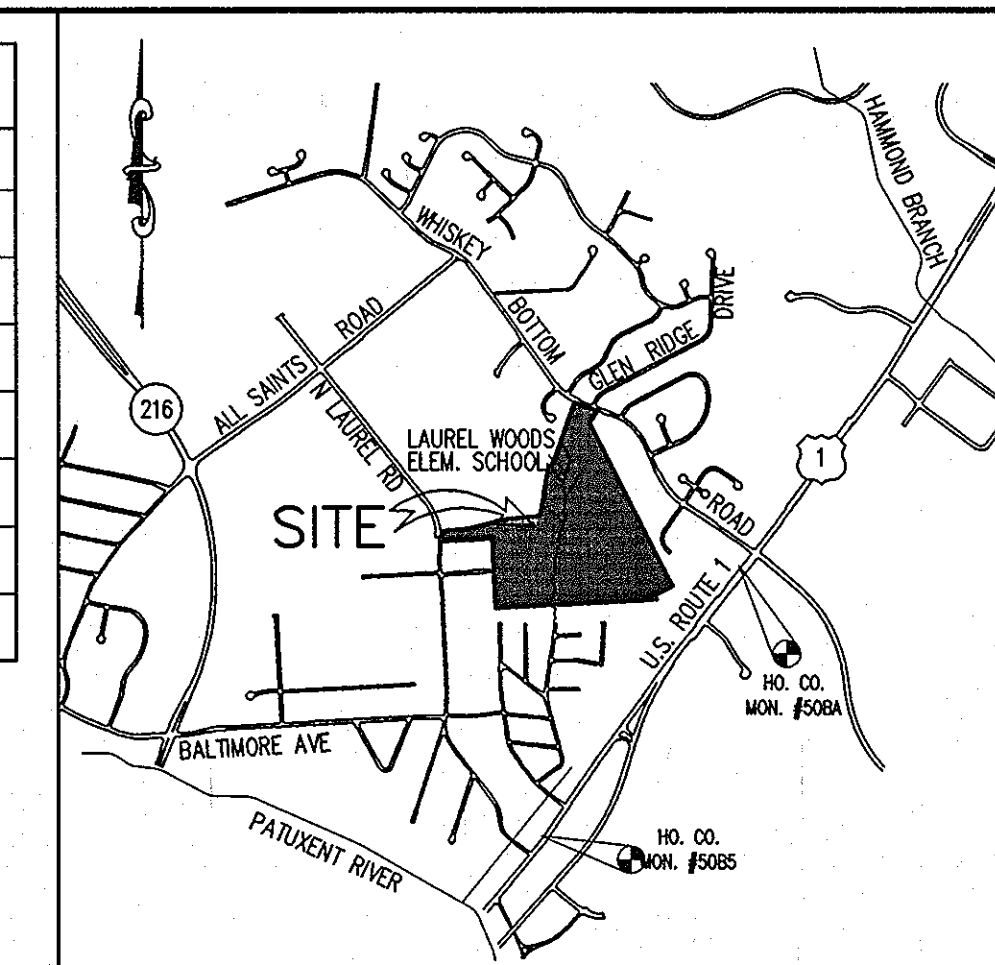


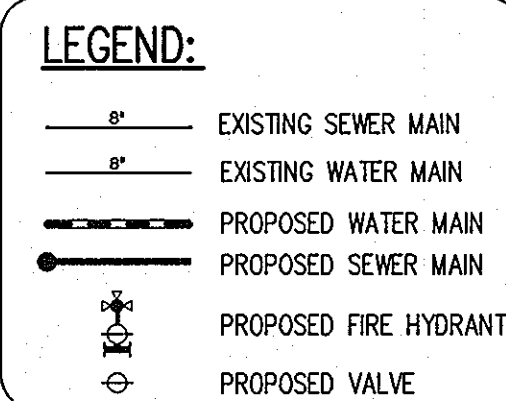
# WATER AND SEWER EXTENSION PLAN NORTH LAUREL COMMUNITY CENTER WEST SIDE AMENITIES PARCEL 762 & 1065 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT No. 24-4669-D CAPITAL PROJECT C-0304

SHEET INDEX	
NO.	DESCRIPTION
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3	PROFILE OF WATER & SEWER MAINS
4	CORROSION CONTROL LAYOUT
5	CORROSION CONTROL DETAILS - 1
6	CORROSION CONTROL DETAILS - 2
7	CORROSION CONTROL DETAILS - 3

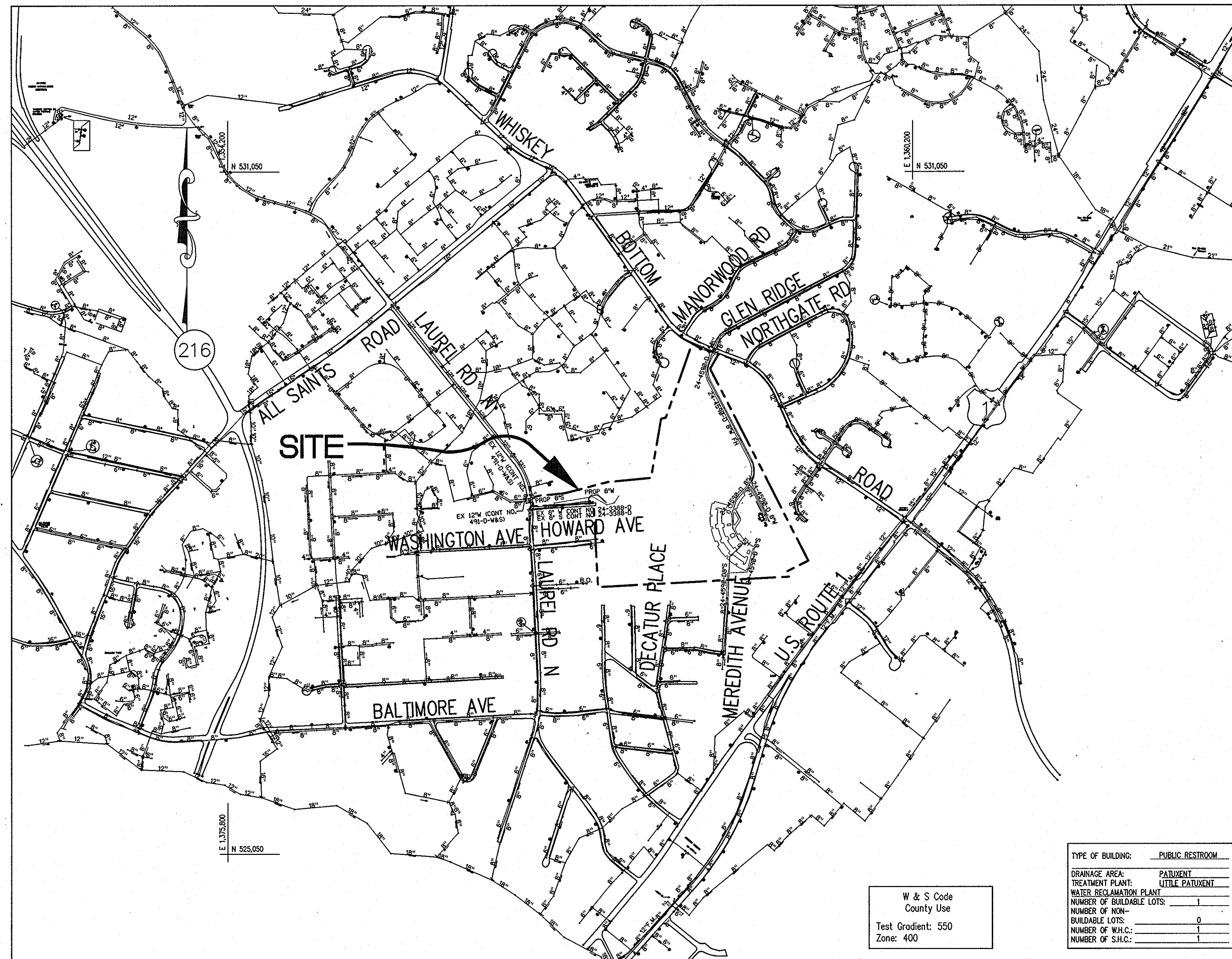


**VICINITY MAP**  
SCALE: 1"=2000'  
COPYRIGHT ADC THE MAP PEOPLE  
PERMITTED USE NO. 2071188  
HOWARD COUNTY ADC MAP : 19  
K10 & K11, MAP 20 A10 & A11

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
8" C900 PVC WATER	241 LF	241 LF	150	S.M. PIPE / BRS
6" C900 PVC WATER	0 LF	—	—	—
8" 1/8 HB	3 EACH	3 EACH	150	SIGMA / BRS
8" 1/16 HB	0 EACH	—	—	—
8" 1/32 HB	0 EACH	—	—	—
8" X 8" TEE	0 EACH	—	—	—
8" X 8" TS & V	1 EACH	1 EACH	SST	ROMAC IND. INC.
8" VALVES	0 EACH	1 EACH	MUELLER	MUELLER
8" CAP	1 EACH	1 EACH	—	MUELLER
8" X 6" FHT	1 EACH	1 EACH	—	MUELLER
6" X 6" FHT	0 EACH	—	—	—
FIRE HYDRANT	1 EACH	1 EACH	—	MUELLER / BRS
6" REDUCER	0 EACH	—	—	—
6" CAP	0 EACH	—	—	—
8" PVC COUPLING (CERTIFIED PVC HIGH DEFLECTION)	1 EACH	1 EACH	200	SIGMA / BRS
8" 1/8 VB	2 EACH	2 EACH	150	SIGMA / BRS
8" PVC SDR 35 SEWER	16 LF	16 LF	SDR35	S.M. EAGLE / BRS
PRECAST MANHOLE	1 EACH	1 EACH	—	HANSON PIPE & PRECAST



**BENCH MARK**  
HOWARD COUNTY SURVEY CONTROL: 508A  
ELEVATION 249.625'  
N 527,567.677 E 1,359,772.604  
LOCATION IS 4180' SOUTH OF WHISKEY  
BOTTOM ROAD ALONG SOUTH BOUND US ROUTE 1.  
  
