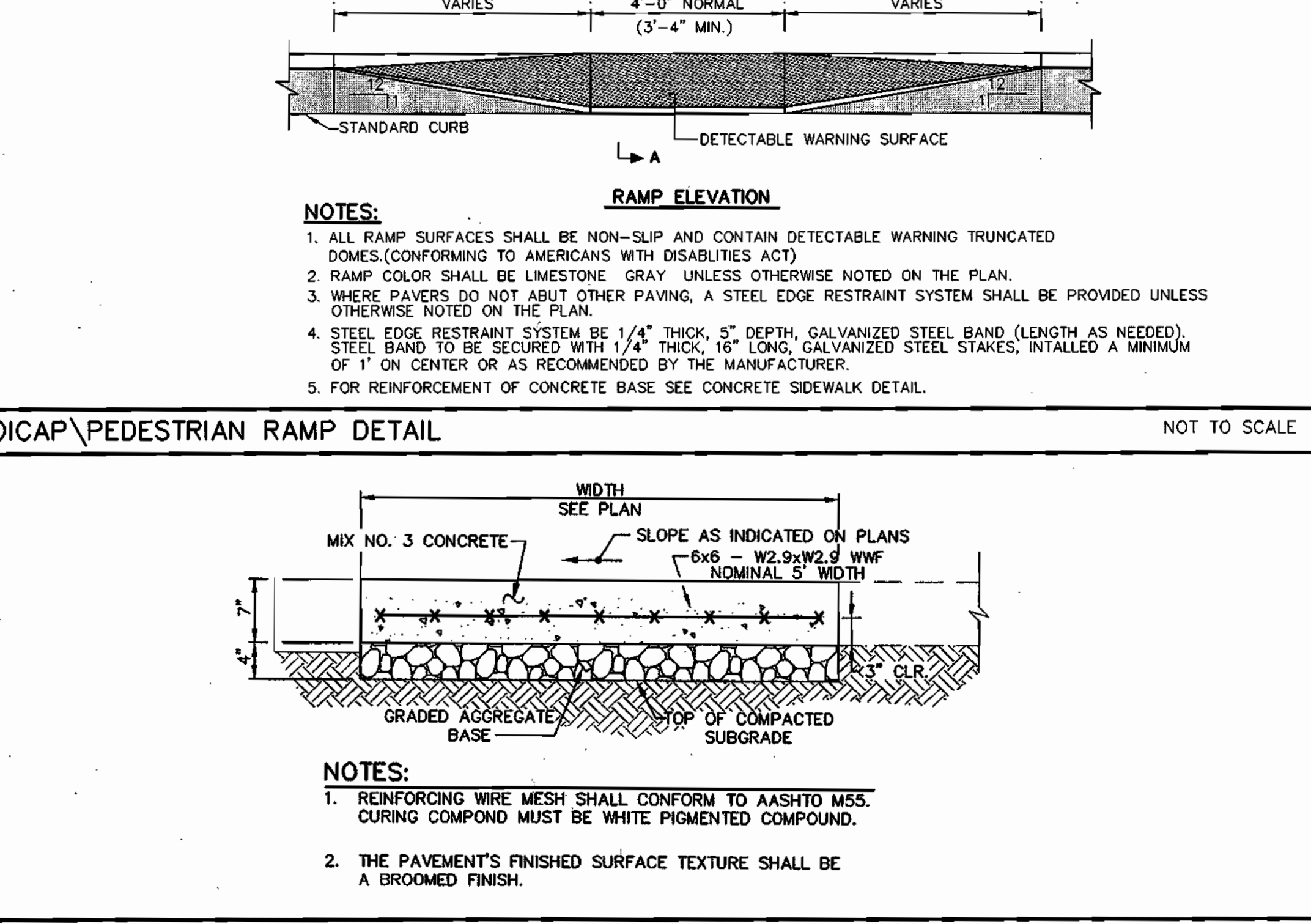
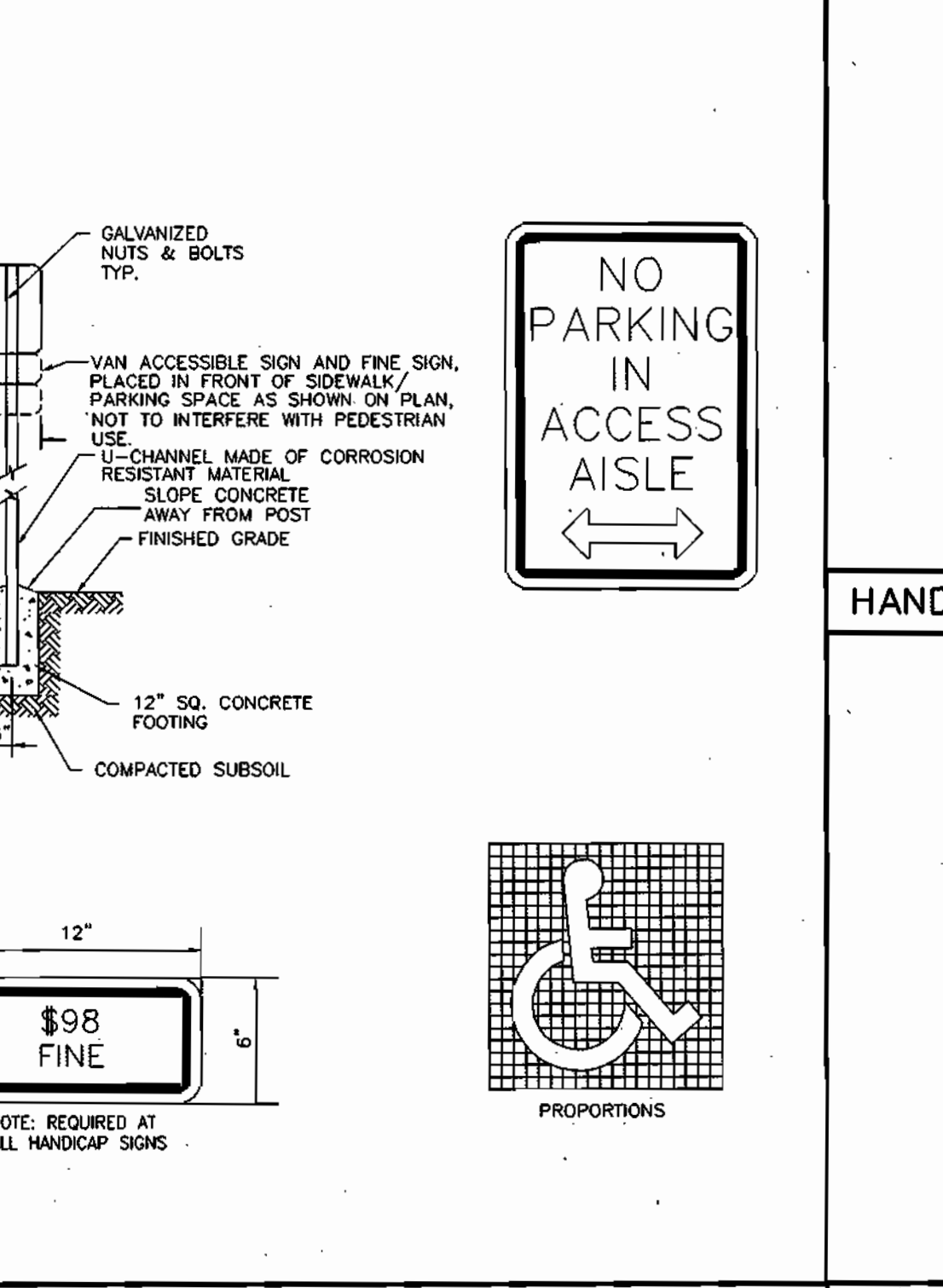
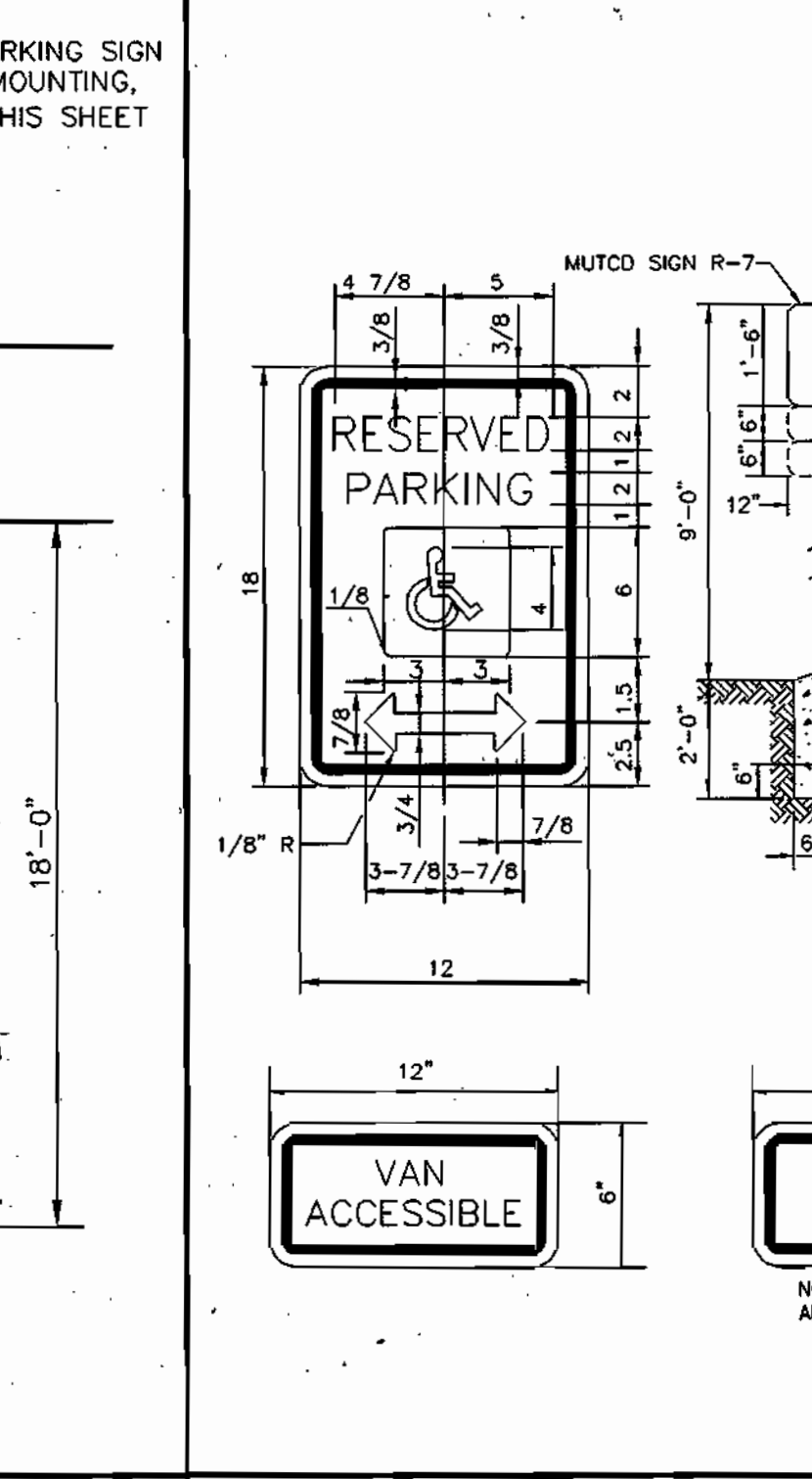
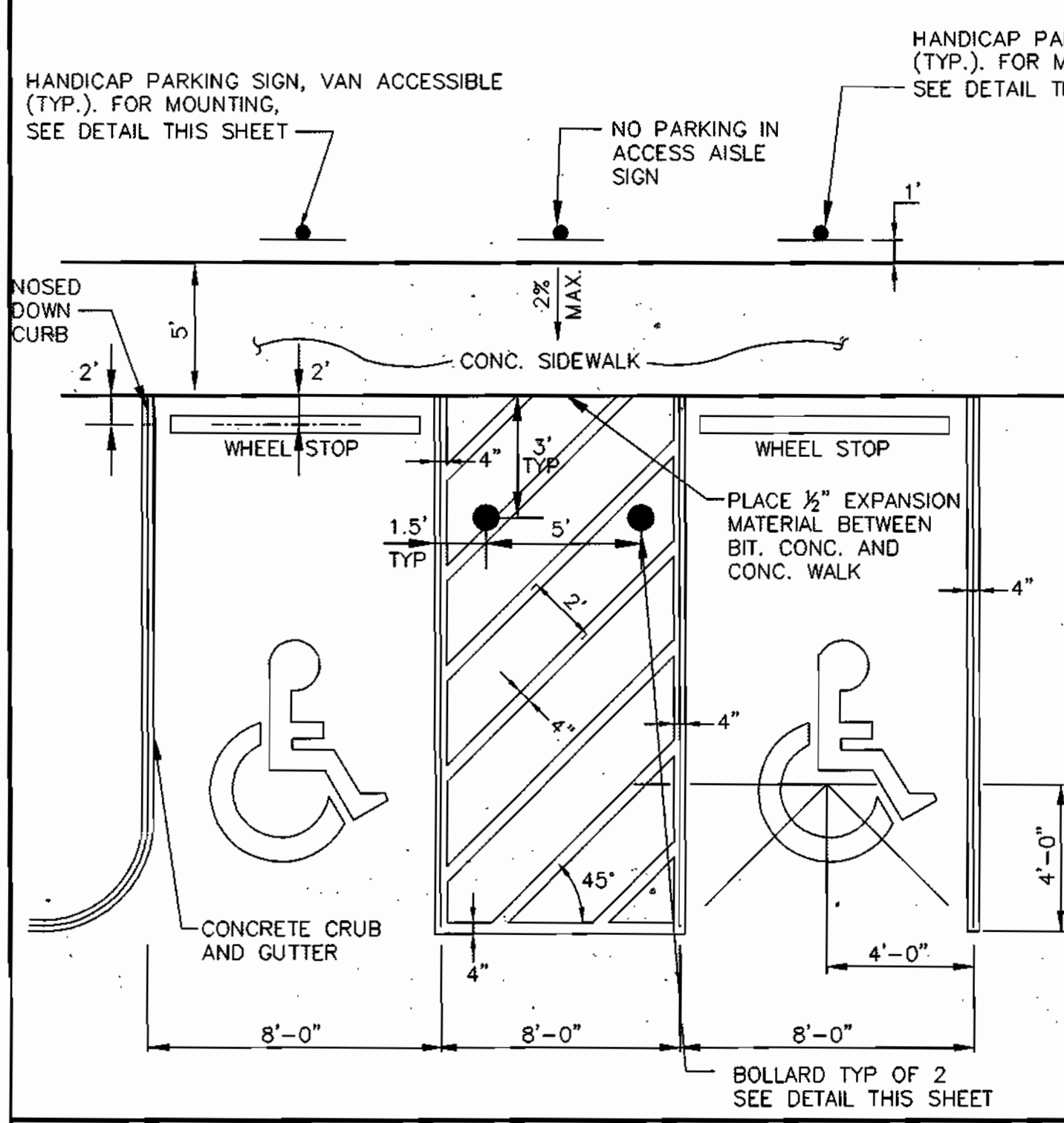
DUMPSTER PAD ENCLOSURE

PARKING STRIPING PLAN

SIGN DETAIL

RAMP SECTION A-A

BOLLARD DETAIL



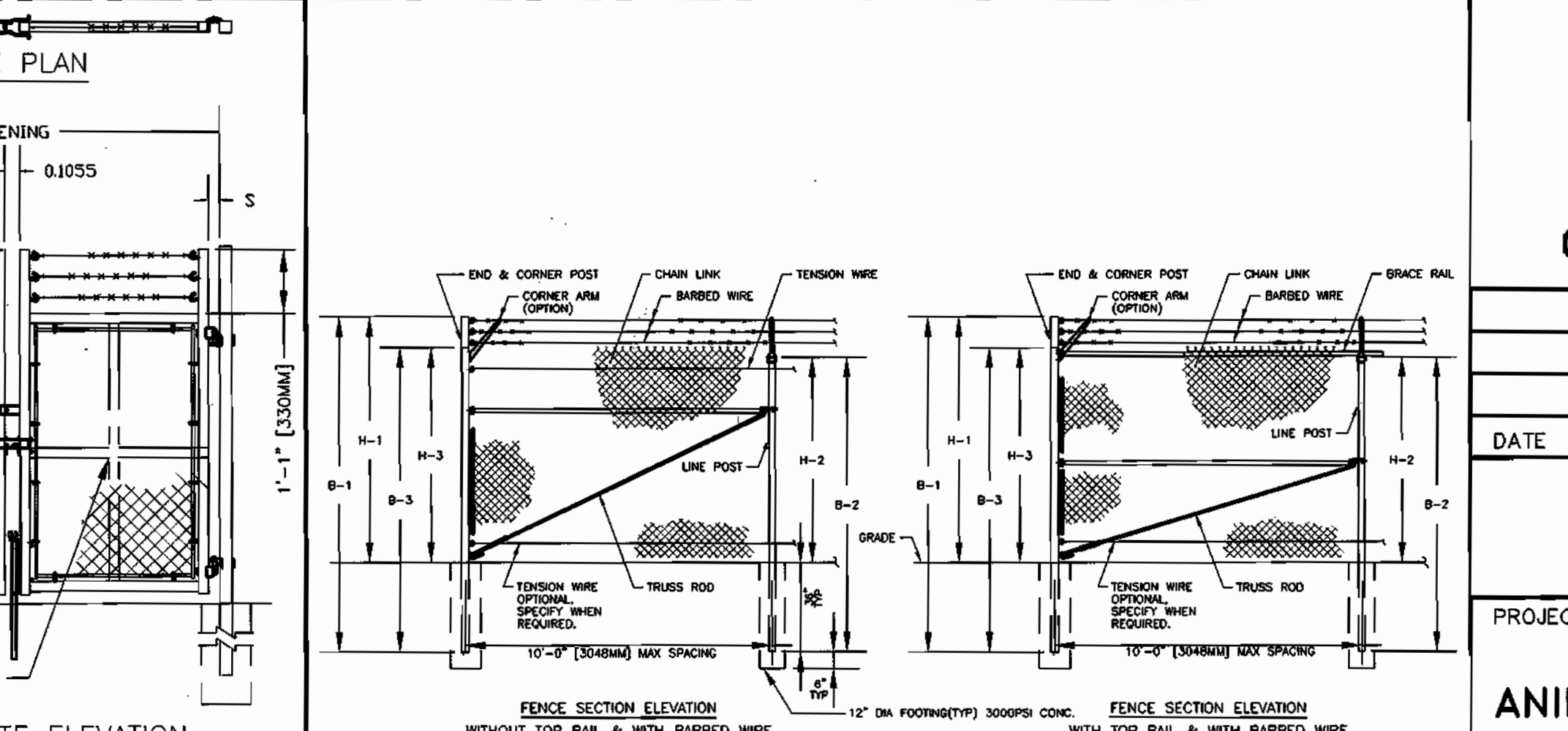
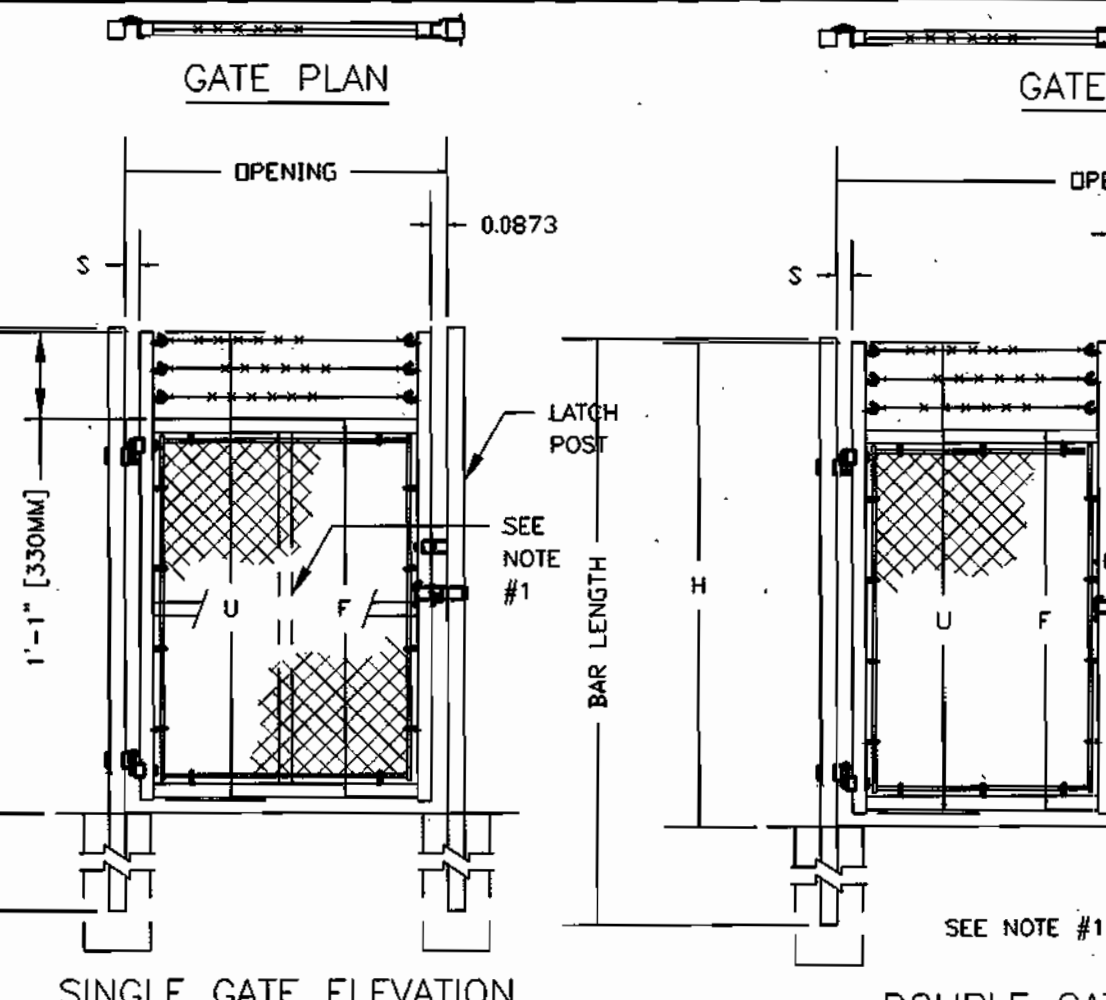
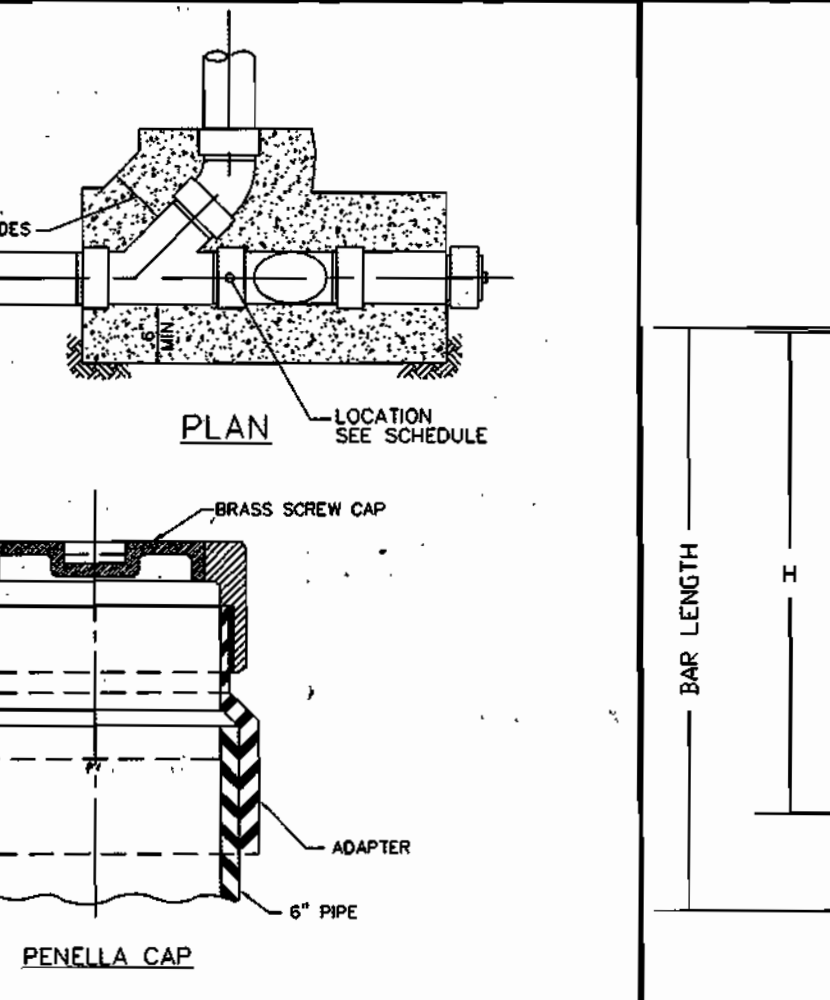
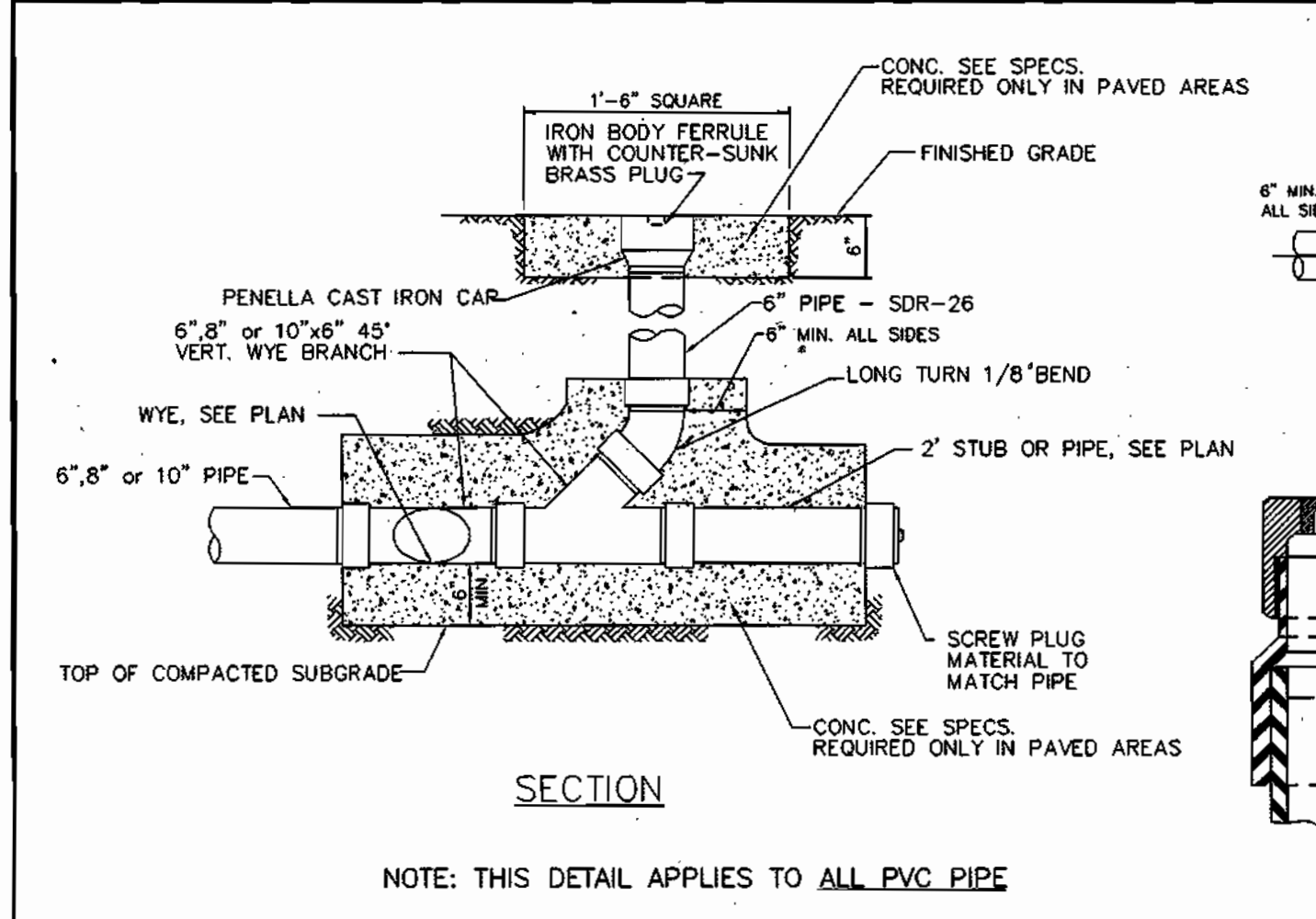
HANDICAP PAVEMENT MARKING PLAN

HANDICAP SIGN DETAIL

HANDICAP SIGN DETAIL

HANDICAP/PEDESTRIAN RAMP DETAIL

CONCRETE WHEEL STOPS



**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**SITE DETAILS**

PROJECT TITLE: **HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
 8576 DAVIS ROAD  
 HOWARD COUNTY, MARYLAND

ENGINEERS: **WR** Consulting Engineers  
 849 Fairmount Avenue (410) 512-4500  
 Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
 WHITNEY, BAILEY, COX & MAGNANI, LLC

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-4.1
GRID NO.: 1	
PARCEL NO.: 521	5 of 22

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* Chief, Development Engineering Division Date: 4/4/03  
*[Signature]* Chief, Division of Land Development Date: 1/16/03  
*[Signature]* Director Date: 1/16/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 County Health Officer  
 Howard County Health Department Date: \_\_\_\_\_

**SINGLE OR DOUBLE LEAF GATES**

NOM HEIGHT (H)	UPRIGHT HT (U)	FRAME HT (F)
NOM HT INCLUDING BARBED WIRE	ACTUAL DIM	ACTUAL DIM
8'-0" (2438MM)	7'-10" (2388MM)	6'-8 1/2" (2045MM)

**SINGLE LEAF GATES**

OPENING	GATE POSTS	HINGE SPACE (S)
FACE TO FACE	SQ & RND SIZES	POST TO UPRIGHT
3'-0" (914MM)	2 1/2" (63.5MM) SQ OR 2 1/4" (61MM) RND	FOR SQUARE & ROUND GATE POSTS: 2 1/4" (61MM)
6'-0" (1829MM)	2.875" (73MM) O.D.	

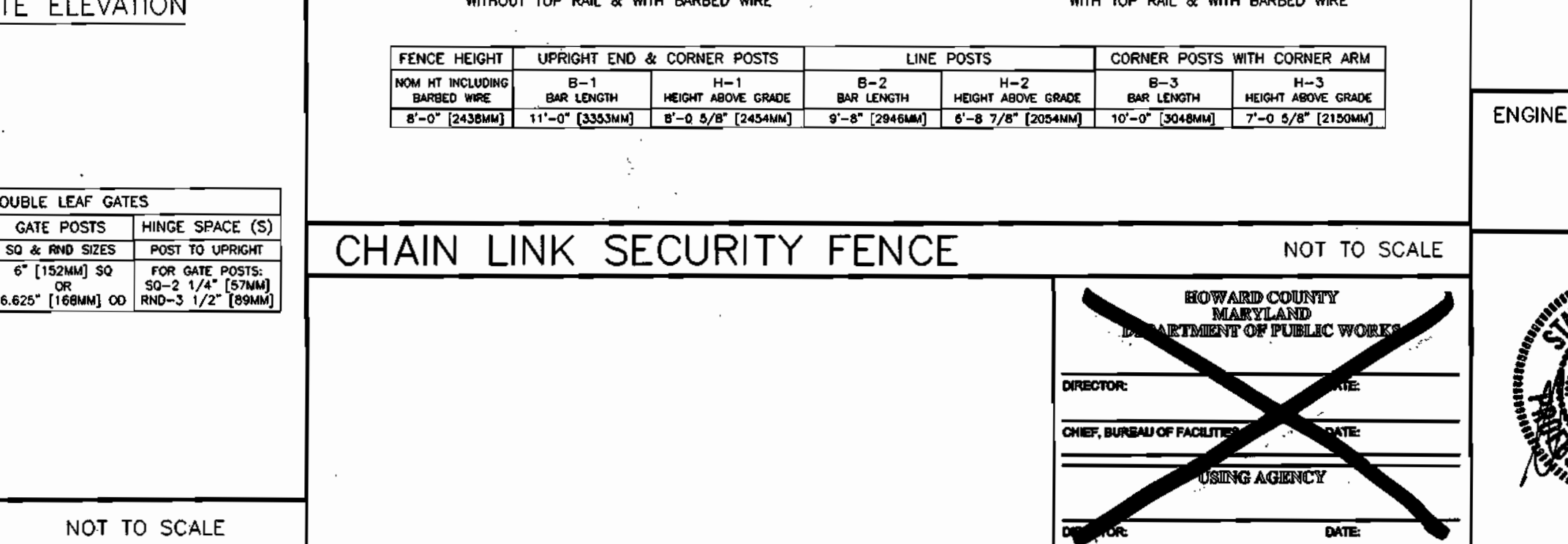
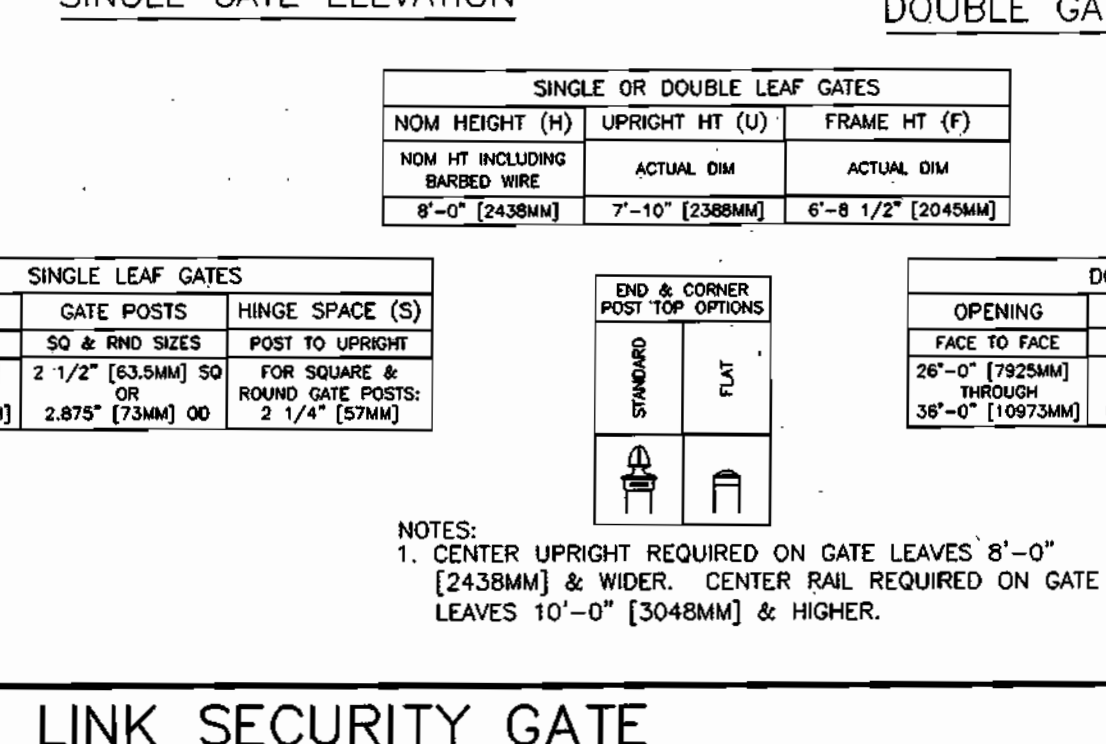
**DOUBLE LEAF GATES**

OPENING	GATE POSTS	HINGE SPACE (S)
FACE TO FACE	SQ & RND SIZES	POST TO UPRIGHT
26'-0" (7925MM)	6" (152MM) SQ OR 5 1/4" (137MM) RND	FOR GATE POSTS: 5 1/4" (137MM)
38'-0" (11683MM)	6.625" (168MM) RND	FOR GATE POSTS: 5 1/4" (137MM)

**END & CORNER POST TOP OPTIONS**

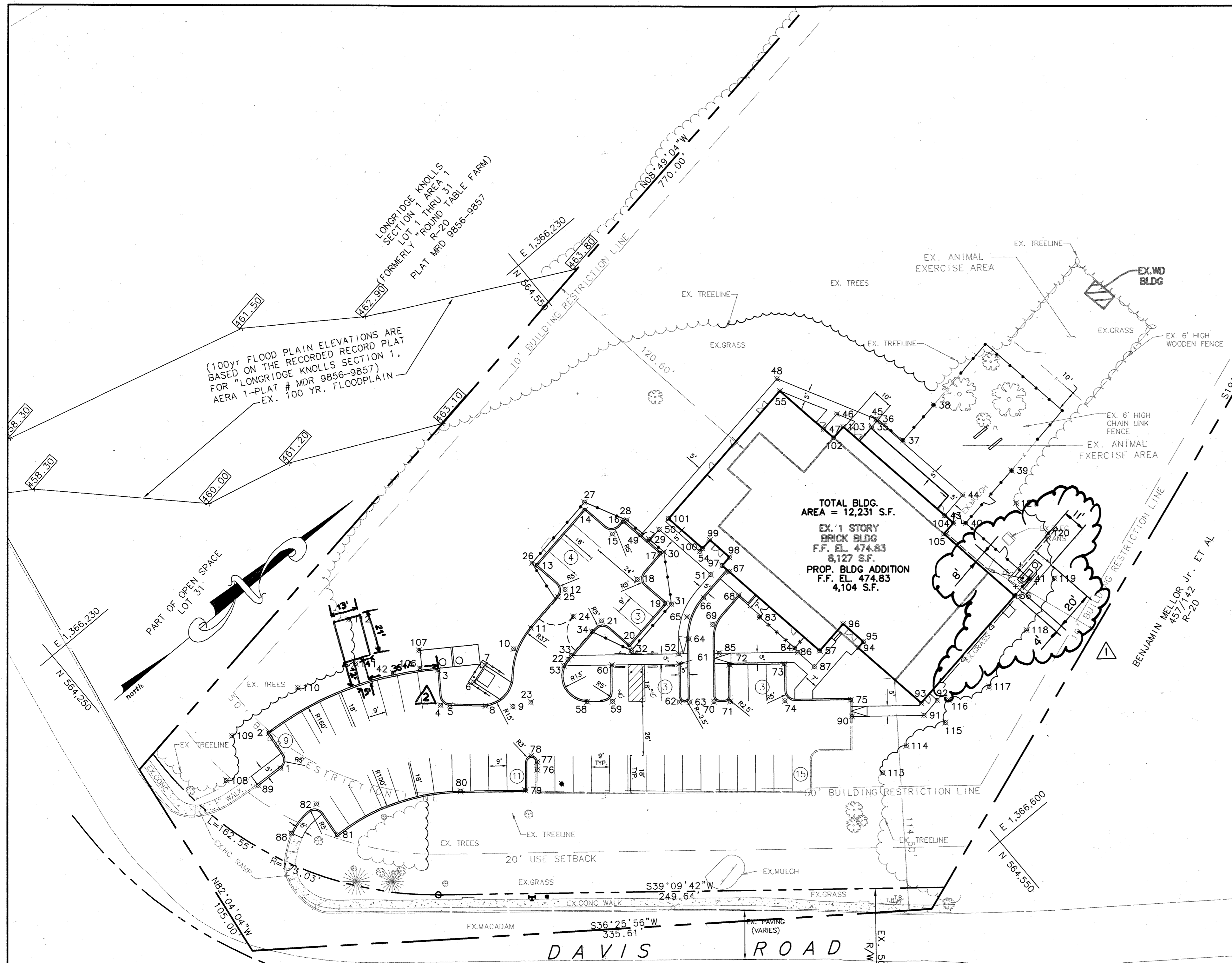
OPTION	POST TOP

NOTES:  
 1. CENTER UPRIGHT REQUIRED ON GATE LEAVES 8'-0" [2438MM] & WIDER. CENTER RAIL REQUIRED ON GATE LEAVES 10'-0" [3048MM] & HIGHER.



