CONTRACT I - CLOVERDALE ELEMENTARY SCHOOL WATER LINE
CONTRACT II - ORCHARD HILL DRIVE WATER LINE
BOTETOURT COUNTY, VIRGINIA

PROJECT NAME: Cloverdale Elem. water line
DATE: May 1995
TYPE: water
LOCATION: Rt. 654 & 605
TOTAL # SHEETS: 7
A/E FIRM: Mattern & Craig
OF SETS: 1

VICINITY MAP FOR
BOTETOURT COUNTY, VIRGINIA

SHEET LIST

Mattern & Craig
CONSULTING ENGINEERS – SURVEYORS
ROANOKE, VIRGINIA

COMMONWEALTH OF VIRGINIA
STEWART W. HUBBELL
No. 07420
PROFESSIONAL ENGINEER
5/27/95

SET NO. 2

1408:1

AB	ANCHOR BOLT
ABAN	ABANDON OR ABANDONED
ABUT	ABUTEMENT
ABV	ABOVE
ACT	ACOUSTICAL
ADD	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
ALUM	ALUMINUM
ALT	ALTERNATE
ANC	ANCHOR
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
AWWA	AMERICAN WATER WORKS ASSOCIATION
AVG	AVERAGE
BIT	BITUMINOUS
BJ	BELL JOINT
BL	BASE LINE
BEG	BEGIN OR BEGINNING
BLDG	BUILDING
BLKG	BLOCKING
BM	BENCH MARK, BEAM
BOTT	BOTTOM
BP	BYPASS
BRG	BEARING
BSMT	BASEMENT
BV	BUTTERFLY VALVE
C	CHANNEL, COLD
C/C, C TO C	CENTER TO CENTER
CAB	CABINET
CAP	CAPACITY
CF	CUBIC FEET
CG	CHANGE OF GRADE
C & G	CURB AND GUTTER
CI	CAST IRON
CIRC	CIRCULAR
CKT	CIRCUIT
CL	CENTER LINE
CLR	CLEAR
CONST	CONSTRUCTION
COR	CORNER
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNITS
CND	CONDUIT
CO	CLEAN OUT
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECT, CONNECTION
CONT	CONTINUOUS, CONTROL
CONTR	CONTRACTOR
CONV	CONVEYOR
CP	COORDINATE POINT
CR STONE	CRUSHED STONE
CTR	CENTER
CULV	CULVERT
CY	CUBIC YARD
D	DEPTH OR DEGREE OF CURVE
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DMH	DROP MANHOLE
DN	DOWN
DR	DRIVE
DS	DOWN SPOUT
DTL	DETAIL
DW,D/W	DRIVEWAY
DWL	DWELLING
DWG	DRAWING
E	EAST
EA	EACH
E.B.L.	EASTBOUND LANE
EF	EACH FACE
EJ	EXPANSION JOINT
EL, ELEV	ELEVATION
ELEC	ELECTRICAL
ENGR	ENGINEER
ENTR	ENTRANCE
EOL	END OF LINE
EP	EDGE OF PAVEMENT
EQ	EQUAL
EQPT	EQUIPMENT
EW	EACH WAY, ENDWALL
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FR	FRAME
FD	FLOOR DRAIN
FDN	FOUNDATION
FES	FLARED END SECTION
FF	FINISH FLOOR
FFE	FINISHED FLOOR ELEVATION

FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH
FIXT	FIXTURE
FL	FLOOR
FLEX	FLEXIBLE
FLG	FLANGE
FT	FOOT
FTG	FOOTING
FUT	FUTURE
GAL	GALLON
GALV	GALVINIZED
GAR	GARAGE
GND	GROUND
GR	GRAVEL
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTE
GRTG	GRATING
GV	GAS VALVE
GW	GRAY WATER
H	HOT
HB	HOSE BIBB
HK	HOOK
HM	HOLLOW METAL
HORZ, HORIZ	HORIZONTAL
HP	HORSE POWER
HPT	HIGH POINT
HYD	HYDRANT
ID	INSIDE DIAMETER
IN	INCH
INSUL	INSULATION
INV	INVERT
IP	IRON PIN
JT	JOINT
JB	JUNCTION BOX
L	LENGTH, LONG
LF	LINEAL FOOT
LG	LONG
LP	LIGHT POLE
LR	LONG RADIUS
LT	LEFT
LTG	LIGHTING
MACH	MACHINERY
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MAILBOX
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE, MOUNTING HEIGHT
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MO	MASONRY OPENING
MON	MONUMENT
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MV	MUD VALVE
N & C	NAIL AND CAP
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTERS
OD	OUTSIDE DIAMETER
OPER	OPERATOR
OPNG	OPENING
OPP	OPPOSITE
PB	PAPER BOX
PC	POINT OF CURVE
PCC	POINT OF COMPOUND
PER	PERIMETER
PERF	PERFORATED
PERP	PERPENDICULAR
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL	PLATE, PROPERTY LINE
PLYWD	PLYWOOD
POL	POINT ON LINE
PP	POWER POLE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	PRIVATE
R	RADIUS, RISER
RAS	RETURN ACTIVATED SLUDGE
RR	RAIL ROAD
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN, ROAD
RDCR	REDUCER

