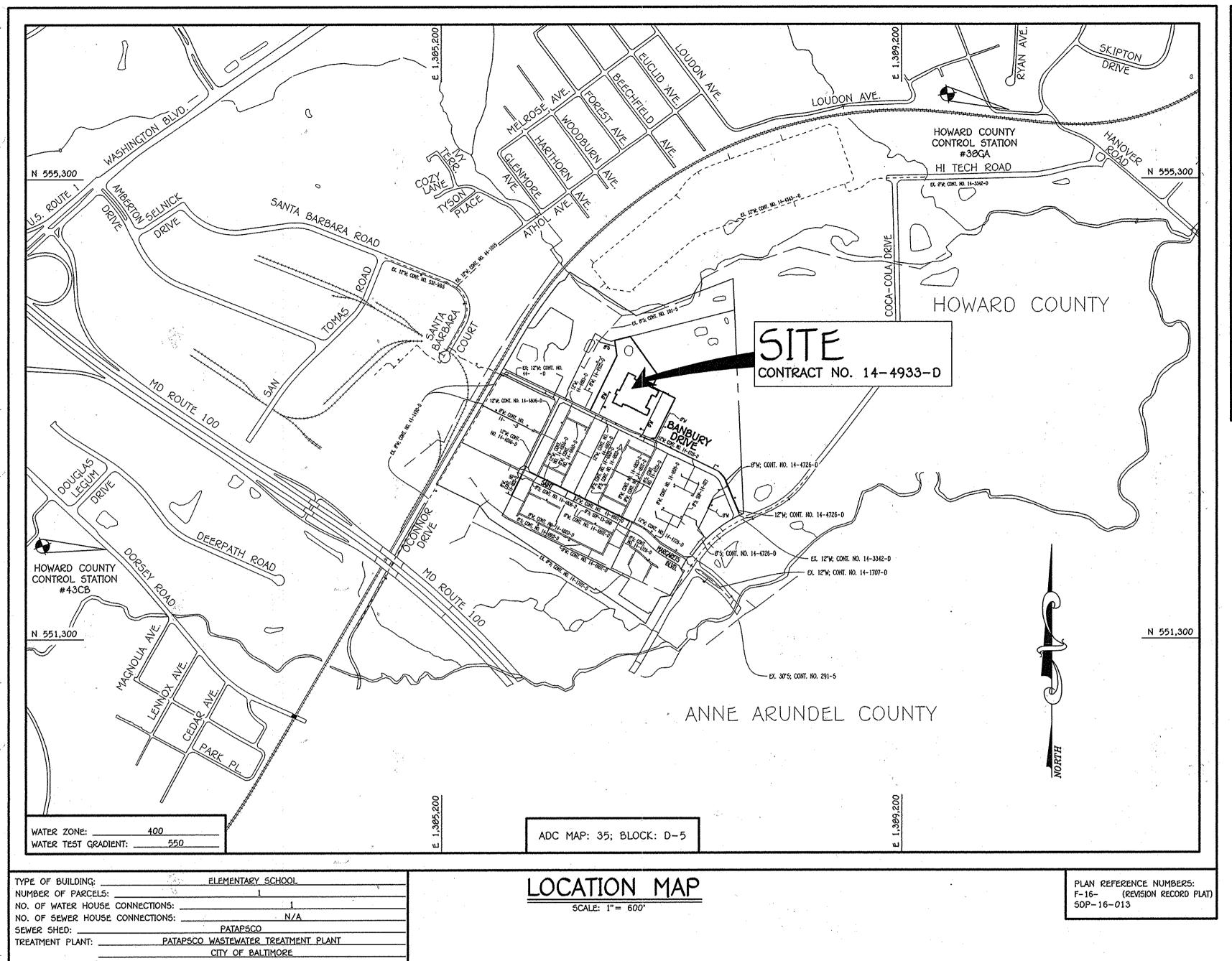


### BENCHMARK INFORMATION

- B.M.#1 HOWARD COUNTY CONTROL STATION #30GA HORIZONTAL NAD '03) (LOCATED ALONG RAILROAD AVENUE, JUST SOUTH OF RYAN AVENUE. APPROX. 22.6' NORTH FROM THE CENTER LINE OF RAILROAD AVENUE. N 555,897.3373 E 1,390,132.0933 ELEVATION = 80.783 - VERTICAL - (NAVD '88)
- B.M.#2 HOWARD COUNTY CONTROL STATION #43CB HORIZONTAL (NAD '93)
  (LOCATED ALONG THE SOUTHSIDE OF DORSEY ROAD, APPROX. 2.2' OFF THE EDGE OF PAVING. APPROX. 46.7' EAST OF POWER POLE NO. 19) N 552.084.2466 £ 1.382,282,4190

ELEVATION = 144.391 - VERTICAL - (NAVD '88)



# 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

HOWARD COUNTY PUBLIC SCHOOL SYSTEM 03/09/16

" 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

ENGINEER'S CERTIFICATION

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 300 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME IV:

STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION
AND AS SHOWN ON THE SITE DEVELOPMENT PLAN,