HOWARD COUNTY SURVEY CONTROL: 5085  
ELEVATION 177.385'  
N 524,999.374 E 1,357,925.748  
LOCATION IS 4150' NORTH OF N LAUREL  
ROAD ALONG SOUTH BOND US ROUTE 1.



**WATER NOTES**

- EXCEPT AS INDICATED ON THE PLANS, ALL PUBLIC WATER MAINS SHALL BE POLYVINYLCHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900 DR18, PRESSURE CLASS 150 AND THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND ALL SUBSEQUENT AMENDMENTS THERETO.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- 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 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL DUCTILE IRON PIPE (DIP) TO BE USED ON THE PUBLIC WATER SYSTEM SHALL BE CLASS 54. DUCTILE IRON FITTINGS SHALL MEET THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- THE DIMENSION RATIO FOR THE PVC MAIN SHALL BE DR 18.
- WATER MAIN CONSTRUCTION SHALL CONSIST OF PVC MAIN WITH EPOXY COATED DIP FITTINGS OR PVC MAIN WITH PVC FITTINGS.
- REFER TO STANDARD DETAILS G-8.21 AND W-1.15 FOR CONTINUITY TEST STATIONS.
- 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.

**SEWER NOTES**

- ALL SEWER MAINS SHALL BE PVC CONFORMING TO SDR 35 ASTM D3034 SPECIFICATIONS.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.

**GENERAL NOTES**

- 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.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL TOPOGRAPHIC SURVEY PREPARED BY VIRGINIA RESOURCE MAPPING DATED MARCH 31, 2006, AND FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED APRIL 24, 2008. BOUNDARY SURVEY WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED DECEMBER 12, 2006.
- 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. 508A AND 5085.  
ALL VERTICAL CONTROLS ARE BASED ON NAVD-88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE HOWARD COUNTY GEODETIC CONTROL STATIONS 508A AND 5085.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- 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 THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF 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 THE POLES.
- 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.
- 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.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133
BGE (CONSTRUCTION SERVICES)	410-637-8713
BGE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO.	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERTIZON	1-800-743-0033 / 410-224-9210

- 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.
- THE 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 CONSTRUCTION OF THE MAIN.
- 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 COUNTY CODE.

NAME OF UTILITY CONTRACTOR :	
Sediment control measures for this contract will be implemented in accordance with Section 308 of the Specifications and as shown on SDP-10-010	CHECKBOX
	AS-BUILT DATE
	SURVEY AND DRAFTING DIVISION
OWNER / DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION 9250 BENDIX ROAD, COLUMBIA, MD 21045 P 410.313.2414	
DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND	This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 10/27/10	 HOWARD SOIL CONSERVATION DISTRICT DATE: 9/27/10

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
 DIRECTOR OF PUBLIC WORKS DATE: 10/5/10	 CHIEF, BUREAU OF ENGINEERING DATE: 9/29/10
 CHIEF, BUREAU OF UTILITIES DATE: 9/29/10	 CHIEF, UTILITY DESIGN DIVISION DATE: 9/29/10

Patton Harris Rust & Associates, pc  
Engineers. Surveyors. Planners. Landscape Architects.  
**P-H-R-A**  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

PROFESSIONAL CERTIFICATION. 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. 33954, EXPIRATION DATE: 01-24-11.

SHERRYL C. MITCHELL # 33954

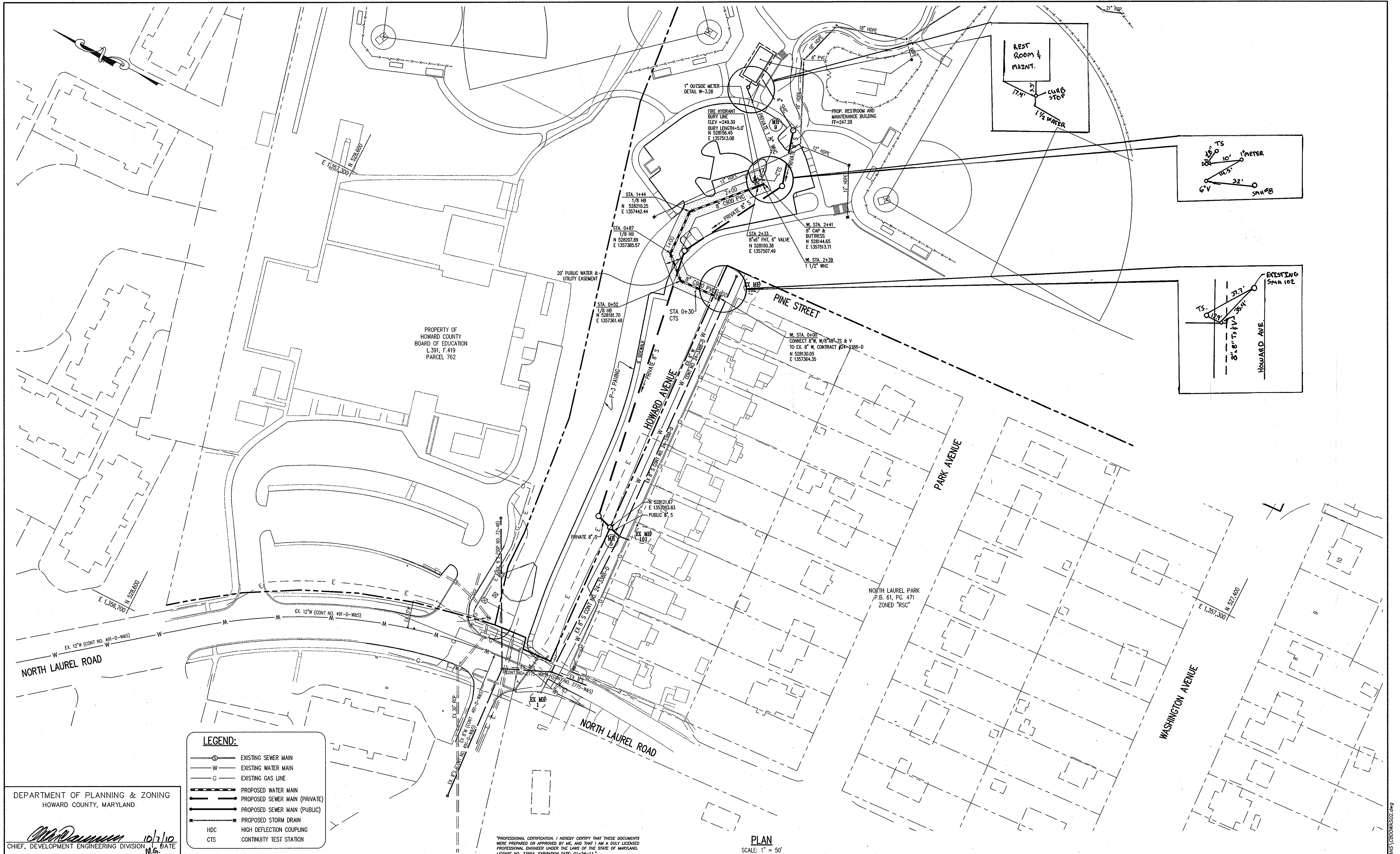
DES: SCM			
DRN: SGM			
CHK: SCM			
DATE: 9/01/10	KCI	1	As-Built
BY NO.			
REVISION			
DATE			

600' SCALE MAP NO. 47	BLOCK NO. 22
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**NORTH LAUREL COMMUNITY CENTER  
TAX MAP 47, PARCELS 762 & 1065 ZONED R-SC  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4669-D  
CAPITAL PROJECT C-0304**

SCALE AS SHOWN  
SHEET 1 OF 7





- LEGEND:**
- (S)— EXISTING SEWER MAIN
  - (W)— EXISTING WATER MAIN
  - (G)— EXISTING GAS LINE
  - (D)— PROPOSED WATER MAIN
  - (P)— PROPOSED SEWER MAIN (PRIVATE)
  - (M)— PROPOSED SEWER MAIN (PUBLIC)
  - (S)— PROPOSED STORM DRAIN
  - (HDC)— HIGH DEFLECTION COUPLING
  - (CTS)— CONTINUITY TEST STATION

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/3/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

PROFESSIONAL CERTIFICATION: 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. 33954, EXPIRATION DATE: 01-24-11.

