	$\triangle$ C	UANTITIES	5			
ITEM	SCTIMATEO		AS-BUILT			
ITEM	ESTIMATED	QUANTITIES	TYPE	5UPPLIER		
		A	<b>(2)</b>	<u>A</u>		
1-1/2" L.P.5.*	1,264 L.F.	1,264 LF	HOPE	HO WATERWORK		
2" L.P.5.*	2215 L.F.	2,715 LF	HOPE	HD WATERWORK		
3" L.P.5.*	10,050L.F.	10,050 UF	HOPE	HO WATERWORKS		
		·				
2" X 1-1/2" TEE	18 EACH	17 EACH	90H80	HO WATERWORKS		
3" X 1-1/2" TEE	25 EACH	25 EACH	90H 80	HO WATERWORK		
2" X 2" TEE	3 EACH		9CH 80	HD WATERWORKS		
3" X 3" TEE	4 EACH	2 EACH	90H 80 =	HO WATERWORKS		
A w						
3" X 2" REDUCER	2 EACH	5 EACH	9CH 80	HO WATERWORKS		
		,				
1/16 H.B.	3 EACH	1 EACH	HOPE	HD WATERWORKS		
1/32 H.B.	3 EACH	1 GACH	HOPE	HD WATERWORKS		
SIMPLEX GRINDER PUMP	8 EACH	8 EACH, E-ONE:	MODEL WH3GX120	Proemire & Aggo		
DUPLEX GRINDER PUMP	19 EACH	10 EACH, E-ONE:	MODEL WHACKIED	preemire & asso		
IN-LINE FLUSHING CONN.	} ≀ EACH	11 EACH		HD WATERWORKS		
CONTINUITY TEST STATION	57 EACH	26 EACH		HD WATERWORKS		
TERMINAL FLUSHING CONN.	4 EACH	4 EACH		HD WATERWORKS		
3" PLUG & BUTTRESS	2 EACH	2 EACH		HD WATERWORKS		
NAME OF UTILITY CON	TRACTOR: UTIL	MES UNUMITED				
SURVEY & DRAFTING D	DIVISION AS-BU	ILT DATE: FEBRUAR	r 16, 2016			

\*L.P.S. DENOTES LOW PRESSURE SEWER

DEVELOPER'S CERTIFICATION

"I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION
WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR
EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL
INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF
ATTENDANCE AT THE 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 OR THEIR AUTHORIZED AGENTS, AS
ARE DEEMED NECESSARY."

Faul M. Kaichel; FOR:

BASSLER VENTURE, LLC

SIGNATURE OF DEVELOPER

DATE

ENGINEER'S CERTIFICATION

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

CONSERVATION DISTRICT."

Part W. Kodel

SIGNATURE OF ENGINEER

10/26/09

GP-08-093

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

HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND AS SHOWN ON THESE PLANS.

PAUL W. KOLOLE: FOR:

BASSLER VENTURE, LLC

10-26

APPROVED: FOR PUBLIC SEWERAGE COLLECTION SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT

BNU - be Pster B silenson
HOWARD COUNTY HEALTH OFFICER

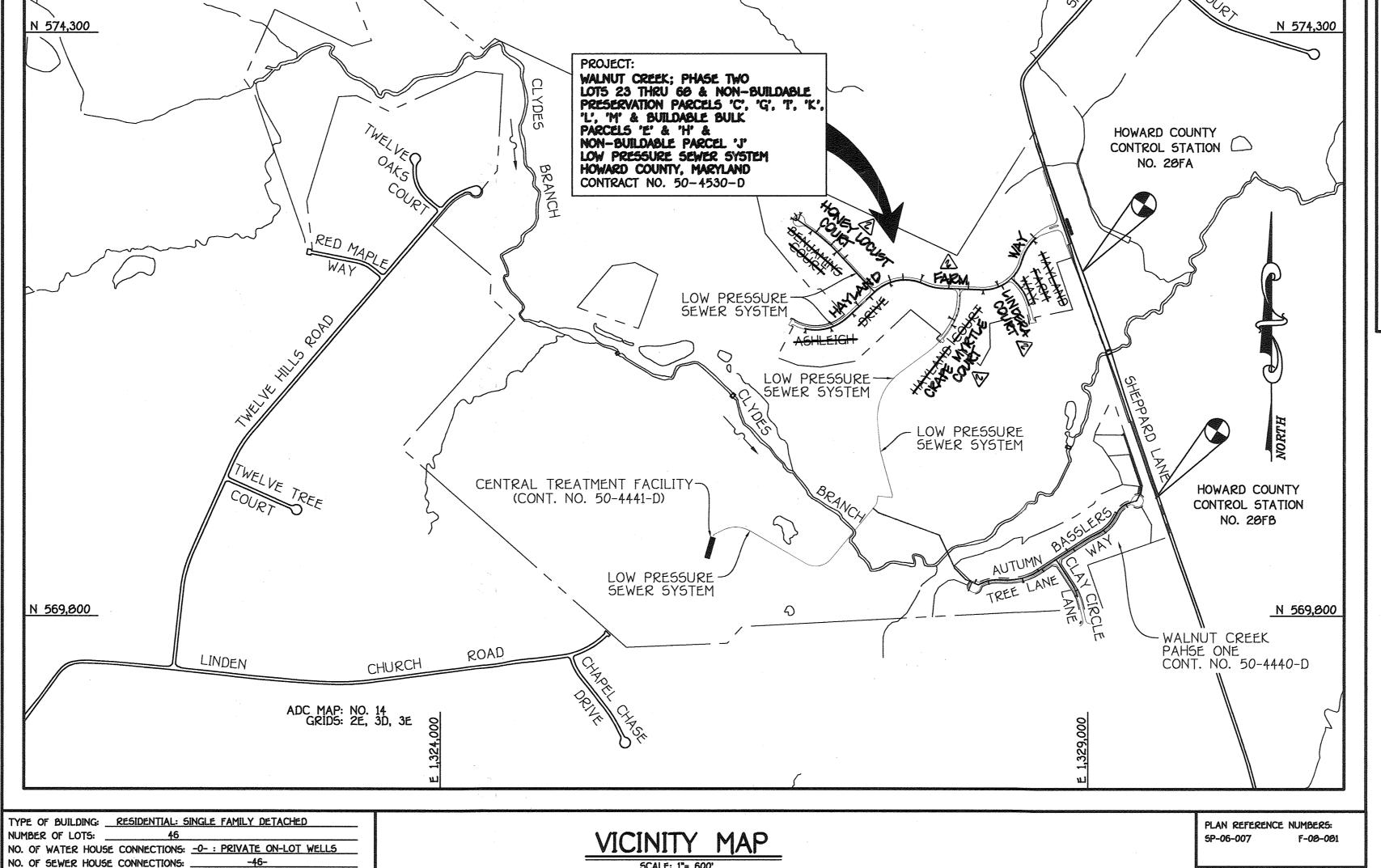
DATE 1998

DRAINAGE AREA: N/A

TREATMENT PLANT: COMMUNITY SHARED CENTRAL TREATMENT

FACILITY & SHARED SEPTIC DISPOSAL FACILITY

ON NON-BUILDABLE BULK PARCEL 'B' - (PHASE ONE

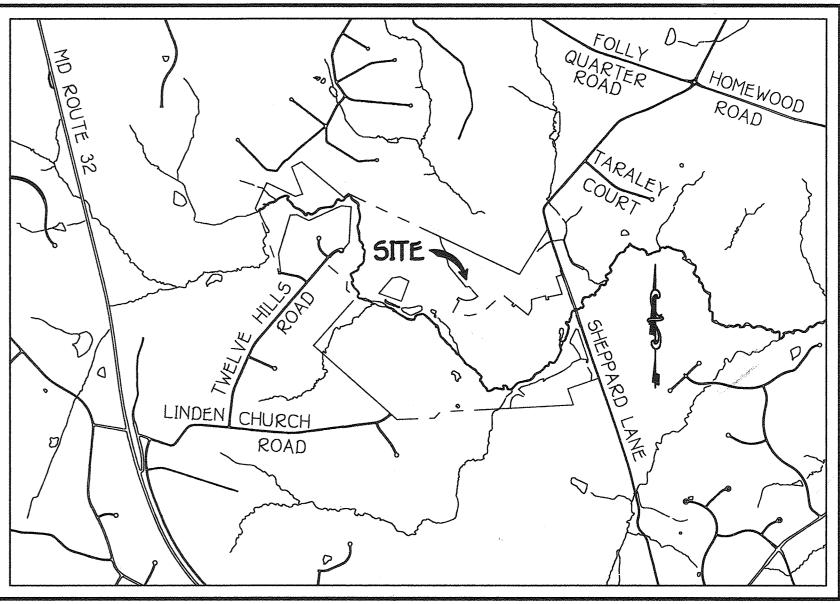


CONTRACT NO. 50-4530-D

# WALNUT CREEK

PHASE TWO: LOTS 23 THRU 68, NON-BUILDABLE PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE BULK PARCELS 'E' & 'H' &

NON-BUILDABLE PARCEL 'J'
LOW PRESSURE SEWER SYSTEM
HOWARD COUNTY, MARYLAND



# LOCATION MAP SCALE: 1"= 2000"

# GENERAL NOTES

- 1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT JULY, 2005 BY FISHER, COLLINS & CARTER, INC.
  3. HORIZONTAL AND VERTICAL CONTROLS:
  THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '93/91' AS PROJECTED
- BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 20FA & NO. 20FB. SEE THIS SHEET FOR BENCHMARK INFORMATION.

  4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

  5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF
- 6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- 7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- ONTRACTOR TWO WEERS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.

  6. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

  1-200-252-1133

BGE (CONSTRUCTION SERVICES) . . . . 410-050-4620
BGE (EMERGENCY) . . . . 410-605-1400
BUREAU OF UTILITIES . . . . 410-313-4900
COLONIAL PIPELINE CO . . . . . 410-795-1390
MISS UTILITY . . . . 1-000-257-7777
STATE HIGHWAY ADMINISTRATION . . . . 410-531-5533
VERIZON . . . . 1-000-743-0033/410-224-9210

- 9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.

  10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL
- SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.

  11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS
  BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE
  APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 10.114(a) OF THE HOWARD

### PART II: WATER

1. WATER SERVICE TO ALL BUILDABLE LOTS SHALL BE PROVIDED BY INDIVIDUAL PRIVATE ON-LOT WELLS.

### PART III: <u>SEWER</u>

- 1. LOW PRESSURE SEWER MAINS SHALL BE HDPE, SDR 11.
  2. A TOTAL OF FORTY-SIX (46) LOTS ARE CONNECTED TO THE LOW PRESSURE SEWER SYSTEM.
- 3. ALL RESIDENTIAL DWELLINGS ON THE LOTS CONNECTED TO THE LOW PRESSURE SEWER SYSTEM ARE LIMITED TO A MAXIMUM OF FIVE (5) BEDROOMS.
- 4. TRACER WIRE SHALL BE PROVIDED OVER ALL LOW PRESSURE SEWER MAINS. TRACER WIRE SHALL BE OVERLAPPING, INSULATED •6 AND FIRMLY CONNECTED AND ENCAPSULATED.
- 5. REFERENCE THE DETAILS ON SHEET X OF X FOR NOTES, REQUIREMENTS & SPECIFICATIONS REGARDING THE GRINDER PUMP & HOUSING & THE ASSOCIATED GRINDER PUMP CONTROL PANEL.
- 6. THE CONSTRUCTION PLANS FOR THE COMMUNITY SHARED CENTRAL TREATMENT FACILITY & SHARED SEPTIC DISPOSAL FACILITY ARE BEING PREPARED BY OTHERS UNDER CONT. NO. 50-4441-D.
  7. ALL LATERALS BETWEEN THE GRINDER PUMP UNITS AND THE LOW PRESSURE SEWER MAINS SHALL BE 1.50" DIAMETER.
  - $\triangle$

BENCHMARK INFORMATION

- B.M.º1 HOWARD COUNTY CONTROL STATION °20FA NAD '03)
  (LOCATED ALONG THE EAST SIDE OF SHEPPARD LANE, APPROX. 4' OFF EDGE OF PAVING BETWEEN C&P POLES 52 & 53)
  N 572,456.665
  E 1,320,957.66
  ELEVATION = 340.296
- B.M. •2 HOWARD COUNTY CONTROL STATION •28FB (NAD '83)
  (LOCATED ALONG THE WEST SIDE OF SHEPPARD LANE; AT THE ENTRANCE TO THE BASSLER PROPERTY)
  N 570,710,839
  E 1,329,524.63

DEVELOPER

HERITAGE LAND DEVELOPMENT
15950 NORTH AVENUE
P.O. BOX 402

CONTRACT NO. 50-4530-D
WALNUT CREEK
PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE
PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE
BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J'
LOW PRESSURE SEWER SYSTEM
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

SIGNATURE OF DEVELOPER

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Paul W. KRIEBEL

DRAWN BY:
B.C.R.

CHECKED BY:
P.W.K.

DATE:
OCTOBER, 2009
BY NO.

DATE

B.C.R.