HOWARD COUNTY  
 DEPARTMENT OF PUBLIC WORKS

**STATE OF MARYLAND**  
 PROFESSIONAL ENGINEER  
*[Signature]*

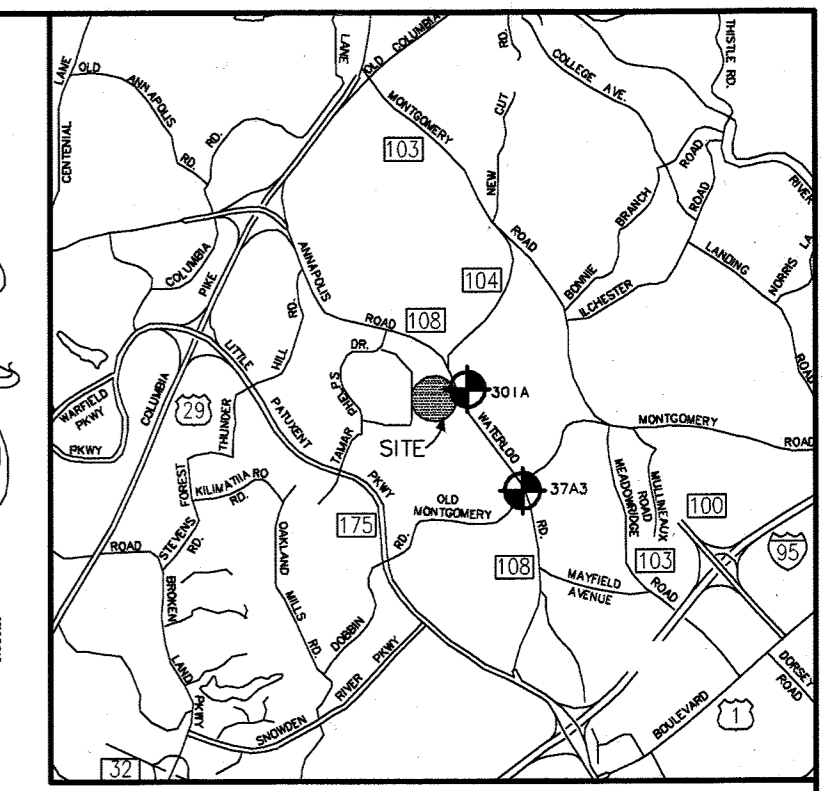


COORDINATE TABLE

1	564,301.174	1,366,344.491	P.I.
2	564,307.819	1,366,327.679	P.I.
3	564,391.822	1,366,357.087	P.I.
4	564,381.720	1,366,371.280	P.I.
5	564,385.154	1,366,374.256	P.I.
6	564,401.479	1,366,373.135	CONC. PAD
7	564,411.054	1,366,370.250	CONC. PAD
8	564,398.468	1,366,385.792	P.I.
9	564,408.653	1,366,394.612	P.I.
10	564,427.092	1,366,373.122	P.I.
11	564,440.245	1,366,370.982	P.T.
12	564,465.443	1,366,367.124	P.I.
13	564,462.515	1,366,349.123	P.I.
14	564,498.048	1,366,343.343	P.I.
15	564,500.938	1,366,361.110	P.I.
16	564,508.834	1,366,359.825	P.I.
17	564,512.683	1,366,383.489	P.I.
18	564,495.908	1,366,386.243	P.I.
19	564,498.798	1,366,404.010	P.I.
20	564,472.148	1,366,408.345	P.I.
21	564,469.253	1,366,390.550	P.I.
22	564,444.372	1,366,394.430	P.C.
23	564,416.797	1,366,398.731	P.I.
24	564,459.913	1,366,379.883	FENCE
25	564,460.469	1,366,367.693	FENCE
26	564,461.219	1,366,346.638	FENCE
27	564,500.451	1,366,340.273	FENCE
28	564,510.725	1,366,360.352	FENCE
29	564,513.099	1,366,374.951	FENCE
30	564,514.617	1,366,384.278	FENCE
31	564,501.015	1,366,406.344	FENCE
32	564,471.126	1,366,411.206	FENCE
33	564,446.943	1,366,394.029	FENCE
34	564,462.313	1,366,391.632	FENCE
35	564,632.652	1,366,402.870	FENCE
36	564,636.604	1,366,402.253	FENCE
37	564,640.244	1,366,417.814	FENCE
38	564,662.928	1,366,414.272	FENCE
39	564,671.710	1,366,463.762	FENCE
40	564,637.772	1,366,469.005	FENCE
41	564,644.211	1,366,510.247	FENCE
42	564,373.856	1,366,344.311	FENCE
43	564,632.202	1,366,459.450	CONC. WALK
44	564,645.540	1,366,457.367	CONC. WALK
45	564,636.798	1,366,401.380	CONC. WALK
46	564,623.550	1,366,386.959	CONC. WALK
47	564,613.865	1,366,388.471	CONC. WALK
48	564,612.207	1,366,354.697	CONC. WALK
49	564,511.233	1,366,370.465	CONC. WALK
50	564,520.040	1,366,374.195	CONC. WALK
51	564,525.247	1,366,407.541	CONC. WALK
52	564,488.006	1,366,427.427	CONC. WALK
53	564,440.860	1,366,395.527	CONC. WALK
54	564,528.412	1,366,395.404	CONC. WALK
55	564,609.449	1,366,360.189	BLDG.
56	564,633.151	1,366,511.974	BLDG.
57	564,542.216	1,366,470.845	BLDG.
58	564,438.338	1,366,416.417	P.T.
59	564,447.983	1,366,424.336	P.I.
60	564,459.249	1,366,410.483	P.I.
61	564,484.851	1,366,431.306	P.I.
62	564,473.071	1,366,445.790	P.I.
63	564,476.950	1,366,448.945	P.I.
64	564,496.508	1,366,424.882	P.C.
65	564,502.794	1,366,416.108	P.I.
66	564,515.162	1,366,414.177	P.T.
67	564,533.087	1,366,412.380	P.I.
68	564,529.351	1,366,424.106	P.I.
69	564,510.186	1,366,427.099	P.I.
70	564,486.253	1,366,456.525	P.I.
71	564,492.446	1,366,461.569	P.I.
72	564,503.823	1,366,447.601	P.I.
73	564,524.770	1,366,464.637	P.I.
74	564,513.397	1,366,478.620	P.I.
75	564,538.473	1,366,499.139	P.I.
76	564,398.004	1,366,426.240	P.I.
77	564,400.474	1,366,423.297	P.C.
78	564,400.104	1,366,419.071	P.I.
79	564,386.970	1,366,430.056	P.I.
80	564,362.136	1,366,409.858	P.C.
81	564,301.610	1,366,387.471	P.I.
82	564,303.496	1,366,369.306	P.I.
83	564,530.183	1,366,439.155	FENCE
84	564,533.731	1,366,461.879	FENCE
85	564,503.539	1,366,440.026	CONC. WALK
86	564,533.533	1,366,464.420	CONC. WALK
87	564,535.194	1,366,475.112	CONC. WALK
88	564,284.739	1,366,372.509	CONC. WALK
89	564,287.277	1,366,343.910	CONC. WALK
90	564,533.662	1,366,505.817	CONC. WALK
91	564,561.256	1,366,528.261	CONC. WALK
92	564,570.852	1,366,526.762	CONC. WALK

COORDINATE TABLE

93	564,563.989	1,366,522.774	BLDG.
94	564,557.612	1,366,481.936	BLDG.
95	564,561.564	1,366,481.318	BLDG.
96	564,559.507	1,366,468.145	BLDG.
97	564,532.368	1,366,407.776	BLDG.
98	564,537.802	1,366,406.927	BLDG.
99	564,535.822	1,366,394.247	BLDG.
100	564,530.388	1,366,395.096	BLDG.
101	564,526.949	1,366,373.071	BLDG.
102	564,614.868	1,366,394.893	BLDG.
103	564,621.949	1,366,393.784	BLDG.
104	564,633.070	1,366,465.008	BLDG.
105	564,625.989	1,366,466.113	BLDG.
106	564,385.465	1,366,350.890	BOLLARD
107	564,390.735	1,366,343.778	BOLLARD
108	564,276.718	1,366,331.969	TREE LINE
109	564,292.912	1,366,316.903	TREE LINE
110	564,333.073	1,366,319.775	TREE LINE
111	564,362.403	1,366,328.939	TREE LINE
112	564,373.946	1,366,309.984	TREE LINE
113	564,527.515	1,366,536.748	TREE LINE
114	564,544.882	1,366,534.097	TREE LINE
115	564,566.921	1,366,537.767	TREE LINE
116	564,575.297	1,366,530.233	TREE LINE
117	564,594.888	1,366,538.185	TREE LINE
118	564,626.845	1,366,528.857	TREE LINE
119	564,653.605	1,366,518.080	TREE LINE
120	564,665.590	1,366,498.841	TREE LINE
121	564,663.138	1,366,477.554	TREE LINE



VICINITY MAP  
SCALE: 1"=5,000'

TOTAL BLDG. AREA = 12,231 S.F.  
EX. 1 STORY BRICK BLDG F.F. EL. 474.83 8,127 S.F.  
PROP. BLDG ADDITION F.F. EL. 474.83 4,104 S.F.

STATE OF MARYLAND  
DEPARTMENT OF PUBLIC WORKS  
PROFESSIONAL ENGINEER  
No. 23165  
11/4/21  
THIS SIGNATURE AND SEAL IS FOR REVISION 2 ONLY

CAPITAL PROJECT #P-4918

6/9/2016	1	ADD STANDBY GENERATOR AND FENCE
10/8/2021	2	ADD CONCRETE PAD AND FREEZER
DATE	NO.	REVISIONS

GEOMETRY PLAN

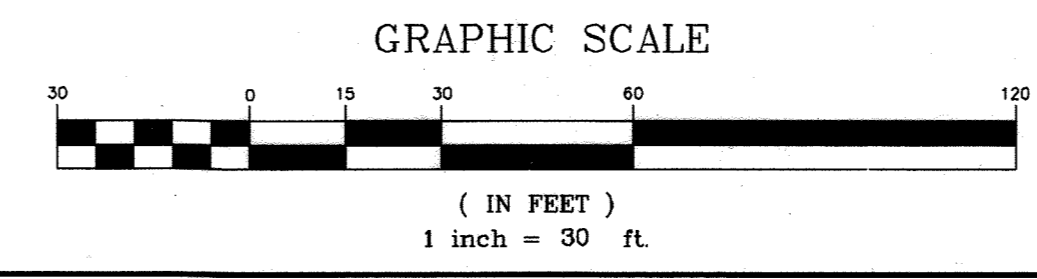
PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WHITNEY, BAILEY, COX & MAGNANI, LLC**  
Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)

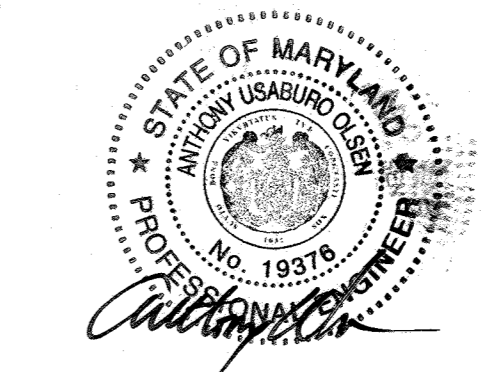
DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO: C-6
MAP NO.: 37	GRID NO.: 1
PARCEL NO.: 521	7 of 22

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Chief, Development Engineering Division Date 11/14/03  
Chief, Division of Land Development Date 1/16/03  
Director Date 1/12/03

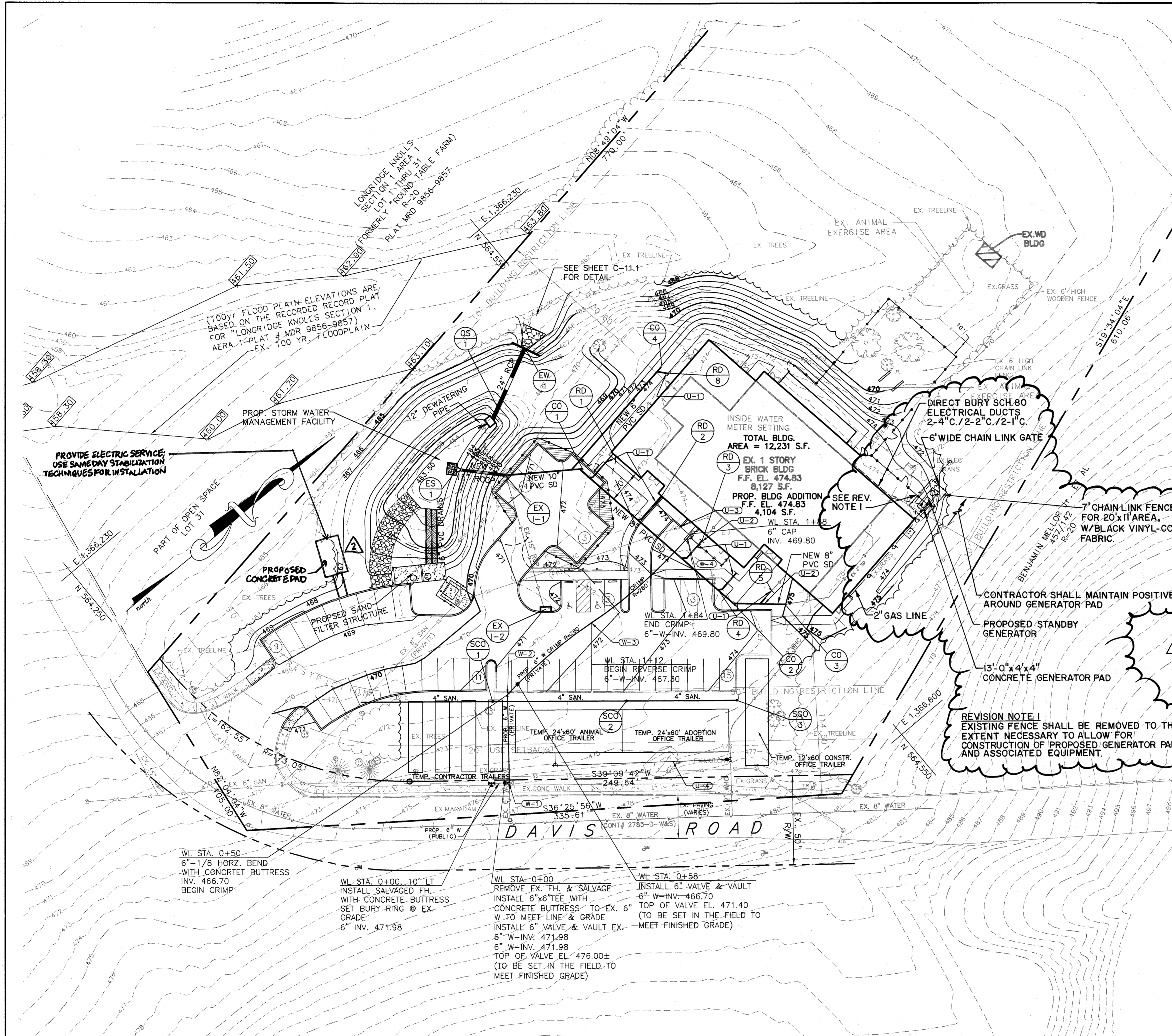
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
County Health Officer Date  
Howard County Health Department



NOTE:  
THIS CERTIFICATION APPLIES TO REVISION 1 CORRECTIONS, ONLY.

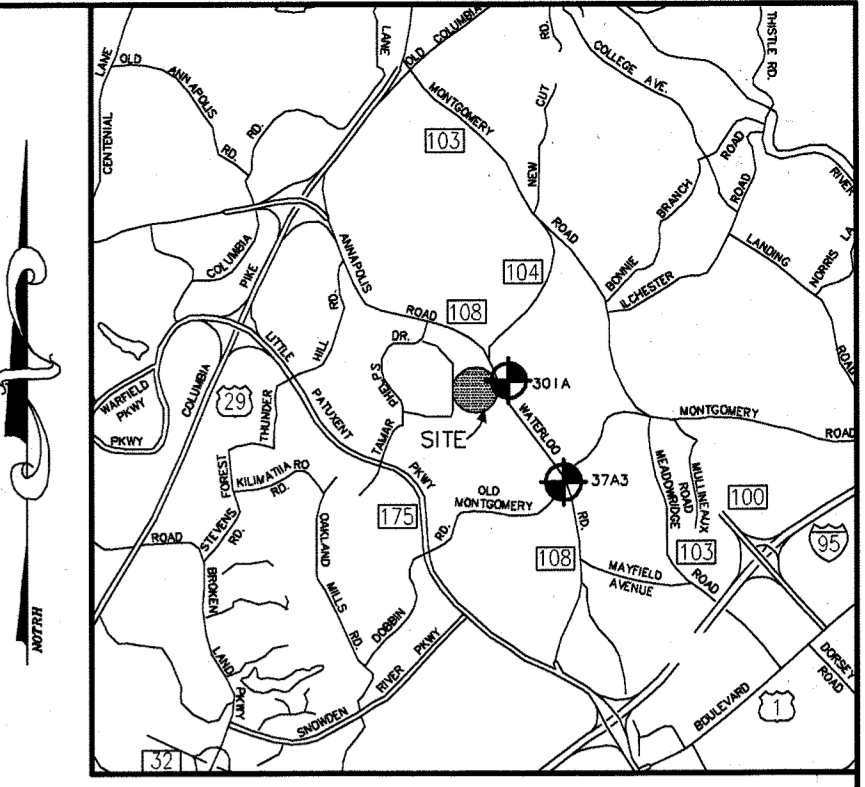


HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
DIRECTOR: DATE  
CHIEF, BUREAU OF FACILITIES: DATE  
CHECKING AGENCY: DATE



**WATER LINE COORDINATES**

W-1	N. 564363.49 E. 1366478.65
W-2	N. 683967.96 E. 1310682.08
W-3	N. 564456.71 E. 1366439.56
W-4	N. 564528.74 E. 1366437.69



VICINITY MAP  
SCALE: 1"=5,000'

**STORM DRAINAGE STRUCTURE SCHEDULE**

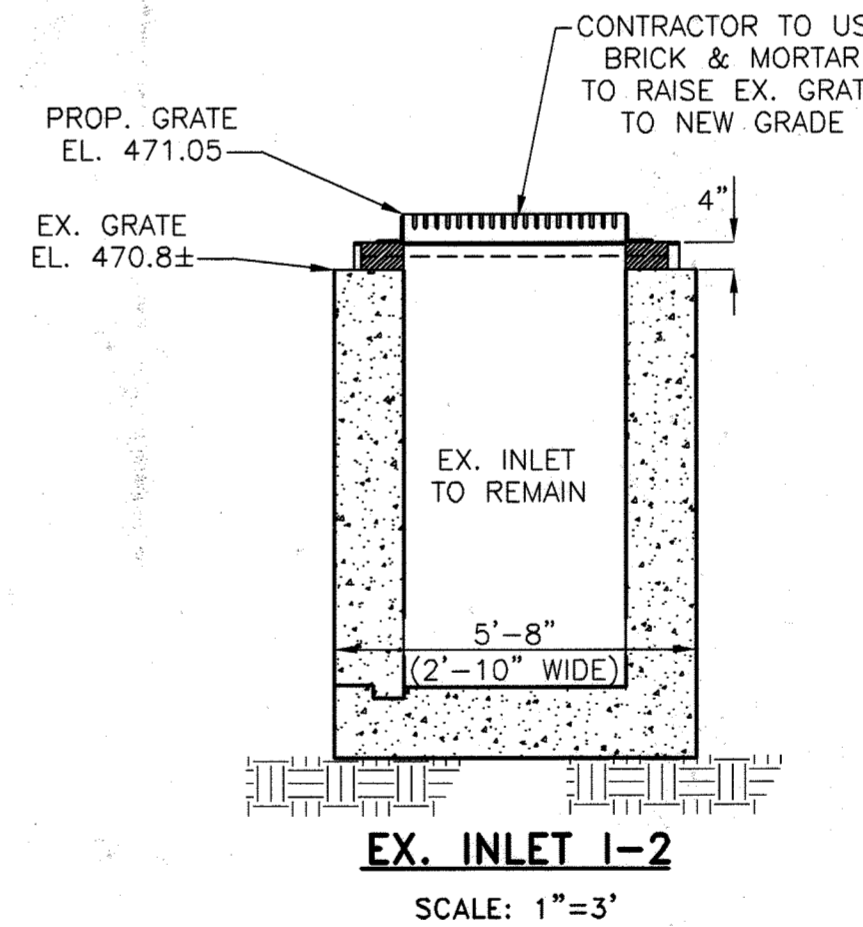
NO.	DESCRIPTION	COORDINATES		TOP	INVERT IN	INVERT OUT
		NORTHING	EASTING			
EX-1-1	EX. TYPE 'A'-5" INLET (TO REMAIN)	N. 564,473.02	E. 1,366,345.06	471.31	8"-467.50	15"-464.76
EX-1-2	EX. DOUBLE TYPE 'S' INLET (TO REMAIN) ADJUST GRATE TO NEW FINISHED GRADE	N. 564,441.88	E. 1,366,417.22	471.05	---	15"-467.65
ES-1	15" CONC. TYPE 'A' END SECTION SEE HOWARD COUNTY STD. DETAIL #SD-5.51	N. 564,453.87	E. 1,366,324.68	---	463.76	463.50
EW-1	24" CONC. TYPE 'O' ENDWALL SEE HOWARD COUNTY STD. DETAIL #SD-5.51	N. 564,527.09	E. 1,366,297.16	---	462.80	462.80
OS-1	STORM WATER MANAGEMENT STRUCTURE SEE SHEET C-11.2 FOR SIM STRUCTURE DETAILS	N. 564,494.17	E. 1,366,312.31	466.33	6"-463.05	24"-463.05
CO-1	6" PVC MAIN LINE CLEANOUT SEE HOWARD COUNTY STD. DETAIL #S-3.21	N. 564,508.48	E. 1,366,370.08	472.00	8"-469.46	8"-469.46
CO-2	6" PVC MAIN LINE CLEANOUT SEE HOWARD COUNTY STD. DETAIL #S-3.21	N. 564,536.66	E. 1,366,492.96	474.80	8"-471.07	8"-471.07
CO-3	6" PVC MAIN LINE CLEANOUT (N-LINE) SEE HOWARD COUNTY STD. DETAIL #S-3.21	N. 564,537.86	E. 1,366,493.74	475.00	8"-471.40	8"-471.40
CO-4	6" PVC MAIN LINE CLEANOUT SEE HOWARD COUNTY STD. DETAIL #S-3.21	N. 564,579.38	E. 1,366,354.49	474.50	8"-471.83	8"-471.83

**TEMPORARY OFFICE TRAILER NOTES:**

- CONTRACTOR SHALL PROVIDE TEMPORARY SEWER SERVICE FOR THE TEMPORARY OFFICE TRAILERS FROM THE EXISTING SANITARY SEWER.
- CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE FOR THE TEMPORARY OFFICE TRAILERS.
- CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRIC AND TELEPHONE SERVICE FOR THE TEMPORARY OFFICE TRAILERS FROM THE EXISTING BUILDING. CONTRACTOR SHALL EXTEND WIRING FOR TEMPORARY TRAILERS BY EXTENDING WIRING FROM EXISTING DISTRIBUTIONS PANELS USING TEMPORARY POLES.
- CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS TO THE TEMPORARY OFFICE TRAILERS AS REQUIRED AND COORDINATED BY THE SUPERVISOR OF THE ANIMAL CONTROL FACILITY.

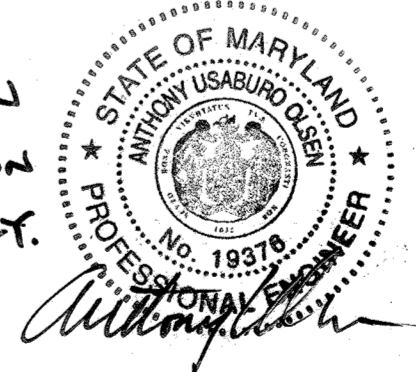
**SANITARY STRUCTURE SCHEDULE**

NO.	DESCRIPTION	COORDINATES		TOP	INVERT IN	INVERT OUT
		NORTHING	EASTING			
SCO-1	4" PVC MAIN LINE CLEANOUT SEE HOWARD COUNTY STD. DETAIL #S-3.21	N. 564385.66	E. 1366437.56	472.00	464.50	464.50
SCO-2	4" PVC MAIN LINE CLEANOUT SEE HOWARD COUNTY STD. DETAIL #S-3.21	N. 564443.72	E. 1366485.77	473.70	468.00	468.00
SCO-3	4" PVC MAIN LINE CLEANOUT SEE HOWARD COUNTY STD. DETAIL #S-3.21	N. 1366525.38	E. 1366525.38	475.00	469.26	469.26



EX. INLET 1-2  
SCALE: 1"=3'

NOTE: THIS CERTIFICATION APPLIES TO REVISION 1 CORRECTIONS ONLY.



**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS
6/9/2016	1	ADD STANDBY GENERATOR AND FENCE
10/8/2021	2	ADD CONCRETE PAD AND FREEZER

**UTILITY PLAN**

PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WR** Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-7
GRID NO.: 1	8 of 22
PARCEL NO.: 521	

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Chief, Development Engineering Division Date: 11/4/03  
Chief, Division of Land Development Date: 11/6/03  
Director Date: 11/21/02

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
County Health Officer Date: \_\_\_\_\_  
Howard County Health Department

**CONSTRUCTION NOTES**

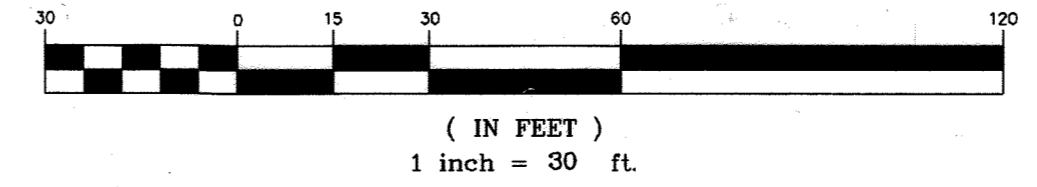
- U-1 NEW 6" ROOF DRAIN
- U-2 THE PROP. ROOF DRAIN INTO EX. ROOF DRAIN
- U-3 CONTRACTOR SHALL PROVIDE MAIN LINE CLEANOUT PER HOWARD CO. STD. DETAIL #S-3.21 TOP OF CLEANOUT: EL.=74.50 INVERT SHALL MEET EX. 6" SAN. FOR LINE & GRADE
- U-4 CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE TO THE TEMPORARY TRAILERS INCLUDING TEMPORARY WATER METER(S) LOCATED WITHIN THE TEMPORARY TRAILERS. TEMPORARY WATER SERVICE AND METERS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.

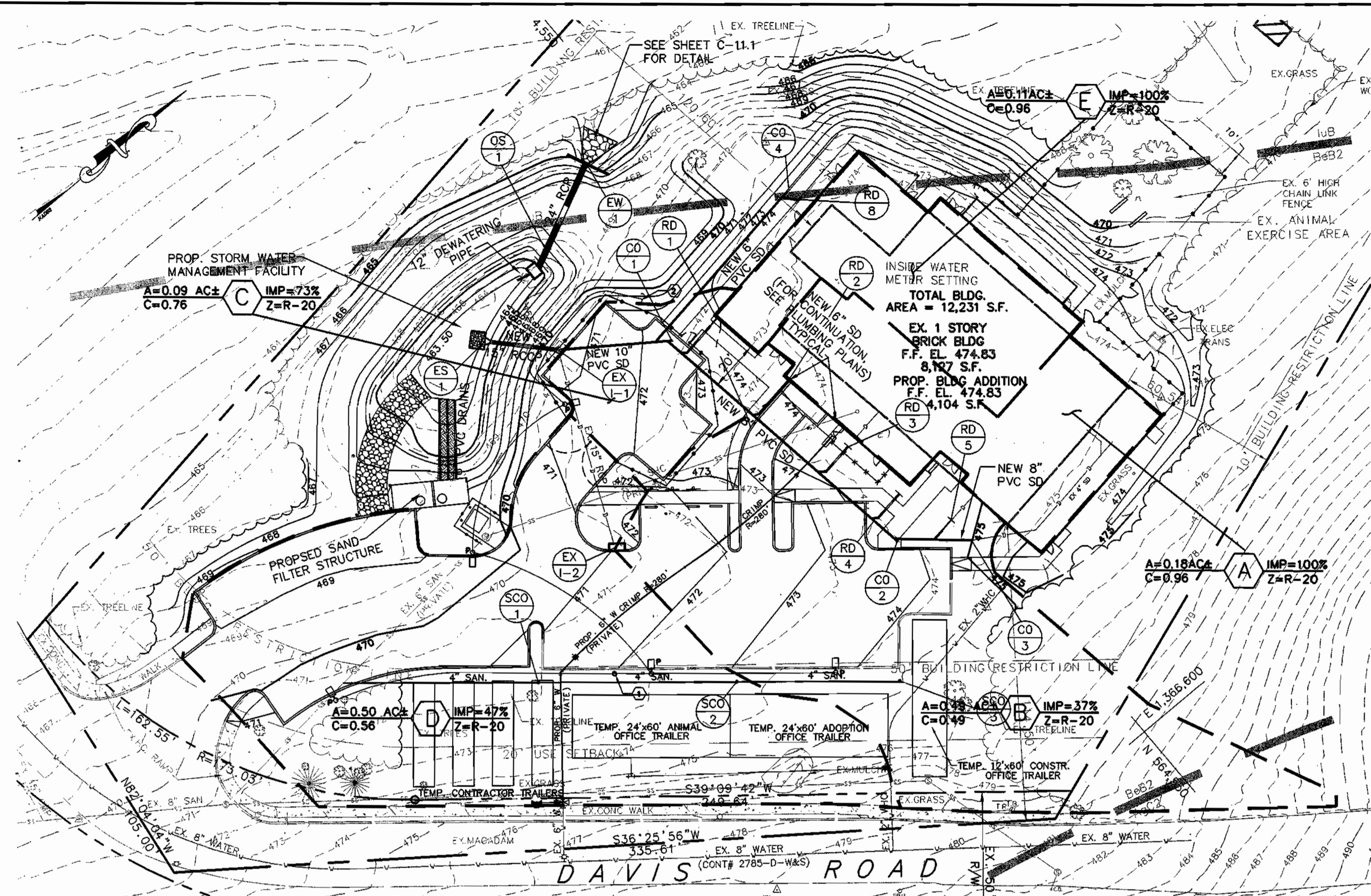
NOTE: INSIDE METER SETTING CONTRACTOR SHALL OBTAIN WATER METER FROM THE COUNTY'S UTILITY DIVISION AND INSTALL

NOTE: CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DAMAGED EXISTING CONCRETE SIDEWALK ALONG DAVIS ROAD IN KIND.

CONTRACTOR SHALL TAKE EXTREME CAUTION NOT TO DISTURB EX. WATER SERVICE DURING PLACEMENT OF THE TEMPORARY OFFICE TRAILER.

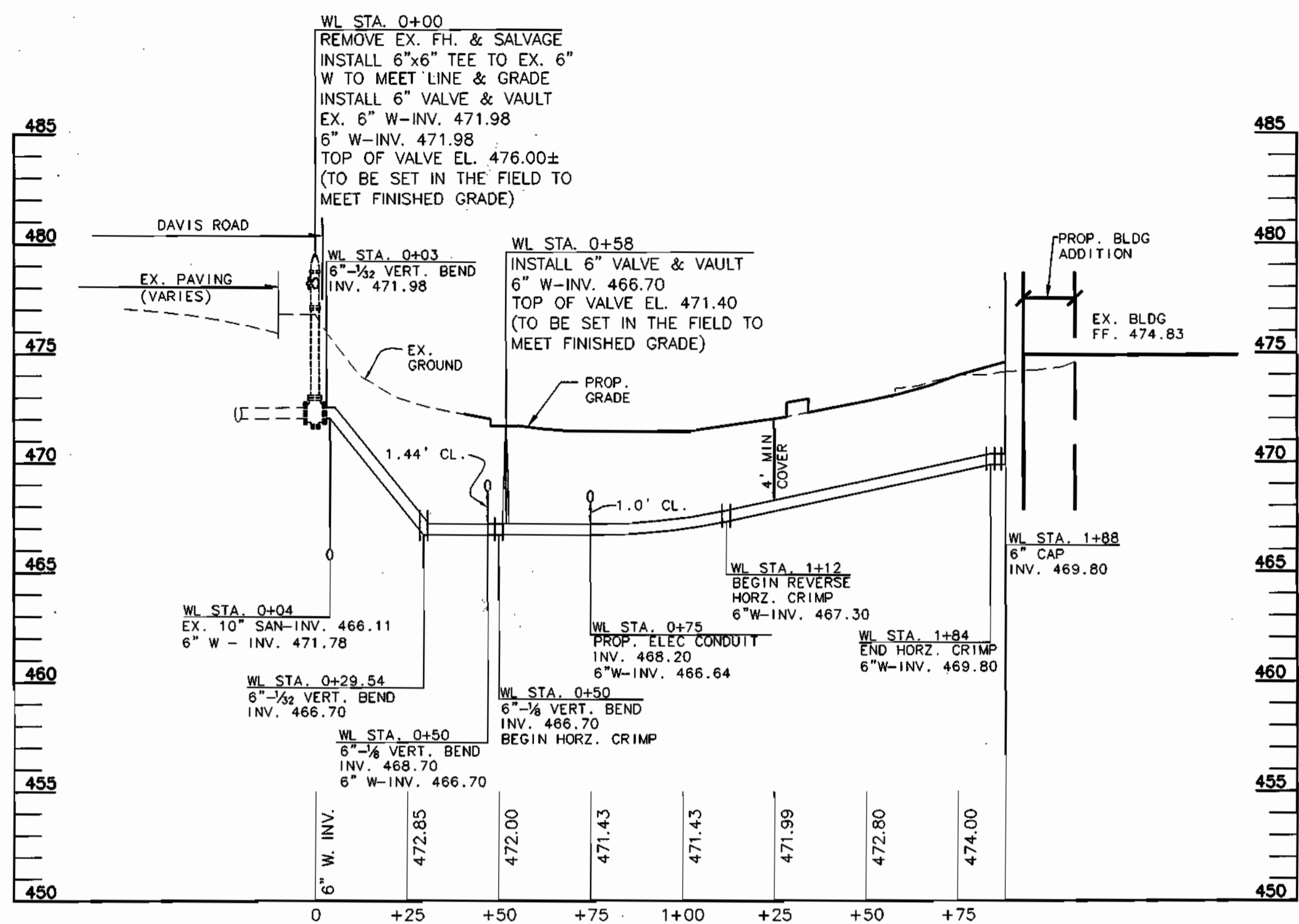
**GRAPHIC SCALE**





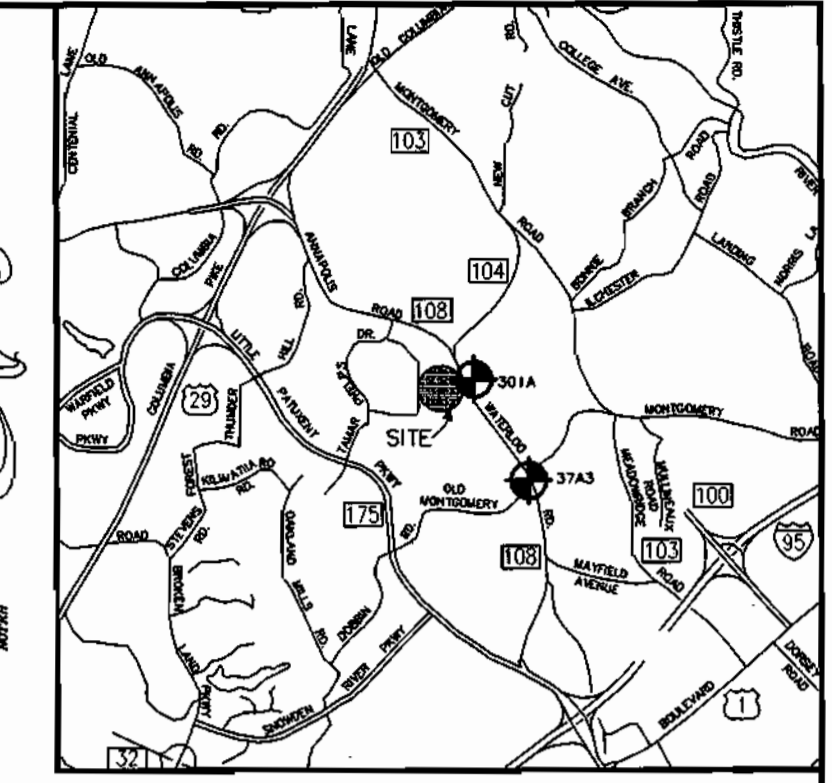
**STORM DRAIN DRAINAGE AREA MAP**

SCALE: 1"=30'

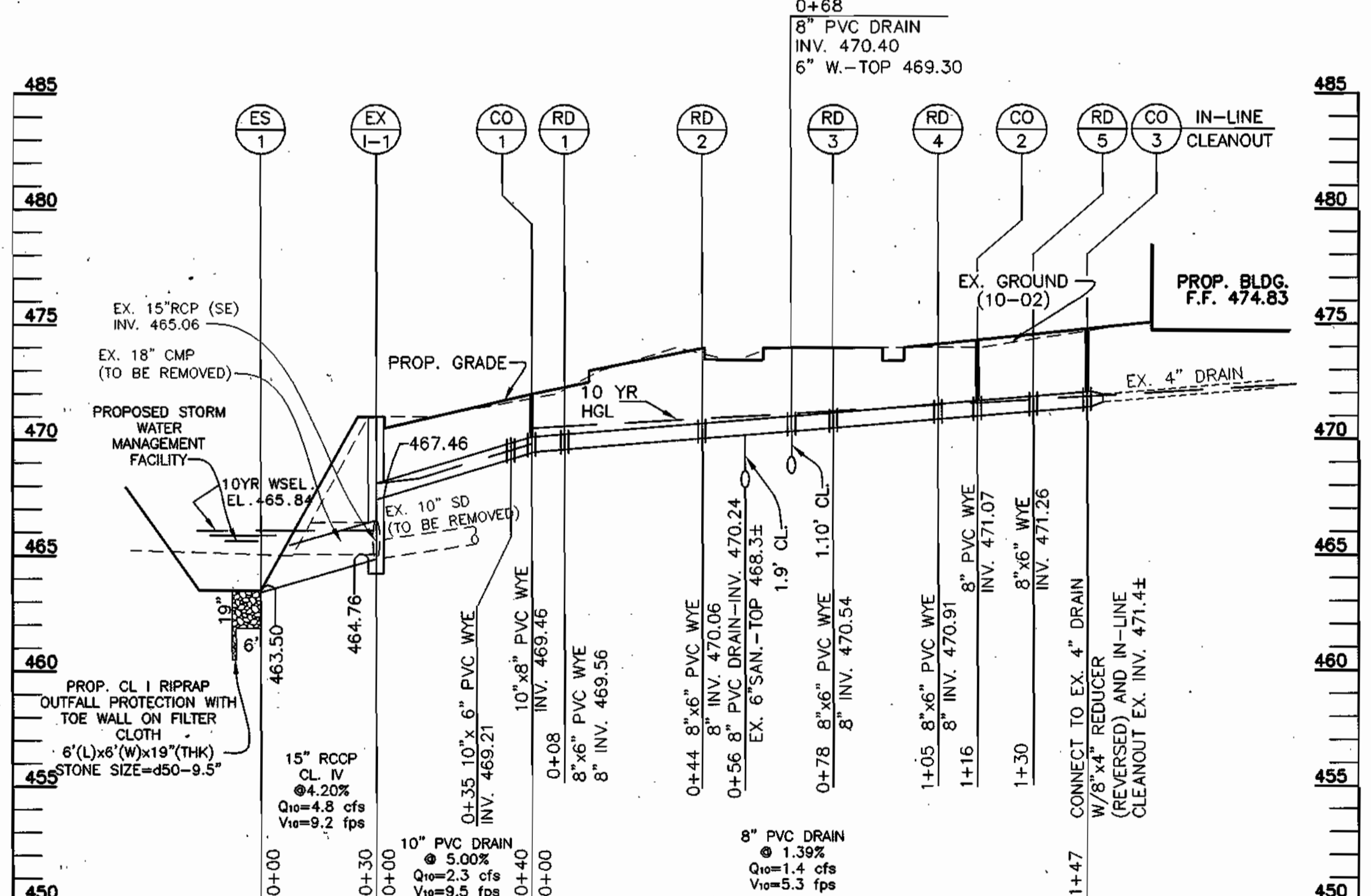


**WATER LINE PROFILE**

SCALE: HORIZ. 1"=30'  
VERT. 1"=5'



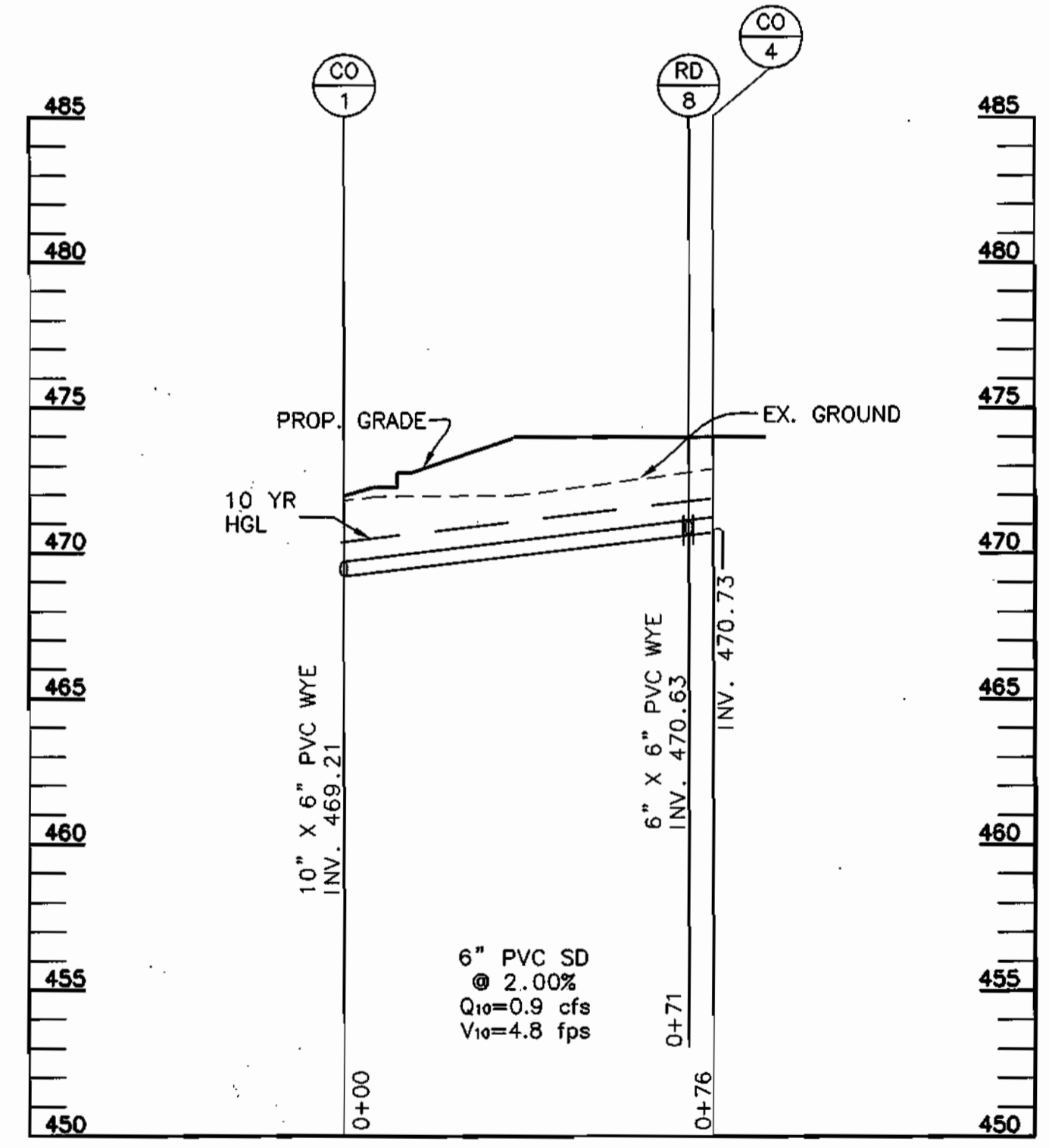
**VICINITY MAP**  
SCALE: 1"=5,000'



**STORM DRAIN PROFILE**

SCALE: HORIZ. 30'=1"  
VERT. 5'=1"

NOTE: VELOCITIES GIVEN ARE FOR PARTIAL FLOW



**STORM DRAIN PROFILE**

SCALE: HORIZ. 30'=1"  
VERT. 5'=1"

NOTE: VELOCITIES GIVEN ARE FOR PARTIAL FLOW

NOTE: CONTRACTOR SHALL TEST PIT EX. SANITARY SEWER PRIOR TO WATER LINE CONSTRUCTION, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**WATER/STORM DRAIN PROFILES AND DRAINAGE AREA MAP**

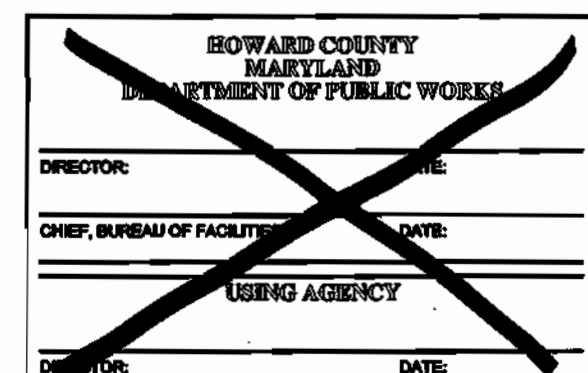
PROJECT TITLE: **HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WR Consulting Engineers**  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	<b>C-7.1</b>
GRID NO.: 1	
PARCEL NO.: 521	9 of 22






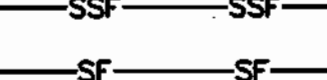
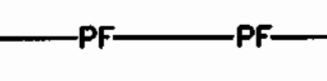

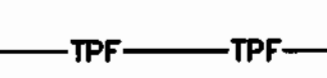


APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Chief, Development Engineering Division* Date: 11/4/03  
*Chief, Division of Land Development* Date: 11/4/03  
*Director* Date: 11/14/03

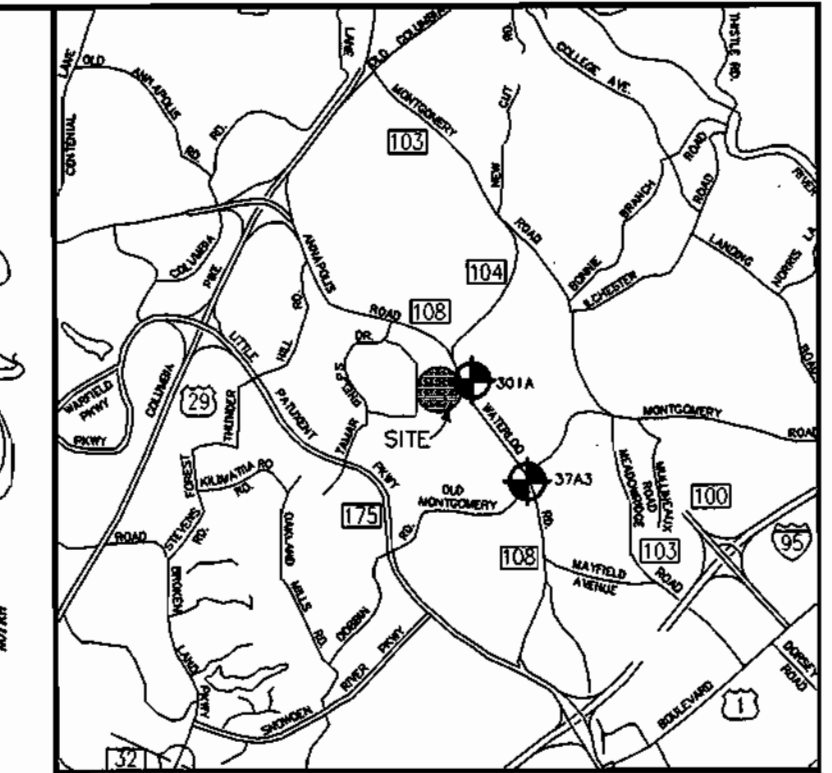
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 County Health Officer  
 Howard County Health Department Date: \_\_\_\_\_





**LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM 
- STOCKPILE AREA 
- CONTRACTOR STAGING AREA 
- CURB INLET PROTECTION 
- AT GRADE INLET PROTECTION 
- SUPER SILT FENCE 
- SILT FENCE 
- ORANGE BLAZE PROTECTION FENCE 
- DIVERSION FENCE 
- LIMIT OF DISTURBANCE 
- TREE PROTECTION FENCE 



**SEQUENCE OF CONSTRUCTION**

1. OBTAIN A GRADING PERMIT 5 DAYS
2. CONTRACTOR SHALL INSTALL SEDIMENT CONTROL DEVICES (SEDIMENT BASIN, STABILIZED CONSTRUCTION ENTRANCE, INLET PROTECTION, SUPER SILT FENCE, DIVERSION FENCE & SILT FENCE). 14 DAYS
3. CONTRACTOR TO INSTALL ORANGE SAFETY FENCE. 0.5 DAY
4. BEGIN CONSTRUCTION OF STORMWATER MANAGEMENT FACILITY, SAND FILTER STRUCTURE, AND ASSOCIATED PARKING AT THE MAIN ENTRANCE AND DUMPSTER PAD. 30 DAYS
5. BEGIN BUILDING CONSTRUCTION. 60 DAYS
6. BEGIN CONSTRUCTION OF UTILITIES. 10 DAYS
7. BEGIN GRADING AND CONSTRUCTION OF PARKING, SIDEWALK, AND PERMANENTLY STABILIZE ALL DISTURBED AREAS IMMEDIATELY WITH PERMANENT VEGETATION OR PAVING BASE COURSE. 25 DAYS
8. INSTALL PAVING SURFACE COURSE AND STRIPE PARKING SPACES. 3 DAYS
9. UPON COMPLETION OF CONSTRUCTION, WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE. 2 DAYS
10. CONVERT SEDIMENT BASIN TO SWM POND IN ACCORDANCE WITH APPROVED PLANS. 7 DAYS
11. PROVIDE AND INSTALL LANDSCAPING AS SHOWN ON THE LANDSCAPE PLANS. 2 DAYS

**LIMIT OF DISTURBANCE:**  
70,471 S.F./1.62 AC.±

INSPECTION CHECKLIST FOR INSPECTION OF SEDIMENT BASINS TO BE CONVERTED INTO STORMWATER MANAGEMENT PONDS

SEDIMENT BASIN #1 TO SWM POND #1

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR SWM PONDS

STAGE	DEVELOPER/ENGINEER'S APPROVAL		WMA INSPECTOR'S APPROVAL	
	INITIALS	DATE	INITIALS	DATE
1. Pre-construction meeting*				
2. Sediment Control* (see sediment control plans for details)				
3. Clearing and Grubbing				
4. Dewatering (stream diversion)*				
5. Core Trench excavation and dewatering				
6. Core Trench Backfill				
7. Construction of Principal Spillway a. Pipe assembled in place on accessible subgrade b. Anti-seep collars formed with re-bar placed* c. Riser footing subgrade, form and rebar* d. Forms set and re-bar placed for walls*				
8. Backfilling Principal Spillway				
9. Construction of Embankment				
10. Construction of Emergency Spillway				
11. Channelization Work and Outlet Protection				
12. Vegetative Stabilization				
13. Final Inspection				

NOTE: See Construction Specifications for Detailed Requirements  
\*Mandatory notification/inspection of WMA Inspector prior to proceeding with next stage. Call (410) 631-3510 prior to 12:00 noon on the preceding day to arrange for notification/inspection.