SDP-16-013. POWN W. KRIEDIEL; FOR:
HOWARD COUNTY PUBLIC SCHOOL SYSTEM 03-09-16

5DP-16-013

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

LEGEND					
SYMBOL	DESCRIPTION				
	ex. Water main				
EX. SEWER MAIN					
O EX. SEWER MANHOLE .					
	EX. SEWER. WATER & UTILITY EASEMENT				
[ <del>\( \)</del> (	EX. FIRE HYDRANT				
<b>•</b>	EX. VALVE				
)	PROP. WATER MAIN				
***************************************	PROP. SEWER MAIN				
6	PROP. SEWER MANHOLE				
***************************************	PROP. SEWER, WATER & UTILITY EASEMENT				
	PROP. WHC				
	PROP. 5HC				
1554	PROP. FIRE HYDRANT				
\ \dolsam\)	PROP. VALVE				

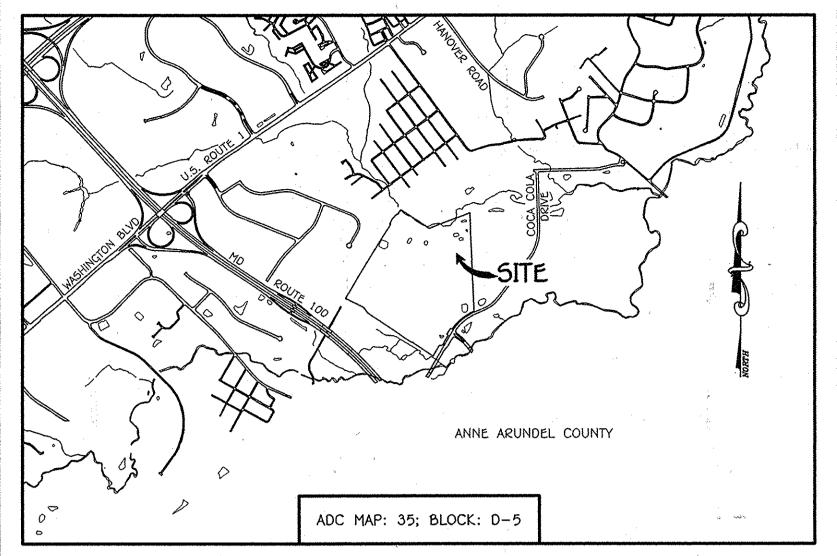
CONTRACT NO. 14-4933-D OXFORD SQUARE ELEMENTARY SCHOOL No. 42 PARCEL 'B-B'

SEWER AND WATER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DESIGNED BY

## OWNER / DEVELOPER PREPARED FOR

HOWARD COUNTY PUBLIC SCHOOL SYSTEM HARRIET TUBMAN BUILDING 8045 HARRIET TUBMAN LANE COLUMBIA, MARYLAND 21044 Attention: MR. SCOTT WASHINGTON 410-313-6805