PLAN  
SCALE: 1" = 50'

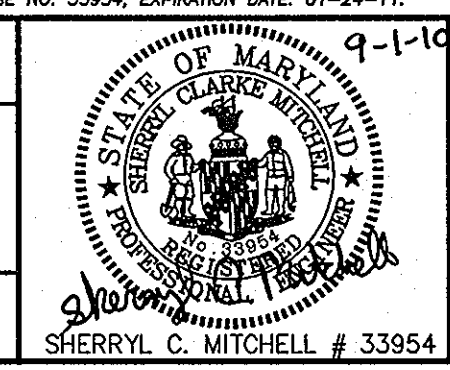
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/5/10  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 9/29/10  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 9/29/10  
CHIEF, UTILITY DESIGN DIVISION DATE

Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.  
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Columbia, MD 21046  
T 410.997.8900  
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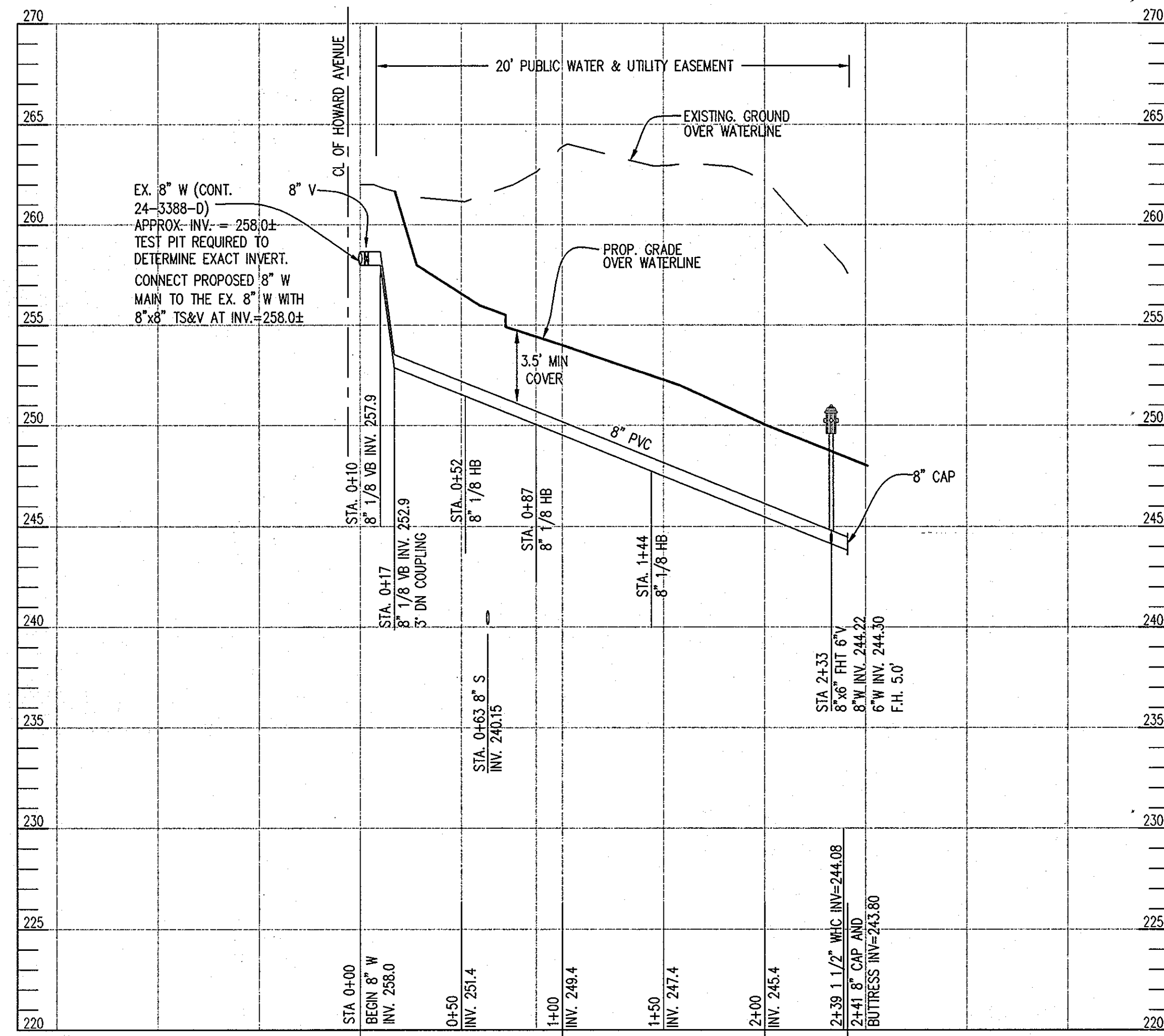
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CHK:	SCM				
DATE:	9/01/10				
BY:	KCI	1	AS-GUILT		7/2010
NO.					
REVISION					
DATE					

PLAN OF WATER & SEWER MAINS

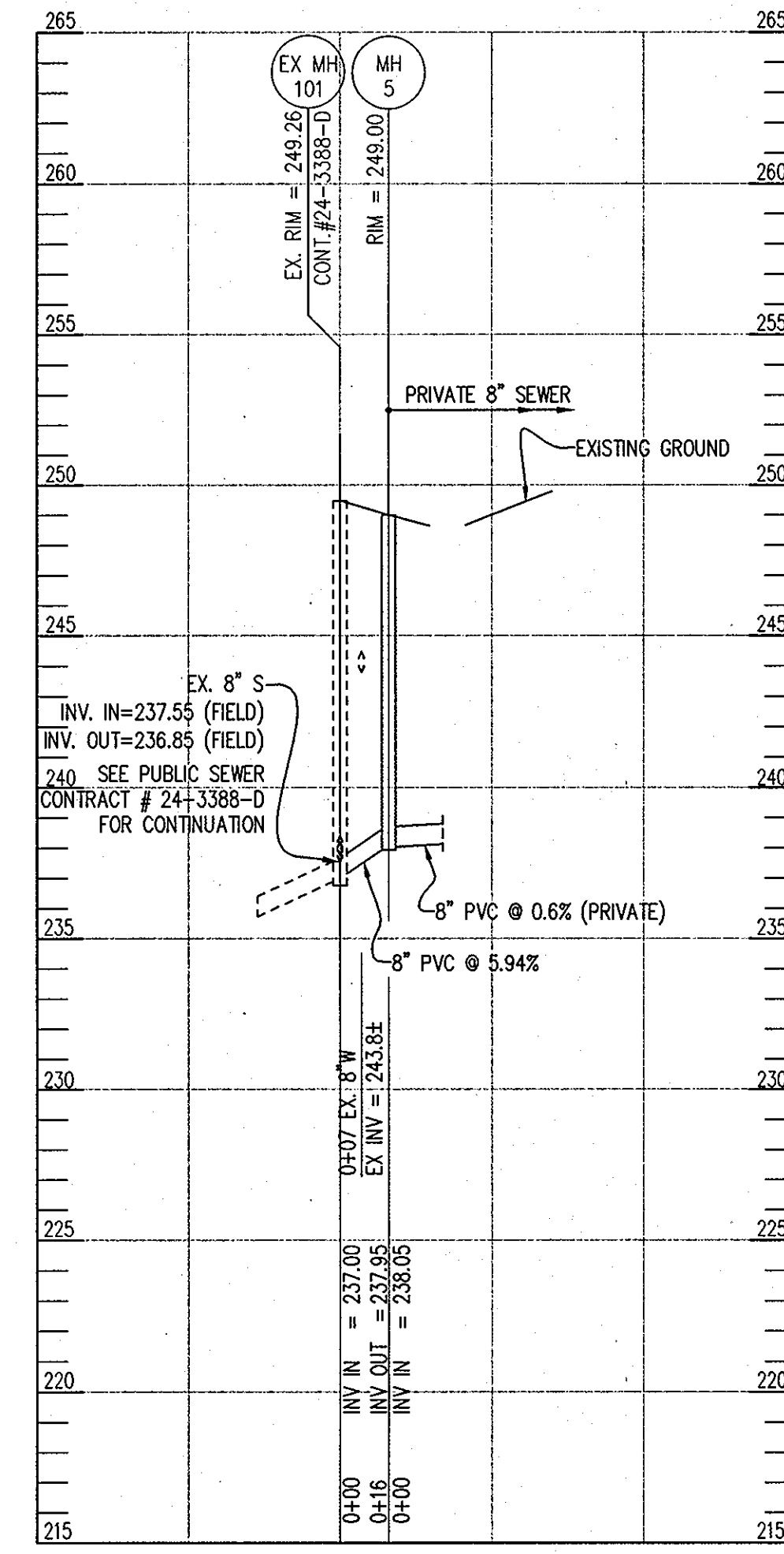
600' SCALE MAP NO. 47 BLOCK NO. 22

NORTH LAUREL COMMUNITY CENTER  
TAX MAP 47, PARCELS 762 & 1065 ZONED R-SC  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4669-D  
CAPITAL PROJECT C-0304

SCALE AS SHOWN  
SHEET 2 OF 7



**PUBLIC WATERMAIN PROFILE**  
 HOR: 1"=50' VERT: 1"=5'



**PUBLIC SEWER PROFILE**  
 SCALE: HOR: 1"=50' - VERT: 1"=5'

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND

*[Signature]* 10/7/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

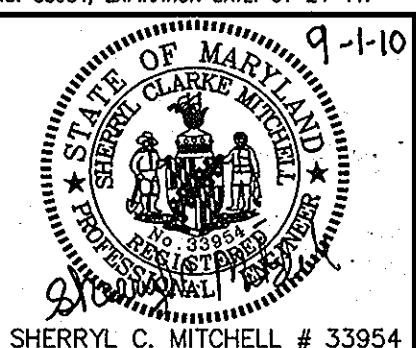
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 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 9/29/10  
 CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 9/29/10  
 CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 9/29/10  
 CHIEF, UTILITY DESIGN DIVISION DATE

Patton Harris Rust & Associates, pc  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.8282