NOTE: CONTRACTOR TO CURL ALL SILT FENCE AND SUPER SILT FENCE UPHILL BY 2' IN ELEVATION

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**SEDIMENT AND EROSION CONTROL PLAN**

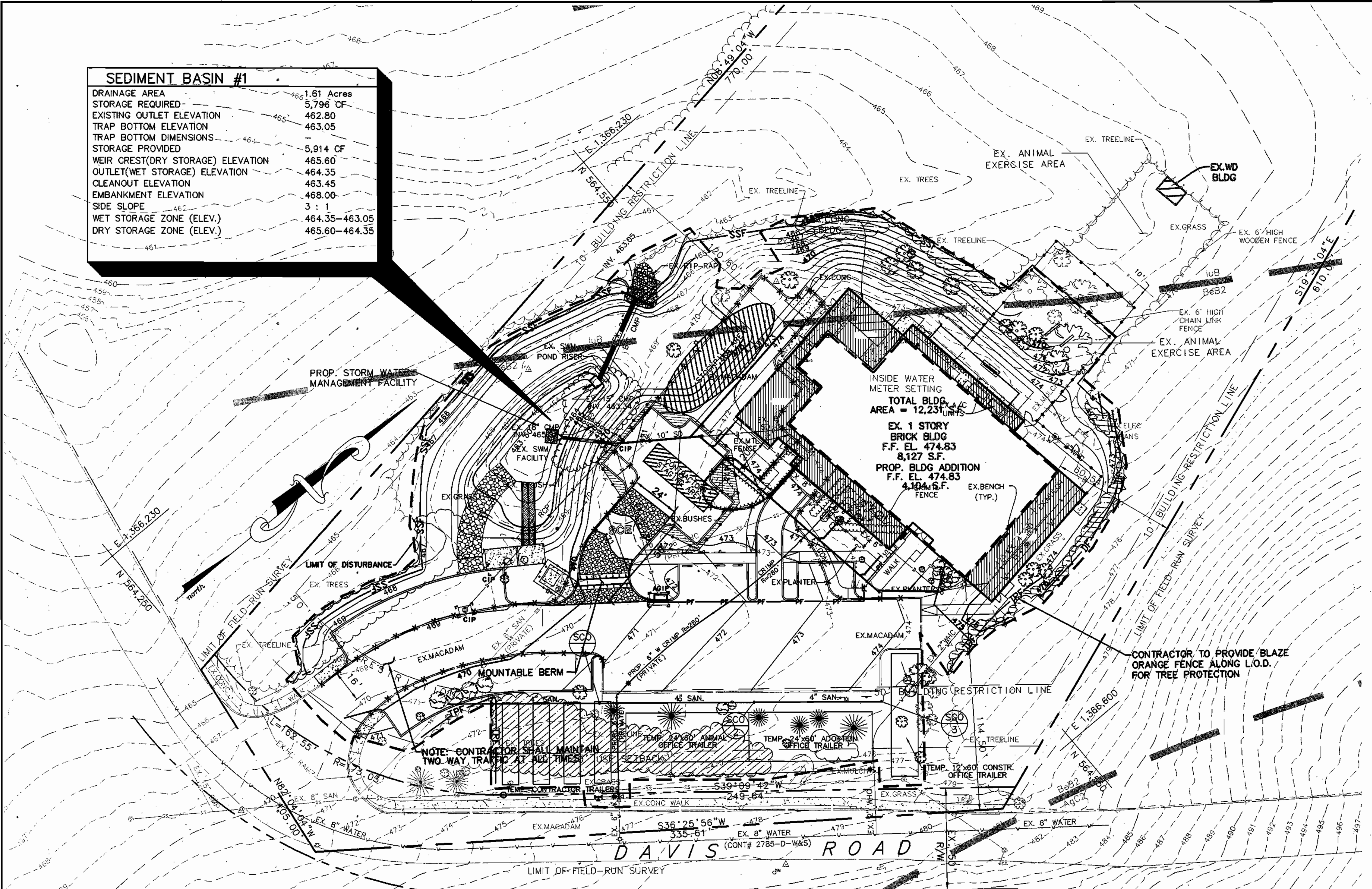
PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS:  Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335.300
SCALE: AS SHOWN	DRAWING NO.:
MAP NO.: 37	C-8
GRID NO.: 1	10 of 22
PARCEL NO.: 521	

**SEDIMENT BASIN #1**

DRAINAGE AREA	1.61 Acres
STORAGE REQUIRED	5,796 CF
EXISTING OUTLET ELEVATION	462.80
TRAP BOTTOM ELEVATION	463.05
TRAP BOTTOM DIMENSIONS	
STORAGE PROVIDED	5,914 CF
WEIR CREST(DRY STORAGE) ELEVATION	465.60
OUTLET(WET STORAGE) ELEVATION	464.35
CLEANOUT ELEVATION	463.45
EMBANKMENT ELEVATION	468.00
SIDE SLOPE	3 : 1
WET STORAGE ZONE (ELEV.)	464.35-463.05
DRY STORAGE ZONE (ELEV.)	465.60-464.35



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Chris Deane* Chief, Development Engineering Division Date: 11/4/03

*Condy Hamata* Chief, Division of Land Development Date: 11/4/03

*Mark L. Gault* Director Date: 11/14/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

County Health Officer  
Howard County Health Department

ENGINEER'S CERTIFICATE

I certify that this plan for sediment and erosion 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.

*William T. Baker, Jr.* Signature (print name below signature) Date: 12/9/08  
12908  
10/21/03

DEVELOPER'S CERTIFICATE

I certify that all development and construction will be done according to this plan for sediment and erosion control, and that all 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.

*Michael A. Giannicola* Signature (print name below signature) Date: 10/22/03  
10/22/03

*MICHAEL A. GIANNICOLA* Print name

Reviewed for Howard SCD and meets Technical Requirements

*Jin M. Lee* Date: 11/3/03  
USDA - Natural Resources Conservation Service

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John S. ...* Date: 11/3/03  
Howard SCD

GRAPHIC SCALE  
( IN FEET )  
1 inch = 30 ft.

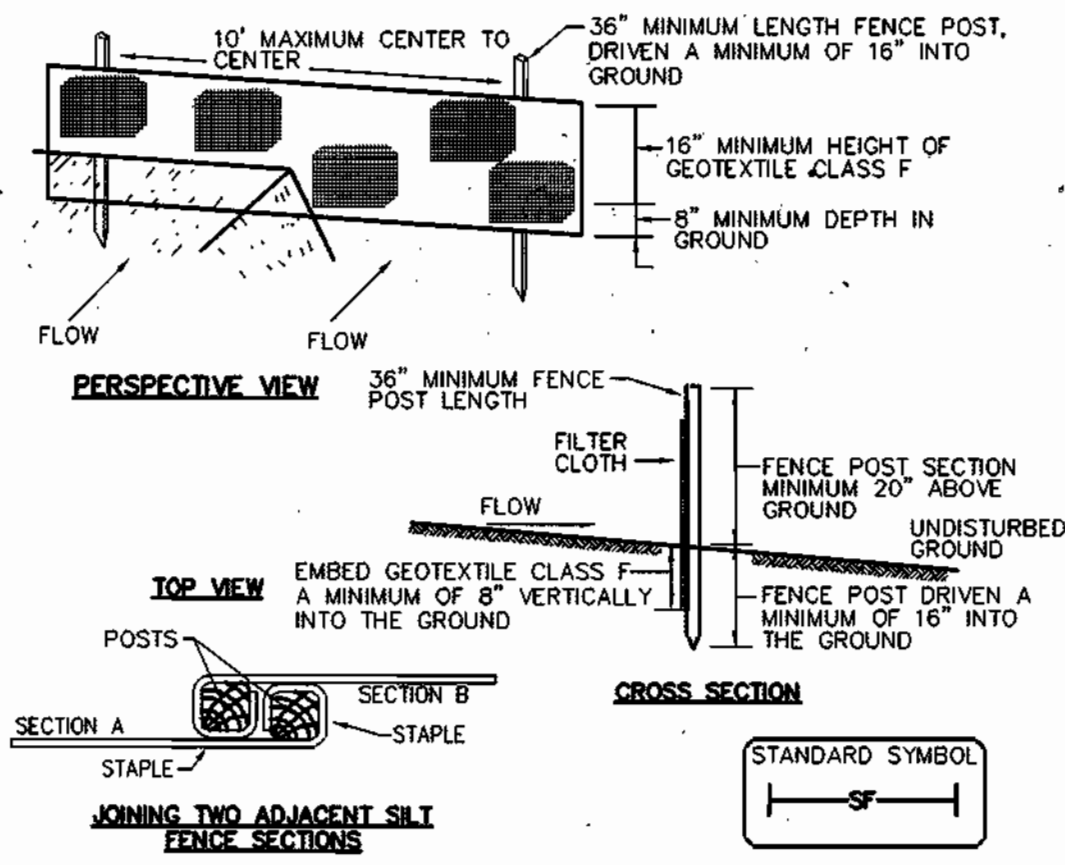
~~HOWARD COUNTY MARYLAND DEPARTMENT OF PUBLIC WORKS~~

~~DIRECTOR: DATE:~~

~~CHIEF, BUREAU OF FACILITIES DATE:~~

~~USING AGENCY DATE:~~





### Construction Specifications

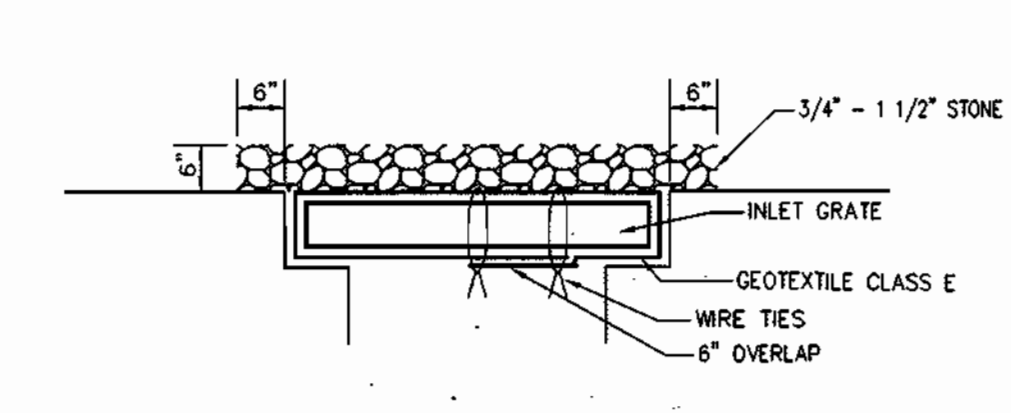
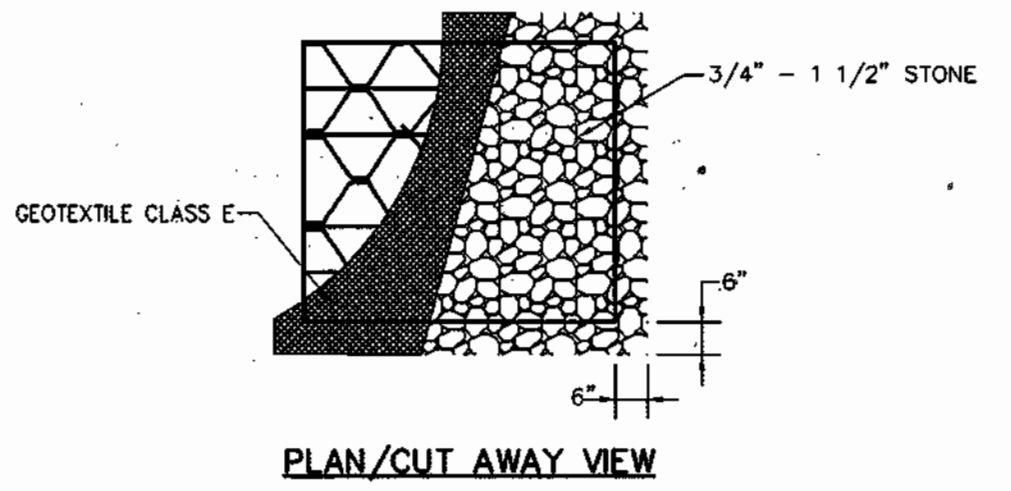
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:  
 Tensile Strength 50 lbs/in (min.) Test: MSMT 509  
 Tensile Modulus 20 lbs/in (min.) Test: MSMT 509  
 Flow Rate 0.3 gal/ft / minute (max.) Test: MSMT 322  
 Filtering Efficiency 75% (min.) Test: MSMT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

1 SILT FENCE NOT TO SCALE



### Construction Specifications

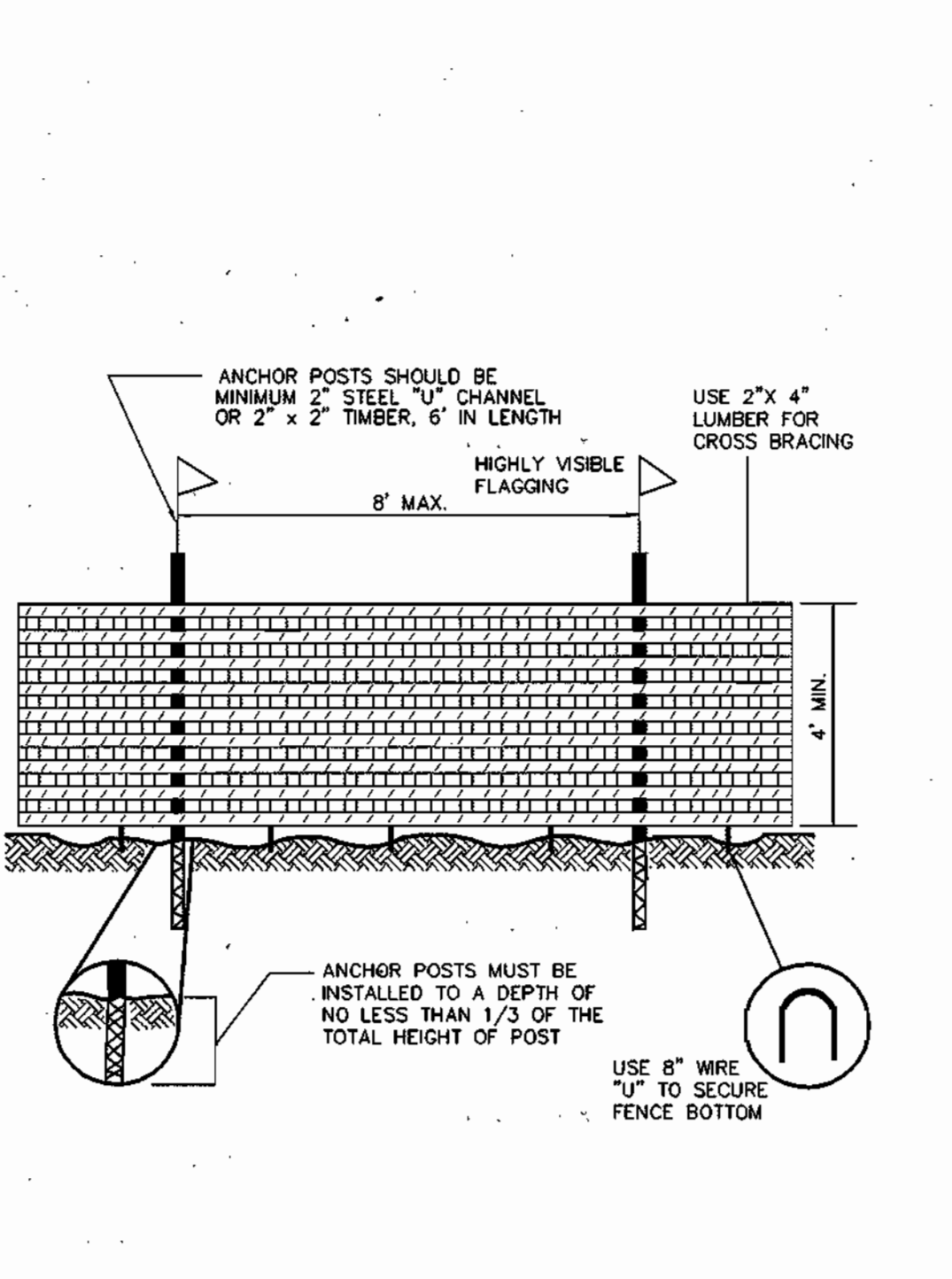
- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
- Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

5 AT GRADE INLET PROTECTION NOT TO SCALE

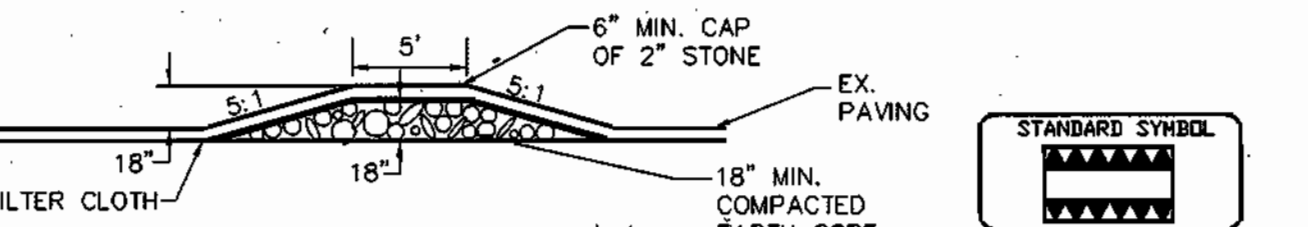
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division Date 4/4/03  
 Chief, Division of Land Development Date 4/4/03  
 Director Date 4/4/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

County Health Officer Date  
 Howard County Health Department



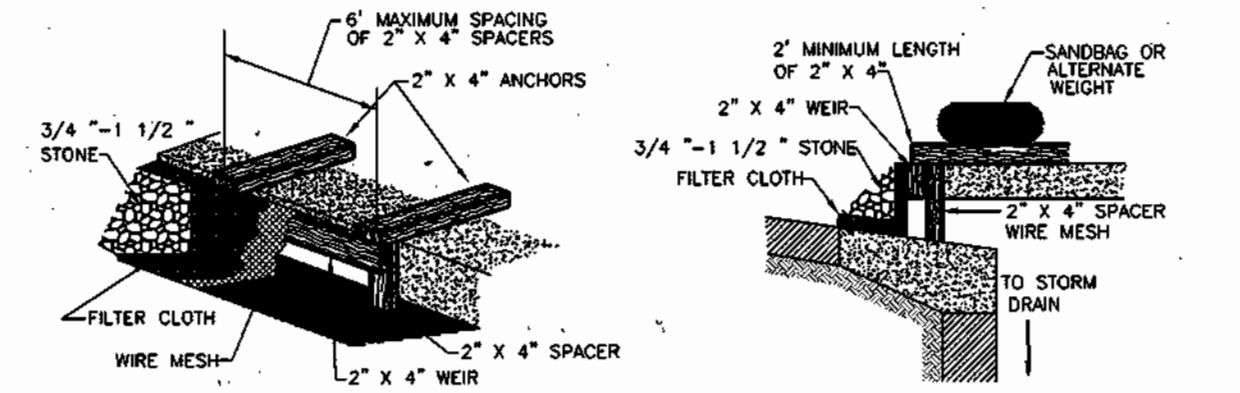
7 CURB INLET PROTECTION NOT TO SCALE



### Construction Specification

- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall equibed placed at least 6" deep over the length and width of the entrance.

2 ORANGE BLAZE PROTECTIVE FENCE NOT TO SCALE

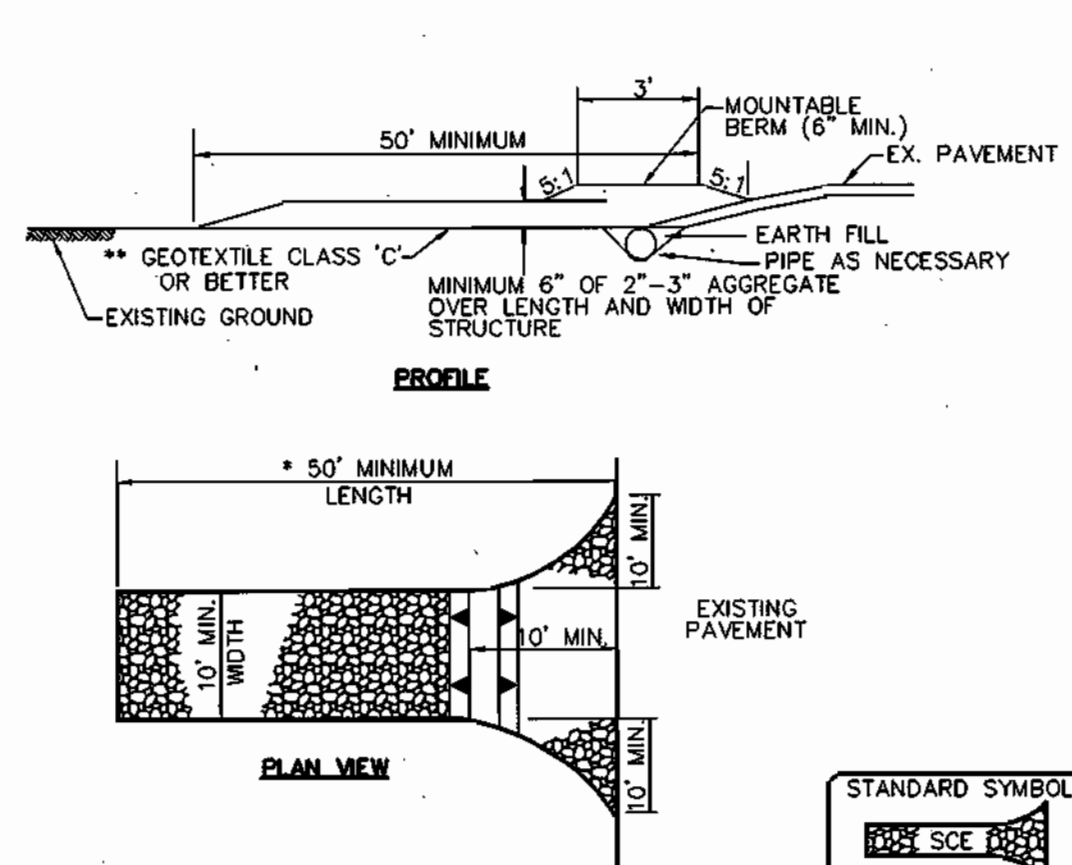


6 MOUNTABLE BERM NOT TO SCALE

### Construction Specifications

- 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.
- Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
- Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
- Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- Form the 1 1/2" x 1 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

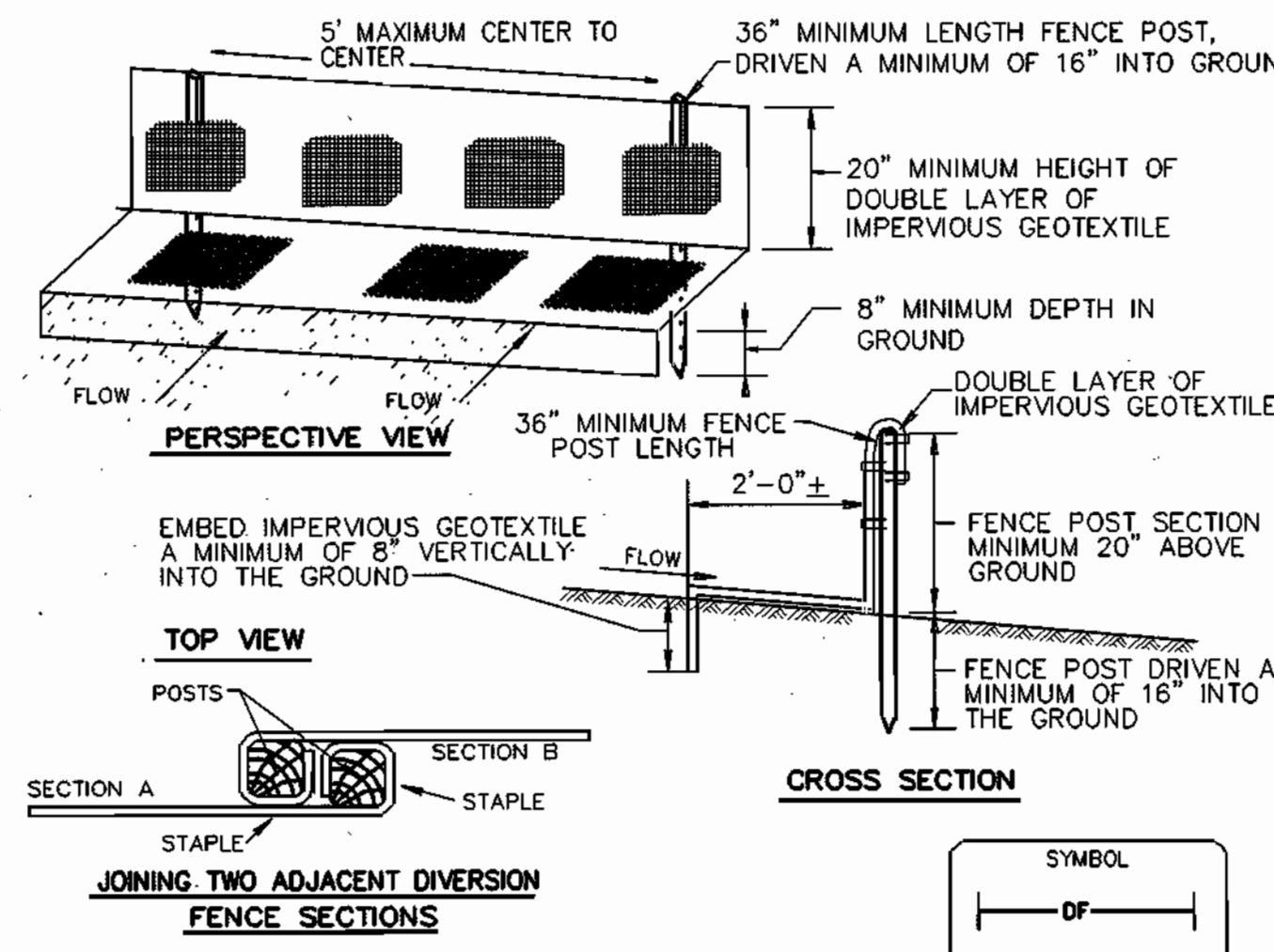
3 STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



### Construction Specification

- Length - minimum of 50' (30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

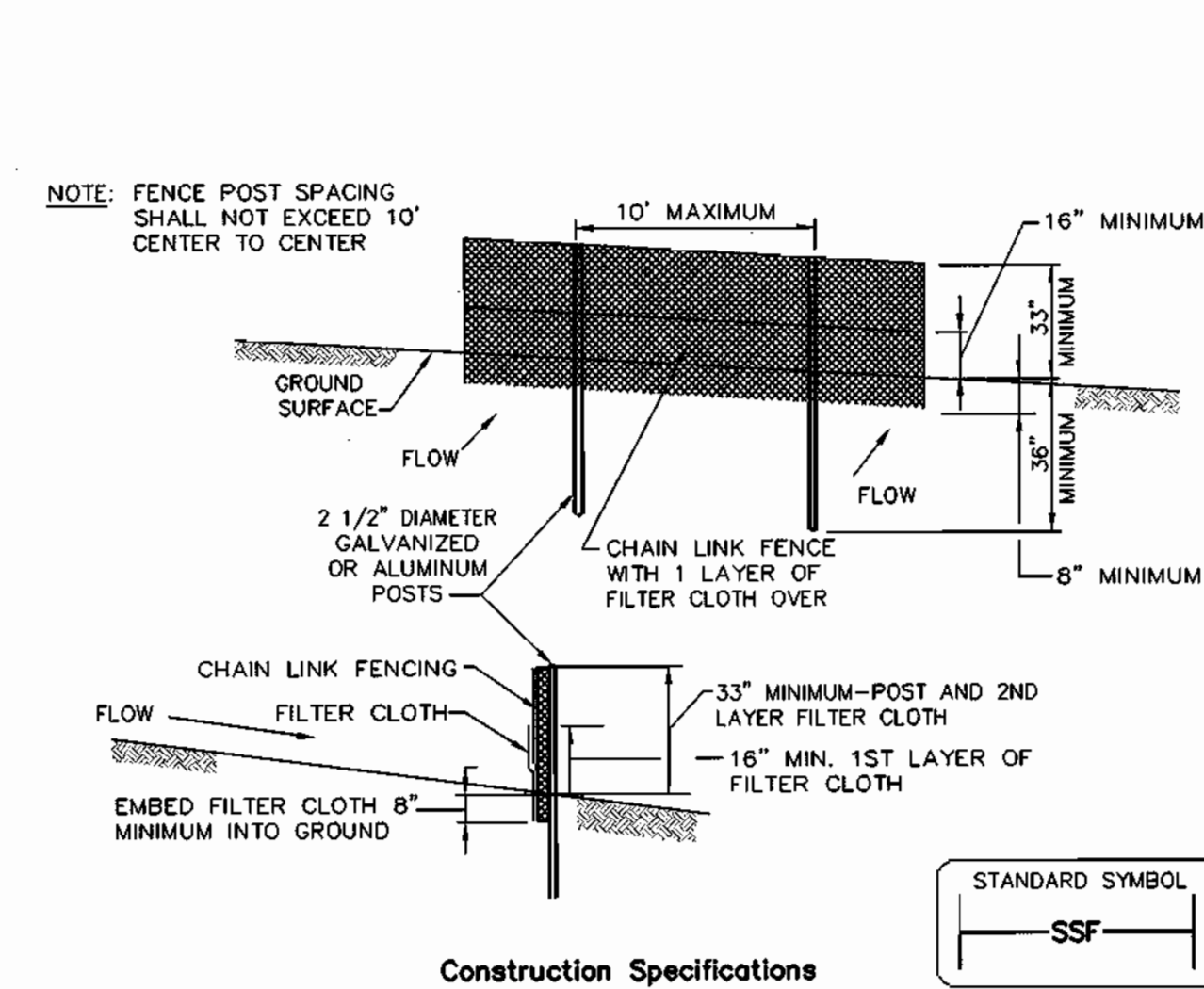
3 STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



### Construction Specifications

- 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. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
- Imperious Geotextile shall be fastened securely to each fence post with staples at top and mid-section.
- Imperious Geotextile shall be Mirafi MCF-1212 or approved equivalent. Mirafi MCF-1212 is a composite of woven polyethylene fabric and 1.5 mils of polyethylene film laminated on both sides to form a monolithic sheet.
- Where ends of impermeous geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Diversion Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

4 SUPER SILT FENCE NOT TO SCALE



### Construction Specifications

Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

- The poles do not need to be set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties, or staples.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

Filter cloth shall meet the following requirements for Geotextile Class F:  
 Tensile Strength 50 lbs/in (min.) Test: MSMT 509  
 Tensile Modulus 20 lbs/in (min.) Test: MSMT 509  
 Flow Rate 0.3 gal/ft / minute (max.) Test: MSMT 322  
 Filtering Efficiency 75% (min.) Test: MSMT 322

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

4 SUPER SILT FENCE NOT TO SCALE

CAPITAL PROJECT #P-4918

DATE	NO.	REVISIONS

SEDIMENT AND EROSION CONTROL DETAILS

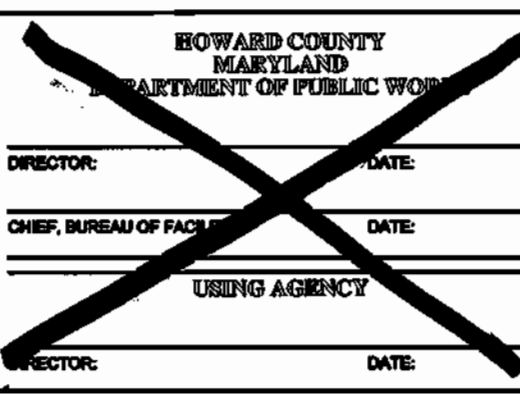
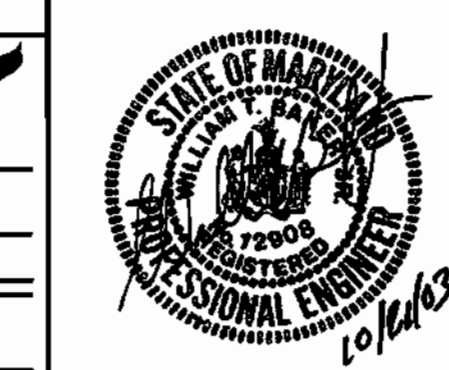
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 8576 DAVIS ROAD  
 HOWARD COUNTY, MARYLAND

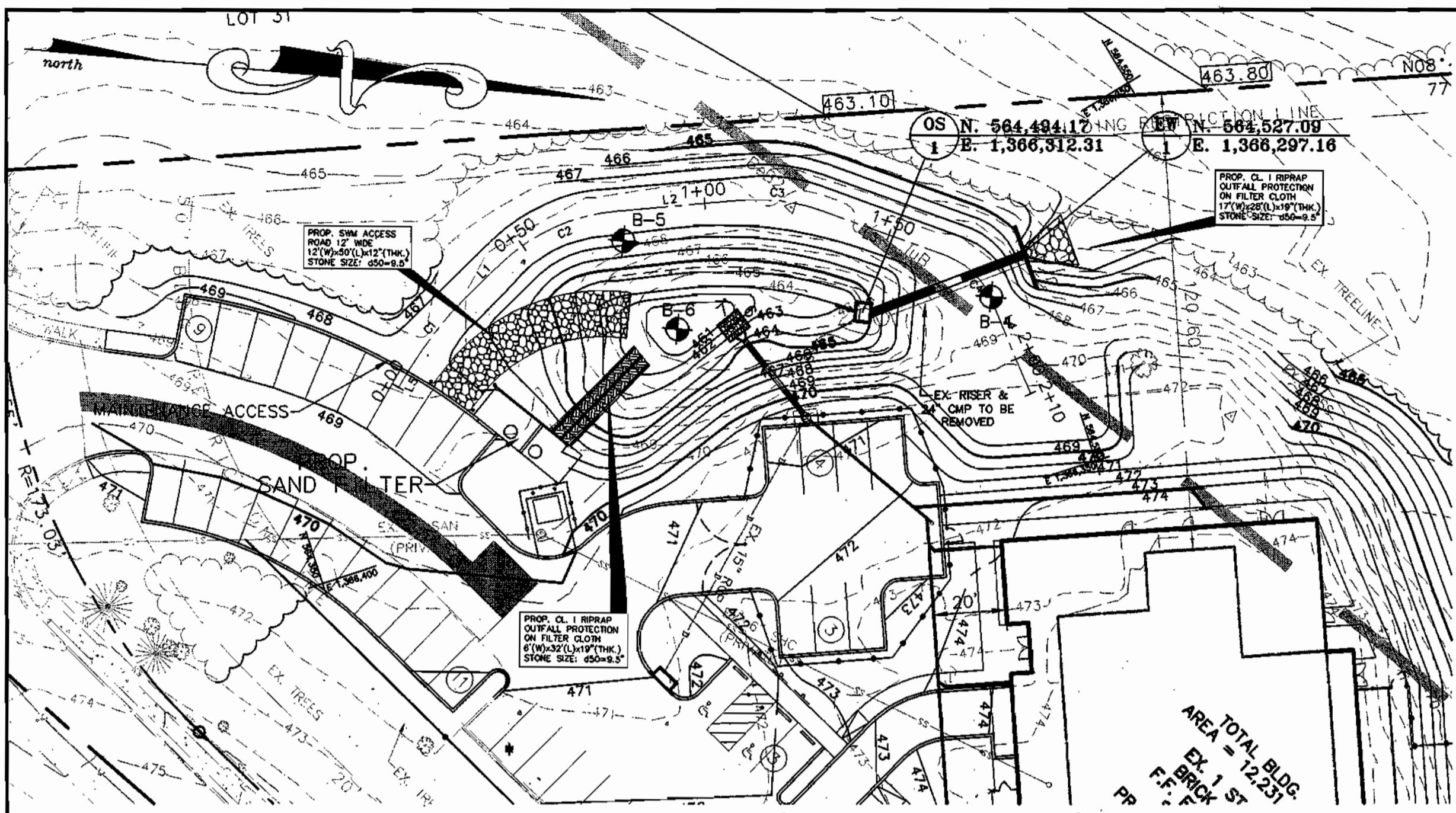
ENGINEERS: Consulting Engineers  
 849 Fairmount Avenue (410) 512-4500  
 Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
 WHITNEY, BAILEY, COX & MAGNANI, LLC

DESIGNED: D.M.B. ELECTION DIST.: 6th  
 DRAWN: S.J.D. CENSUS TRACT #: 6065.01  
 CHECKED: P.J.C. WATER CODE: G-07  
 DATE: 10-8-03 SEWER CODE: 5335300  
 SCALE: AS SHOWN DRAWING NO:  
 MAP NO.: 37  
 GRID NO.: 1  
 PARCEL NO.: 521 12 of 22  
 C-8.2