RECPT	RECEPTACLE
RECT	RECTANGULAR
REINF	REINFORCE, REINFORCEMENT
REF	REFERANCE
REL	RELOCATED
REQD	REQUIRED
REV	REVISION
RTE	ROUTE
RT	RIGHT
R/W	RIGHT OF WAY
S	SANITARY SEWER, SOUTH, SWITCH
SAN	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SER	SERVICE
SH	SHEET
SHTG	SHEETING
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
STY	STORY
SUR	SURVEY
SURF	SURFACE
S/W	SIDEWALK
SYMM	SYMMETRICAL
T	TREAD, TOP
T & B	TOP AND BOTTOM
TDC	TURNED DOWN CURB
TELE	TELEPHONE
TEMP	TEMPORARY
THK	THICK
TP	TELEPHONE POLE
TRTD	TREATED
TS	TOP OF SLAB
TV	TELEVISION
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
U.S.C.&G.S.	UNITED STATES COAST AND GEODETIC SURVEY
USGS	UNITED STATES GEOLOGICAL SURVEY
V, VAL	VALVE
VAP BAR	VAPOR BARRIER
VC	VERTICAL CURVE
VERT	VERTICAL
VOL	VOLUME
VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
V.S.D.	VERTICAL SIGHT DISTANCE
W.B.L.	WEST BOUND LANE
W	WIDE FLANGE, WIDE
W/	WITH
WD	WOOD
WL	WATER LINE
W/O	WITHOUT
WS	WATER SURFACE
WT	WATERTIGHT, WEIGHT
WVDH	WEST VIRGINIA DEPARTMENT OF HIGHWAYS
WWF	WELDED WIRE FABRIC

EROSION AND SEDIMENT CONTROL SYMBOLS

EC1	EROSION CONTROL STONE
STB	STRAW BALE BARRIER
IP	STORM DRAIN INLET PROTECTION
DV	DIVERSION
ST	TEMPORARY SEDIMENT TRAP
CE	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
RR	RIPRAP
SF	SILT FENCE

EXISTING	NEW	DESCRIPTION
		BUILDING WITH PORCH OR STOOP
		FOUNDATION ONLY
35	35	CONTOUR, CONTOUR WITH ELEVATION
20.0 OR +1025.00	20.0 OR X1025	SPOT ELEVATION
		CONCRETE CURB
		CONCRETE CURB & GUTTER
		CONCRETE WALK OR SLAB
		PAVEMENT
		UNPAVED OR GRAVEL ROAD
		TREE LINE
	OR	TREE OR SHRUB
		FENCE
		CENTERLINE CREEK , SWALE OR DITCH
PL	PL	PROPERTY LINE
B A	B A	BASELINE
		LIMIT OF WORK LINE
△	△	FIELD SURVEY TRAVERSE POINT
○	○	P.C. OR P.T.
⊕	⊕	GEOLOGIC BORE HOLE
SD	SD	STORM DRAIN AND ENDWALL
S	S	SANITARY SEWER
FM	FM	FORCE MAIN
G	G	GAS MAIN OR SERVICE LINE
W	W	WATER MAIN OR SERVICE LINE
E	E	ELECTRICAL LINE
UE	UE	UNDERGROUND ELECTRICAL LINE
		PIPE FITTINGS
OR	OR	FIRE HYDRANT
CO	CO	GATE VALVE
		CLEANOUT
		MANHOLE
		DROP INLET (CURB AND GRATING TYPES)
GMo o WM	GM WM	G.M. – GAS METER, W.M. – WATER SERVICE CONN.
T	T	TELEPHONE LINE
UT	UT	UNDERGROUND TELEPHONE LINE
		TELEPHONE POLE, GUY AND ANCHOR
		POWER POLE, GUY AND ANCHOR
		LIGHT POLE
T	T	TELEPHONE PEDESTAL
		BURIED TELEPHONE VAULT
		ABANDON OR REMOVE
		PAVED DITCH
		DRIVEWAY CULVERT
OR	OR	CULVERT WITH FLARED END SECTION
⊗ WV		WATER VALVE
O H&T		HUB AND TACK
✳ CP #101	✳ CP #101	COORDINATE POINT

MATERIALS SYMBOLS

- METAL
- BRICK
- CONCRETE MASONRY
- CONCRETE
- GROUT OR FINISHED CONCRETE
- INSULATION (RIGID)
- WOOD BLOCKING
- FINISHED WOOD OR PLYWOOD
- GRAVEL OR STONE
- EARTH

