



DEPARTMENT OF VETERANS AFFAIRS QUANTICO NATIONAL CEMETERY

PROJECT #: 872CM3035

18424 JOPLIN ROAD (ROUTE 619), TRIANGLE, VIRGINIA



BUILDING SIZE

UNDER ROOF - 7,254 SQ. FT.
GROSS AREA - 4,228 SQ. FT.

FLOOD HAZARDS

THIS SITE CONTAINS NO SPECIAL FLOOD HAZARDS AS PER FEMA PANEL # 51153C0311D. THIS PANEL HAS NOT BEEN PRINTED, OR DATED, BY FEMA FOR THIS REASON.

CIVIL ABBREVIATIONS

BTM	BOTTOM	IAW	IN ACCORDANCE WITH	SS	SANITARY SEWER SERVICE
BM	BENCHMARK	IE	INVERT ELEVATION	STA	STATION
BW	BOTH WAYS	JB	JUNCTION BOX	TBM	TEMPORARY BENCH MARK
CB	CATCH BASIN	LF	LINEAR FEET	TC	TOP OF CURB
CI	CAST IRON	LP	LIGHT POLE	TG	TOP OF GUTTER
CL	CENTERLINE	MAX	MAXIMUM	TP	TOP OF PAVEMENT
CY	CUBIC YARDS	MH	MANHOLE	TYP	TYPICAL
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VC	VITRIFIED CLAY
CO	CLEANOUT	NTS	NOT TO SCALE	W	WATER
CONC	CONCRETE	OC	ON CENTER	W/	WITH
DCVA	DOUBLE CHECK VALVE ASSEMBLY	PC	POINT OF CURVATURE	WS	WATER SERVICE
DI	DROP INLET	PP	POWER POLE	WV	WATER VALVE
DIA	DIAMETER	PT	POINT OF TANGENT		
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE		
DS	DOWNSPOUT	PVMT	PAVEMENT		
EL	ELEVATION	RAD	RADIUS		
EXST	EXISTING	RCP	REINFORCED CONCRETE PIPE		
EW	EACH WAY	RD	ROOF DRAIN		
FFE	FINISHED FLOOR ELEVATION	REQD	REQUIRED		
FG	FINISHED GRADE	RPPB	REDUCED PRESSURE BACKFLOW PREVENTER		
FI	FIRE HYDRANT	SABC	STABILIZED AGGREGATE BASE COURSE		
FIN	FINISHED	SF	SQUARE FEET		
FM	FORCE MAIN	R/W	RIGHT OF WAY		
GI	GRATE INLET	SB	SILT BARRIER		
HDPE	HIGH DENSITY POLYETHYLENE	SD	STORM DRAINAGE		

UTILITY PROVIDERS

WATER SERVICE:

PRINCE WILLIAM COUNTY SERVICE AUTHORITY
RAYMOND SPITTLE BUILDING
4 COUNTRY COMPLEX CT.
WOODBIDGE, VA 22195
703-335-7900
CustomerService@PWCSA.ORG
www.pwcsa.org

ELECTRIC SERVICE:

NORTHERN VIRGINIA ELECTRIC COOPERATIVE
10323 LOMOND DR.
MANASSAS, VA 20108
703-335-0500
www.novec.com

TELEPHONE SERVICE:

VERIZON
P.O. BOX 11328
ST. PETERSBURG, FL 33733
800-483-3000
www.verizon.com

GENERAL NOTES

DRAWINGS SHOW EXTENT, LOCATION, DIMENSIONS, RELATIONSHIPS AMONG VARIOUS PART, AND QUANTITY OF ITEMS. IN CASE OF CONFLICT THE SPECIFICATIONS SHALL GOVERN.

THE LARGER THE SCALE OF THE DRAWINGS, THE MORE PRECEDENCE: i.e. A 1 INCH PER FOOT SCALE DRAWING GOVERNS OVER A 10 FEET PER INCH DRAWING.

CONTRACTOR SHALL PROTECT ALL EXISTING TREES TO REMAIN FROM ALL DAMAGE.

CONTRACT INCLUDES ALL DEMOLITION REQUIRED TO COMPLETE JOB AND TO REMOVE AND TO DISPOSE OF ITEMS FROM SITE COMPLETELY IN ACCORDANCE WITH LOCAL LAWS. DO NOT BURN OR BURY ANY DEMOLITION ITEMS ON SITE. CONTRACTOR IS RESPONSIBLE FOR MAKING SITE VISIT TO DETERMINE AND VERIFY ALL DEMOLITION REQUIREMENTS PRIOR TO BIDDING.

THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS NOT TO DAMAGE EXISTING ADJACENT FACILITIES AND STRUCTURES THAT ARE TO REMAIN. THE CONTRACTOR SHALL RESTORE DISTURBED AREAS TO THEIR ORIGINAL CONDITION (UNLESS OTHERWISE INDICATED) TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND OWNER. ADJACENT STREETS SHALL BE MAINTAINED IN A CLEAN CONDITION, MUD AND DUST FREE. ADEQUATE MEANS AND FACILITIES SHALL BE PROVIDED BY THE CONTRACTOR TO CLEAN TRUCKS AND OTHER EQUIPMENT LEAVING THE SITE.

THE EXISTING ADJACENT ROADS ARE TO REMAIN IN OPERATION WHILE CONSTRUCTION WORK IS BEING DONE. ALL UTILITY WORK SHALL BE COORDINATED WITH THE OWNER AND LOCAL UTILITY COMPANIES AND SHALL BE PERFORMED IN AN EXPEDITIOUS MANNER.

UTILITIES SHOWN ON DRAWINGS ARE BASED ON PUBLISHED DATA AND ARE FOR CONTRACTOR'S CONVENIENCE ONLY. THE CONTRACTOR MUST LOCATE AND VERIFY ALL SUCH INFORMATION, INCLUDING INFORMATION NOT SHOWN ON PLANS, BY CONTACTING THE INDIVIDUAL UTILITY COMPANY AND INVESTIGATING THE SITE TO DETERMINE THE EXACT LOCATION OF RESPECTIVE UTILITY LINES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS OWN EXPENSE, AND TO THE SATISFACTION OF THE PROJECT OWNER & THE UTILITY OWNER, DAMAGE TO ANY UTILITY CAUSED BY HIS WORK. HE SHALL IMMEDIATELY NOTIFY THE OWNER AND THE UTILITY OWNER OF ANY DAMAGE TO ANY UTILITY BY REASON OF HIS OPERATION.

BEFORE BEGINNING ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT Miss Utility of Virginia 1-800-257-7777 (MD & VA) AT LEAST 3 WORKING DAYS PRIOR TO STARTING WORK SO THAT THEY CAN ARRANGE TO MARK THE HORIZONTAL LOCATION OF UNDERGROUND FACILITIES. UTILIZE INDEPENDANT UTILITY LOCATER FOR ON-SITE UTILITIES AS NECESSARY. CONTRACTOR SHALL ALSO CONSULT WITH MAINTENANCE SUPERVISOR PRIOR TO EXCAVATION.

DO NOT SCALE DRAWINGS. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO VERTICAL AND HORIZONTAL START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, NOTIFY MACTEC IMMEDIATELY FOR CLARIFICATION.

POSITIVE DRAINAGE SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. PONDING OR STANDING WATER WILL NOT BE PERMITTED.

CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE NATIONAL CEMETERY ADMINISTRATION CONTRACTING OFFICER WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND CORRECTIONS SHALL BE MADE BY THE CONTRACTOR AT NO COST TO THE OWNER.

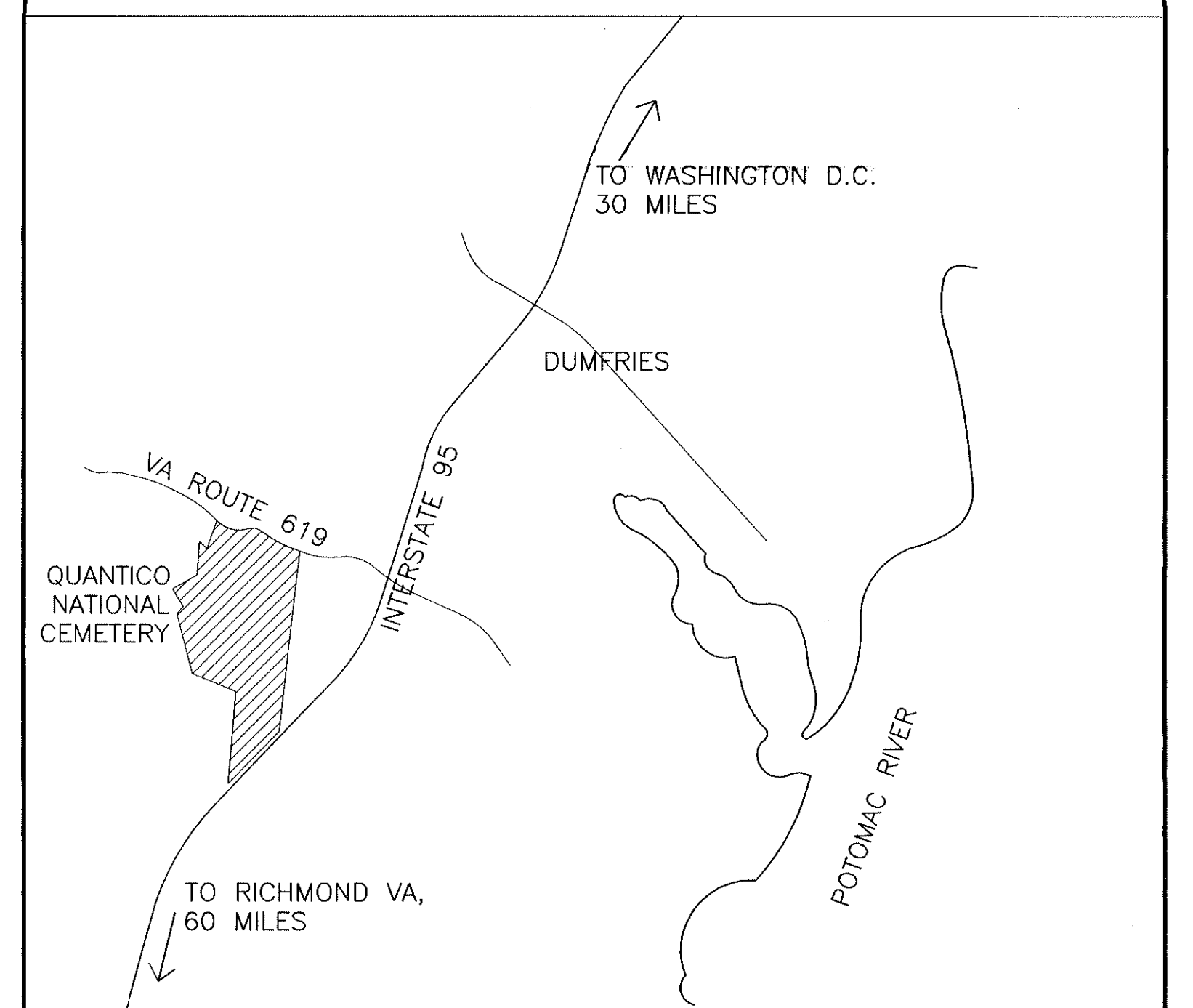
SEED ALL AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE NOT PAVED, PLANTED, MULCHED OR SPECIFICALLY NOTED AS "SOD". SEED AND STABILIZE, PER THE SPECIFICATIONS, ALL GRADED SLOPES, UNLESS SPECIFICALLY NOTED AS "SOD". RESTORE, PER THE SPECIFICATIONS, ALL EXISTING LAWNS DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.

THE VA/NCA WILL PROVIDE NO UTILITIES FOR CONSTRUCTION. CONTRACTOR SHALL PROVIDE FOR HIS CONSTRUCTION NEEDS ACCORDINGLY. CONTRACTOR WILL BE PERMITTED TO USE IRRIGATION SYSTEM TO BE PROVIDED UNDER THIS CONTRACT FOR TURF AND LANDSCAPING WATER NEEDS.

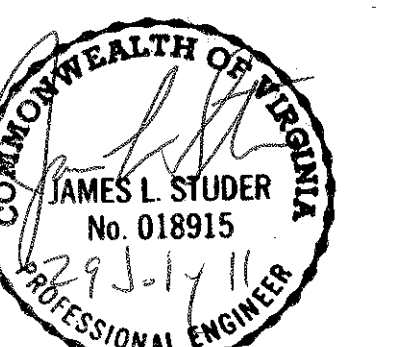
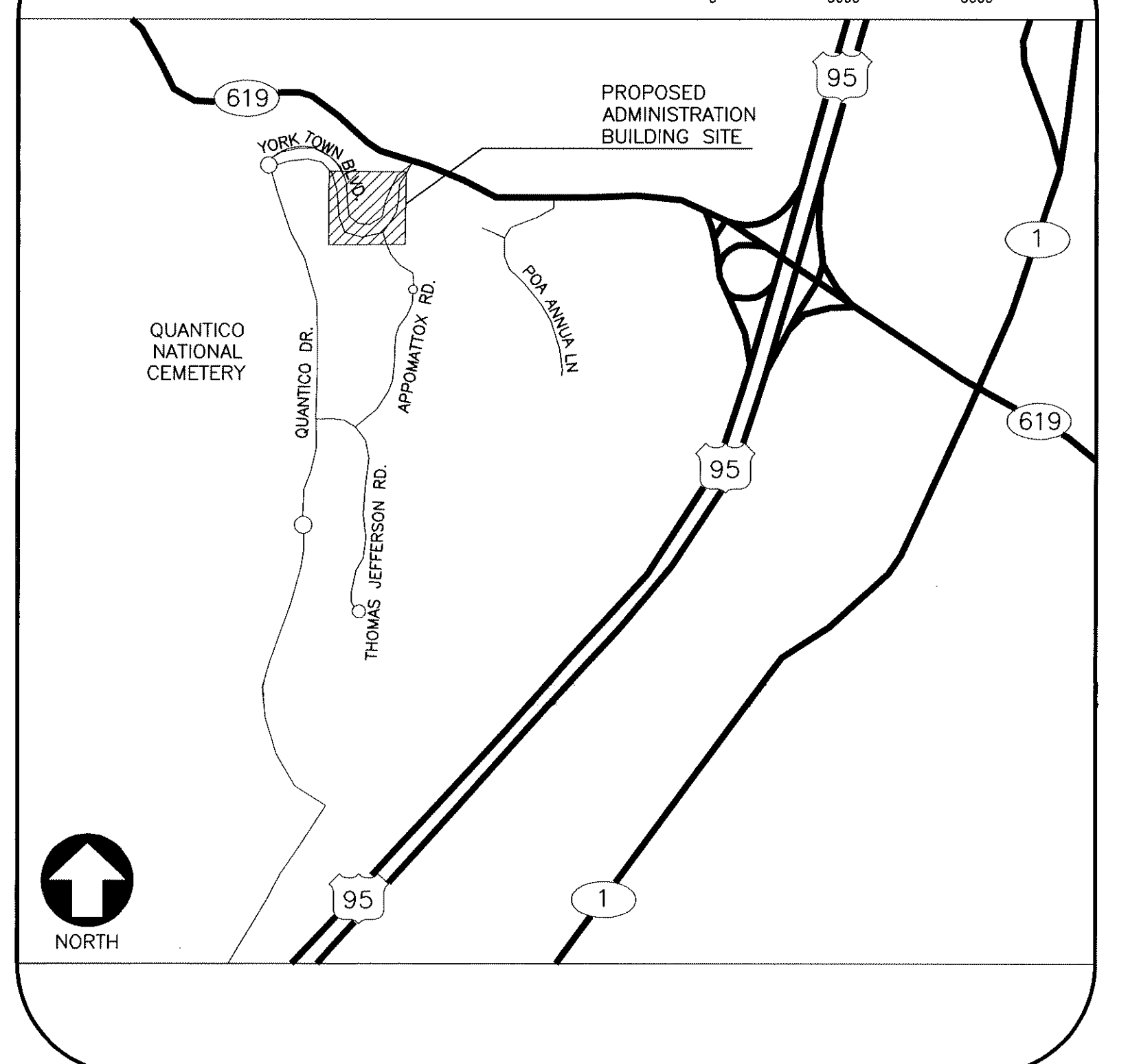
SHEET LIST TABLE

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4	B-102	EXISTING CONDITIONS SHEET 2 OF 3
5	B-103	EXISTING CONDITIONS SHEET 3 OF 3
6	D-101	DEMOLITION PLAN SHEET 1 OF 2
7	D-102	DEMOLITION PLAN SHEET 2 OF 2
8	C-101	SITE PLAN SHEET 1 OF 2
9	C-102	SITE PLAN SHEET 2 OF 2
10	C-103	GRADING & DRAINAGE PLAN SHEET 1 OF 2
11	C-104	GRADING & DRAINAGE PLAN SHEET 2 OF 2
12	C-105	ROADWAY PLAN
13	C-106	UTILITY PLANS SHEET 1 OF 2
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16	C-109	INITIAL EROSION & SEDIMENT CONTROL PLAN
17	C-110	INITIAL EROSION & SEDIMENT CONTROL PLAN
18	C-111	FINAL EROSION & SEDIMENT CONTROL PLAN
19	C-112	FINAL EROSION & SEDIMENT CONTROL PLAN
20	C-113	FINAL EROSION & SEDIMENT CONTROL PLAN
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22	C-302	STORM PROFILES
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27	C-505	CIVIL DETAILS 5
28	C-506	SIGNAGE DETAILS
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37	A-002	EXTERIOR WINDOW DETAILS
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78	T-001	LEGENDS, NOTES, & ABBREVIATIONS - TSYS
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LOCATION MAP



CEMETERY MAP



CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:



MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486

MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:



1220 N. FILLMORE ST.
SUITE 300
ARLINGTON, VA 22211
703-525-0424

MEP ENGINEER:

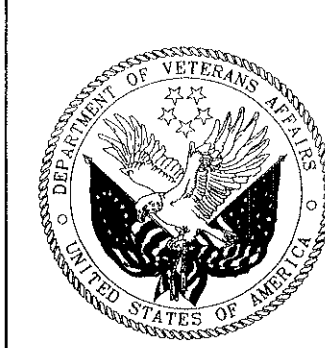


Thompson Company
consulting engineers
50 Technology Parkway South
Norcross, Georgia 30092
404.266.1400
www.tcleng.com
Atlanta, Georgia, UAE
Orlando, Florida, Mexico
Houston, Texas, Mexico
Tampa, Florida, Mexico

SURVEY:



10400 CHESTER ROAD, CHESTER, VA 23831
TEL: (804) 748-8707 FAX: (804) 748-8708



NATIONAL
CEMETERY
ADMINISTRATION

Drawing Title

COVER & NOTES

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

ADMINISTRATION / PUBLIC
INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

Building Number

Location

18424 JOPLIN ROAD
TRIANGLE, VIRGINIA

Date

07-29-11

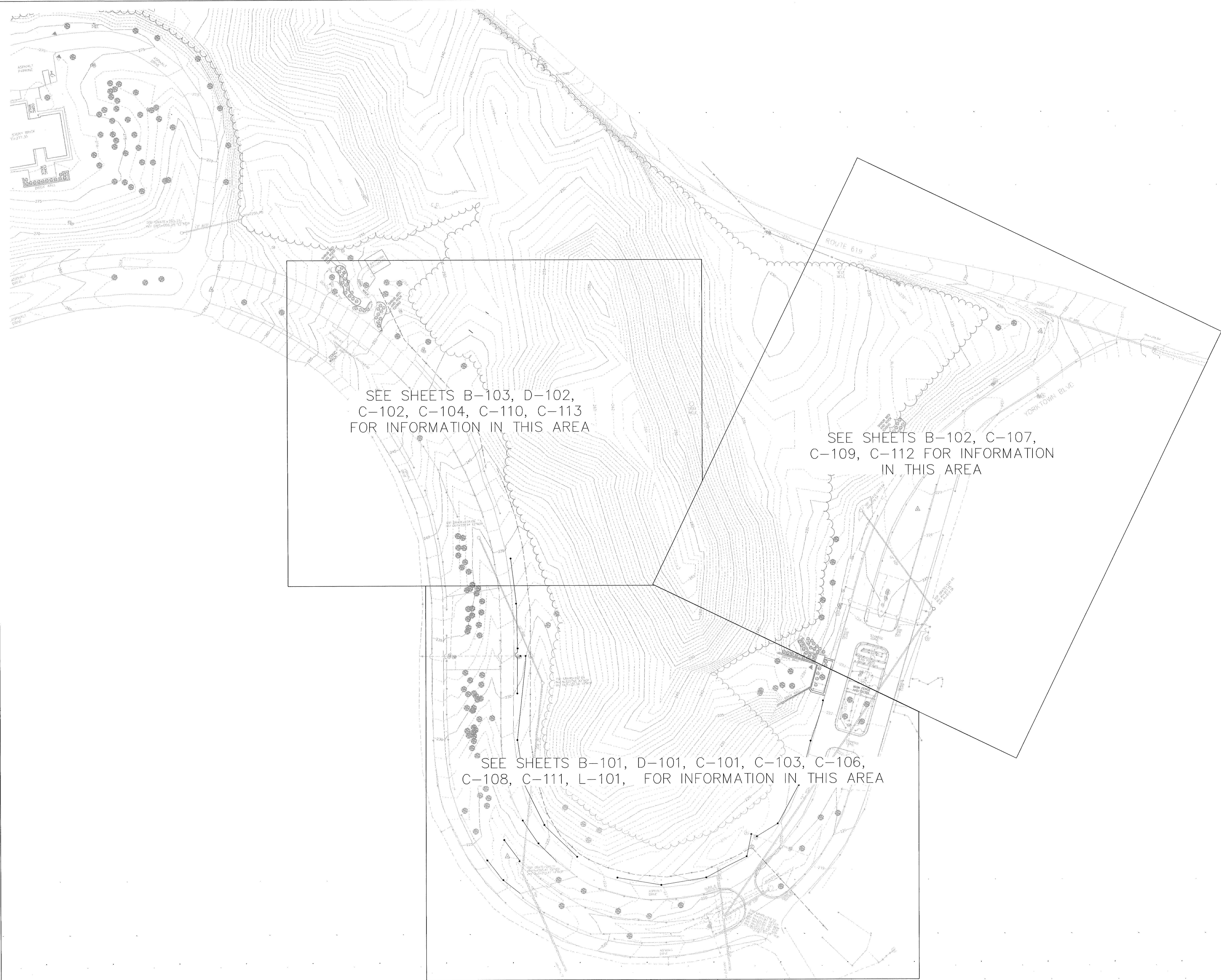
Project No.

872CM3035

DRAWING NO.

X-000

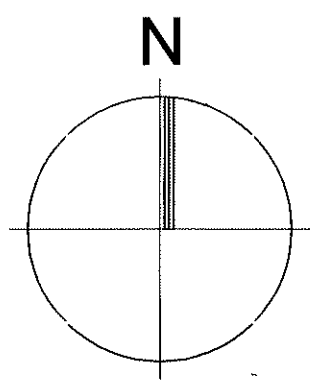
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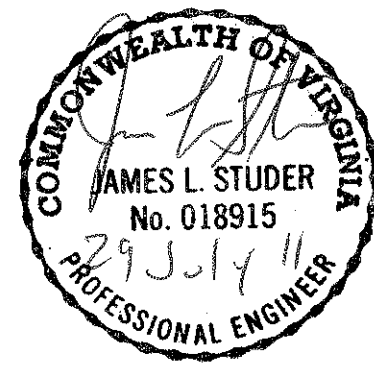
SEE SHEETS B-103, D-102,
C-102, C-104, C-110, C-113
FOR INFORMATION IN THIS AREA

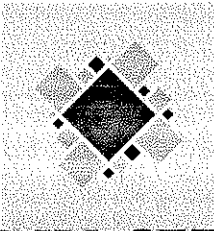
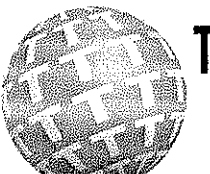
SEE SHEETS B-102, C-107,
C-109, C-112 FOR INFORMATION
IN THIS AREA

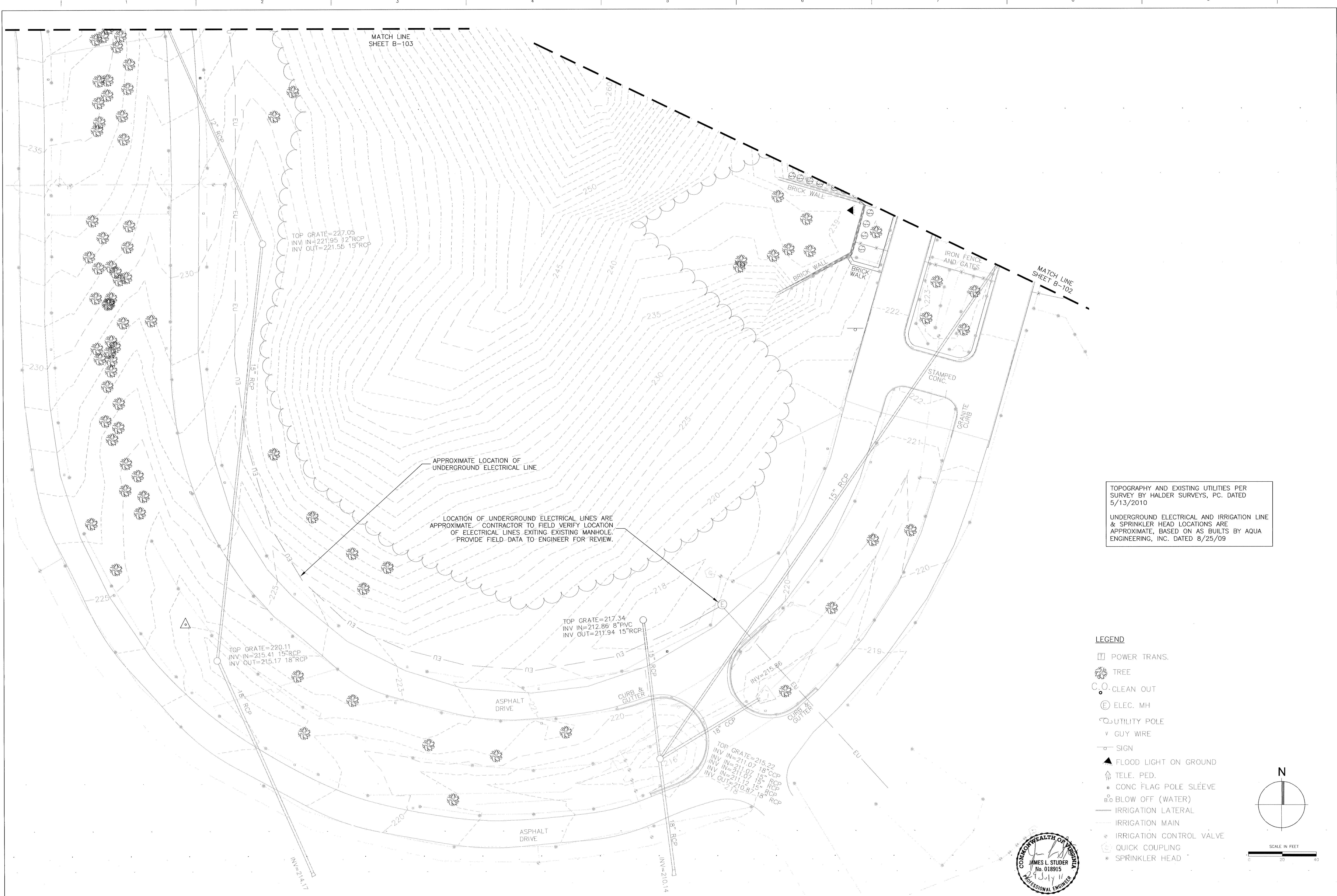
SEE SHEETS B-101, D-101, C-101, C-103, C-106,
C-108, C-111, L-101, FOR INFORMATION IN THIS AREA



SCALE IN FEET
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Revisions		Date	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:		ARCHITECTURE:	MEP ENGINEER:		SURVEY:	Drawing Title		Project Title	Date
			 MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085		 MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	 Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, Georgia 30092 Dubai, UAE Orlando, Florida 32831 Mexico City, Mexico Houston, Texas 77060 Tortola, BVI		 HALDER SURVEYS P.C. 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	 NATIONAL CEMETERY ADMINISTRATION		ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY	07-29-11
			Approved: Director, Technical Support Service		Building Number	Checked	Drawn		Approved: Chief, Architectural & Engineering Division		Location	DRAWING NO.
											18424 JOPLIN ROAD TRIANGLE, VIRGINIA	K-000
												Dwg. 2 of 81

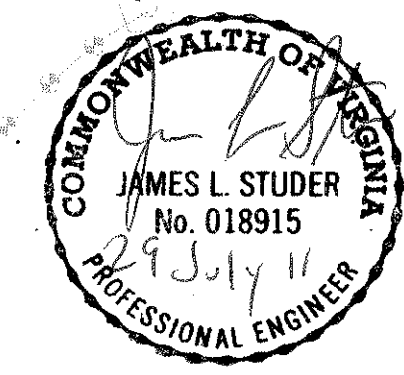
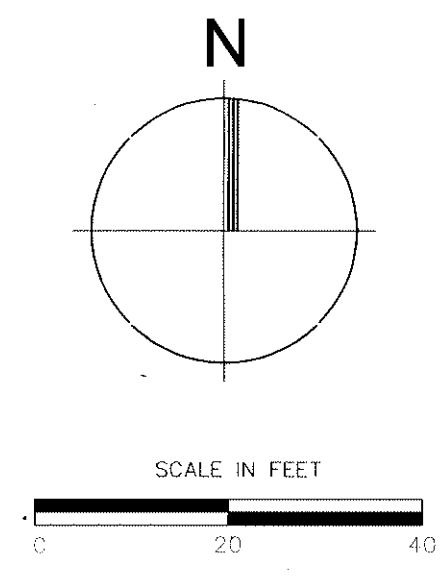


TOPOGRAPHY AND EXISTING UTILITIES PER SURVEY BY HALDER SURVEYS, PC. DATED 5/13/2010

UNDERGROUND ELECTRICAL AND IRRIGATION LINE & SPRINKLER HEAD LOCATIONS ARE APPROXIMATE, BASED ON AS BUILTS BY AQUA ENGINEERING, INC. DATED 8/25/09

LEGEND

- POWER TRANS.
- TREE
- C.O. CLEAN OUT
- ELEC. MH
- UTILITY POLE
- GUY WIRE
- SIGN
- FLOOD LIGHT ON GROUND
- TELE. PED.
- CONC FLAG POLE SLEEVE
- B.O. BLOW OFF (WATER)
- IRRIGATION LATERAL
- IRRIGATION MAIN
- IRRIGATION CONTROL VALVE
- QUICK COUPLING
- SPRINKLER HEAD



Revisions	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE: MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085	ARCHITECTURE: MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	MEP ENGINEER: Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, Georgia 30309 Orlando, Florida 32835 Houston, Texas 77058 Dubai, UAE	SURVEY: HALDER SURVEYS 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	 NATIONAL CEMETERY ADMINISTRATION	Drawing Title EXISTING CONDITIONS SHEET 1 OF 3	Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY	Date 07-29-11
	Approved: Director, Technical Support Service	Building Number	Checked	Drawn	Project No. 872CM3035			
	Approved: Chief, Architectural & Engineering Division	Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA			DRAWING NO. B-101			
				Dwg. 3 of 81				

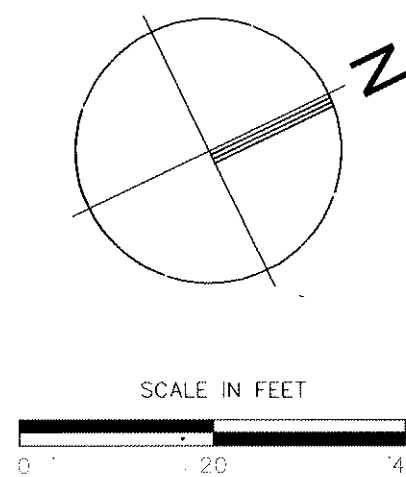
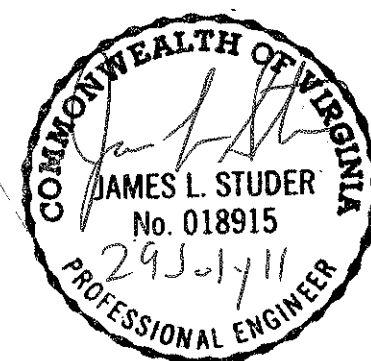