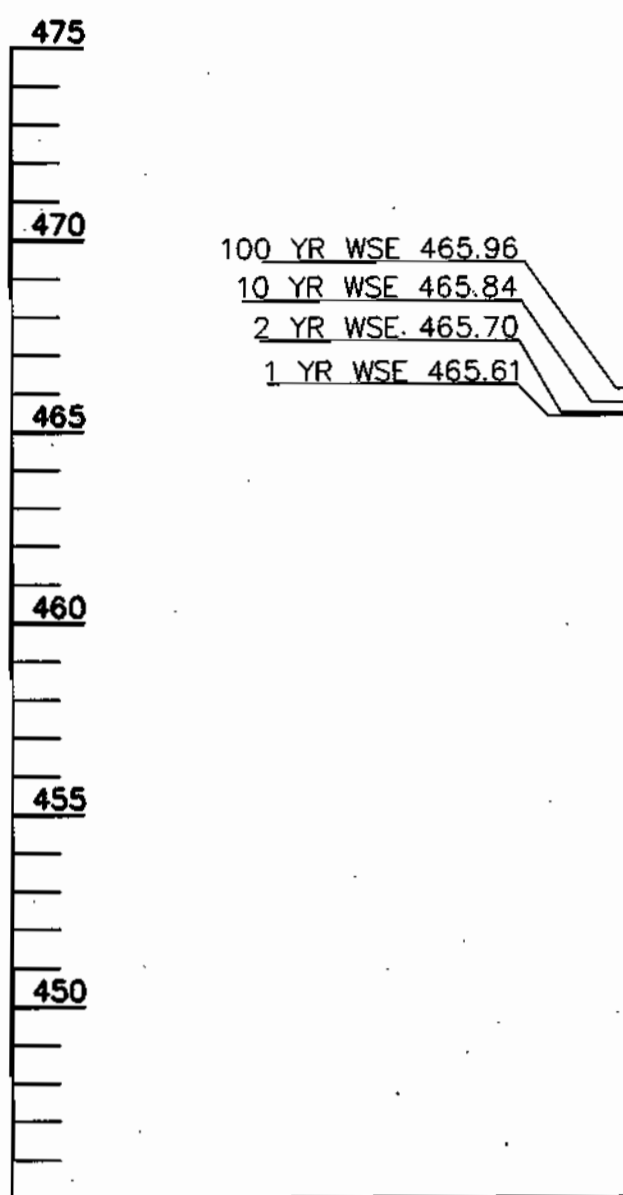
Reviewed for Howard SCD and meets Technical Requirements  
 Signature: [Signature] Date: 4/3/03  
 Signature: [Signature] Date: 4/3/03  
 Signature: [Signature] Date: 4/3/03

ENGINEER'S CERTIFICATE  
 I certify that this plan for sediment and erosion 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.  
 Signature (print name below signature): [Signature] Date: 12/9/05  
 Signature: [Signature] Date: 10/21/03  
 DEVELOPER'S CERTIFICATE  
 I certify that all development and construction will be done according to this plan for sediment and erosion control, and that all 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.  
 Signature (print name below signature): [Signature] Date: 10-22-03  
 Signature: [Signature] Date: [Signature]

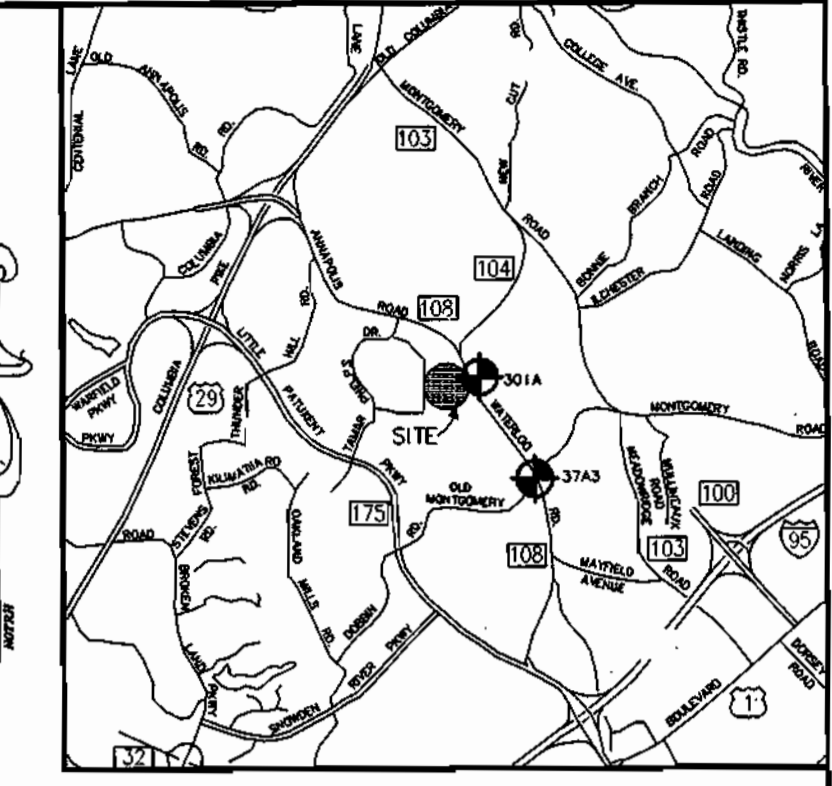




**PLAN VIEW**  
SCALE: 1"=30'



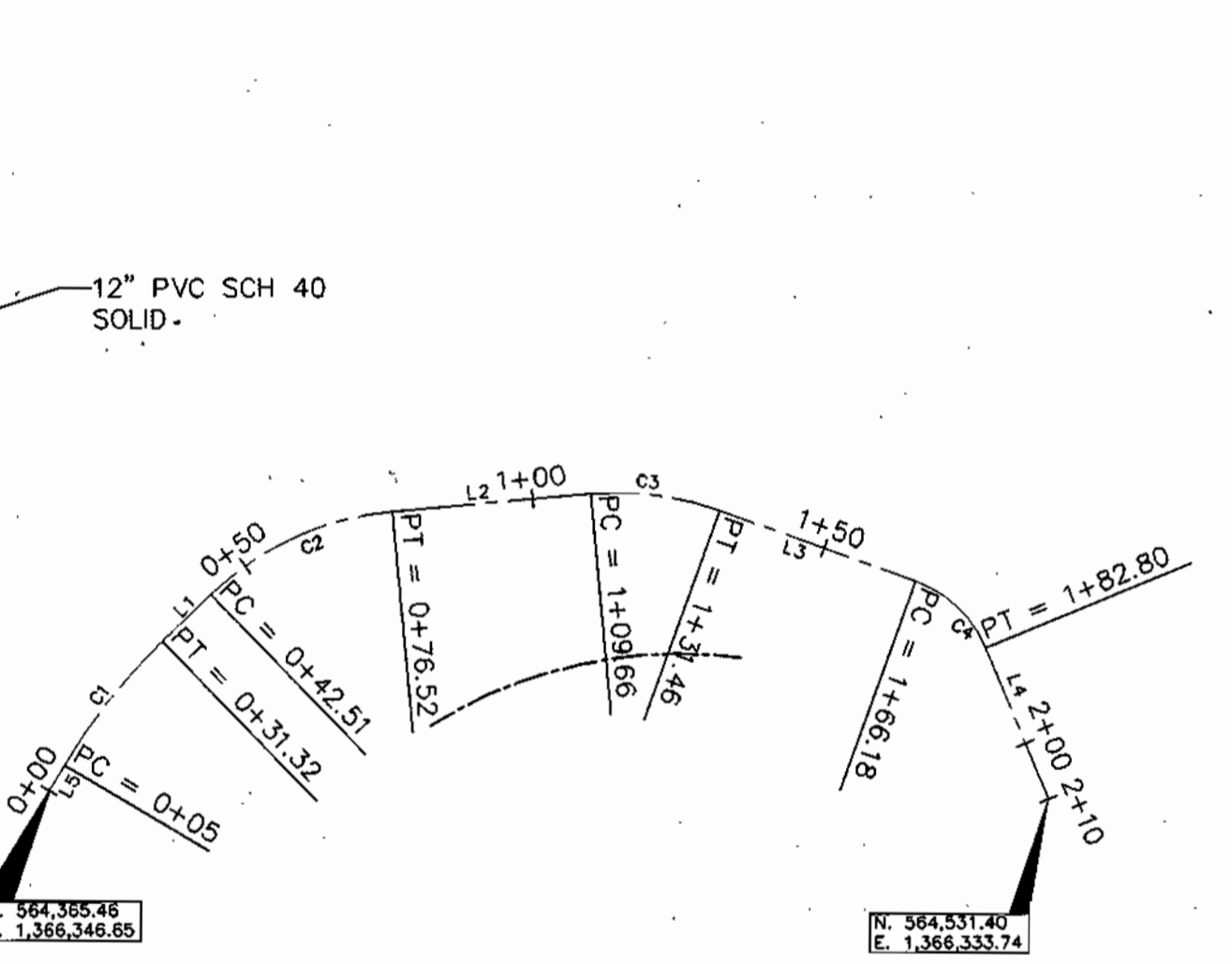
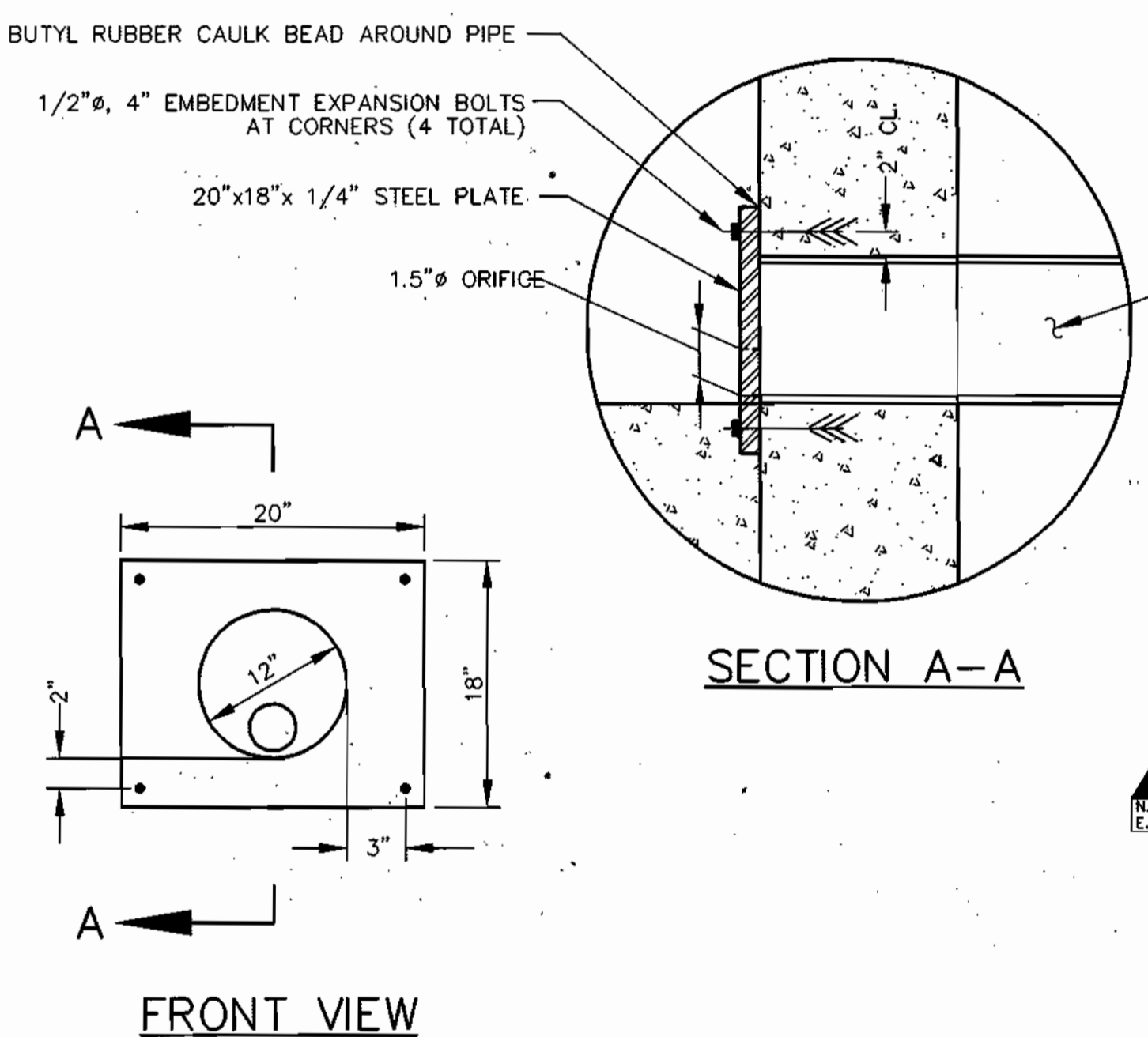
**C/L DAM PROFILE**  
SCALE: HORIZ. 1"=30'  
VERT. 1"=5'



**VICINITY MAP**  
SCALE: 1"=5,000'

**DEVELOPER'S/LANDOWNER'S CERTIFICATION**  
I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THE CONSTRUCTION DRAWING(S) WILL BE CONDUCTED IN STRICT ACCORDANCE WITH THE 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 CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER WITHIN THIRTY (30) DAYS OF COMPLETION OF WORK ON THE STORMWATER MANAGEMENT FACILITY. I/WE ALSO CERTIFY THAT THIS/THOSE STORMWATER MANAGEMENT FACILITY/FACILITIES WILL BE INSPECTED DURING CONSTRUCTION BY A REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD COUNTY.

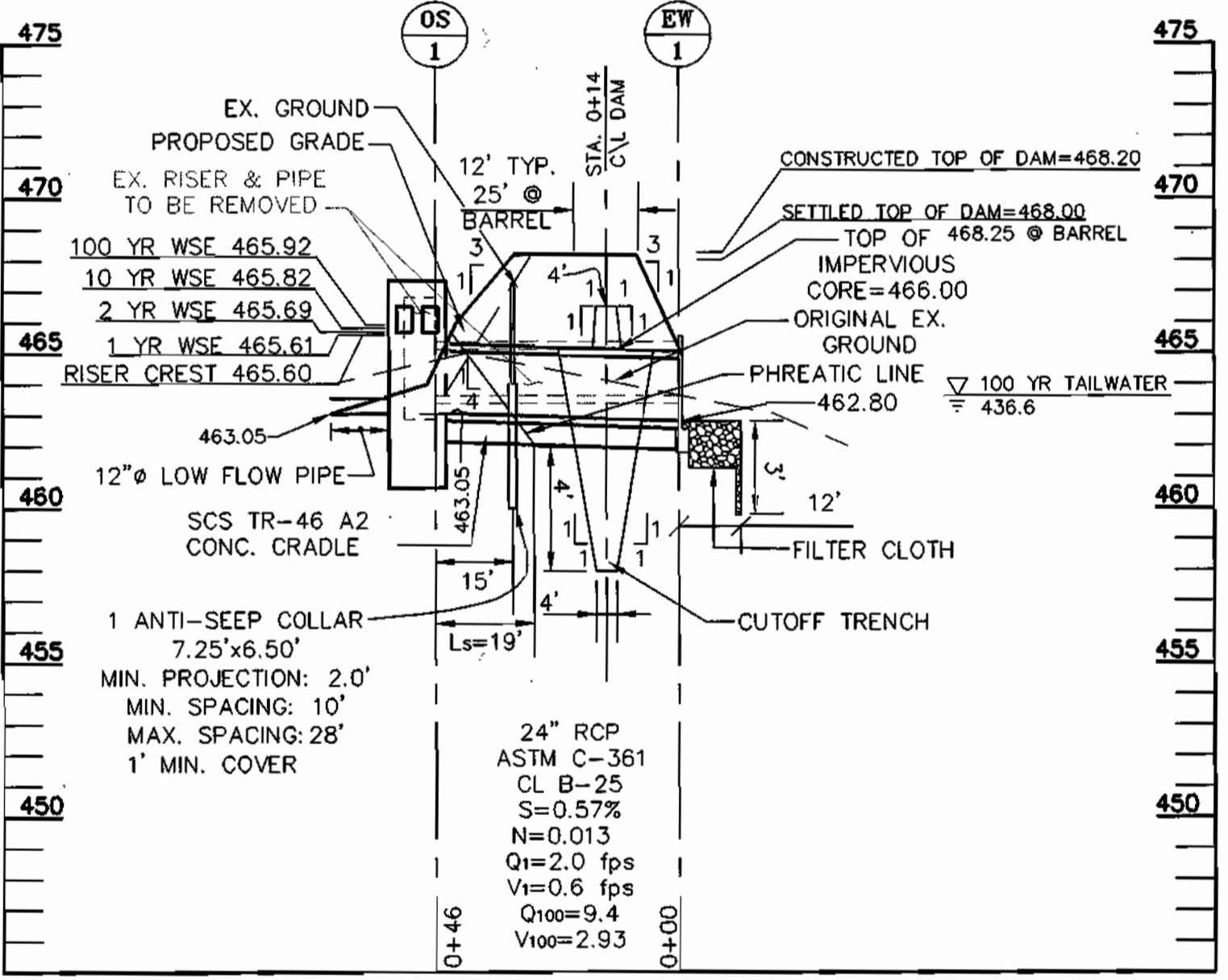
SIGNED: Michael A. Giovanniello DATE: 10/22/03  
PRINT NAME: MICHAEL A. GIOVANNIELLO



**GEOMETRY**  
SCALE: 1"=30'

CURVE TABLE				
CURVE	TANGENT	DELTA	LENGTH	RADIUS
C1	13.24	15°04'47"	26.32	100.00
C2	17.69	38°58'10"	34.01	50.00
C3	11.07	24°58'20"	21.79	50.00
C4	8.83	47°37'14"	16.62	20.00

LINE TABLE		
LINE	LENGTH	BEARING
L1	11.19	N48°59'43"W
L2	33.14	N10°01'33"W
L3	34.72	N14°56'47"E
L4	27.20	N82°34'01"E
L5	5.00	N64d4'31"W



**C/L PRINCIPLE SPILLWAY PROFILE**  
SCALE: HORIZ. 1"=30'  
VERT. 1"=5'

**"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. I ALSO CERTIFY THAT CONSTRUCTION WAS INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD COUNTY.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
PRINT NAME: \_\_\_\_\_ MD. LICENSE NO. \_\_\_\_\_

**ENGINEER'S CERTIFICATION**  
I HEREBY CERTIFY THAT THESE PLANS HAVE BEEN DESIGNED ACCORDING TO THE HOWARD COUNTY DESIGN MANUAL STANDARDS AND SPECIFICATION AND THE DEPARTMENT OF ENVIRONMENT STORMWATER MANAGEMENT REGULATIONS.

SIGNED: William T. Bacon, Jr. DATE: 10/21/03  
PRINT NAME: WILLIAM T. BACON, JR. MD. LICENSE NO. 12908

FACILITIES: 1-DRY EXTENDED POND-WATER QUALITY  
1-UNDERGROUND SAND FILTER-WATER QUALITY  
OWNERSHIP: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
MAINTENANCE: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**SEDIMENT BASIN PLAN**

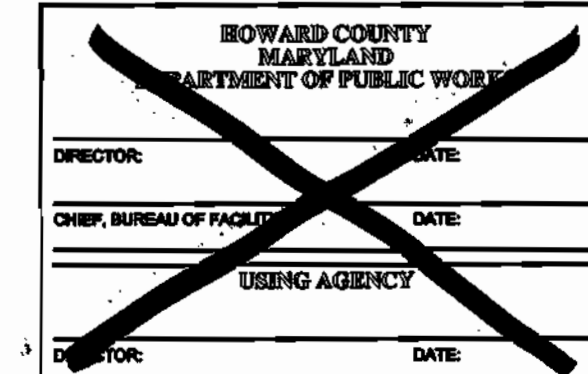
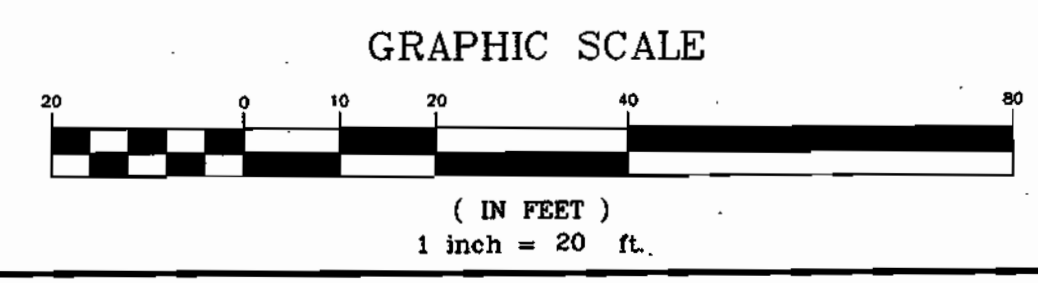
PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

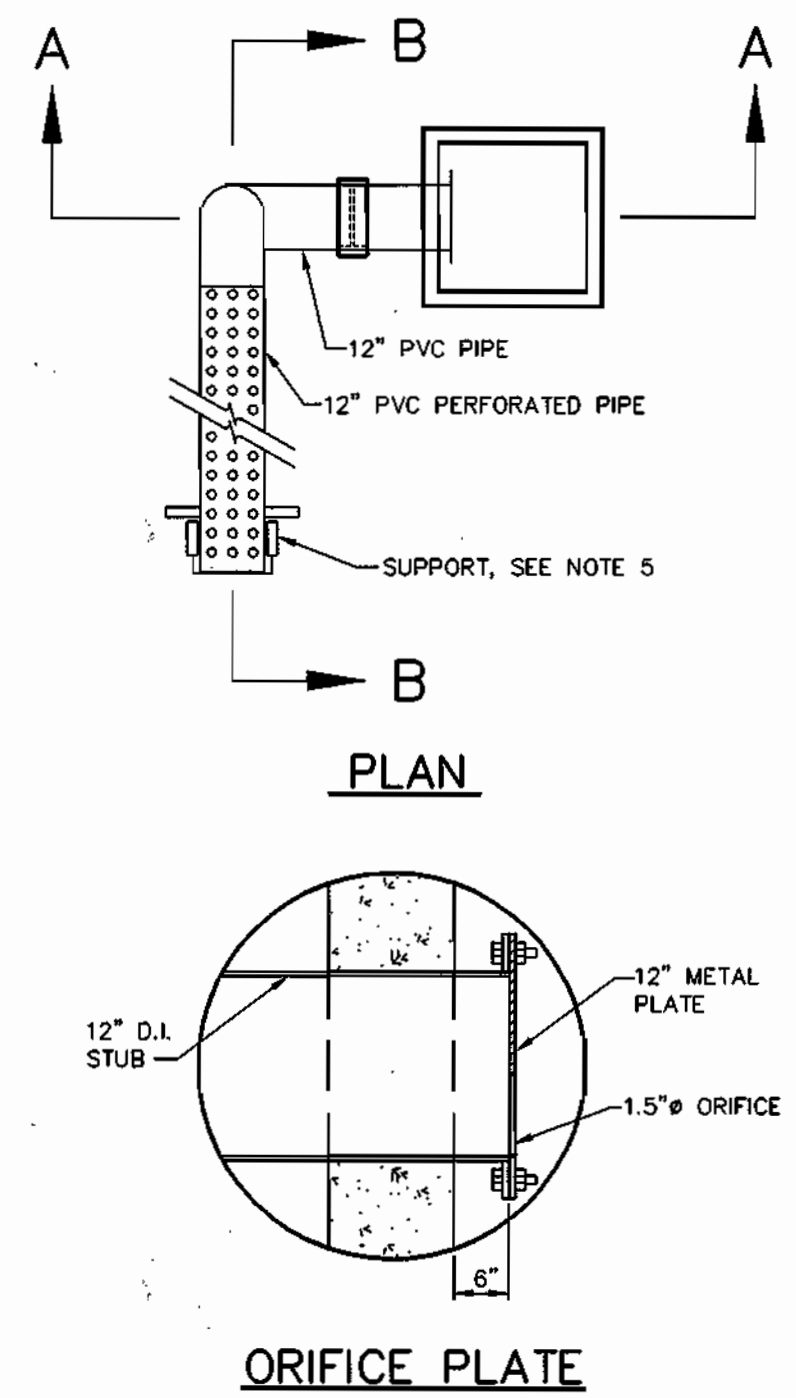
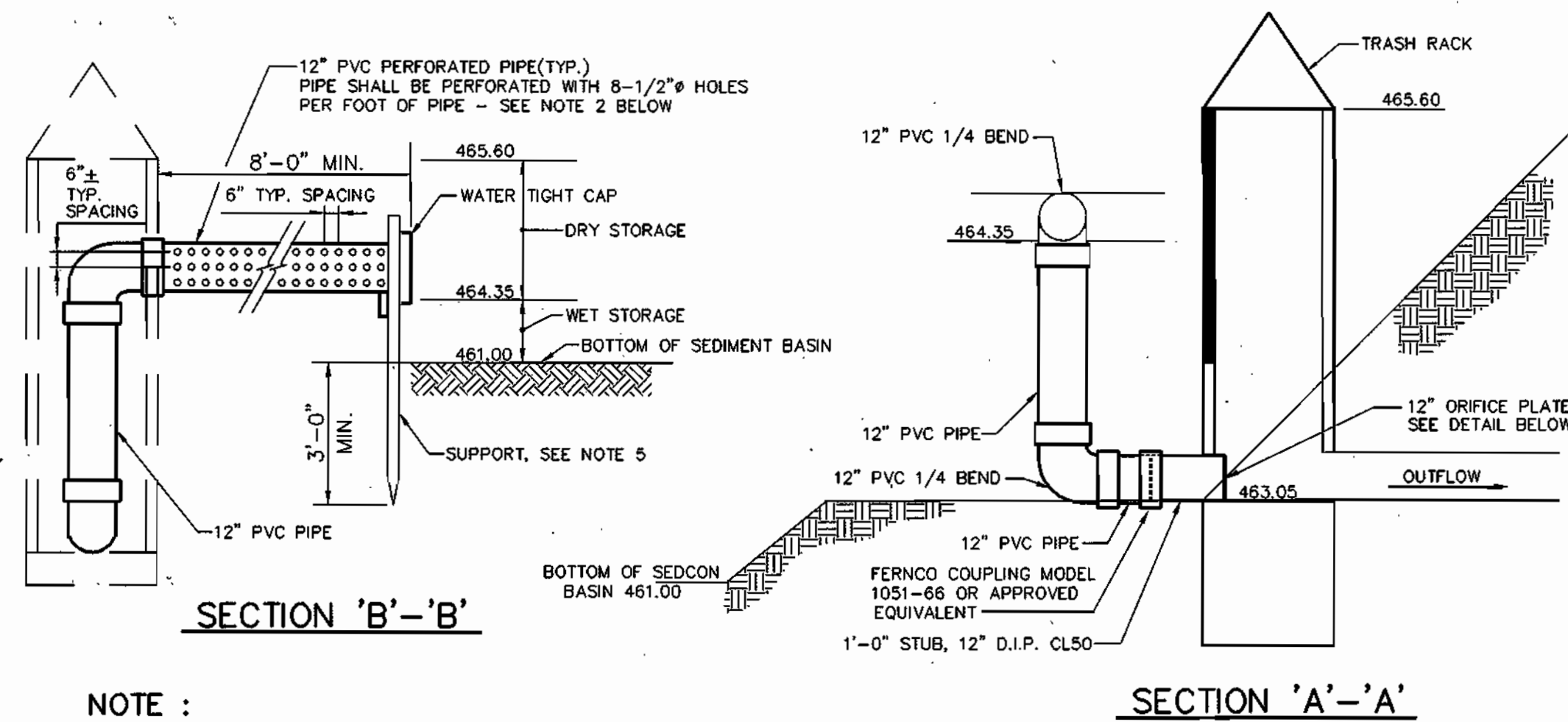
ENGINEERS: Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
WHITNEY, BAILEY, COX & MAGNANI, LLC

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO: C-8.3
MAP NO.: 37	
GRID NO.: 1	
PARCEL NO.: 521	13 of 22

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Chief, Development Engineering Division: Michael Giovanniello Date: 11/4/03  
Chief, Division of Land Development: Chris Horvath Date: 11/4/03  
Director: David D. Legler Date: 11/4/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
County Health Officer: \_\_\_\_\_ Date: \_\_\_\_\_  
Howard County Health Department: \_\_\_\_\_



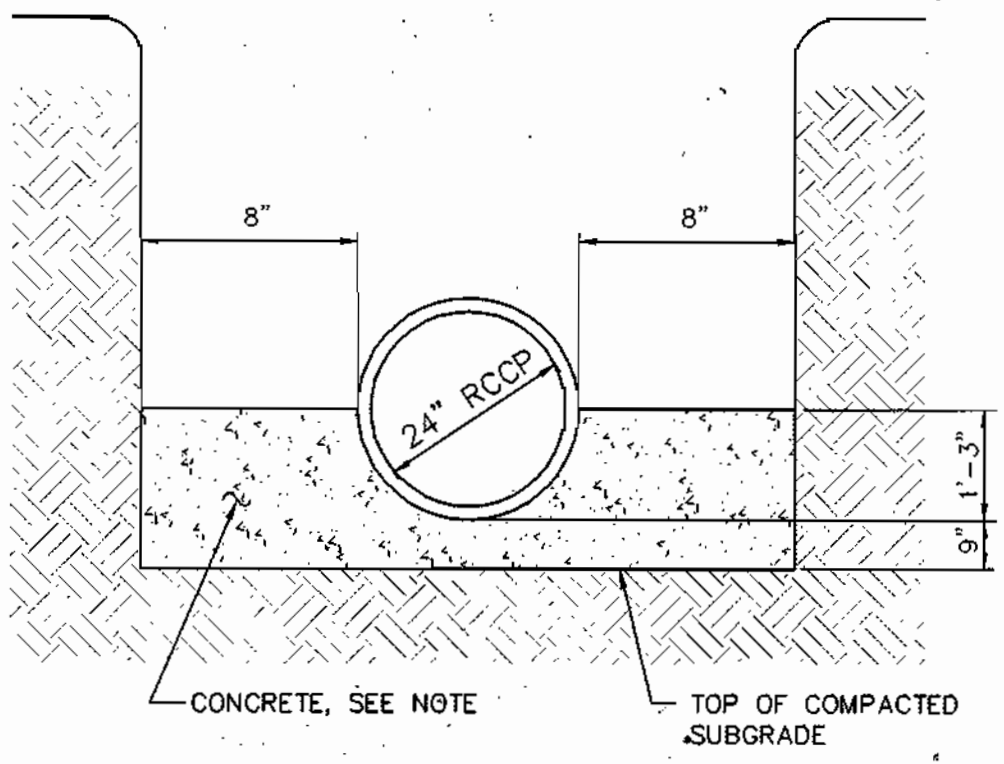


**NOTE :**

1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
2. PROVIDE ROWS OF 4-1/2" DIAMETER HOLES AT 6" O.C. ALONG THE LENGTH OF THE PIPE. HOLES SHALL BE SPACED AT 6"± ON CENTER AROUND THE CIRCUMFERENCE OF THE PIPE.
3. PIPE AND FITTINGS SHALL BE 12" PVC ASTM D-1785, SCH 80 OR D-2241, SDR-26, UNLESS OTHERWISE NOTED.
4. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
5. PROVIDE SUPPORT OF THE DRAW-DOWN DEVICE BY STAKING BOTH SIDES OF THE DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 2"x 2" SQUARE OR 2" ROUND WOODEN POSTS SET 3" MINIMUM INTO THE GROUND, THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAGE MINIMUM WIRE.

**SEDIMENT BASIN DRAW DOWN DEVICE**

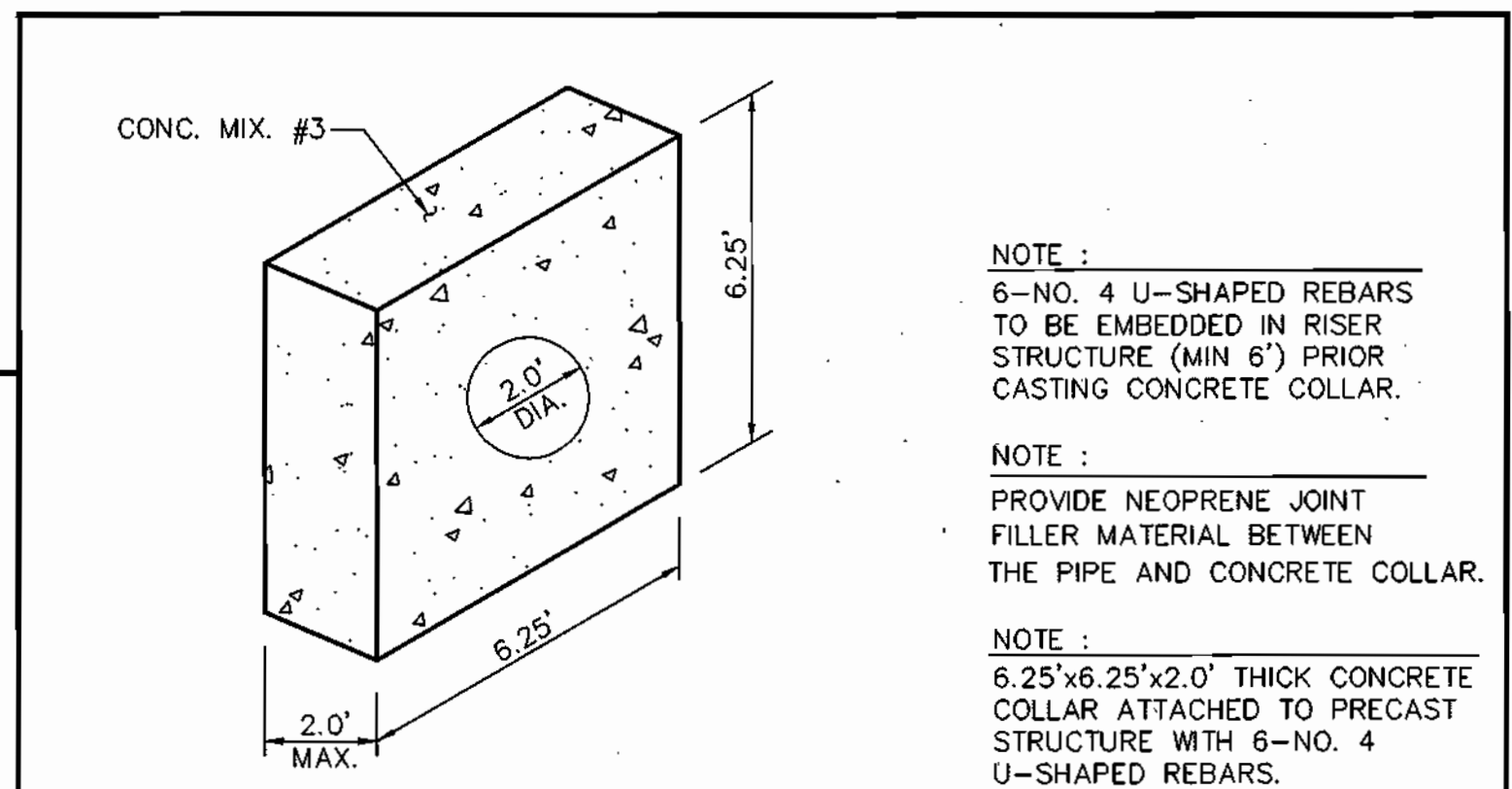
NOT TO SCALE



**SECTION**

NOTE: POUR CONCRETE AGAINST UNDISTURBED EARTH. REMOVE SHEETING BEFORE POURING CONCRETE. ALL CONCRETE SHALL BE 3000 psi.

NOT TO SCALE



- NOTE :**  
6-NO. 4 U-SHAPED REBARS TO BE EMBEDDED IN RISER STRUCTURE (MIN 6") PRIOR CASTING CONCRETE COLLAR.
- NOTE :**  
PROVIDE NEOPRENE JOINT FILLER MATERIAL BETWEEN THE PIPE AND CONCRETE COLLAR.
- NOTE :**  
6.25'x6.25'x2.0' THICK CONCRETE COLLAR ATTACHED TO PRECAST STRUCTURE WITH 6-NO. 4 U-SHAPED REBARS.

NOT TO SCALE

**2 CAST IN PLACE CONCRETE COLLAR**

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**SEDIMENT BASIN DETAILS  
DETAILS**

PROJECT TITLE:  
**HOWARD COUNTY  
ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WR** Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	<b>C-8.4</b>
GRID NO.: 1	
PARCEL NO.: 521	14 of 22

**1 CONCRETE CRADLE (SCS TR-46 A2)**

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division Date: 11/4/03

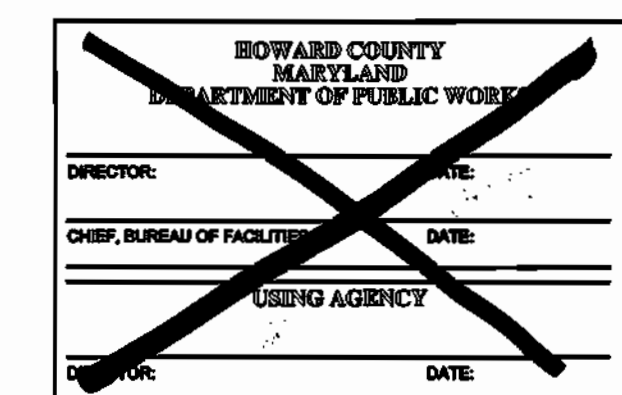
Chief, Division of Land Development Date: 11/9/03

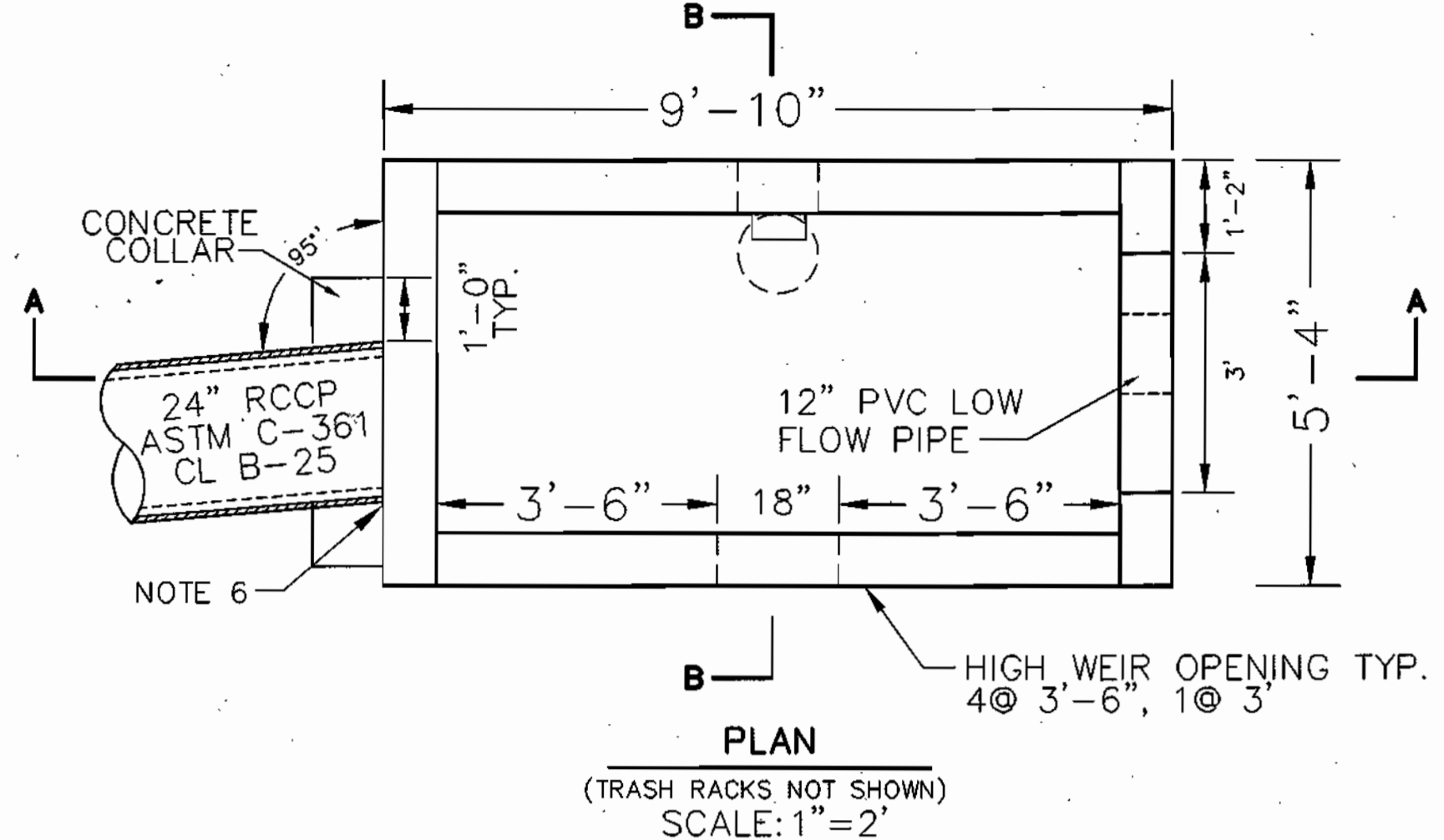
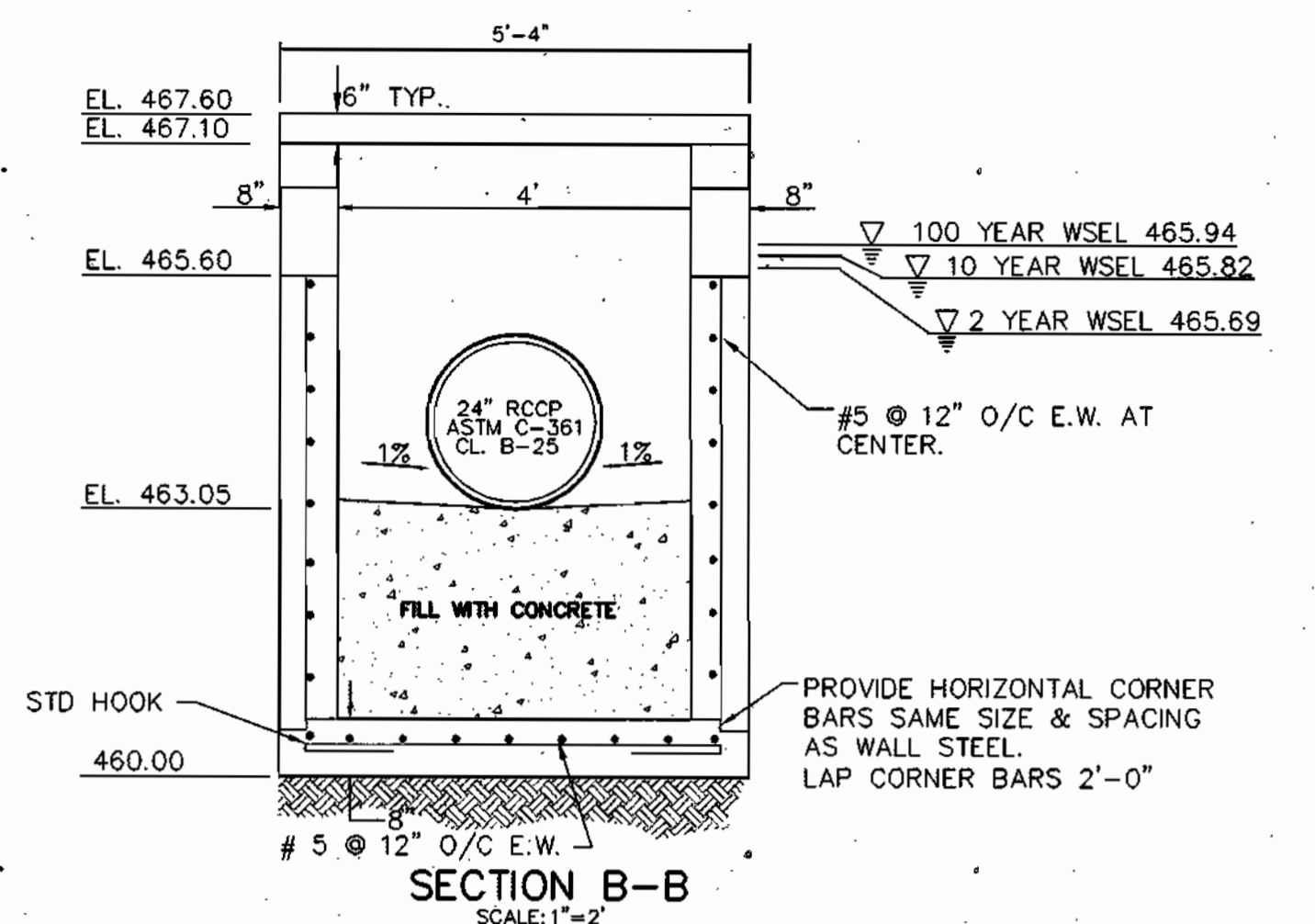
Director Date: 11/14/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