2/10/
REVISION

REVISION

DATE

LOW PRESSURE SEWER SYSTEM TITLE SHEET

F.C.C. WORK ORDER NO. 4001-3001

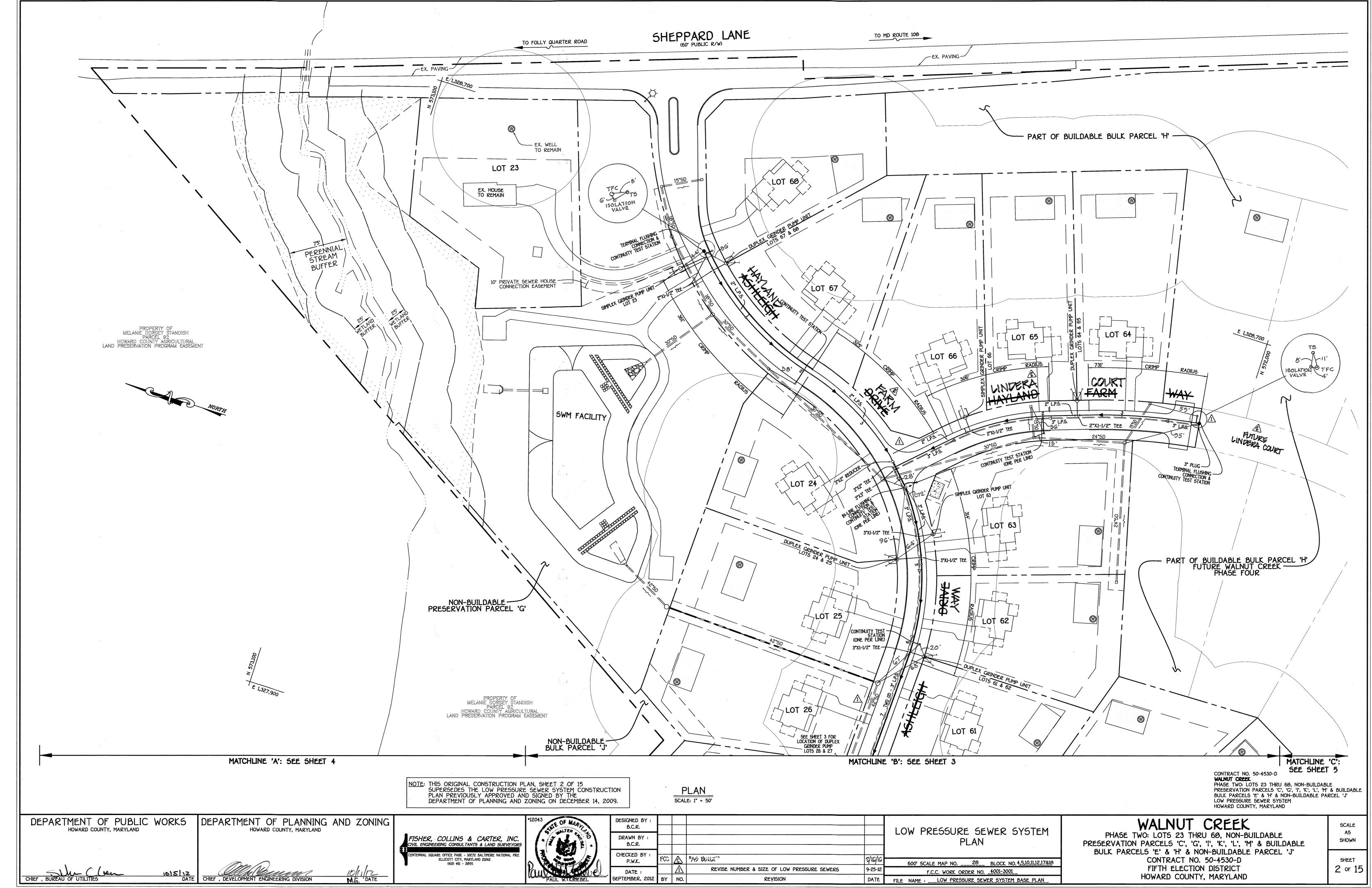
FILE NAME : LOW PRESSURE SEWER SYSTEM BASE TITLE

600" SCALE MAP NO. \_\_\_\_ 28 BLOCK NO. 4.5.10.11,12.17818

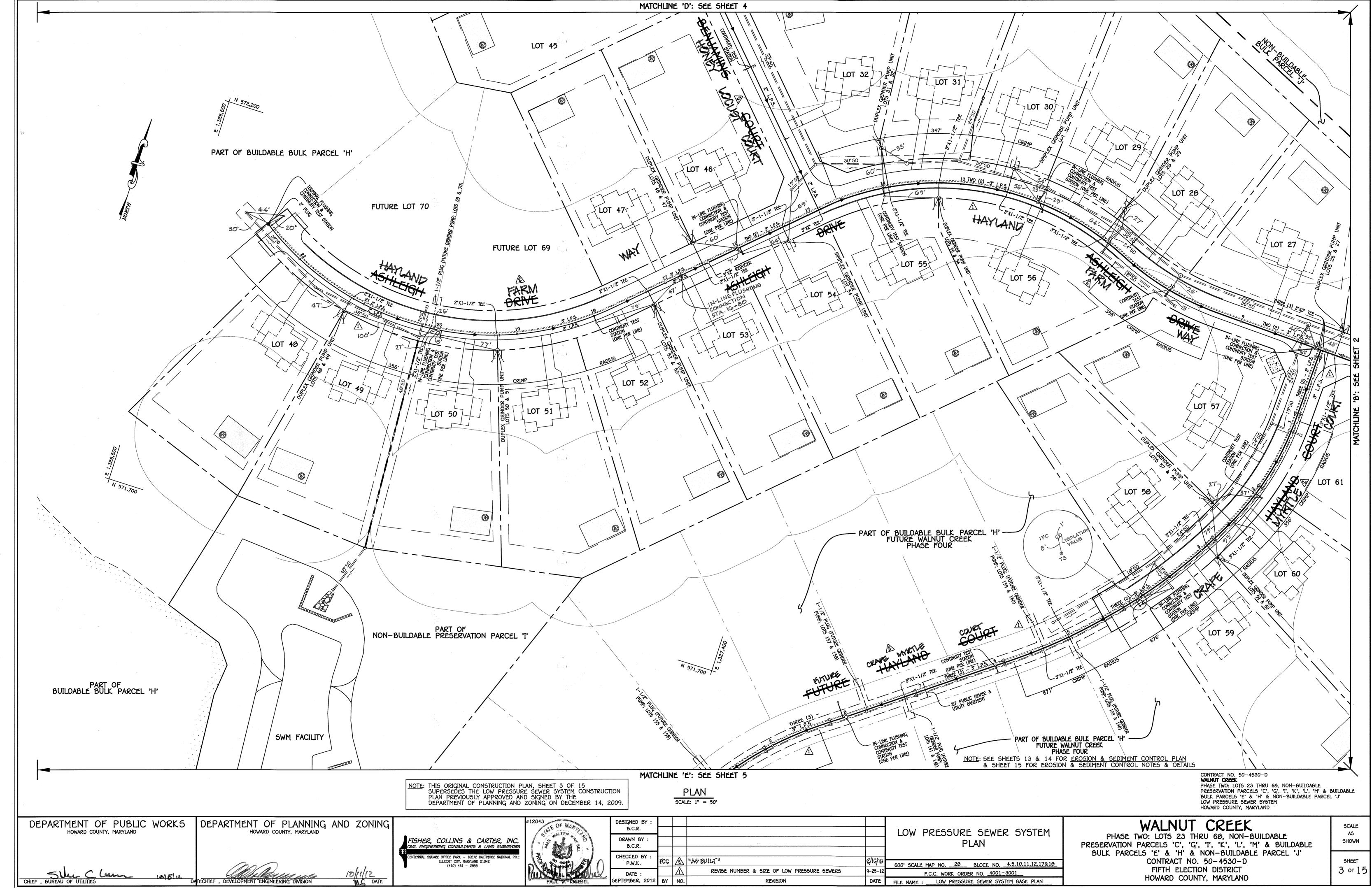
PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE
PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE
BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J'
CONTRACT NO. 50-4530-D
FIFTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