C3.1 — SHEET WHERE SECTION IS DRAWN
C4 — DETAIL NUMBER
SHEET WHERE SECTION IS CUT

COMMONWEALTH OF VIRGINIA
STEWART W. HUBBELL
NO. 07420
PROFESSIONAL ENGINEER
5/27/95

REV	DATE	DESCRIPTION	BY	APP

DSGN DSG
DRAWN DSG
CHKD SWH

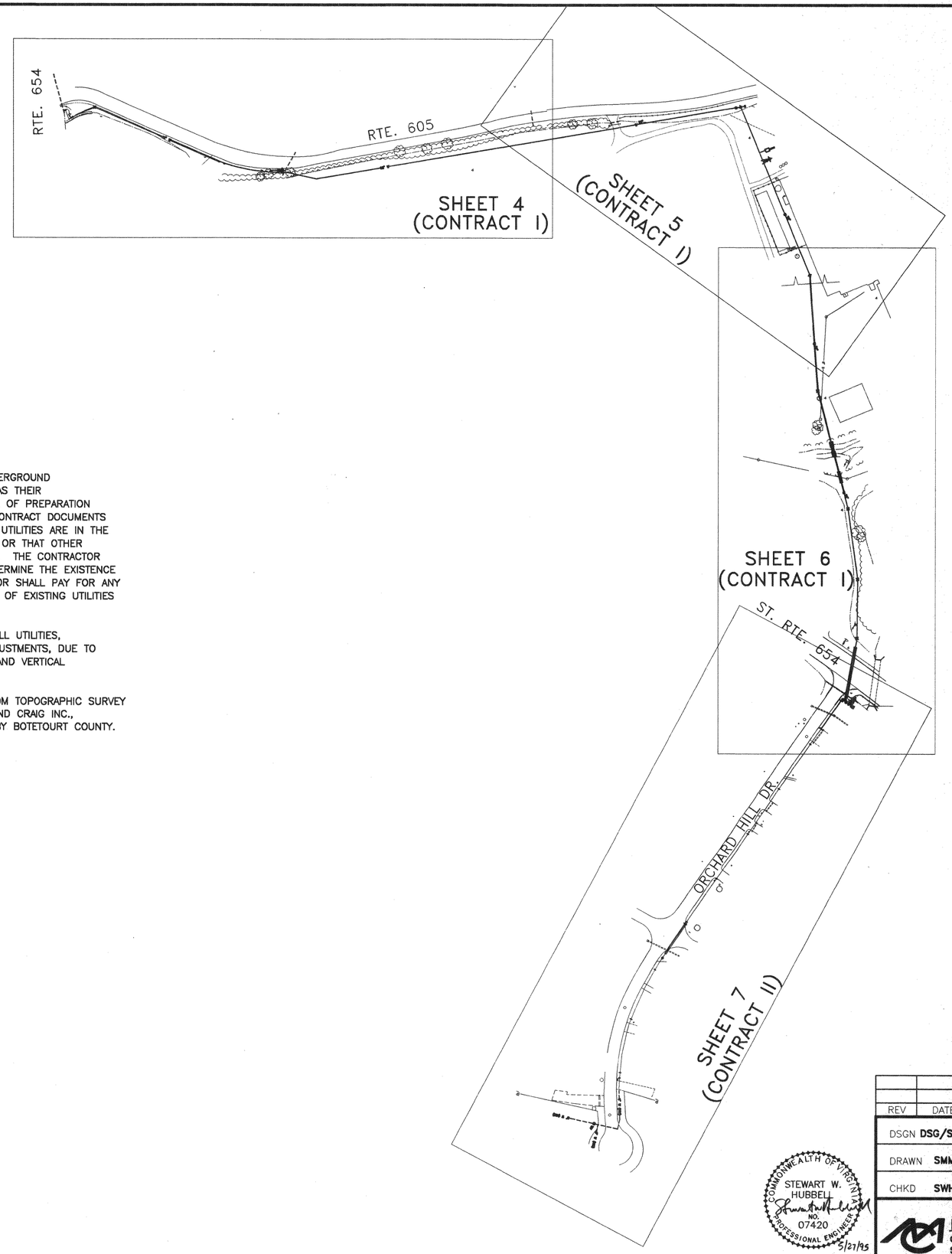
CONTRACT I – CLOVERDALE ELEMENTARY SCHOOL WATER LINE
CONTRACT II – ORCHARD HILL DRIVE WATER LINE

ABBREVIATIONS AND LEGEND

BOTETOURT COUNTY, VIRGINIA

Mattern & Craig
CONSULTING ENGINEERS
SURVEYORS

SCALE: 1"=10' VERT. NONE
COMM. NO. 1408
DATE: APRIL, 1995
SHEET 2
DRAWING # 2



GENERAL NOTES:

1. THE LOCATION OF EXISTING UTILITIES, INCLUDING UNDERGROUND UTILITIES, IS INDICATED ON THE DRAWINGS INSOFAR AS THEIR EXISTENCE AND LOCATION WERE KNOWN AT THE TIME OF PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE AND LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL PAY FOR ANY DAMAGE TO AND FOR MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.

2. THE CONTRACTOR IS DIRECTED TO DIG AND LOCATE ALL UTILITIES, IN ADVANCE OF THE PIPELAYING, TO ALLOW FOR ADJUSTMENTS, DUE TO CONFLICTS WITH THE UTILITIES, IN THE HORIZONTAL AND VERTICAL LOCATION OF THE PIPE LINE.

3. SURVEY INFORMATION FOR CONTRACT II OBTAINED FROM TOPOGRAPHIC SURVEY COMPLETED IN THE SPRING OF 1995 BY MATTERN AND CRAIG INC., ROANOKE, VA.. CONTRACT I SURVEY WAS PROVIDED BY BOTETOURT COUNTY.