- 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 MAY, 2010 BY FISHER, COLLINS & CARTER, INC. 3. HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91' AS PROJECTED
- BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 38GA & NO. 43CB. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS. 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 DÉTAILS 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. 8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

. 410-313-4900 

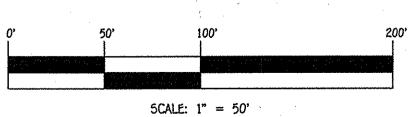
- 9 TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION, PAYMENT FOR SUCH REMOVAL
- SHALL BE INCLUDED 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 18.114(a) OF THE HOWARD

## PART B: WATER MAIN GENERAL NOTES

- 1. ALL WATER MAINS SHALL BE AWWA C900 PVC; DR-18.
  2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
  3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
  4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE
- PROVIDED FOR ON THE DRAWINGS. 5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE
- INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN
- ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE
- WITH HOWARD COUNTY DESIGN MANUAL. 8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE
- PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED. 9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS
- AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH
- RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SAUDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.

  10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE.

  11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION(HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH
- DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20 FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.
- PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL OF 3-DEGREES (1 1-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-inches and shall have center stops, pvc high deflection couplings shall be certainteed pvc high deflection (HD) STOP COUPLINGS OR EQUAL.
- five degree sweeps shall be bell by spigot, rated for a minimum 225 psi, DR—10 meeting the requirements of awwa C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR-10 OR EQUAL.
- 12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWAY C900 PVC PIPELINES, THE CONTRACTOR SHALL INSERT DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.



CONTRACT NO. 14-4933-D OXFORD SQUARE ELEMENTARY SCHOOL No. 42 PARCEL 'B-B' SEWER AND WATER MAIN EXTENSIONS

DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION M.C

prepared or approved by Me, and that I am A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/16/16. FISHER, COLLINS & CARTER, INC ENGINEERING CONSULTANTS & LAND SURVEYOR square office park – 10272 baltimore national p ELLICOTT CITY, MARYLAND 21042



B.C.R. DRAWN BY B.C.R. CHECKED BY P.W.K. DATE : MARCH, 2016 BY NO. REVISION SEWER AND WATER MAIN EXTENSIONS TITLE SHEET 600' SCALE MAP NO. 38 BLOCK NO. 19 & 20