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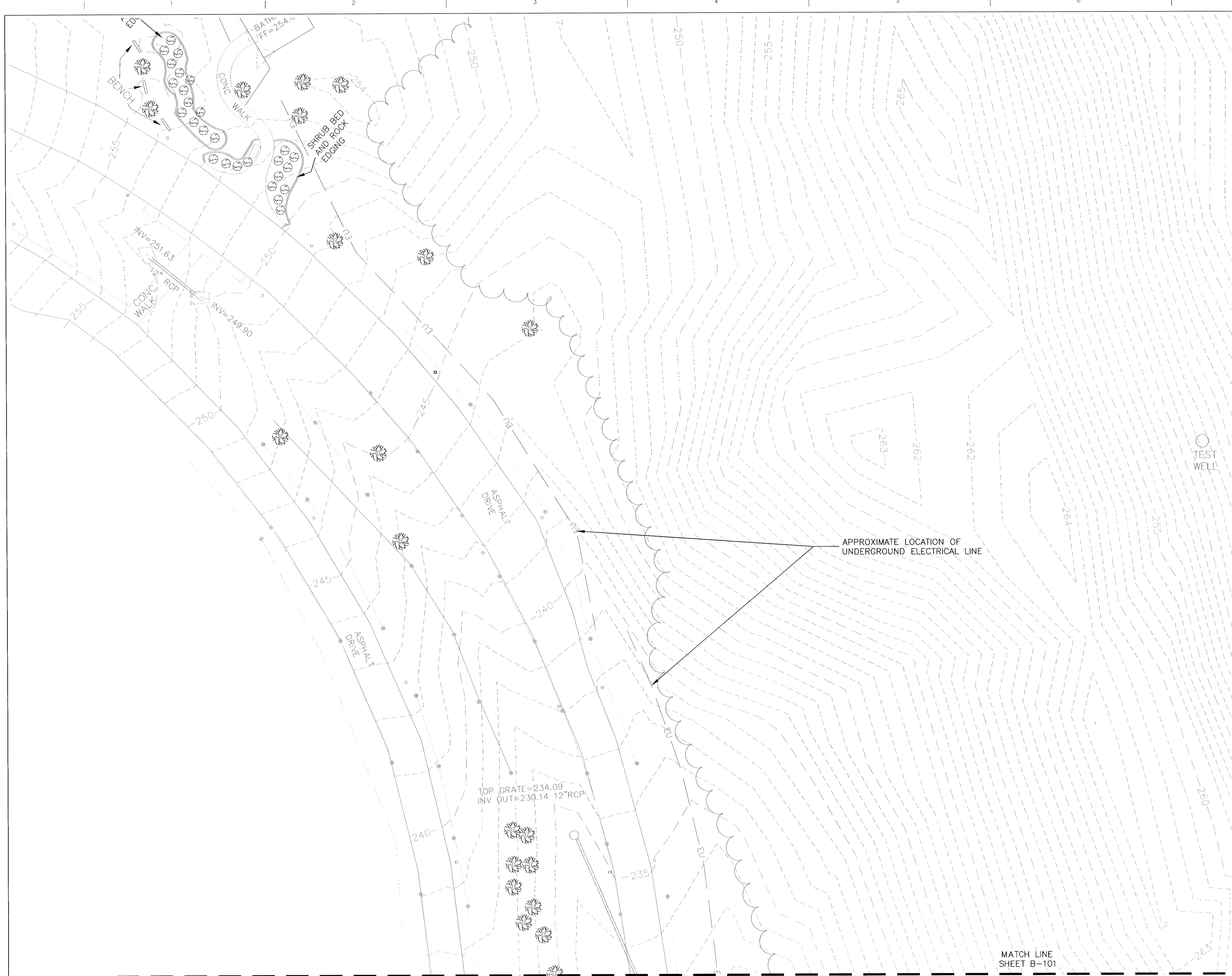
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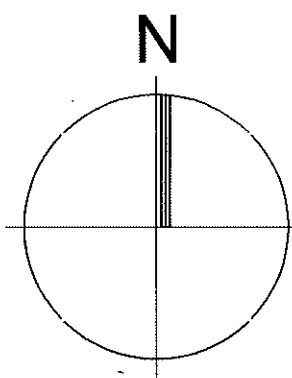


TOPOGRAPHY AND EXISTING UTILITIES PER
SURVEY BY HALDER SURVEYS, PC. DATED
5/13/2010

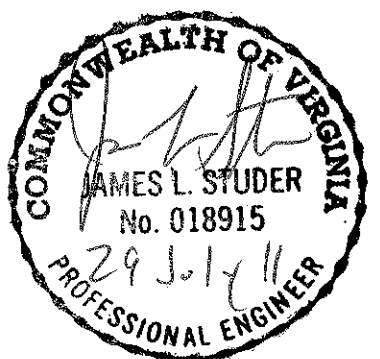
UNDERGROUND ELECTRICAL AND IRRIGATION LINE
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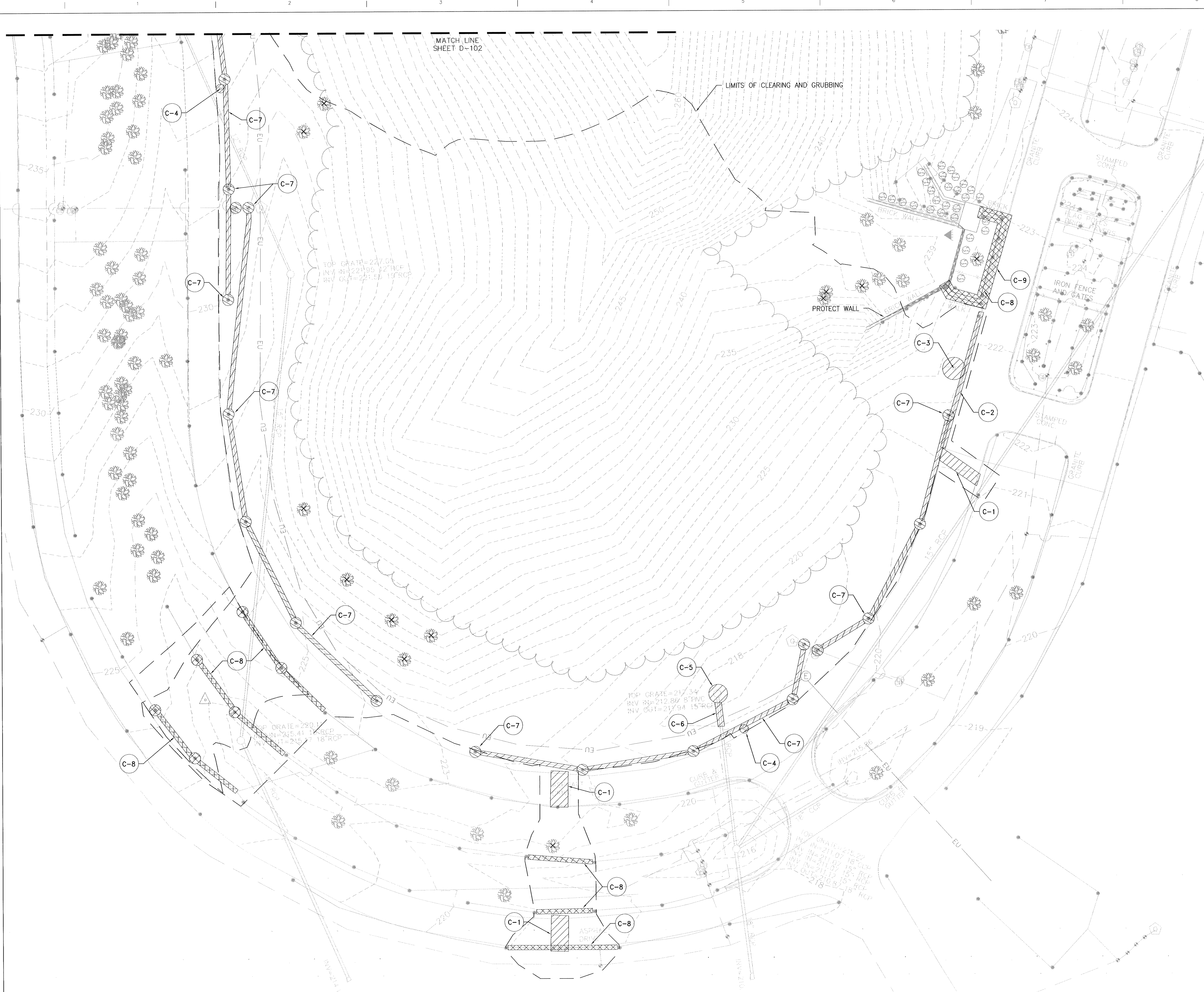
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SCALE IN FEET
0 20 40



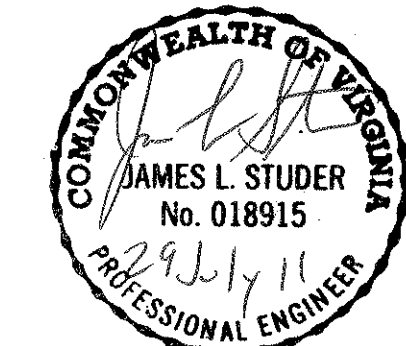
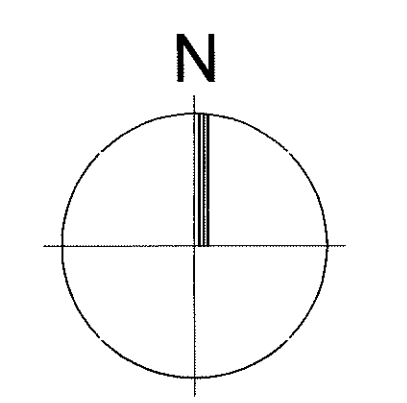
Revisions Date	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE: ARCHITECTURE: MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085	MEP ENGINEER: ARCHITECTURE: Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 404.266.1400 www.tcleng.com Atlanta, GA Dubai, UAE Orlando, FL Mexico City, Mexico Houston, TX Toronto, ON SURVEY: HALDER SURVEYS PC 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	NATIONAL CEMETERY ADMINISTRATION	Drawing Title EXISTING CONDITIONS SHEET 3 OF 3 Approved: Director, Technical Support Service Approved: Chief, Architectural & Engineering Division	Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY Building Number Checked Drawn Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA	Date 07-29-11 Project No. 872CM3035 DRAWING NO. B-103 Dwg. 5 of 81
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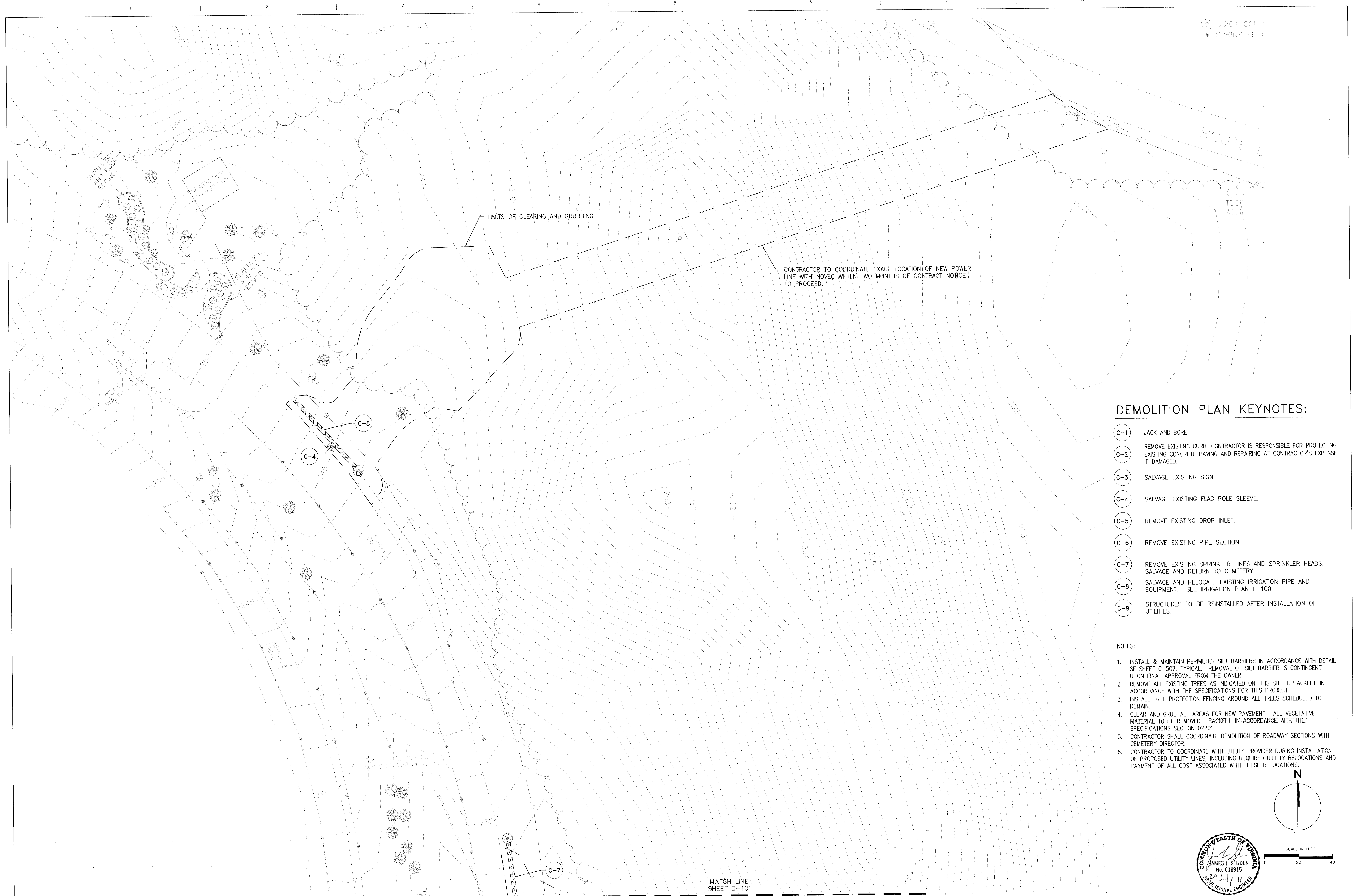
DEMOLITION PLAN KEYNOTES:

- C-1 JACK AND BORE
- C-2 REMOVE EXISTING CURB. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING CONCRETE PAVING AND REPAIRING AT CONTRACTOR'S EXPENSE IF DAMAGED.
- C-3 SALVAGE EXISTING SIGN
- C-4 SALVAGE EXISTING FLAG POLE SLEEVE.
- C-5 REMOVE EXISTING DROP INLET.
- C-6 REMOVE EXISTING PIPE SECTION.
- C-7 REMOVE EXISTING SPRINKLER LINES AND SPRINKLER HEADS. SALVAGE AND RETURN TO CEMETERY.
- C-8 SALVAGE AND RELOCATE EXISTING IRRIGATION PIPE AND EQUIPMENT. SEE IRRIGATION PLAN L-100
- C-9 BRICK PAVERS TO BE SALVAGED AND REINSTALLED AFTER INSTALLATION OF UTILITIES.

- NOTES:
1. INSTALL & MAINTAIN PERIMETER SILT BARRIERS IN ACCORDANCE WITH DETAIL SF SHEET C-507, TYPICAL. REMOVAL OF SILT BARRIER IS CONTINGENT UPON FINAL APPROVAL FROM THE OWNER.
 2. REMOVE ALL EXISTING TREES AS INDICATED ON THIS SHEET. BACKFILL IN ACCORDANCE WITH THE SPECIFICATIONS FOR THIS PROJECT.
 3. INSTALL TREE PROTECTION FENCING AROUND ALL TREES SCHEDULED TO REMAIN.
 4. CLEAR AND GRUB ALL AREAS FOR NEW PAVEMENT. ALL VEGETATIVE MATERIAL TO BE REMOVED. BACKFILL IN ACCORDANCE WITH THE SPECIFICATIONS SECTION 02201.
 5. CONTRACTOR SHALL COORDINATE DEMOLITION OF ROADWAY SECTIONS WITH CEMETERY DIRECTOR.
 6. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER DURING INSTALLATION OF PROPOSED UTILITY LINES, INCLUDING REQUIRED UTILITY RELOCATIONS AND PAYMENT OF ALL COST ASSOCIATED WITH THESE RELOCATIONS.



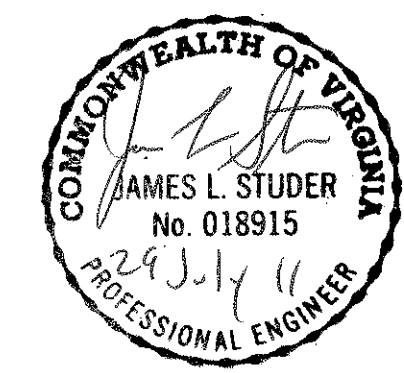
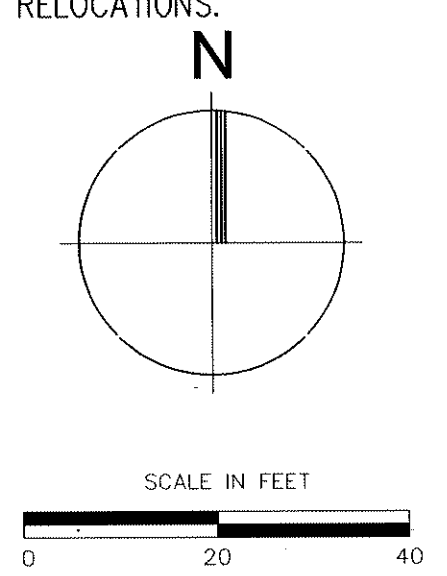
Revisions <table><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Date												CIVIL ENGINEER/LANDSCAPE ARCHITECTURE: MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085	ARCHITECTURE: MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	MEP ENGINEER: Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, Dubai, UAE 404.266.1400 www.tcleng.com Orlando Mexico City, Mexico Houston Toronto, BVI	SURVEY: HALDER SURVEYS P.C. 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	NATIONAL CEMETERY ADMINISTRATION	Drawing Title DEMOLITION PLAN SHEET 1 OF 2 Approved: Director, Technical Support Service Approved: Chief, Architectural & Engineering Division	Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY Building Number Checked Drawn Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA	Date 07-29-11 Project No. 872CM3035 DRAWING NO. D-101 Dwg. 6 of 81



DEMOLITION PLAN KEYNOTES:

- C-1 JACK AND BORE
- C-2 REMOVE EXISTING CURB. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING CONCRETE PAVING AND REPAIRING AT CONTRACTOR'S EXPENSE IF DAMAGED.
- C-3 SALVAGE EXISTING SIGN
- C-4 SALVAGE EXISTING FLAG POLE SLEEVE.
- C-5 REMOVE EXISTING DROP INLET.
- C-6 REMOVE EXISTING PIPE SECTION.
- C-7 REMOVE EXISTING SPRINKLER LINES AND SPRINKLER HEADS. SALVAGE AND RETURN TO CEMETERY.
- C-8 SALVAGE AND RELOCATE EXISTING IRRIGATION PIPE AND EQUIPMENT. SEE IRRIGATION PLAN L-100
- C-9 STRUCTURES TO BE REINSTALLED AFTER INSTALLATION OF UTILITIES.

- NOTES:
1. INSTALL & MAINTAIN PERIMETER SILT BARRIERS IN ACCORDANCE WITH DETAIL SF SHEET C-507, TYPICAL. REMOVAL OF SILT BARRIER IS CONTINGENT UPON FINAL APPROVAL FROM THE OWNER.
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Revisions	Date

CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:

MACTEC
MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486
MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:

MATRIX SETTLES
1220 N. FILLMORE ST.
SUITE 300
ARLINGTON, VA 22211
703-525-0424

MEP ENGINEER:

Thompson Company
consulting engineers
50 Technology Parkway South
Norcross, Georgia 30092
404.266.1400
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Atlanta, Dubai, UAE
Orlando
Mexico City, Mexico
Houston
Tortola, BVI

SURVEY:

HALDER SURVEYS P.C.
10400 CHESTER ROAD, CHESTER, VA 23831
TEL: (804) 748-8707 FAX: (804) 748-8708

NATIONAL CEMETERY ADMINISTRATION

Drawing Title
**DEMOLITION PLAN
SHEET 2 OF 2**
Approved: Director, Technical Support Service
Approved: Chief, Architectural & Engineering Division

Project Title
**ADMINISTRATION / PUBLIC
INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY**
Building Number
Checked
Drawn
Location
**18424 JOPLIN ROAD
TRIANGLE, VIRGINIA**

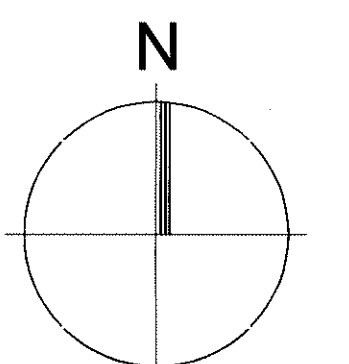
Date
07-29-11
Project No.
872CM3035
DRAWING NO.
D-102
Dwg. 7 of 81

SITE PLAN KEYNOTES:

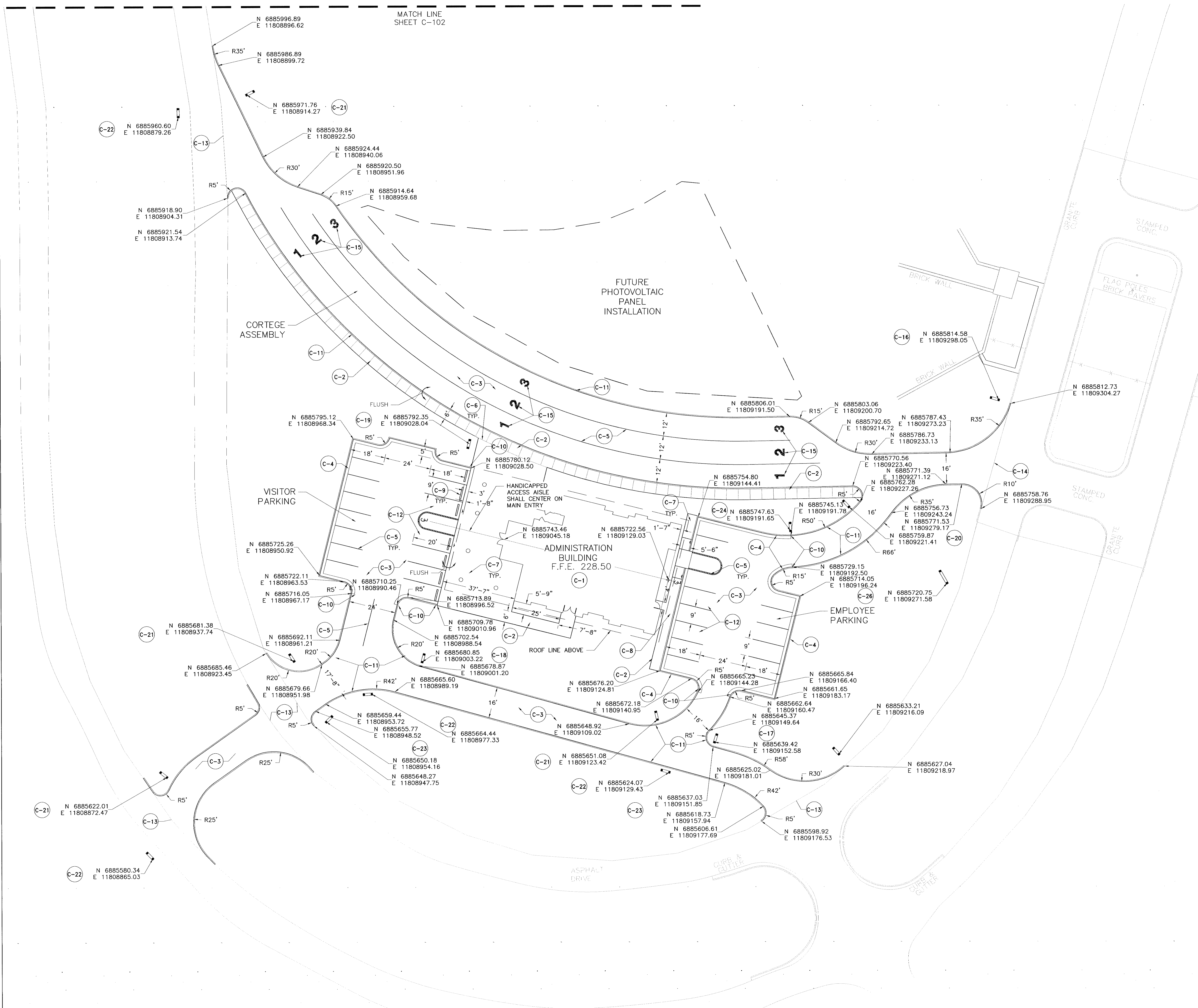
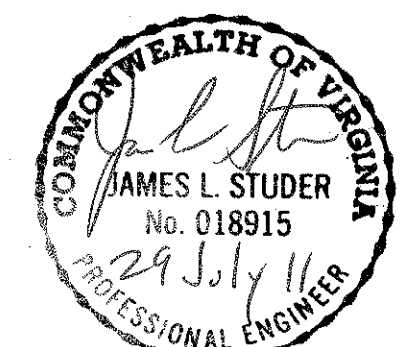
- (C-1) ADMINISTRATION BUILDING - SEE ARCHITECTURE
- (C-2) TYPICAL SIDEWALK - SEE DETAIL C-1 SHEET C-501
- (C-3) ASPHALT PAVING - SEE DETAIL C-4 SHEET C-502
- (C-4) CONCRETE CURB AND GUTTER, TYP. - SEE DETAIL F-4 SHEET C-501
- (C-5) 4" SOLID WHITE THERMOPLASTIC PAVEMENT STRIPING - SEE SPECIFICATIONS
- (C-6) EXPANSION JOINT, TYP. - SEE DETAIL C-1 SHEET C-501
- (C-7) TOOLED SCORE JOINT, TYP.
- (C-8) HANDICAP ACCESS RAMP - SEE DETAIL C-7 SHEET C-501
- (C-9) WHEEL STOP - SEE DETAIL F-7 SHEET C-502
- (C-10) CURB TRANSITION - SEE DETAIL F-7 SHEET C-501
- (C-11) RIBBON CURB - SEE DETAIL C-7 SHEET C-502
- (C-12) HANDICAP PARKING SPACES - SEE DETAIL F-1 SHEET C-501
- (C-13) NEW/EXISTING ASPHALT INTERFACE - SEE DETAIL F-4 SHEET C-502
- (C-14) NEW ASPHALT/EXISTING CONCRETE INTERFACE - SEE DETAIL F-4 SHEET C-502
- (C-15) CORTAGE LANE NUMBERS - SEE SPECIFICATIONS
- (C-16) INFORMATION SIGN TYPE A.1 - SEE SIGNAGE DETAILS SHEET C-506
- (C-17) INFORMATION SIGN TYPE A.2 - SEE SIGNAGE DETAILS SHEET C-506
- (C-18) INFORMATION SIGN TYPE A.3a - SEE SIGNAGE DETAILS SHEET C-506
- (C-19) INFORMATION SIGN TYPE A.3b - SEE SIGNAGE DETAILS SHEET C-506
- (C-20) INFORMATION SIGN TYPE A.4 - SEE SIGNAGE DETAILS SHEET C-506
- (C-21) TRAFFIC CONTROL SIGN TYPE B.1 - SEE SIGNAGE DETAILS SHEET C-506
- (C-22) TRAFFIC CONTROL SIGN TYPE B.2 - SEE SIGNAGE DETAILS SHEET C-506
- (C-23) TRAFFIC CONTROL SIGN TYPE B.3 - SEE SIGNAGE DETAILS SHEET C-506
- (C-24) TRAFFIC CONTROL SIGN TYPE B.4 - SEE SIGNAGE DETAILS SHEET C-506
- (C-25) UTILITY TRANSFORMER AND PAD, 32' x 15' REINFORCED CONCRETE PAD, 8" THICK
- (C-26) PROJECT SIGN - SEE DETAILS F-5 SHEET C-505
- (C-27) CHAINLINK FENCE - SEE DETAILS C-1 AND C-6 SHEET C-505

NOTES:

1. ALL DIMENSIONS AS WELL AS NORTHINGS AND EASTINGS TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
2. SEE SHEET C105 FOR ROAD ALIGNMENTS.



SCALE IN FEET
0 20 40



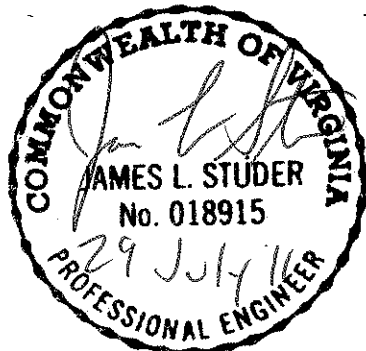
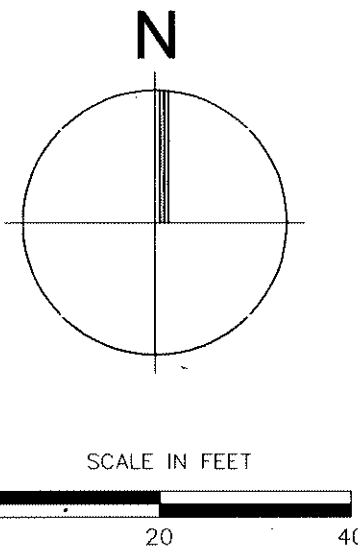
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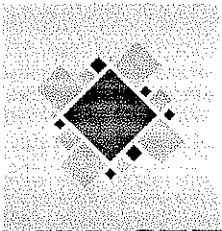
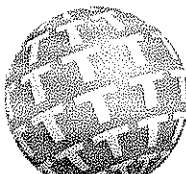
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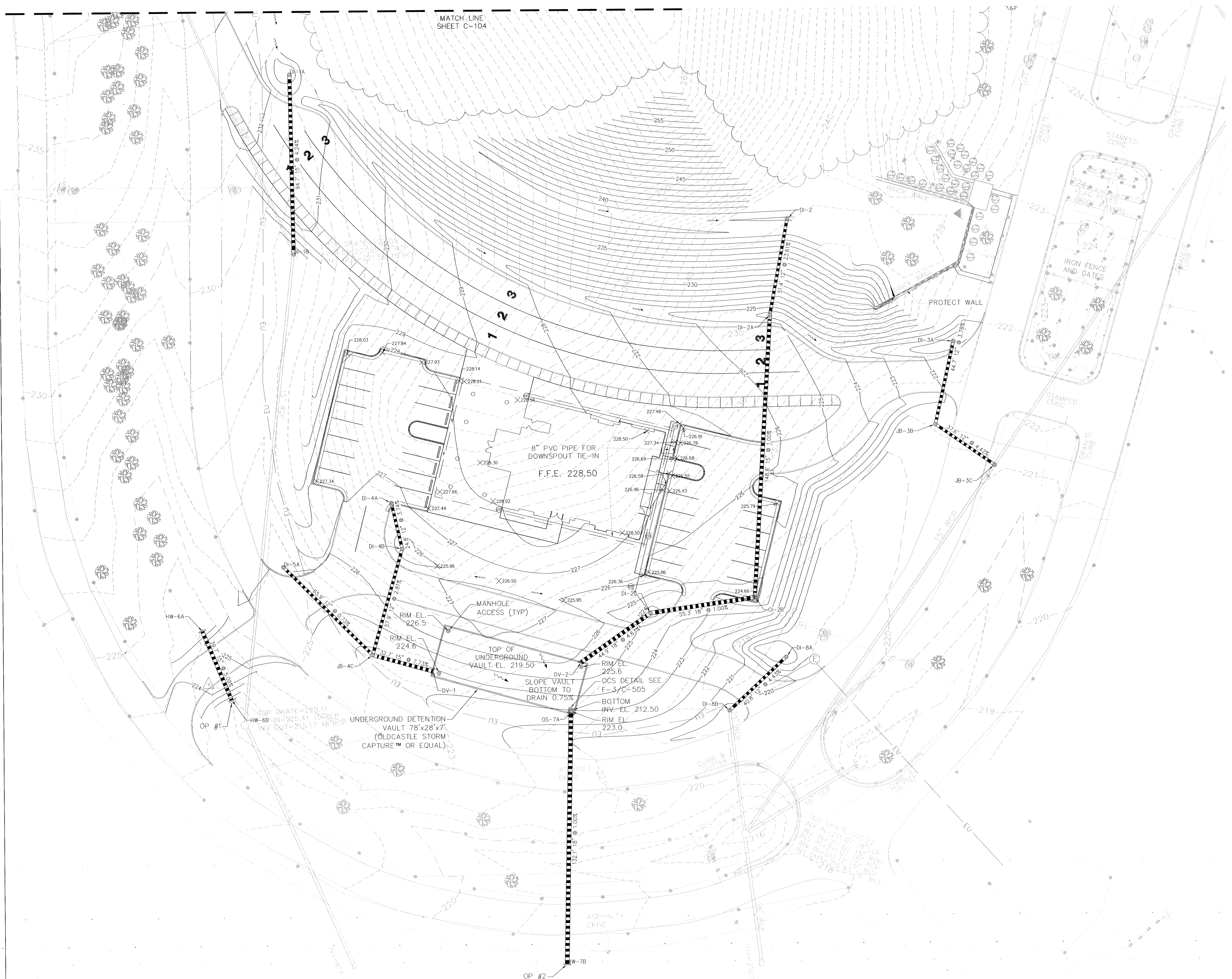
- C-1 ADMINISTRATION BUILDING - SEE ARCHITECTURE
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- C-27 CHAINLINK FENCE - SEE DETAIL F-5 SHEET C-505
- C-28 GATE

NOTES:

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- SEE SHEET C105 FOR ROAD ALIGNMENTS.