County Health Officer Date: \_\_\_\_\_

Howard County Health Department

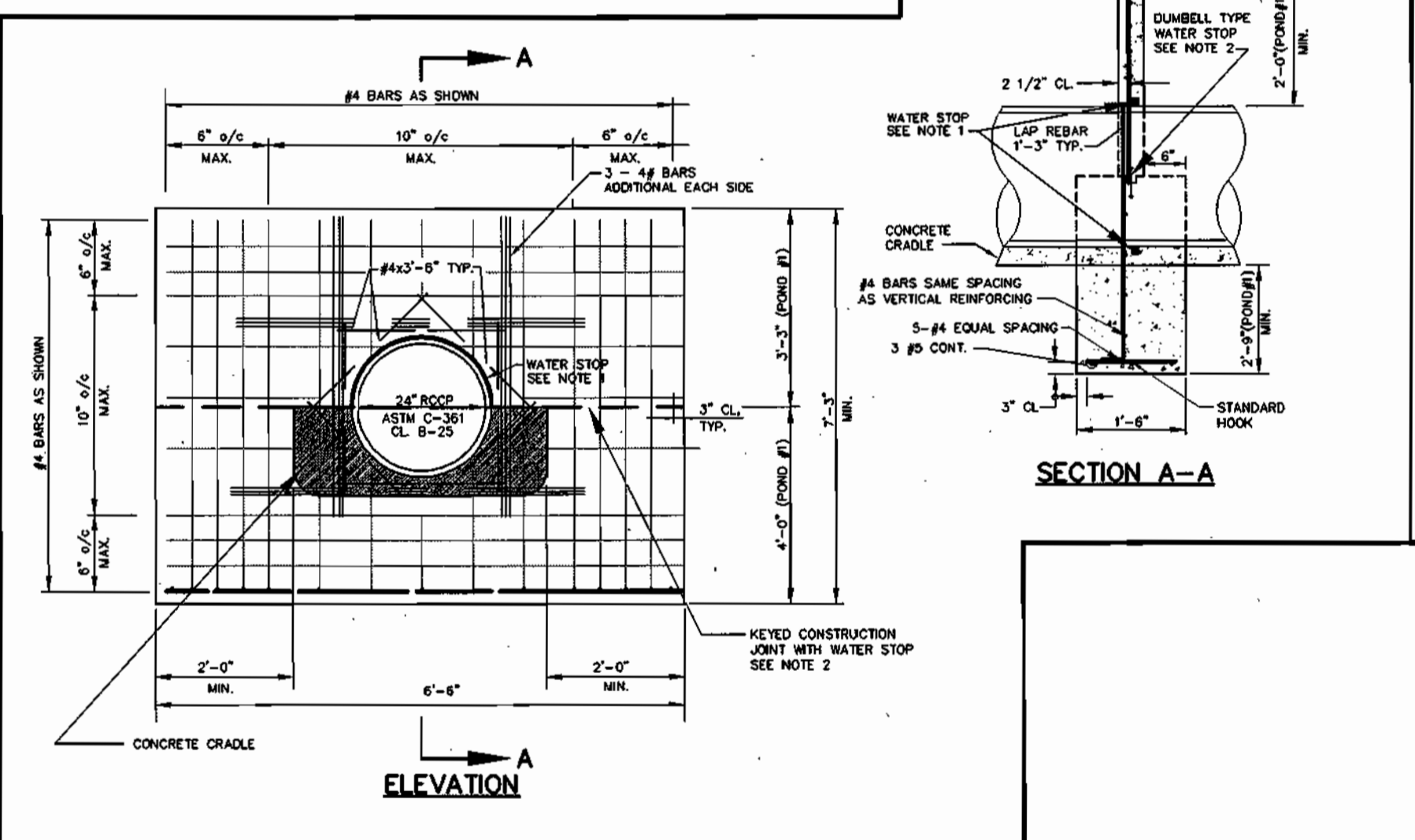




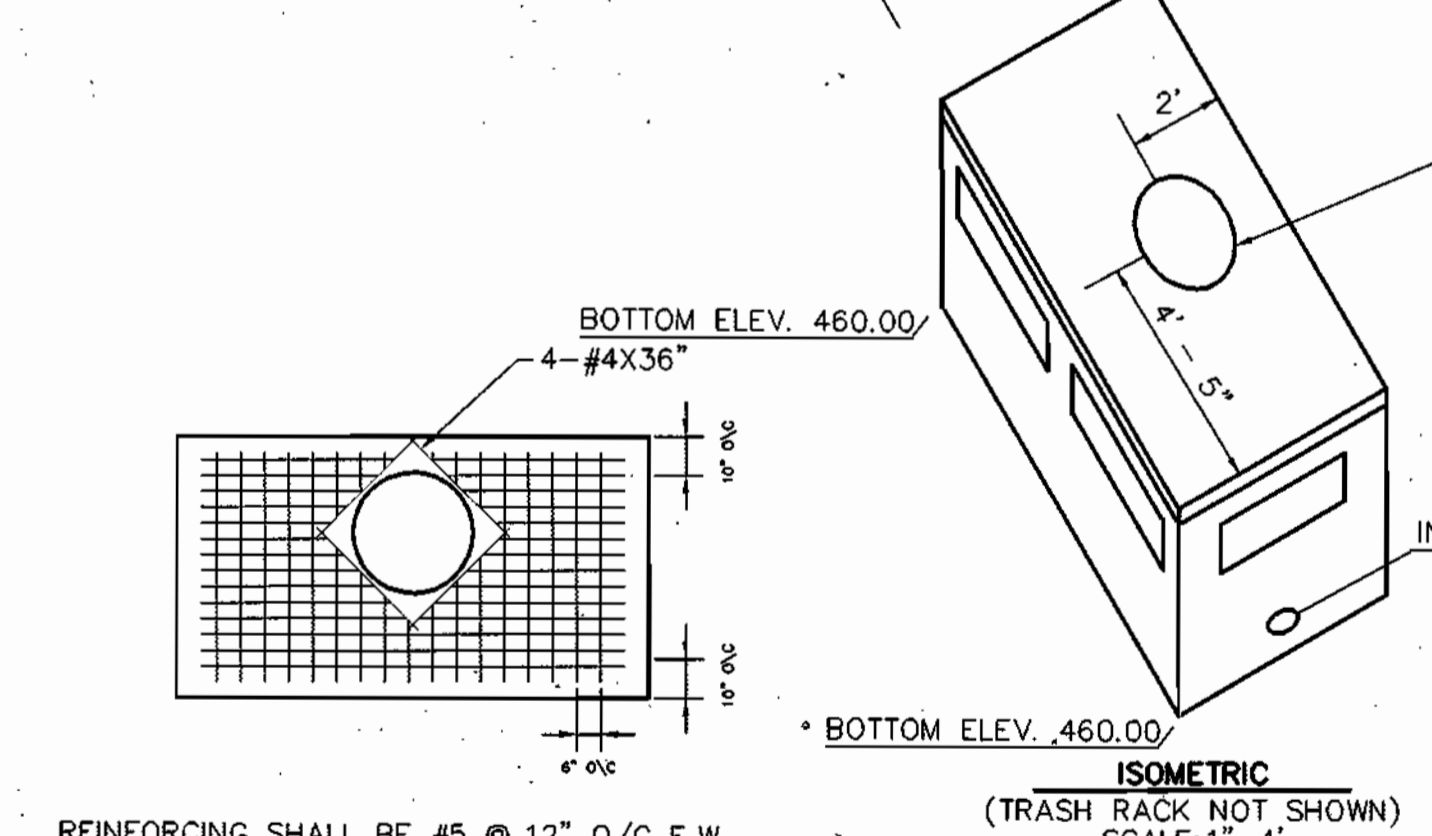
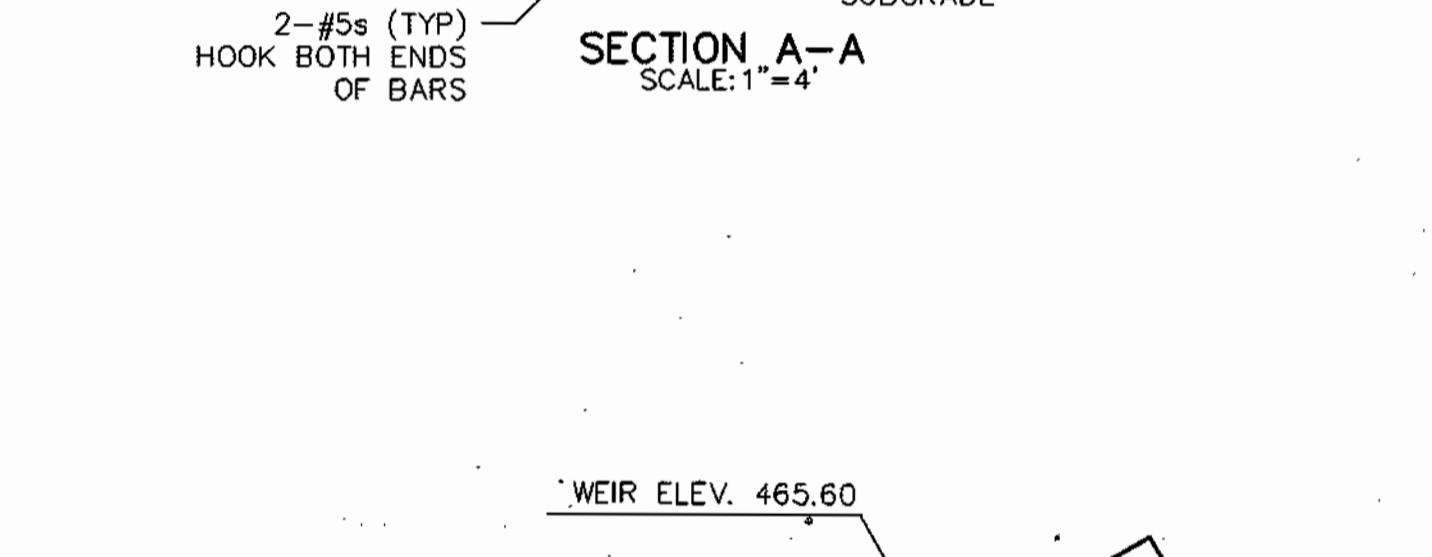
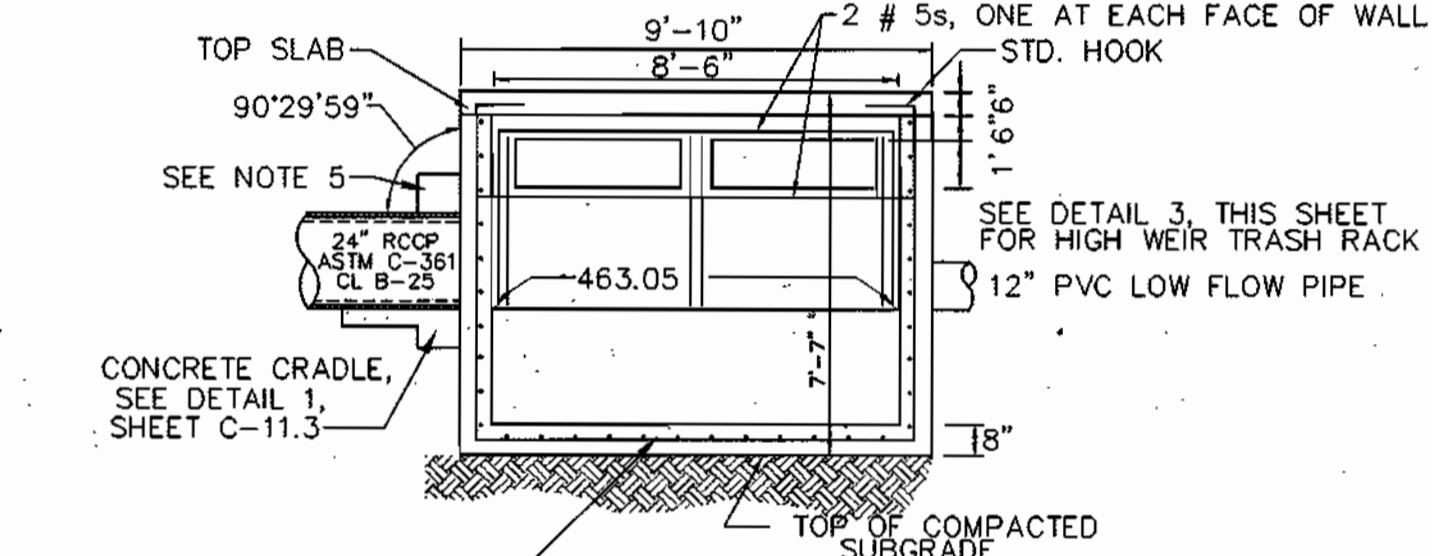
**PRECAST OUTLET STRUCTURE NOTES**

- SHOP DRAWINGS FOR PRECAST CONCRETE STRUCTURE (SEALED BY A MD. REGISTERED ENGINEER AND MEETING A.S.T.M. REQUIREMENTS FOR PRECAST STRUCTURES) MUST BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED/APPROVED, THEN THE HYDRAULICS AND/OR FLOTATION OF THE STRUCTURE MUST BE RE-ANALYZED AND COMPUTATIONS (SEALED BY A MD. REGISTERED ENGINEER) SUBMITTED WITH THE SHOP DRAWINGS.
- CONCRETE TO BE MIX NO. 6 (4500 PSI).
- REINFORCING - SEE SECTIONS
- THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
- PIPE OPENINGS TO BE PROVIDED AS REQUIRED, FOR SIZE, LOCATION AND INVERT ELEVATIONS SPECIFIED
- PROVIDE RESILIENT CONNECTOR IN ACCORDANCE W/ ASTM C923 PSK; POSITIVE SEAL AS MANUFACTURED BY PRESS-SEAL GASKET CORP., FORT WAYNE, INDIANA OR APPROVED EQUIVALENT.

- NOTES:**
- WATER STOP AROUND PIPE SHALL BE VOLUCRY TYPE RV AS MANUFACTURED BY AMERICAN COLLORS CO. OR APPROVED EQUIVALENT
  - DUAL BELL TYPE WATER STOP IN CONSTRUCTION JOINT SHALL BE 6" W/IN MODEL 06-316 BY W/INTEX OR APPROVED EQUIVALENT
  - ALL CONCRETE SHALL BE M/MMA MIX NO. 3 (3000 PSI)
  - WATER STOP SHALL BE PLACED BETWEEN ALL CONC. SURFACES EXCEPT BETWEEN PIPE AND CRADE



**2 CONCRETE ANTI-SEEP COLLAR** NOT TO SCALE



REINFORCING SHALL BE #5 @ 12" O/C E.W. IN CENTER OF SLAB  
**TOP SLAB PLAN**  
SCALE: 1"=4"

**1 OS-1 (OUTLET STRUCTURE FOR POND)**

APPROVED: DEPARTMENT OF PLANNING AND ZONING

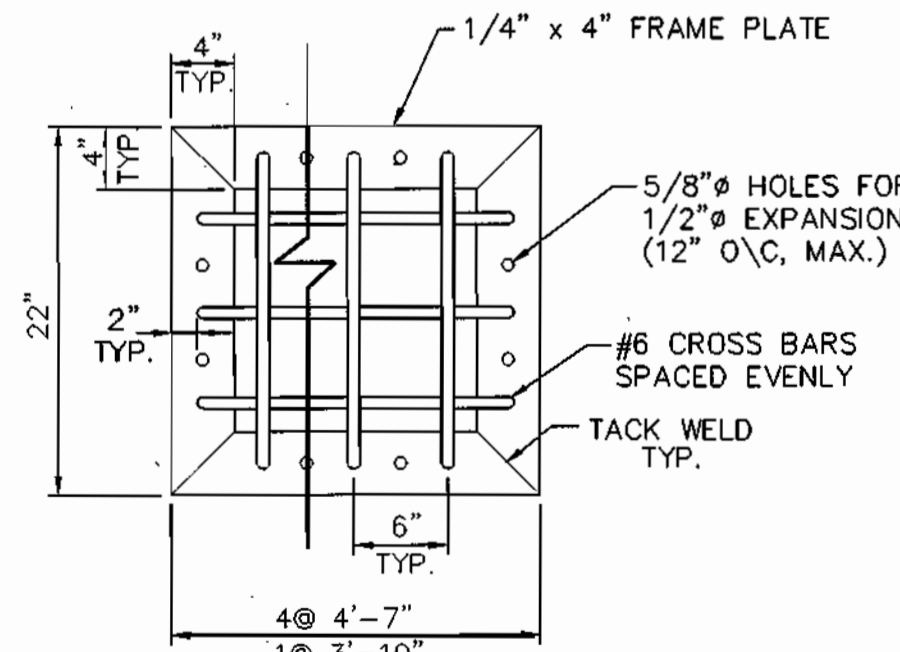
Chief, Development Engineering Division Date: 11/4/03

Chief, Division of Land Development Date: 11/6/03

Director Date: 11/12/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

County Health Officer  
Howard County Health Department



- REMOVABLE TRACK RACK NOTES**
- ENTIRE ASSEMBLY SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
  - BUTT WELD FRAME ANGLE; FILLET WELD BARS TO ANGLE FRAME.
  - PROVIDE 5/16" FILLET WELD AT BAR CROSSINGS.
  - ANGLE FRAMES AND BARS SHALL BE FABRICATED USING ASTM A-36 STEEL.
  - HORIZONTAL BARS TO BE BEHIND VERTICAL BARS.

**3 TRASH RACK DETAIL**

**CONSTRUCTION SPECIFICATIONS**

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

**Site Preparation**

Areas designed for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

**Earth Fill**

Material - The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment (the "embankment core"), and cut off trench shall conform to United Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #20 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

**Placement** - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

**Compaction** - 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 one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

The minimum required density shall not be less than 95% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

**Cutoff Trench** - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

**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. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

**Structure Backfill**

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall be placed to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

Structure backfill may be flowable fill meet the requirements of Maryland Department of Transportation, State Highway Administration, Standard Specifications for Construction and Materials, Section 313, as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent flooding the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of 24" or greater over the type and quality conforming to that specified for the core of the embankment or other embankment.

**Pipe Conduits**

All pipes shall be circular in cross section.  
Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Specification C-361.
- 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. Gravel bedding is not permitted.
- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.
- Backfilling shall conform to "Structure Backfill."
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- Joints and connections to anti-seep collars shall be completely watertight.
- 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 compaction to provide adequate support.
- Backfilling shall conform to "Structure Backfill."
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**Concrete**

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration, Standard Specifications for Construction and Materials, Sections 414 and 902, Mix No. 3.

**Rock Riprap and Geotextile**

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. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to pumps from which the water shall be pumped.

**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 Maryland Soil 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 plans shall detail erosion and sediment control measures.

**OPERATION AND MAINTENANCE**

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

**CAPITAL PROJECT #P-4918**

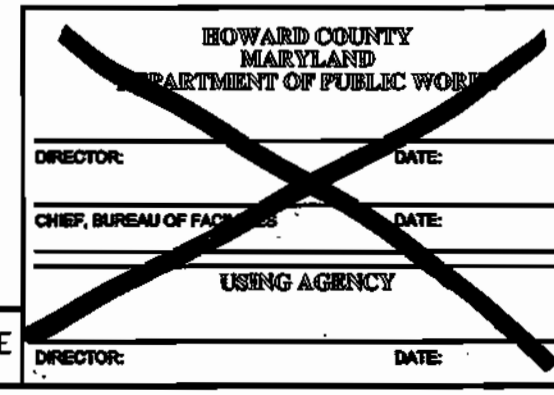
DATE	NO.	REVISIONS

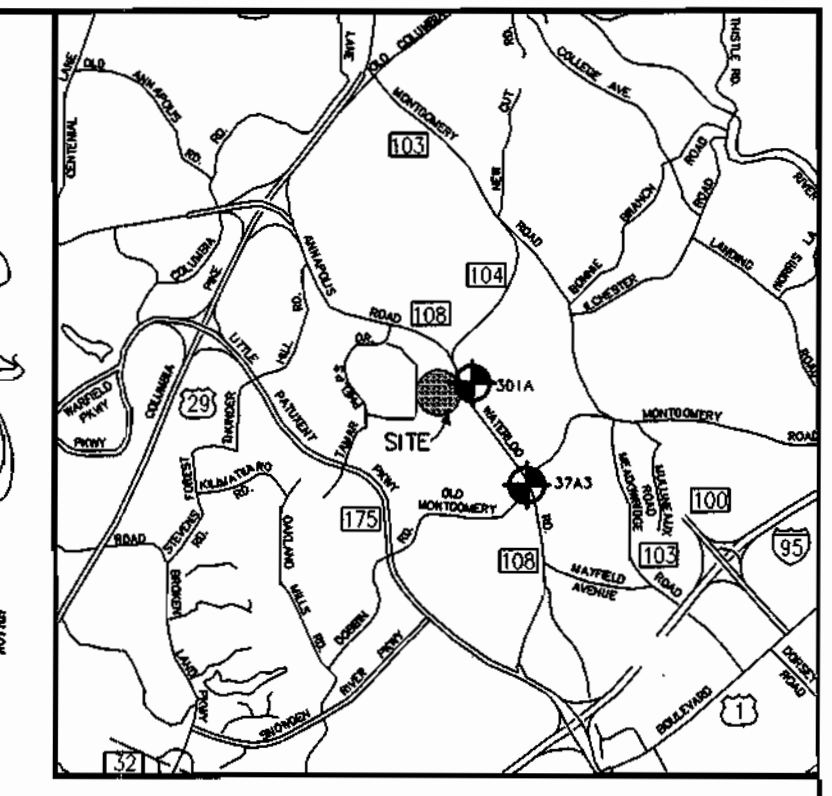
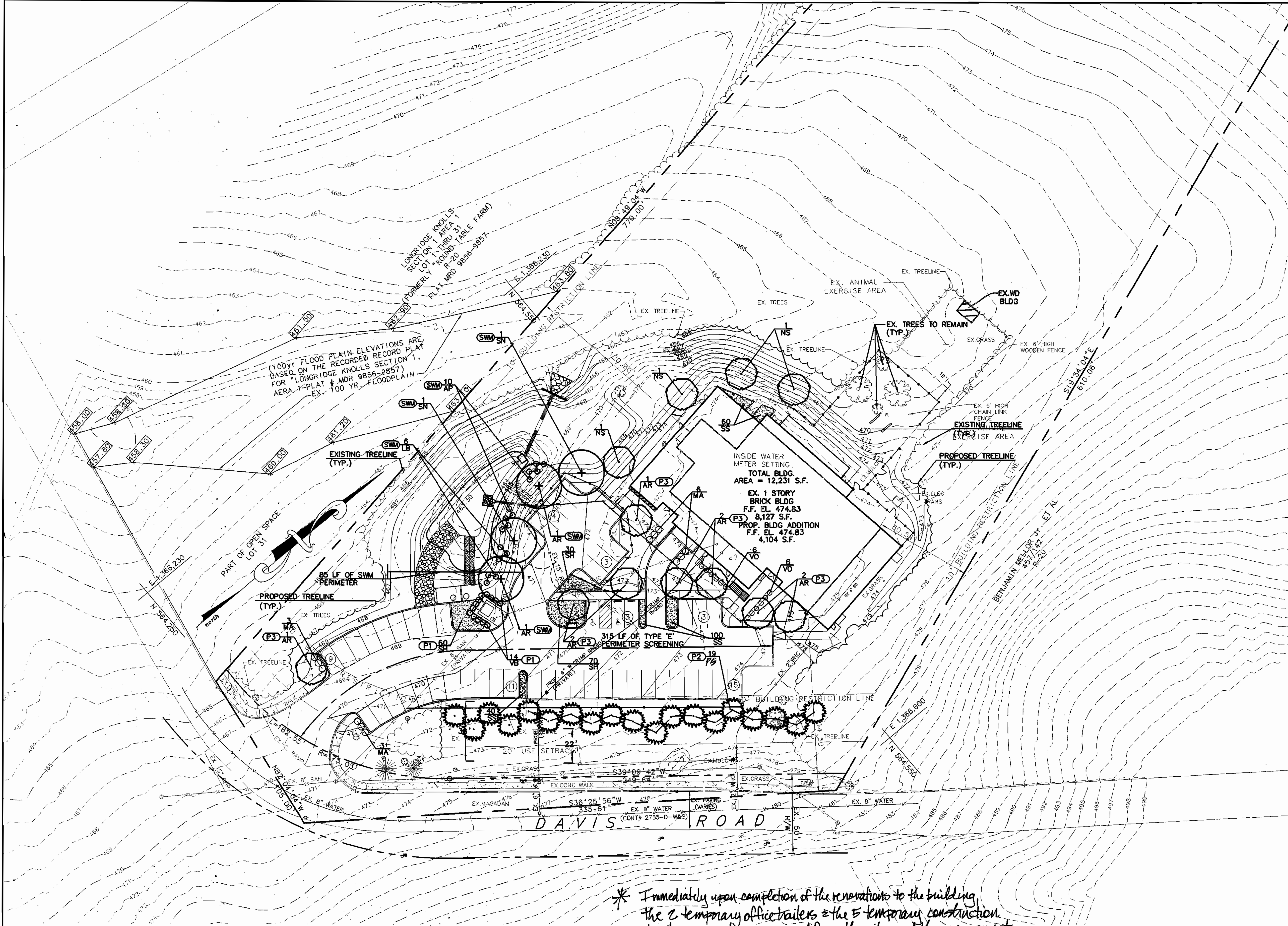
**SEDIMENT BASIN NOTES AND DETAILS**

PROJECT TITLE: **HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WHITNEY, BAILEY, COX & MAGNANI, LLC**  
Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-8.5
GRID NO.: 1	15 of 22
PARCEL NO.: 521	





VICINITY MAP  
SCALE: 1"=5,000'

PLANTING LEGEND

SHRUBS	
SHADE TREE	
EVERGREEN TREE	
EXISTING TREE/TREES	
GROUND COVER	

CAPITAL PROJECT #P-4918

DATE	NO.	REVISIONS

LANDSCAPE PLAN

PROJECT TITLE:  
**HOWARD COUNTY  
ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

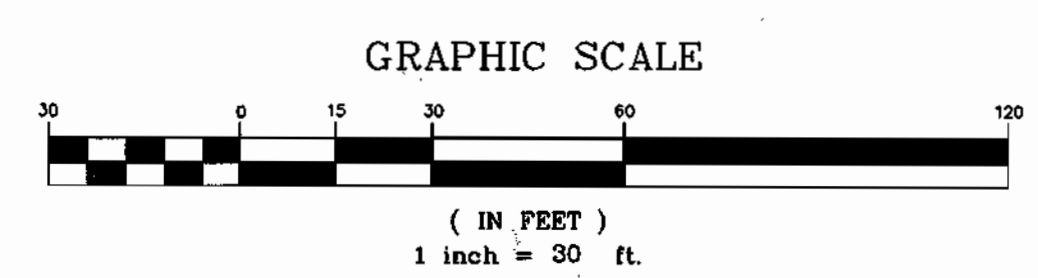
ENGINEERS: Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
WHITNEY, BAILEY, COX & MAGNANI, LLC

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-9
GRID NO.: 1	
PARCEL NO.: 521	16 of 22

\* Immediately upon completion of the renovations to the building, the 2 temporary office trailers & the 5 temporary construction trailers must be removed from the site and the area must be planted in accordance with the landscape plan.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 Chief, Development Engineering Division Date: 11/4/03  
  
 Chief, Division of Land Development Date: 11/6/03  
  
 Director Date: 11/12/03

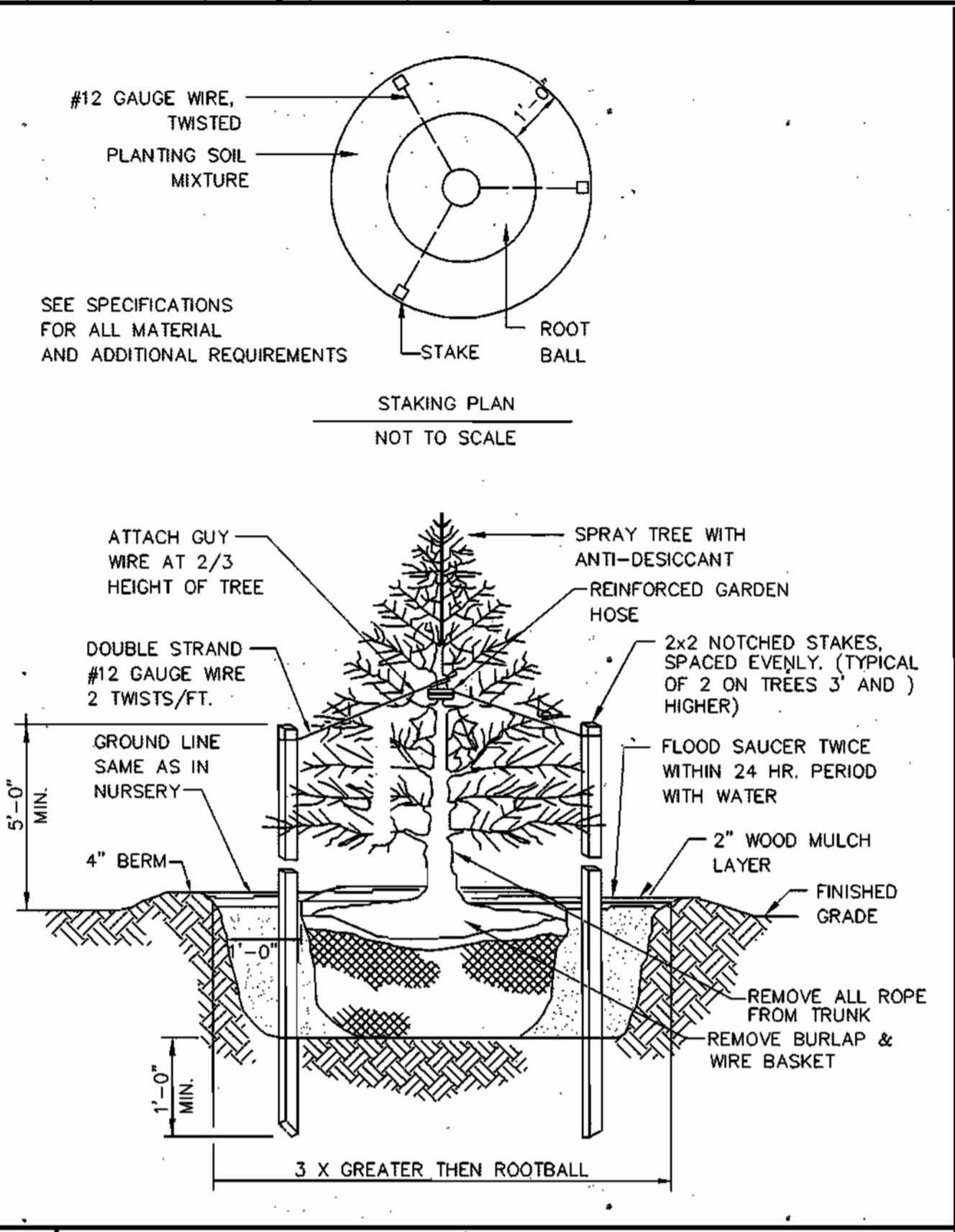
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
  
 County Health Officer Date:   
 Howard County Health Department



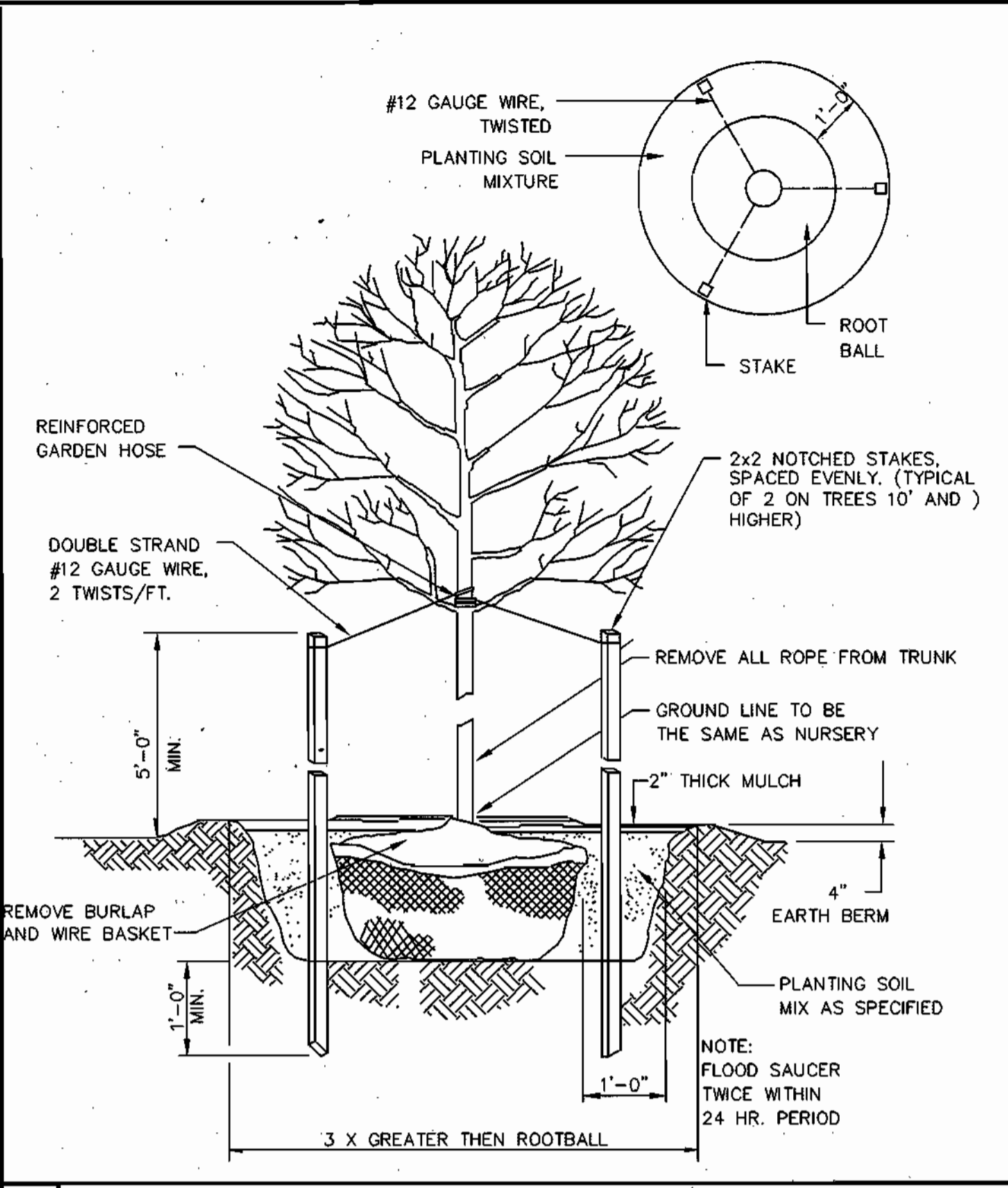
HOWARD COUNTY  
MARYLAND  
DEPARTMENT OF PUBLIC WORKS  

 DIRECTOR DATE:   
 CHIEF, BUREAU OF PLANNING DATE:   
 USING AGENCY DATE:   
 DIRECTOR DATE:

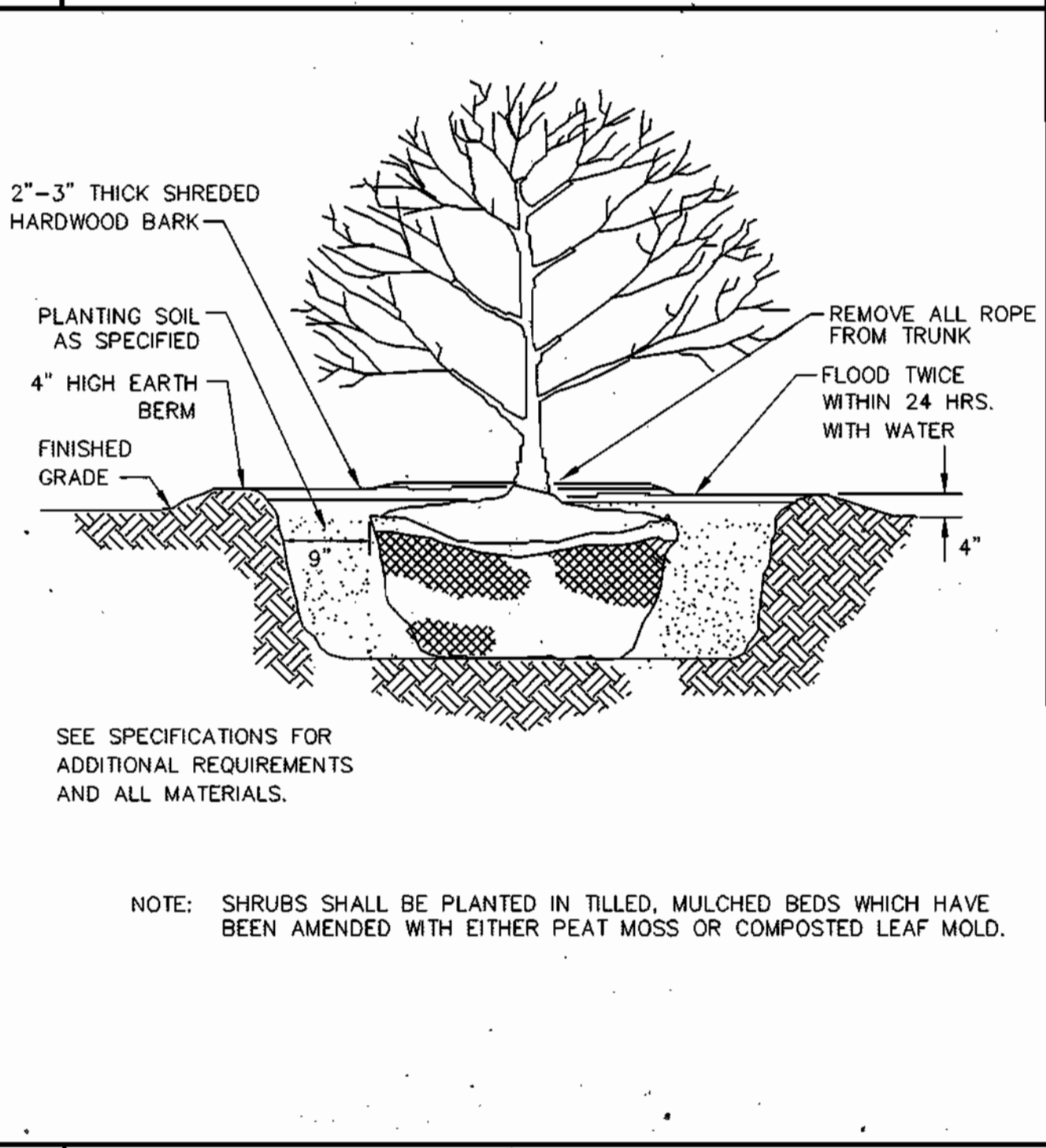




1 EVERGREEN PLANTING NOT TO SCALE



2 DECIDUOUS TREE PLANTING NOT TO SCALE



3 SHRUB PLANTING NOT TO SCALE

**NOTE :**  
 \*THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.  
 \*At the time of plant installation, all shrubs and trees as listed and approved herewith, shall be of proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocation of the required plantings may be made without prior review and approved from the Department of Planning and Zoning.

- LANDSCAPE NOTES**
- 1) ALL PLANT MATERIALS SHALL BE NURSERY GROWN AND SHALL CONFORM TO THE HOWARD COUNTY LANDSCAPE MANUAL AND AMERICAN ASSOCIATION OF NURSERYMAN, INC. STANDARDS, LATEST EDITION.
  - 2) ALL PLANTING PROCEDURES AND SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE WASHINGTON METROPOLITAN AREA" LATEST EDITION.
  - 3) THE CONTRACTOR SHALL CONTACT "MISS UTILITY" FOR UNDERGROUND UTILITY LOCATIONS AT LEAST 72 HOURS PRIOR TO THE COMPLETION DATE.
  - 4) ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR ONE YEAR FOLLOWING THE INSTALLATION COMPLETION DATE.

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/WE CERTIFY THAT THE LANDSCAPE PLANTING SHOWN ON THIS PLAN WILL BE DONE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, I/WE WILL NOTIFY HOWARD COUNTY DEPT. OF PLANNING & ZONING IN WRITING AND BE ACCOMPANIED BY A ONE YEAR GUARANTEE OF PLANT MATERIALS WITH THE NOTIFICATION.

*Michael J. Dunne* 10-22-03  
 NAME DATE

**INSTALLATION**  
 Installation  
 Plant installation must conform to the minimum standards cited in the latest edition of the "Landscape Specification Guidelines" published by the Landscape Contractors Associations.