4. BENCHMARKS ARE AS NOTED ON DRAWINGS.

REV	DATE	DESCRIPTION	BY	APP

DSGN DSG/SMM
DRAWN SMM
CHKD SWH

CONTRACT I–CLOVERDALE ELEMENTARY SCHOOL WATER LINE
CONTRACT II – ORCHARD HILL DRIVE WATER LINE

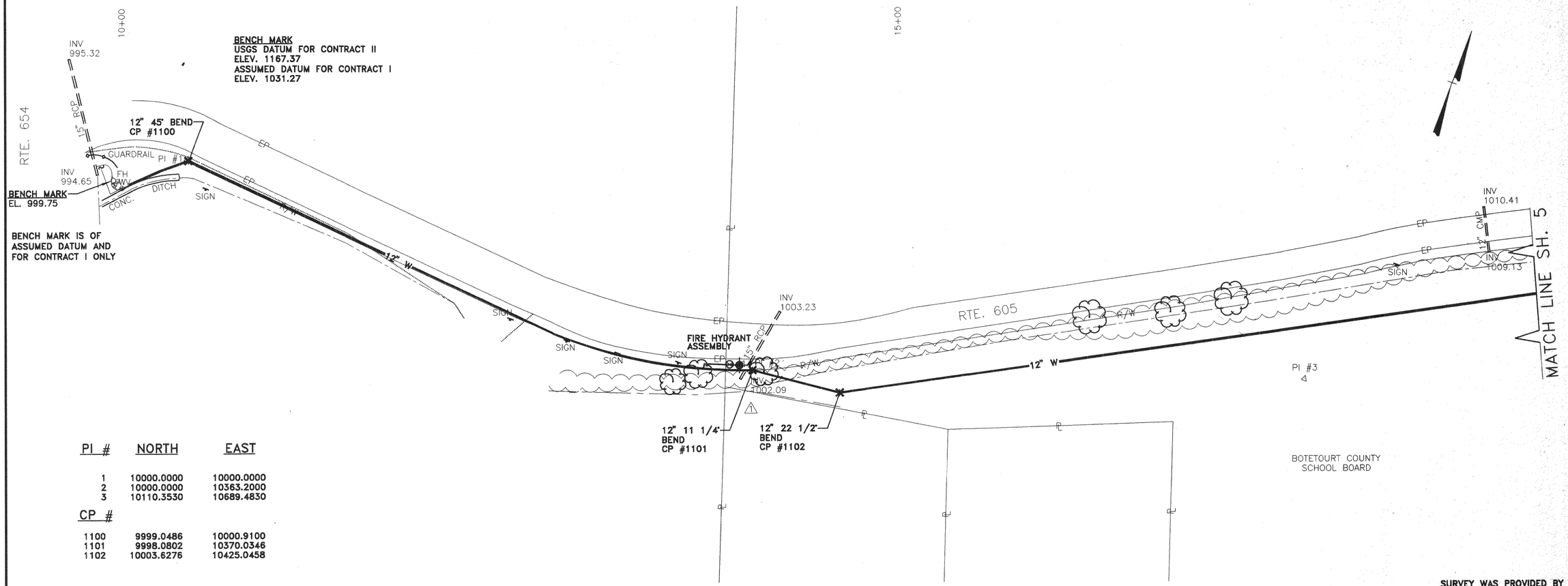
SHEET INDEX & GENERAL NOTES

BOTETOURT COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
STEWART W. HUBBELL
NO. 07420
PROFESSIONAL ENGINEER
5/27/95

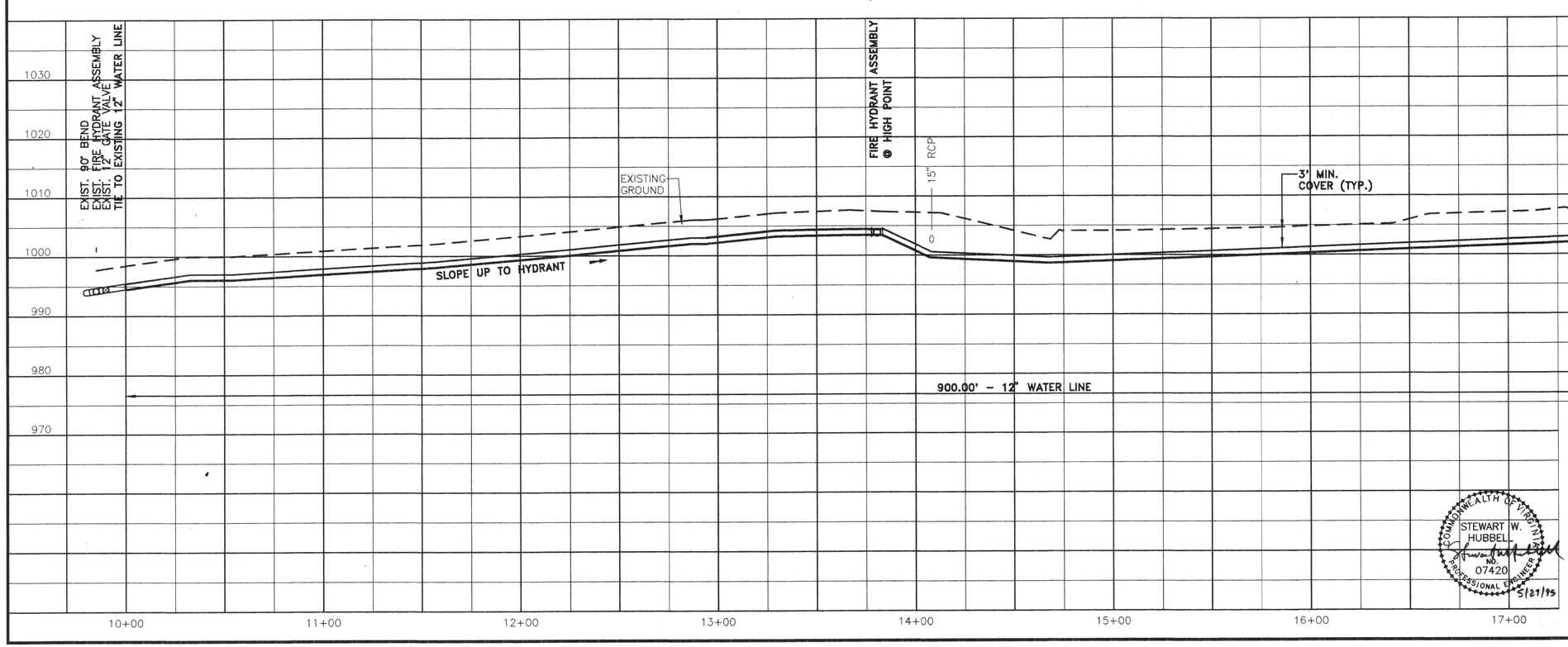
Mattern & Craig
CONSULTING ENGINEERS
SURVEYORS