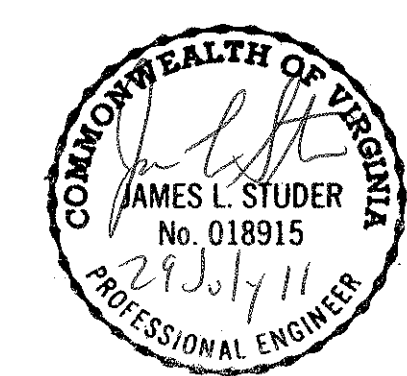
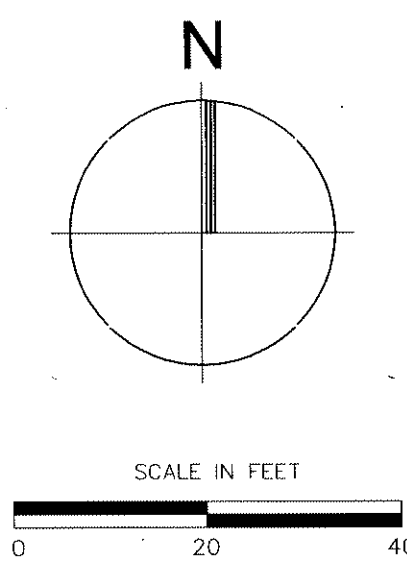
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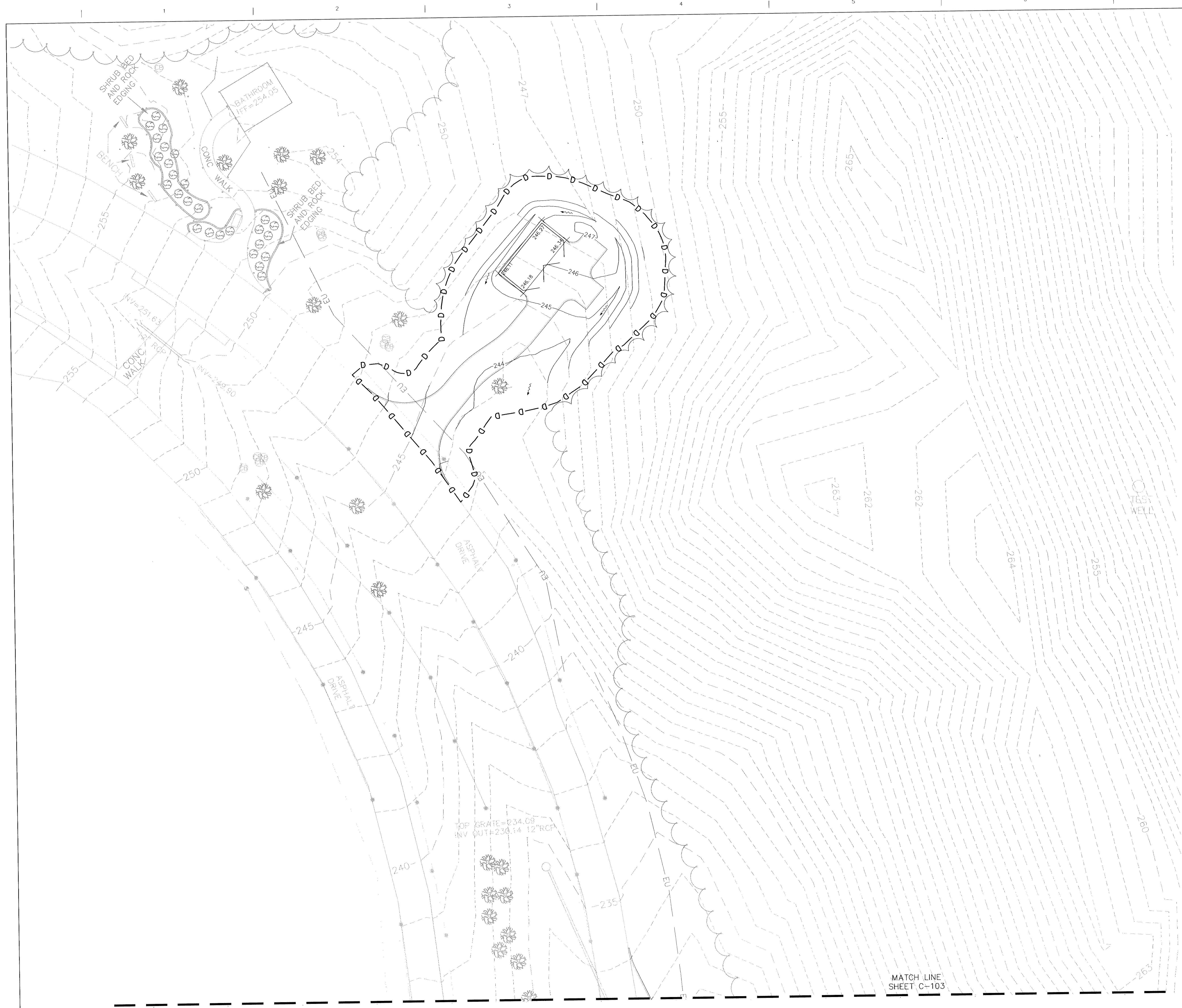
- NOTE:**
1. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER DURING INSTALLATION OF PROPOSED UTILITY LINES, INCLUDING REQUIRED UTILITY RELOCATIONS AND PAYMENT OF ALL COST ASSOCIATED WITH THESE RELOCATIONS.
 2. SEE SHEET C-302 FOR STORM PROFILES.
 3. ALL CLEANOUTS SHALL BE PLACED IN FLUSH MOUNT RECESSED CAST IRON VAULTS.
 4. SEE DETAIL ON SHEET C-508 FOR HEADWALL OUTLET PROTECTION.

LEGEND:

EXISTING STORM DRAIN	
PROPOSED STORM DRAIN	
EXISTING CONTOUR	
PROPOSED CONTOUR	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
DRAINAGE FLOW ARROW	
CLEANOUT	

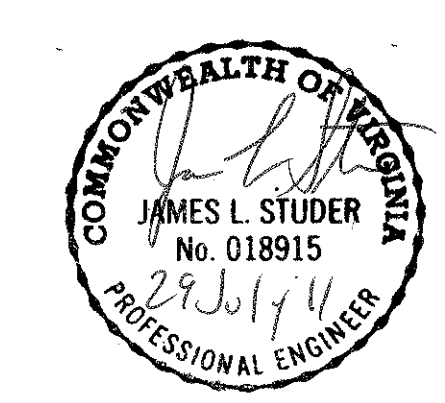
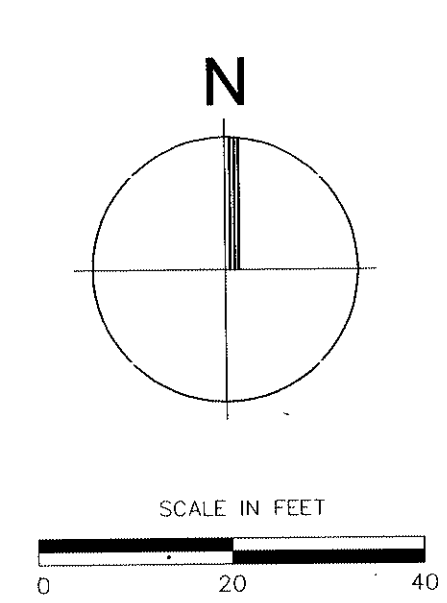


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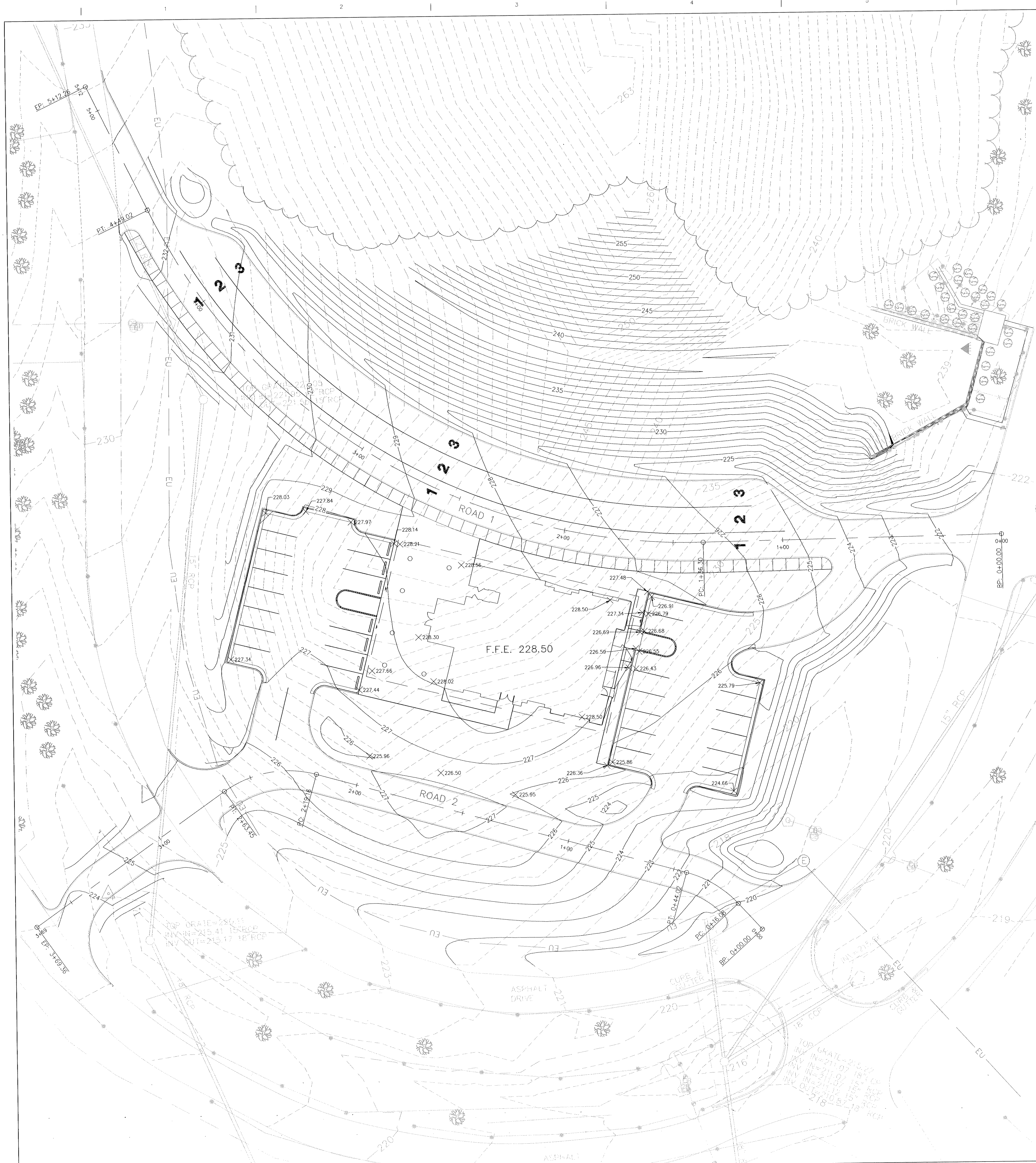


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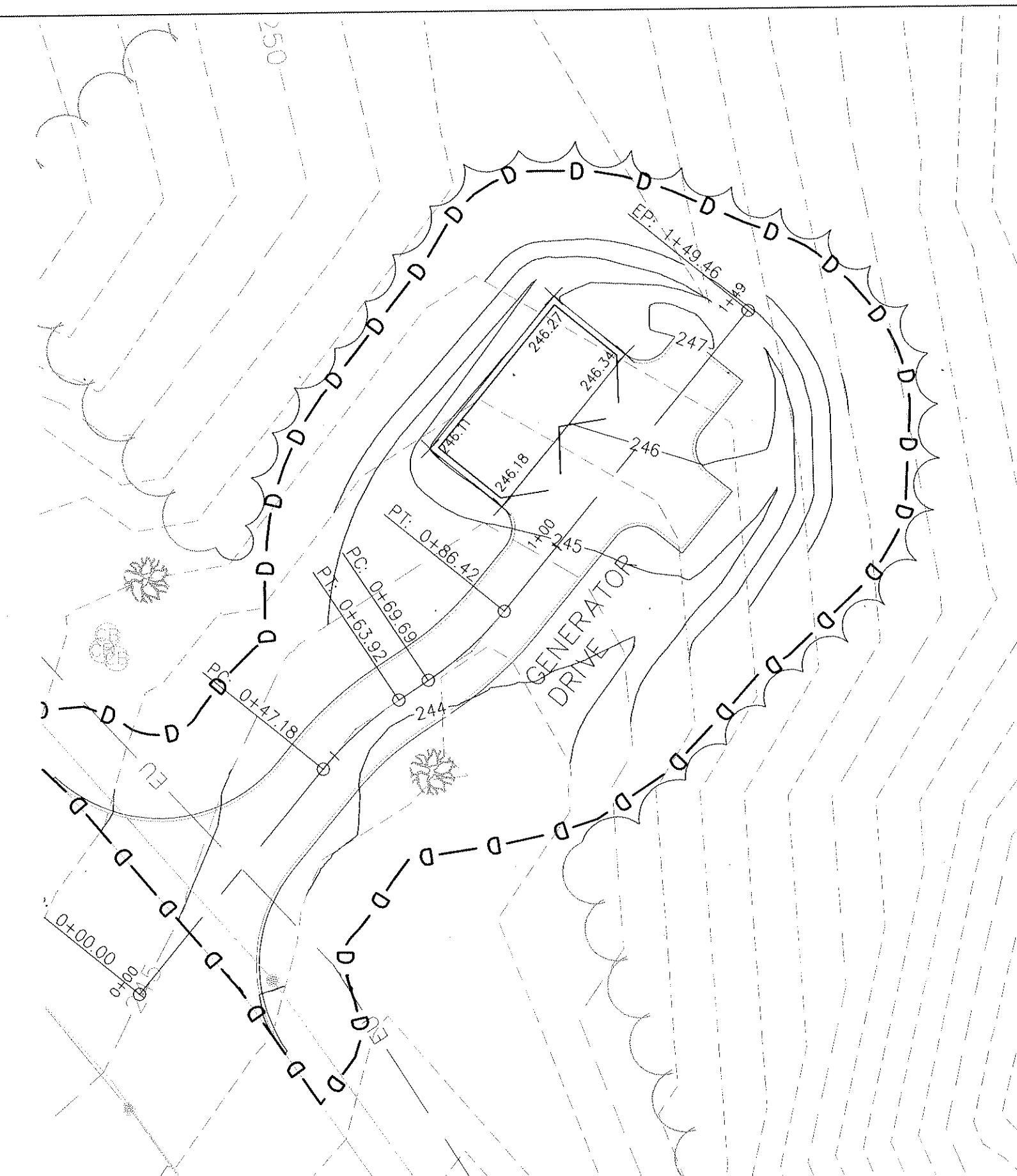
LEGEND:	
EXISTING STORM DRAIN	
PROPOSED STORM DRAIN	
EXISTING CONTOUR	
PROPOSED CONTOUR	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
DRAINAGE FLOW ARROW	
CLEARCUT	



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							Approved: Director, Technical Support Service	Building Number	Checked	Drawn	Project No. 872CM3035
							Approved: Chief, Architectural & Engineering Division	Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA			DRAWING NO. C-104



Alignment: ROAD 1			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	0+00.000	6885779.9870	11809305.6130
End:	1+36.302	6885777.6250	11809169.3320
Tangent Data			
Parameter	Value	Parameter	Value
Length:	136.3020	Course:	S 89° 00' 26.1878" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	1+36.302	6885777.6250	11809169.3320
RP:		6886052.5840	11809164.5680
PT:	4+49.024	6885932.7320	11808917.0590
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	65° 09' 18.1878"	Type:	RIGHT
Radius:	275.0000	DOC:	20° 50' 05.3847"
Length:	312.7220	Tangent:	175.7180
Mid-Ord:	43.2670	External:	51.3460
Chord:	296.1420	Course:	N 58° 24' 54.7183" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	4+49.024	6885932.7320	11808917.0590
End:	5+12.263	6885989.6500	11808889.4980
Tangent Data			
Parameter	Value	Parameter	Value
Length:	63.2390	Course:	N 25° 50' 15.6244" W
Alignment: ROAD 2			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	0+00.000	6885600.1480	11809194.4420
End:	0+16.077	6885612.0100	11809183.5900
Tangent Data			
Parameter	Value	Parameter	Value
Length:	16.0770	Course:	N 42° 27' 16.2767" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	0+16.077	6885612.0100	11809183.5900
RP:		6885578.2600	11809146.6990
PT:	0+44.021	6885626.4360	11809160.0820
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	32° 01' 15.7640"	Type:	LEFT
Radius:	50.0000	DOC:	114° 35' 29.6158"
Length:	27.9440	Tangent:	14.3470
Mid-Ord:	1.9390	External:	2.0180
Chord:	27.5810	Course:	N 58° 27' 54.1587" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	0+44.021	6885626.4360	11809160.0820
End:	2+19.159	6885673.3110	11808991.3330
Tangent Data			
Parameter	Value	Parameter	Value
Length:	175.1380	Course:	N 74° 28' 32.0408" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	2+19.159	6885673.3110	11808991.3330
RP:		6885625.1350	11808977.9500
PT:	2+63.454	6885665.9760	11808949.1050
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	50° 45' 29.8281"	Type:	LEFT
Radius:	50.0000	DOC:	114° 35' 29.6160"
Length:	44.7950	Tangent:	23.7190
Mid-Ord:	4.8250	External:	5.3410
Chord:	42.8610	Course:	S 80° 08' 43.0452" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	2+63.454	6885665.9760	11808949.1050
End:	3+69.363	6885604.8750	11808862.5980
Tangent Data			
Parameter	Value	Parameter	Value
Length:	105.9090	Course:	S 54° 45' 58.1312" W



Alignment: GENERATOR DRIVE			
Tangent Data			
Description	P.T. Station	Northing	Easting
Start:	0+00.000	6886224.0500	11808792.3300
End:	0+47.179	6886260.4000	11808822.4100
Tangent Data			
Parameter	Value	Parameter	Value
Length:	47.1790	Course:	N 39° 36' 55.4431" E
Curve Point Data			
Description	Station	Northing	Easting
PC:	0+47.179	6886260.4000	11808822.4100
RP:		6886224.6900	11808865.5500
PT:	0+63.917	6886271.5200	11808834.8300
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	17° 07' 29.9344"	Type:	RIGHT
Radius:	56.0000	DOC:	102° 18' 50.0142"
Length:	16.7380	Tangent:	8.4320
Mid-Ord:	0.6240	External:	0.6310
Chord:	16.6750	Course:	N 48° 10' 40.4103" E
Tangent Data			
Description	PT Station	Northing	Easting
Start:	0+63.917	6886271.5200	11808834.8300
End:	0+69.686	6886274.6800	11808839.6500
Tangent Data			
Parameter	Value	Parameter	Value
Length:	5.7700	Course:	N 56° 44' 25.3774" E
Curve Point Data			
Description	Station	Northing	Easting
PC:	0+69.686	6886274.6800	11808839.6500
RP:		6886321.5100	11808808.9500
PT:	0+86.424	6886285.8000	11808852.0900
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	17° 07' 29.9343"	Type:	LEFT
Radius:	56.0000	DOC:	102° 18' 50.0144"
Length:	16.7380	Tangent:	8.4320
Mid-Ord:	0.6240	External:	0.6310
Chord:	16.6750	Course:	N 48° 10' 40.4103" E
Tangent Data			
Description	PT Station	Northing	Easting
Start:	0+86.424	6886285.8000	11808852.0900
End:	1+49.462	6886334.3600	11808892.2800
Tangent Data			
Parameter	Value	Parameter	Value
Length:	63.0380	Course:	N 39° 36' 55.4432" E

Revisions

Date

CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:

MACTEC
MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL (770) 421-3400 FAX: (770) 421-3486
MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:

MATRIX SETTLES
1220 N. FILLMORE ST.
SUITE 300
ARLINGTON, VA 22211
703-525-0424

MEP ENGINEER:

Thompson Company
consulting engineers
50 Technology Parkway South
Norcross, Georgia 30092
Atlanta, GA 30309
Orlando, FL 32801
Houston, TX 77058
404.266.1400
www.tcleng.com

SURVEY:

HALDER SURVEYS PC
10400 CHESTER ROAD, CHESTER, VA 23831
TEL: (804) 748-8707 FAX: (804) 748-8708

**NATIONAL CEMETERY ADMINISTRATION**

Drawing Title

ROADWAY PLAN

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

ADMINISTRATION / PUBLIC INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

Building Number

Checked

Drawn

Location

18424 JOPLIN ROAD
TRIANGLE, VIRGINIA

Date

07-29-11

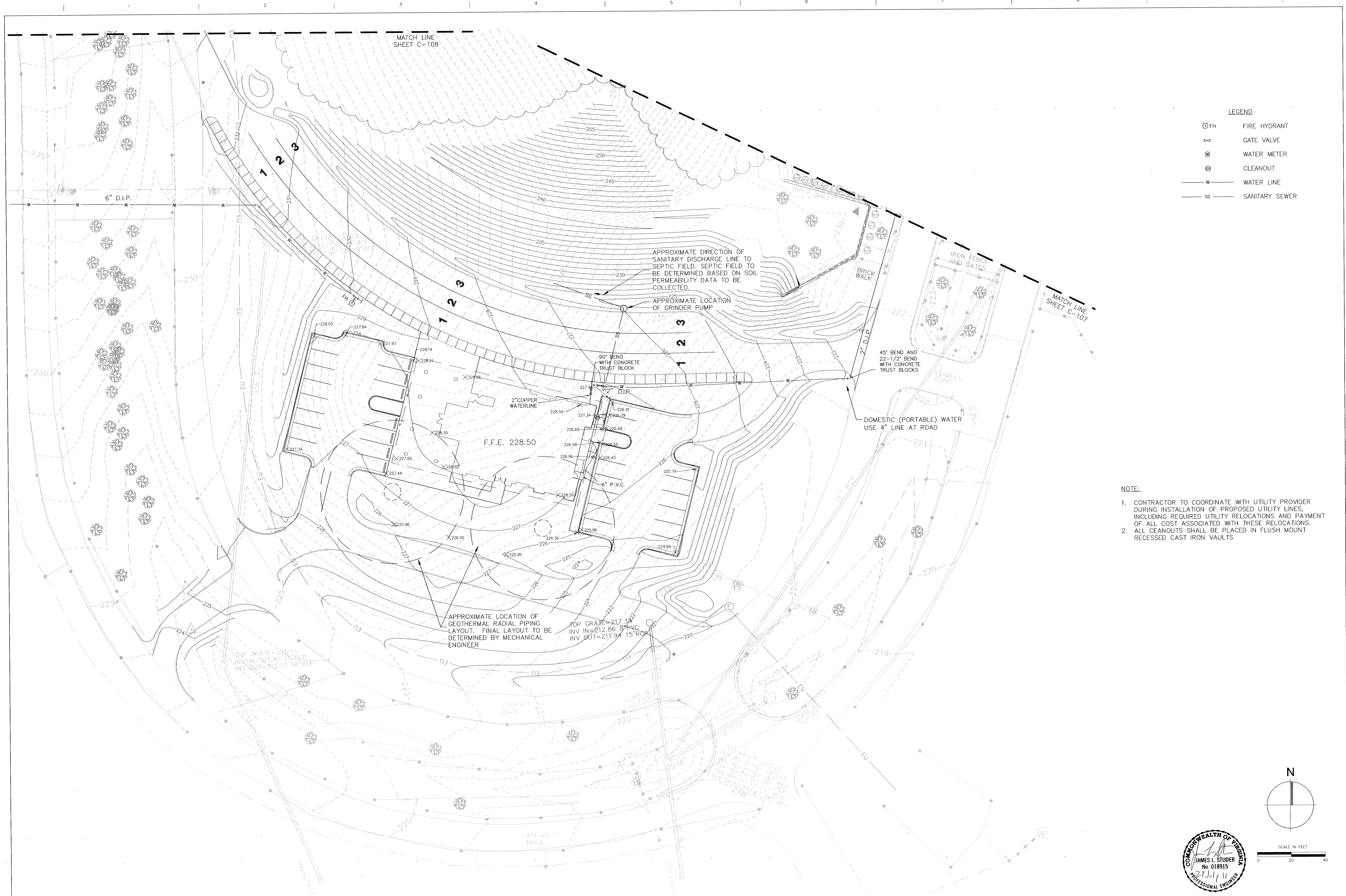
Project No.

872CM3035

DRAWING NO.

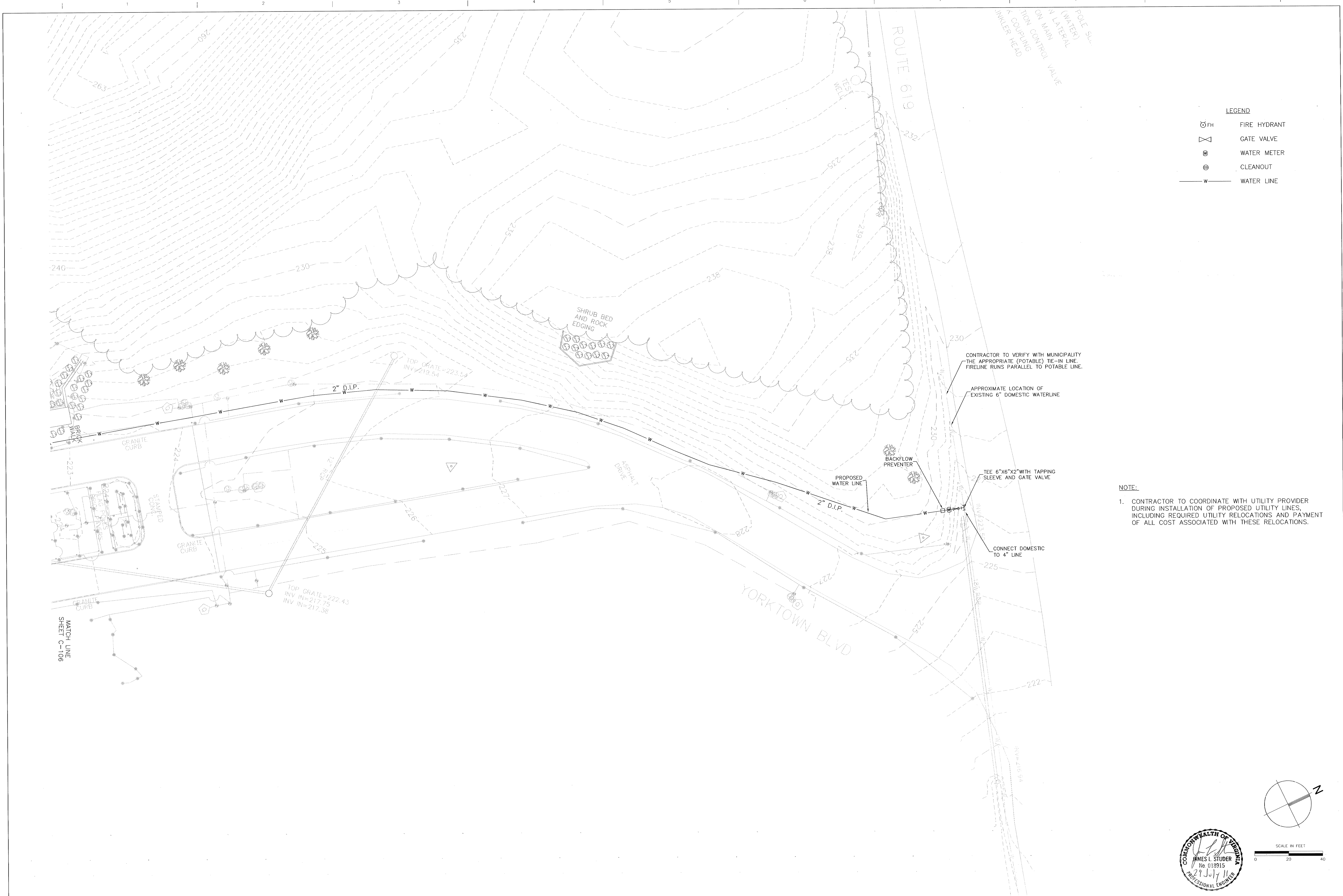
C-105

Dwg. 12 of 81

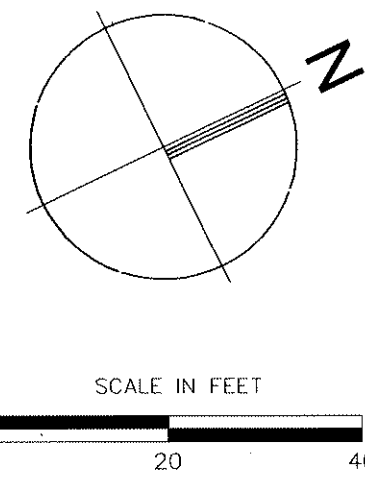
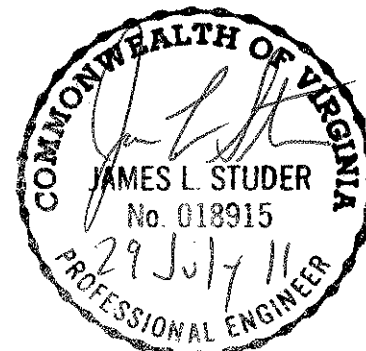


- NOTE:
1. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER DURING INSTALLATION OF PROPOSED UTILITY LINES, INCLUDING REQUIRED UTILITY RELOCATIONS AND PAYMENT OF ALL COST ASSOCIATED WITH THESE RELOCATIONS.
 2. ALL CLEANOUTS SHALL BE PLACED IN FLUSH MOUNT RECESSED CAST IRON VAULTS

Revisions	Date	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE: MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085	ARCHITECTURE: MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	MEP ENGINEER: Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, GA 30308 Orlando, FL 32801 Houston, TX 77058 Mexico City, Mexico Toluca, Mexico	SURVEY: HALDER SURVEYS P.C. 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	NATIONAL CEMETERY ADMINISTRATION	Drawing Title UTILITY PLANS SHEET 1 OF 2	Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY	Date 07-29-11
							Approved: Director, Technical Support Service	Building Number 18424 JOPLIN ROAD TRIANGLE, VIRGINIA	Checked 872CM3035



NOTE:
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Revisions	Date

CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:

MACTEC
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Atlanta, Dubai, UAE
Orlando, Mexico City, Mexico
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SURVEY:

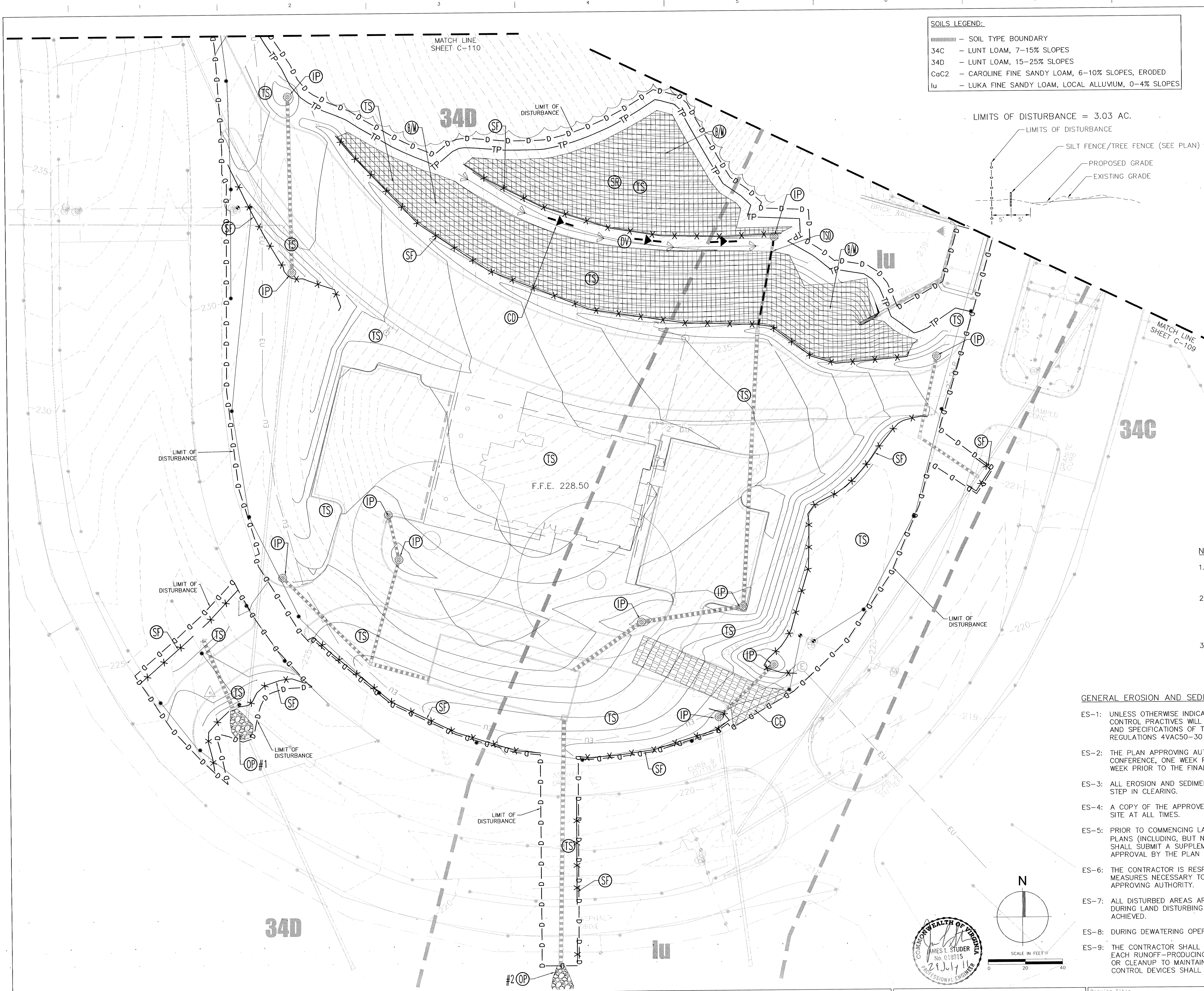
HALDER SURVEYS
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NATIONAL CEMETERY ADMINISTRATION