**NOTE:**  
 NO SURETY IS REQUIRED FOR THIS PROJECT BECAUSE THIS IS A GOVERNMENT FACILITY.

**SCHEDULE A - PERIMETER LANDSCAPE EDGE**

Category	Adj. to Perimeter Properties (Loading) (P1)	Parking Lot Adj. to Roadway (P2)
Landscape Type	Type C	Type E
Linear Feet of Roadway Frontage/Perimeter	N/A	315'
Credit for Ex. Vegetation (Yes, No, Linear Foot) (Describe below if needed)	YES Entire length of loading perimeter is screened adequately by existing tree-line.	YES Entire perimeter is screened by ex. tree-line.
Number of Plants Required		
Shade Trees (1:40)	8 (N/A)	8
Evergreen Trees (0)	0 (N/A)	0
Shrubs (1:4)	79 (N/A)	79
Number of Plants Provided		
Shade Trees	0	0
Evergreen Trees	0	11
Other Trees (2:1 sub.)	0	0
Shrubs (10:1 sub.)	13	0

\*\* NOTE: PERIMETERS TO THE NORTH, EAST, AND WEST ARE HEAVILY SCREENED W/ EXISTING FOREST AND SHALL REQUIRE NO ADDITIONAL SCREENING. THE EXISTING TREE STAND CURRENTLY SCREENING DAVIS ROAD TO BE USED AS CREDIT FOR SHRUBS.

**SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING (P3)**

Number of Parking Spaces Proposed	48
Number of Trees Required (1:9)	6
Number of Trees Provided	
Shade Trees	8
Other Trees (2:1 substitution = 4)	0
Number of Islands Required (1:9)	6
Number of Islands Provided (Min. 200 Sq. Ft./Island)	12

**SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING (SWM)**

Linear Feet of Perimeter	85
Number of Trees Required	
Shade Trees (1:50)	2
Evergreen Trees (1:40)	2
Credit for Existing Vegetation (No, Yes and %)	YES
Credit for Other Landscaping (No, Yes and %)	NO
Number of Trees Provided	
Shade Trees	4
Evergreen Trees	0
Other Trees (2:1 substitution)	0

\*\* NOTE: BIORETENTION PLANTING AND EXISTING VEGETATION IS USED AS CREDIT FOR THE REQUIRED EVERGREEN TREES.

**STREET TREES REQUIRED**  
 THERE ARE NO STREET TREES REQUIRED FOR THIS PLAN.

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

*Michael J. Dunne* 11/4/03  
 Chief, Development Engineering Division Date

*Chris Hamilton* 11/6/03  
 Chief, Division of Land Development Date

*David DeLoach* 11/21/03  
 Director Date

**APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS**

County Health Officer  
 Howard County Health Department. Date

**PLANT LIST**

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE (MIN.)	ROOT	REMARKS
MAJOR TREES	AR	6 ACER RUBRUM / OCTOBER GLORY / OCTOBER GLORY RED MAPLE	24-30"	B&B	
	NS	4 NYSSA SYLVATICA / BLACKGUM	24-30"	B&B	
EVERGREEN	PS	19 PINUS STROBUS / EASTERN WHITE PINE	18-24"	B&B	
SHRUBS	MA	12 MAHONIA AQUIFOLIUM / OREGON GRAPE HOLLY	24-30"	CONT.	36" O.C.
	VB	14 VIBURNUM BURKWOODII / BURKWOOD VIBURNUM	24-30"	CONT.	48" O.C.
	VO	12 VIBURNUM OPULIS 'NANUM' / DWARF EUROPEAN CRANBERRYBUSH	18-24"	CONT.	36" O.C.
GRASSES	SH	160 SPURIA BOLUS HETEROLEPIS / PRAIRIE DROPSEED	18-24"	CONT.	24" O.C.
GROUND COVER	SS	200 SALVIA SUPERBA 'OSTERISLAND' / PURPLE FIRE SALVIA	1 QT.	CONT.	12" O.C.

**STORMWATER MANAGEMENT PLANT LIST**

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES	SN	2 SALIX NIGRA / BLACK WILLOW	2-2 1/2" CAL.	B&B	
	AR	2 ACER RUBRUM / RED MAPLE	2-2 1/2" CAL.	B&B	
SHRUBS	LB	6 LINDERA BENZON / SPICEBUSH	24-30"	CONT.	
	AP	10 AESCULUS PARVIFLORA / BOTTLEBRUSH BUCKEYE	24-30"	CONT.	

**HOWARD COUNTY**  
 MARYLAND  
 DEPARTMENT OF PUBLIC WORKS

~~DIRECTOR DATE~~  
~~CHIEF, BUREAU OF FACILITIES DATE~~  
~~USING AGENCY DATE~~

**HOWARD COUNTY**  
 MARYLAND  
 PROFESSIONAL ENGINEER

10/21/03

DESIGNED: D.M.B. ELECTION DIST.: 6th  
 DRAWN: S.J.D. CENSUS TRACT #: 6065.01  
 CHECKED: P.J.C. WATER CODE: G-07  
 DATE: 10-8-03 SEWER CODE: 5335300  
 SCALE: AS SHOWN DRAWING NO:  
 MAP NO.: 37  
 GRID NO.: 1 C-9.1  
 PARCEL NO.: 521 17 of 22

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**LANDSCAPE NOTES & DETAILS**

PROJECT TITLE:  
**HOWARD COUNTY**  
**ANIMAL CONTROL FACILITY RENOVATION**  
 8576 DAVIS ROAD  
 HOWARD COUNTY, MARYLAND

ENGINEERS: **WR** Consulting Engineers  
 849 Fairmount Avenue (410) 512-4500  
 Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
 WHITNEY, BAILEY, COX & MAGNANI, LLC



LIGHTING FIXTURE SCHEDULE

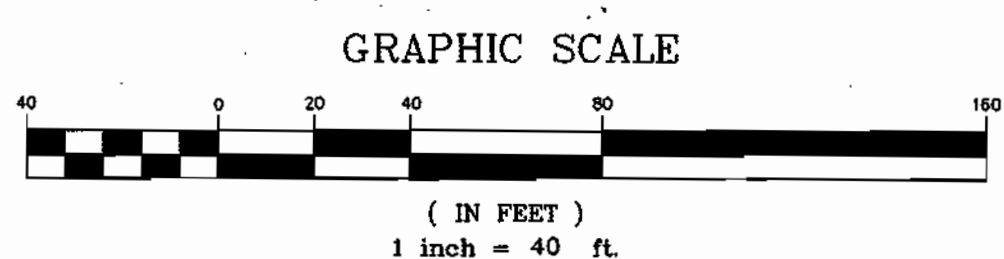
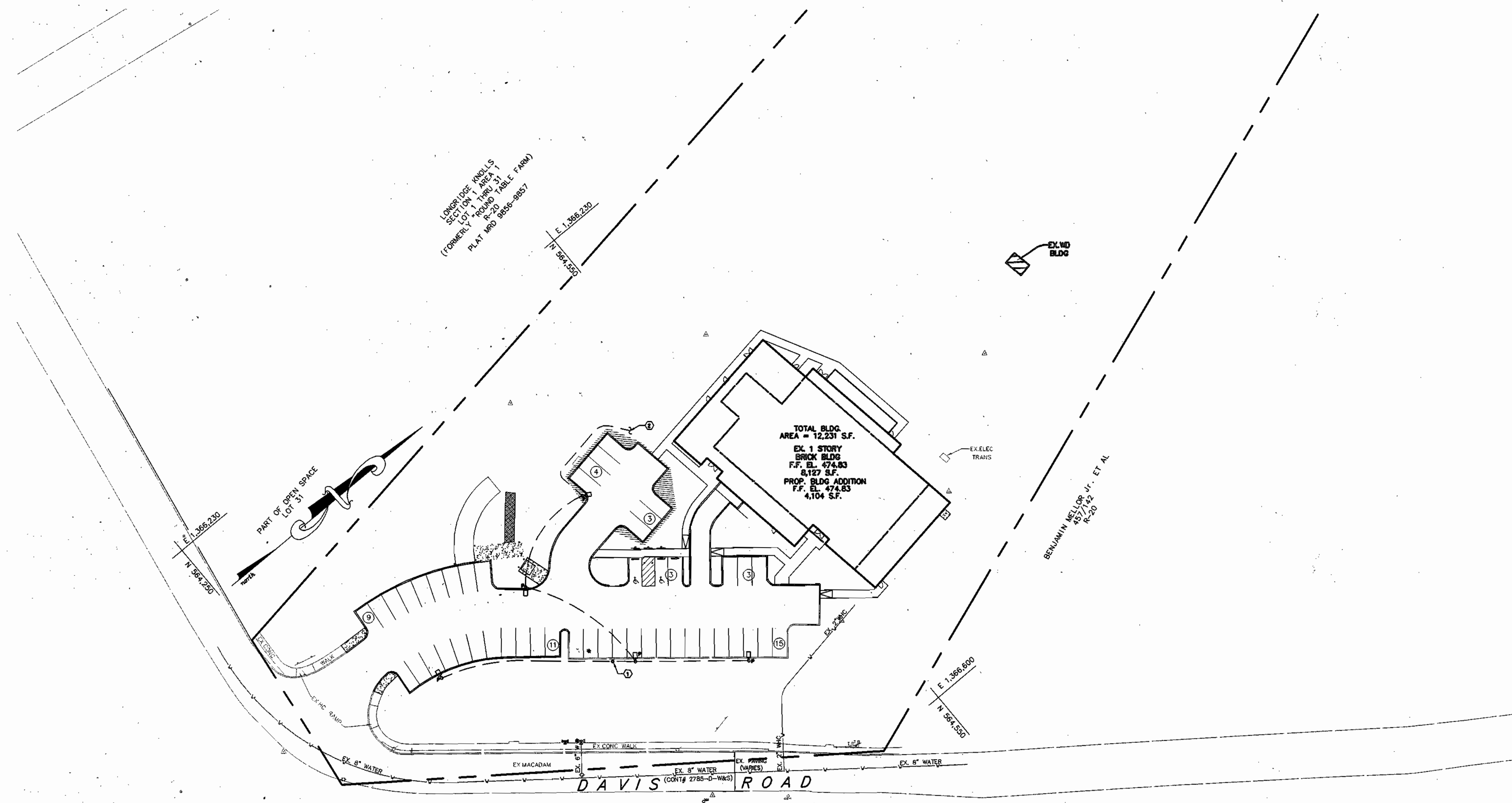
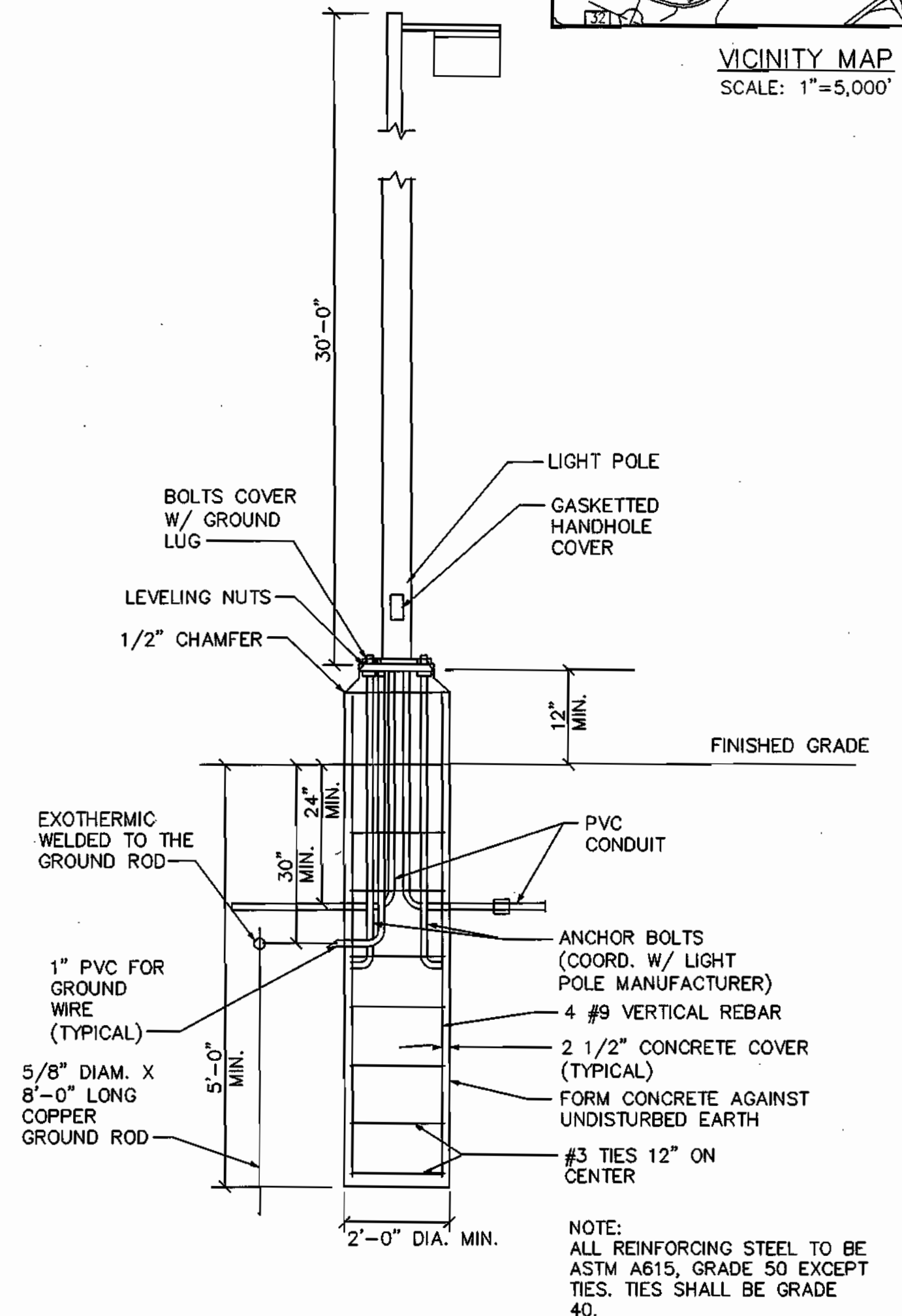
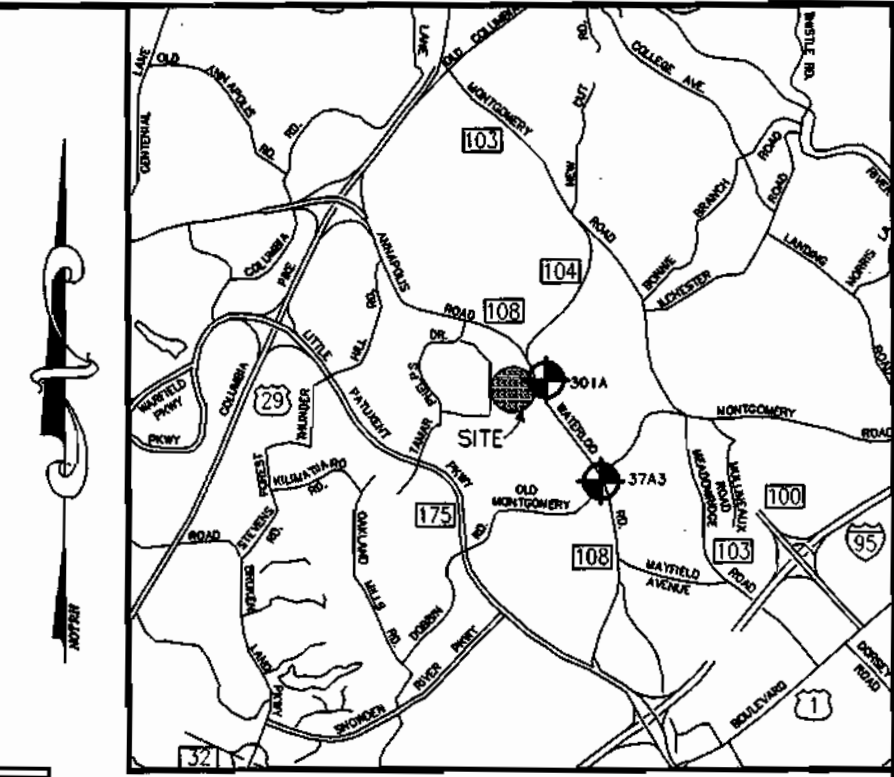
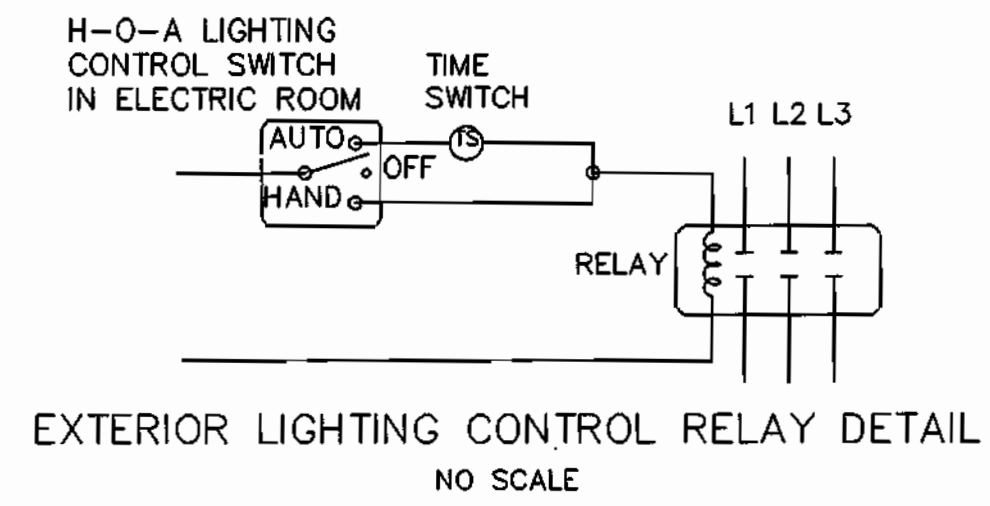
SYMBOL	DESCRIPTION	VOLTS	LAMPS	LAMP CODE	MANUFACTURER AND CATALOG NO.	REMARKS
□ <sub>Op</sub>	CUT-OFF DISTRIBUTION TYPE LUMINAIRE WITH RECTANGULAR SHAPED ALUMINUM HOUSING, BRONZE FINISH, FRAMED TEMPERED GLASS LENS, ALUMINUM REFLECTOR (TYPE 111 DIST.) CHMX BALLAST AND MOUNTING ARM. POLE: SQUARE, STEEL WITH BRONZE FINISH	208V, 1 PH	(1) 400WATT (10 F.C.)	METAL HALIDE	GENERAL ELECTRIC CRITERION #CHMX-40-MH-208-CHMX  POLE #ARTS-30-12-7-PP	30' HIGH

DRAWING NOTES: #

1. EXTEND 2#8, 1#8G, 1" PVC CONDUIT TO POLE LIGHT.
2. EXTEND 208V, 1 PHASE WIRING TO PANEL B AND CONNECT TO CIRCUIT #S 39 AND 41. THROUGH TIME SWITCH

GENERAL NOTES:

1. EXISTING POLES AND LIGHT FIXTURES SHALL BE REPLACED BY NEW POLES AND LIGHT FIXTURES
2. CONTRACTOR SHALL PROVIDE NEW UNDERGROUND 2#8, 1#8g, 1" C WIRING FOR THE POLE LIGHTS.
3. PROVIDE PVC SCHEDULE 40 CONDUITS FOR UNDERGROUND AND EXTERIOR WIRING AND EMT CONDUITS INSIDE THE BUILDING.



CAPITAL PROJECT #P-4918

DATE	NO.	REVISIONS

SITE LIGHTING PLAN, DETAILS AND NOTES

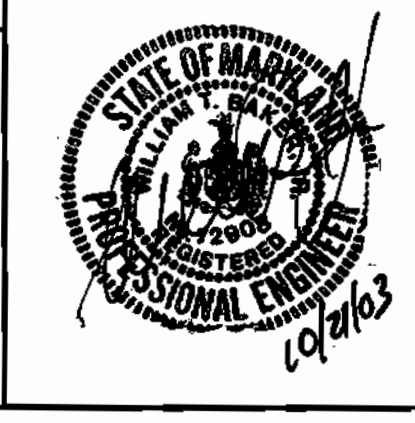
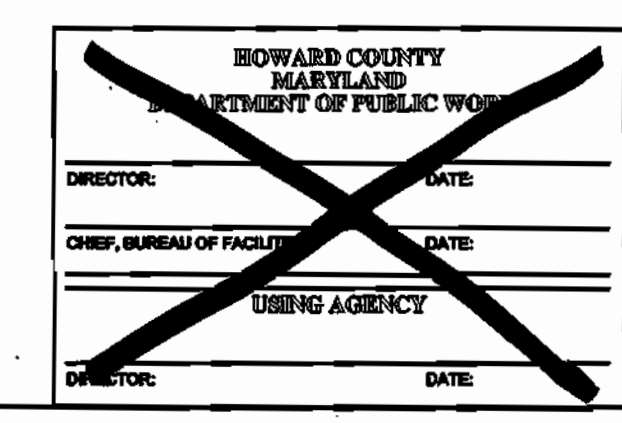
PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
 8576 DAVIS ROAD  
 HOWARD COUNTY, MARYLAND

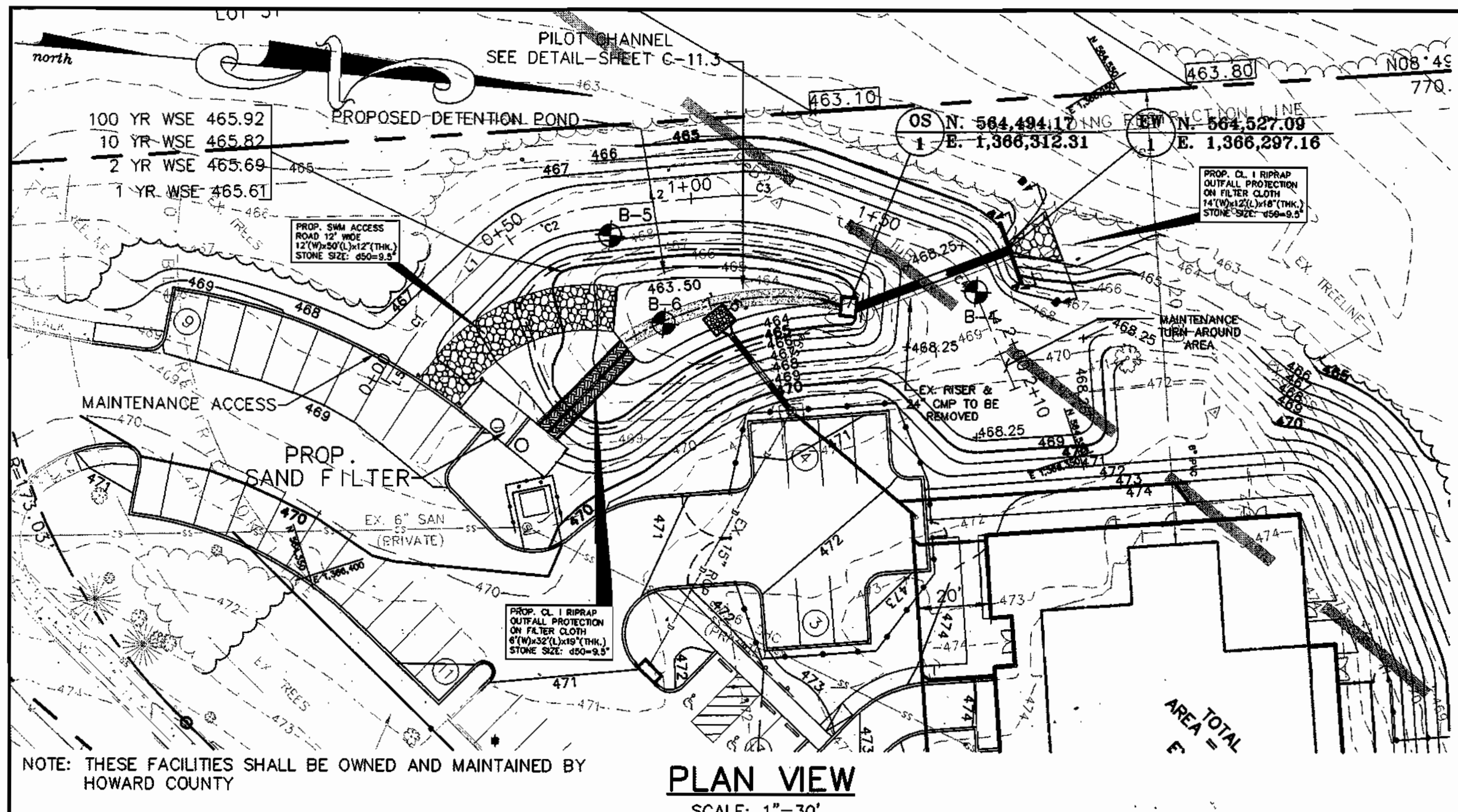
ENGINEERS: **WHITNEY, BAILEY, COX & MAGNANI, LLC**  
 Consulting Engineers  
 849 Fairmount Avenue (410) 512-4500  
 Baltimore, Maryland 21286 (410) 324-4100 (FAX)

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-10
GRID NO.: 1	
PARCEL NO.: 521	18 of 22

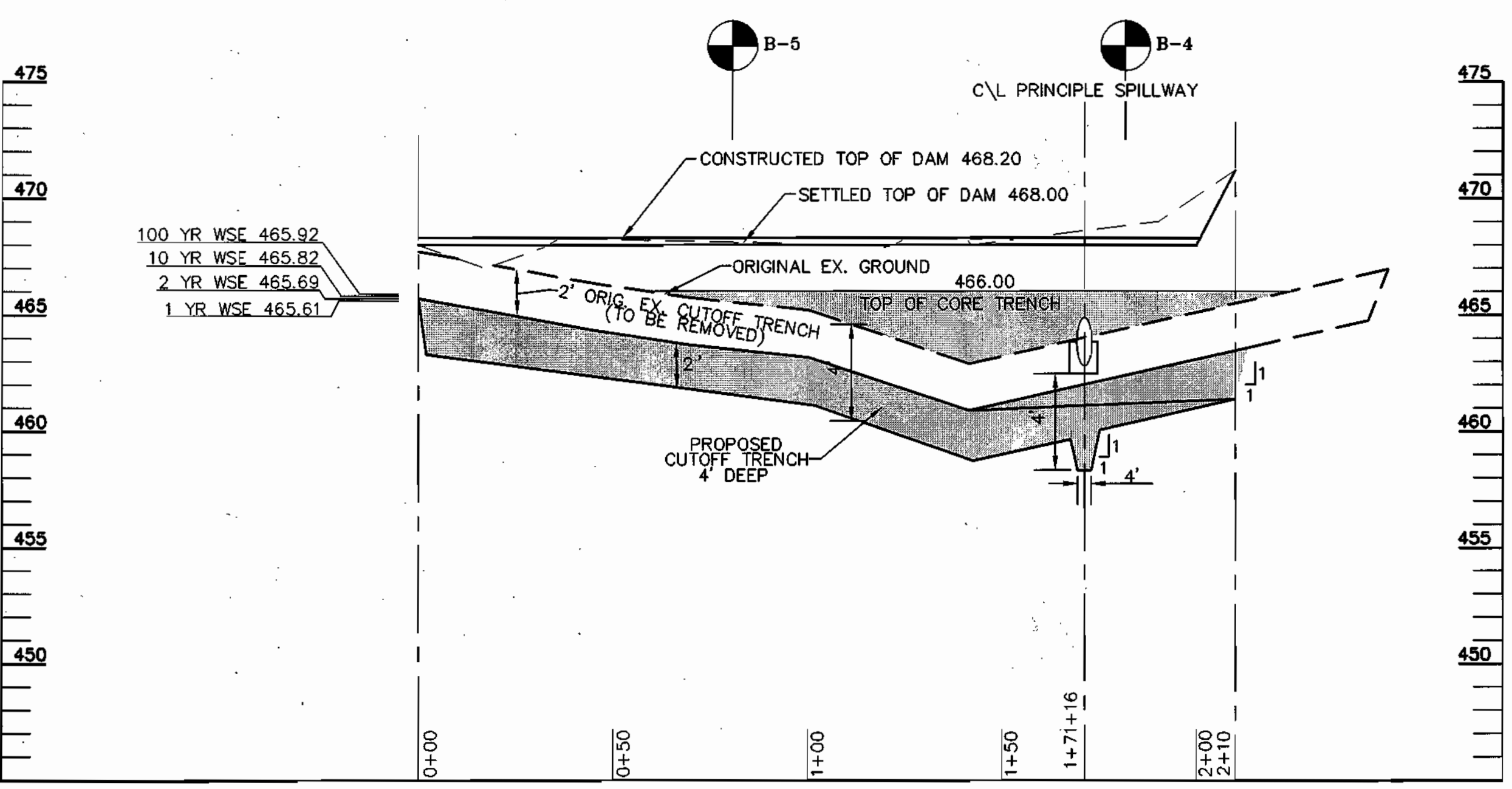
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* Date 11/4/03  
 Chief, Development Engineering Division  
*[Signature]* Date 11/6/03  
 Chief, Division of Land Development  
*[Signature]* Date 11/12/03  
 Director

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 County Health Officer  
 Howard County Health Department  
 Date \_\_\_\_\_

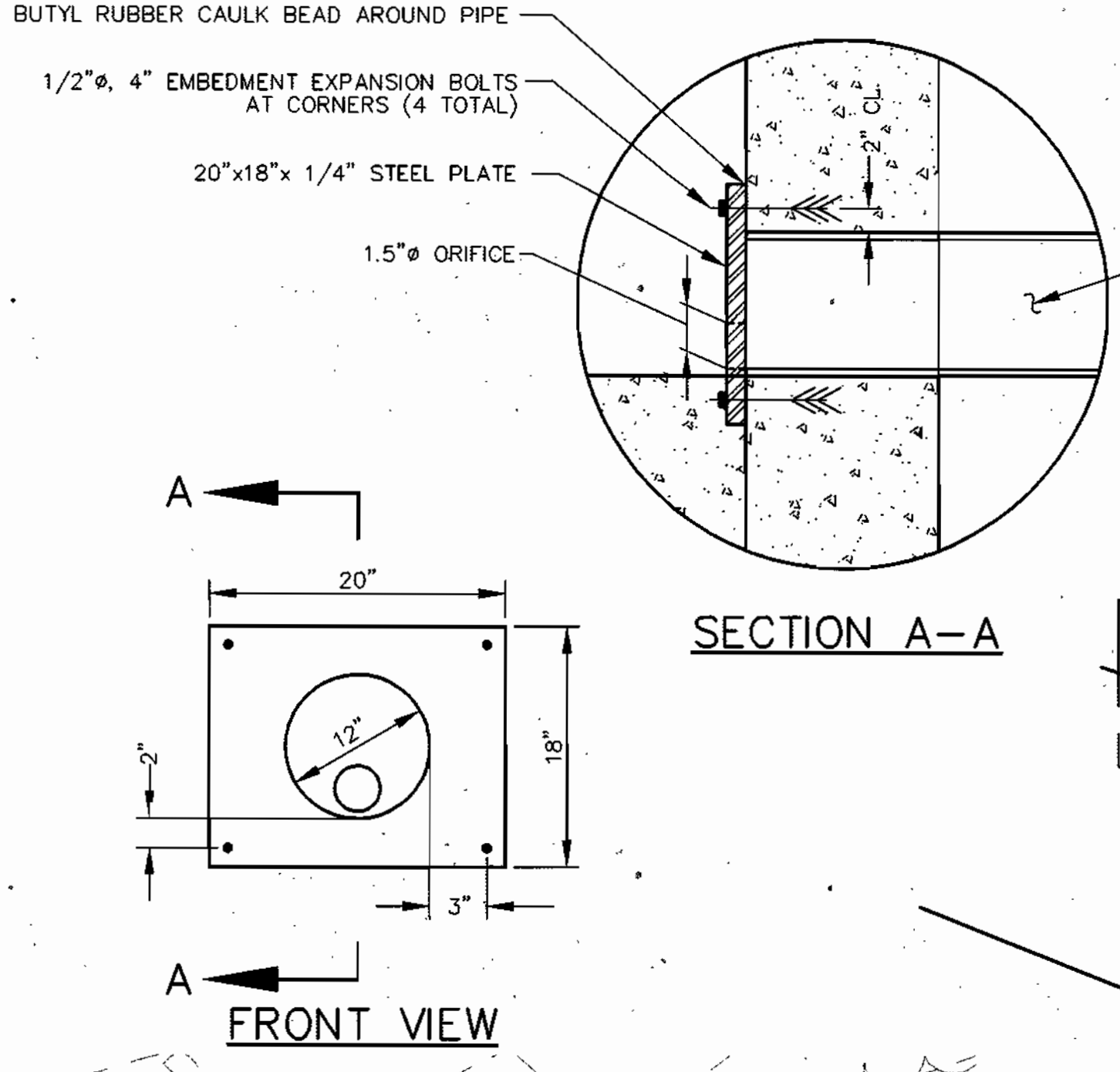
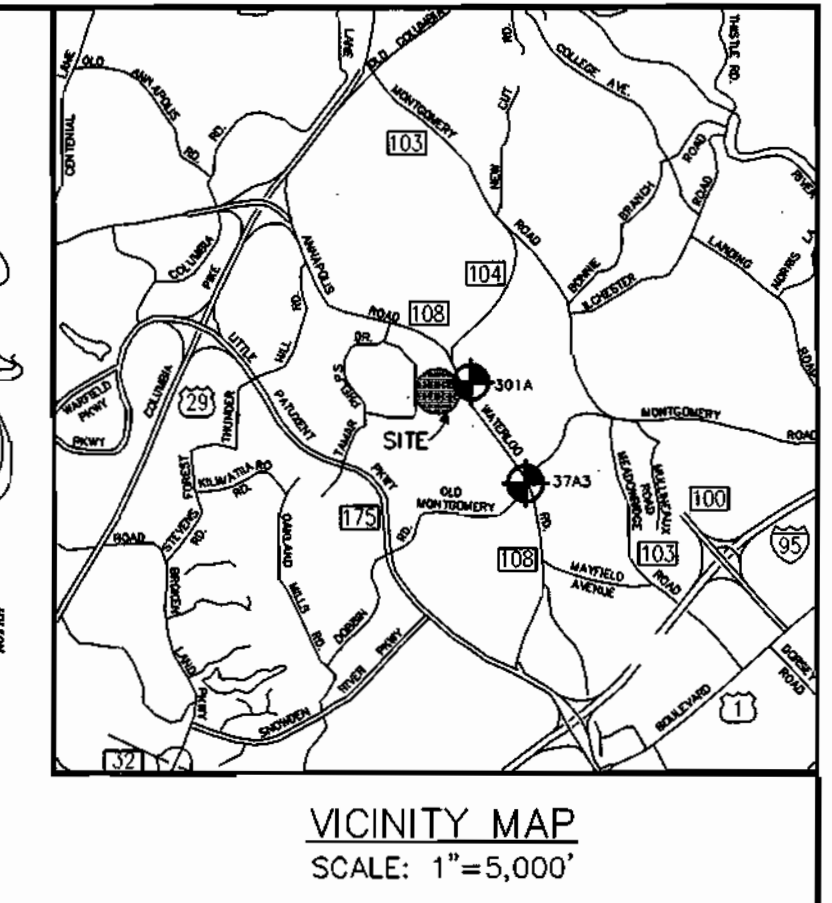




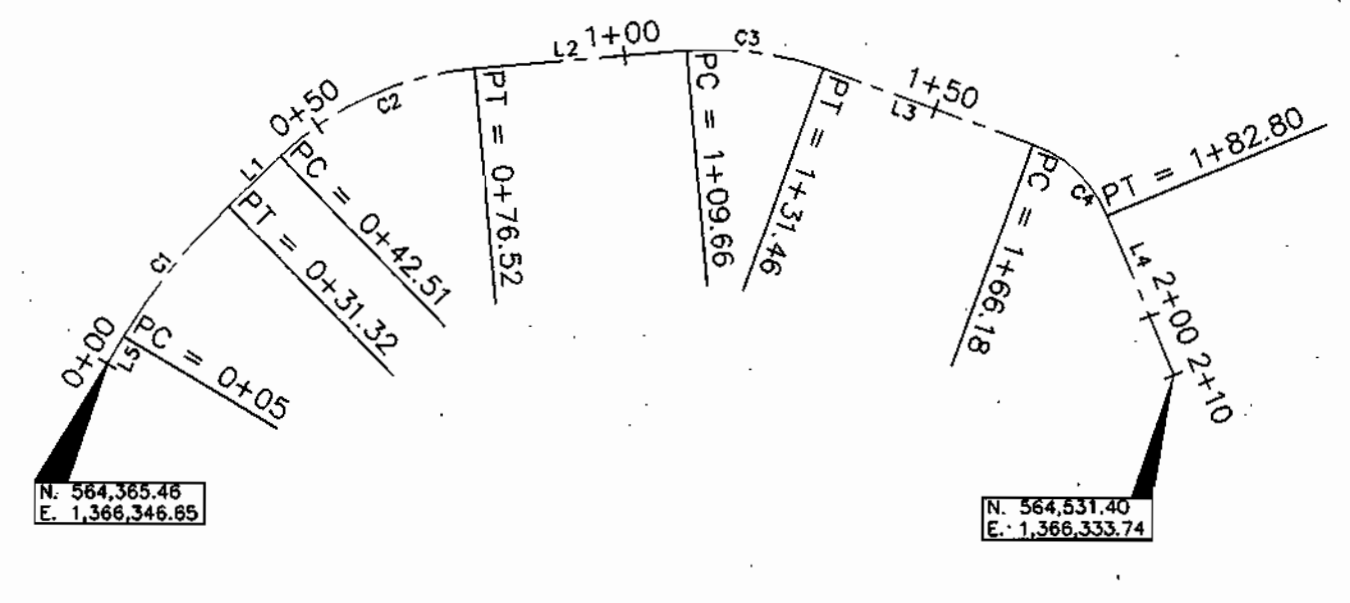
**PLAN VIEW**  
SCALE: 1"=30'



**C/L DAM PROFILE**  
SCALE: HORIZ. 1"=30'  
VERT. 1"=5'



**SECTION A-A**

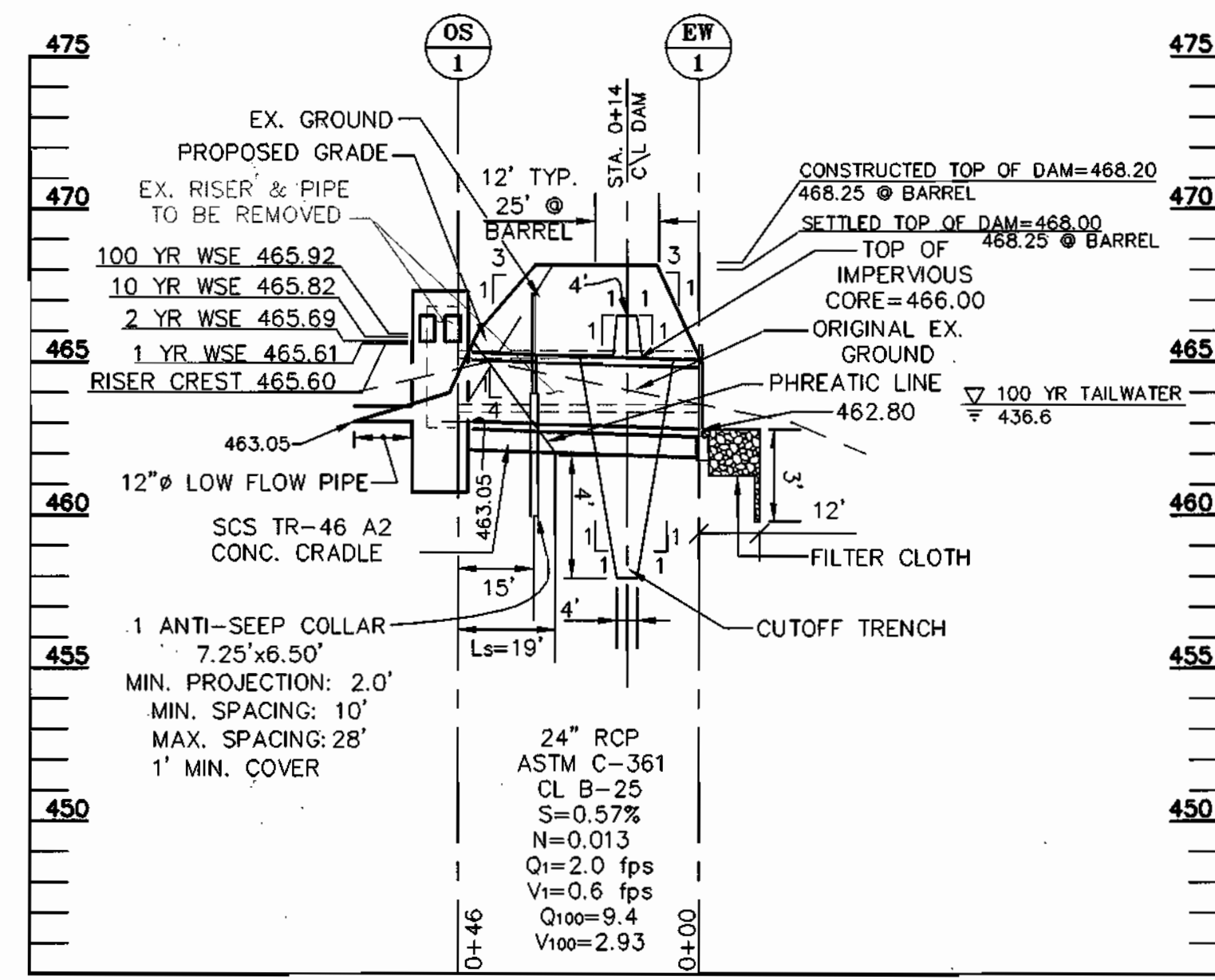


**GEOMETRY**  
SCALE: 1"=30'

CURVE TABLE				
CURVE	TANGENT	DELTA	LENGTH	RADIUS
C1	13.24	15°04'47"	26.32	100.00
C2	17.69	38°58'10"	34.01	50.00
C3	11.07	24°58'20"	21.79	50.00
C4	8.83	47°37'14"	16.62	20.00

LINE TABLE		
LINE	LENGTH	BEARING
L1	11.19	N48°59'43"W
L2	33.14	N10°01'33"E
L3	34.72	N14°56'47"E
L4	27.20	N62°34'01"E
L5	5.00	N64°44'31"W

- FOR DETAIL SEE SHEET
- 1. ANTI-SEEP COLLAR C-11.2
  - 2. CONCRETE CRADLE C-11.3
  - 3. RISER (OS-1) C-11.2
  - 4. OUTLET PROTECTION THIS SHEET
  - 5. PILOT CHANNEL C-11.3
  - 6. SAND FILTER C-11.3



**C/L PRINCIPLE SPILLWAY PROFILE**  
SCALE: HORIZ. 1"=30'  
VERT. 1"=5'

**DEVELOPER'S/LANDOWNER'S CERTIFICATION**  
I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THE CONSTRUCTION DRAWINGS WILL BE CONDUCTED IN STRICT ACCORDANCE WITH THE 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 CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER WITHIN THIRTY (30) DAYS OF COMPLETION OF WORK ON THE STORMWATER MANAGEMENT FACILITY. I/WE ALSO CERTIFY THAT THIS/THOSE STORMWATER MANAGEMENT FACILITY/FACILITIES WILL BE INSPECTED DURING CONSTRUCTION BY A REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD COUNTY.