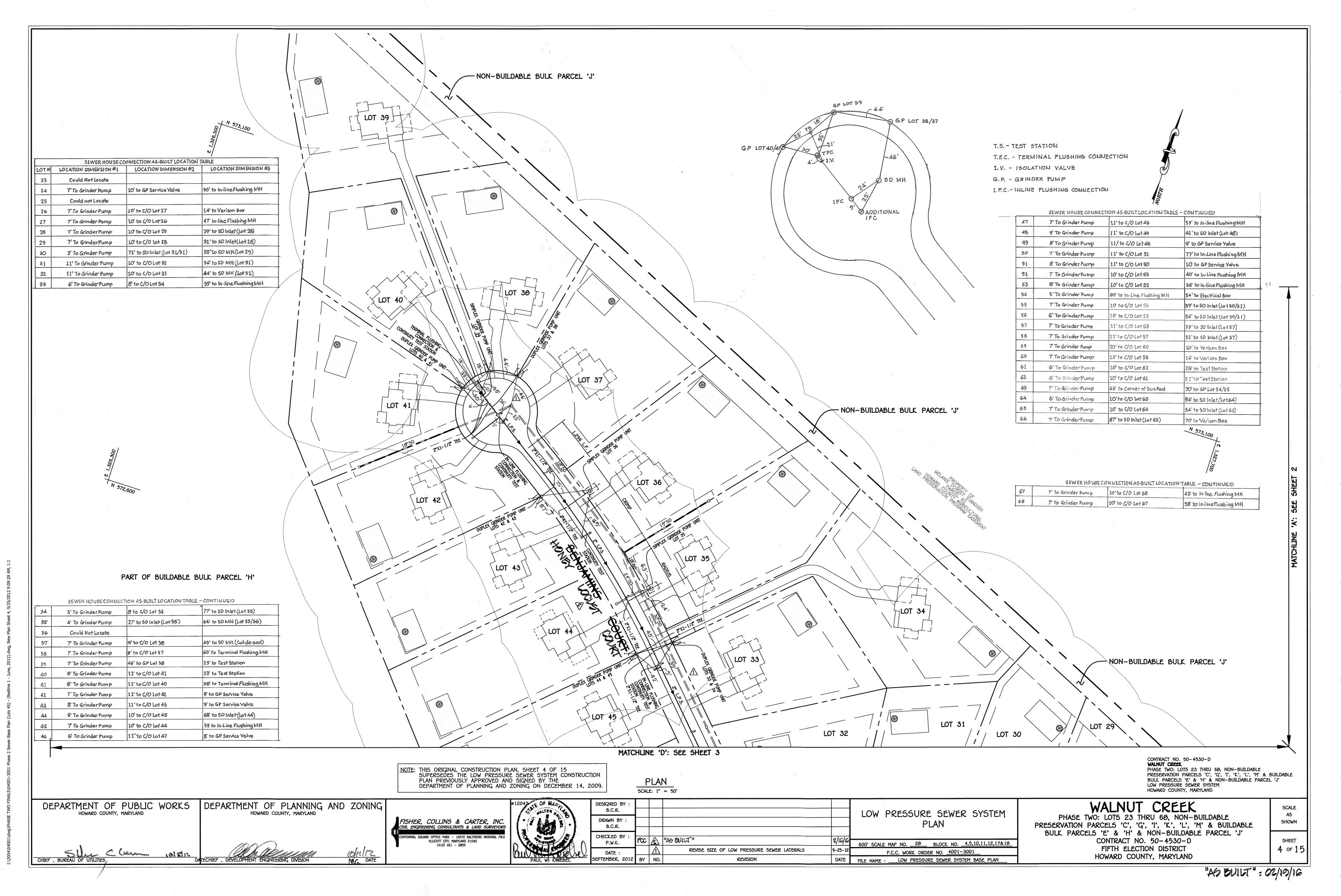
SCALE AS SHOWN SHEET 1 OF 15

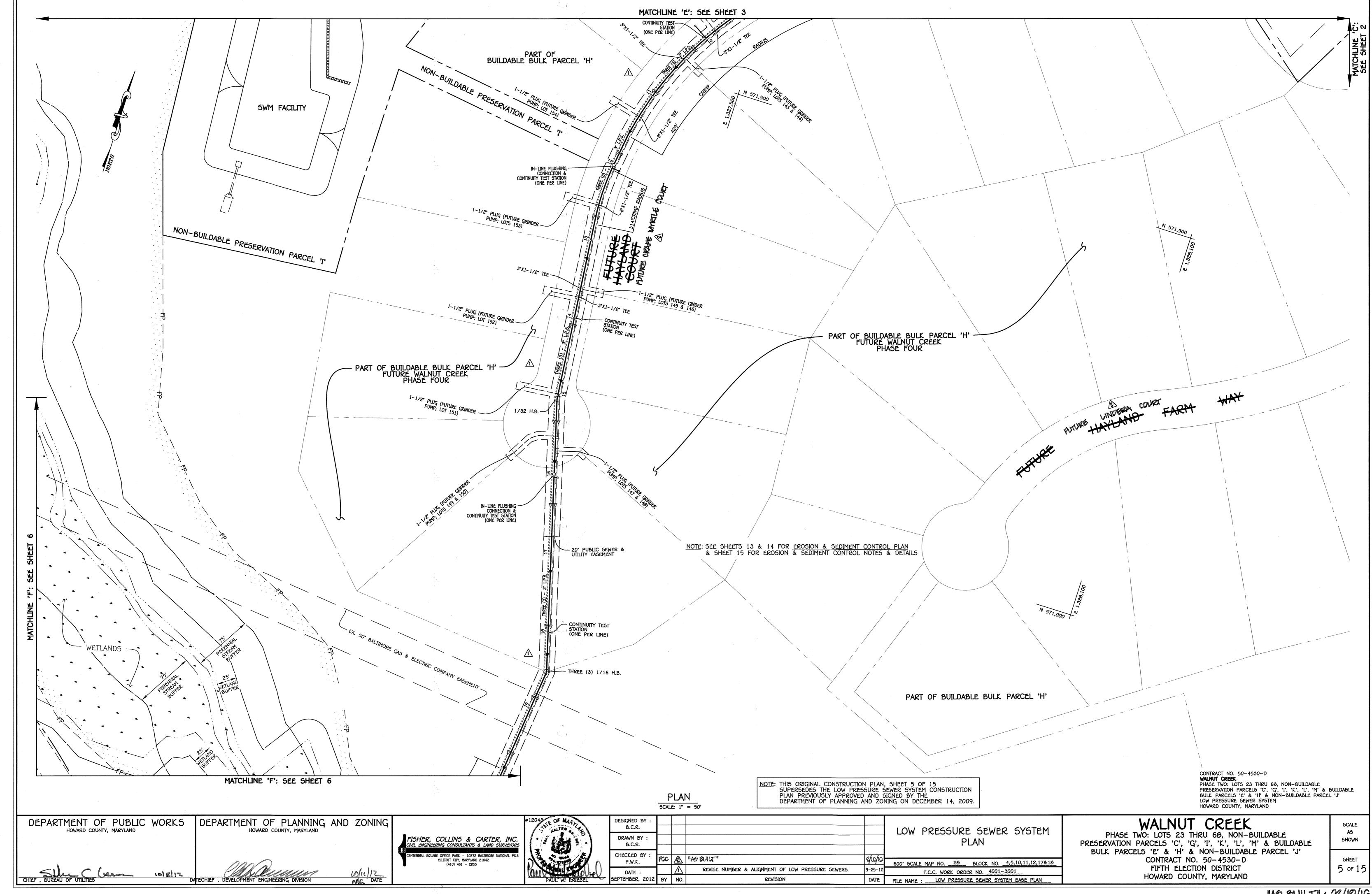


"49-BUILT": 02/19/16

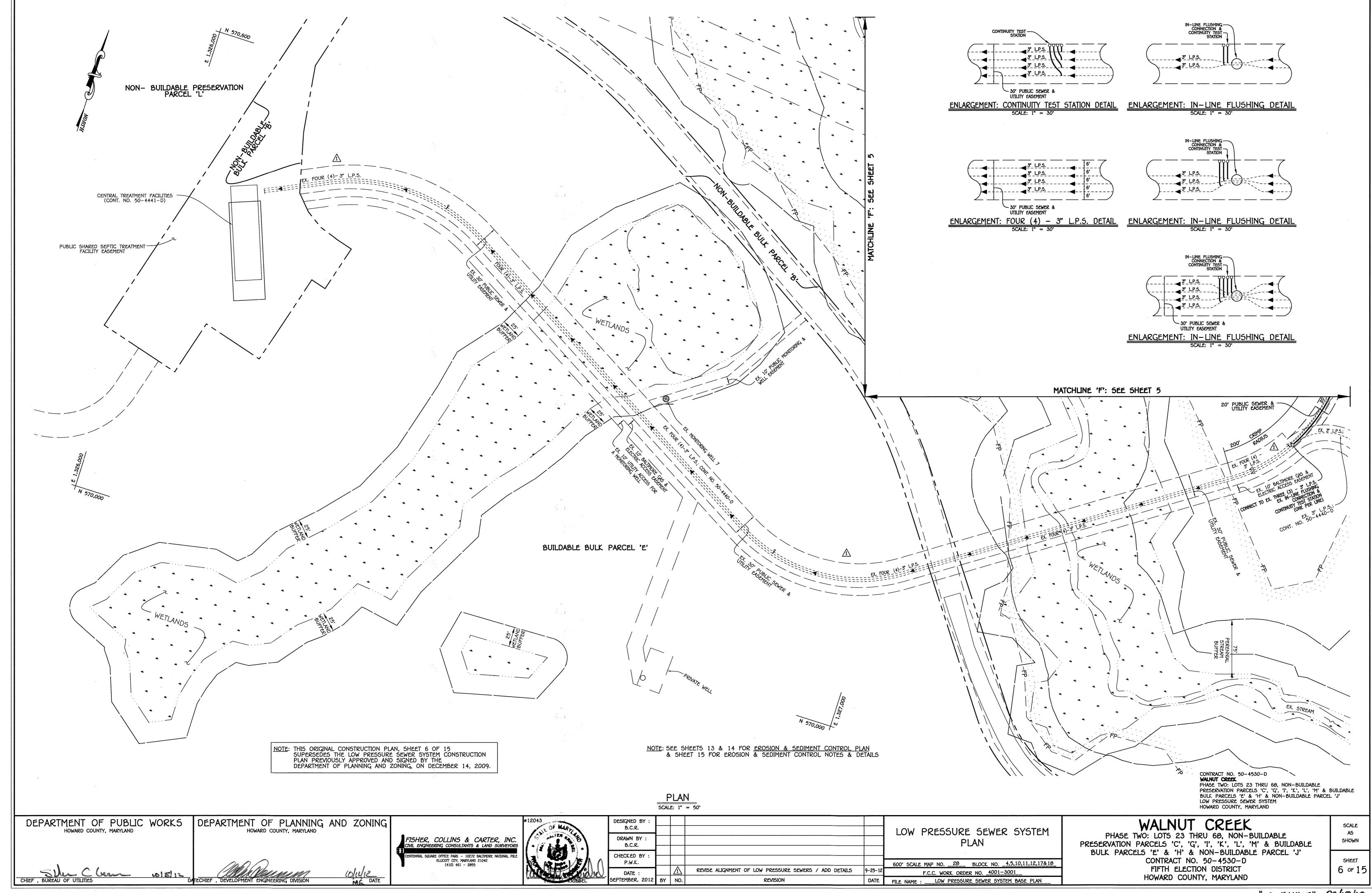


"A9 BUILT" : 02/19/16





"AS BUILT": 02/19/16



"46-BUILT" = 02/19/16

CHECKED BY

P.W.K.

DATE

EPTEMBER, 2012

M.G. DATE

fcc | & "46 built"

REVISE NUMBER OF LOW PRESSURE SEWERS

REVISION

HAYLAND FARM WAY &

(50' PUBLIC ACCESS STREET R/W)

SHEET

7 of 15

BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J'

CONTRACT NO. 50-4530-D

FIFTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

600' SCALE MAP NO. \_28 \_ BLOCK NO. \_4,5,10,11,12,17&18

F.C.C. WORK ORDER NO. 4001-3001

DATE FILE NAME : LOW PRESSURE SEWER SYSTEM BASE PLAN

LOW PRESSURE SEWER MAIN TABULATION CHART

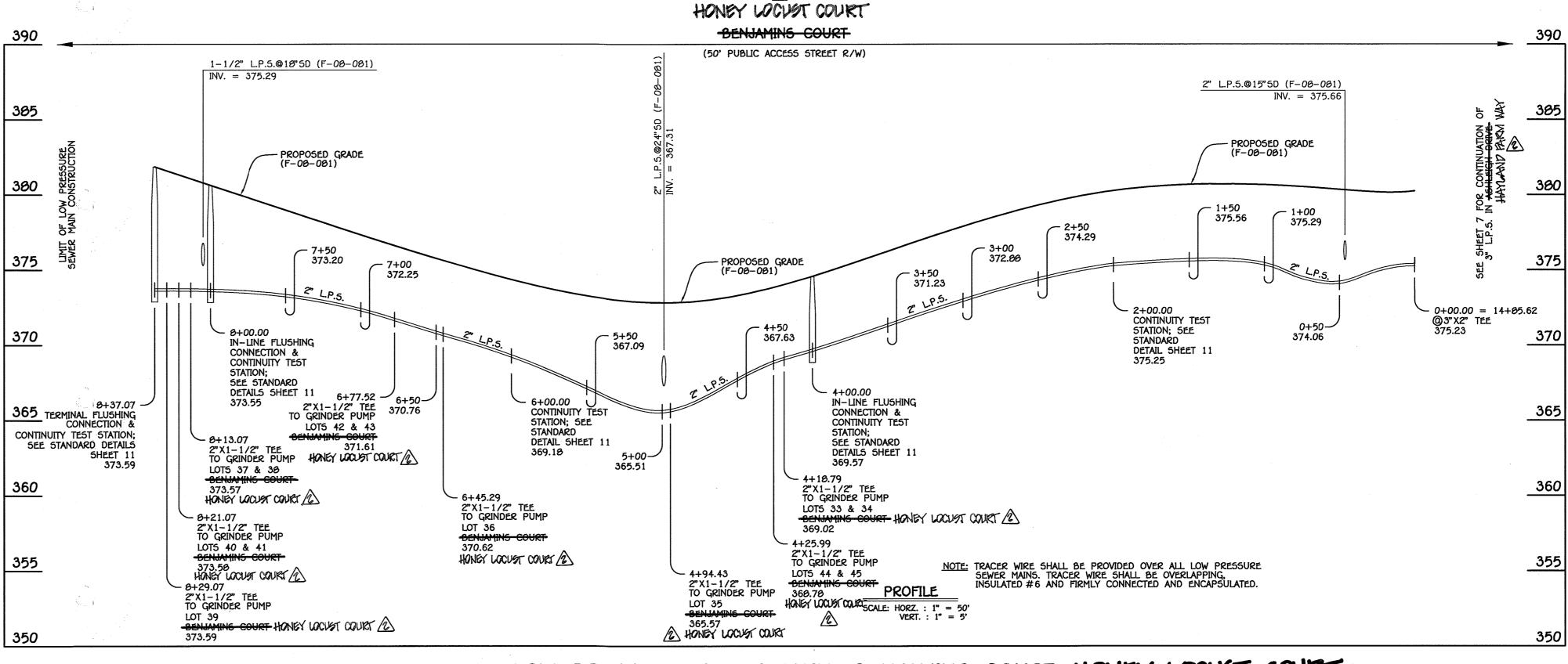
**APPURTENANCE** 

EASTING

RIM ELEVATION

1

UNDERA COURT



# LOW PRESSURE SEWER MAIN: BENJAMINS COURT HONEY LOCUST COURT A

LOW	PRESSURE SEW	ER MAIN TAI	BULATION C	HART
L.P.S. STA.	APPURTENANCE	NORTHING	EASTING	RIM ELEVATION
	LOW PRESSURE S	EWER MAIN: <del>BENJAMI</del>	<del>45 COURT</del> HONEY W	ocust court &
0+00.00	3" X 2" TEE	572295.91	1327352.16	
2+00.00	CONTINUITY TEST STATION	572442.11	1327215.60	379.65 **
4+00.00	IN-LINE FLUSHING CONN. & CONTINUITY TEST STATION	572588.31	1327079.21	374.57 * 374.10 **
4+18.79	2" X 1-1/2" TEE	572602.05	1327066.39	
4+18.79	PC (CRIMP RADIUS 1,297')	572602.05	1327066.39	
4+25.99	2" X 1-1/2" TEE	572607.30	1327061.46	
4+94.43	2" X 1-1/2" TEE	572655.80	1327013.19	
6+00.00	CONTINUITY TEST STATION	572725.45	1326933.90	374.10 **
6+45.29	2" X 1-1/2" TEE	572753.31	1326898.19	
6+77.52	2" X 1-1/2" TEE	572772.37	1326872.20	
7+37.69	PT (CRIMP RADIUS 1,297)	572006.31	1326022.20	
Ø+00.00	IN-LINE FLUSHING CONN. & CONTINUITY TEST STATION	572041.67	1326771.22	300.70 * 300.10 **
Ø+13.07	2" X 1-1/2" TEE	572849.11	1326760.48	
Ø+21.07	2" X 1-1/2" TEE	572053.67	1326753.90	
8+29.07	2" X 1-1/2" TEE	572858.22	1326747.33	
Ø+37.07	TERMINAL FLUSHING CONN. & CONTINUITY TEST STATION	572062.70	1326740.75	381.65 * 381.80 **

NOTE: SET ALL MANHOLE RIMS FLUSH W/EXISTING OR PROPOSED GRADE, AS APPLICABLE.

\* DENOTES IN-LINE FLUSHING CONNECTION RIM ELEVATION

\*\* DENOTES CONTINUITY TEST STATION RIM ELEVATION

LOW PRESSURE SEWER MAIN TABULATION CHART RIM ELEVATION APPURTENANCE LOW PRESSURE SEWER MAIN: HAYLAND FARM WAY UNDERA COURT (2) 3" X 2" TEE 0+00.00 572402.45 1328408.86 0+75.12 PC (CRIMP RADIUS 306') 1328460.88 572348.25 1+05.44 2" X 1-1/2" TEE 572325.38 1328480.75 2+08.64 PT (CRIMP RADIUS 306') 572235.09 1328529.73 \_\_\_\_ CONTINUITY TEST STATION 368.25 \*\* 2+00.00 572198.18 1328542.32

572201.97

1328541.03

1328526.83

372.60 \* 372.25 \*\*

NOTE: SET ALL MANHOLE RIMS FLUSH W/EXISTING OR PROPOSED GRADE, AS APPLICABLE.

\* DENOTES IN-LINE FLUSHING CONNECTION RIM ELEVATION

\*\* DENOTES CONTINUITY TEST STATION RIM ELEVATION

2" X 1-1/2" TEE

TERMINAL FLUSHING CONN. & CONTINUITY TEST STATION

2+43.64

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET Ø OF 15 SUPERSEDES THE LOW PRESSURE SEWER SYSTEM CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 14, 2009.