Drawing Title
UTILITY PLANS SHEET 2 OF 2
Approved: Director, Technical Support Service
Approved: Chief, Architectural & Engineering Division

Project Title
ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY
Building Number
Checked
Drawn
Location
18424 JOPLIN ROAD TRIANGLE, VIRGINIA

Date
07-29-11
Project No.
872CM3035
DRAWING NO.
C-107
Dwg. 14 of 81



SOILS LEGEND:	
=====	SOIL TYPE BOUNDARY
34C	LUNT LOAM, 7-15% SLOPES
34D	LUNT LOAM, 15-25% SLOPES
CaC2	CAROLINE FINE SANDY LOAM, 6-10% SLOPES, ERODED
lu	LUKA FINE SANDY LOAM, LOCAL ALLUVIUM, 0-4% SLOPES

EROSION & SEDIMENTATION CONTROL LEGEND			
UNIFORM CODING SYMBOL	DESCRIPTION	SYMBOL ON PLANS	NOTES AND DETAILS
TS	TEMPORARY SLOPE DRAIN		A FLEXIBLE TUBING OR CONDUIT USED BEFORE PERMANENT DRAINAGE STRUCTURES ARE INSTALLED, INTENDED TO CONDUCT CONCENTRATED RUNOFF SAFELY FROM THE TOP TO THE BOTTOM OF A DISTURBED SLOPE WITHOUT CAUSING EROSION ON OR BELOW THE SLOPE.
CE	TEMPORARY CONSTRUCTION ENTRANCE		A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION SITE EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM THE TIRES. STONE TO BE NO. 1 IN. REQUIRE PERIODIC TOP DRESSING W/ 2 IN. STONE. PROVIDE WASHING AS NEEDED. MIN. SIZE- 20' X 50'
IP	STORM DRAIN INLET PROTECTION		THE INSTALLATION OF VARIOUS KINDS OF SEDIMENT TRAPPING MEASURES AROUND DROP INLETS OR CURB INLET STRUCTURES PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.
TS	TEMPORARY SEEDING	TS	ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER- ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO GRADE FOR PERIODS OF 30 DAYS TO 1 YEAR BY SEEDING WITH APPROPRIATE RAPIDLY-GROWING PLANTS.
B/W	SOIL STABILIZATION BLANKETS & MATTING		THE INSTALLATION OF A PROTECTIVE BLANKET (TREATMENT 1) OR A SOIL STABILIZATION MAT (TREATMENT 2) ON A PREPARED PLANTING OF A STEEP SLOPE, CHANNEL, OR SHORELINE.
DV	DIVERSION	DV	SMALL, TEMPORARY STONE DAMS CONSTRUCTED ACROSS A DRAINAGE DITCH TO REDUCE THE VELOCITY OF CONCENTRATED FLOWS, REDUCING EROSION OF THE SWALE OR DITCH.
OP	OUTLET PROTECTION		THE INSTALLATION OF RIPRAP CHANNEL SECTIONS AND/OR STILLING BASINS BELOW STORM DRAIN OUTLETS TO REDUCE EROSION AND UNDER-CUTTING FROM SCOURING AT OUTLETS AND TO REDUCE FLOW VELOCITIES BEFORE STORMWATER ENTERS RECEIVING CHANNELS BELOW THESE OUTLETS.
SF	SILT FENCE		A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT SHALL CONSIST OF A SILT FENCE INSTALLED ACCORDING TO THE SILT FENCE DETAIL.
TP	TREE PRESERVATION & PROTECTION	TP	PROTECTING EXISTING TREES FROM MECHANICAL AND OTHER INJURY DURING LAND-DISTURBING AND CONSTRUCTION ACTIVITY TO ENSURE THE SURVIVAL OF DESIRABLE TREES WHERE THEY WILL BE EFFECTIVE FOR EROSION AND SEDIMENT CONTROL AND PROVIDE OTHER ENVIRONMENTAL AND AESTHETIC BENEFITS.
SR	SURFACE ROUGHENING	SR	GRADING PRACTICES SUCH AS STAIR-STEPPING OR LEAVING SLOPES IN A ROUGHENED CONDITION BY NOT FINE GRADING THEM. REDUCES RUNOFF VELOCITY, PROVIDES SEDIMENT TRAPPING AND INCREASES INFILTRATION, ALL WHICH FACILITATE ESTABLISHMENT OF VEGETATION ON EXPOSED SLOPES. APPLICABLE TO ALL SLOPES STEEPER THAN 3:1 OR THAT HAVE RECEIVED FINAL GRADING BUT WILL NOT BE STABILIZED IMMEDIATELY.
CD	ROCK CHECK DAM		SMALL, TEMPORARY STONE DAMS CONSTRUCTED ACROSS A DRAINAGE DITCH TO REDUCE THE VELOCITY OF CONCENTRATED FLOWS, REDUCING EROSION OF THE SWALE OR DITCH. LIMITED OF USE IN SMALL OPEN CHANNELS WHICH DRAIN 10 ACRES OR LESS. SHOULD NOT BE USED IN LIVE STREAMS.

- NOTES:
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD OF GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
 - EROSION CONTROL SYMBOLS REPRESENT APPROXIMATE LOCATIONS. ACTUAL LOCATIONS OF EROSION CONTROL MEASURES SHALL BE DETERMINED IN THE FIELD BASED ON SITE TOPOGRAPHY. CONTRACTOR SHALL CONTACT THE DESIGN PROFESSIONAL IF HE IS UNCLEAR REGARDING ACTUAL FIELD LOCATIONS.
 - SEE LANDSCAPE PLAN (SHEET L-100) FOR ADDITIONAL INFORMATION ON LANDSCAPE MATERIALS AND LOCATIONS.

- TYPICAL LIMITS OF DISTURBANCE SECTION (NTS)
- GENERAL EROSION AND SEDIMENT CONTROL NOTES:
- ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
- ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
- ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

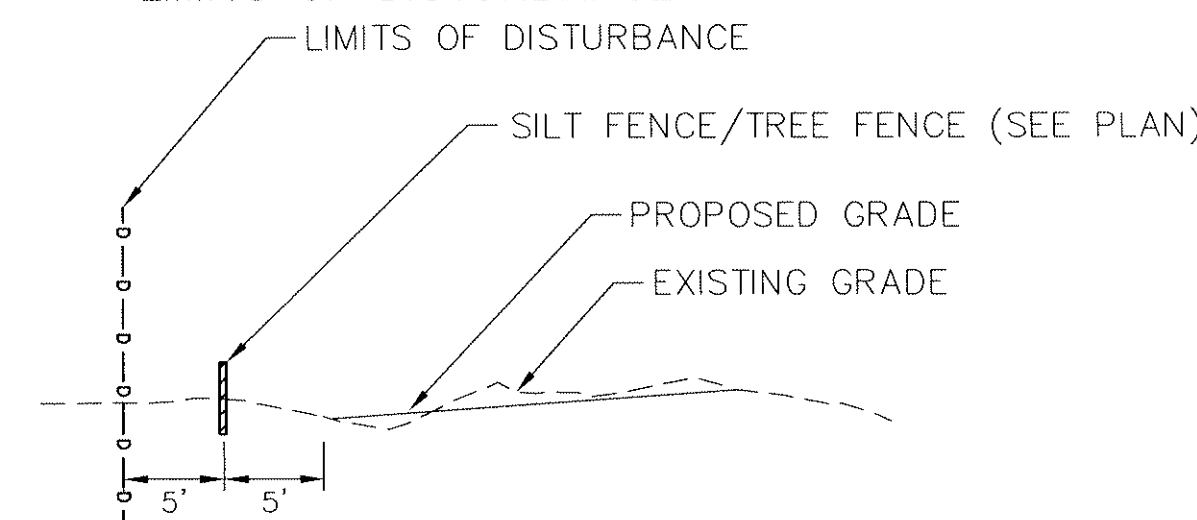
Revisions <table><tr><td> </td><td>Date</td></tr></table>		Date	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE: MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085	ARCHITECTURE: MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	MEP ENGINEER: Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, GA Dubai, UAE 404.266.1400 www.tcieng.com Orlando, FL Mexico City, Mexico Houston, TX Tortosa, BV	SURVEY: HALDER SURVEYS P.C. 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	NATIONAL CEMETERY ADMINISTRATION	Drawing Title: INITIAL EROSION & SEDIMENT CONTROL PLAN Approved: Director, Technical Support Service Approved: Chief, Architectural & Engineering Division	Project Title: ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY Building Number: Checked: Drawn: Location: 18424 JOPLIN ROAD TRIANGLE, VIRGINIA	Date: 07-29-11 Project No.: 872CM3035 DRAWING NO.: C-108 Dwg. 15 of 81
	Date									

EROSION & SEDIMENTATION CONTROL LEGEND

UNIFORM CODING SYMBOL	DESCRIPTION	SYMBOL ON PLANS	NOTES AND DETAILS
(TSD)	TEMPORARY SLOPE DRAIN		A FLEXIBLE TUBING OR CONDUIT USED BEFORE PERMANENT DRAINAGE STRUCTURES ARE INSTALLED, INTENDED TO CONDUCT CONCENTRATED RUNOFF SAFELY FROM THE TOP TO THE BOTTOM OF A DISTURBED SLOPE WITHOUT CAUSING EROSION ON OR BELOW THE SLOPE.
(CE)	TEMPORARY CONSTRUCTION ENTRANCE		A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION SITE EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM THE TIRES. STONE TO BE NO. 1 MAY REQUIRE PERIODIC TOP DRESSING W/ 2 IN. STONE. PROVIDE WASHING AS NEEDED. MIN. SIZE - 20' X 50'
(IP)	STORM DRAIN INLET PROTECTION		THE INSTALLATION OF VARIOUS KINDS OF SEDIMENT TRAPPING MEASURES AROUND DROP INLETS OR CURB INLET STRUCTURES PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.
(TS)	TEMPORARY SEEDING	(TS)	ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO GRADE FOR PERIODS OF 30 DAYS TO 1 YEAR BY SEEDING WITH APPROPRIATE RAPIDLY-GROWING PLANTS.
(B/W)	SOIL STABILIZATION BLANKETS & MATTING		THE INSTALLATION OF A PROTECTIVE BLANKET (TREATMENT 1) OR A SOIL STABILIZATION MAT (TREATMENT 2) ON A PREPARED PLANTING OF A STEEP SLOPE, CHANNEL, OR SHORELINE.
(DV)	DIVERSION	(DV)	SMALL, TEMPORARY STONE DAMS CONSTRUCTED ACROSS A DRAINAGE DITCH TO REDUCE THE VELOCITY OF CONCENTRATED FLOWS, REDUCING EROSION OF THE SWALE OR DITCH.
(OP)	OUTLET PROTECTION		THE INSTALLATION OF RIPRAP CHANNEL SECTIONS AND/OR STILLING BASINS BELOW STORM DRAIN OUTLETS TO REDUCE EROSION AND UNDER-CUTTING FROM SCOURING AT OUTLETS AND TO REDUCE FLOW VELOCITIES BEFORE STORMWATER ENTERS RECEIVING CHANNELS BELOW THESE OUTLETS.
(SF)	SILT FENCE		A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT SHALL CONSIST OF A SILT FENCE INSTALLED ACCORDING TO THE SILT FENCE DETAIL.

SOILS LEGEND:	
	SOIL TYPE BOUNDARY
34C	LUNT LOAM, 7-15% SLOPES
34D	LUNT LOAM, 15-25% SLOPES
CaC2	CAROLINE FINE SANDY LOAM, 6-10% SLOPES, ERODED
lu	LUKA FINE SANDY LOAM, LOCAL ALLUVIUM, 0-4% SLOPES

LIMITS OF DISTURBANCE = 3.03 AC.



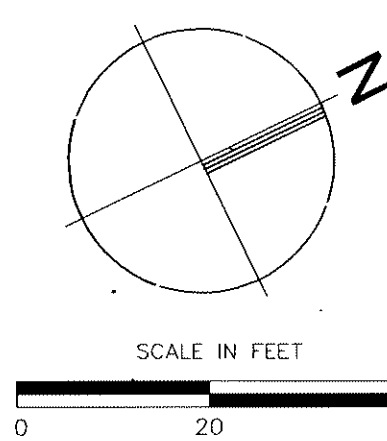
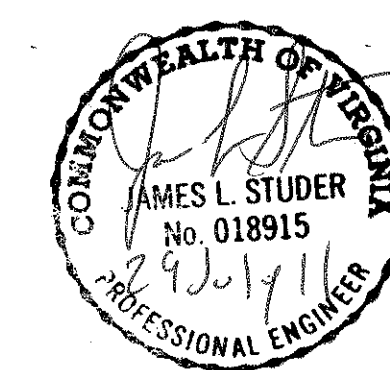
NOTES:

- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD OF GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
- EROSION CONTROL SYMBOLS REPRESENT APPROXIMATE LOCATIONS. ACTUAL LOCATIONS OF EROSION CONTROL MEASURES SHALL BE DETERMINED IN THE FIELD BASED ON SITE TOPOGRAPHY. CONTRACTOR SHALL CONTACT THE DESIGN PROFESSIONAL IF HE IS UNCLEAR REGARDING ACTUAL FIELD LOCATIONS.
- SEE LANDSCAPE PLAN (SHEET L-100) FOR ADDITIONAL INFORMATION ON LANDSCAPE MATERIALS AND LOCATIONS.

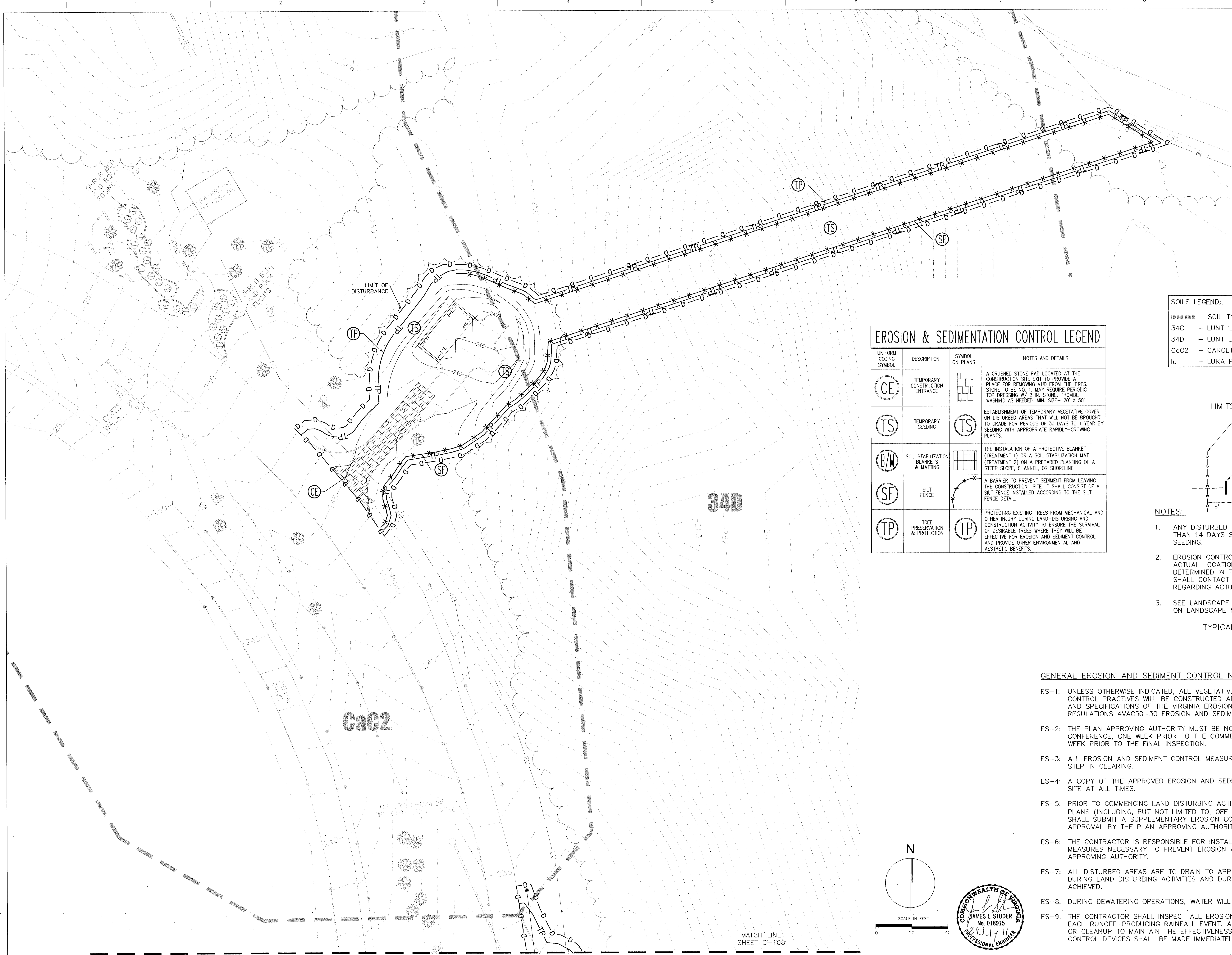
TYPICAL LIMITS OF DISTURBANCE SECTION (NTS)

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
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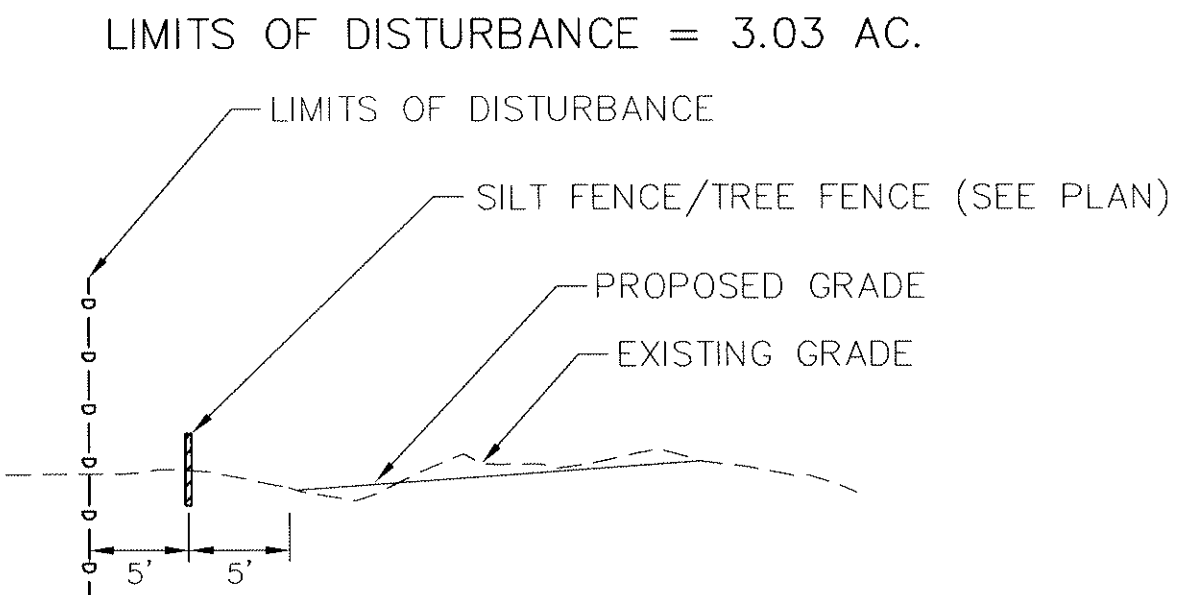


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Approved: Director, Technical Support Service		Building Number		Checked		Drawn		Project No. 872CM3035		DRAWING NO. C-109		Dwg. 16 of 81			
Approved: Chief, Architectural & Engineering Division		Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA													



EROSION & SEDIMENTATION CONTROL LEGEND			
UNIFORM CODING SYMBOL	DESCRIPTION	SYMBOL ON PLANS	NOTES AND DETAILS
CE	TEMPORARY CONSTRUCTION ENTRANCE		A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION SITE EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM THE TIRES. STONE TO BE NO. 1. MAY REQUIRE PERIODIC TOP DRESSING W/ 2 IN. STONE. PROVIDE WASHING AS NEEDED. MIN. SIZE- 20' X 50'
TS	TEMPORARY SEEDING		ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO GRADE FOR PERIODS OF 30 DAYS TO 1 YEAR BY SEEDING WITH APPROPRIATE RAPIDLY-GROWING PLANTS.
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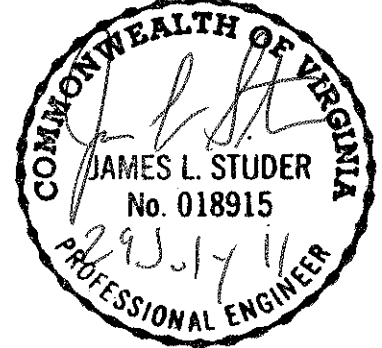
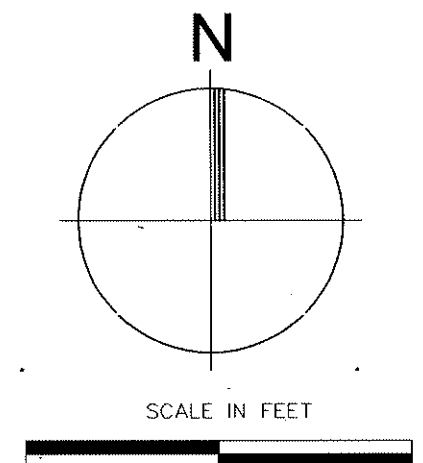


- NOTES:
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TYPICAL LIMITS OF DISTURBANCE SECTION (NTS)

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

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- ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
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- ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.



MATCH LINE
SHEET C-108

CIVIL ENGINEER/LANDSCAPE ARCHITECTURE: MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085		ARCHITECTURE: MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	MEP ENGINEER: Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 404. 266. 1400 www.tcleng.com Atlanta, Dubai, UAE Orlando, Mexico City, Mexico Houston, Toronto, BVI	SURVEY: HALDER SURVEYS 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	 NATIONAL CEMETERY ADMINISTRATION	Drawing Title INITIAL EROSION & SEDIMENT CONTROL PLAN	Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY	Date 07-29-11
Approved: Director, Technical Support Service		Building Number	Checked	Drawn	DRAWING NO. C-110			
Approved: Chief, Architectural & Engineering Division		Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA		Dwg. 17 of 81				

SOILS LEGEND:

===== - SOIL TYPE BOUNDARY

34C - LUNT LOAM, 7-15% SLOPES

34D - LUNT LOAM, 15-25% SLOPES

CaC2 - CAROLINE FINE SANDY LOAM, 6-10% SLOPES, ERODED

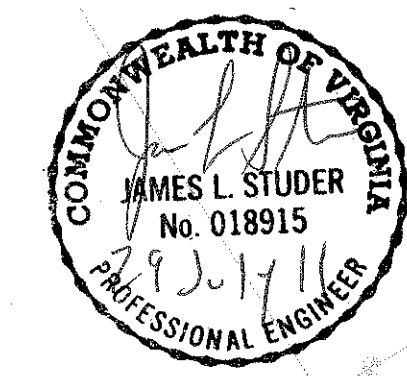
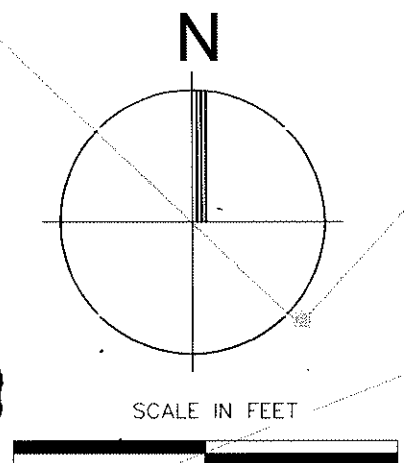
lu - LUKA FINE SANDY LOAM, LOCAL ALLUVIUM, 0-4% SLOPES

Diagram illustrating the proposed road cross-section and limits of disturbance. The diagram shows the existing ground profile (Existing Grade) and the proposed road profile (Proposed Grade). The limits of disturbance are indicated by a dashed line. The silt fence/tree fence is shown as a vertical line. The diagram includes dimensions for the limits of disturbance (5' on each side of the centerline) and the proposed grade (5' on each side of the centerline).

1. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD OF GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
2. EROSION CONTROL SYMBOLS REPRESENT APPROXIMATE LOCATIONS. ACTUAL LOCATIONS OF EROSION CONTROL MEASURES SHALL BE DETERMINED IN THE FIELD BASED ON SITE TOPOGRAPHY. CONTRACTOR SHALL CONTACT THE DESIGN PROFESSIONAL IF HE IS UNCLEAR REGARDING ACTUAL FIELD LOCATIONS.
3. SEE LANDSCAPE PLAN (SHEET L-100) FOR ADDITIONAL INFORMATION ON LANDSCAPE MATERIALS AND LOCATIONS.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
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CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:  MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA 30144 TEL: (770) 421-3400 FAX: (770) 421-3486	ARCHITECTURE:  MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	MEP ENGINEER:  Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 404. 266. 1400 www.tcieng.com	SURVEY:  10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	 NATIONAL CEMETERY ADMINISTRATION	Drawing Title FINAL EROSION & SEDIMENT CONTROL PLAN	Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY	Date 07-29-11
					Approved: Director, Technical Support Service	Building Number	Checked
Approved: Chief, Architectural & Engineering Division	Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA	Drawing No. C-111		Dwg. 18 of 81			

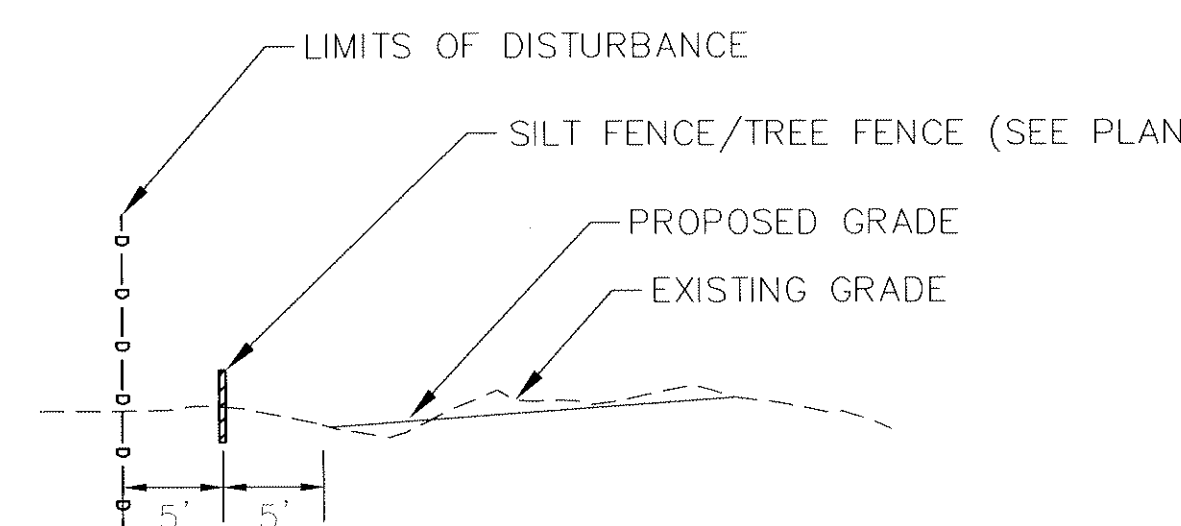
EROSION & SEDIMENTATION CONTROL LEGEND

UNIFORM CODING SYMBOL	DESCRIPTION	SYMBOL ON PLANS	NOTES AND DETAILS
(PS)	PERMANENT SEEDING	(PS)	ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER BY PLANTING SEED ON ROUGH GRADED AREAS THAT WILL NOT BE BROUGHT TO GRADE FOR A PERIOD OF 1 YEAR OR MORE.
(SO)	SODDING	(SO)	STABILIZING FINE GRADING BY ESTABLISHING PERMANENT GRASS STANDS WITH SOD. PROVIDES IMMEDIATE PROTECTION AGAINST EROSION, AND IS ESPECIALLY EFFECTIVE IN GRASSED SWALES AND WATERWAYS.
(VEG)	TREES, SHRUBS, AND GROUNDCOVERS	(VEG)	STABILIZING DISTURBED AREAS BY PLANTING TREES, SHRUBS, VINES, AND GROUNDCOVERS WHERE TURF IS NOT PREFERRED.
(SF)	SILT FENCE		A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT SHALL CONSIST OF A SILT FENCE INSTALLED ACCORDING TO THE SILT FENCE DETAIL.

SOILS LEGEND:

	SOIL TYPE BOUNDARY
34C	LUNT LOAM, 7-15% SLOPES
34D	LUNT LOAM, 15-25% SLOPES
CaC2	CAROLINE FINE SANDY LOAM, 6-10% SLOPES, ERODED
lu	LUKA FINE SANDY LOAM, LOCAL ALLUVIUM, 0-4% SLOPES

LIMITS OF DISTURBANCE = 3.03 AC.



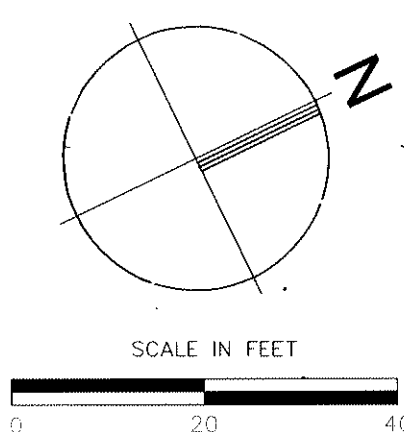
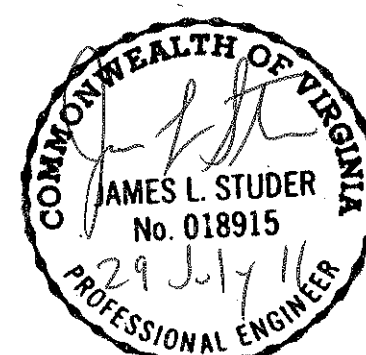
NOTES:

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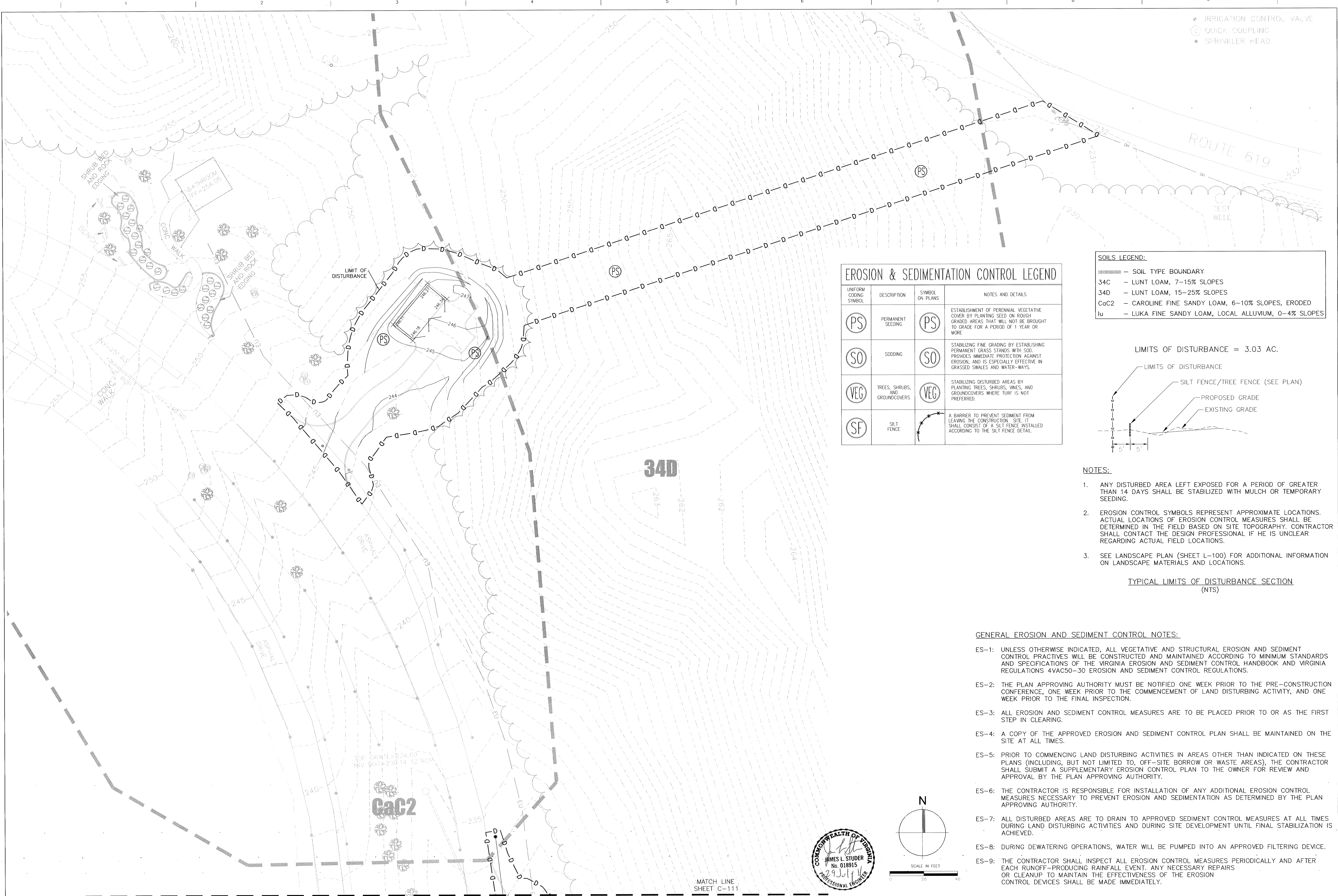
TYPICAL LIMITS OF DISTURBANCE SECTION (NTS)

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
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Approved: Director, Technical Support Service		Building Number		Checked		Drawn		Project No. 872CM3035		DRAWING NO. C-112		Dwg. 19 of 81			
Approved: Chief, Architectural & Engineering Division		Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA													



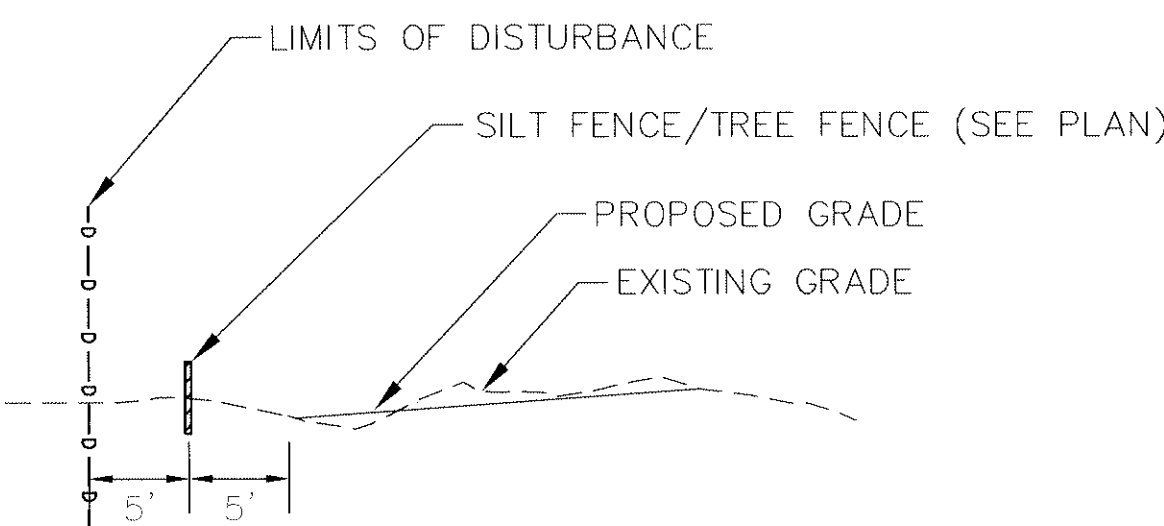
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LIMITS OF DISTURBANCE = 3.03 AC.