DES: SCM				
DRN: SGM				
CHK: SCM				
DATE: 9/01/10	BY	NO.	REVISION	DATE

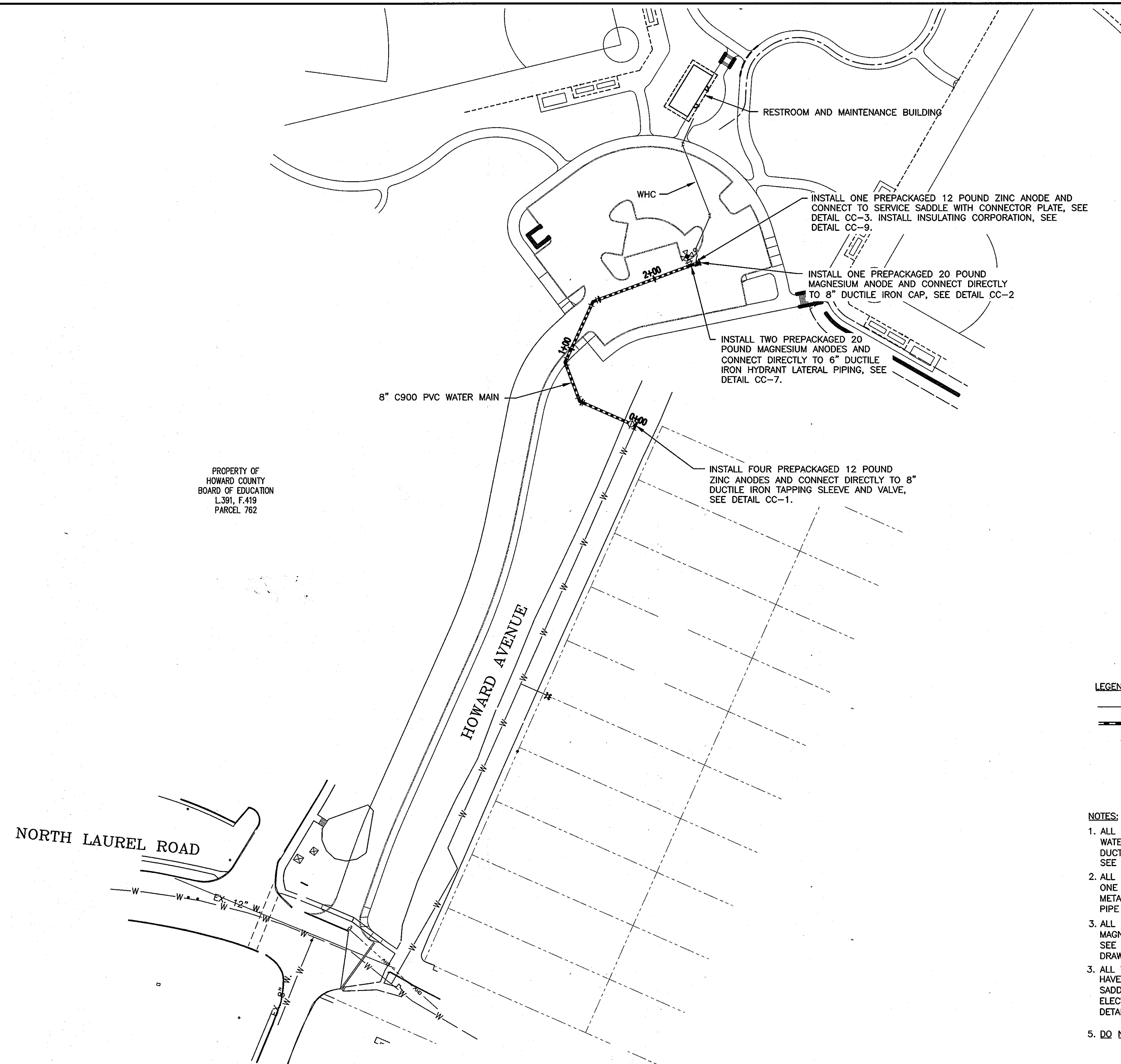
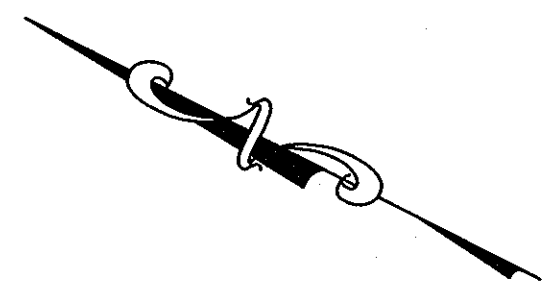
PROFILE OF WATER & SEWER MAINS  
 600' SCALE MAP NO. 47 BLOCK NO. 22

NORTH LAUREL COMMUNITY CENTER  
 TAX MAP 47, PARCELS 762 & 1065 ZONED R-SC  
 6th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT NO. 24-4669-D  
 CAPITAL PROJECT C-0304

SCALE AS SHOWN  
 SHEET 3 OF 7

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P:\PROJECTS\14468\1-PLAN\AS\CB02\WAS03.dwg



- LEGEND:**
- W — — EXISTING WATER MAIN
  - — — — — NEW C900 PVC WATER MAIN
  - ⊗ — FIRE HYDRANT
  - ▲ — SERVICE SADDLE

- NOTES:**
1. ALL NEW DUCTILE IRON TEES AND DUCTILE IRON BENDS ALONG THE PVC WATER MAIN ARE TO BE PROVIDED WITH CORROSION PROTECTION (ALL DUCTILE IRON TEES AND BENDS MAY NOT SHOWN ON THIS DRAWING), SEE DETAIL CC-2.
  2. ALL PVC PIPE DESIGNATED AS BEING "RESTRAINED JOINT" SHALL HAVE ONE PREPACKAGED 12 POUND ZINC ANODE CONNECTED TO EACH METALLIC RESTRAINING HARNESS, SEE DETAIL CC-4. RESTRAINED JOINT PIPE NOT SHOWN ON THIS DRAWING.
  3. ALL IN-LINE THRUST BLOCKS SHALL HAVE ONE PREPACKAGED 20 POUND MAGNESIUM ANODE CONNECTED TO THE METALLIC RESTRAINING HARNESS, SEE DETAIL CC-6. IN-LINE THRUST BLOCKS NOT SHOWN ON THIS DRAWING.
  3. ALL WATER SERVICE CONNECTIONS UTILIZING METALLIC SERVICE SADDLES SHALL HAVE ONE PREPACKAGED 12 POUND ZINC ANODE CONNECTED TO THE SERVICE SADDLE (SEE DETAIL CC-3), AND AN INSULATING CORPORATION INSTALLED TO ELECTRICALLY ISOLATE THE COPPER SERVICE FROM THE SERVICE SADDLE (SEE DETAIL CC-9). ALL WATER SERVICES MAY NOT BE SHOWN ON THIS DRAWING.
  5. DO NOT THERMITE WELD TO PVC PIPE.

**CORROSION CONTROL LAYOUT**

50 0 50 100

GRAPHIC SCALE  
SCALE: 1" = 50'

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE REPRODUCED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/5/10 DATE  
DIRECTOR OF PUBLIC WORKS

*[Signature]* 9/29/10 DATE  
CHIEF, BUREAU OF ENGINEERING

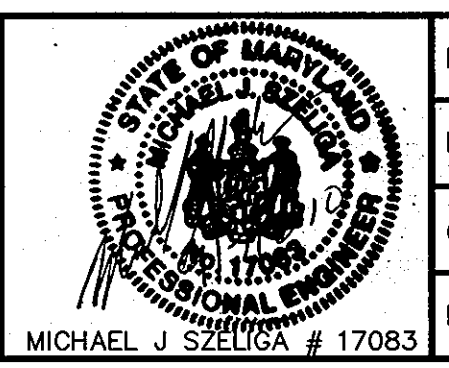
*[Signature]* 9/29/10 DATE  
CHIEF, BUREAU OF UTILITIES

*[Signature]* 9/29/10 DATE  
CHIEF, UTILITY DESIGN DIVISION

Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.  
8018 Centre Park Drive  
Columbia, MD 21046  
T 410.997.8900  
F 410.997.9282

**RHRA**

RUSSELL CORROSION CONSULTANTS, INC.  
Columbia, Maryland



DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	9/7/10				
BY	NO.	REVISION	DATE		