SCALE: NONE
COMM. NO. 1408
DATE: APRIL, 1995
SHEET 3
DRAWING # 1408-3



PI #	NORTH	EAST
1	10000.0000	10000.0000
2	10000.0000	10363.2000
3	10110.3530	10689.4830
CP #		
1100	9999.0486	10000.9100
1101	9998.0802	10370.0346
1102	10003.6276	10425.0458

SURVEY WAS PROVIDED BY BOTETOURT COUNTY



REV	DATE	DESCRIPTION	BY	APP
1	5-26-95	REVISED LOCATION OF WATERLINE	DSG	SWH

DSGN SMM
DRAWN SMM
CHKD SWH

CONTRACT I – CLOVERDALE ELEMENTARY SCHOOL WATERLINE

PLAN & PROFILE

BOTETOURT COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
STEWART W. HUBBELL
NO. 07420
PROFESSIONAL ENGINEER
5/27/95

Mattern & Craig
CONSULTING ENGINEERS
SURVEYORS

SCALE: H 1" = 30'
V 1" = 10'

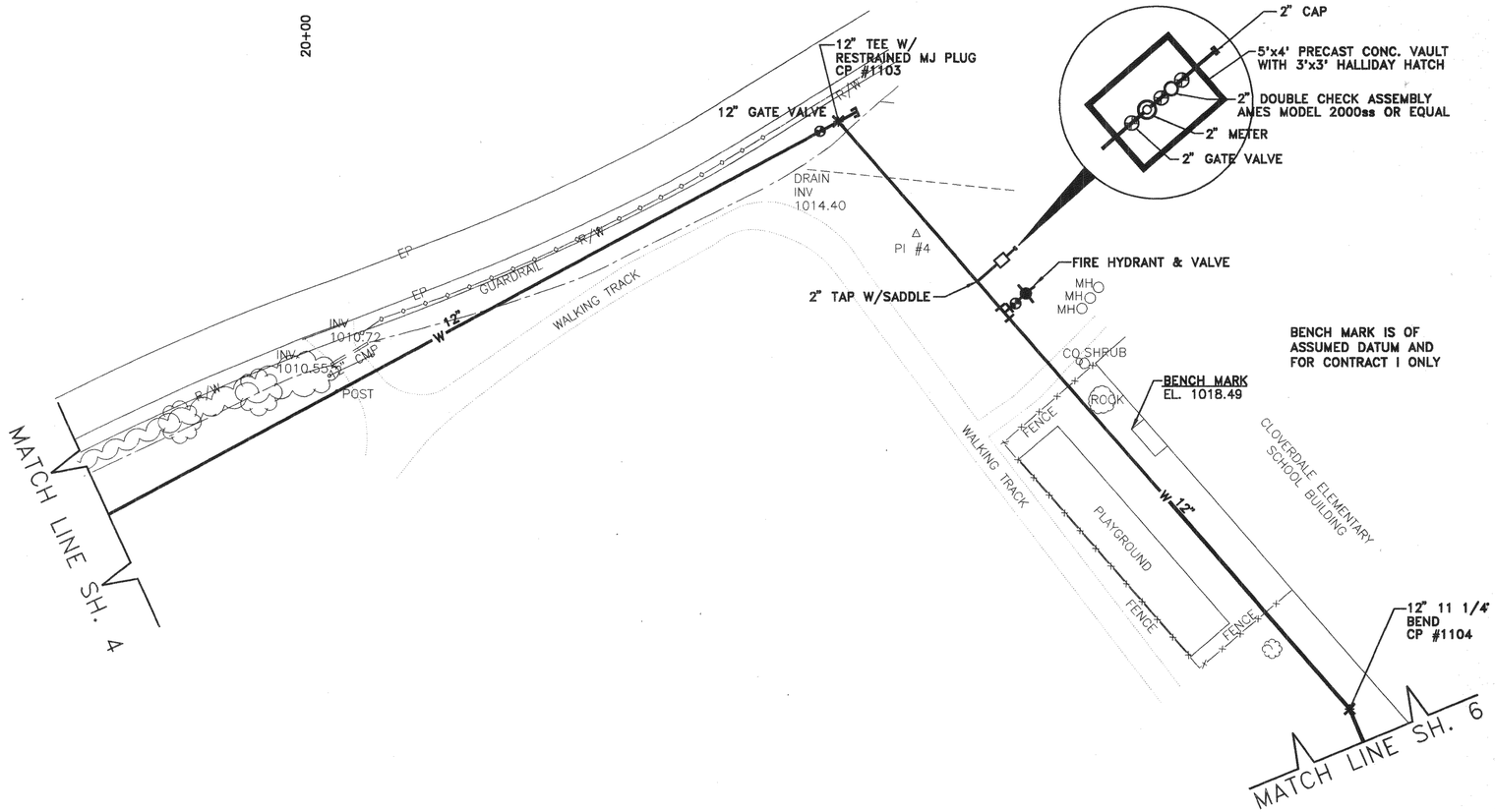
COMM. NO. 1408A

DATE: APRIL, 1995

SHEET 4

DRAWING # ACAD:1408-412

PI #	NORTH	EAST
4	10327.5140	11149.1200