SIGNED: *Michael A. Diwanicko* 10-2-03  
DATE: 10-2-03  
PRINT NAME: MICHAEL A. DIWANICKO

**"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. I ALSO CERTIFY THAT CONSTRUCTION WAS INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD COUNTY.

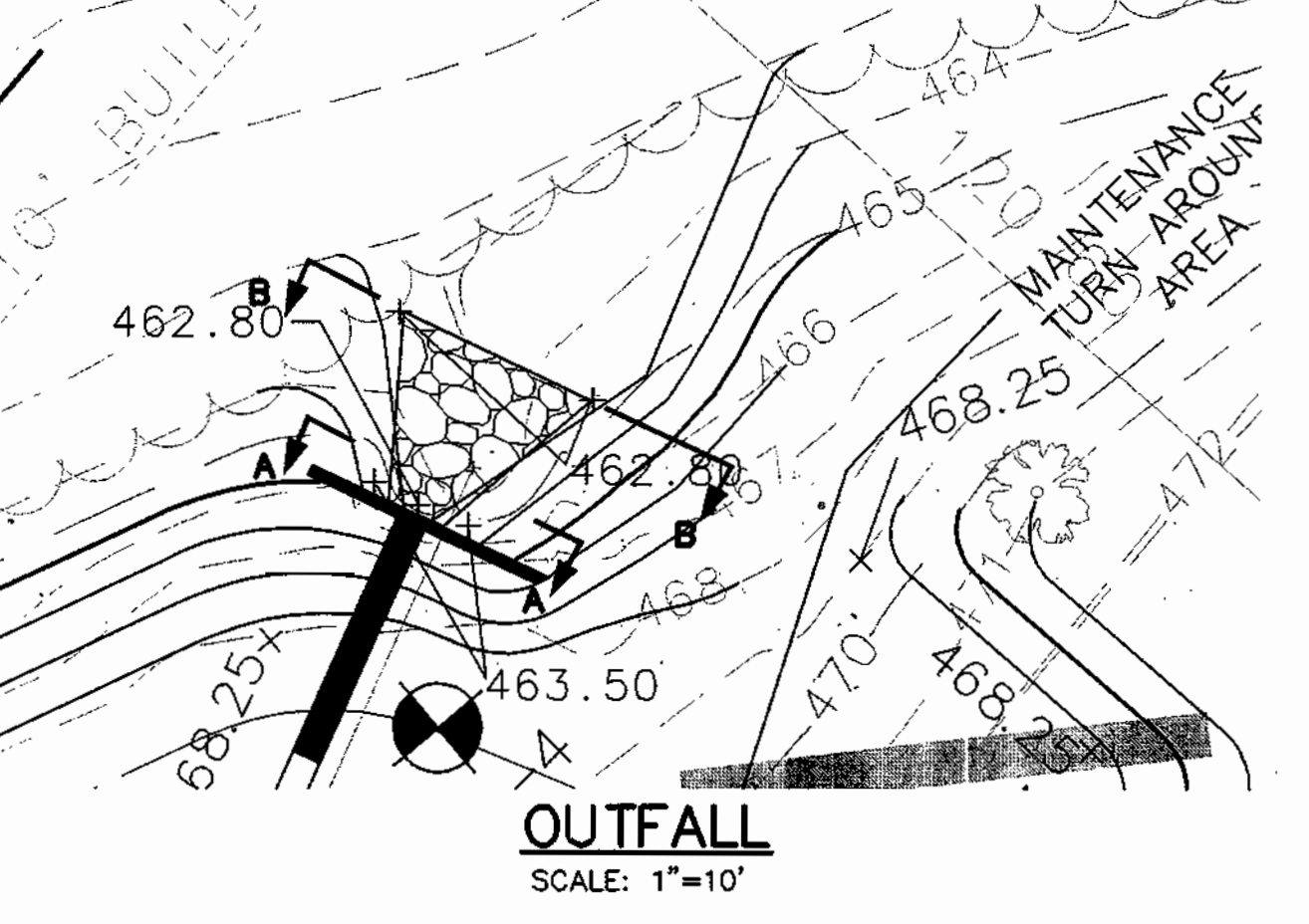
SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
PRINT NAME: \_\_\_\_\_ MD. LICENSE NO. \_\_\_\_\_

**ENGINEER'S CERTIFICATION**  
I HEREBY CERTIFY THAT THESE PLANS HAVE BEEN DESIGNED ACCORDING TO THE HOWARD COUNTY DESIGN MANUAL STANDARDS AND SPECIFICATIONS AND THE DEPARTMENT OF ENVIRONMENTAL STORMWATER MANAGEMENT REGULATIONS.

SIGNED: *William T. Bakewell, Jr.* 10/2/03  
DATE: 10/2/03  
PRINT NAME: WILLIAM T. BAKEWELL, JR. 12908  
MD. LICENSE NO. 12908

FACILITIES: 1-DRY EXTENDED POND-WATER QUALITY  
1-UNDERGROUND SAND FILTER-WATER QUALITY  
OWNERSHIP: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
MAINTENANCE: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

**CAPITAL PROJECT #P-4918**



**OUTFALL**  
SCALE: 1"=10'

CONSTRUCTION CHECKLIST SWM POND NO. 1										
POND ITEM	DESIGN ELEVATION (SETTLED)	CONSTRUCTION ELEVATION	DESIGN SLOPE	CONSTRUCTION SLOPE	DESIGN LENGTH	CONSTRUCTION LENGTH	DESIGN WIDTH	CONSTRUCTION WIDTH	CONSTRUCTION DIAMETER	CONSTRUCTION DIAMETER
EMBANKMENT	468.00	468.20	3:1		210		12'		24"	

**GEOTECHNICAL CERTIFICATION**  
RECEIVED FOR EMBANKMENT, CUTOFF TRENCH, IMPERVIOUS CORE, WEIR WALL, BARREL, ETC. CONSTRUCTION AND MATERIALS?

POND GRADED TO SUBSTANTIALLY MATCH DESIGN GRADES AND VOLUMES?

TRASHRACKS AND ORIFICE ELBOWS IN PLACE?

DEWATERING DEVICE REPLACED AND SEDIMENT TRAP CONVERTED TO POND WITH INSPECTOR APPROVAL?

SWM POND NO. 1 DESIGN SUMMARY						
DESIGN STORM	EXISTING RELEASE RATE @ DISCHARGE (CFS)	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT)	STORAGE VOLUME A.F.	PROPOSED DISCHARGE @ DESIGN POINT (CFS)
1 YEAR	3.3	2.9	0.4	465.61	0.0924	0.9
2 YEAR	4.2	4.0	3.2	465.69	0.0984	3.8
10 YEAR	7.7	7.6	7.5	465.82	0.1082	10.3
100 YEAR	13.4	11.6	11.4	465.92	0.1169	16.2

- MAINTENANCE SCHEDULE**
- THE FACILITY SHALL BE INSPECTED TWICE ANNUALLY - MARCH AND SEPTEMBER. VISUAL INSPECTION OF ALL COMPONENTS SHALL BE COMPLETED BY THE OWNER.
  - GRASS ON DAM SHALL BE MOVED ANYTIME THE GRASS IS OVER SIX(6) INCHES TALL.
  - VEGETATIVE COVER SHALL BE MAINTAINED BY MOWING, LIMING AND FERTILIZING. AS A MINIMUM REQUIREMENT, THE LIME AND FERTILIZER SHALL BE APPLIED ONE (1) TIME EVERY TWO (2) YEARS. NO TREES OR WOODY VEGETATION SHALL BE ALLOWED ON THE EMBANKMENT.
  - RILLS ON THE SLOPES OF THE DAM AND WASHES IN THE EARTH SPILLWAY SHALL BE FILLED WITH SUITABLE MATERIAL AND THOROUGHLY COMPACTED. THESE AREAS SHALL BE RESEDED OR RESODDED, LIMED AND FERTILIZED AS NEEDED.
  - ALL APPURTENANCES SHALL BE KEPT IN GOOD REPAIR.
  - SILT SHALL BE REMOVED WHEN ACCUMULATION EXCEEDS SIX (6) INCHES.
  - ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED IMMEDIATELY.

**DESIGN SUMMARY POND NO. 1**

WATER SHED :	PATUXENT RIVER 02-13-11
STORAGE HEIGHT PRODUCT:	0.35 AC.
STRUCTURE CLASSIFICATION:	'A'
FREEDWARD REQUIRED:	2.0', NO EMERGENCY SPILLWAY
FREEDWARD PROVIDED:	2.0'
STRUCTURE TYPE:	EXCAVATED AND EMBANKMENT DETENTION POND
WATERSHED AREA TO FACILITY:	1.81 AC.
LEVEL OF MANAGEMENT PROVIDED BY FACILITY:	1 YEAR REQUIRED 1 & 2 YEAR PROVIDED
UNDERGROUND SAND FILTER	
WATER QUALITY:	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

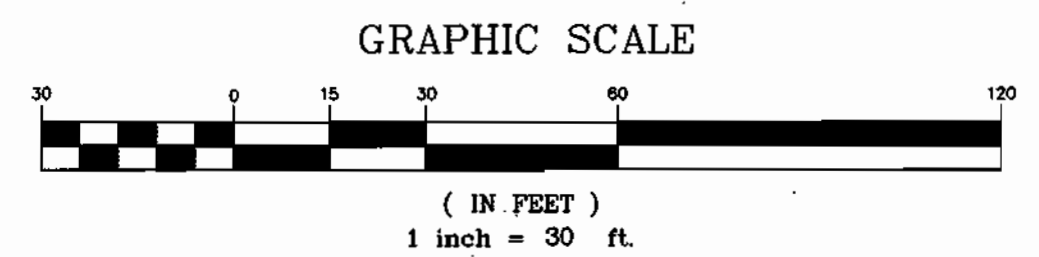
*Michael A. Diwanicko* Date: 11/4/03  
Chief, Development Engineering Division

*David Hamilton* Date: 11/6/03  
Chief, Division of Land Development

*Paul D. Wyle* Date: 11/12/03  
Director

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

County Health Officer  
Howard County Health Department



Step	Category	CU/FT Volume Required	CU/FT Volume Provided	Notes
1	Water Quality Volume (WQv)	90' AREA 'A' 179 AREA 'B'	688.6 AREA 'A' 1,337 FT² AREA 'B'	WQV met by non-roof top disconnect in area B.
2	Recharge Volume (Rev)	117 AREA 'A' 22 AREA 'B' OR 174 FT²	1,498 AREA 'A' 1,337 FT² AREA 'B'	REV MET BY NON-ROOF TOP DISCONNECT IN AREA B
3	Channel Protection Volume (Cpv)	2,498 AREA 'A' 0 AREA 'B'	3996 AREA 'A' 0 AREA 'B'	Extended detention in pond for area A
4	Overbank Flood Protect. Vol. (Op)	N/A	N/A	No downstream impact. Providing stable outlet from BMP'S
5	Extreme Flood Volume (Qf)	N/A	N/A	Provide safe passage for the 10-year event in final design.

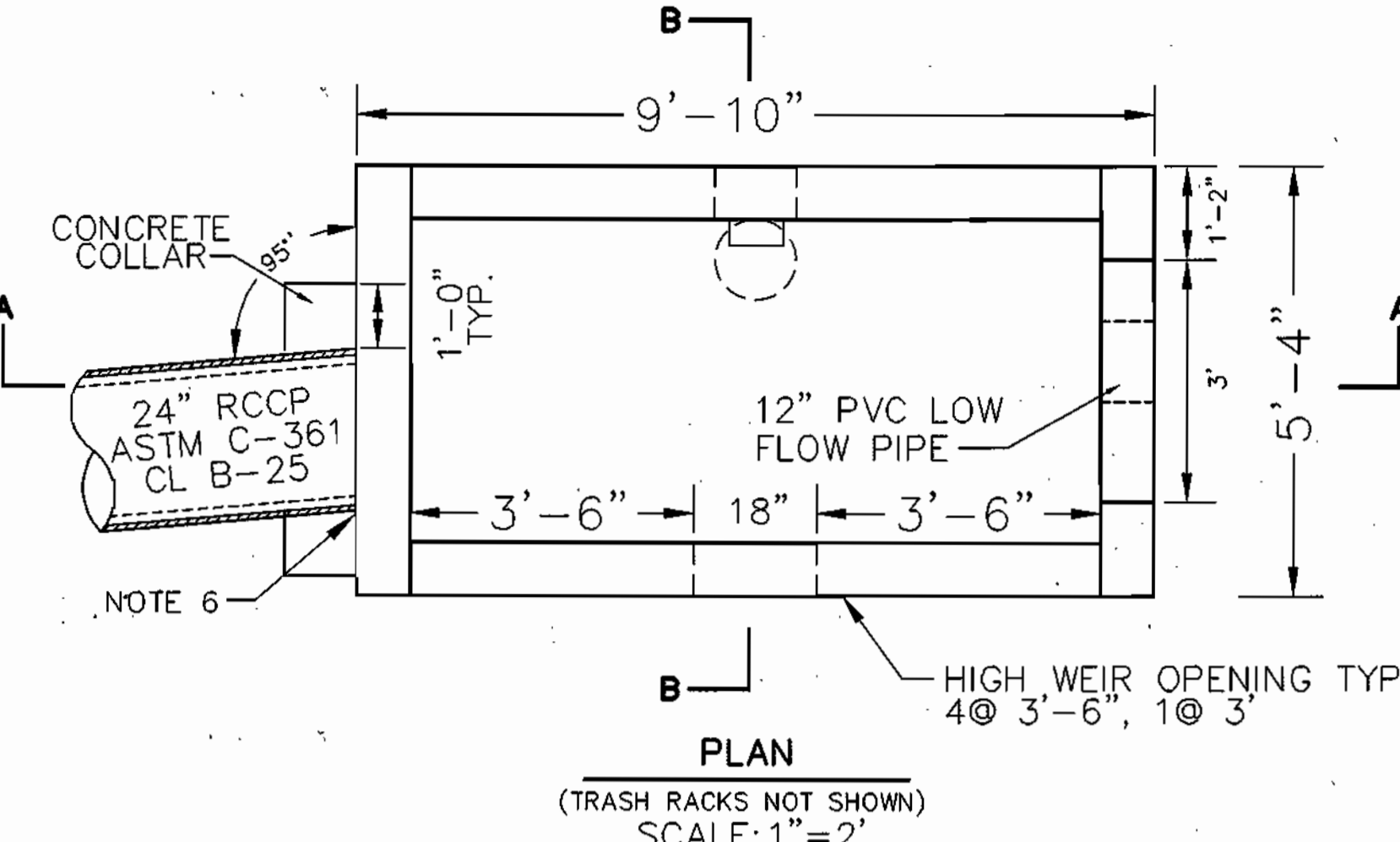
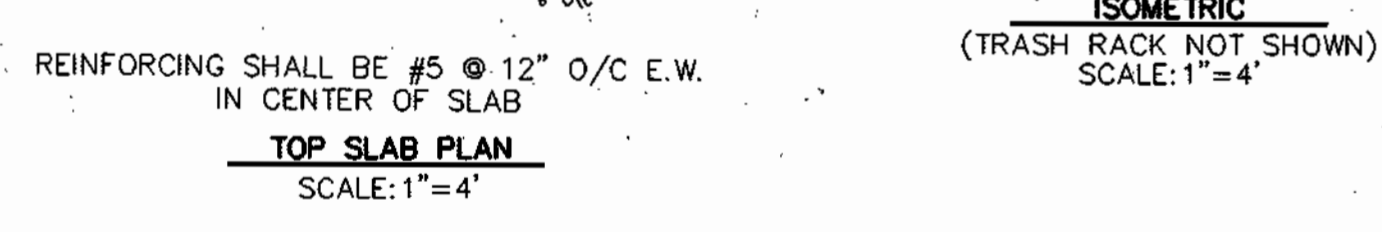
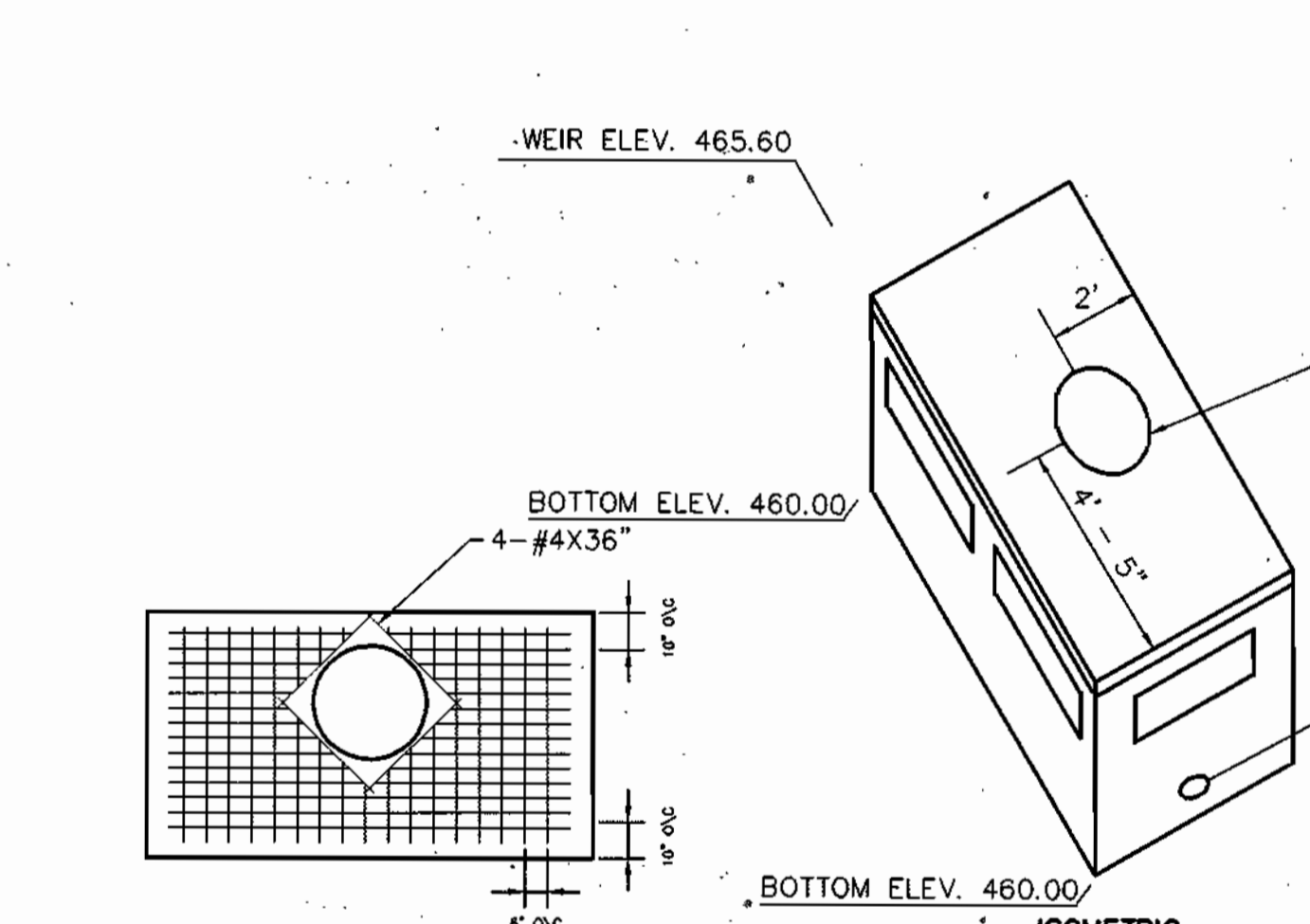
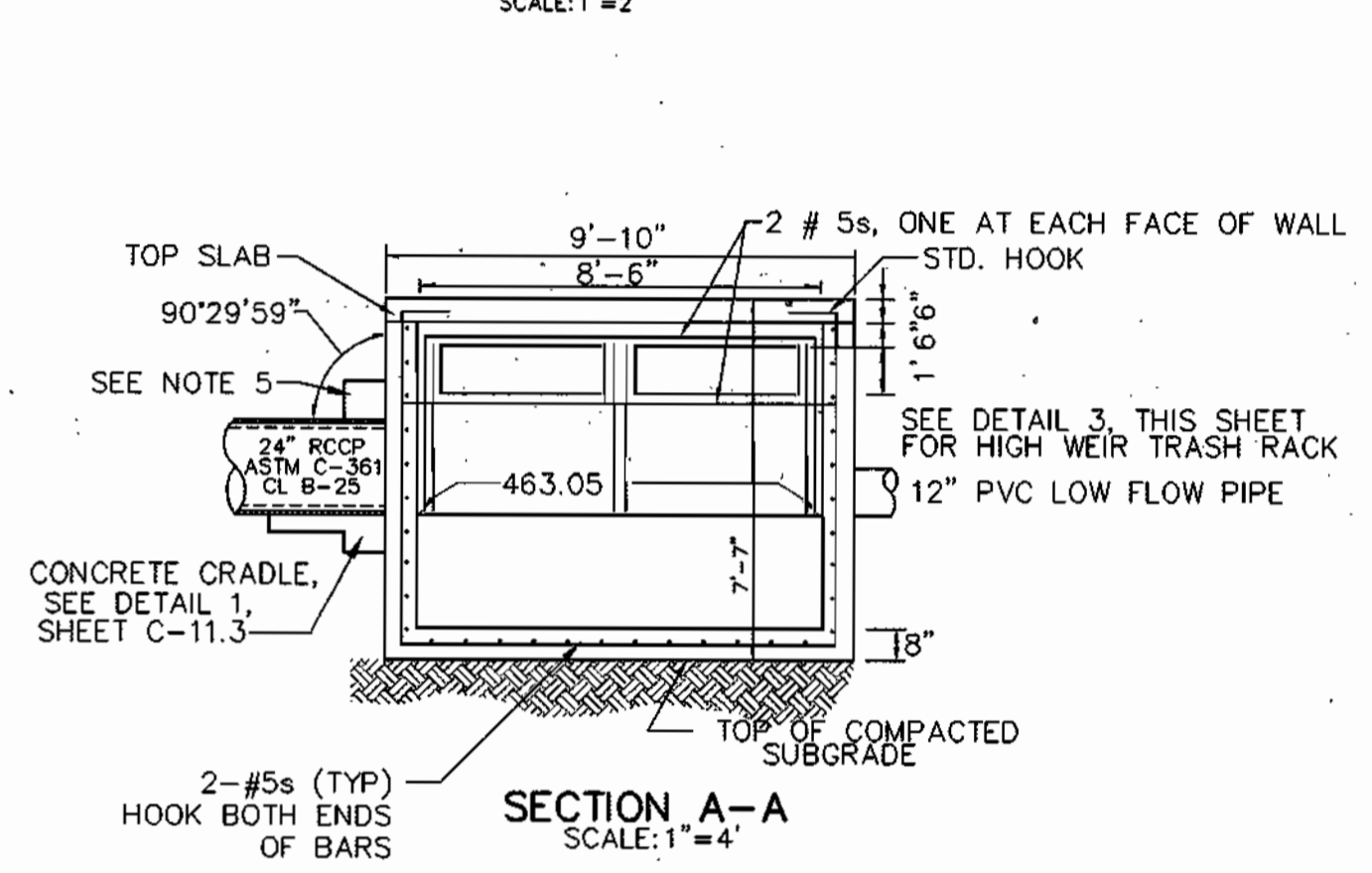
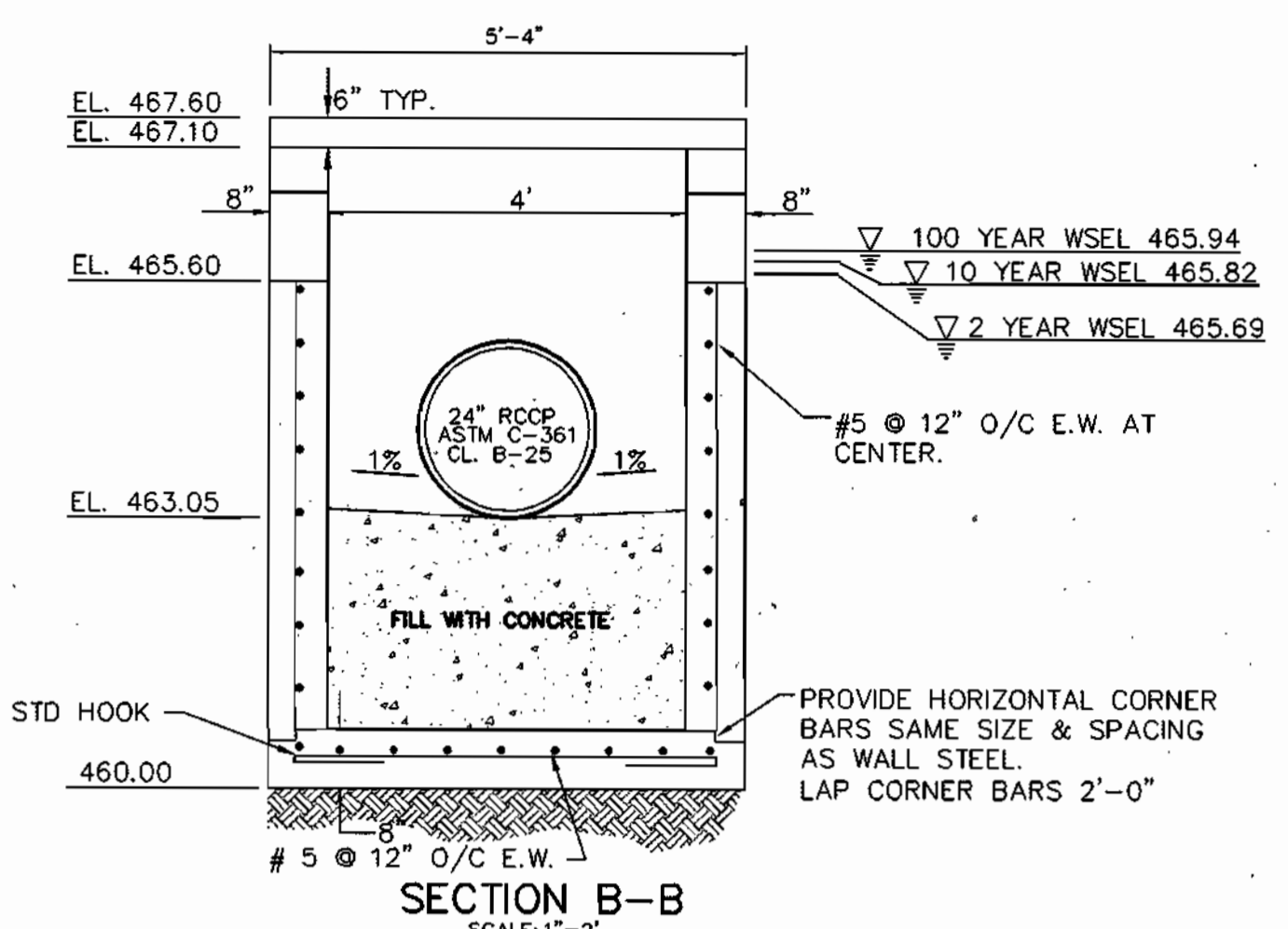
**STORMWATER MANAGEMENT PLAN**

PROJECT TITLE: **HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WHITNEY, BAILEY, COX & MAGNANI, LLC**  
Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)

DESIGNED: D.M.B. ELECTION DIST.: 6th  
DRAWN: S.J.D. CENSUS TRACT #: 8065.01  
CHECKED: P.J.C. WATER CODE: G-07  
DATE: 10-8-03 SEWER CODE: 5335300  
SCALE: AS SHOWN DRAWING NO.:  
MAP NO.: 37  
GRID NO.: 1  
PARCEL NO.: 521

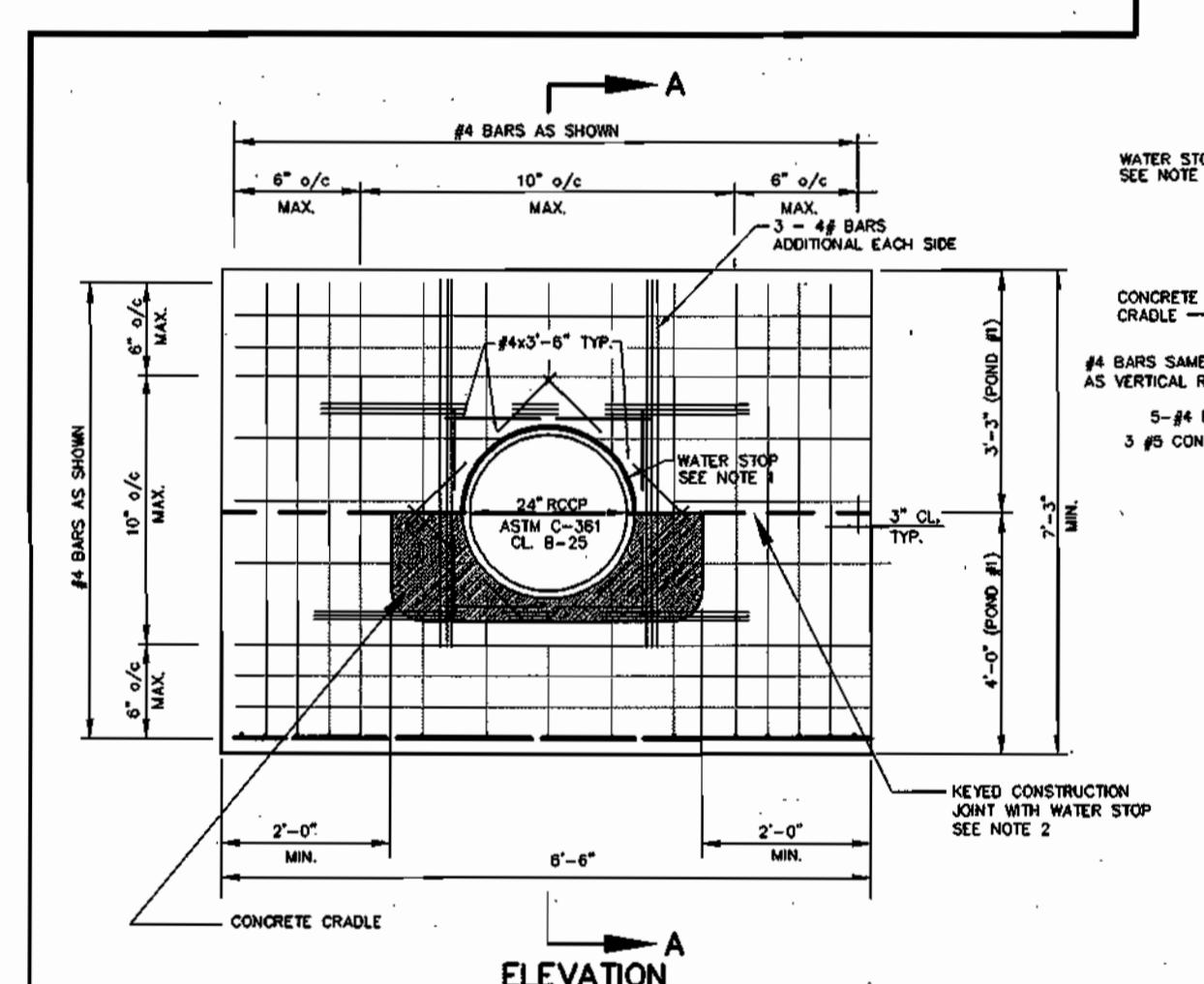
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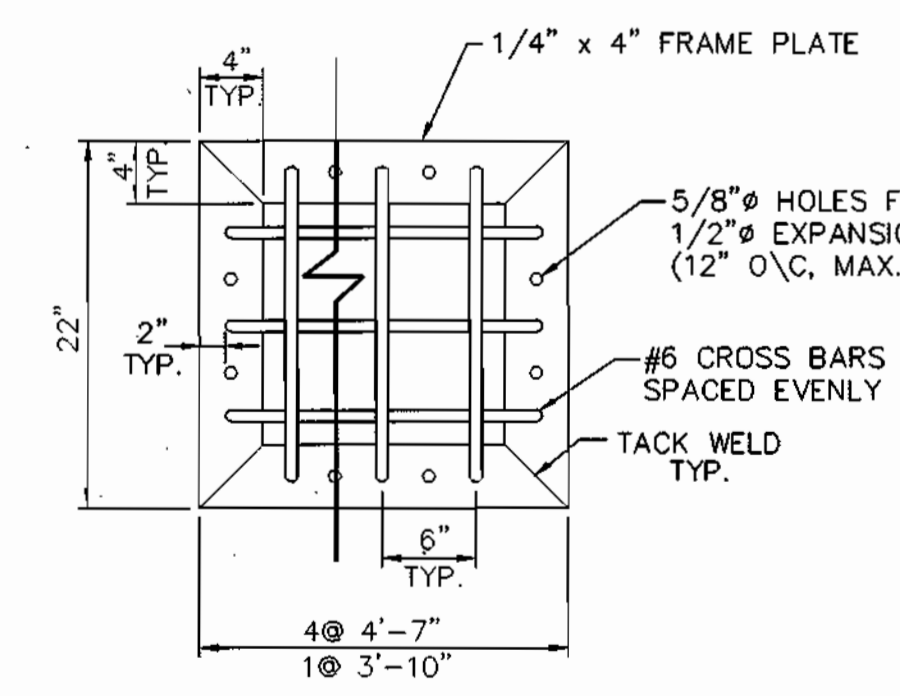
**PRECAST OUTLET STRUCTURE NOTES**

- SHOP DRAWINGS FOR PRECAST CONCRETE STRUCTURE (SEALED BY A MD. REGISTERED ENGINEER AND MEETING A.S.T.M. REQUIREMENTS FOR PRECAST STRUCTURES) MUST BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED/APPROVED, THEN THE HYDRAULICS AND/OR FLOTATION OF THE STRUCTURE MUST BE RE-ANALYZED AND COMPUTATIONS (SEALED BY A MD. REGISTERED ENGINEER) SUBMITTED WITH THE SHOP DRAWINGS.
- CONCRETE TO BE MIX NO. 6 (4500 PSI).
- REINFORCING - SEE SECTIONS
- THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
- PIPE OPENINGS TO BE PROVIDED AS REQUIRED, FOR SIZE, LOCATION AND INVERT ELEVATIONS SPECIFIED
- PROVIDE RESILIENT CONNECTOR IN ACCORDANCE W/ ASTM C923 PSX POSITIVE SEAL AS MANUFACTURED BY PRESS-SEAL GASKET CORP., FORT WAYNE, INDIANA OR APPROVED EQUIVALENT.

- NOTES:**
- WATER STOP AROUND PIPE SHALL BE VOLCLAY TYPE RA AS MANUFACTURED BY AMERICAN COLLOID CO. OR APPROVED EQUIVALENT
  - DUMB BELL TYPE WATER STOP IN CONSTRUCTION JOINT SHALL BE 6" W/M, MODEL DS-316 BY WYLEX OR APPROVED EQUIVALENT
  - ALL CONCRETE SHALL BE MSHA MIX NO. 3 (C900 PSD)
  - WATER STOP SHALL BE PLACED BETWEEN ALL CONC. SURFACES EXCEPT BETWEEN PIPE AND CRADLE



**2 CONCRETE ANTI-SEEP COLLAR NOT TO SCALE**



**3 TRASH RACK DETAIL**

- REMOVABLE TRACK RACK NOTES**
- ENTIRE ASSEMBLY SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
  - BUTT WELD FRAME ANGLE; FILLET WELD BARS TO ANGLE FRAME.
  - PROVIDE 5/16" FILLET WELD AT BAR CROSSINGS.
  - ANGLE FRAMES AND BARS SHALL BE FABRICATED USING ASTM A-36 STEEL.
  - HORIZONTAL BARS TO BE BEHIND VERTICAL BARS.

**CONSTRUCTION SPECIFICATIONS**

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

**Site Preparation**

Areas designed for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

**Earth Fill**

Material - The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment (the "embankment core"), and cut off trench shall conform to United Soil Classification CC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - 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 one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

The minimum required density shall not be less than 95% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

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. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

**Structure Backfill**

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall be placed to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

Structure backfill may be flowable fill meet the requirements of Maryland Department of Transportation, State Highway Administration, Standard Specifications for Construction and Materials, Section 313, as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of 24" or greater over the structure of pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment.

**Pipe Conduits**

All pipes shall be circular in cross section.

**Reinforced Concrete Pipe** - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Specification C-361.
- 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. Gravel bedding is not permitted.
- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.
- Backfilling shall conform to "Structure Backfill."
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**Plastic Pipe**

The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, sandy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill."
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**Concrete**

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration, Standard Specifications for Construction and Materials, Sections 414 and 902, Mix No. 3.

Rock Riprap and Geotextile

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.

**Core 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. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

**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 Maryland Soil 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 plans shall detail erosion and sediment control measures.