CONTRACT NO. 50-4530-D WALNUT CREEK PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J' LOW PRESSURE SEWER SYSTEM HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS l square office park — 10272 Baltimore National P ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055



	DESIGNED BY : B.C.R.					LOW DOESSHOE SEWED SYSTEM
	DRAWN BY : B.C.R.					LOW PRESSURE SEWER SYSTEM PROFILES & CHARTS
- Contraction	CHECKED BY : P.W.K.	fcc	<b>₽</b>	"AS BUILT"	2/1G/1G	600° SCALE MAP NO. 28 BLOCK NO. 4,5,10,11,12,17&18
American (III)	DATE :		$\Lambda$	REVISE NUMBER OF LOW PRESSURE SEWERS	9-25-12	
	SEPTEMBER, 2012	ВY	NO.	REVISION	DATE	FILE NAME : LOW PRESSURE SEWER SYSTEM BASE PLAN

CONTRACT NO. 50-4530-D FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET 8 of 15

**5CALE** 

SHOWN

"AS BUILT": 02/19/16

- FUTURE PROPOSED GRADE

376.20

375.38

374.35

- PROPOSED GRADE (F-08-081)

- 5+50 371.98

CRAPE MYRTUE COURT &

377.42

(FUTURE 50' PUBLIC ACCESS STREET R/W)

377.94

- FUTURE PROPOSED GRADE

- 9+85.02

378.43

395

390

385

380

375

THREE (3)

12+00.00

CRAPE MYRTLE COURT A

(50' PUBLIC ACCESS STREET R/W)

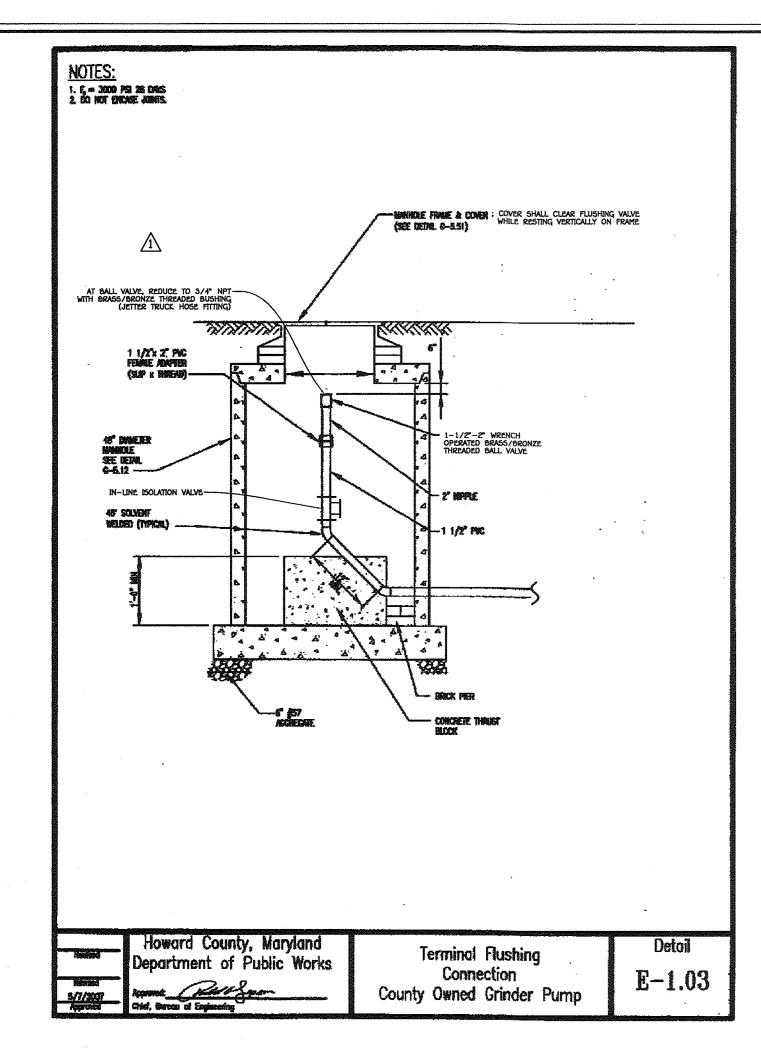
- PROPOSED GRADE (F-00-001) 395

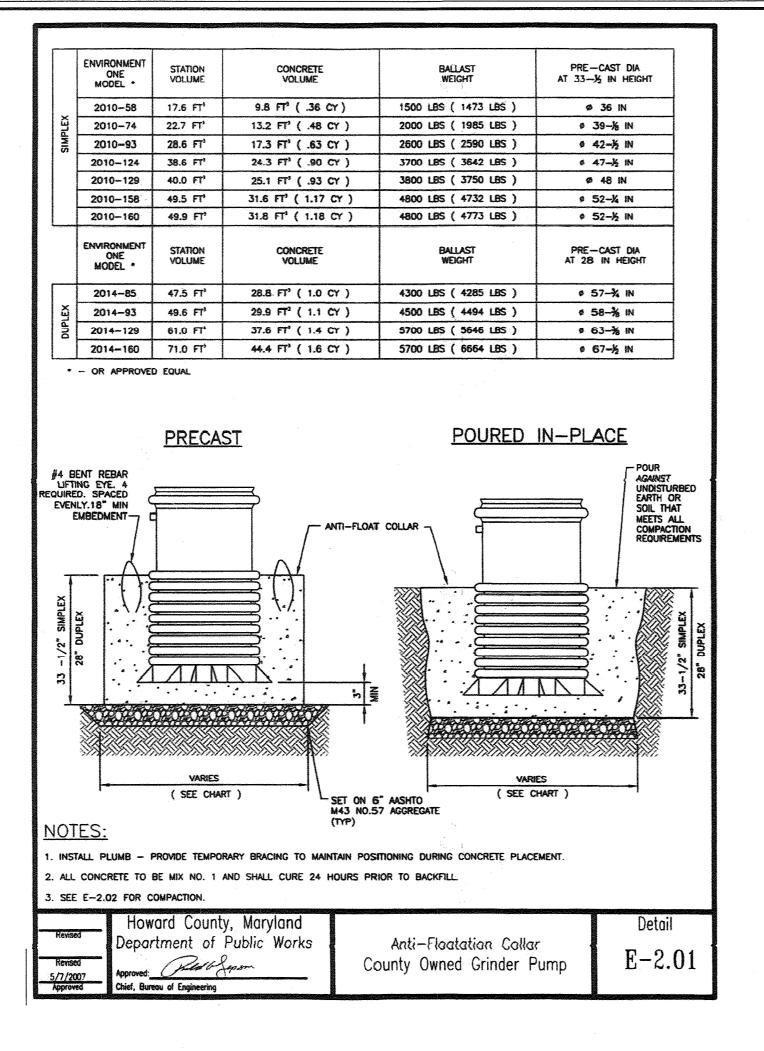
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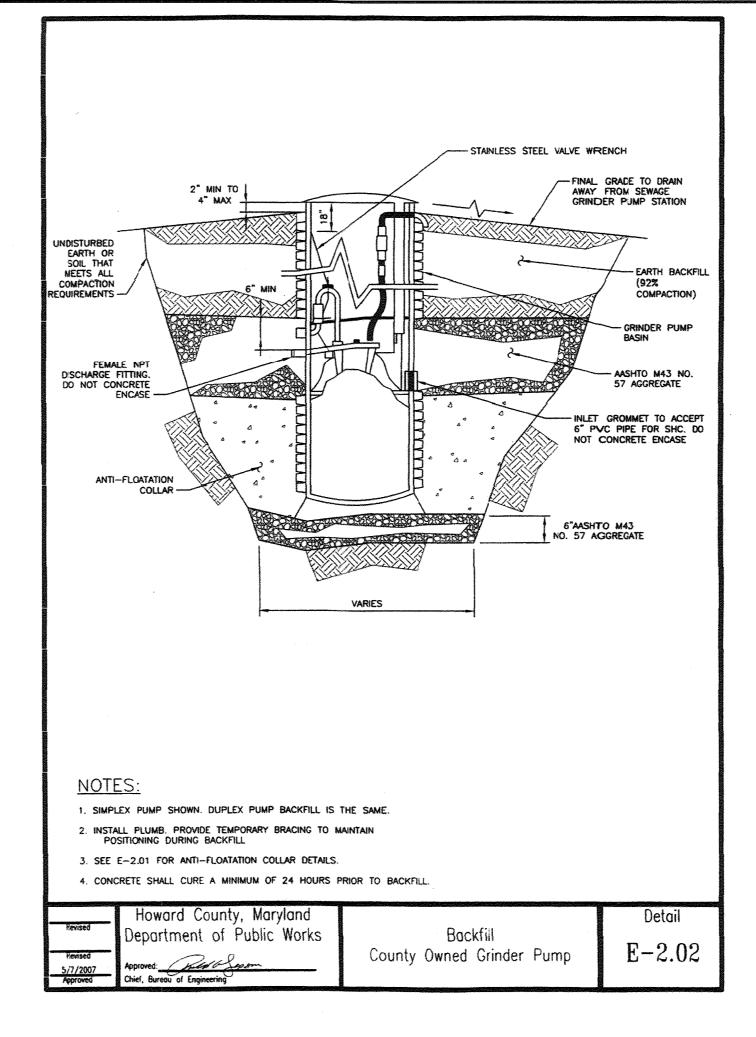
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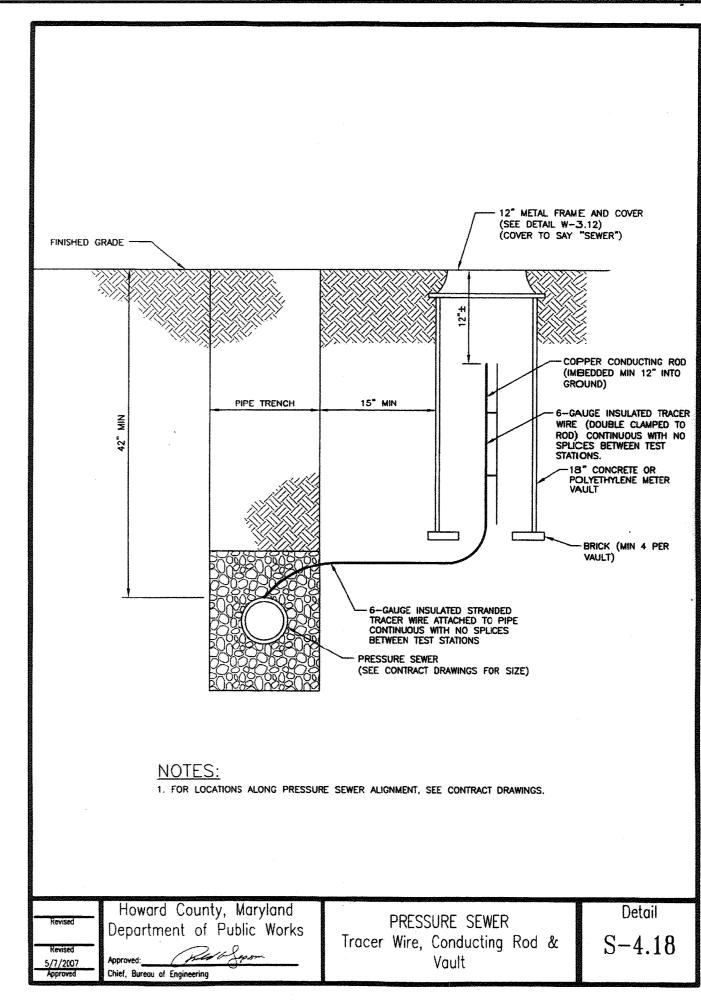
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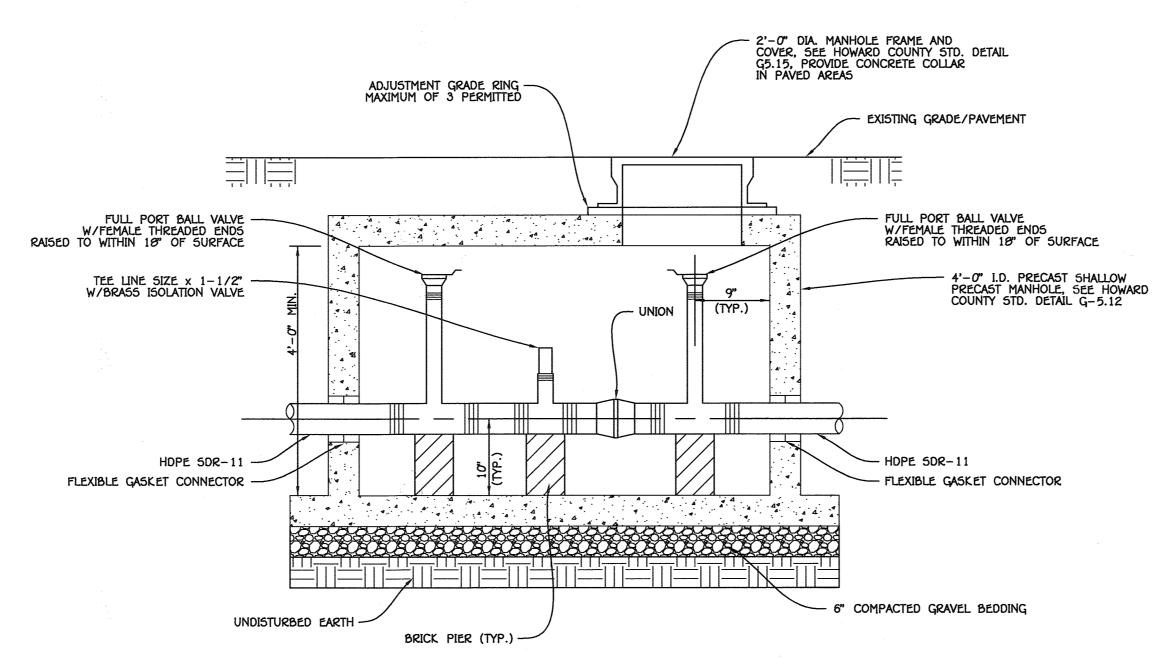
I:\2004\04001\dwg\PHASE TWO FINALS\04001-3001 Phase 2 Sewer Base P











NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 10 OF 15 SUPERSEDES THE LOW PRESSURE SEWER SYSTEM CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 14, 2009.