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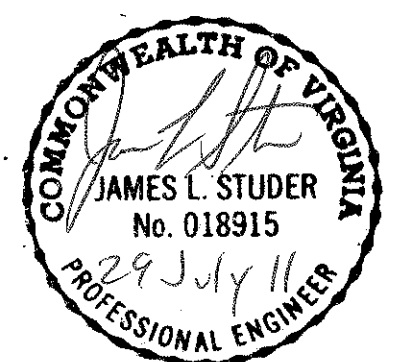
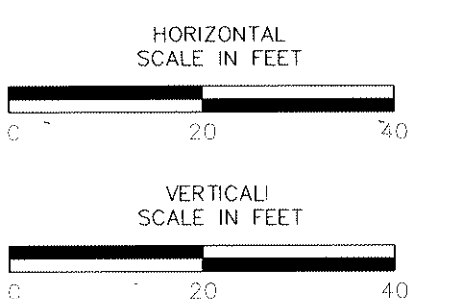
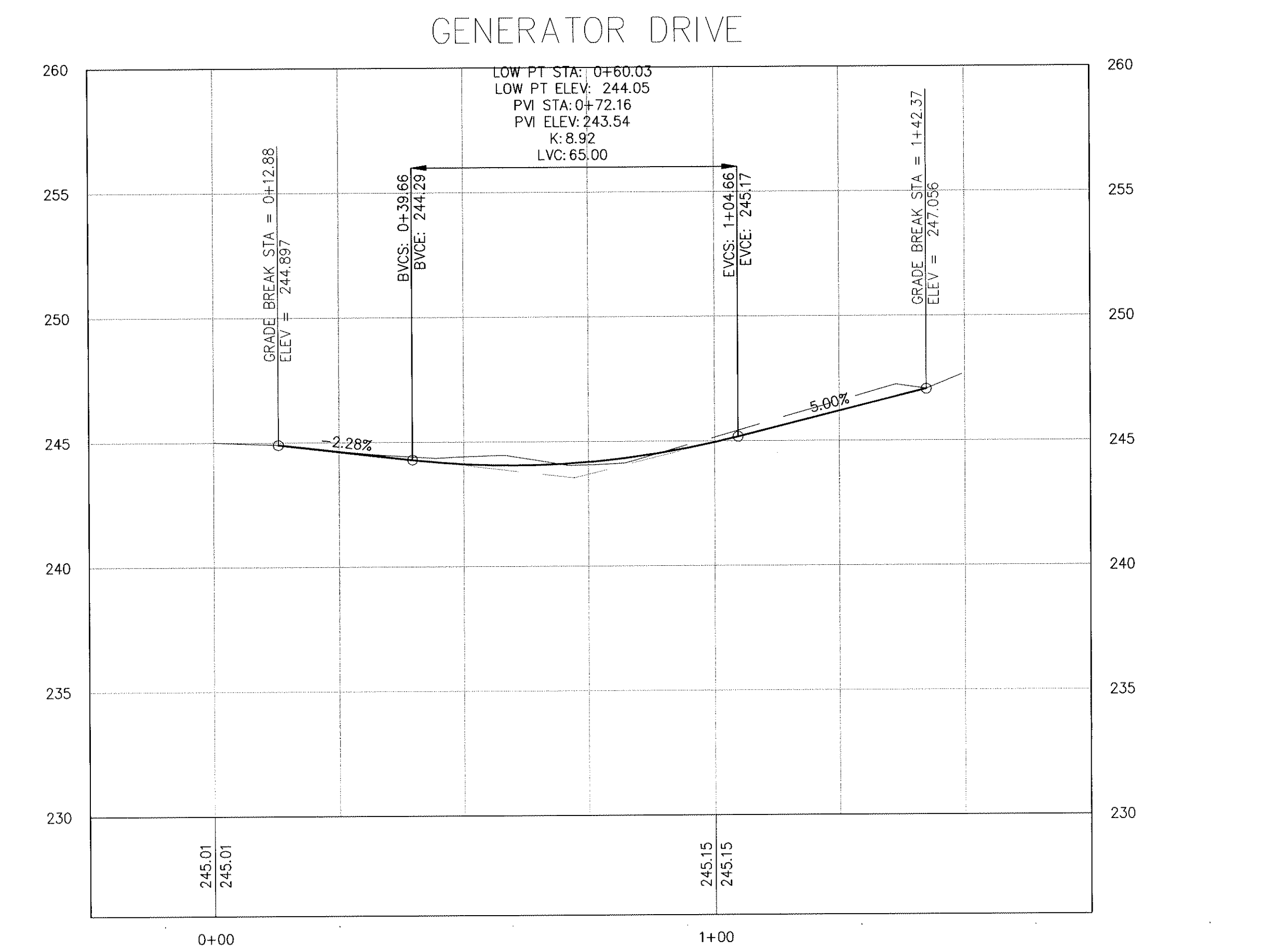
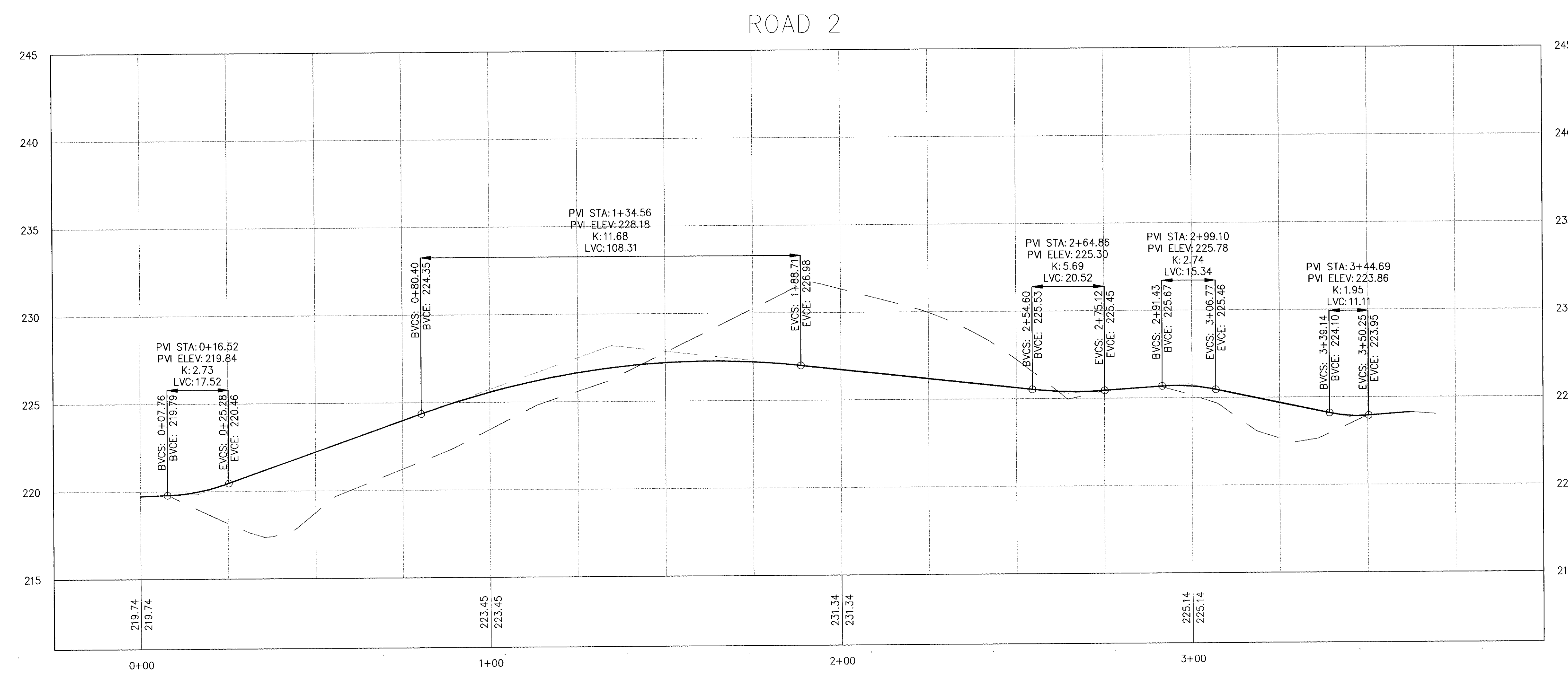
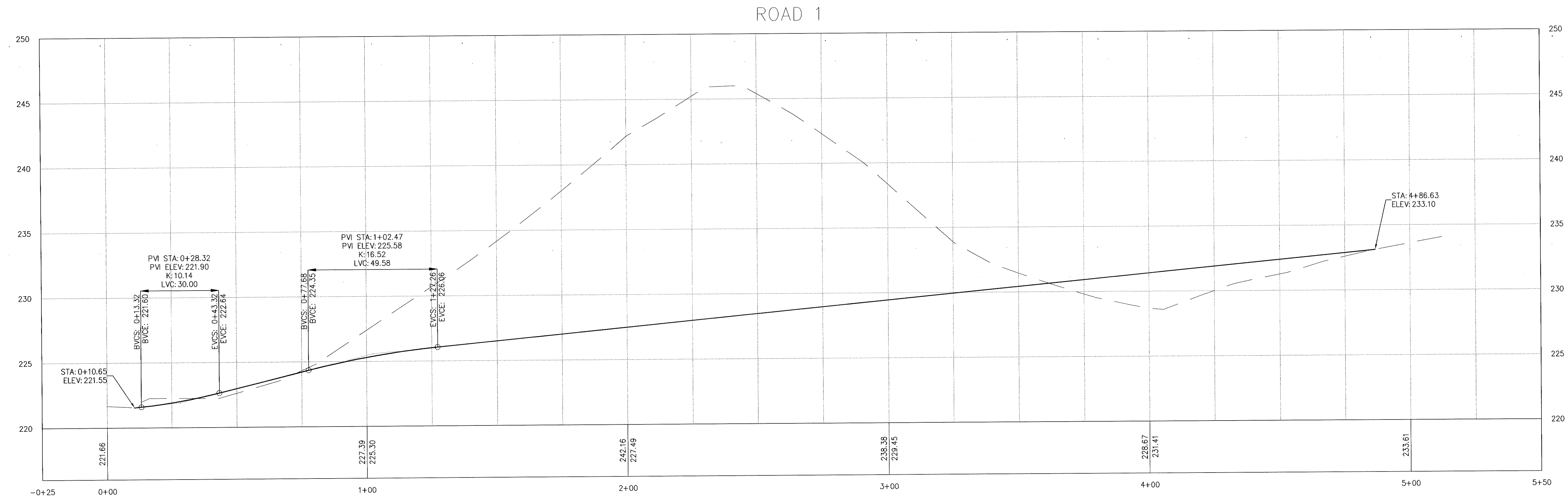
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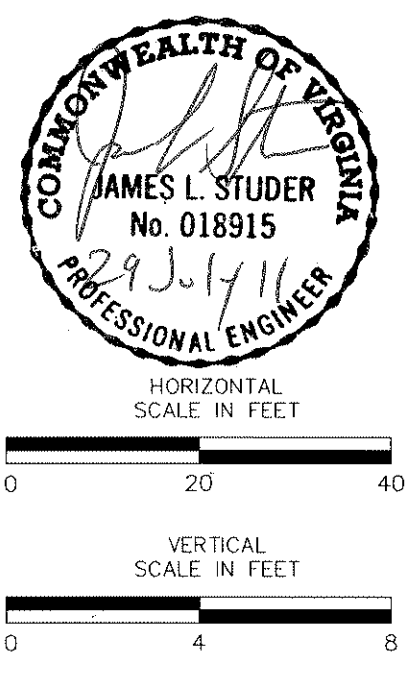
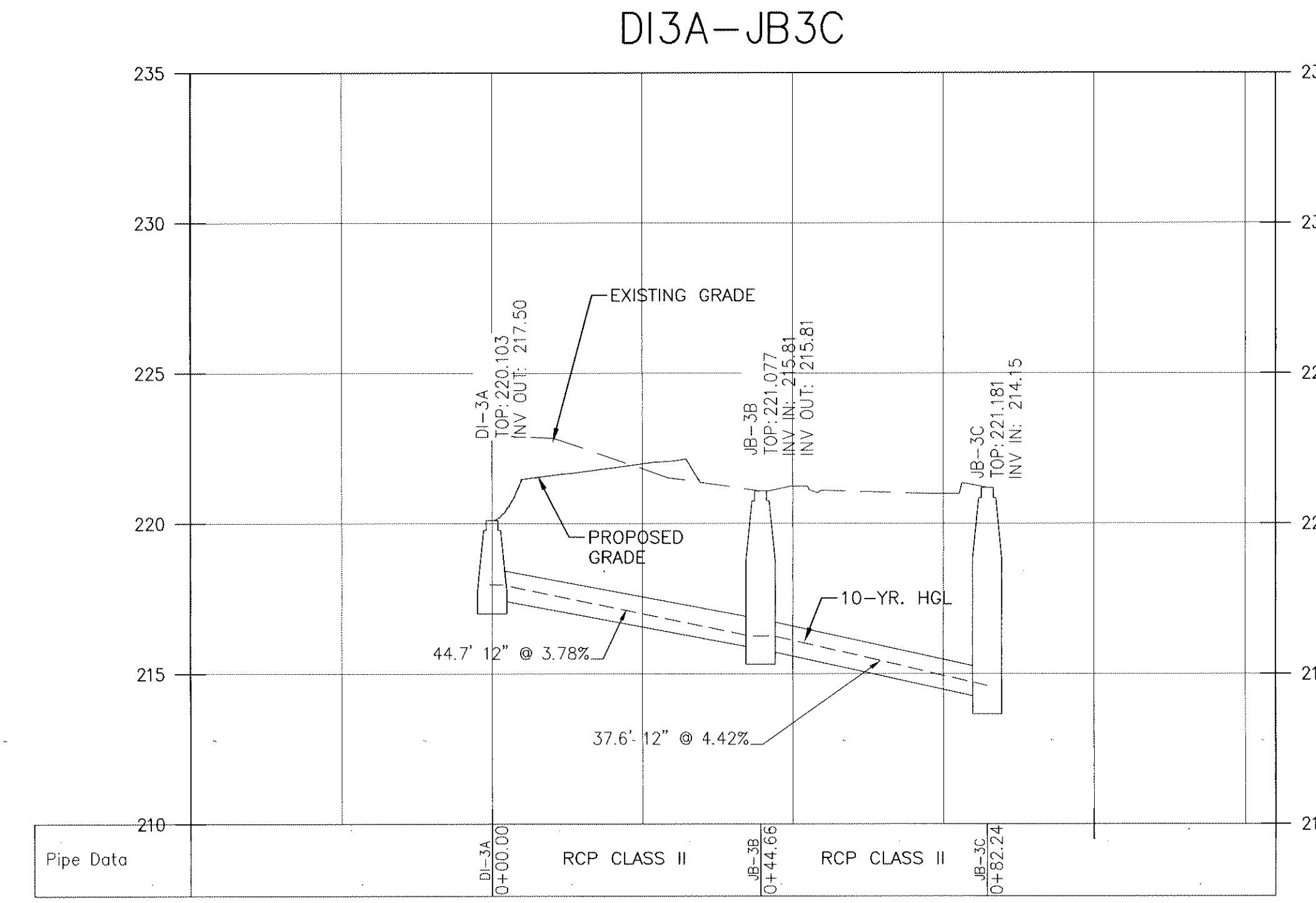
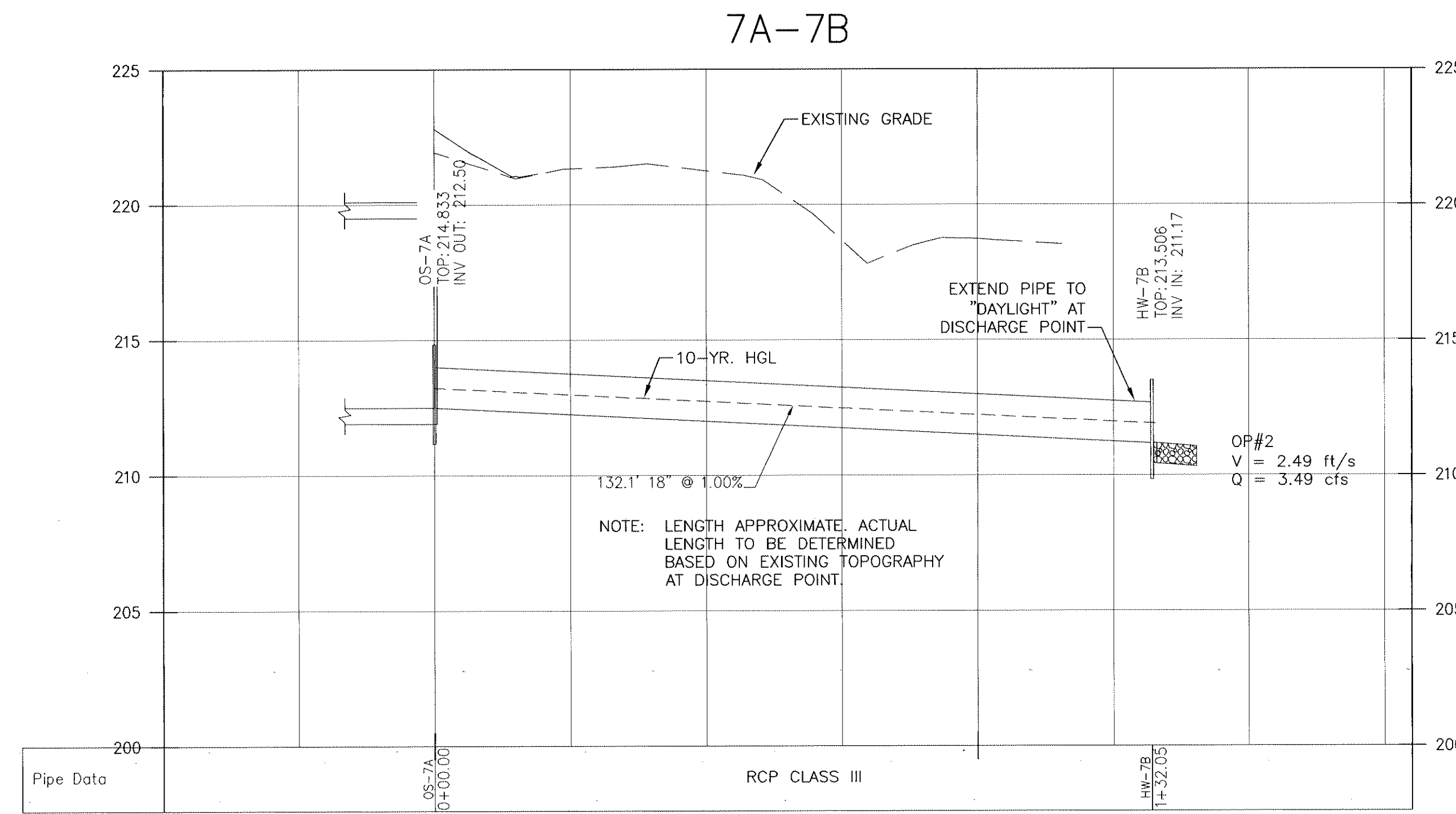
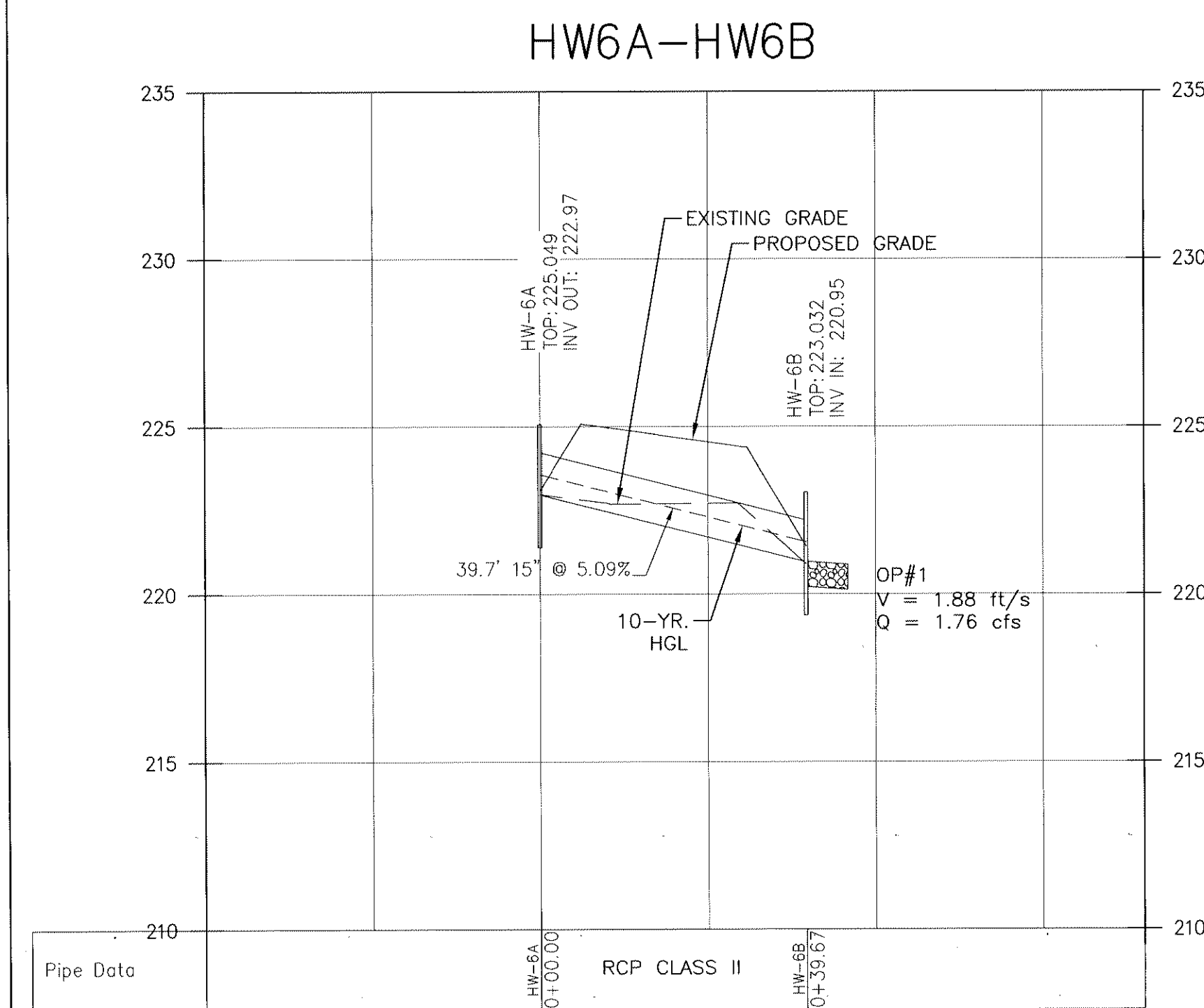
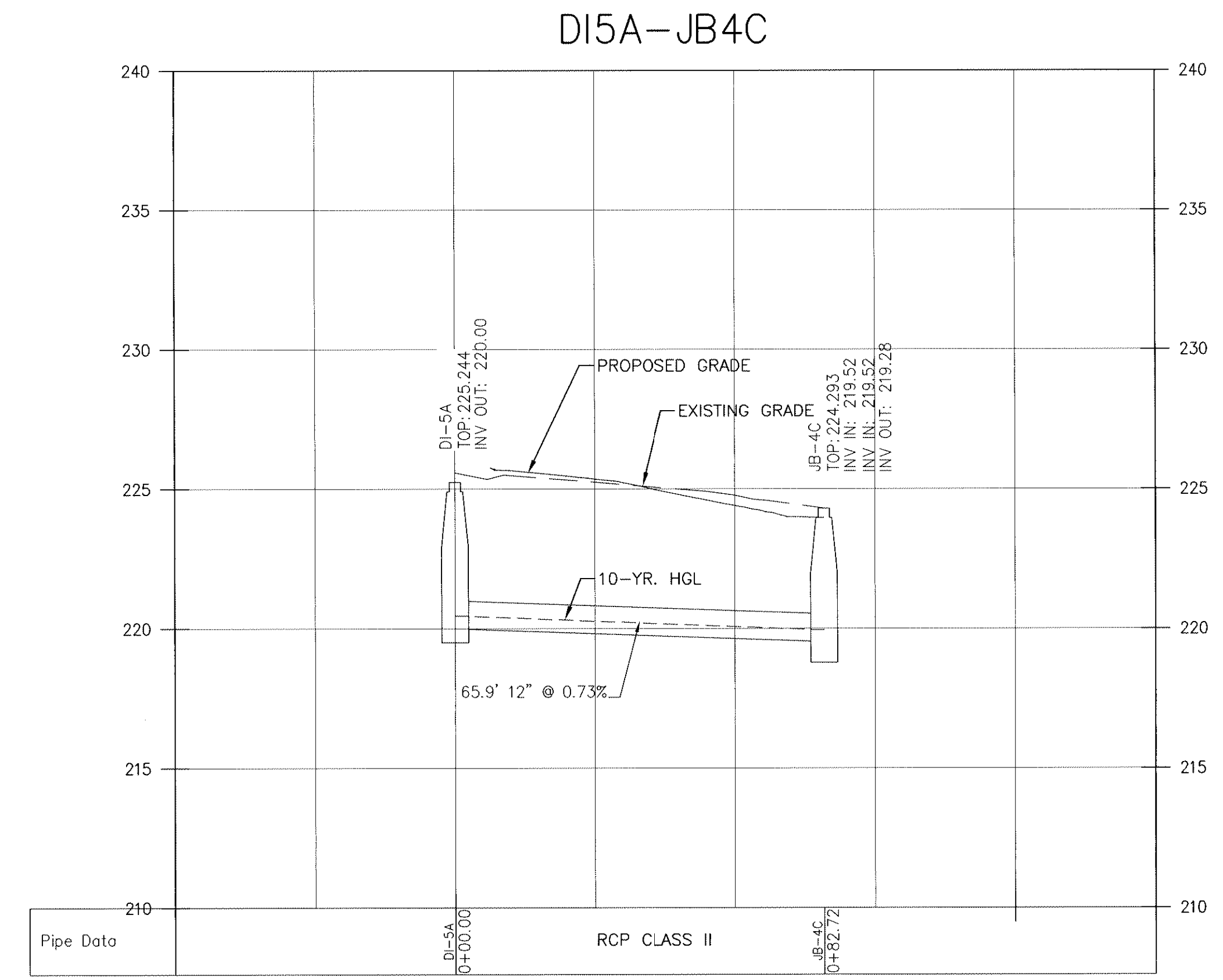
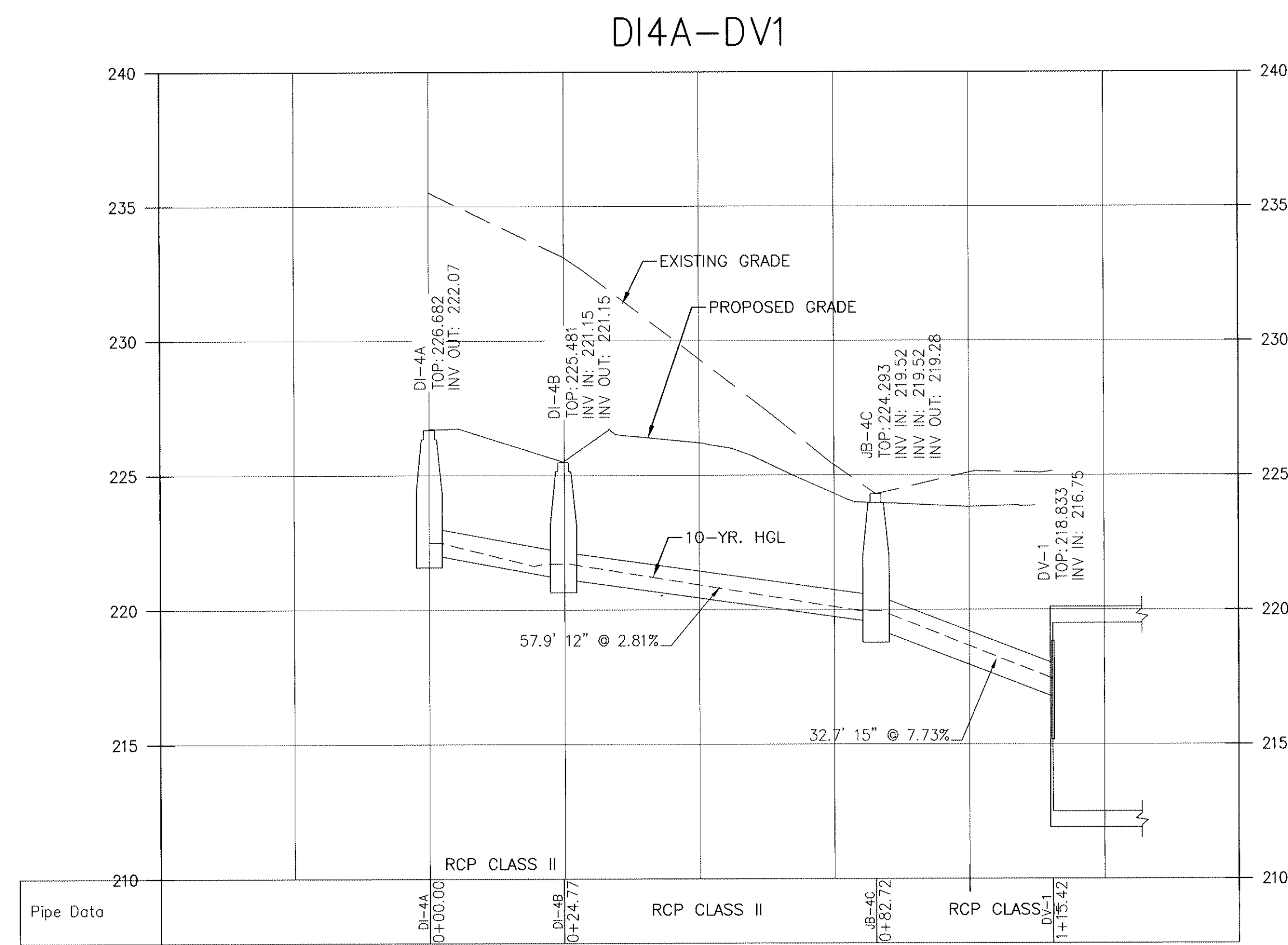
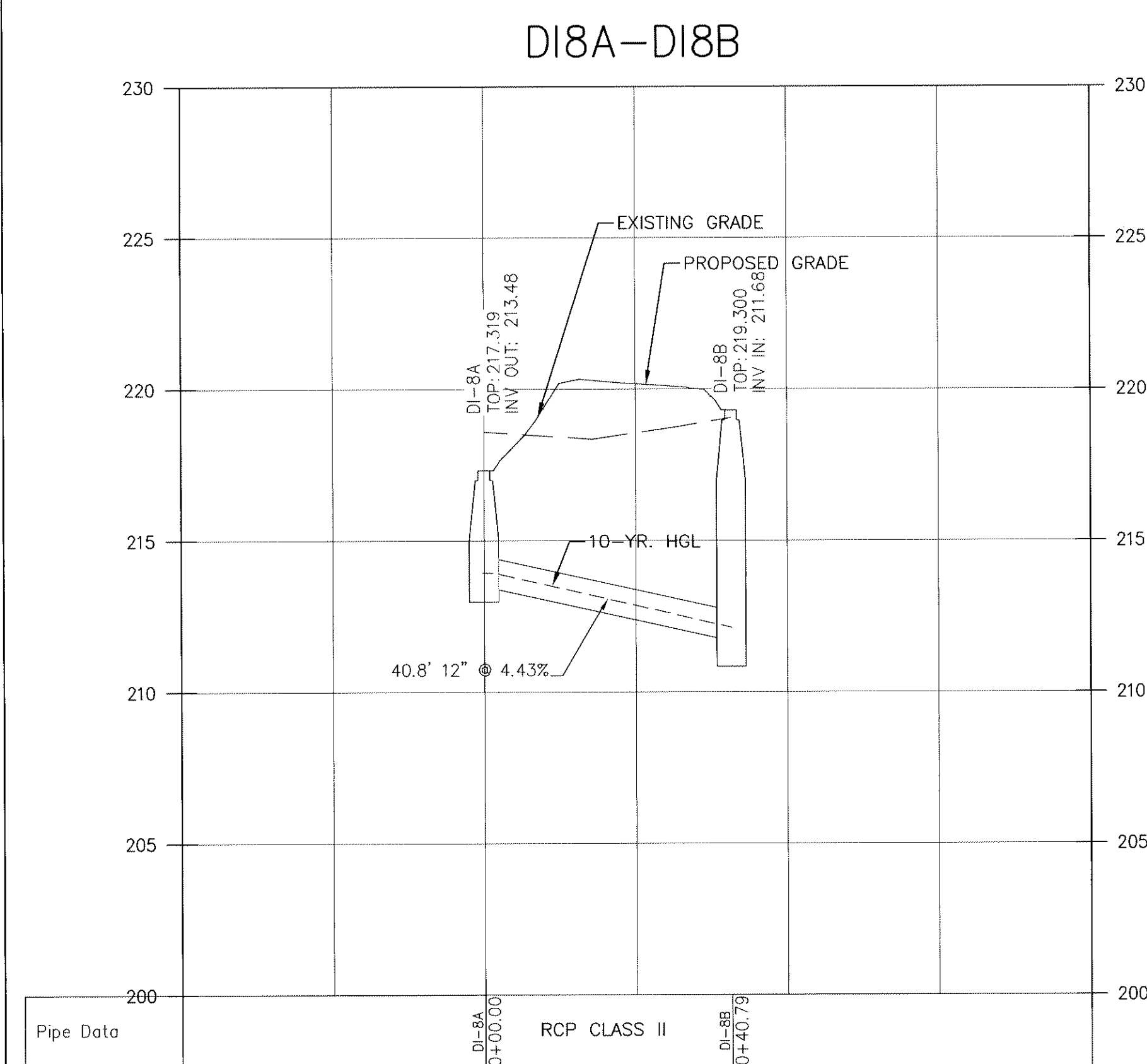
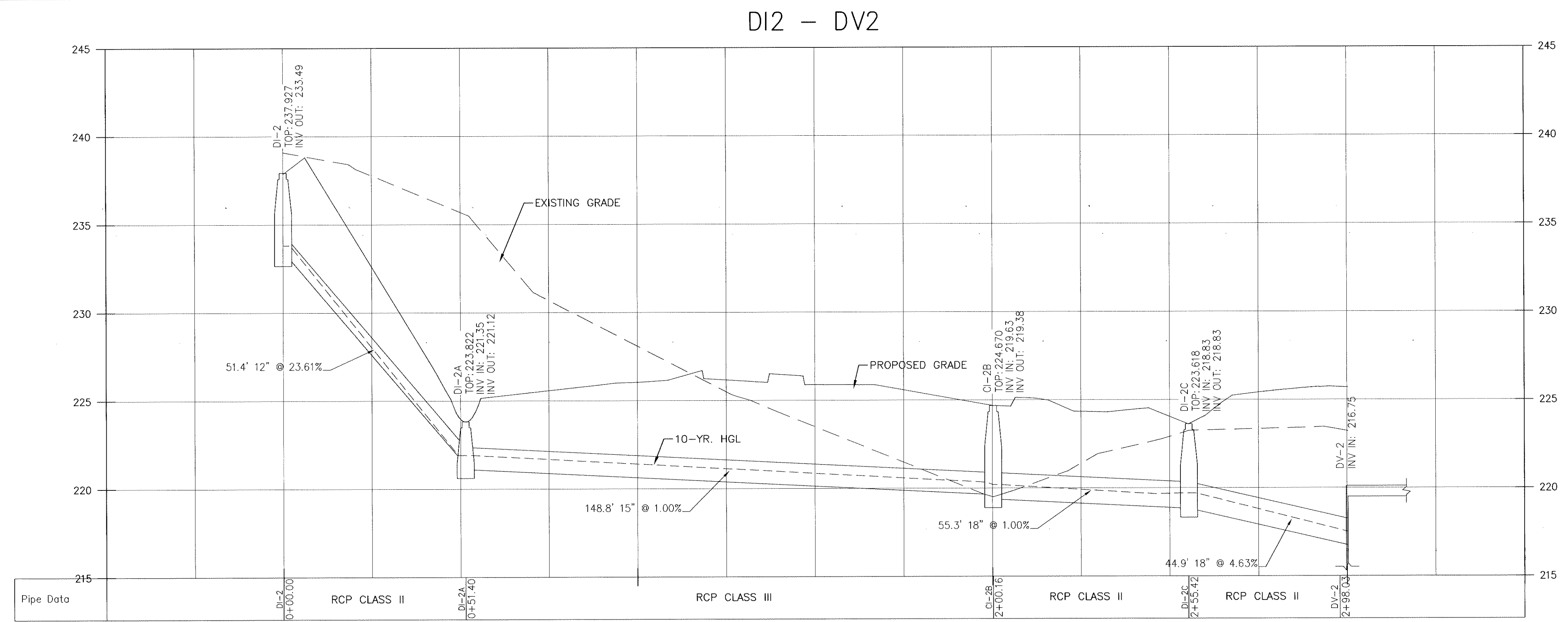
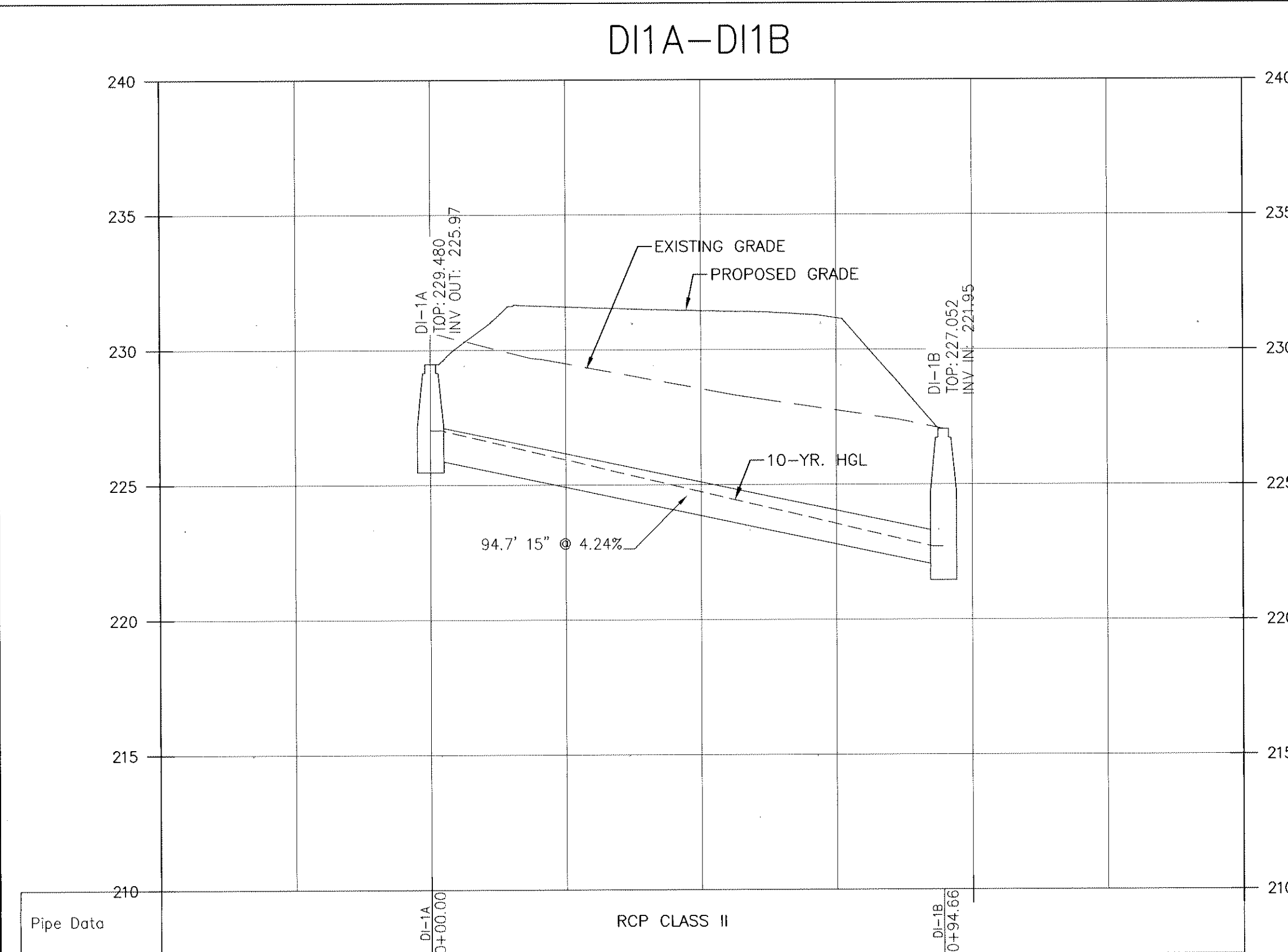
GENERAL EROSION AND SEDIMENT CONTROL NOTES:

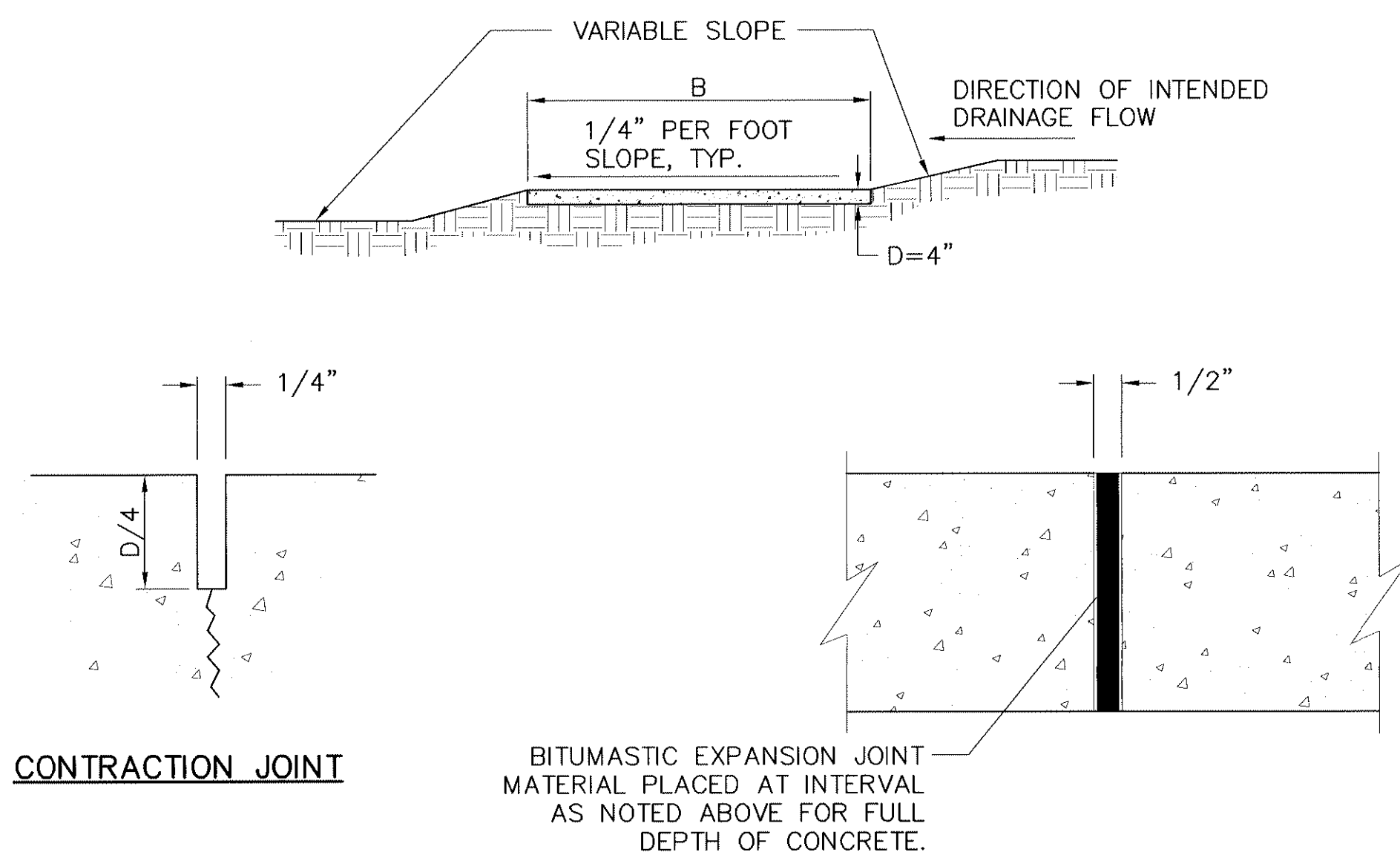
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Revisions		Date		CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:		ARCHITECTURE:		MEP ENGINEER:		SURVEY:		Drawing Title		Project Title		Date	

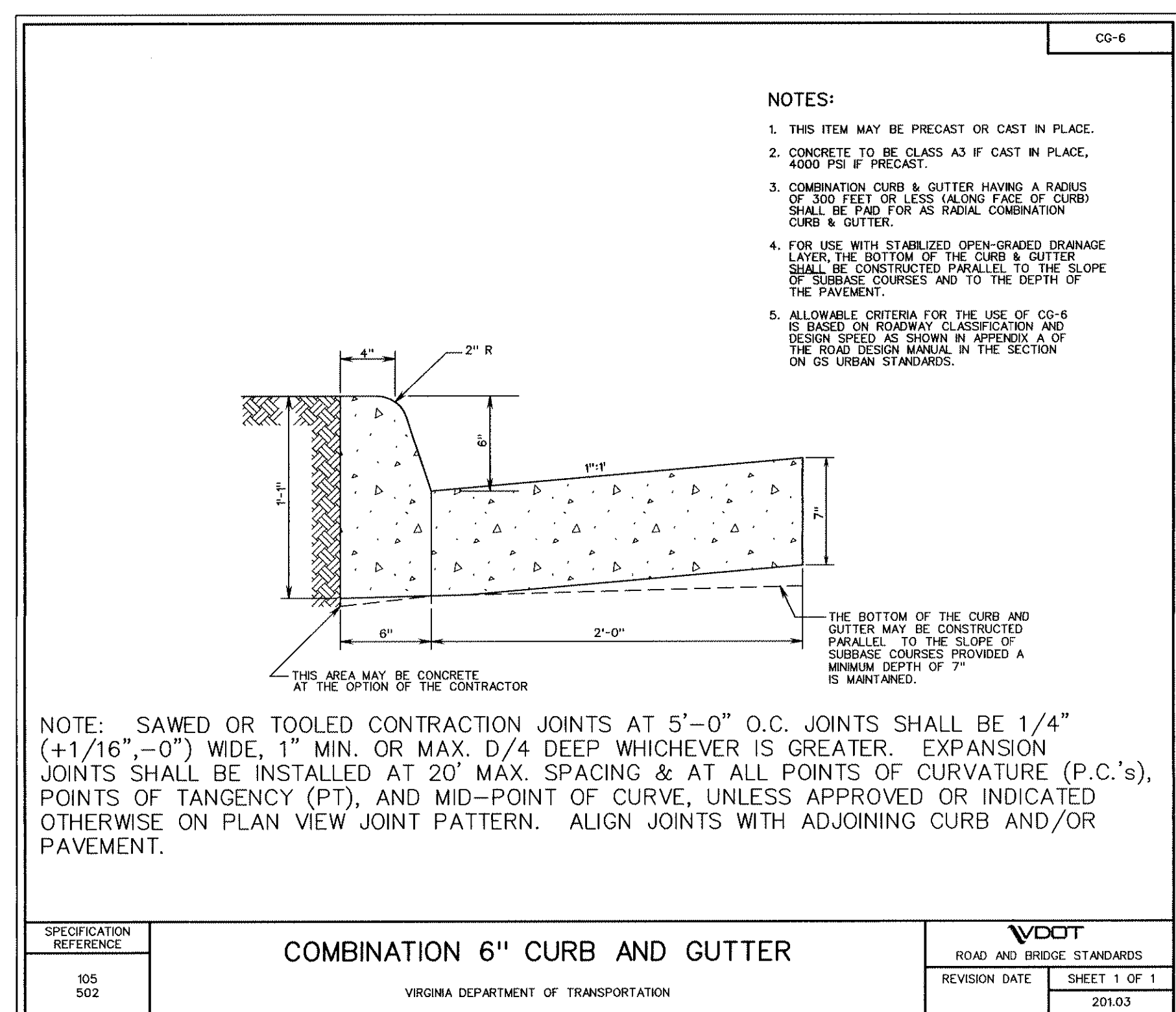


Revisions	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE: MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085	ARCHITECTURE: MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	MEP ENGINEER: Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, Dubai, UAE Orlando, Mexico City, Mexico Houston, Toronto, BVI 404.266.1400 www.tcleng.com	SURVEY: HALDER SURVEYS P.C. 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	NATIONAL CEMETERY ADMINISTRATION	Drawing Title ROADWAY PROFILES Approved: Director, Technical Support Service Approved: Chief, Architectural & Engineering Division	Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY Building Number Checked Drawn Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA	Date 07-29-11 Project No. 872CM3035 Drawing No. C-301 Dwg. 21 of 81
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EXPANSION JOINTS SHALL BE INSTALLED AT 20' MAX. SPACING & AT ALL POINTS OF CURVATURE (P.C.'s), POINTS OF TANGENCY (PT), AND MID-POINT OF CURVE, UNLESS APPROVED OR INDICATED OTHERWISE ON PLAN VIEW JOINT PATTERN. ALIGN JOINTS WITH ADJOINING CURB AND/OR PAVEMENT.



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	Revisions Date	

GENERAL

1. METHOD "A" PIPE BEDDING SHALL BE USED FOR ALL TYPES OF PIPE CULVERTS WITHIN THE APPLICABLE HEIGHT OF COVER RANGES NOTED IN THE STANDARD POST-TABLES UNLESS OTHERWISE NOTED ON THE PLANS.

2. H = HEIGHT OF COVER MEASURED FROM TOP OF CULVERT TO FINISHED GRADE.

3. B = EXCAVATION DEPTH AS SHOWN ON PLANS OR TO FIRM BEARING SOIL.

CIRCULAR PIPE

1. D = OUTSIDE DIAMETER OF PIPE.

2. d = INSIDE DIAMETER OF PIPE.

3. X = WIDTH OF CLASS I BACKFILL MATERIAL BEYOND THE EXTREMITY OF THE PIPE.

X = 12" WHERE d IS LESS THAN 36"

X = 18" WHERE d IS 36" AND GREATER.

4. WHERE DIRECTED BY THE ENGINEER, BEDDING MATERIAL MAY BE ELIMINATED FOR NORMAL EARTH FOUNDATIONS UNDER ROUTINE ENTRANCE PIPE (EXCEPT PLASTIC PIPE) 30" AND LESS IN DIAMETER WITH HEIGHT OF COVER 15' OR LESS.

5. REGULAR BACKFILL MATERIAL MAY BE USED IN LIEU OF CLASS I BACKFILL MATERIAL FOR ALL FOUNDATION TYPES FOR ROUTINE ENTRANCE PIPE (EXCEPT PLASTIC PIPE) 30" AND LESS IN DIAMETER WITH HEIGHT OF COVER 15' OR LESS.

6. BEDDING MATERIAL AND CLASS I BACKFILL MATERIAL MAY BE ELIMINATED FOR SHOULDER SLOT INLET (D-13) OUTLET PIPES INSTALLATIONS.

ELLIPTICAL PIPE

1. S₁ = OUTSIDE SPAN DIMENSION OF PIPE.

2. S₂ = INSIDE SPAN DIMENSION OF PIPE.

3. R = OUTSIDE RISE DIMENSION OF PIPE.

4. X = WIDTH OF CLASS I BACKFILL MATERIAL BEYOND THE EXTREMITY OF THE PIPE.

X = 12" WHERE S₂ IS LESS THAN 36"

X = 18" WHERE S₂ IS 36" AND GREATER.

5. WHERE DIRECTED BY THE ENGINEER, BEDDING MATERIAL MAY BE ELIMINATED FOR NORMAL EARTH FOUNDATIONS UNDER ROUTINE ENTRANCE PIPE WHERE S₂ IS 30" OR LESS AND HEIGHT OF COVER 15' OR LESS.

6. REGULAR BACKFILL MATERIAL MAY BE USED IN LIEU OF CLASS I BACKFILL MATERIAL FOR ALL FOUNDATION TYPES FOR ROUTINE ENTRANCE PIPE WHERE S₂ IS 30" OR LESS AND HEIGHT OF COVER 15' OR LESS.

PIPE ARCH

1. S = SPAN DIMENSION OF PIPE.

2. R = RISE DIMENSION OF PIPE.

3. B = SEE D-1 TABLE FOR APPLICABLE PIPE MATERIAL.

4. X = WIDTH OF CLASS I BACKFILL MATERIAL BEYOND THE EXTREMITY OF THE PIPE.

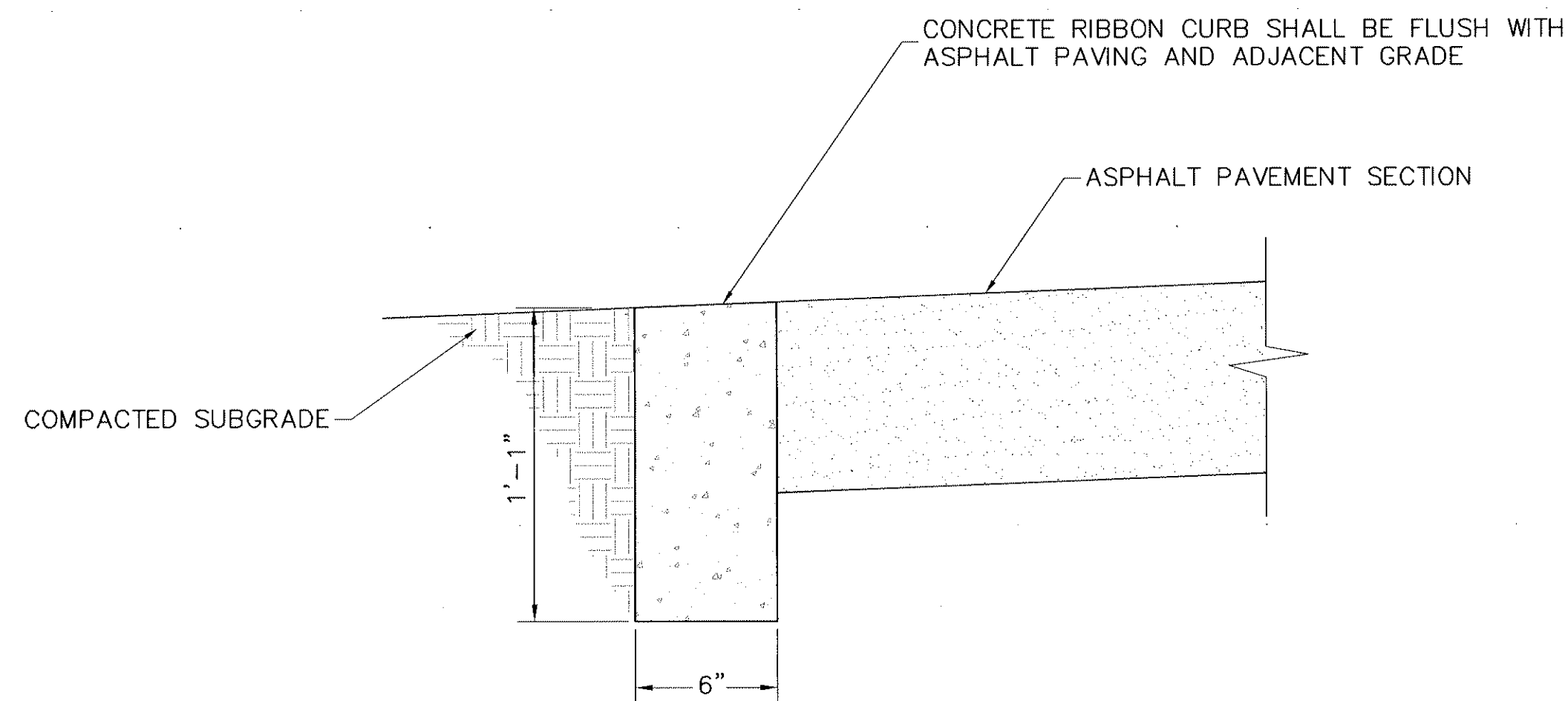
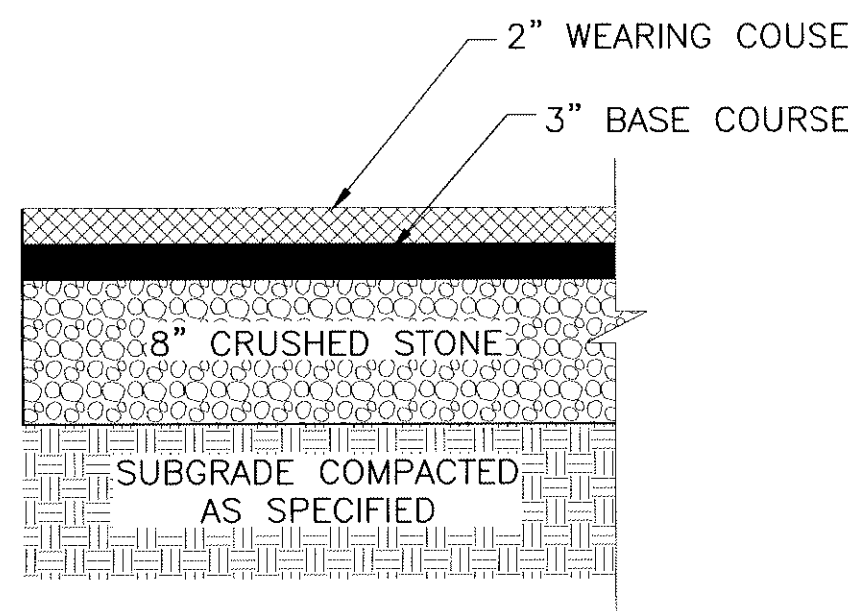
X = 12" WHERE S₂ IS LESS THAN 36"

X = 18" WHERE S₂ IS 36" AND GREATER.

5. WHERE DIRECTED BY THE ENGINEER, BEDDING MATERIAL MAY BE ELIMINATED FOR NORMAL EARTH FOUNDATIONS UNDER ROUTINE ENTRANCE PIPE WHERE S₂ IS 30" OR LESS AND HEIGHT OF COVER 15' OR LESS.

6. REGULAR BACKFILL MATERIAL MAY BE USED IN LIEU OF CLASS I BACKFILL MATERIAL FOR ALL FOUNDATION TYPES FOR ROUTINE ENTRANCE PIPE WHERE S₂ IS 30" OR LESS AND HEIGHT OF COVER 15' OR LESS.

SPECIFICATION REFERENCE	INSTALLATION OF PIPE CULVERTS & STORM SEWERS GENERAL NOTES	VDOT ROAD AND BRIDGE STANDARDS
302		REVISION DATE
303		SHEET 1 OF 1
		107.00



C-1 INSTALLATION OF PIPE CULVERTS & STORM SEWERS GENERAL NOTES

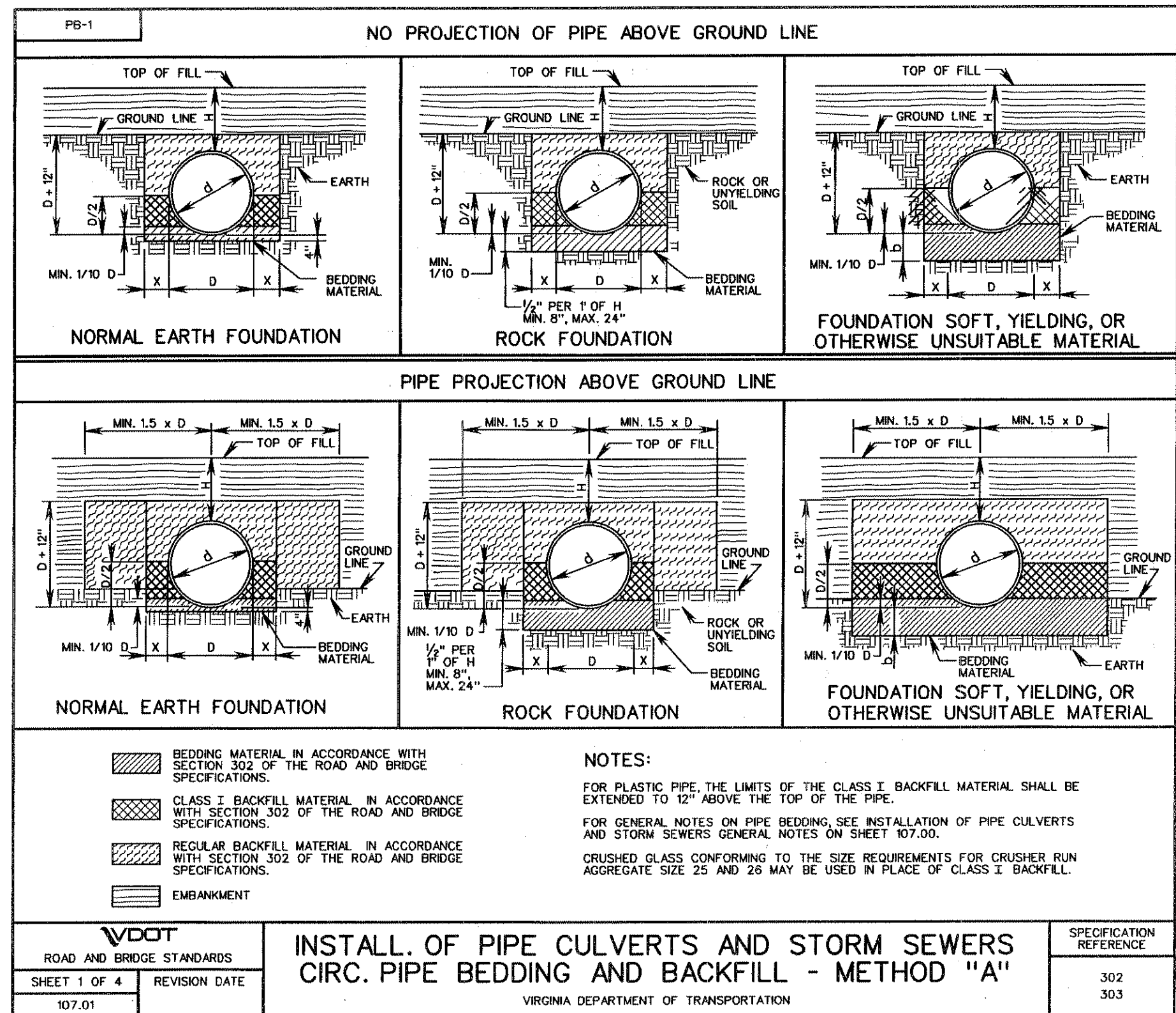
C-502 N.T.S. C-4, C-7,C-8

C-4 ASPHALT PAVING

C-502 N.T.S. C-102, C-103

C-7 RIBBON CURB

C-502 N.T.S.