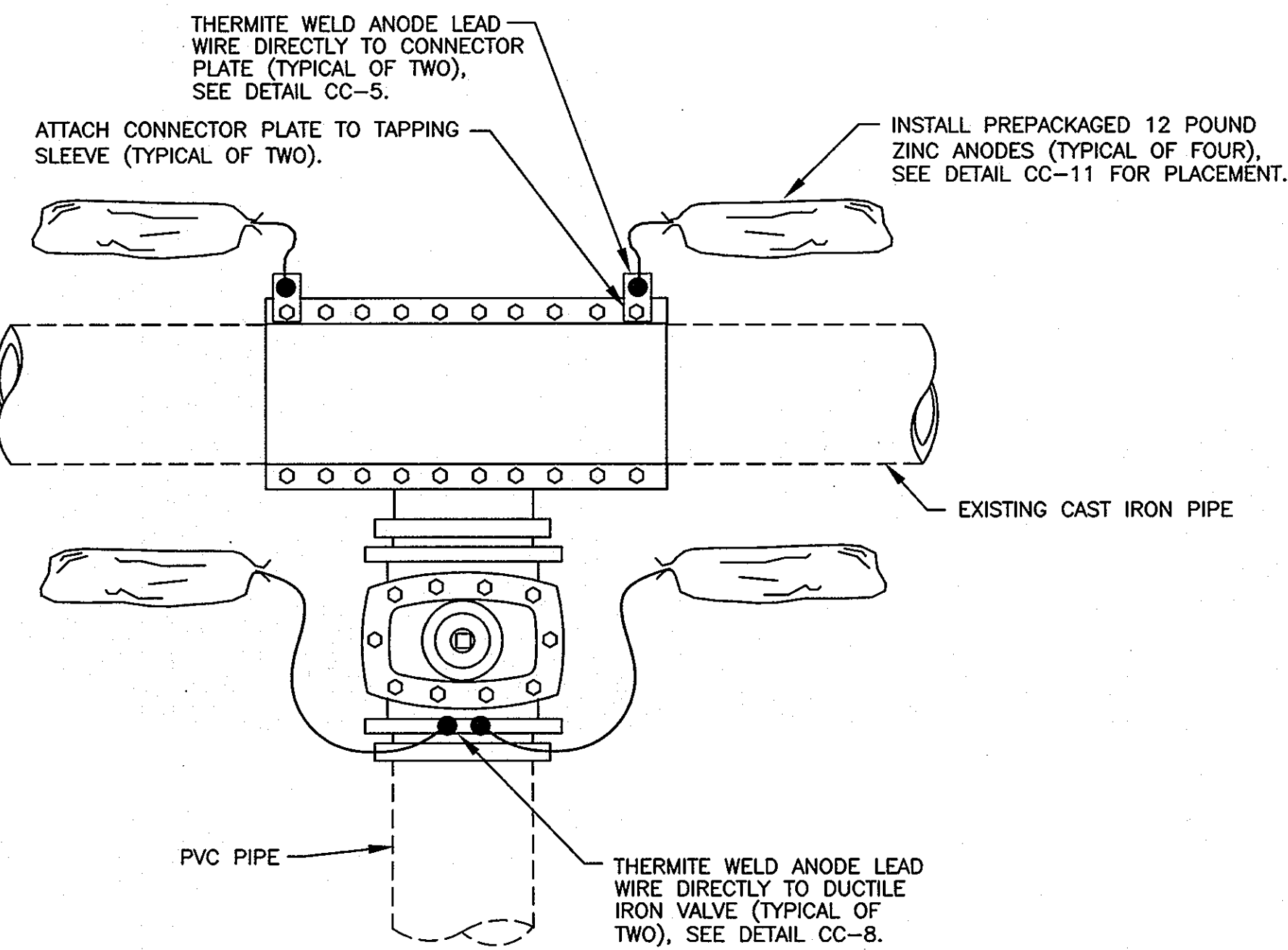
**CORROSION CONTROL LAYOUT**

600' SCALE MAP NO. 47 BLOCK NO. 22

NORTH LAUREL COMMUNITY CENTER  
TAX MAP 47, PARCELS 762 & 1065 ZONED R-5C  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4669-D  
CAPITAL PROJECT C-0304

SCALE AS SHOWN  
SHEET 4 OF 7



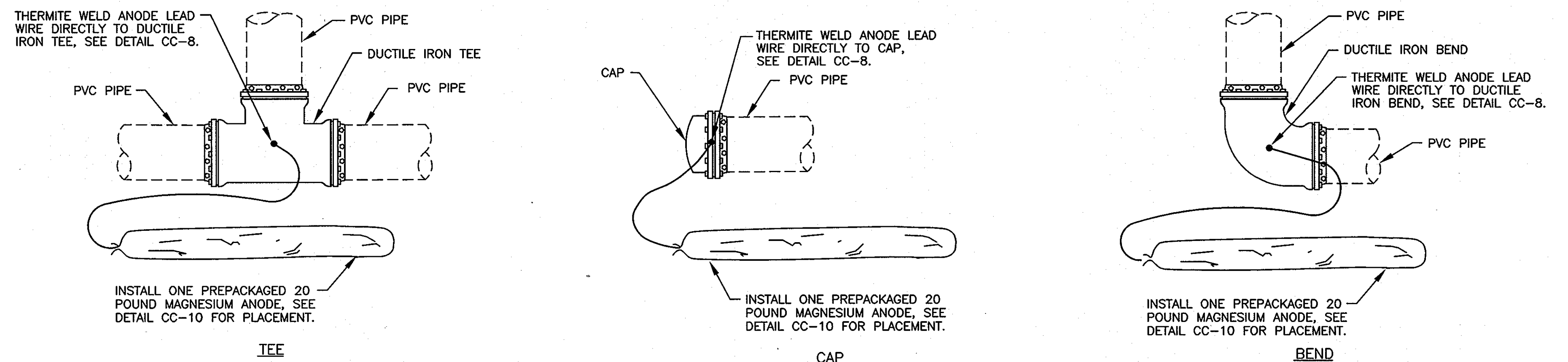


**NOTES:**

1. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-11.
2. DO NOT THERMITE WELD TO PVC PIPE.

**CC-1: CORROSION PROTECTION OF TAPPING SLEEVE AND VALVE**

SCALE: NONE

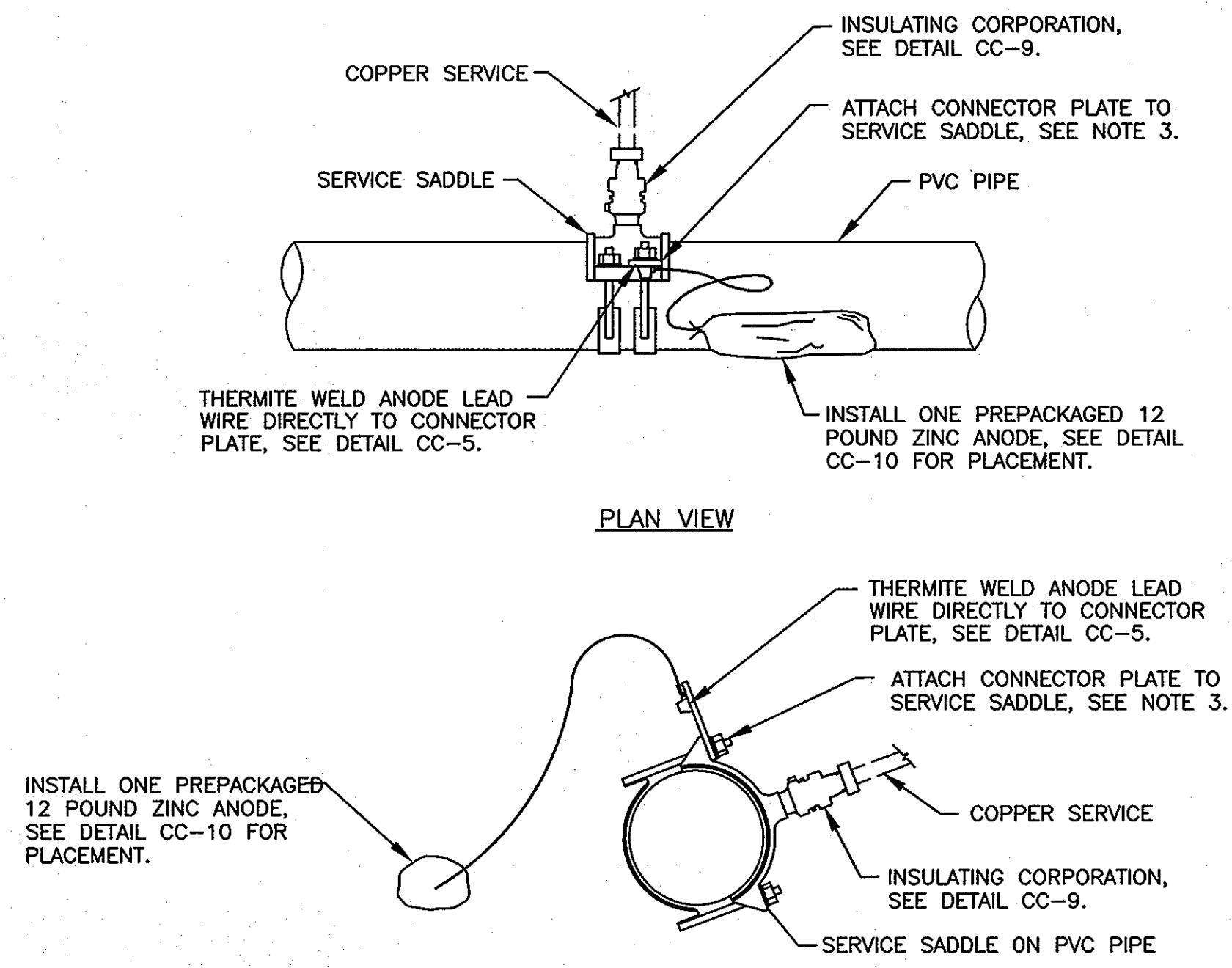


**NOTES:**

1. ANODES REQUIRED ONLY IF TEE, CROSS, CAP, OR BEND IS DUCTILE IRON.
2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-10.
3. DO NOT THERMITE WELD TO PVC PIPE.

**CC-2: CORROSION PROTECTION FOR DUCTILE IRON PIPE AND FITTINGS**

NOT TO SCALE

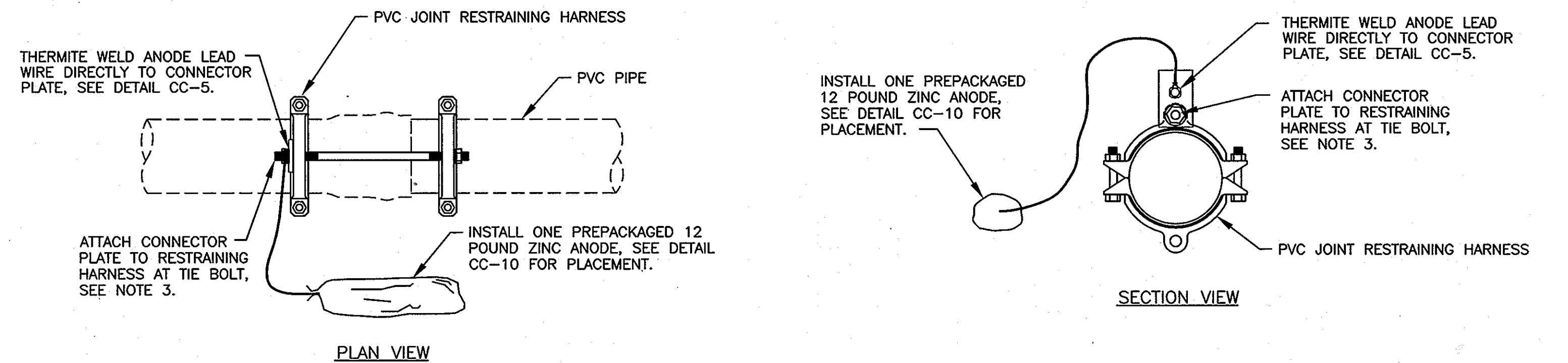


**NOTES:**

1. CONNECTOR PLATE TO BE THERMITE WELDED TO ANODE LEAD WIRE PRIOR TO ATTACHING CONNECTOR PLATE TO SERVICE SADDLE.
2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-10.
3. REMOVE COATING FROM SERVICE SADDLE WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
4. PLASTIC SERVICE PIPING DOES NOT REQUIRE AN INSULATING CORPORATION, A NON-INSULATING CORPORATION MAY BE USED.
5. DO NOT THERMITE WELD TO PVC PIPE.