IN-LINE PRESSURE CLEANOUT (FLUSHING CONNECTION)

NO SCALE

<u>^</u>î\

CONTRACT NO. 50-4530-D

WALNUT CREEK

PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE

PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE

BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J'

LOW PRESSURE SEWER SYSTEM

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

CHIEF , DEVELOPMENT ENGINEERING DIVISION M.G. DATE

FISHER, COLLINS & CARTER, INC.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK — 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

(410) 461 — 2055

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on the second second	SUIT WITE THE
APPROXIMENT OF THE PERSONS AND	. 1 6 4 5 .
	3 63
20000000000000000000000000000000000000	2 19 200
ADDRESS CONTRACTOR	MAN ENOVE
ancopposa	PAUL W. KRIEBEL

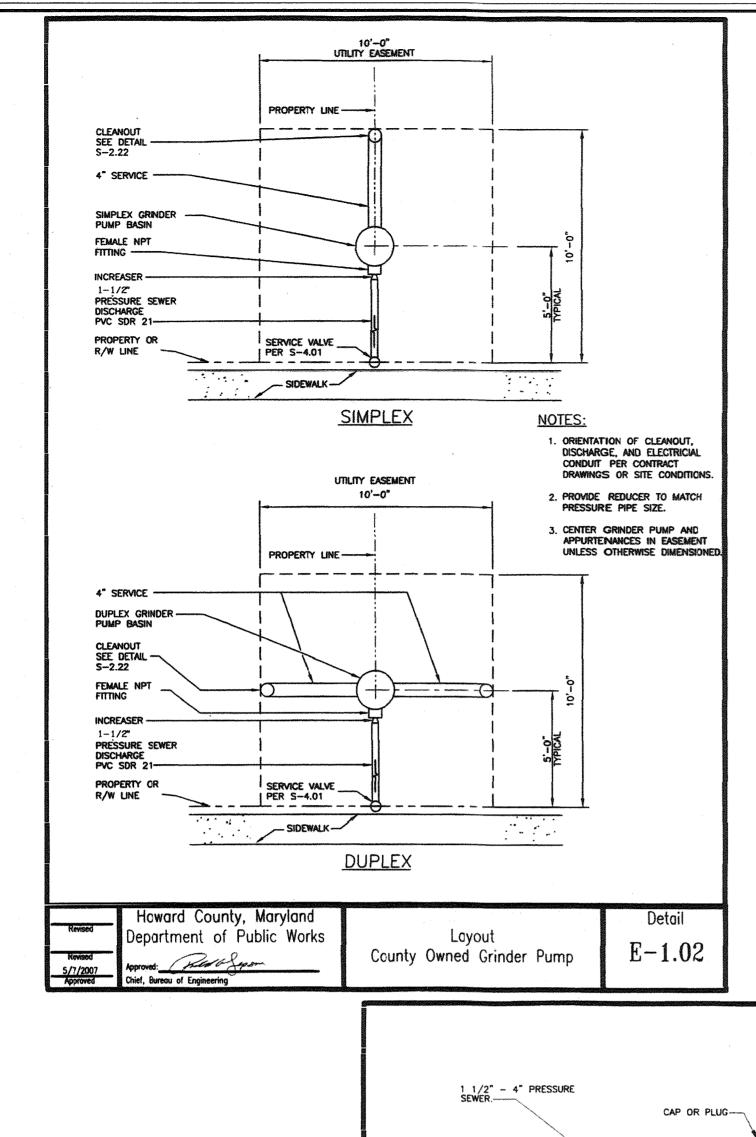
Automonomy	DESIGNED BY:					
	B.C.R.					LOW PRESSURE SEWER SYSTEM
PACIFIC STATES	DRAWN BY : B.C.R.					DETAILS
and a second						001/400
A	CHECKED BY :	-				
Secretary Secret	P.W.K.				-	600' SCALE MAP NO28 BLOCK NO4,5,10,11,12,17&18
W.	DATE :		1	REVISE DETAILS BASED ON BUREAU OF UTILITIES COMMENTS	9-25-12	F.C.C. WORK ORDER NO. 4001-3001
	SEPTEMBER, 2012	BY	NO.	REVISION	DATE	FILE NAME : LOW PRESSURE SEWER SYSTEM BASE PLAN

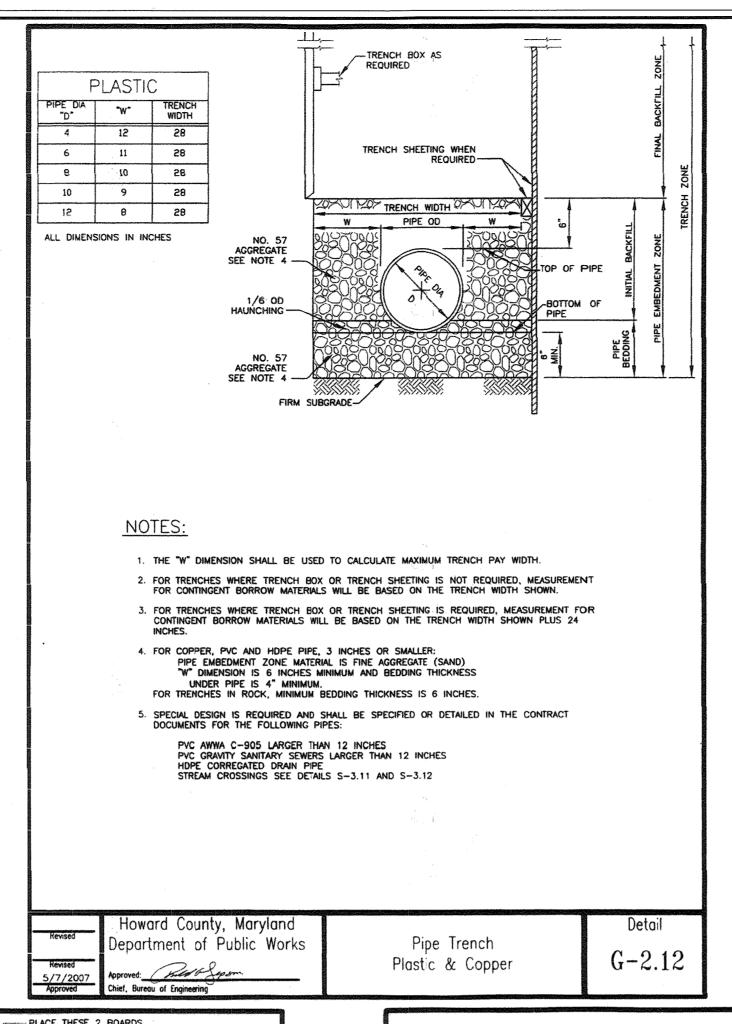
WALNUT CREEK

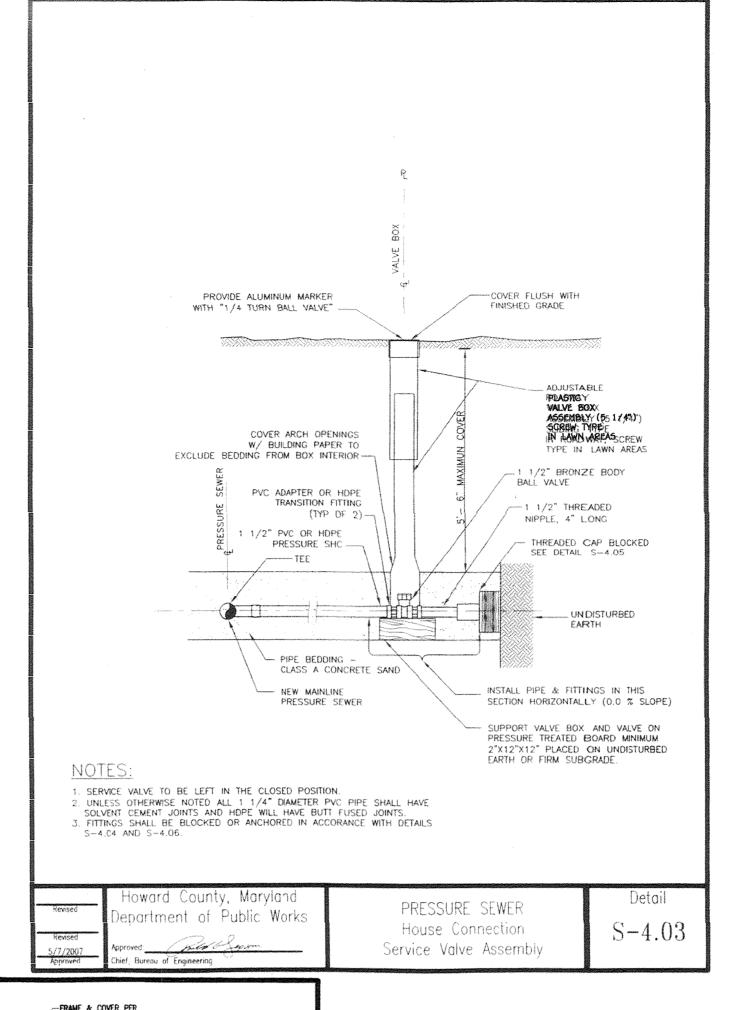
PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE
PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE
BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J'
CONTRACT NO. 50-4530-D
FIFTH ELECTION DISTRICT