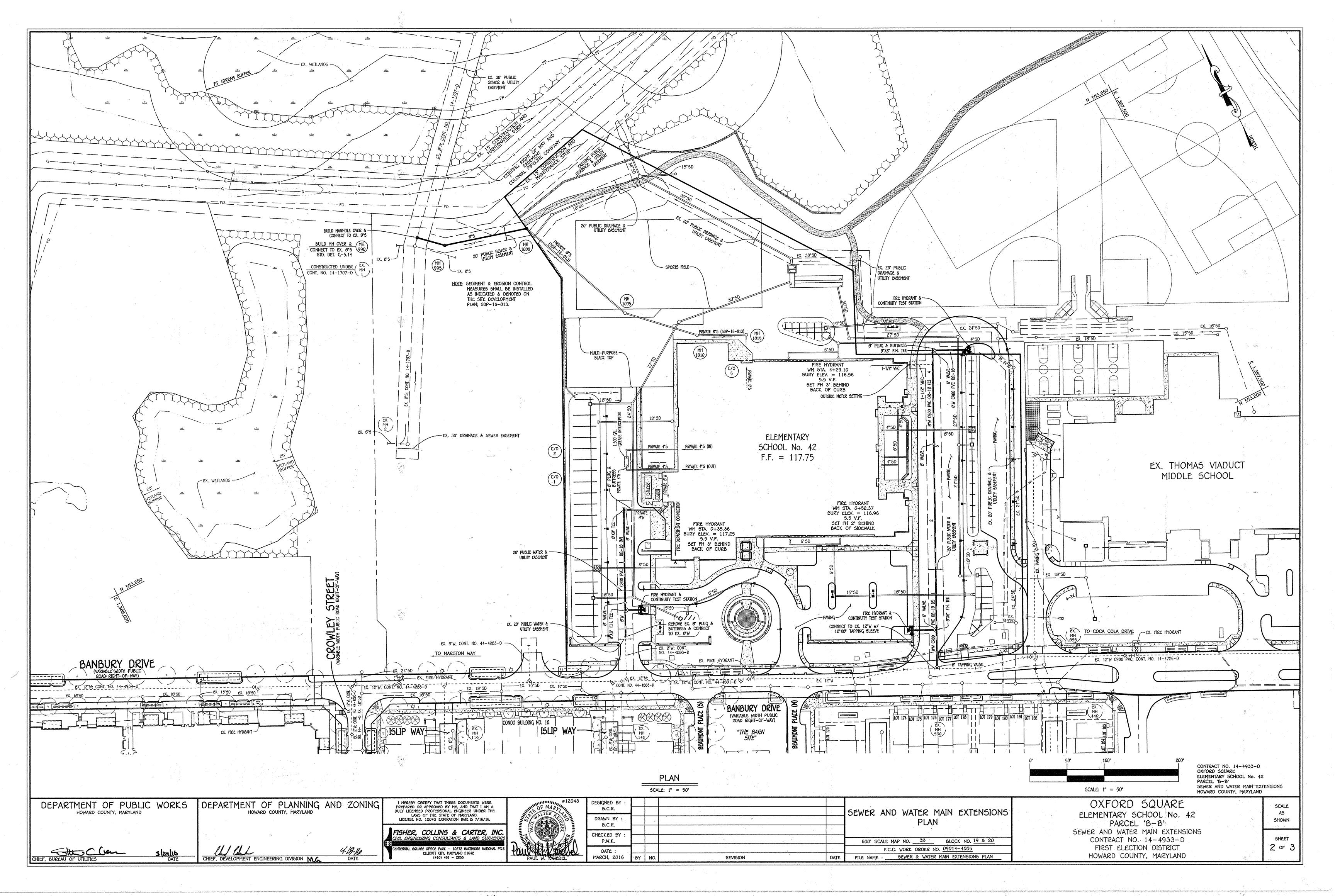
F.C.C. WORK ORDER NO. 09014-4005

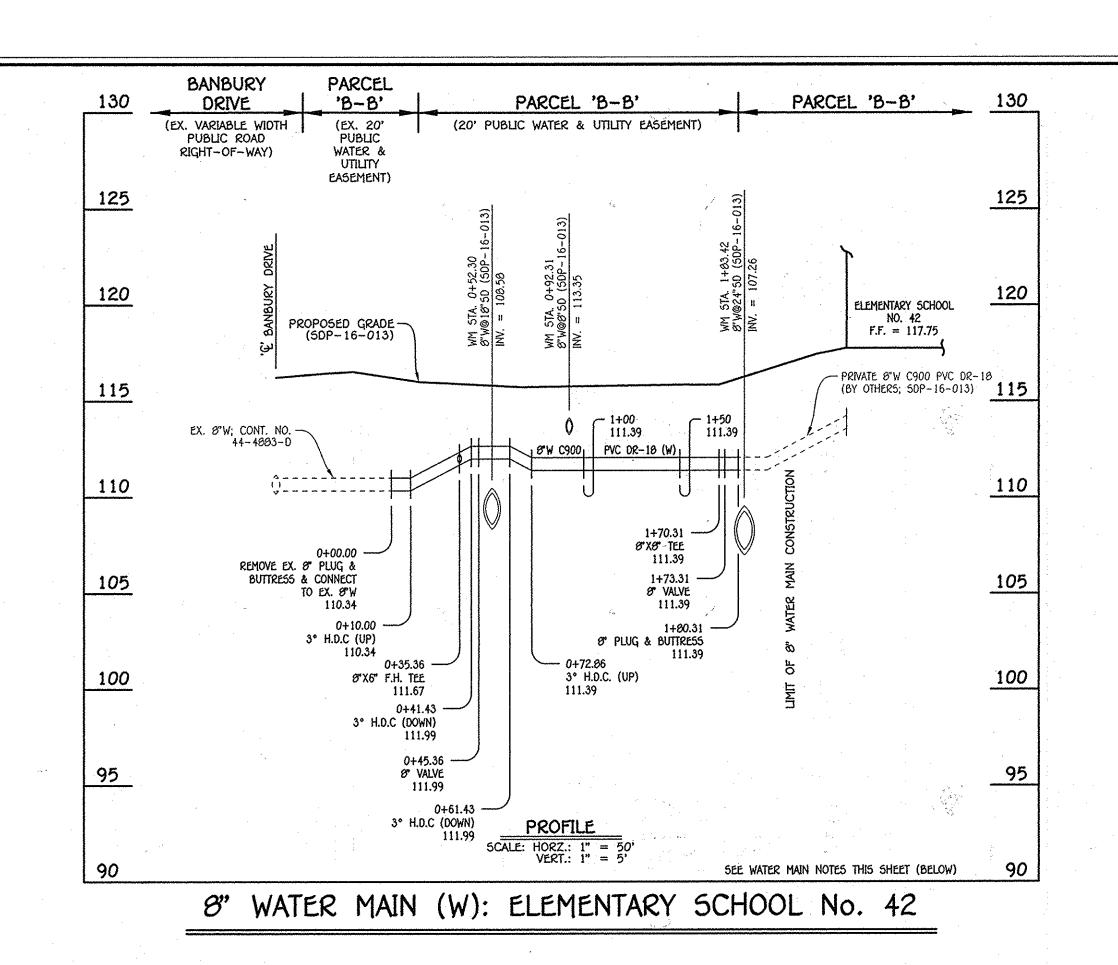
FILE NAME : SEWER & WATER MAIN EXTENSIONS PLAN

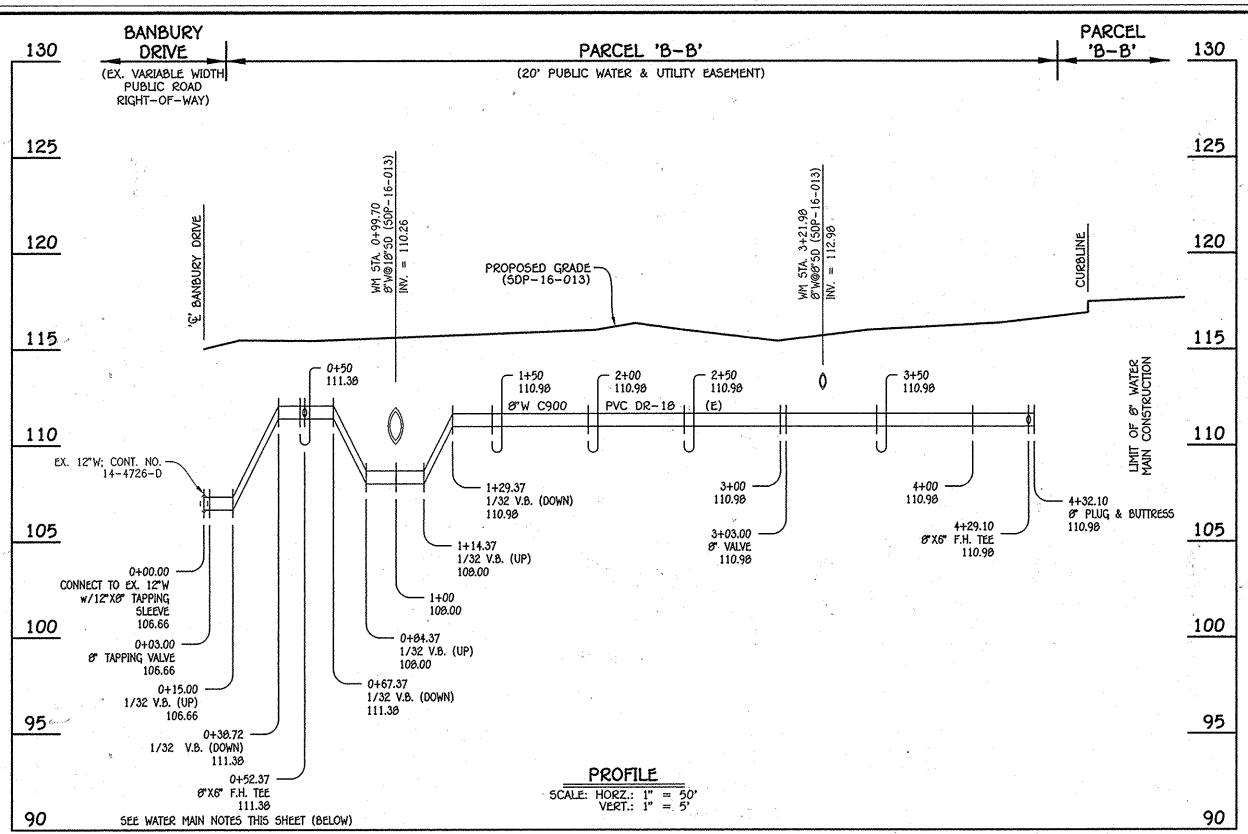
OXFORD SQUARE ELEMENTARY SCHOOL No. 42 PARCEL 'B-B' SEWER AND WATER MAIN EXTENSIONS CONTRACT NO. 14-4933-D FIRST ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

HOWARD COUNTY, MARYLAND SCALE SHOWN SHEET or 3







8" WATER MAIN (E): ELEMENTARY SCHOOL No. 42

1	WATER MAIN TABL	JLATION CHA	ART
W.M. 5TA.	APPURTENANCE	NORTHING	EASTING
	8" WATER MAIN (W): ELEMEN	TARY 5CHOOL NO. 42	
0+00.00	EX. 8" PLUG & BUTTRESS	553290.26	1386585.09
0+35.36	0"X6" F.H. TEE	553322.04	1306600.50
0+45.36	8" VALVE	553331.03	1306604.97
1+70.31	8"X8" TEE	553443.34	1306659.73
1+73.31	8" VALVE	553442.02	1306662.42
1+80.31	8" PLUG & BUTTRESS	553438.92	1386668.69

WATER MAIN NOTES:

1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE; DR-18.