**CC-3: CORROSION PROTECTION OF SERVICE SADDLE**

NOT TO SCALE



**NOTES:**

1. ANODE LEAD WIRE TO BE THERMITE WELDED TO CONNECTOR PLATE PRIOR TO ATTACHING CONNECTOR PLATE TO RESTRAINING HARNESS.
2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-10.
3. REMOVE COATING FROM RESTRAINING HARNESS WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
4. DO NOT THERMITE WELD TO PVC PIPE.

**CC-4: CORROSION PROTECTION OF RESTRAINING HARNESS**

NOT TO SCALE

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PROFESSIONAL CERTIFICATION: 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. 17083, EXPIRATION DATE: 9/27/2010

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan 9 2010* 10/15/10 *Robert Jensen* 9/29/10  
DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE

*Shelton C. Green* 9/16/10 *Clayton L. Lewis* 9/29/10  
CHIEF, BUREAU OF UTILITIES DATE CHIEF, UTILITY DESIGN DIVISION DATE M.G.

Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.

**PHRA**  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

**RUSSELL CORROSION CONSULTANTS, INC.**  
Columbia, Maryland

MICHAEL J. SZELIGA # 17083

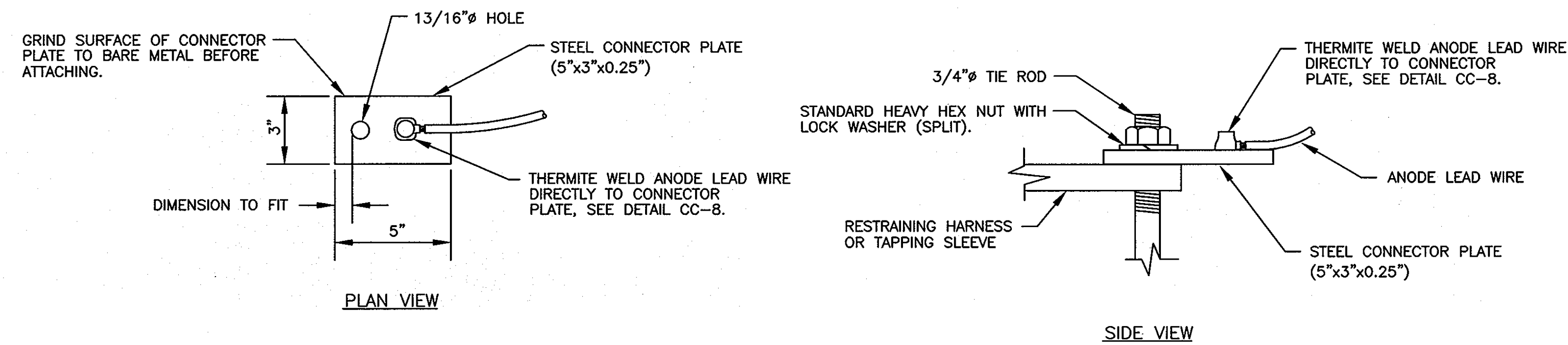
DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	9/7/10				
BY	NO.	REVISION	DATE		

**CORROSION CONTROL DETAILS - 1**

600' SCALE MAP NO. 47 BLOCK NO. 22

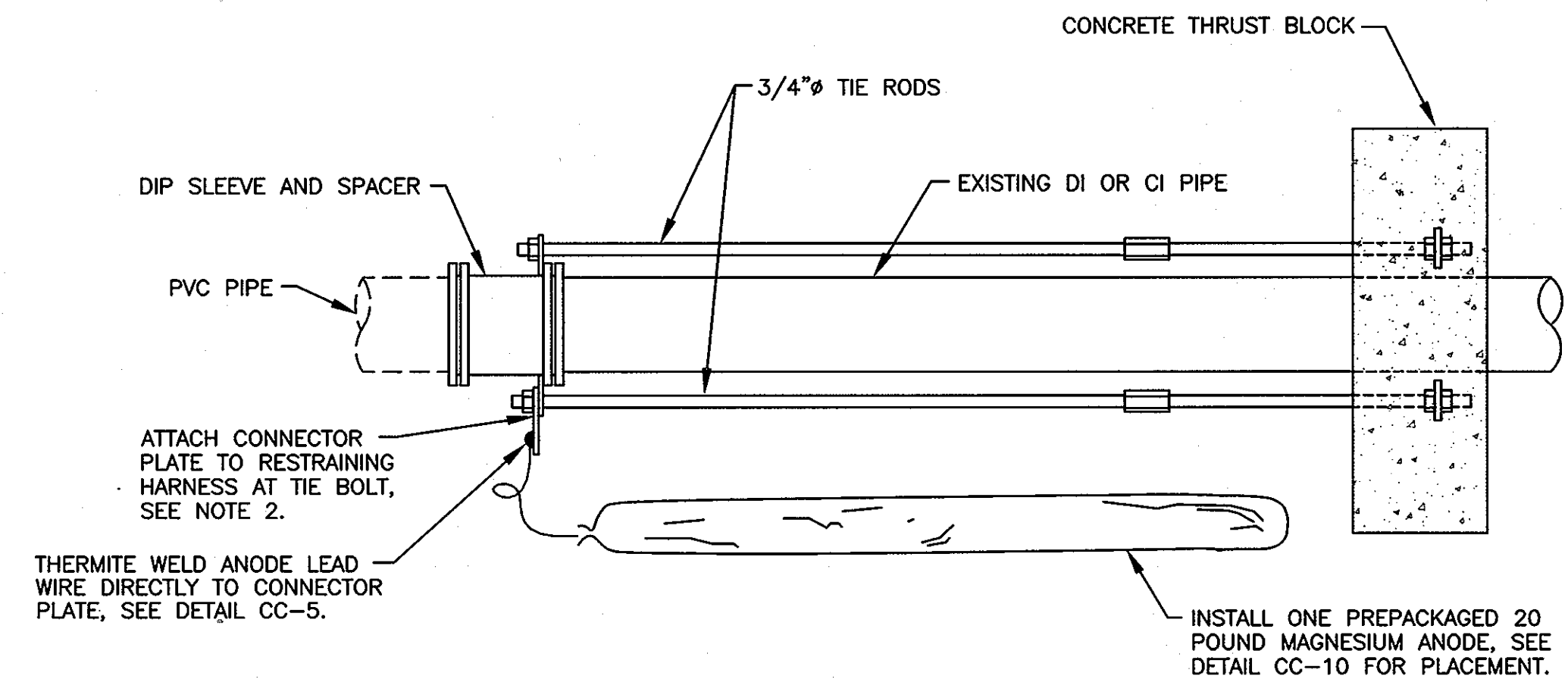
**NORTH LAUREL COMMUNITY CENTER**  
TAX MAP 47, PARCELS 762 & 1065 ZONED R-SC  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4669-D  
CAPITAL PROJECT C-0304

SCALE AS SHOWN  
SHEET 5 OF 7



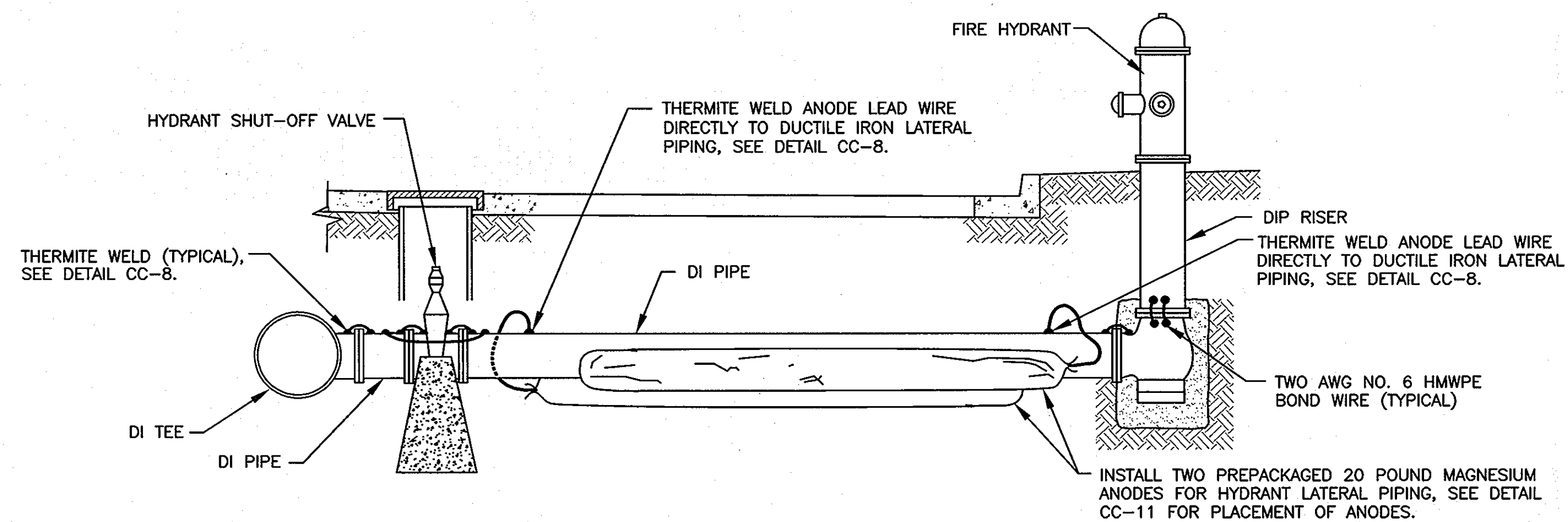
- NOTES:**
1. ANODE LEAD WIRE TO BE THERMITE WELDED TO CONNECTOR PLATE PRIOR TO ATTACHING CONNECTOR PLATE TO RESTRAINING HARNESS OR TAPPING SLEEVE.
  2. THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.