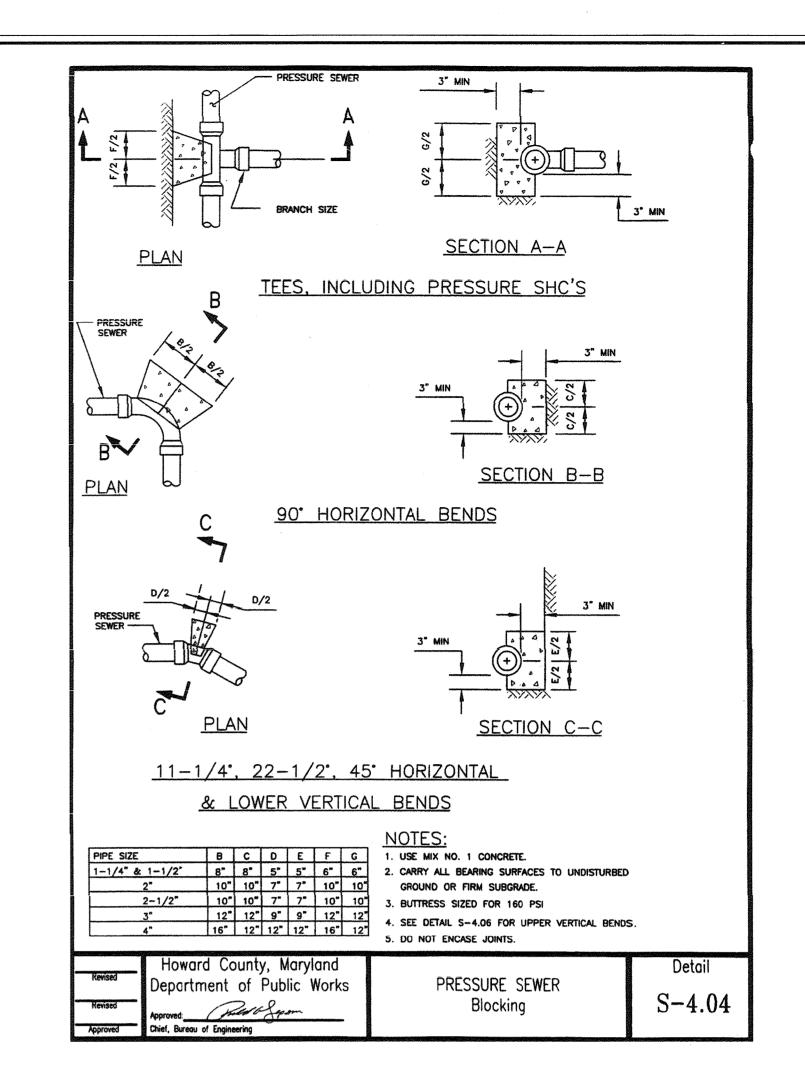
HOWARD COUNTY, MARYLAND

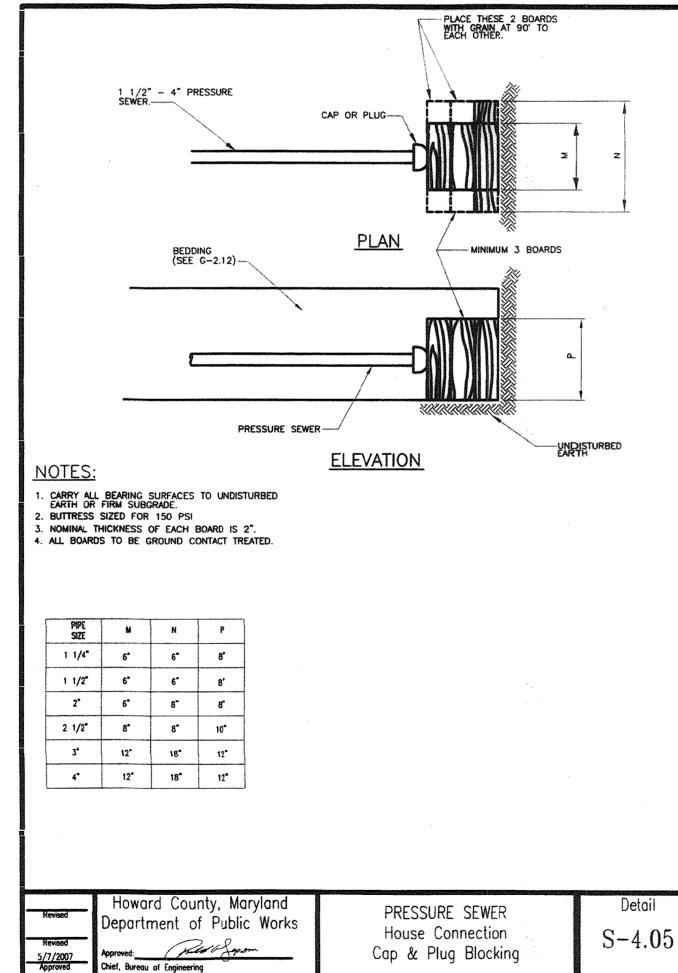
SCALE
A5
SHOWN
SHEET
10 of 15

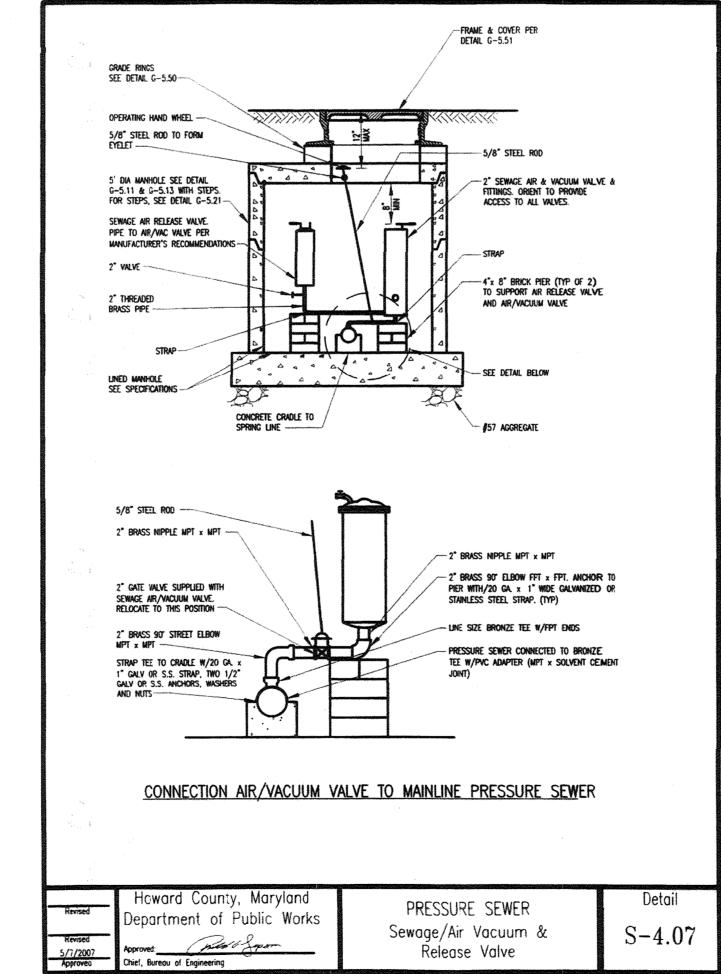




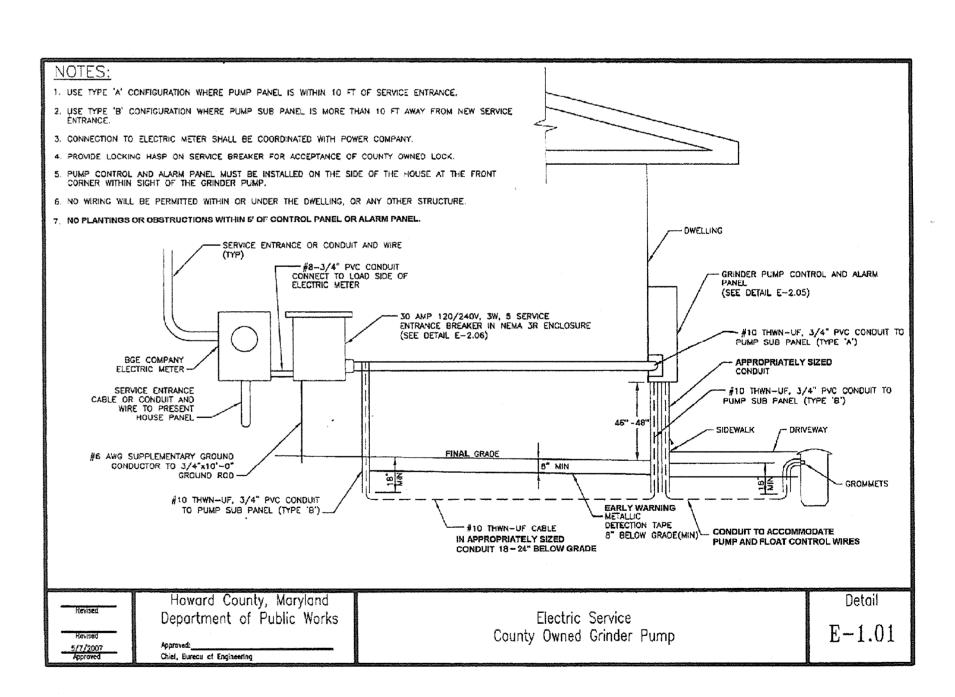








SEPTEMBER, 2012 BY NO.



NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 11 OF 15
SUPERSEDES THE LOW PRESSURE SEWER SYSTEM CONSTRUCTION
PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 14, 2009.

DATE FILE NAME : LOW PRESSURE SEWER SYSTEM BASE PLAN

CONTRACT NO. 50-4530-D WALNUT CREEK PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J' LOW PRESSURE SEWER SYSTEM HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

> FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL I ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

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DESIGNED BY : B.C.R.				LOVE DOSCOLIOS CSUSO CVCTSM
DRAWN BY : B.C.R.				LOW PRESSURE SEWER SYSTEM DETAILS
CHECKED BY :				
P.W.K.	 			600' SCALE MAP NO20 _ BLOCK NO4,5,10,11,12,17&10
DATE :	1	REVISE DETAILS BASED ON BUREAU OF UTILITIES COMMENTS / REVISE DESIGN CHARTS	9-25-12	F.C.C. WORK ORDER NO. 4001-3001

**REVISION** 

WALNUT CREEK PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J' CONTRACT NO. 50-4530-D FIFTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

**5HOWN** 11 of 15

**SCALE** 

WAS OPTIMIZED FOR MINIMUM PIPE SIZE PRESSURE LIMITS. THIS FINAL ANALYSIS IS OPTIMIZED FOR SYSTEM PRESSURE VIA PIPE DIAMETER CHANGES TO COMPLY WITH MARYLAND DEPARTMENT OF THE ENVIRONMENT'S PRE-DESIGN MEETING (20 APRIL 06) REQUEST FOR PIPELINE PRESSURES LESS THAN 90-PSIG.

SUMMARY FLOW DESIGN PARAMETERS

B. SEWAGE FLOW DESIGN PARAMETERS

WASTEWATER DESIGN FLOW RATE = 750 GPD/LOT. BASED ON MARYLAND DEPARTMENT OF THE ENVIRONMENT WMA"S MEMORANDUM - "WASTEWATER FLOWS FOR USE IN DESIGNING ON-SITE SEWERAGE SYSTEMS", 30 OCT 1990. MAXIMUM DAILY FLOW = (5-BEDROOM HOUSE) X (150-GPD/BEDROOM).

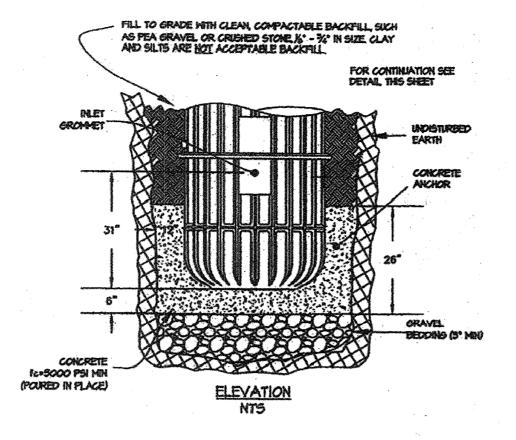
C. GRINDER PUMP STATION DESIGN PARAMETERS

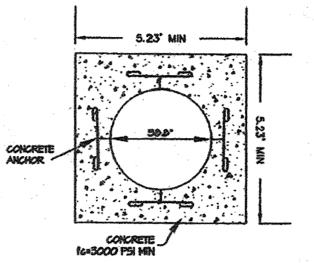
ALL DISCHARGE PIPING: 1 1 DIA. SDR-11 HDPE; DUPLEX STATION COMBINES FLOW INTO SINGLE OUTLET.

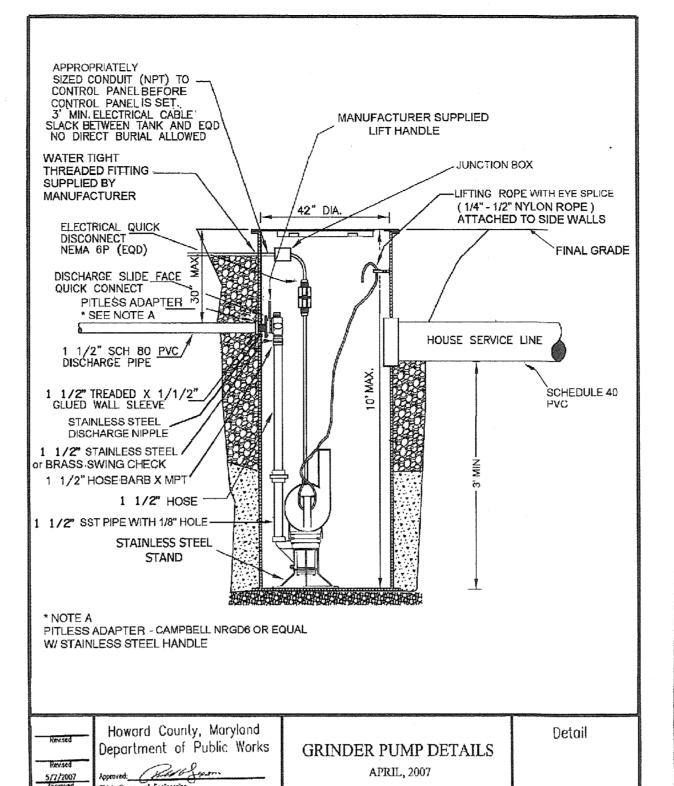
D. LOW PRESSURE PIPING SYSTEM DESIGN PARAMETERS

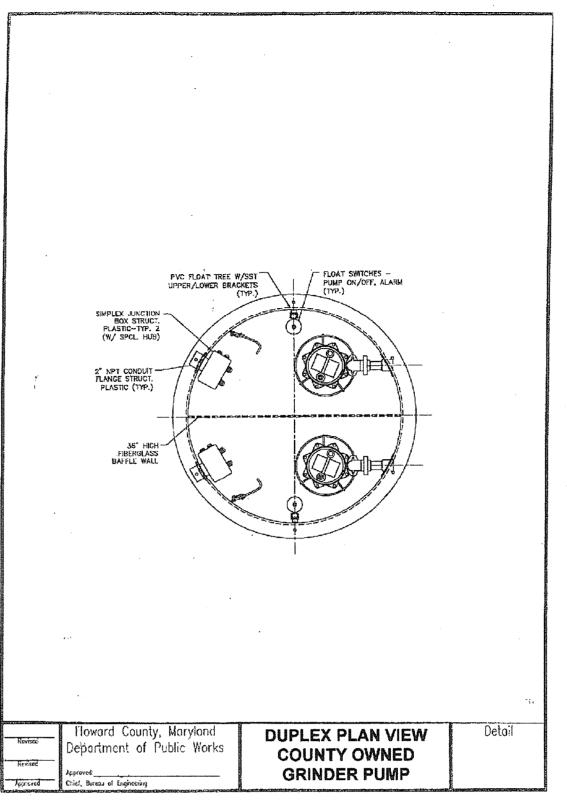
PIPE C VALUE = 140 REFERENCE: HOWARD COUNTY DESIGN MANUAL - VOLUME II, CHAPTER 8 ALTERNATE SEWER SYSTEMS, SECTION 8.2 PUBLIC LOW PRESSURE SEWER SYSTEMS AND ROBERT K. BRINLEY, R. DOUGLAS OLMSTEAD, STEVEN M. WILKINSON, "DESIGN MANUAL FOR PRESSURE SEWER SYSTEMS", PEABODY BARNES 651 NORTH MAIR STREET, MANSFIELD, OHIO 44902, PAGE 6-7, SECTION 6.5.4. HAZEN-WILLIAMS FLOW COEFFICIENT.

MAXIMUM FLUID VELOCITY = 6.0 FPS. MINIMUM FLUID VELOCITY = 2.0 FEET PER SECOND (FPS). PIPING DESIGN NOTES: INSTALL CLEAN OUT (FLUSHING STATIONS) ON PIPES EVERY 200-LF. INSTALL CABLE TEST STATIONS EVERY 200-LF.









NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 12 OF 15 SUPERSEDES THE LOW PRESSURE SEWER SYSTEM CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 14, 2009.