**OPERATION AND MAINTENANCE**

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

**CAPITAL PROJECT #P-4918**

DATE	NO.	REVISIONS

**STORMWATER MANAGEMENT NOTES AND DETAILS**

PROJECT TITLE: **HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WHITNEY, BAILEY, COX & MAGNANI, LLC**  
Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	
GRID NO.: 1	C-11.2
PARCEL NO.: 521	20 of 22

**1 OS-1 (OUTLET STRUCTURE FOR POND)**

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* Date: 4/4/07

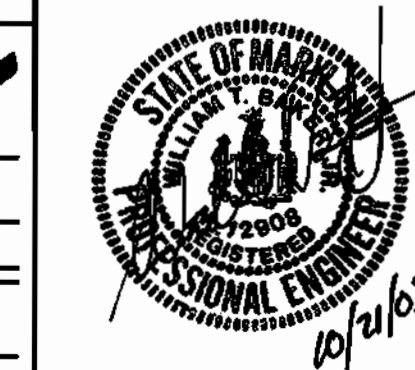
Chief, Division of Land Development: *[Signature]* Date: 4/6/03

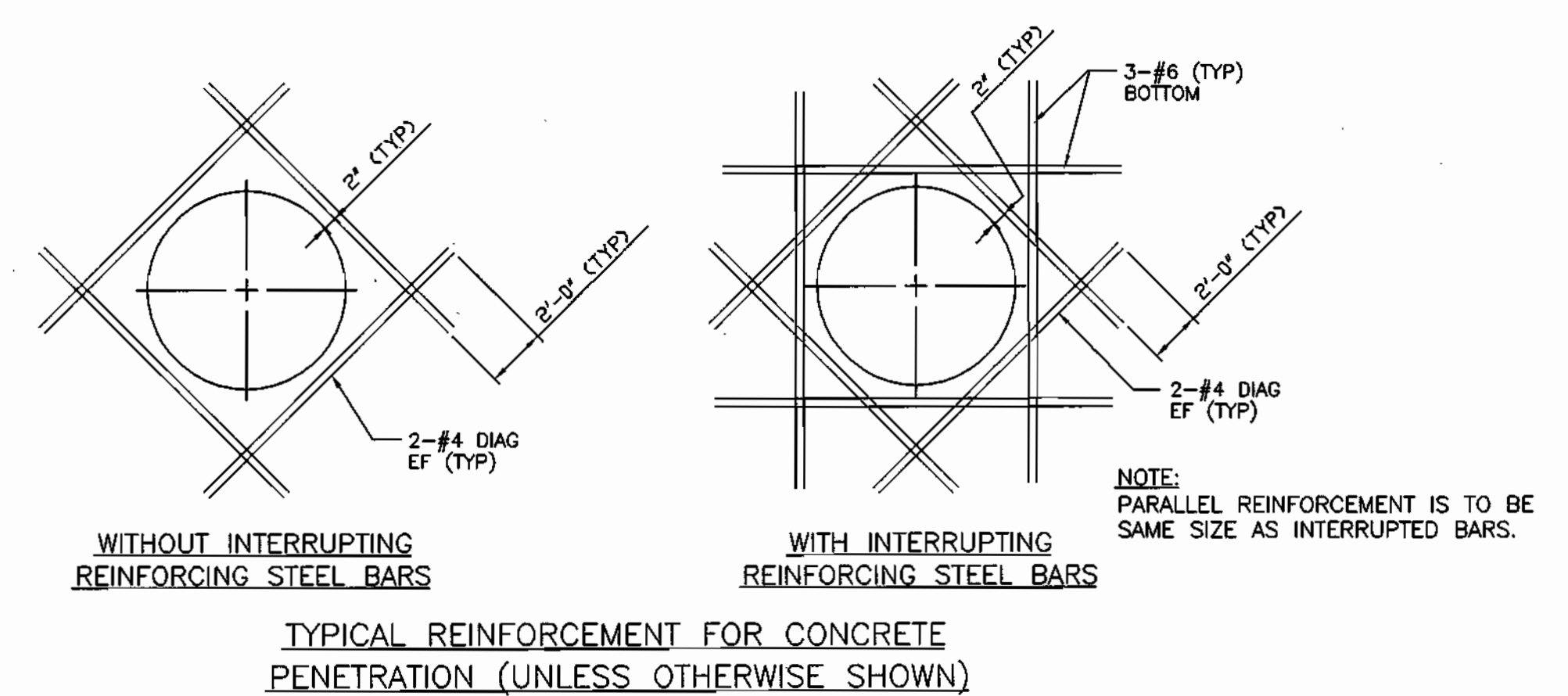
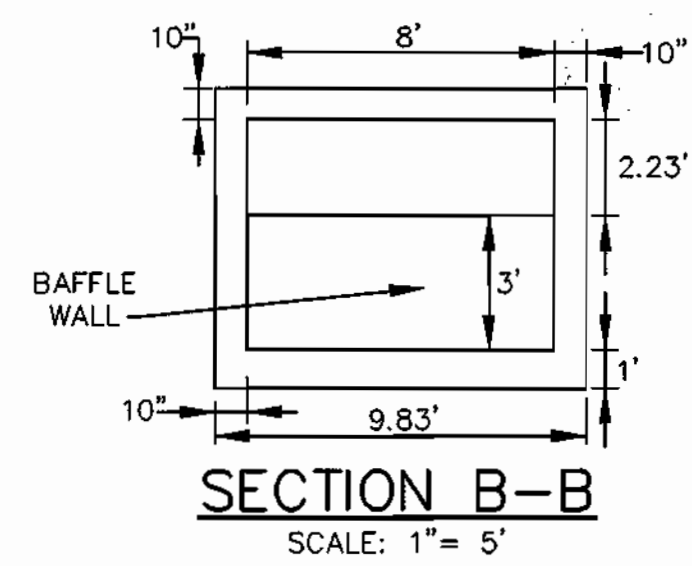
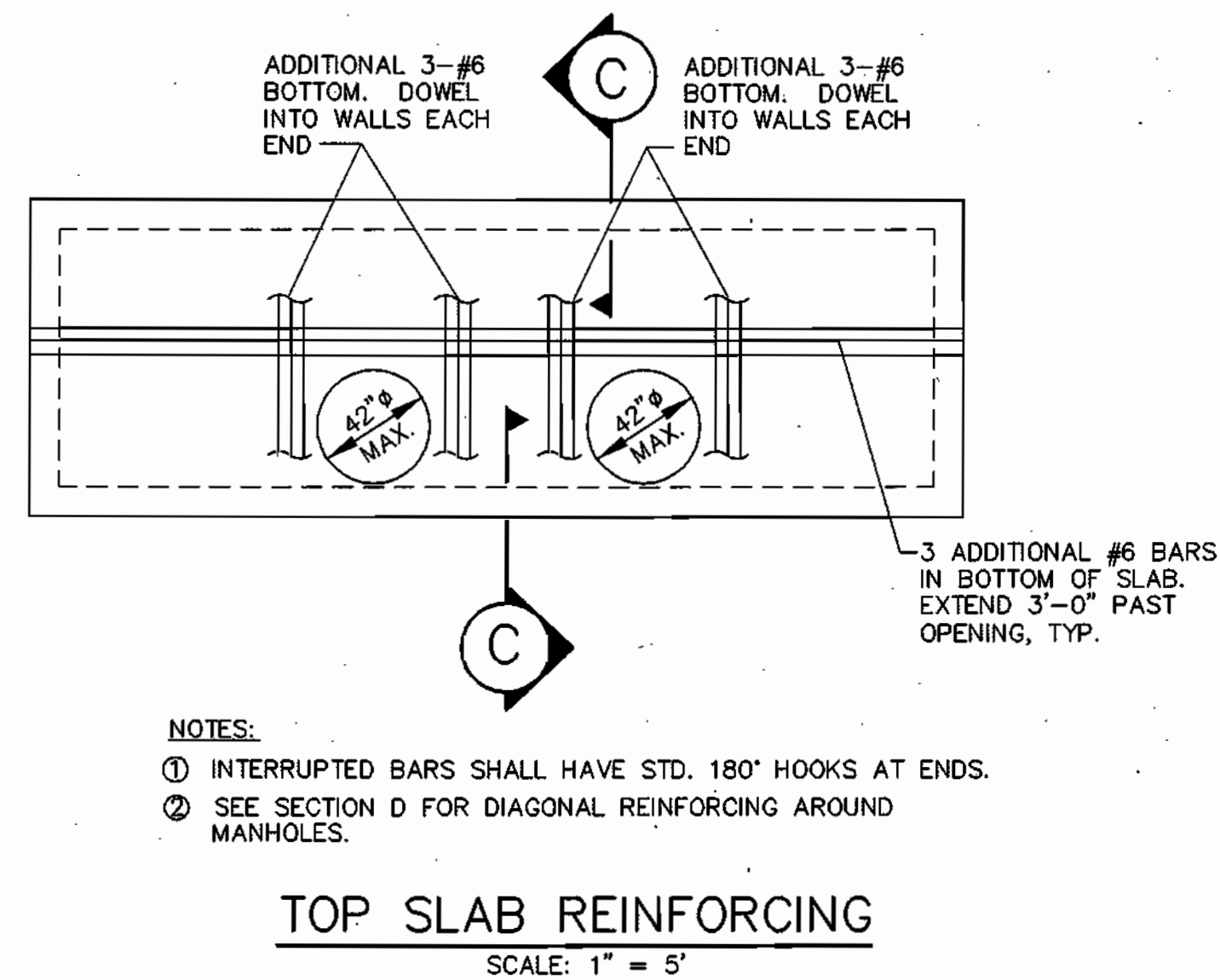
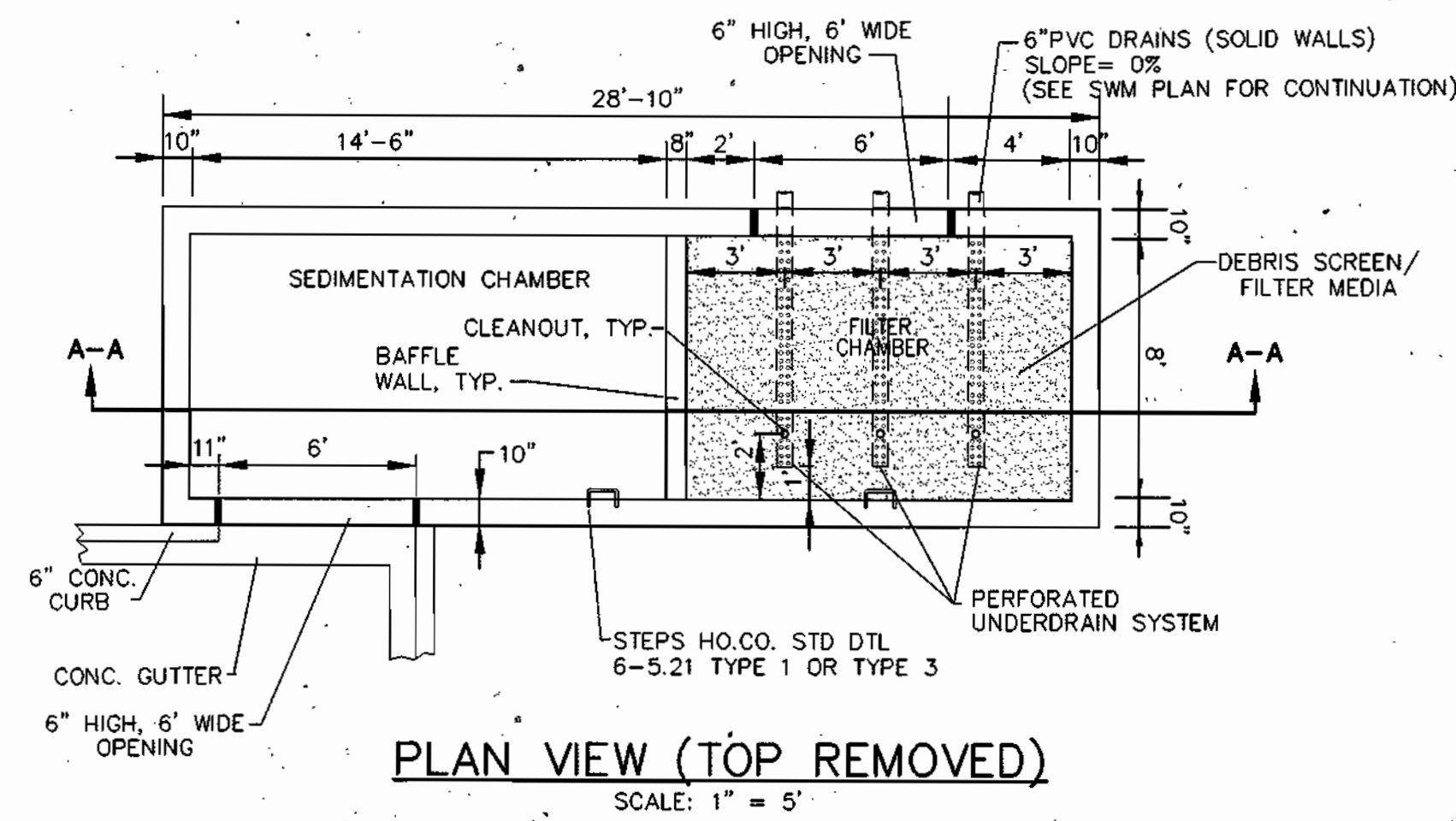
Director: *[Signature]* Date: 4/21/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

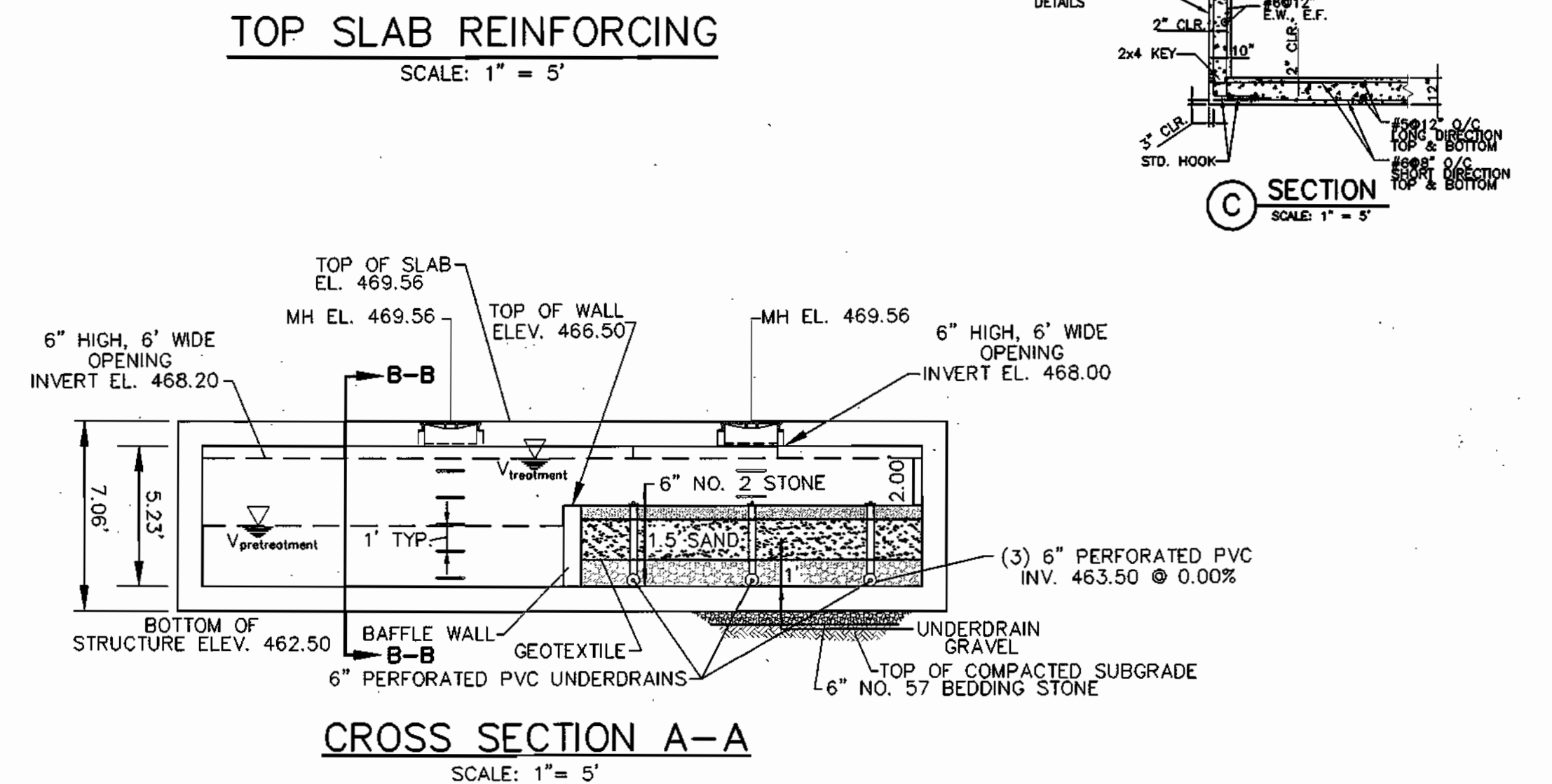
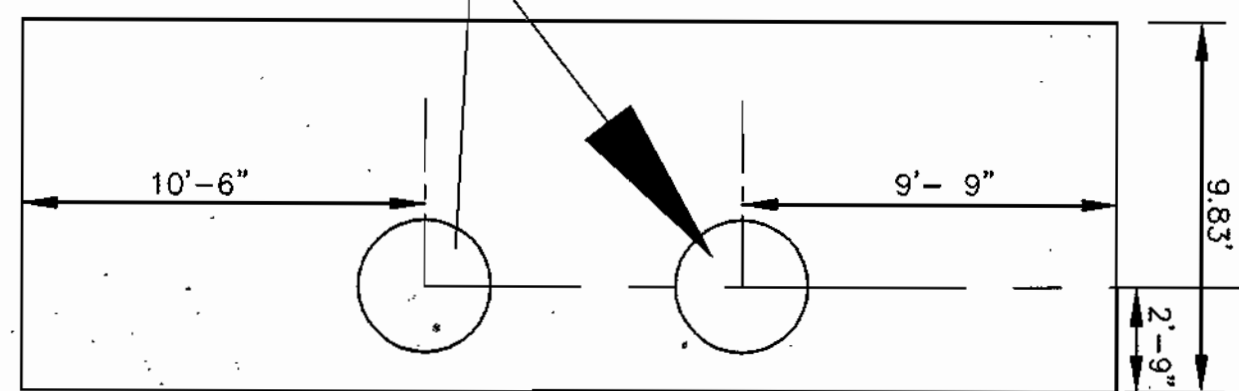
County Health Officer: *[Signature]* Date: *[Blank]*

Howard County Health Department



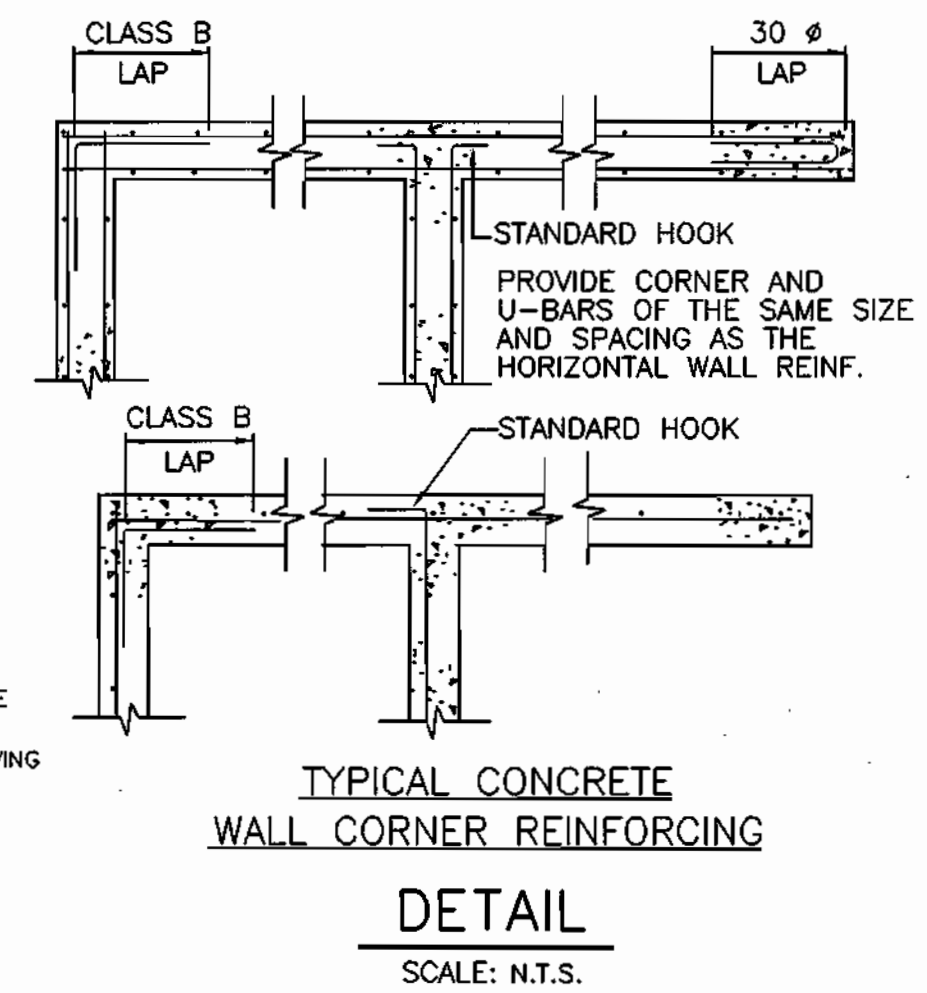


NEENAH FOUNDARY SERIES R-5901-J STANDARD MANHOLE FRAME & COVER (OR EQUIVALENT) (2) 41-1/2" HOLES



**CONSTRUCTION SPECIFICATIONS:**

- DESIGN ASSUMPTIONS:**
1. CONCRETE STRUCTURE HAS BEEN DESIGNED FOR HS20-44 TRUCK LOADING.
  2. CONCRETE STRUCTURE WAS DESIGNED ASSUMING THE FOLLOWING SOIL PROPERTIES:  
ALLOWABLE BEARING PRESSURE= 1500 PSF  
ACTIVE PRESSURE= 62.5k
- IF SOIL PROPERTIES DIFFER FROM THOSE LISTED ABOVE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- MATERIALS:**
1. STRUCTURE SHALL BE CAST-IN-PLACE.
  2. POLYVINYL PIPE (PVC) PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241. PERFORATED PIPE SHALL CONFORM TO ASTM F-758 TYPE PS 28, EXCEPT THAT THE PIPE SHALL BE PERFORATED TWICE THE NUMBER OF HOLES AS SPECIFIED IN ASTM F-758. PERFORATIONS SHALL BE PLACED SYMMETRICALLY ABOUT THE AXIS OF THE PIPE.  
SAND SHALL CONFORM TO AASHTO M-6/ASTM C-33, MEDIUM AGGREGATE CONCRETE SAND. SIZE SHALL BE 0.02" TO 0.04".
  3. GEOTEXTILE FABRIC BETWEEN LAYERS SHALL CONFORM TO ASTM D-751, ASTM D-1117, AND ASTM D-1682. FABRIC SHALL BE 0.8" THICK.
  4. UNDERDRAIN GRAVEL SHALL CONFORM TO AASHTO M-43, NO. 57.
- CAST-IN-PLACE CONCRETE:**
1. ALL CONCRETE WORK SHALL CONFORM TO ALL PROVISIONS OF THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301-95), AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-95).
  2. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING 4000 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH.
  3. ALL REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60.



**UNDERGROUND SANDFILTER**

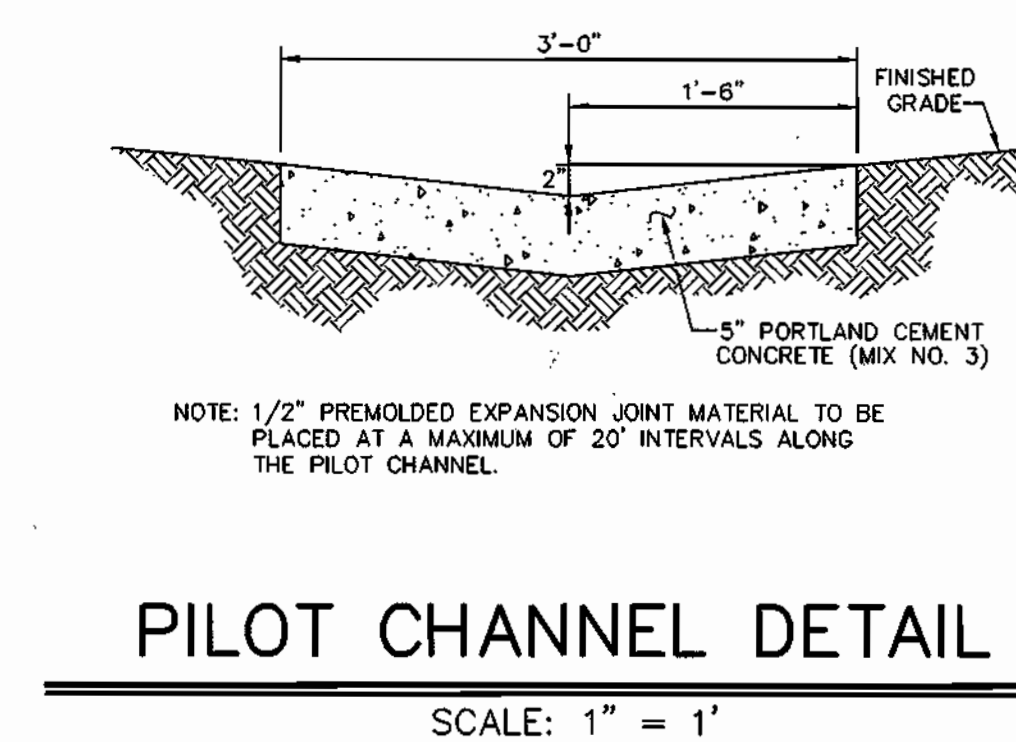
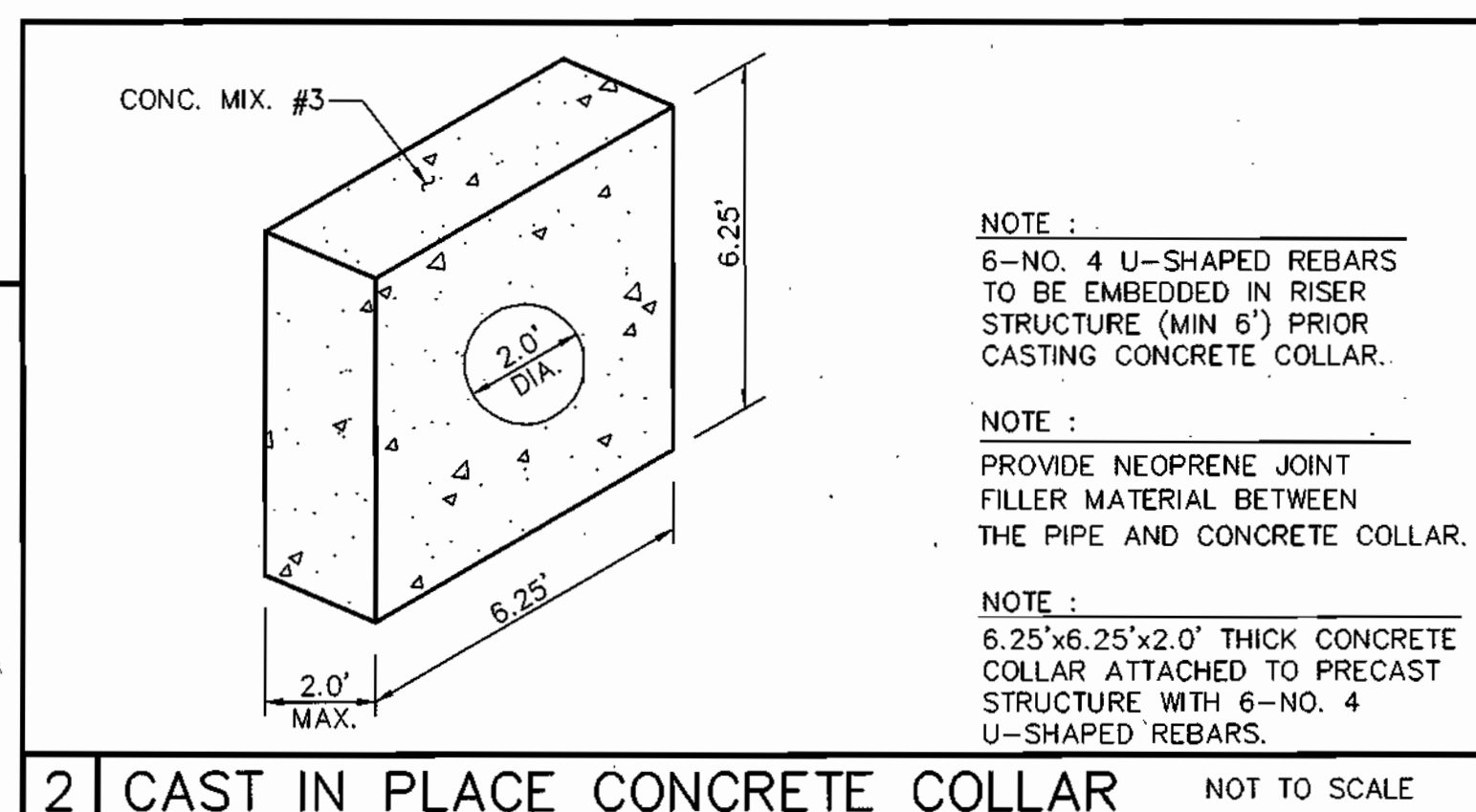
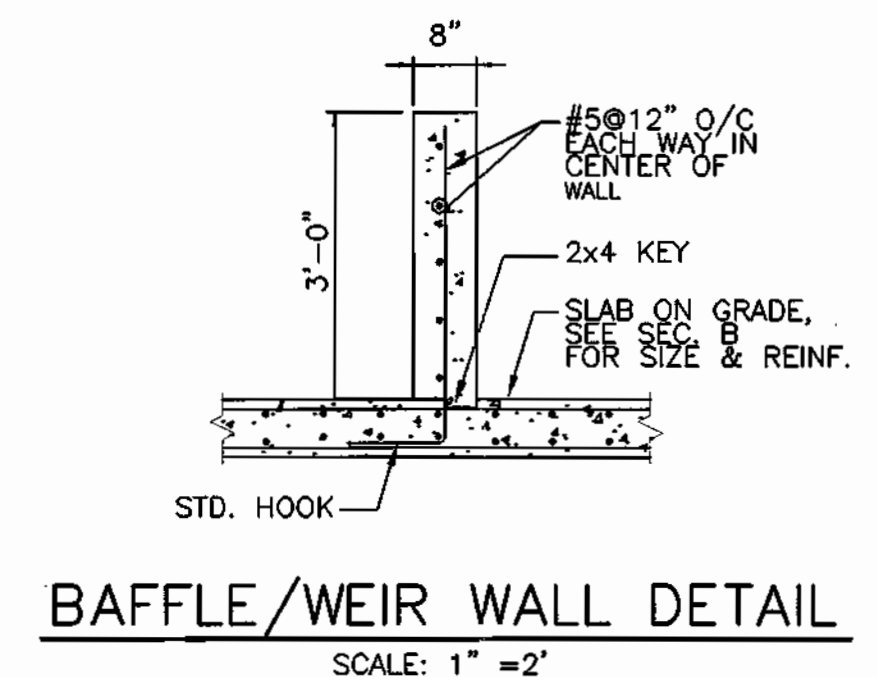
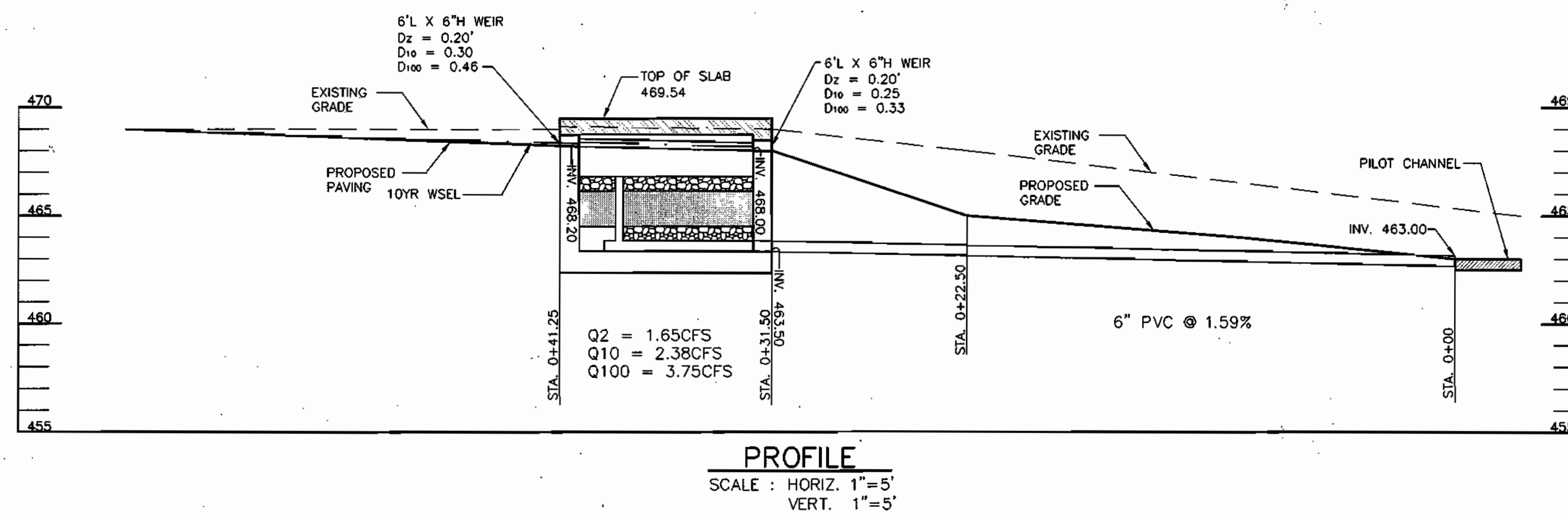
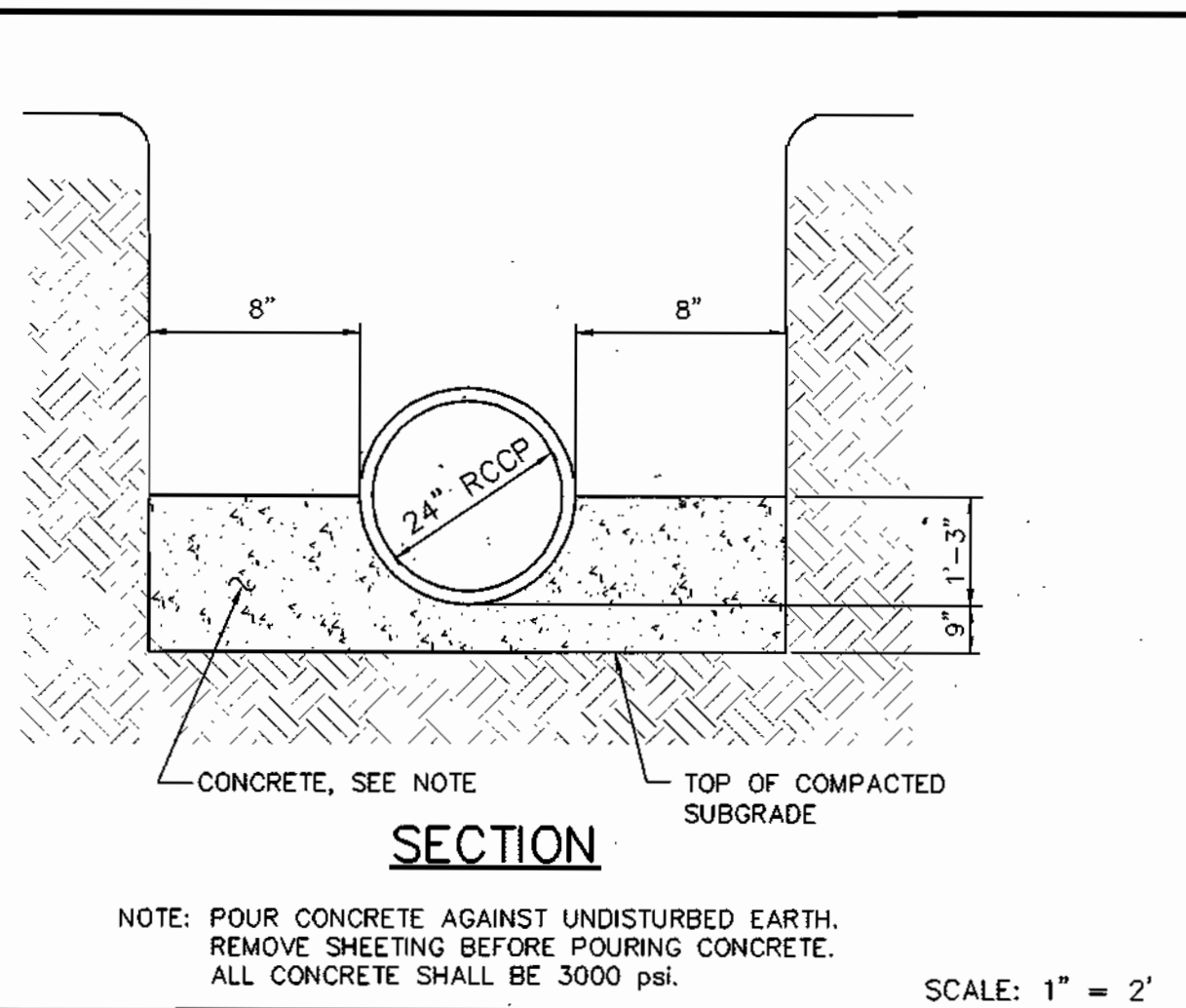
**MAINTENANCE SCHEDULE & NOTES:**

1. TRASH AND DEBRIS SHALL BE REMOVED FROM THE FACILITY AS NECESSARY.
2. SEDIMENT SHALL BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN SIX (6) INCHES.
3. WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHES SUBSTANTIALLY (I.E. WHEN WATER POUNDS 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 (I.E. LANDFILL).
4. DIRECT MAINTENANCE SHALL BE PROVIDED TO THE SEDIMENTATION CHAMBER AND FILTER BED.
5. THE SANDFILTER SHALL BE INSPECTED 5 DAYS AFTER A MAJOR STORM AND ON A BIENNIAL BASIS.

**FACILITY NOTES:**

1. TYPE OF FACILITY = UNDERGROUND SAND FILTER
2. DRAINAGE AREA TO STRUCTURE = 0.50 ± ac.
3. WATER QUALITY VOLUME TREATED = 625.6 c.f.t.

**UNDERGROUND SANDFILTER DETAILS**



**1 | CONCRETE CRADLE (SCS TR-46 A2)**

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division Date: 11/4/03

Chief, Division of Land Development Date: 11/6/03

Director Date: 11/21/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

County Health Officer Date: \_\_\_\_\_

Howard County Health Department

**CAPITAL PROJECT #P-4918**

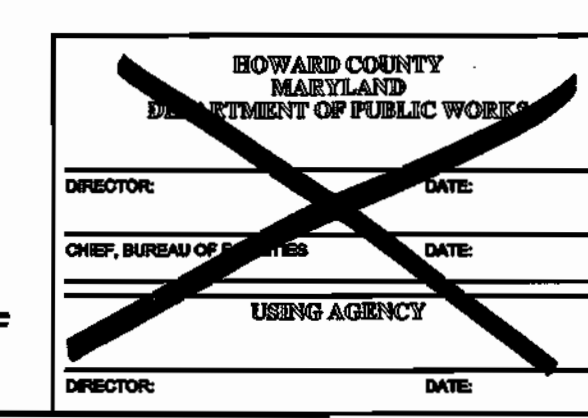
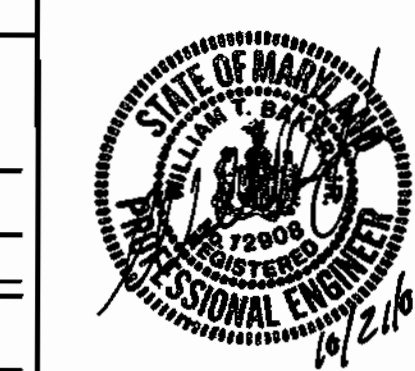
DATE	NO.	REVISIONS

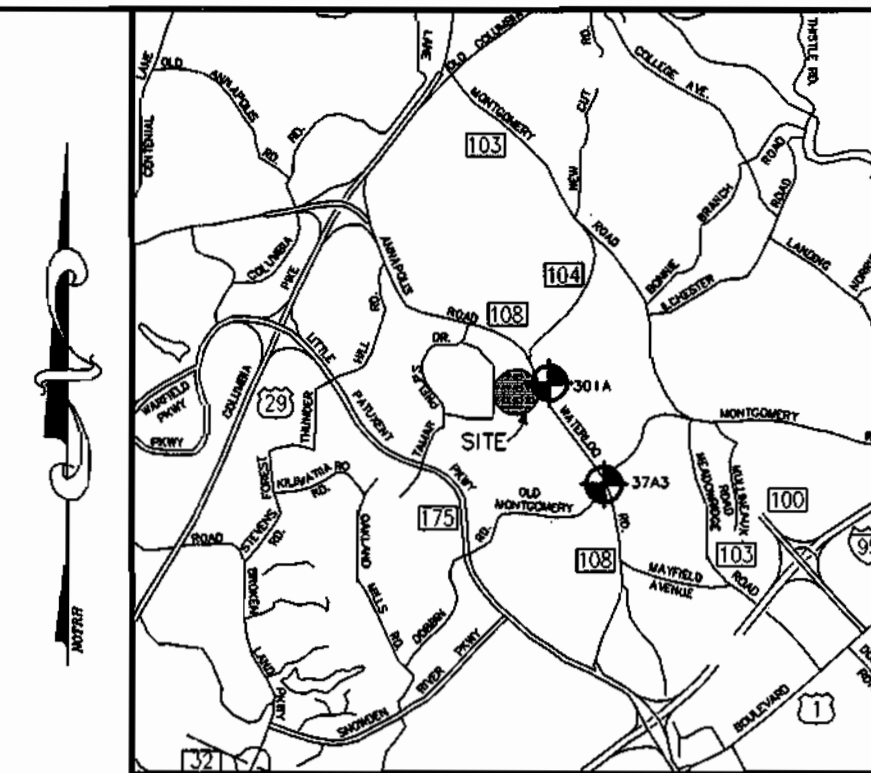
**STORMWATER MANAGEMENT DETAILS**

PROJECT TITLE: **HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WHITNEY, BAILEY, COX & MAGNANI, LLC**  
Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO: C-11.3
MAP NO.: 37	
GRID NO.: 1	
PARCEL NO.: 521	21 of 22





VICINITY MAP  
SCALE: 1"=5,000'

Schnabel		Project: Howard County Animal Control Building Addition Facility Columbia, Maryland		Boring Number: B-4 Contract Number: 02141079.00 Sheet: 1 of 1				
<b>TEST BORING LOG</b>								
Boring Contractor: Connelly and Associates		Groundwater Observations						
Boring Foreman: R. Biddinger		Date	Time	Depth	Cased			
Drilling Method: 2-1/4" Hollow Stem Auger		11/15	---	13.7'	13.5'			
Drilling Equipment: CME 550		Completion	11/15	---	13.5'			
SEA Representative: M. Edwards		Casing Pulled	11/15	---	7.8'			
Dates Started: 11/15/02 Finished: 11/15/02								
Location: SWM								
Ground Surface Elevation: 469.0z (feet)								
DEPTH (ft)	STRATA DESCRIPTION	CLASS.	ELEV. (ft)	STRATUM	SAMPLING DATA	REC. (ft)	TESTS	REMARKS
0.0	Topsoil 6-inches				2+2+3	18		Fill
0.0	Lean Clay FILL, with sand, moist, brown				2+3+4	18		
0.0	Do: trace rock fragments and glass below 2.5-feet				2+3+5	18		
7.0	Sandy SILT, trace gravel, moist, grey-brown	ML	462.0	A	6+8+11	18		Patuxent Formation
13.5	Clayey SAND, moist, light brown	SC	455.5	B	7+7+7	18		
15.0	BOTTOM OF BORING @ 15.0 FT.		454.0					

Comments:  
Boring offset 5' West

Schnabel		Project: Howard County Animal Control Building Addition Facility Columbia, Maryland		Boring Number: B-5 Contract Number: 02141079.00 Sheet: 1 of 1				
<b>TEST BORING LOG</b>								
Boring Contractor: Connelly and Associates		Groundwater Observations						
Boring Foreman: R. Biddinger		Date	Time	Depth	Cased			
Drilling Method: 2-1/4" Hollow Stem Auger		11/15	---	13.7'	13.5'			
Drilling Equipment: CME 550		Completion	11/15	---	13.5'			
SEA Representative: M. Edwards		Casing Pulled	11/15	---	7.7'			
Dates Started: 11/15/02 Finished: 11/15/02								
Location: SWM								
Ground Surface Elevation: 466.0z (feet)								
DEPTH (ft)	STRATA DESCRIPTION	CLASS.	ELEV. (ft)	STRATUM	SAMPLING DATA	REC. (ft)	TESTS	REMARKS
0.0	Topsoil 6-inches				2+2+2	18		Fill
0.0	Lean Clay FILL, with sand, trace rock fragments, moist, brown				7+8+11	18		
7.0	Do: sandy below 5.0-feet				5+7+8	18		Patuxent Formation
7.0	Silty SAND, trace gravel, moist, tan	SC	461.0	A	8+9+10	16		
15.0	Do: no gravel, wet below 13.5-feet				4+3+2	0		
15.0	BOTTOM OF BORING @ 15.0 FT.		453.0	B				

Comments:

Schnabel		Project: Roland Park Poolhouse Building Addition Facility Columbia, Maryland		Boring Number: B-6 Contract Number: 02141079.00 Sheet: 1 of 1				
<b>TEST BORING LOG</b>								
Boring Contractor: Connelly and Associates		Groundwater Observations						
Boring Foreman: R. Biddinger		Date	Time	Depth	Cased			
Drilling Method: 2-1/4" Hollow Stem Auger		11/15	---	Dry	---			
Drilling Equipment: CME 550		Completion	11/15	---	8.5'			
SEA Representative: M. Edwards		Casing Pulled	11/15	---	3.0'			
Dates Started: 11/15/02 Finished: 11/15/02								
Location: SWM								
Ground Surface Elevation: 465.0z (feet)								
DEPTH (ft)	STRATA DESCRIPTION	CLASS.	ELEV. (ft)	STRATUM	SAMPLING DATA	REC. (ft)	TESTS	REMARKS
1.5	Sandy 8-inches SANDY SILT FILL, with quartz, gravel, moist, light brown	CL	463.5	A	3+3+7	16		Fill
1.5	LEAN CLAY, with sand, trace rock fragments, moist, brown				7+8+8	18		Patuxent Formation
5.0	SILT, with sand and gravel, moist, tan (USDA Classification: CLAY LOAM)	ML	460.0	B	4+5+7	18		
10.0	Do: with sand, no gravel below 8.5-feet				4+4+5	16		
10.0	BOTTOM OF BORING @ 10.0 FT.		456.0					

Comments:  
Boring offset 6' East, 6' South

CAPITAL PROJECT #P-4918

DATE	NO.	REVISIONS

SWM BORINGS

PROJECT TITLE:  
**HOWARD COUNTY ANIMAL CONTROL FACILITY RENOVATION**  
8576 DAVIS ROAD  
HOWARD COUNTY, MARYLAND

ENGINEERS: **WR** Consulting Engineers  
849 Fairmount Avenue (410) 512-4500  
Baltimore, Maryland 21286 (410) 324-4100 (FAX)  
**WHITNEY, BAILEY, COX & MAGNANI, LLC**

DESIGNED: D.M.B.	ELECTION DIST.: 6th
DRAWN: S.J.D.	CENSUS TRACT #: 6065.01
CHECKED: P.J.C.	WATER CODE: G-07
DATE: 10-8-03	SEWER CODE: 5335300
SCALE: AS SHOWN	DRAWING NO:
MAP NO.: 37	C-11.4
GRID NO.: 1	
PARCEL NO.: 521	22 of 22

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division Date 11/4/03  
 Chief, Division of Land Development Date 11/6/03  
 Director Date 11/4/03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 County Health Officer  
 Howard County Health Department Date