CP #		
1103	10379.2591	11123.8888
1104	10124.7925	11333.1904



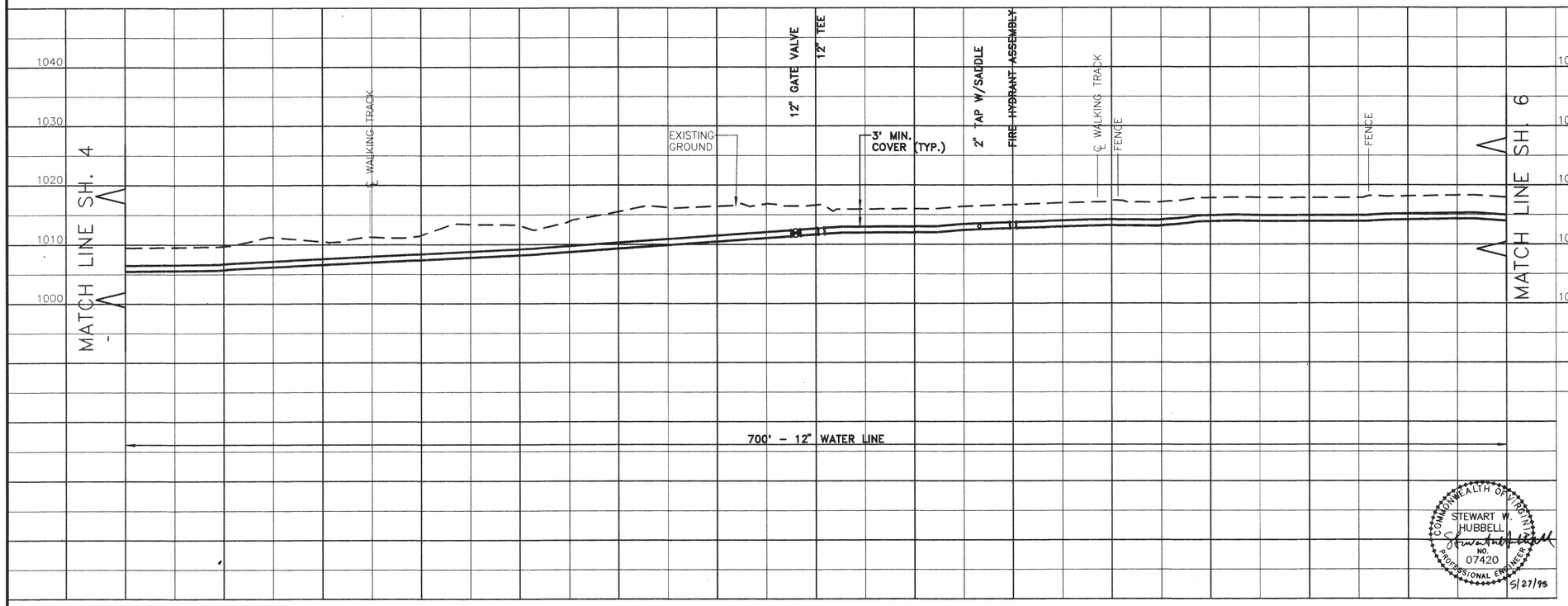
BENCH MARK IS OF ASSUMED DATUM AND FOR CONTRACT I ONLY

BENCH MARK
USGS DATUM FOR CONTRACT II
ELEV. 1167.37
ASSUMED DATUM FOR CONTRACT I
ELEV. 1031.27

NOTE:

CONTRACTOR SHALL COORDINATE WORK ON SCHOOL SITE WITH THE SCHOOL PRINCIPAL. CONTRACTOR SHALL BACKFILL TRENCHES AT NIGHT ON SCHOOL PROPERTY. (STA. 19+50 TO STA. 29+00)

SURVEY WAS PROVIDED BY BOTETOURT COUNTY



COMMONWEALTH OF VIRGINIA
STEWART W. HUBBELL
NO. 07420
PROFESSIONAL ENGINEER
5/27/95

REV	DATE	DESCRIPTION	BY	APP
1	5-9-95	AS PER VDH COMMENTS	DSG	SWH

DSGN	SMM
DRAWN	SMM
CHKD	SWH

CONTRACT I – CLOVERDALE ELEMENTARY SCHOOL WATERLINE

PLAN & PROFILE

BOTETOURT COUNTY, VIRGINIA

Mattern & Craig
CONSULTING ENGINEERS
SURVEYORS

SCALE: H 1"=30' V 1"=10'