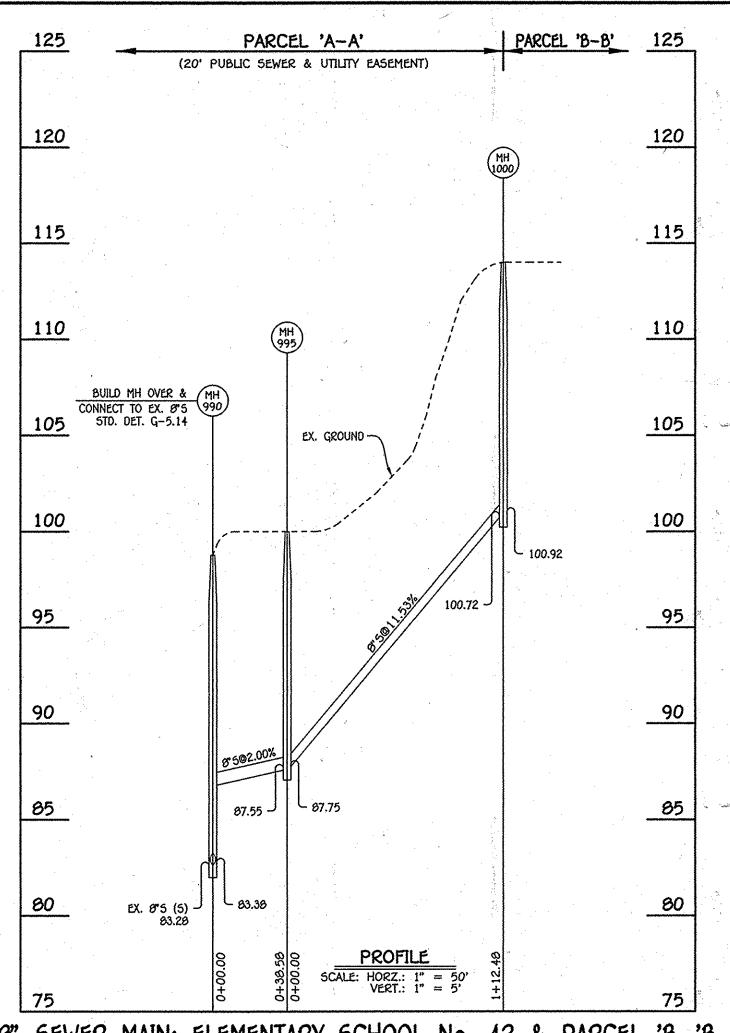
2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV — WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.

3. DEFLECTION COUPLINGS SHALL BE CERTAIN—TEED PVC HIGH DEFLECTION COUPLINGS.

4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE

PERFORMED USING A SADDLE.

W	ATER MAIN TABL	JLATION CHA	\RT	
W.M. STA.	APPURTENANCE NORTHING		EASTING	
	8" Water Main (e): Element	ARY 5CHOOL NO. 42		
0+00.00	12"X8" TAPPING SLEEVE	553061.60	1386939.62	
0+03.00	6" TAPPING VALVE	553064.30	1386940.93	
0+52.37	Ø"X6" F.H. TEE	553100.60	1386962.57	
3+03.00	8" VALVE	553333.95	1387072.40	
4+29.10	8"X6" F.H. TEE	553447.30	1387127.67	
4+32.10	8" PLUG & BUTTRESS	553450.00	1387128.98	



8" SEWER MAIN: ELEMENTARY SCHOOL No. 42 & PARCEL 'B-'B

. M	ANHOLE TABL	JLATION CHA	ART
NO.	NORTHING	EASTING	RIM ELEVATION
990	553896.62	1306577.03	98.77
995	553070.56	1306605.40	100.00
1000	553041.03	1386714.02	114.00

NOTE: SET MH RIMS FLUSH W/EXISTING GROUND.

0° 50° 100° 200° SCALE: 1" = 50°

CONTRACT NO. 14-4933-D
OXFORD SQUARE
ELEMENTARY 5CHOOL No. 42
PARCEL 'B-B'
SEWER AND WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

FISH CIVIL E 33 CENTENN

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 12043 EXPIRATION DATE IS 7/16/16.

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

CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE

ELLICOTT CITY, MARYLAND 21042

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DESIGNED BY :	<u> </u>				
B.C.R.	l				SEWER AND WATER MAIN EXTENSIONS
DRAWN BY :		,			PROFILES, CHARTS & NOTES
B.C.R.	1.1				
CHECKED BY : P.W.K.					600' SCALE MAP NO38 BLOCK NO. 19 & 20_
DATE :					F.C.C. WORK ORDER NO. <u>09014-4005</u>
MARCH, 2016	βŸ	NO.	REVISION	DATE	FILE NAME : SEWER & WATER MAIN EXTENSIONS PLAN

OXFORD SQUARE
ELEMENTARY SCHOOL No. 42
PARCEL 'B-B'
SEWER AND WATER MAIN EXTENSIONS
CONTRACT NO. 14-4933-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN
SHEET
3 OF 3