**CC-5: CONNECTOR PLATE DETAIL**  
NOT TO SCALE



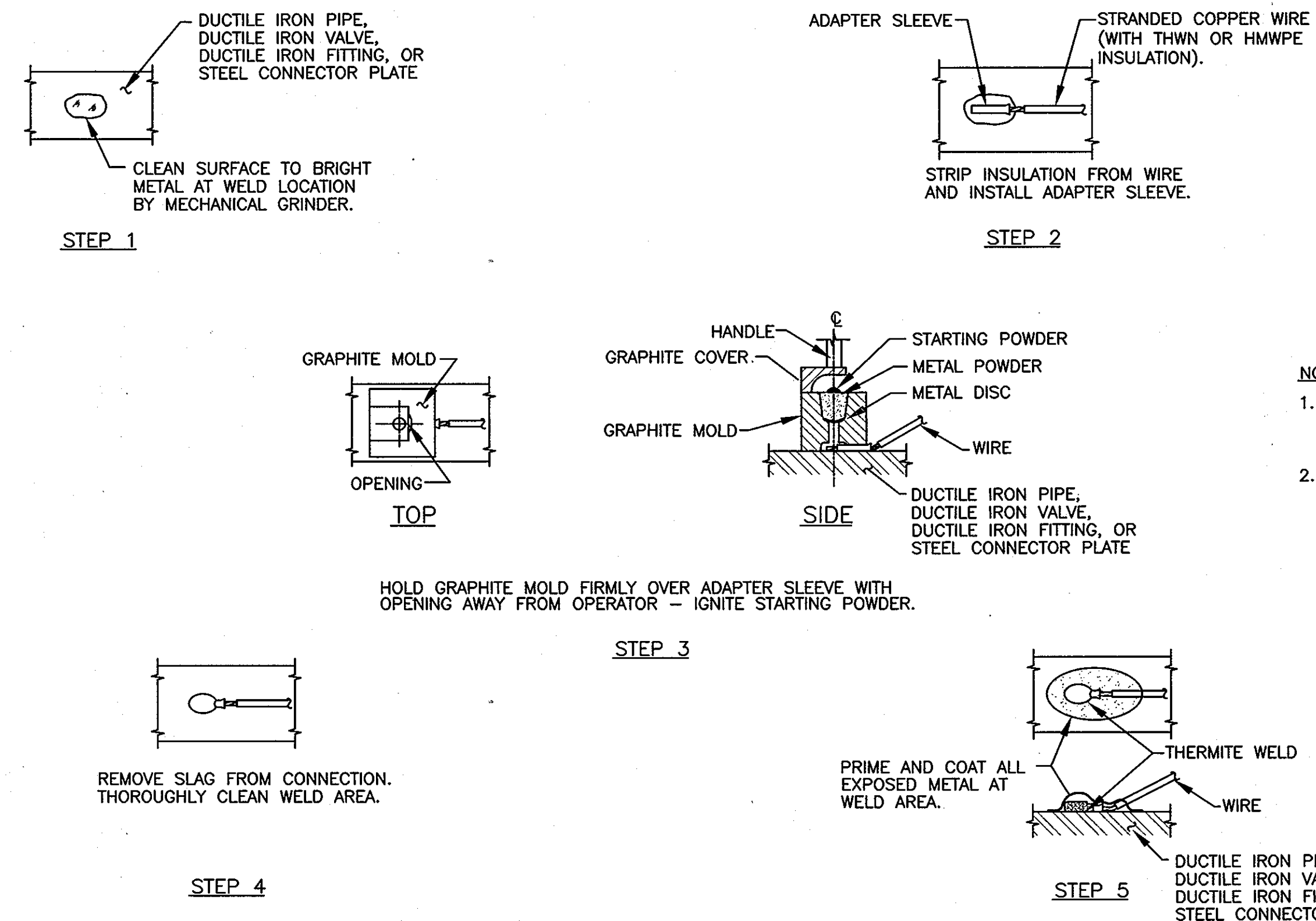
- NOTES:**
1. ANODE PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-10.
  2. REMOVE COATING FROM RESTRAINING HARNESS WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
  3. DO NOT THERMITE WELD TO PVC PIPE.

**CC-6: CORROSION PROTECTION AT IN-LINE THRUST BLOCK**  
NOT TO SCALE



- NOTES:**
1. BOND ALL DUCTILE IRON COMPONENTS TOGETHER WITH AWG NO. 6 HMWPE CABLES. INSTALL A MINIMUM OF TWO BOND CABLES ACROSS EACH DUCTILE IRON PIPE JOINT.
  2. INSTALL BOND WIRES ON TOP OF DUCTILE IRON PIPE OR DUCTILE IRON FITTING WHERE POSSIBLE.
  3. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12 INCHES FROM EDGE OF PIPE, SEE DETAIL CC-11.
  4. INSTALL BOND CABLES ON HYDRANT RISER PIPE AND RISER BEND BEFORE INSTALLING HYDRANT.
  5. DO NOT THERMITE WELD TO PVC PIPE.

**CC-7: CORROSION PROTECTION AT FIRE HYDRANT**  
SCALE: NONE



- NOTES:**
1. THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.
  2. DO NOT THERMITE WELD TO PVC PIPE.

**CC-8: HORIZONTAL THERMITE WELD**  
SCALE: NONE

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PROFESSIONAL CERTIFICATION: 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. 17083, EXPIRATION DATE: 9/27/2010

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jay K. [Signature]* 10/5/10  
DIRECTOR OF PUBLIC WORKS DATE

*Paul D. [Signature]* 9/29/10  
CHIEF, BUREAU OF ENGINEERING DATE

*John C. [Signature]* 9/29/10  
CHIEF, BUREAU OF UTILITIES DATE

*Col. Dan [Signature]* 9/29/10  
CHIEF, UTILITY DESIGN DIVISION DATE

Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.

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T 410.997.8900  
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**RUSSELL CORROSION CONSULTANTS, INC.**  
Columbia, Maryland

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
MICHAEL J. SZELIGA # 17083

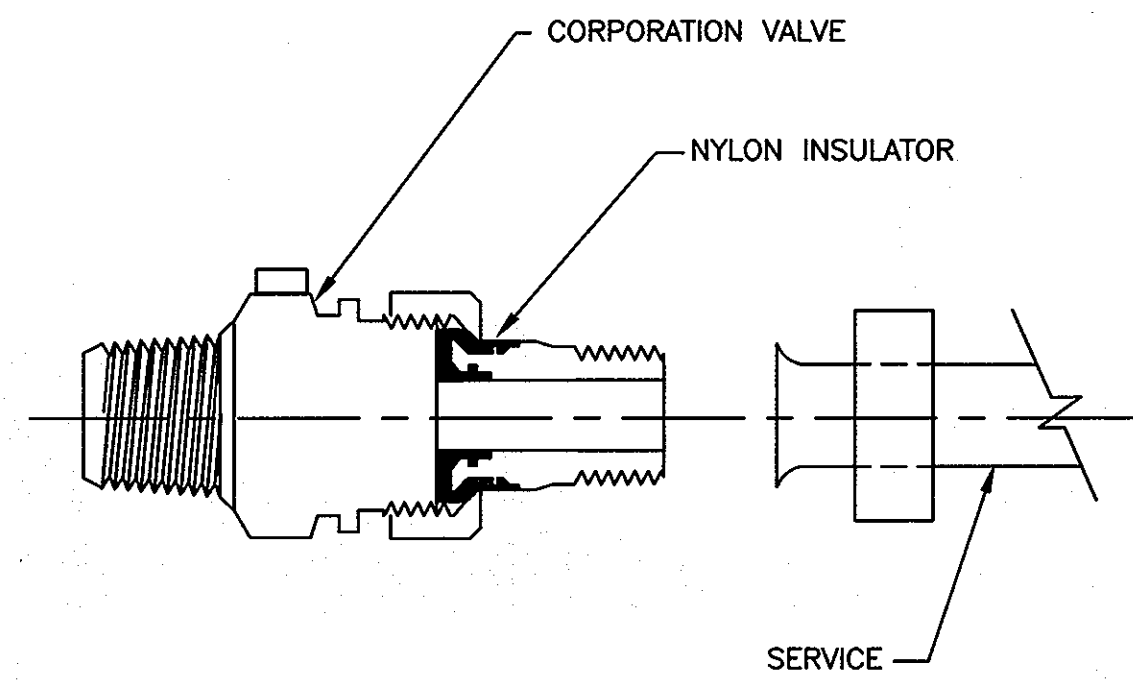
DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	9/7/10				
BY	NO.	REVISION	DATE		