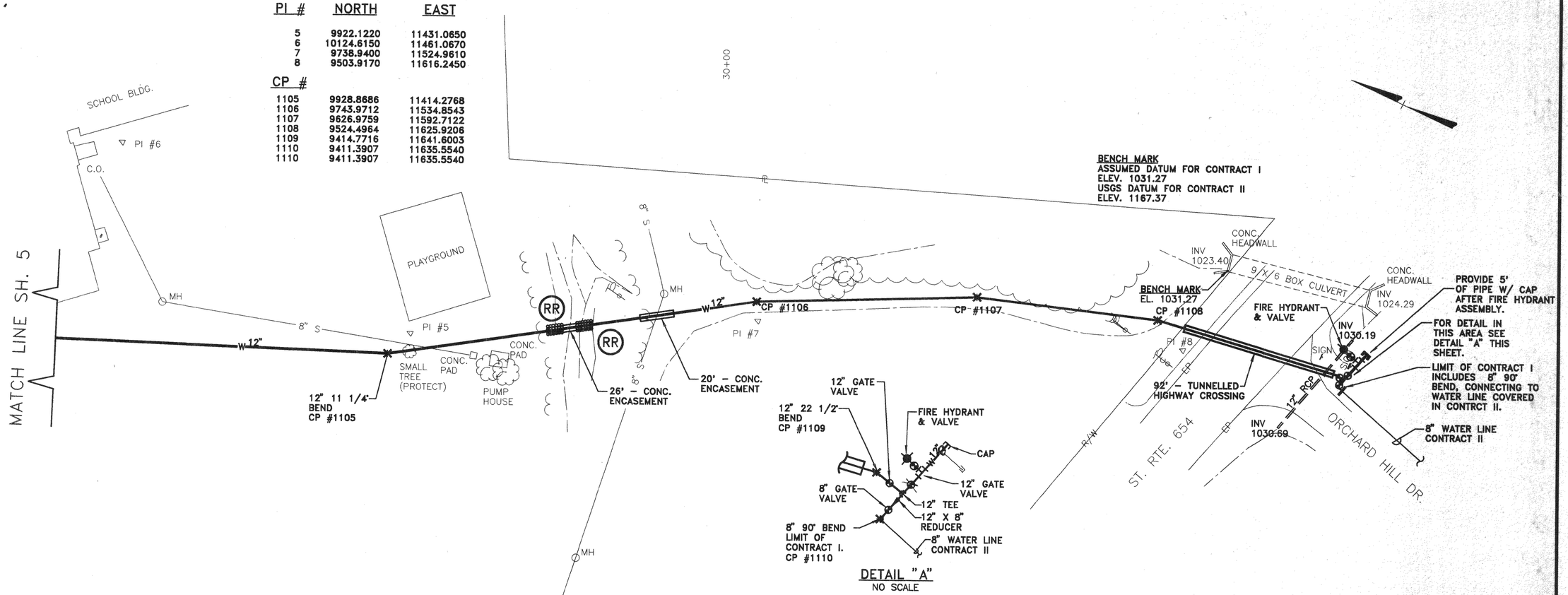
COMM. NO. 1408A

DATE: APRIL, 1995

SHEET 5

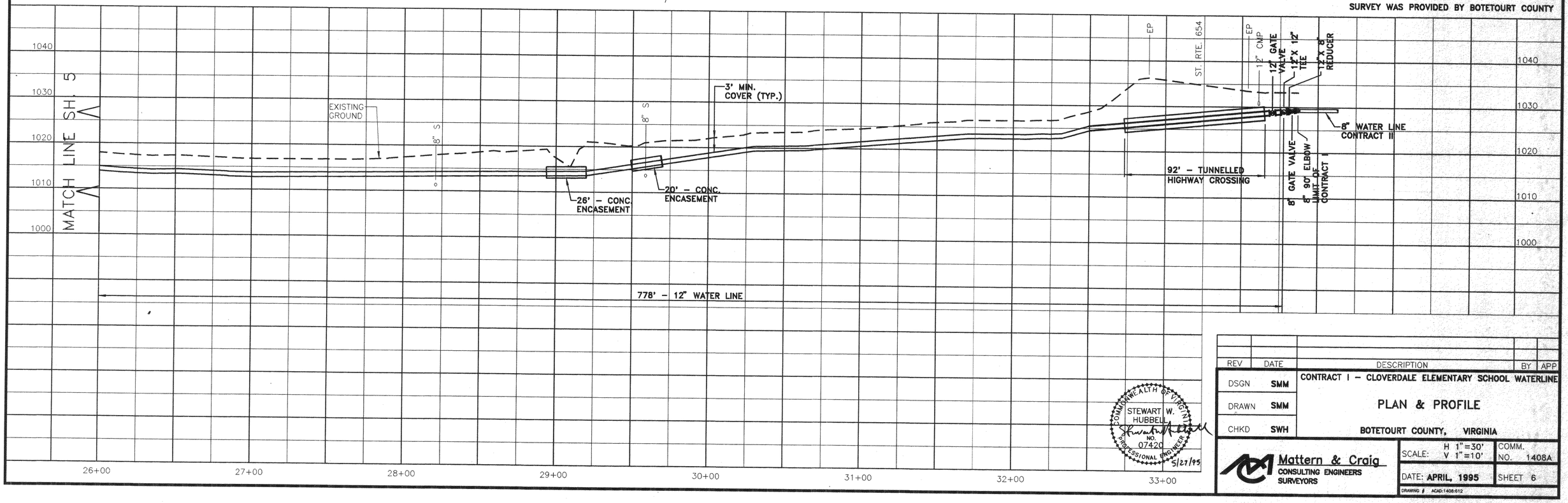
DRAWING # ACAD:1408:512

PI #	NORTH	EAST
5	9922.1220	11431.0650
6	10124.6150	11461.0670
7	9738.9400	11524.9610
8	9503.9170	11616.2450
CP #		
1105	9928.8686	11414.2768
1106	9743.9712	11534.8543
1107	9626.9759	11592.7122
1108	9524.4964	11625.9206
1109	9414.7716	11641.6003
1110	9411.3907	11635.5540
1110	9411.3907	11635.5540



DETAIL "A"
NO SCALE

SURVEY WAS PROVIDED BY BOTETOURT COUNTY



COMMONWEALTH OF VIRGINIA
STEWART W. HUBBELL
NO. 07420
PROFESSIONAL ENGINEER
5/27/95

REV	DATE	DESCRIPTION	BY	APP

DSGN	SMM
DRAWN	SMM
CHKD	SWH

CONTRACT I – CLOVERDALE ELEMENTARY SCHOOL WATERLINE

PLAN & PROFILE

BOTETOURT COUNTY, VIRGINIA

Mattern & Craig
CONSULTING ENGINEERS
SURVEYORS

SCALE: H 1"=30' V 1"=10'

COMM. NO. 1408A

DATE: APRIL, 1995

SHEET 6

DRAWING # ACAD:1408:612

A 8041-804
6 #

BENCH MARK
USGS DATUM FOR CONTRACT II
ELEV. 1167.37
ASSUMED DATUM FOR CONTRACT I
ELEV. 1031.27

CP #1001
8" 90° BEND (NIC)
END OF CONTRACT I
BEGINNING OF CONTRACT II
CONTRACTOR SHALL COORDINATE
WITH CONSTRUCTION OF CONTRACT I

ALL EXIST. UTILITIES SHOWN ON THIS SHEET ARE APPROXIMATE LOCATIONS CONTRACTOR MUST FIELD VERIFY LOCATIONS

LOCATE 8" WATER LINE 5' OFF EDGE OF PVMT.(TYP.)