PREPARED BY NATHAN FUHR	JULY 5, 2012																
ZONE NUMBER	CONNECTS TO ZONE	NUMBER OF PUMPS IN ZONE	ACCUM. PUMP5 IN ZONE	GAL/DAY PER CORE	MAX FLOW PER CORE	MAX 5IM 0P5	MAX FLOW (GPM)	PIPE SIZE (INCHES)	MAX VELOCITY (FP5)	LENGTH OF MAIN THIS ZONE	FRICTION LOSS FACTOR (FT/100FT)	FRICTION LOSS THIS ZONE	ACCUMULATED FRICTION LOSS (FEET)	MAX MAIN ELEVATION	MINIMUM PUMP ELEVATION	STATIC HEAD (FEET)	TOTAL DYNAMIC HEAD (FT)
THIS SPREAD	SHEET WAS CALC	CULATED USING	PIPE DIAMETER	5 FOR: HDPE,	5DR-11			-			FRICTIO	N LOSS CALCUI	LATIONS WERE BA	ASED ON A CC	INSTANT FOR IN	15IDE ROUGHNE	255 OF 140
1.00	2.00	1	1	750.00	11.00	1	11.00	1.50	1.86	16.00	1.11	0.18	78.79	394.32	368.09	26.23	105.02
2.00	3.00	2	3	750.00	11.00	2	22.00	2.00	2.38	8.00	1.35	0.11	78.61	394.32	368.08	26.24	104.85
3.00	4.00	6	· 9	750.00	11.00	3	33.00	2.00	3.57	387.08	2.86	11.08	78.50	394.32	360.07	34.25	112.75
4.00	7.00	4	13	750.00	11.00	4	44.00	3.00	2.19	425.99	0.74	3.15	67.42	394.32	363.28	31.04	98.46
5.00	6.00	2	2	750.00	11.00	2	22.00	2.00	2.38	200.65	1.35	2.71	79.56	394.32	369.50	24.82	104.38
6.00	7.00	7	9	750.00	11.00	3	33.00	2.00	3.57	439.48	2.86	12.58	76.85	394.32	370.45	23.07	100.72
7.00	13.00	7	29	750.00	11.00	5	55.00	3.00	2.74	685.62	1.12	7.65	64.27	394.32	360.50	33.82	98.09
<b>න.00</b>	11.00	3	3	750.00	11.00	2	22.00	2.00	2.38	251.64	1.35	3.40	60.16	394.32	350.77	35.55	103.71
9.00	10.00	1	1	750.00	11.00	1	11.00	1.50	1.06	27.18	1.11	0.30	69.78	394.32	357.46	36.06	106.64
10.00	11.00	2	3	750.00	11.00	2	22.00	2.00	2.38	349.48	1.35	4.72	69.48	394.32	357.88	36.44	105.92
11.00	12.00	3	9	750.00	11.00	3	33.00	2.00	3.57	236.26	2.06	6.76	64.76	394.32	362.48	31.64	96.60
12.00	13.00	4	13	750.00	11.00	4	44.00	3.00	2.19	197.09	0.74	1.30	58.00	394.32	362.17	32.15	90.15
13.00	14.00	4	46	750.00	11.00	6	66.00	3.00	3.29	291.00	1.56	4.55	56.62	394.32	359.82	34.50	91.12
14.00	14.00	4	46	750.00	11.00	6	66.00	3.00	3.29	3,328.00	1.56	52.07	52.07	394.32	360.39	33.93	86.00

111 ,,	PRESSURE SEWER – ACCUMULATED RETENTION TIME (H WALNUT CREEK LOW PRESSURE SEWER SYSTEM DESIGN PHASE 2, LOTS 23-68									
ZONE NUMBER	CONNECTS TO ZONE	ACCUMULATED TOTAL OF PUMPS THIS ZONE	EXISTING PIPE SIZE	GAL. PER 100 LINEAL FEET	LENGTH OF ZONE	CAPACITY OF ZONE	AVERAGE DAILY FLOW	AVERAGE FLUID CHANGES PER DAY	AVERAGE RETENTION TIME (HR)	ACCUMULATED RETENTION TIME (HR)
THIS SPREADSI	HEET WAS CAL	CULATED USING	PIPE DIAMETE	RS FOR: HDPE, S	50R-11				the state of the s	
1.00	2.00	1	1.50	9.85	16.00	1.58	750	475.74	0.05	1.72
2.00	3.00	2	2.00	15.40	8.00	1.23	2,250	1,825.96	0.01	1.67
3.00	4.00	9	2.00	15.40	387.08	59.62	6,750	113.21	0.21	1.66
4.00	7.00	13	3.00	33.47	425.99	142.56	9,750	68.39	0.35	1.45
5.00	6.00	2	2.00	15.40	200.65	30.91	1,500	40.53	0.49	1.63
6.00	7.00	9	2.00	15.40	439.48	67.69	6,750	99.72	0.24	1.34
7.00	13.00	29	3.00	33.47	685.62	229.45	21,750	94.79	0.25	1.10
8.00	11.00	3	2.00	15.40	251.64	39.76	2,250	58.05	0.41	1.54
9.00	10.00	1	1.50	9.85	27.18	2.68	750	280.05	0.09	1.79
10.00	11.00	3	2.00	15.40	349.48	53.03	2,250	41.80	0.57	1.70
11.00	12.00	9	2.00	15.40	236.26	36.39	6,750	105.49	0.13	1.13
12.00	13.00	13	3.00	33.47	187.08	62.61	9,750	155.73	0.15	1.00
13.00	14.00	46	3.00	33.47	291.00	97.39	34,500	354.26	0.07	0.84
14.00	14.00	46	3.00	33.47	3,328.00	1,113.76	34,500	30.98	0.77	0.77

CONTRACT NO. 50-4530-D

WALNUT CREEK

PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE

PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE

BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J'

LOW PRESSURE SEWER SYSTEM

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS



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	CHECKED BY : P.W.K.					600'
	DATE :		$\Lambda$	REVISE DETAILS BASED ON BUREAU OF UTILITIES COMMENTS / REVISE DESIGN CHARTS	9-25-12	
I.	SEPTEMBER, 2012	BY	NO.	revision	DATE	FILE N

LOW PRESSURE SEWER SYSTEM DETAILS

SCALE MAP NO. \_20 BLOCK NO. \_4,5,10,11,12,17&10 F.C.C. WORK ORDER NO. 4001-3001 DATE FILE NAME : LOW PRESSURE SEWER SYSTEM BASE PLAN

WALNUT CREEK PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE

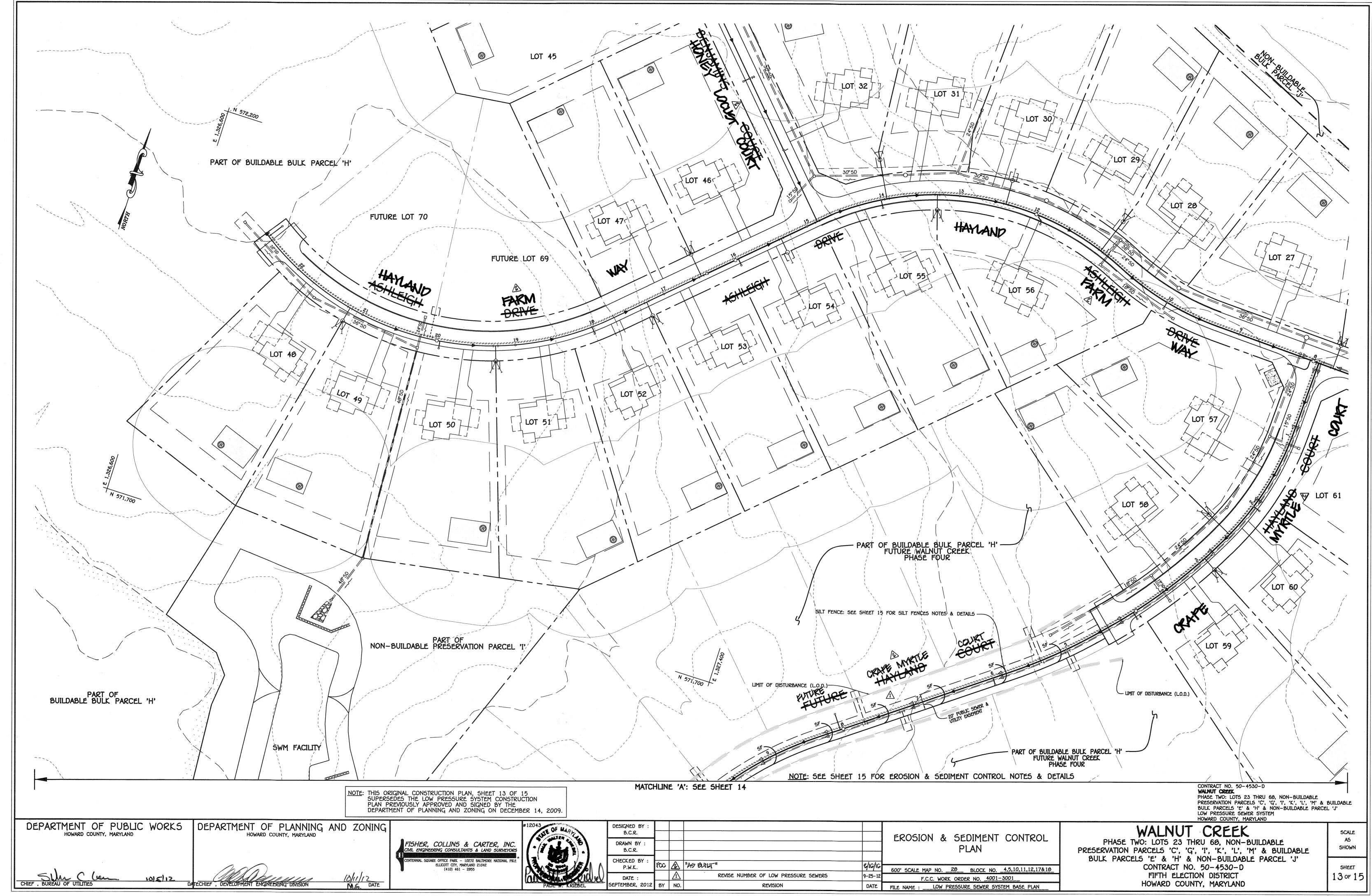
BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J' CONTRACT NO. 50-4530-D FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

12 of 15

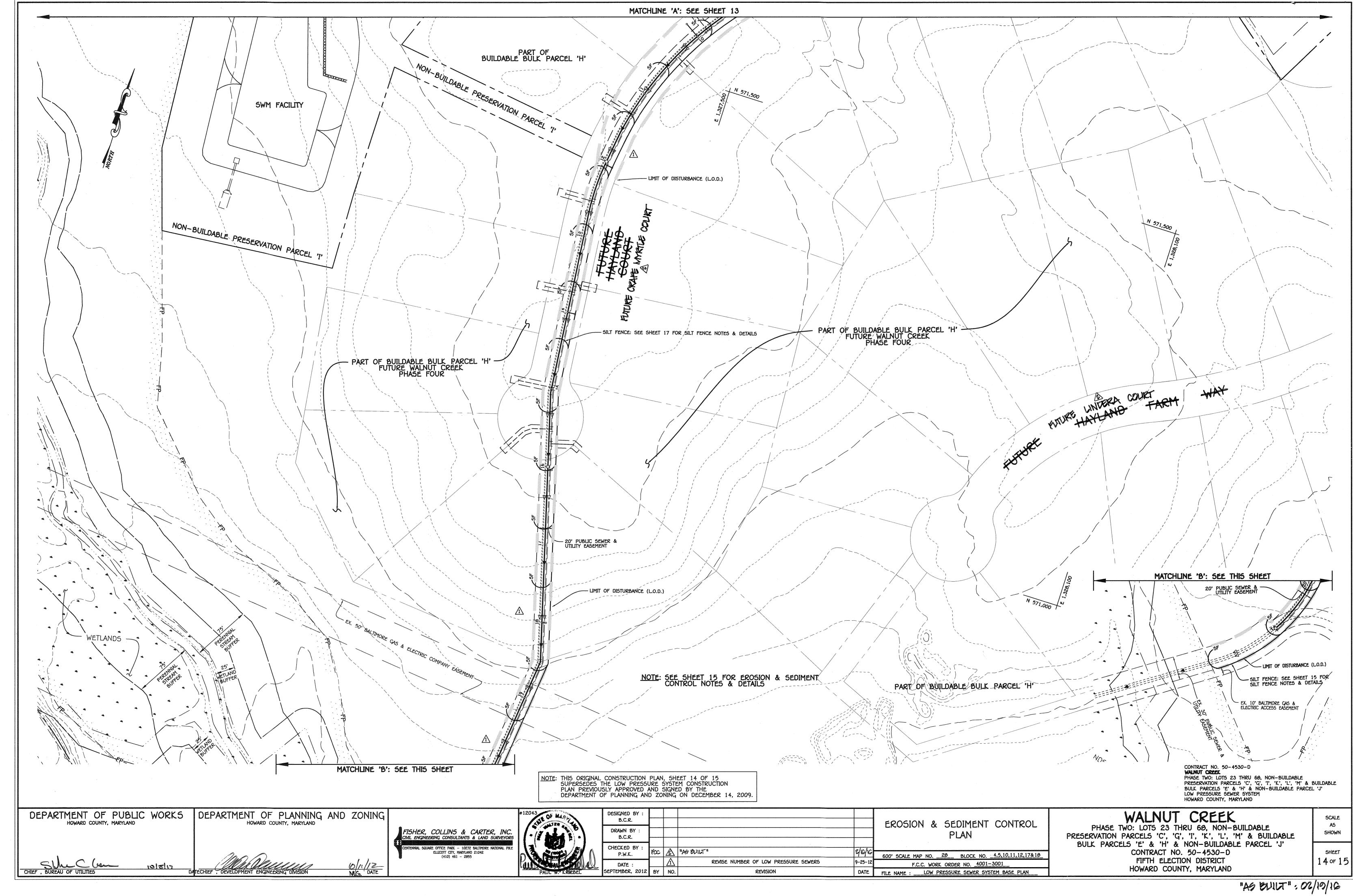
**SCALE** 

SHOWN

"46-BUILT": 02/19/16



"AS BUILT": 02/10/16



# SECTION 20:

# STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

USING VEGETATION AS COVER FOR BARREN SOIL TO PROTECT IT FROM FORCES THAT CAUSE EROSION.