CORROSION CONTROL DETAILS - 2

600' SCALE MAP NO. 47 BLOCK NO. 22

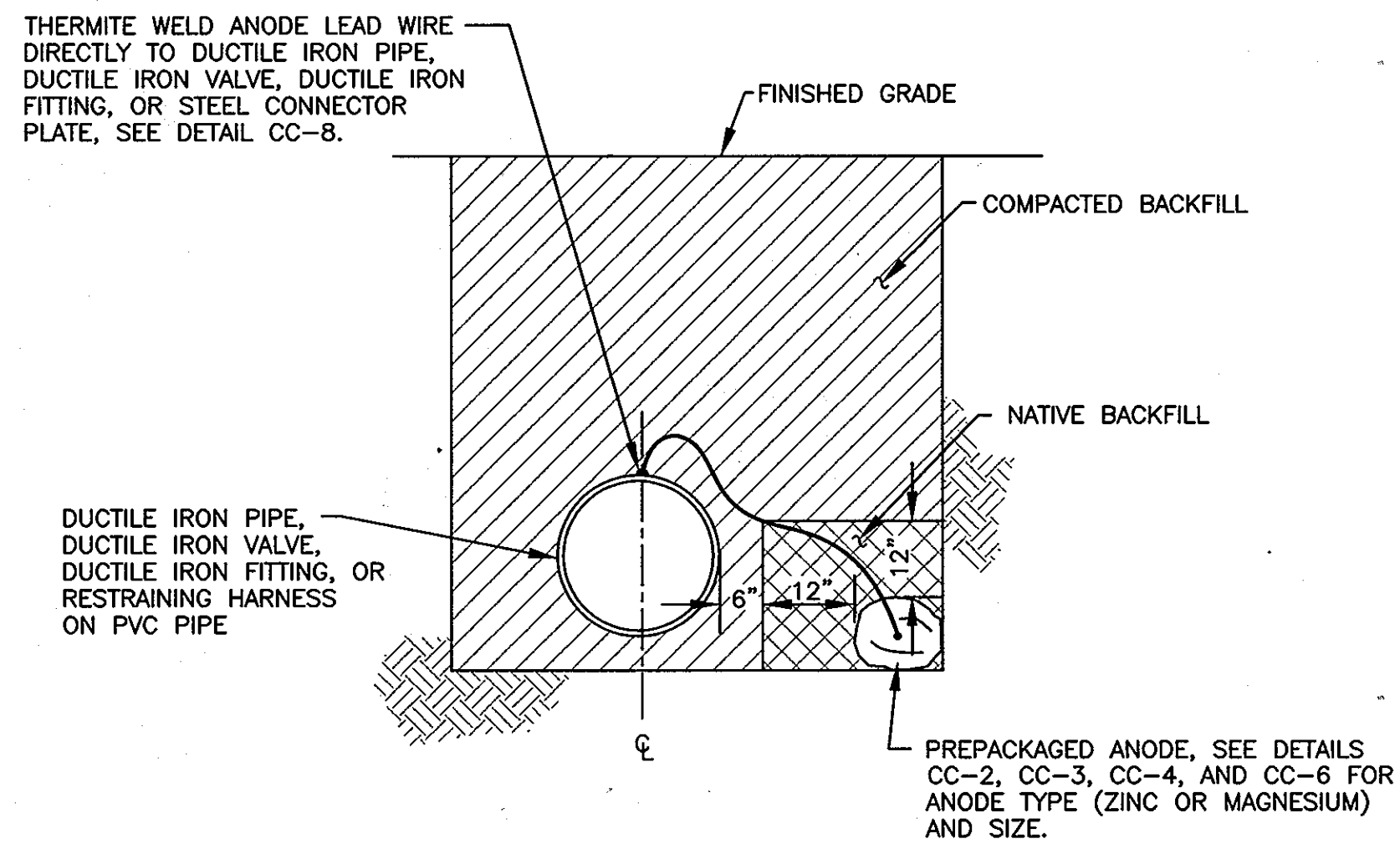
NORTH LAUREL COMMUNITY CENTER  
TAX MAP 47, PARCELS 762 & 1065 ZONED R-SC  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4669-D  
CAPITAL PROJECT C-0304

SCALE AS SHOWN  
SHEET 6 OF 7



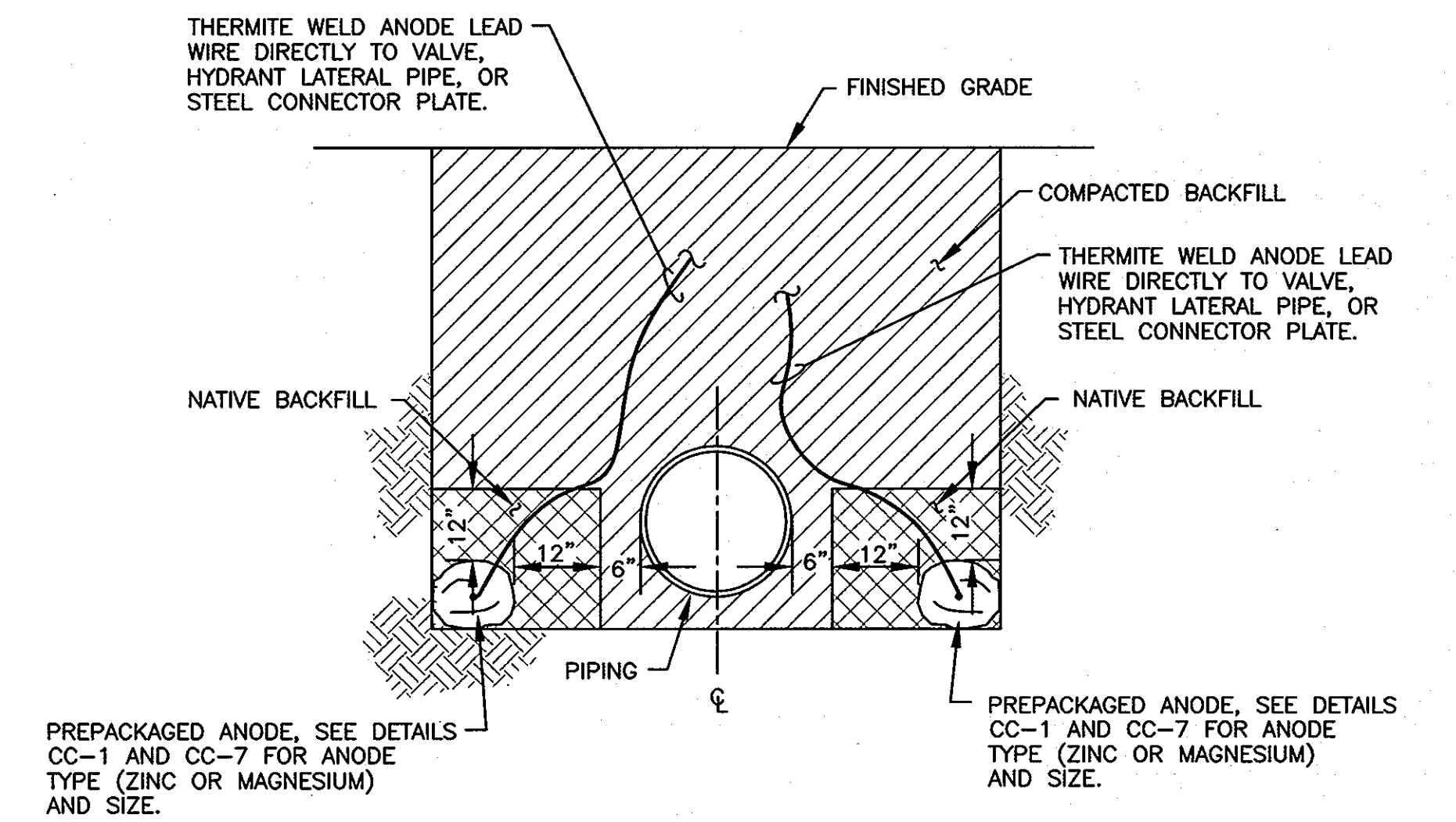
- NOTES:**
1. INSTALL ELECTRICAL ISOLATION ON ALL WATER SERVICE AND DRAIN LINE CONNECTIONS TO MAIN.
  2. COAT EXTERIOR OF CORPORATION STOP, AND SERVICE PIPING FOR A DISTANCE OF 12 INCHES WITH MASTIC COATING (ROYSTON ROSKOTE R28). MASTIC COATING TO BE MINIMUM OF 20 MILS IN THICKNESS.
  3. INSULATED CORPORATION NOT REQUIRED FOR PLASTIC SERVICES.

**CC-9: INSULATING CORPORATION**  
NOT TO SCALE



- NOTES:**
1. INSTALL ANODE IN NATIVE SOIL. DO NOT BACKFILL ANODE WITH SAND OR STONE.
  2. DO NOT THERMITE WELD TO PVC PIPE.

**CC-10: SINGLE ANODE PLACEMENT**  
NOT TO SCALE



- NOTES:**
1. WHEN INSTALLING ANODES AT HYDRANTS, ATTACH BOTH ANODE LEADS TO HYDRANT LATERAL PIPE. SEE DETAIL CC-7.
  2. INSTALL ANODES A MINIMUM OF 12 INCHES FROM PIPE.
  3. BACKFILL ANODES WITH NATIVE SOIL FOR A MINIMUM OF 12 INCHES ON ALL SIDES. DO NOT BACKFILL ANODES WITH SAND OR STONE.
  4. DO NOT THERMITE WELD TO PVC PIPE.

**CC-11: DOUBLE ANODE PLACEMENT**  
NOT TO SCALE

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James B. ...* 10/16/10 *Paul D. ...* 7/27/10  
DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE

*Steve ...* 9/14/10 *...* 9/29/10  
CHIEF, BUREAU OF UTILITIES DATE CHIEF, UTILITY DESIGN DIVISION DATE

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STATE OF MARYLAND  
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PROFESSIONAL ENGINEER  
LICENSE NO. 17083

DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	9/7/10				
BY	NO.	REVISION	DATE		

CORROSION CONTROL DETAILS - 3

600' SCALE MAP NO. 47 BLOCK NO. 22

NORTH LAUREL COMMUNITY CENTER  
TAX MAP 47, PARCELS 762 & 1065 ZONED R-5C  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4669-D  
CAPITAL PROJECT C-0304

SCALE AS SHOWN  
SHEET 7 OF 7