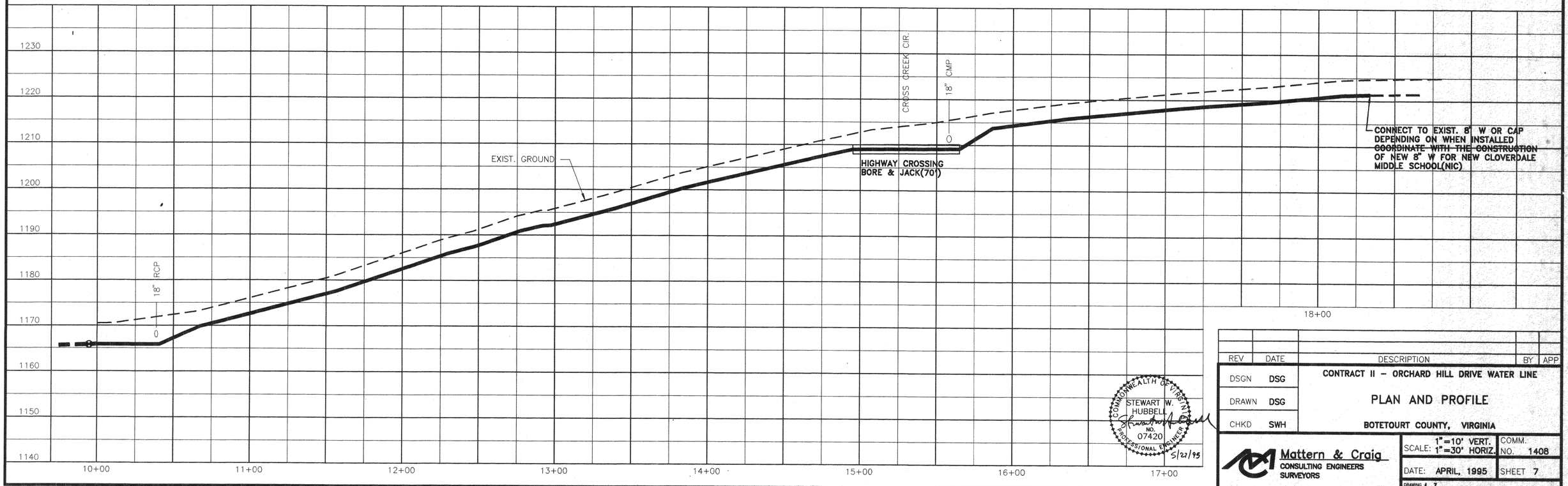
CONNECT TO EXIST. 8" W OR CAP DEPENDING ON WHEN INSTALLED COORDINATE WITH THE CONSTRUCTION OF NEW 8" W FOR NEW CLOVERDALE MIDDLE SCHOOL(NIC)

BENCH MARK
TOP OF NORTH
HEAD WALL
ELEV. 1168.37

9' x 6' BOX CULVERT
GUARD RAIL
INV. 1167.30
FH(NIC)
SIGN
SIGN
PI #4
HIGHWAY CROSSING TUNNELLED (NIC)
15" RCP
INV. 1167.84
ROUTE 654
18" RCP
DI
INV. 1167.32
INV. 1171.10
SMH
DI
INV. 1167.71
WMH
WM
IP
118" CMP
INV. 1173.87
GRAVEL DRIVE
TELE. & ELECT. PED.
WM
IP
IP
INV. 1187.56
15" CMP
INV. 1189.19
MB MB
IP
CO
15" CMP
INV. 1191.76
INV. 1193.65
MB
PAVED DRIVE
PAVED DRIVE
CABLE
E & T
WM
PAVED DRIVE
TREE
CO
MB
IP
IP
PI #3
TREE
SIGN
HIGHWAY CROSSING
BORE & JACK(70')
INV. 1210.21
TELE. PED.
PI #2
8" GATE VALVE
18" CMP
DI
INV. 1211.43
PI #5
FH
CROSS CREEK CIR.
SIDEWALK
G
E
GRAVEL DRIVE
WM
SMH
ORCHARD HILL DRIVE
WV MH
GRAVEL DRIVE
GRAVEL DRIVE
PI #6
SMH
8" W (NIC)
WV
8" W (NIC)
PI #1

PI #	NORTH	EAST
1	4940.0623	5516.2540
2	5173.6150	5588.6436
3	5269.4690	5653.1539
4	5646.2324	5914.8435
5	5260.5788	5611.4277
6	4888.1836	5502.3143

CP #		
1001	5655.1200	5921.1928



COMMONWEALTH OF VIRGINIA
STEWART W. HUBBELL
NO. 07420
PROFESSIONAL ENGINEER
5/22/95

REV	DATE	DESCRIPTION	BY	APP

DSGN DSG
DRAWN DSG
CHKD SWH

CONTRACT II – ORCHARD HILL DRIVE WATER LINE

PLAN AND PROFILE

BOTETOURT COUNTY, VIRGINIA

Mattern & Craig
CONSULTING ENGINEERS
SURVEYORS

SCALE: 1"=10' VERT. 1"=30' HORIZ.
COMM. NO. 1408
DATE: APRIL, 1995
SHEET 7
DRAWING # 7