VEGETATIVE STABILIZATION SPECIFICATIONS ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL THEREBY REDUCING SEDIMENT LOADS AND RUN-OFF TO DOWNSTREAM AREAS, AND IMPROVING WILDLIFE HABITAT AND VISUAL

#### CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE SHALL BE USED ON DENUDED AREAS AS SPECIFIED ON THE PLANS AND MAY BE USED ON HIGHLY ERODIBLE OR CRITICALLY ERODING AREAS. THIS SPECIFICATION IS DIVIDED INTO TEMPORARY SEEDING, TO QUICKLY ESTABLISH VEGETATIVE COVER FOR SHORT DURATION (UP TO ONE YEAR), AND PERMANENT SEEDING, FOR LONG TERM VEGETATIVE COVER. EXAMPLES OF APPLICABLE AREAS FOR TEMPORARY SEEDING ARE TEMPORARY SOIL STOCKPILES, CLEARED AREAS BEING LEFT IDLE BETWEEN CONSTRUCTION PHASES, EARTH DIKES, ETC. AND FOR PERMANENT SEEDING ARE LAWNS, DAMS, CUT AND FILL SLOPES AND OTHER AREAS AT FINAL GRADE, FORMER STOCKPILE AND STAGING AREAS, ETC.

#### EFFECTS ON WATER QUALITY AND QUANTITY

PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. VEGETATION, OVER TIME, WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITH THE ROOT

SEDIMENT CONTROL DEVICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING AND VEGETATIVE ESTABLISHMENT TO PREVENT LARGE QUANTITIES OF SEDIMENT AND ASSOCIATED CHEMICALS AND NUTRIENTS FROM WASHING INTO

#### SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. SITE PREPARATION INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OF PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
  - PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
  - SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
- SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
- FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state FERTILIZER LAWS AND SHALL BEAR THE NAME. TRADEMARK AND WARRANTEE
- OF THE PRODUCER. iii. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A \*100 MESH SIEVE AND 90-100% WILL PASS THROUGH A \*20 MESH SIEVE. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS. SEEDBED PREPARATION
- TEMPORARY SEEDING a. SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS. PERMANENT SEEDING
- a. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:
  - SOIL PH SHALL BE BETWEEN 6.0 AND 7.0. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
  - THE SOIL SHALL CONTAIN LESS THAN 40CLAY, BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERECIA LESPEDEZAS IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
- SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED
- IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE
- APPLY SOIL AMENDMENTS AS PER SOIL TESTS OR AS INCLUDED ON THE PLANS. d. MIX SOIL AMENDMENTS INTO THE TOP 3-5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS HOULD BE RAKED TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES. AND READ THE AREA FOR SEED AND APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED, PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1-3" OF SOIL
- SHOULD BE LOOSE AND FRIABLE. SEEDBED LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS. SEED SPECIFICATIONS ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months
- IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB. NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED. II. INOCULATION - THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE
- RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75°-80° F. CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE. METHODS OF SEEDING HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DROP SEEDED, OR A CULTIPACKER SEDER.
- a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN; MAXIMUM OF 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS); 200 LB5/AC; K20 (POTA55IUM): 200 LB5/AC.
- LIME USE ONLY GROUND AGRICULTURAL LIMESTONE, (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
- SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
- DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS a. SEED SPREAD DRY SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE

DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

- TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 265 OR 266. THE SEEDED AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF
- a. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
- WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE
- I. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLE BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW. WOOD CELLULOSE FIBER MULCH (WCFM)
- a. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS
- PHYSICAL STATE. b. WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
- WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. d. WCFM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE
- GRASS SEEDLINGS. e. WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE
- WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM., DIAMETER APPROXIMATELY 1 MM., pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM AND WATER HOLDING

- NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. MULCHING SEEDED AREAS - MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. IF GRADING IS COMPLETED OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AS PRESCRIBED IN
- THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS AND SEEDING CAN BE PERFORMED IN ACCORDANCE ii. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN I" AND 2". MULCH APPLIED SHALL ACHIEVE A UNIFORM
- DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE.
- iii. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- SECURING STRAW MULCH (MULCH ANCHORING): MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE). DEPENDING UPON SIZE OF AREA AND EROSION HAZARD: A MULCH ANCHORING TOOL IS AS TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL
- SURFACE A MINIMUM OF TWO (2) INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE
- USED ON THE CONTOUR IF POSSIBLE. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS/ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL
- CONTAIN A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. iii. APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND CREST OF BANKS. THE REMAINDER OF AREA SHOULD BE APPEAR UNIFORM AFTER BINDER APPLICATION. SYNTHETIC BINDERS-SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70 PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED
- EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4' TO 15' FEET WIDE AND 300 TO 3,000 FEET LONG.
- INCREMENTAL STABILIZATION CUT SLOPES ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.
- CONSTRUCTION SEQUENCE (REFER TO FIGURE 3 BELOW): EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY
  - RUNOFF FROM THE EXCAVATION. PERFORM PHASE 1 EXCAVATION, DRESS, AND STABILIZE.
- PERFORM PHASE 2 EXCAVATION, DRESS, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY PERFORM FINAL PHASE EXCAVATION, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS NECESSARY. NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OF COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY
- STABILIZATION. INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES
  - EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS. SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15", OR
  - WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS. AT THE END OF EACH DAY, TEMPORARY BERMS AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER
  - TO A SEDIMENT TRAPPING DEVICE. CONSTRUCTION SEQUENCE: REFER TO FIGURE 4 (BELOW): a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT
  - RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON LOW SIDE OF FILL AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA. b. PLACE PHASE I EMBANKMENT, DRESS, AND STABILIZE. PLACE PHASE 2 EMBANKMENT, DRESS, AND STABILIZE
  - PLACE FINAL PHASE EMBANKMENT, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECCESSARY. NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF AND PLACEMENT OF TOPSOIL (IF REQUIRED) GRADING AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION UOT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

#### SECTION 2 - TEMPORARY SEEDING

# VEGETATION - ANNUAL GRASS OR GRAIN USED TO PROVIDE COVER ON THE DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

- A. SEED MIXTURES TEMPORARY SEEDING SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 26 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE
- PLANS AND COMPLETED, THEN TABLE 26 MUST BE PUT ON THE PLANS. FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THE TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR

) SE	ED MIXTURE (HAI FRO)	RDINESS ZONE 6b 1 TABLE 26		FERTILIZER RATE	LIME RATE		
NO.	5PECIES	APPLICATION RATE ( b/ac)	SEEDING DATES	SEEDING DEPTHS	(10-10-10)		
1	BARLEY OATS RYE	122 96 140	3/1 - 5/15, 8/15 - 10/15	1" - 2" 1" - 2" 1" - 2"	600 lb/ac (15 lb/1000sf)	2 †ons/ac (100 lb/1000sf)	

#### SECTION 3 - PERMANENT SEEDING

# SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 25 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY BELOW, ALONG WITH APPLICATION rates and seeding dates. Seeding depths can be estimated using table 26. If this summary is not put ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR SPECIAL PURPOSES SUCH AS Wildlife or Aesthetic treatment may be found in USDA-SCS technical field office guide, Section 142 - CRITICAL AREA PLANTING. FOR SPECIAL LAWN MAINTENANCE APEAS SEE SECTIONS IV SON V TURECRASS FOR SITES HAVING DISTURBED AREA OVER 5 AREAS, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE

rates recommended by the soil testing agency shall be written in. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3 1/2 LB6/1000 SQ. FT. (LB5./AC.), IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE

	SEED MIXTURE (HARDINESS FROM TABLE				LIME RATE			
Ю.	SPECIES .	APPLICATION RATE (1b/ac)	SEEDING DATES	SEEDING DEPTHS	N			
3	TALL FESCUE (05%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/	175  b/ac (4  b/	175  b/ac (4  b/	2 tons/ac (100 lb/
0	TALL FESCUE (00%) HARD FESCUE (20%)	120 30	3/1 - 5/15, 8/15 - 10/15	1" - 2"	1000sf)	1000sf)	1000sf)	1000sf)

### SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL
- DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855). ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR
- SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER
- DISTURBED OR GRADED AREAS ON THE PROJECT SITE. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12,
- OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR
- PROPER GERMINATION AND ESTABLISHMENT OF GRASSES ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL
- INSPECTOR. TOTAL AREA OF SITE . . . . . . . . . . . . . . . . . . 431.405 ACRES(FROM RECORD PLAT)
  - AREA TO BE VEGETATIVELY STABILIZED . . . . 0.062 ACRES TOTAL CUT N/A; LOW PRESSURE SEWER SYSTEM INSTALLATION ONLY
- OFFSITE WASTE/BORROW AREA LOCATION ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY
- FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY
- BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS. BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING

INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL

BY THE INSPECTION AGENCY IS MADE. 11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THE THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

#### SECTION 21: STANDARD AND SPECIFICATIONS FOR TOPSOIL

- PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

  2) PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. 3) SPECIFICATIONS: A.TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY
- LOAM, OR LOAMY SAND. B.TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS. C.TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER.

  A.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"- 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4"; AVOID SURFACE IRREGULARITIES.

  B.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND EXCEPTIONS FOR A STANDARDS AND STANDARDS AND ASSESSMENT OF A STANDARDS AND STANDARDS AND ASSESSMENT OF A STANDARD ASSESSME SPECIFICATIONS FOR VEGETATIVE STABILIZATION".

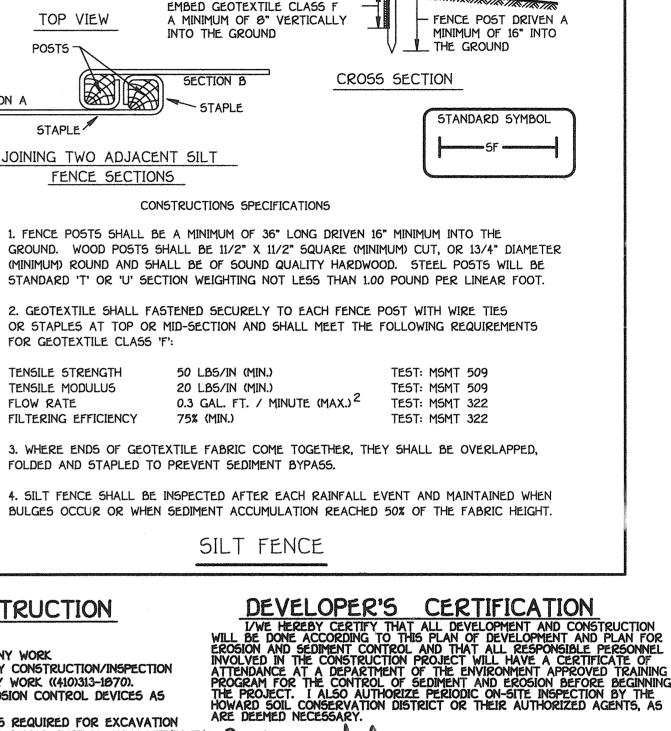
  C.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET

# SEQUENCE OF CONSTRUCTION

- OBTAIN THE REQUIRED GRADING PERMIT NOTIFY MISS UTILITY 40 HOURS BEFORE ANY WORK (1-900-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION
- DIVISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870). INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEETS TO AND 147.213

  CLEAR AND GRUB AS NECESSARY, ONLY AS REQUIRED FOR EXCAVATION

  AND INSTALLATION OF THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE LOW PRESSURE SEWER SYSTEM, ONLY WITHIN THE POUR MILE FOR THE POUR MIL INDICATED ON SHEETS 13 AND 14. CLEAR AND GRUB AS NECESSARY, ONLY AS REQUIRED FOR EXCAVATION
- NOTE: THE LENGTH OF OPEN LOW PRESSURE SEWER SYSTEM TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE
- BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS CONSTRUCT THE LOW PRESSURE SEWER SYSTEM. STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE
- WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET. FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS. AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.



- 36" MINIMUM LENGTH FENCE POST,

-16" MINIMUM HEIGHT OF

GEOTEXTILE CLASS F

- 8" MINIMUM DEPTH IN

FENCE POST SECTION

UNDISTURBED

GROUND

10-26-09

MINIMUM 20" ABOVE

GROUND

DRIVEN A MINIMUM OF 16" INTO

GROUND

CRUIND

FILTER

CLOTH-

BASS POR VONTURE, LLC

ENGINEER'S CERTIFICATION

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

10' MAXIMUM CENTER TO

FLOW

36" MINIMUM FENCE

**FLOW** 

POST LENGTH

- CENTER \_

PERSPECTIVE VIEW

TOP VIEW

STAPLE 1

FENCE SECTIONS

FOR GEOTEXTILE CLASS 'F':

TENSILE STRENGTH

TENSILE MODULUS

FILTERING EFFICIENCY

FLOW RATE

SECTION A

NOTE: SEE SHEETS 13 & 14 FOR EROSION & SEDIMENT CONTROL PLAN

CONTRACT NO. 50-4530-D WALNUT CREEK PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J' LOW PRESSURE SEWER SYSTEM HOWARD COUNTY, MARYLAND

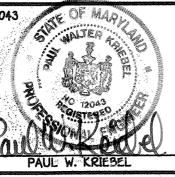
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

THE SEEDING RATE IN EACH DIRECTION.

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION





DESIGNED BY B.C.R. DRAWN BY B.C.R. CHECKED BY : P.W.K. A REAGE SHEET NUMBER/REAGE SHEET REFERENCE NUMBERO OCTOBER, 2009 REVISION

**EROSION & SEDIMENT CONTROL** NOTES & DETAILS

600' SCALE MAP NO. \_\_\_\_\_ 28\_\_ BLOCK NO. 4,5,10,11,12,17818 F.C.C. WORK ORDER NO. 4001-3001 FILE NAME : LOW PRESSURE SEWER SYSTEM BASE DETAILS

WALNUT CREEK PHASE TWO: LOTS 23 THRU 60, NON-BUILDABLE PRESERVATION PARCELS 'C', 'G', 'I', 'K', 'L', 'M' & BUILDABLE

BULK PARCELS 'E' & 'H' & NON-BUILDABLE PARCEL 'J' CONTRACT NO. 50-4530-D FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHOWN 15 of 15

SCALE

"45-BUILT": 02/19/19