F-1 PIPE CULVERTS & STORM SEWERS CIRC. PIPE BEDDING & BACKFILL

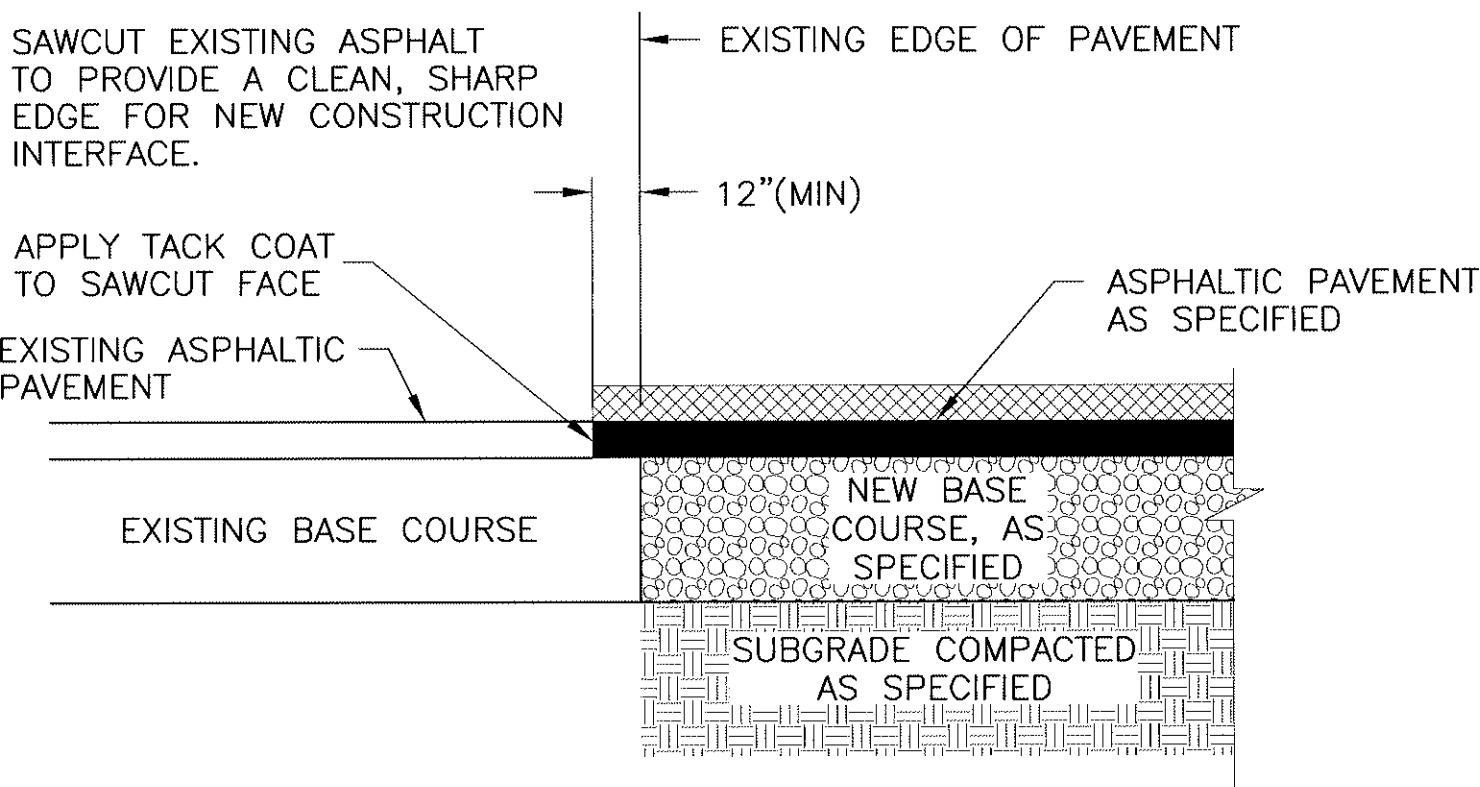
C-502 N.T.S. C-4, C-7,C-8

F-4 NEW/EXISTING PAVEMENT INTERFACE

C-502 N.T.S.

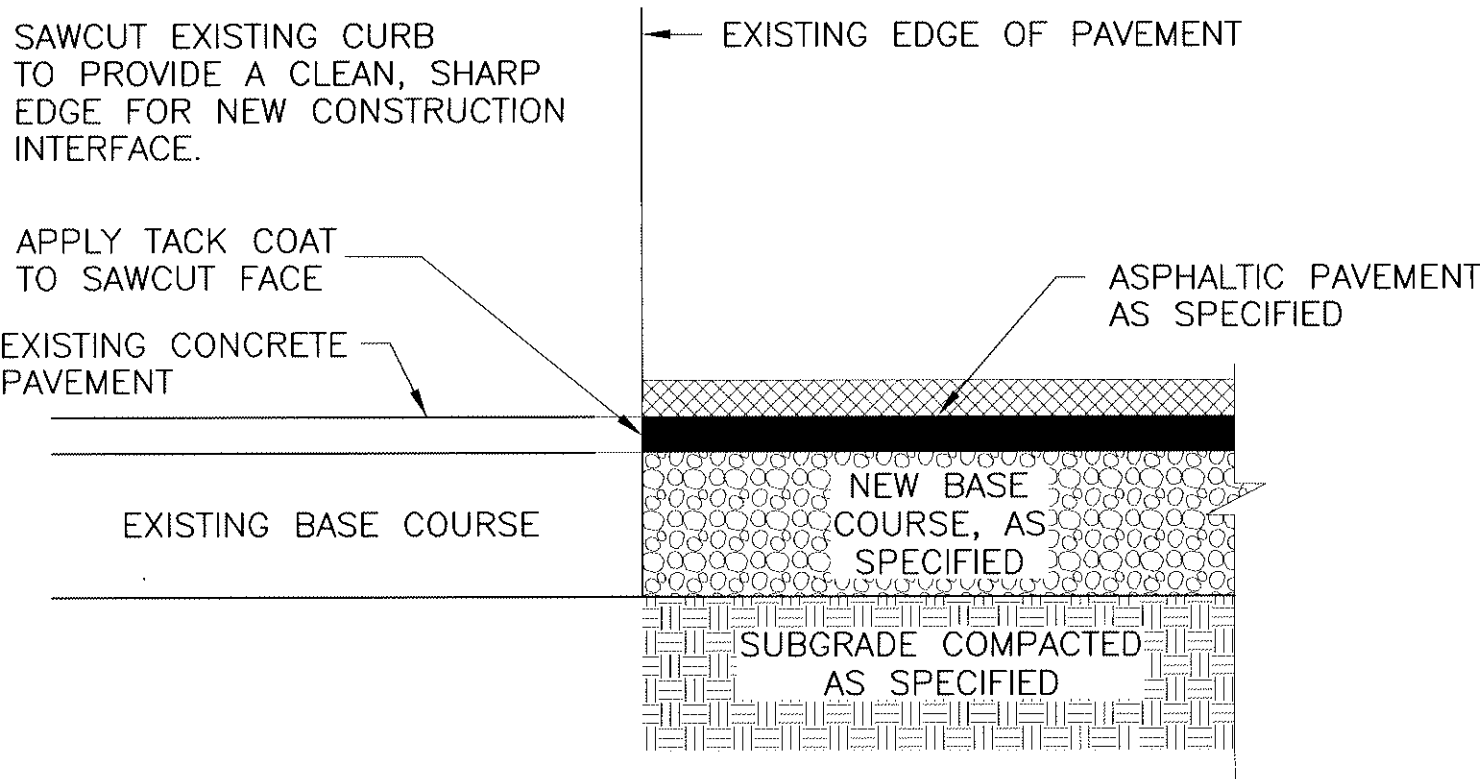
F-7 WHEEL STOP

C-502 N.T.S.

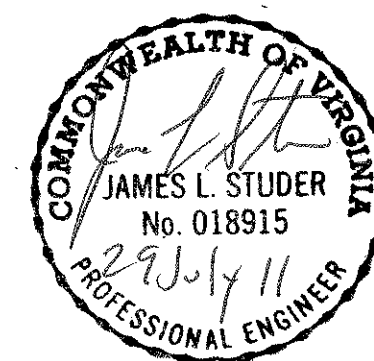
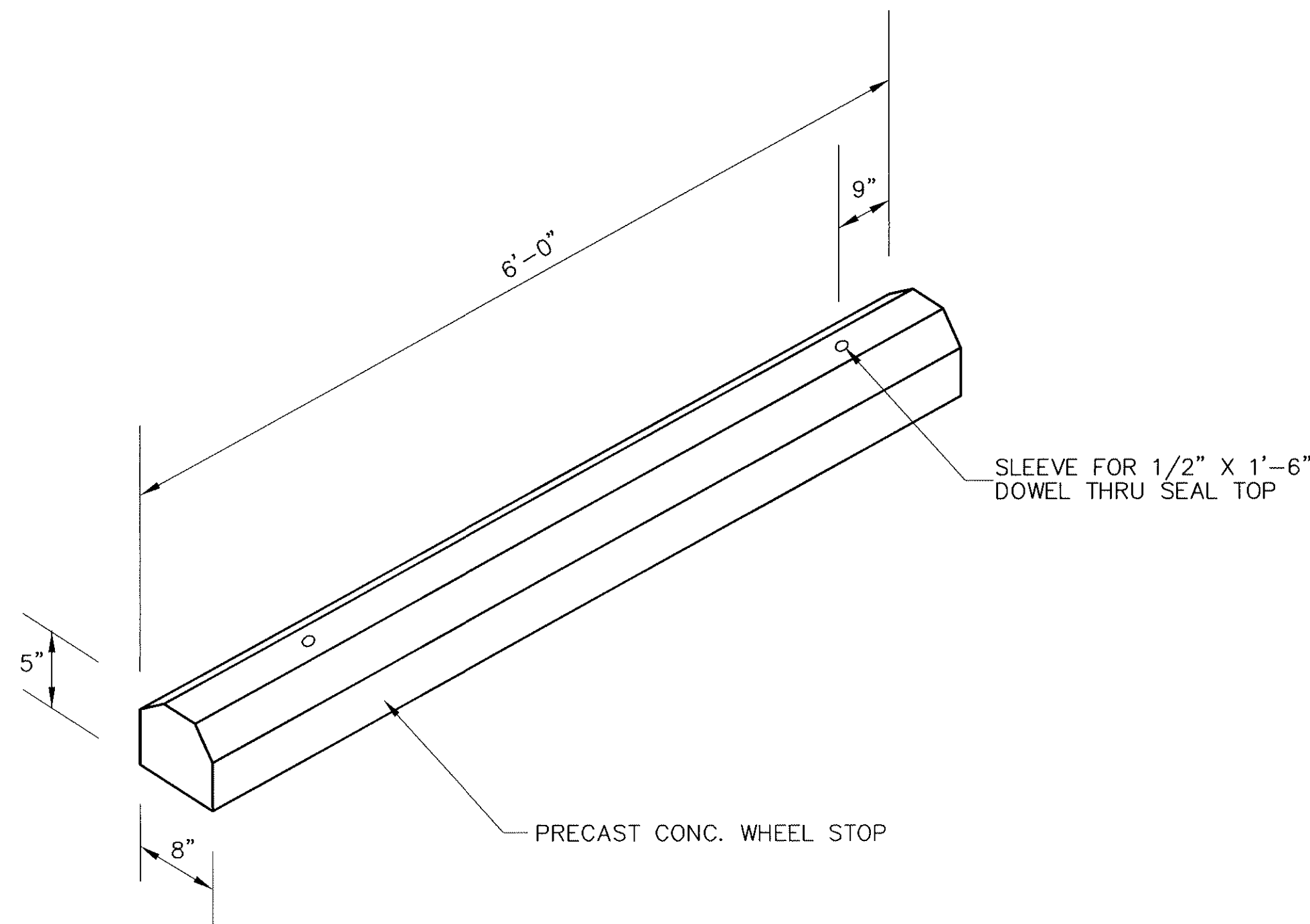


NEW ASPHALT/EXISTING ASPHALT INTERFACE

NOTE: CONTRACTOR SHALL PROVIDE FLUSH TRANSITION BETWEEN EXISTING PROPOSED ASPHALT PAVING. NOTCH EXISTING BASE COURSE AS NECESSARY.

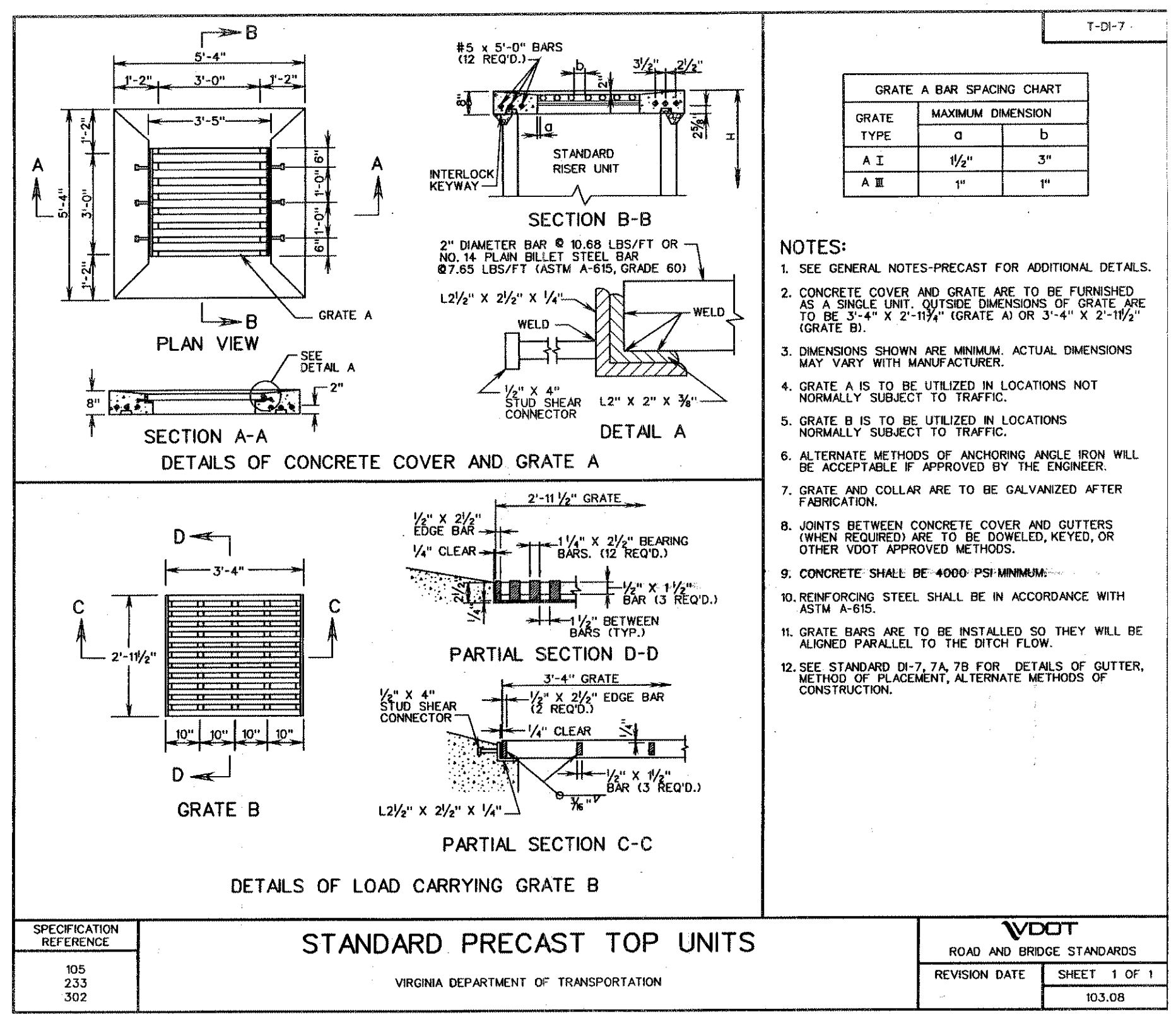
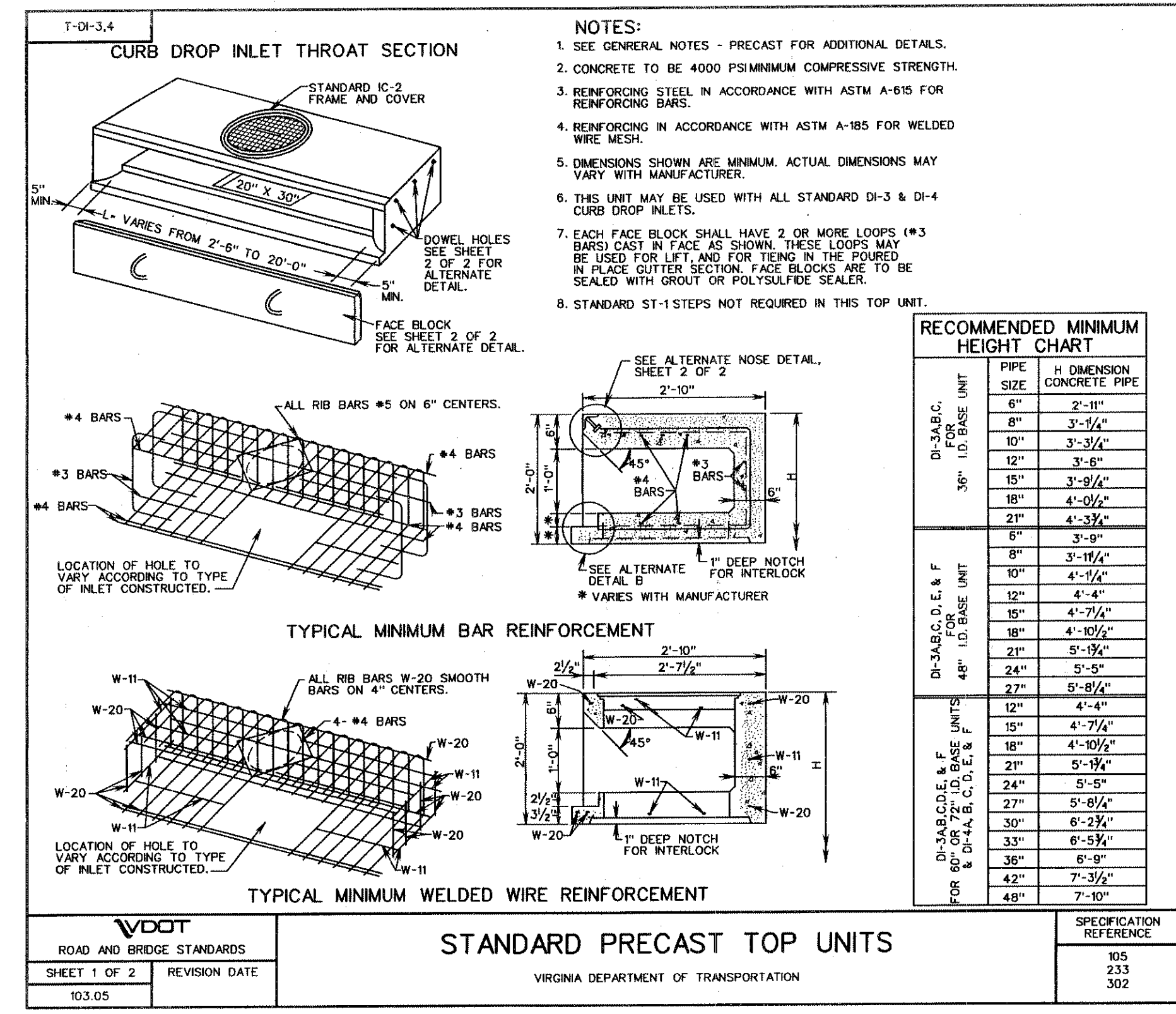
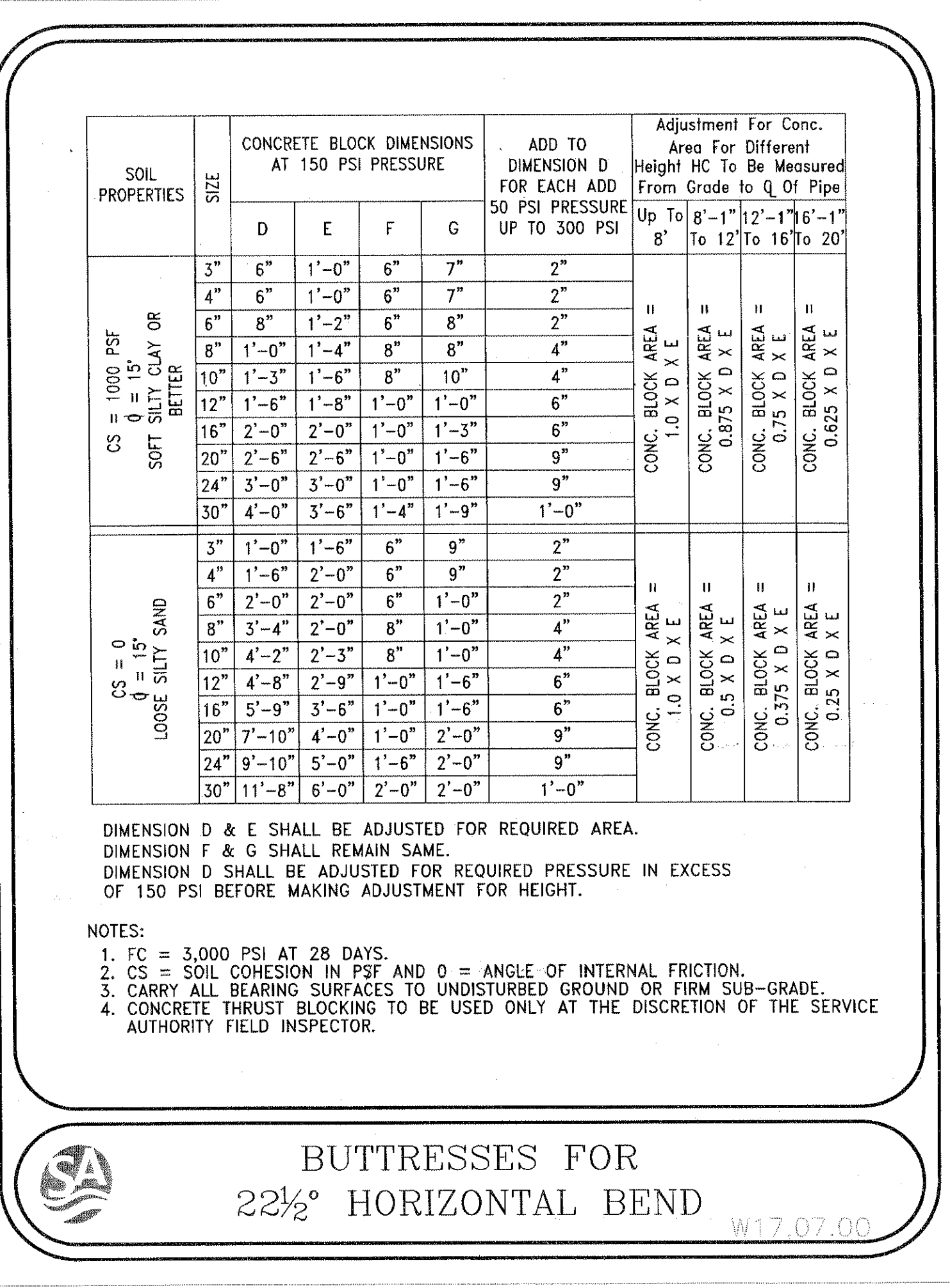
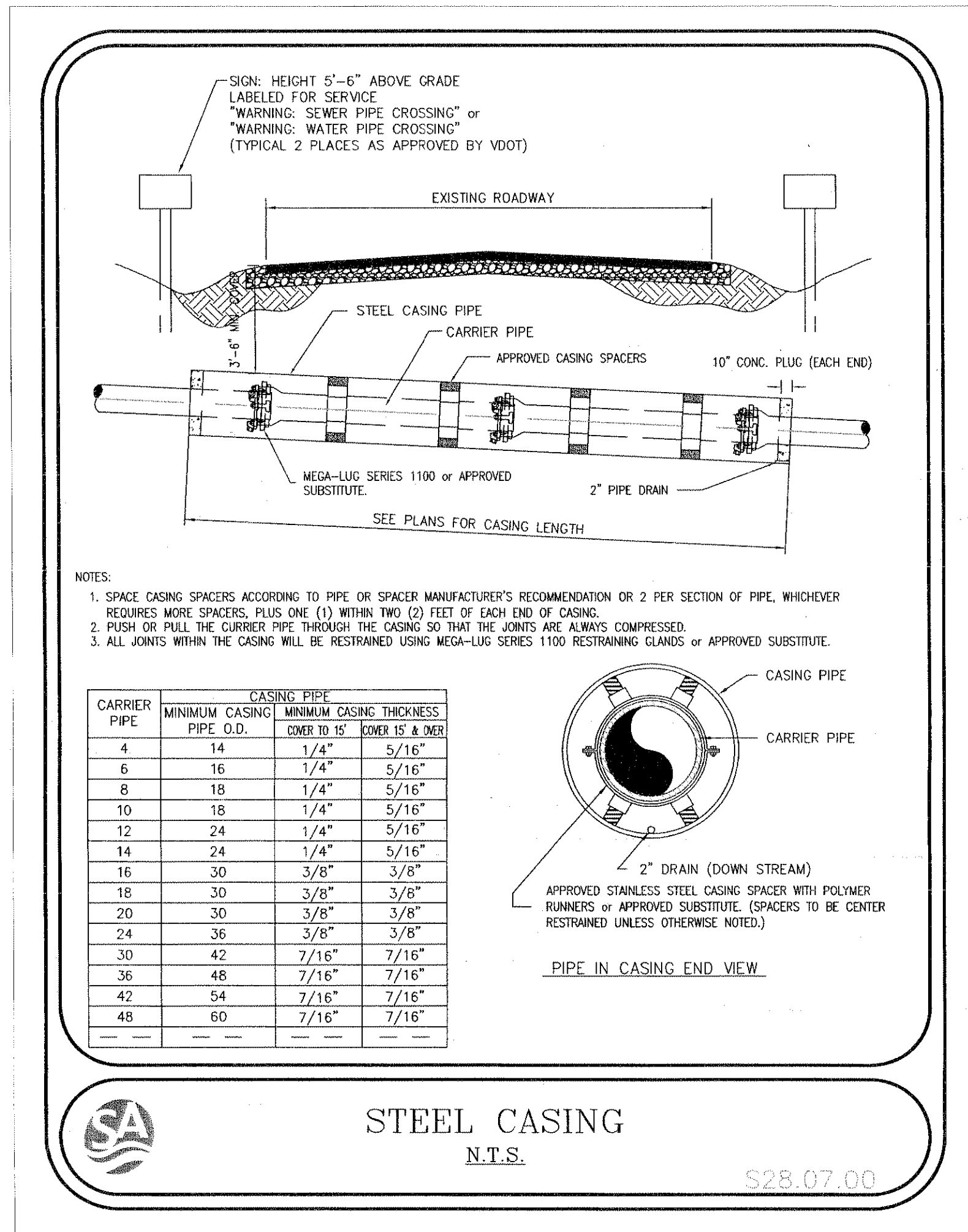


NEW ASPHALT/EXISTING CONCRETE INTERFACE

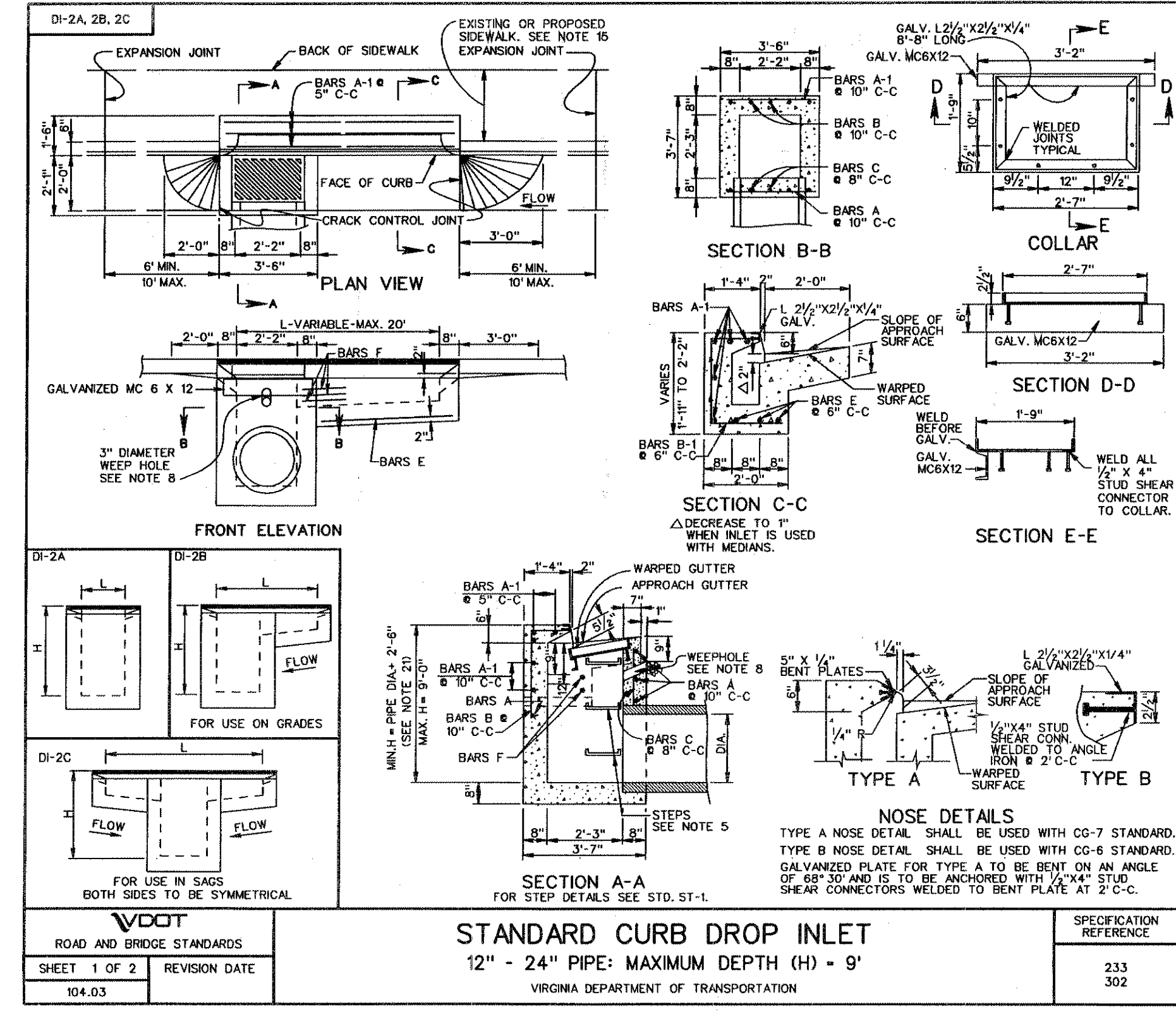
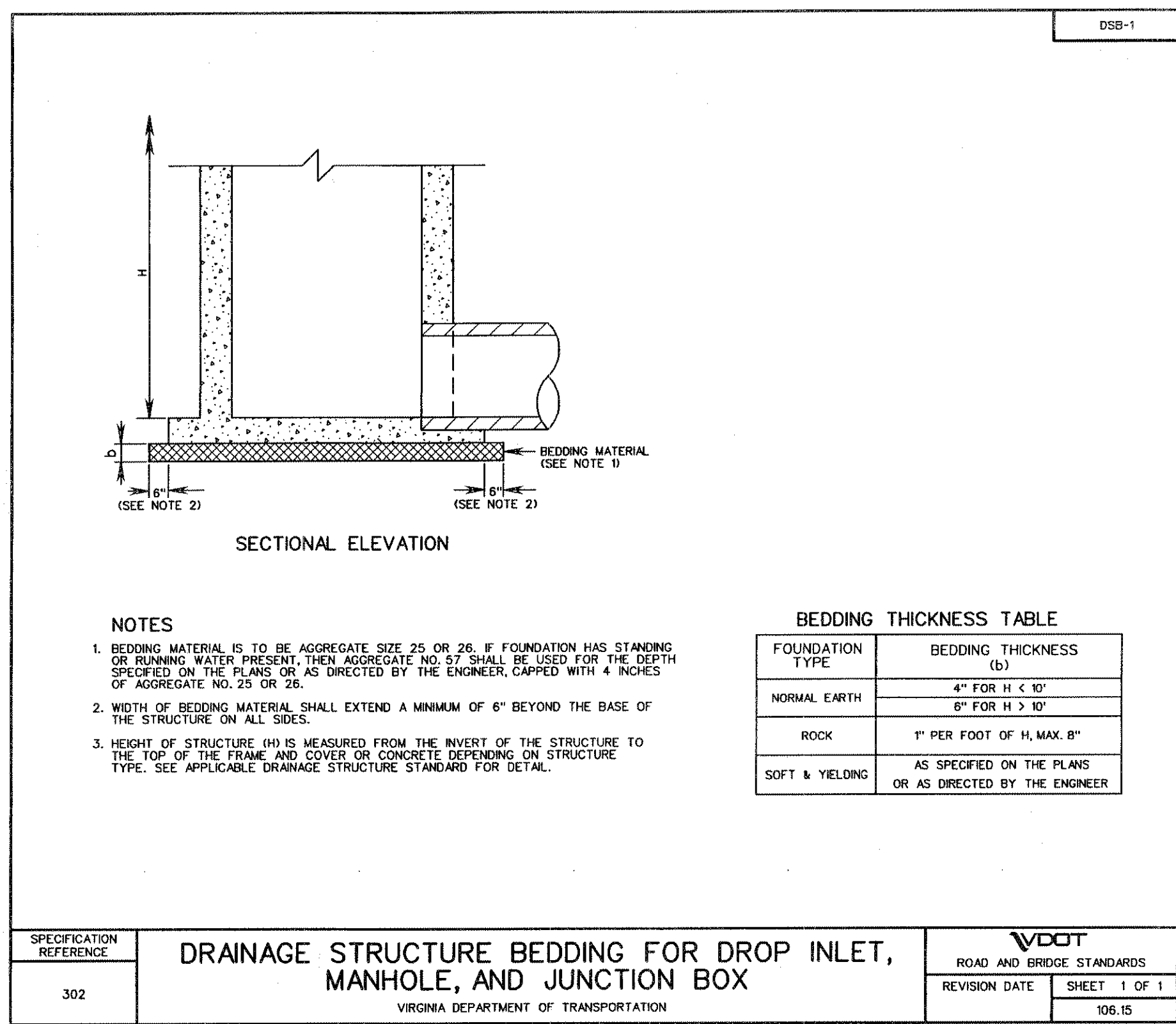
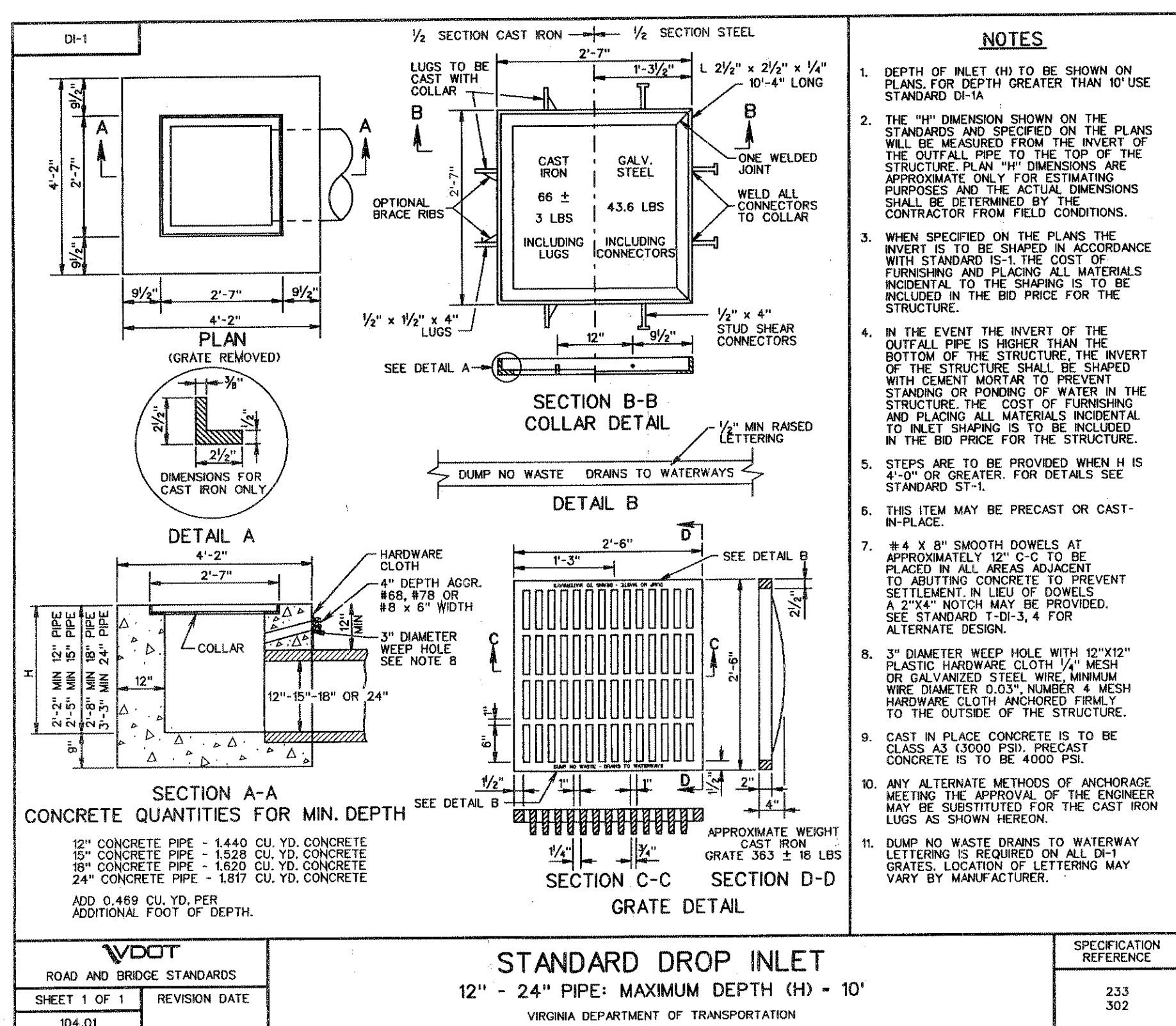


CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:		ARCHITECTURE:		MEP ENGINEER:		SURVEY:		DRAWING TITLE		PROJECT TITLE		DATE	
MACTEC		MATRIX SETTLES		Thompson Company		HALDER SURVEYS		CIVIL DETAILS 2		ADMINISTRATION / PUBLIC INFORMATION BUILDING		07-29-11	
MACTEC ENGINEERING AND CONSULTING, INC.		1220 N. FILLMORE ST.		50 Technology Parkway South		404.266.1400				QUANTICO NATIONAL CEMETERY		Project No. 872CM3035	
3200 TOWN POINT DR., KENNESAW, GA. 30144		SUITE 300		Norcross, Georgia 30092		www.tcleng.com						DRAWING NO. C-502	
TEL: (770) 421-3400 FAX: (770) 421-3486		ARLINGTON, VA 22211		Atlanta, Dubai, UAE		Houston, Toronto, BVI						Dwg. 24 of 81	
MACTEC PROJECT: 6151-10-0085		703-525-0424											

Approved: Director, Technical Support Service		Building Number		Checked		Drawn	
Approved: Chief, Architectural & Engineering Division		Location		18424 JOPLIN ROAD		TRIANGLE, VIRGINIA	



C-1	STEEL CASING	C-3	BUTTRESS FOR 22-1/2° HORIZONTAL BEND	C-5	STANDARD PRECAST TOP UNITS	C-8	STANDARD PRECAST TOP UNITS
C-504	N.T.S.	C-504	N.T.S.	C-504	N.T.S.	C-504	N.T.S.



F-1	STANDARD DROP INLET	F-4	DRAINAGE STRUCTURE BEDDING FOR DROP INLET MH, AND JUCTION BOX	F-7	STANDARD CURB DROP INLET
C-504	N.T.S.	C-504	N.T.S.	C-504	N.T.S.

MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486

1220 N. FILLMORE ST.
SUITE 300
ARLINGTON, VA 22211
703-525-0424

404.266.1400
www.tcieng.com

10400 CHESTER ROAD, CHESTER, VA 23831
TEL: (804) 748-8707 FAX: (804) 748-8708

NATIONAL CEMETERY ADMINISTRATION

Project Title
ADMINISTRATION / PUBLIC INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

Project No.
872CM3035

Drawing No.
C-504

Dwg. 26 of 843

CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:

ARCHITECTURE:

MEP ENGINEER:

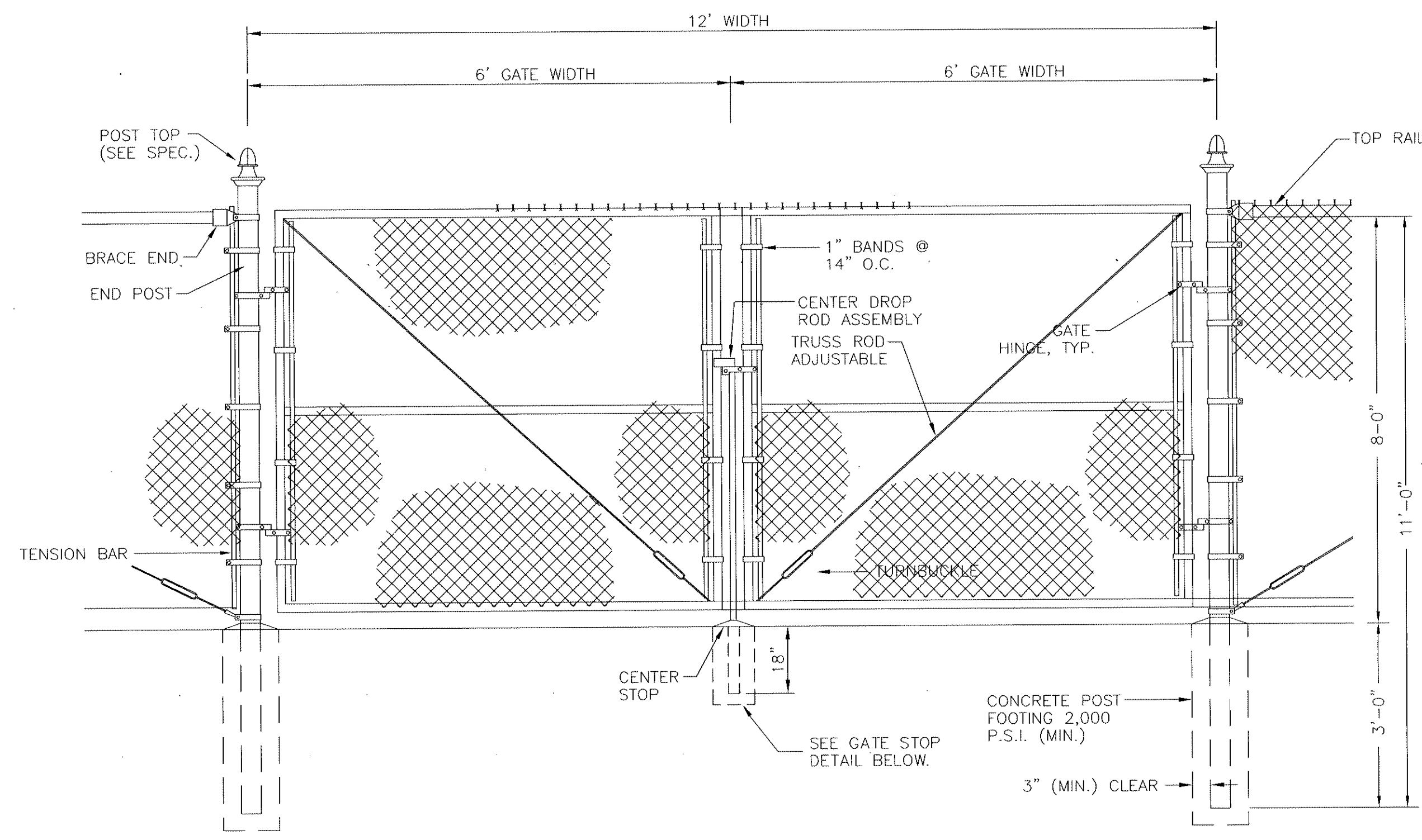
SURVEY:

Project Title
ADMINISTRATION / PUBLIC INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

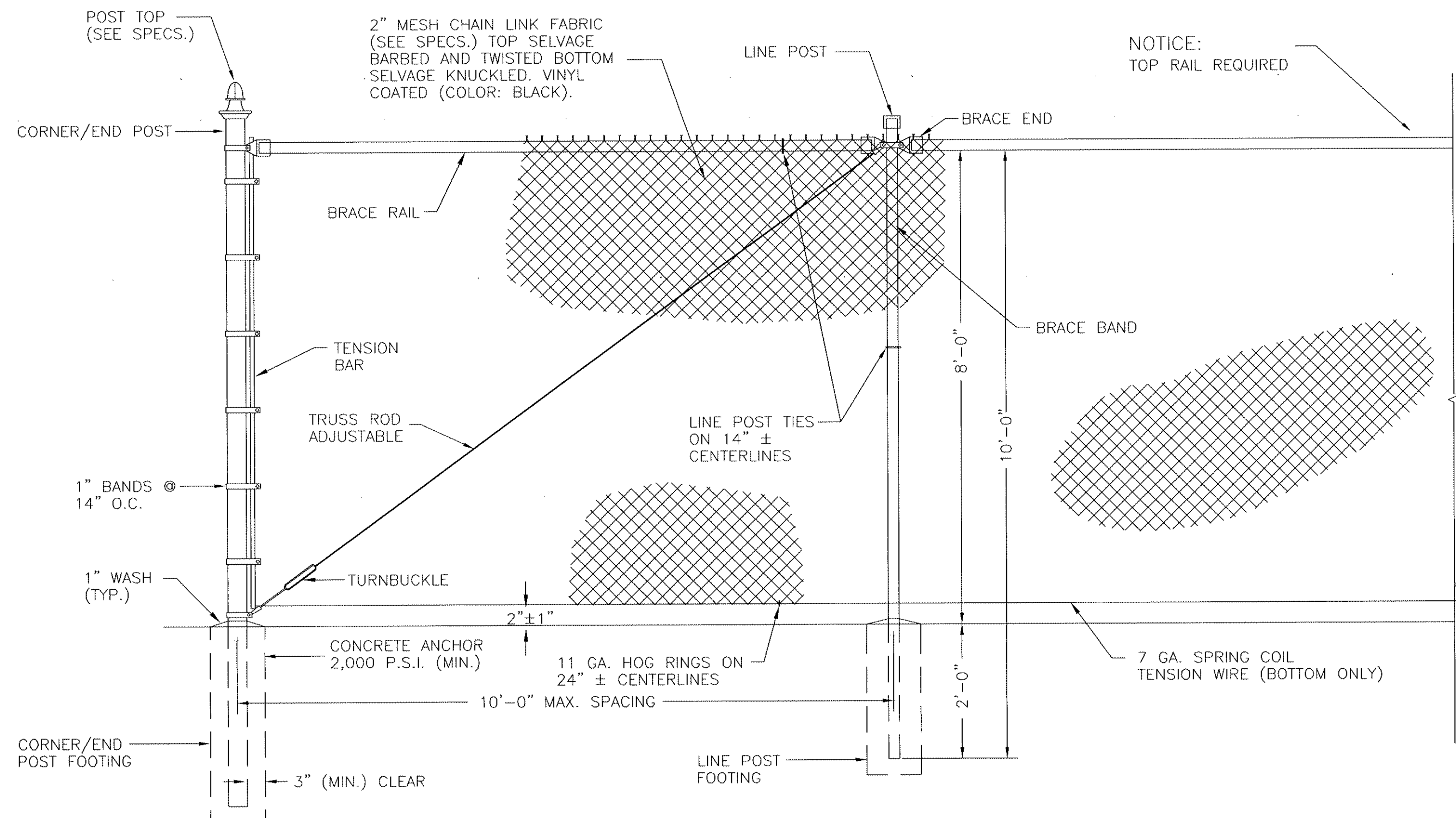
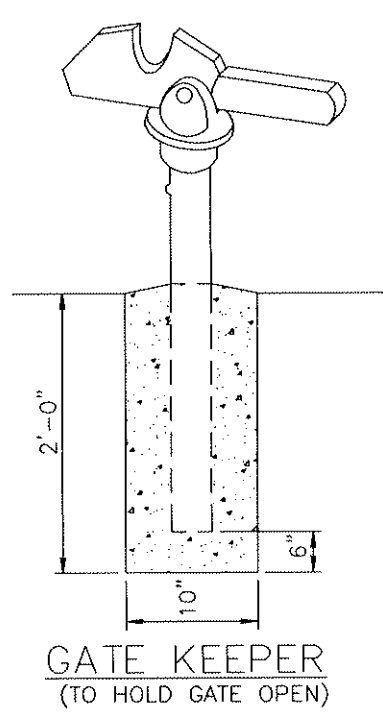
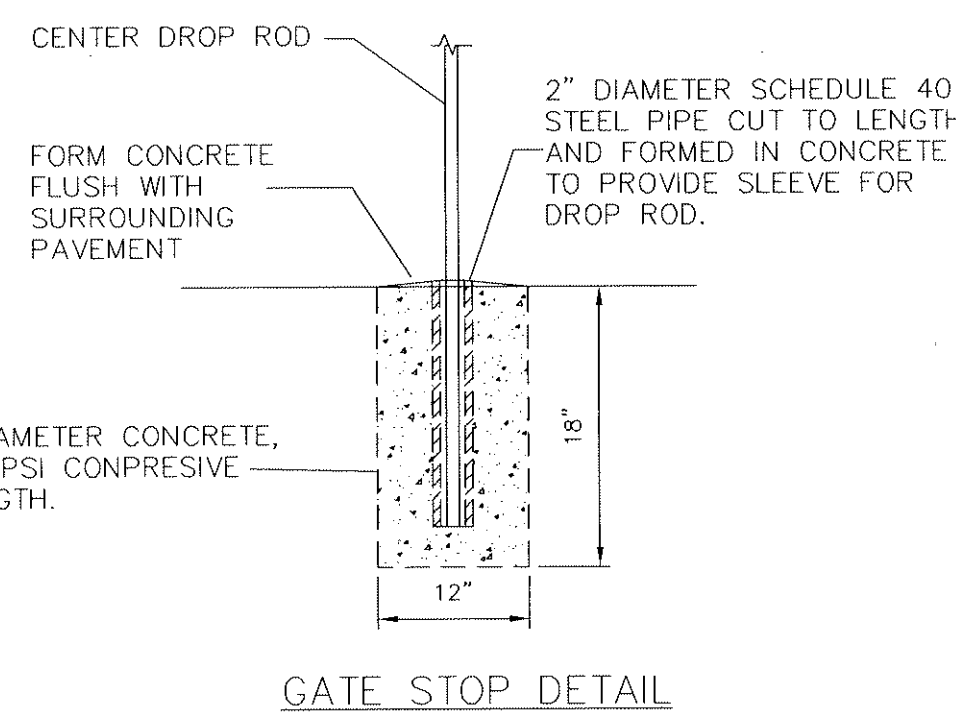
Project No.
872CM3035

Drawing No.
C-504

Dwg. 26 of 843



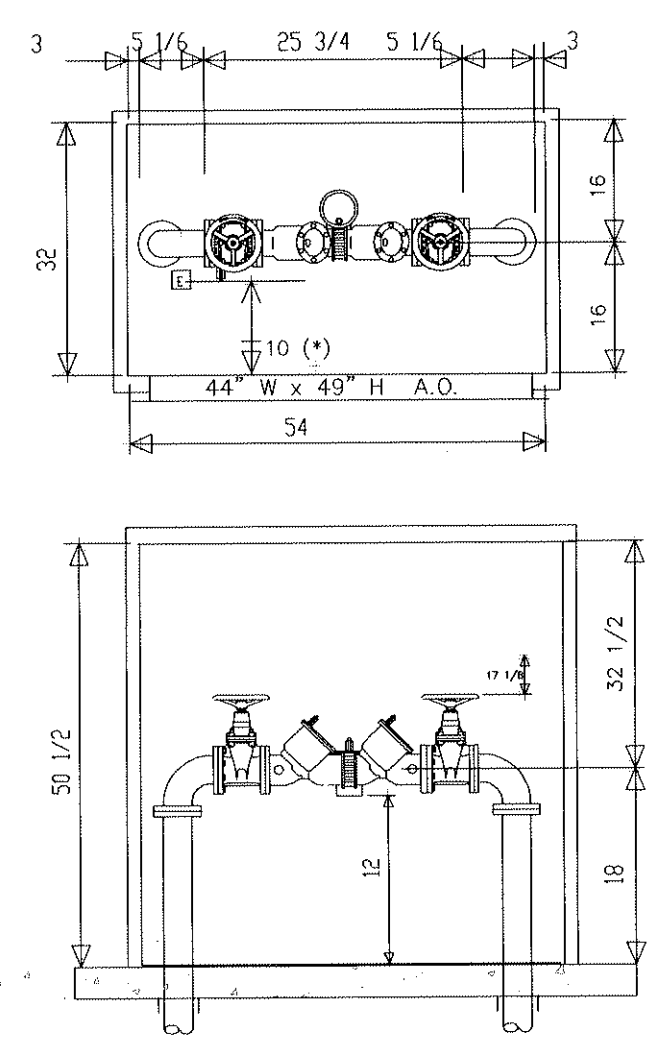
INCLUDE HEAVY DUTY PAD
LOCK WITH EACH GATE
NOTE: ALL PARTS OF THE FENCE SHALL BE
BLACK VINYL COATED AS SPECIFIED.



NOTE: ALL PARTS OF THE FENCE SHALL BE
BLACK VINYL COATED AS SPECIFIED.

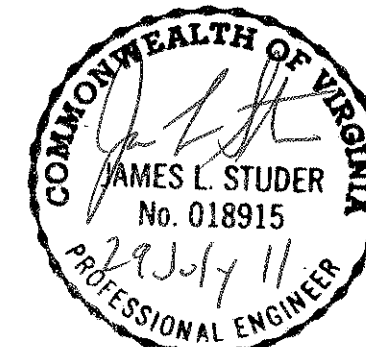
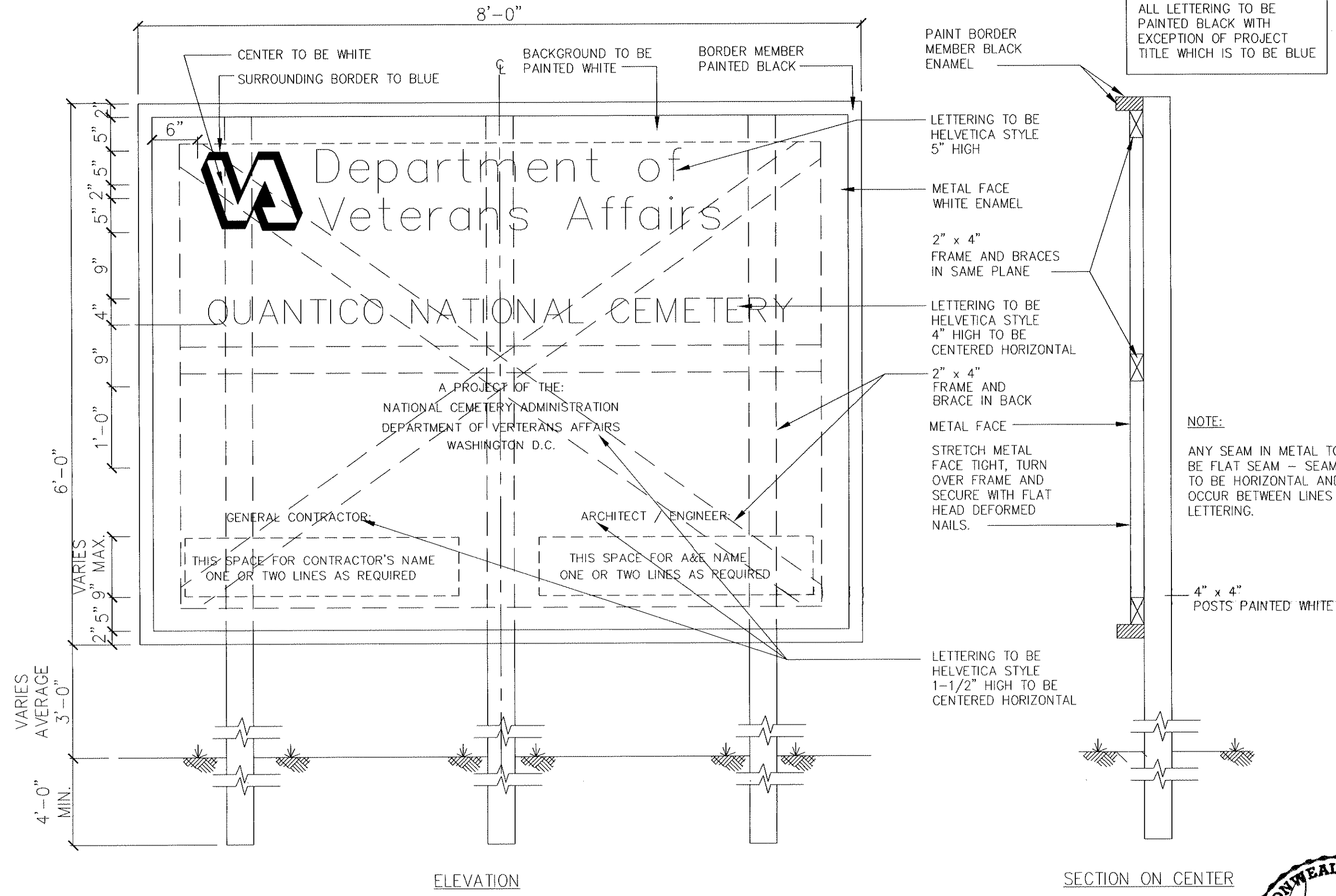
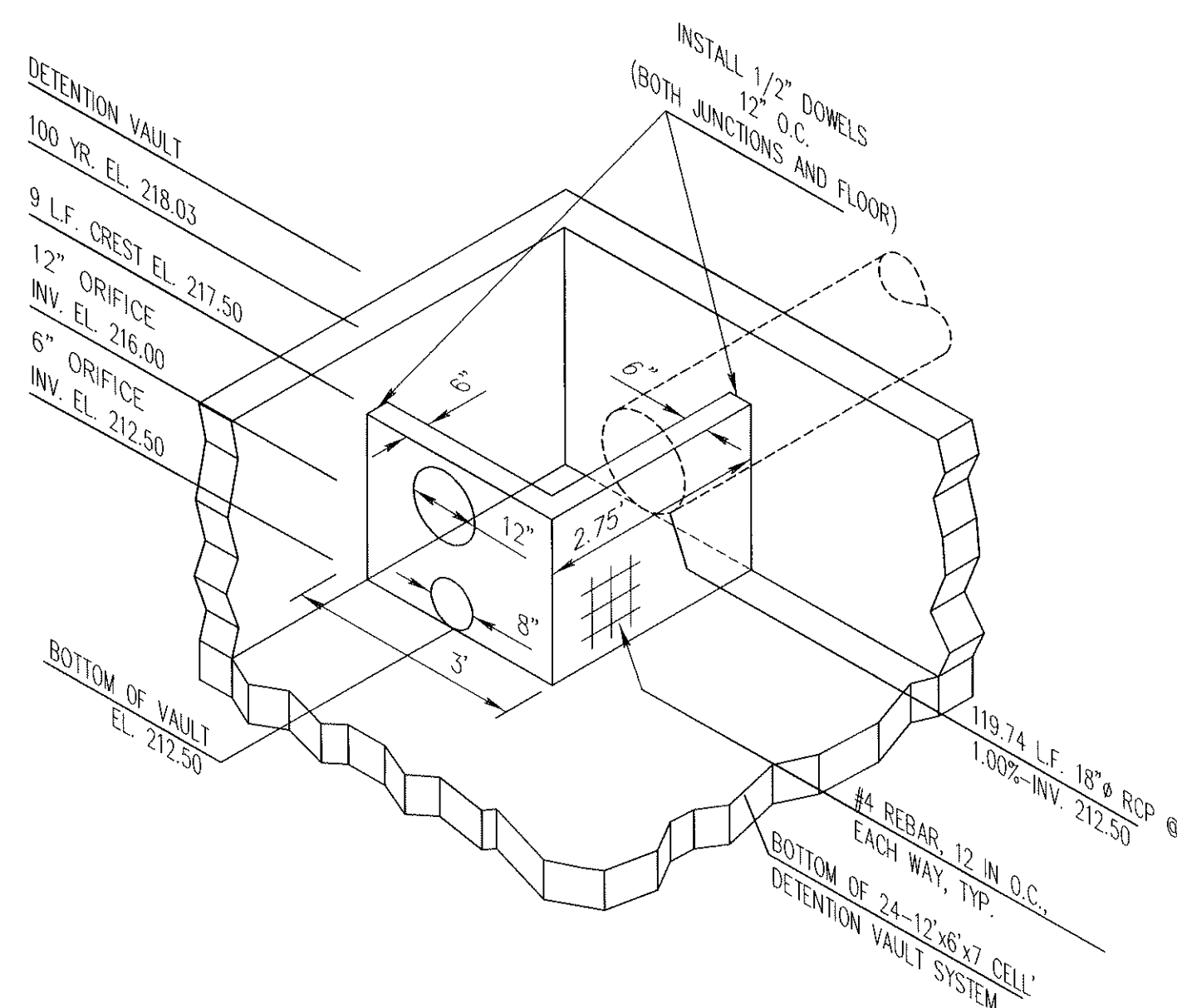
C-1 FENCE GATE DETAIL
C-505 N.T.S. C-105

C-6 STANDARD 8'FT FENCING DETAIL
C-505 N.T.S. C-102



- NOTES:
1. 1 1/2" BACKFLOW PREVENTER PER LOCAL CODE
 2. ALL DIMENSIONS ARE APPROXIMATED IN INCHES.
 3. "A.O." INDICATES THE SIZE AND GENERAL LOCATION OF THE ACCESS OPENING.
 4. DETAIL IS BASED ON THE LB4N LOK BOX ENCLOSURE MANUFACTURED BY HOT BOX AND THE SERIES 909 RPZA BACKFLOW PREVENTER MANUFACTURED BY WATTS WATER TECHNOLOGIES. LIKE PRODUCTS BY ALTERNATE MANUFACTURERS MAY BE USED.

BACKFLOW PREVENTOR WITH ENCLOSURE
NOT TO SCALE



F-1 BACK FLOW PREVENTOR WITH ENCLOSURE
C-505 N.T.S. C-106

F-3 OUTLET CONTROL STRUCTURE
C-505 N.T.S. C-103

F-6 CONSTRUCTION SIGN
C-505 N.T.S. C-102

MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3488 MACTEC PROJECT: 6151-10-0085		MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424		Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 404.266.1400 www.tcleng.com Atlanta, GA Dubai, UAE Orlando, FL Mexico City, Mexico Houston, TX Toronto, ON		HALDER SURVEYS 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708		NATIONAL CEMETERY ADMINISTRATION		Drawing Title CIVIL DETAILS 5		Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY		Date 07-29-11	
Approved: Director, Technical Support Service		Building Number		Checked		Drawn		Project No. 872CM3035		DRAWING NO. C-505		Dwg. 27 of 843			
Approved: Chief, Architectural & Engineering Division		Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA													

Mulching

- Seedlings made in fall for winter cover and during hot and dry summer months shall be mulched according to MULCHING, Std. & Spec. 3.35, except that hydromulches (fiber mulch) will not be considered adequate. Straw mulch should be used during these periods.
- Temporary seedlings made under favorable soil and site conditions during optimum spring and fall seeding dates may not require mulch.

Re-seeding

Areas which fail to establish vegetative cover adequate to prevent rill erosion will be re-seeded as soon as such areas are identified.

TABLE 3.31-B

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS

'QUICK REFERENCE FOR ALL REGIONS'

Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (<i>Lolium multi-florum</i>) & Cereal (Winter) Rye (<i>Secale cereale</i>)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (<i>Lolium multi-florum</i>)	60 - 100
May 1 - Aug 31	German Millet (<i>Setaria italica</i>)	50

TABLE 3.31-C

TEMPORARY SEEDING PLANT MATERIALS, SEEDING RATES, AND DATES

SPECIES	SEEDING RATE		NORTH ^a			SOUTH ^b			PLANT CHARACTERISTICS
	Acre	1000 ft ²	3/1 to 4/30	5/1 to 8/15	8/15 to 11/1	2/15 to 4/30	5/1 to 9/1	9/1 to 11/15	
OATS (<i>Avena sativa</i>)	3 bu. (up to 100 lbs., not less than 50 lbs.)	2 lbs.	X	-	-	X	-	-	Use spring varieties (e.g., Noble).
RYE ^c (<i>Secale cereale</i>)	2 bu. (up to 110 lbs., not less than 50 lbs.)	2.5 lbs.	X	-	X	X	-	X	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
GERMAN MILLET (<i>Setaria italica</i>)	50 lbs.	approx. 1 lb.	-	X	-	-	X	-	Warm-season annual. Dies at first frost. May be added to summer mixes.
ANNUAL RYEGRASS ^d (<i>Lolium multi-florum</i>)	60 lbs.	1½ lbs.	X	-	X	X	-	X	May be added in mixes. Will mow out of most stands.
WEEPING LOVEGRASS (<i>Eragrostis curvula</i>)	15 lbs.	5½ ozs.	-	X	-	-	X	-	Warm-season perennial. May bunch. Tolerates hot, dry slopes and acid, infertile soils. May be added to mixes.
KOREAN LESPEDEZA ^e (<i>Lespedeza stipulacea</i>)	25 lbs.	approx. 1½ lbs.	X	X	-	X	X	-	Warm season annual legume. Tolerates acid soils. May be added to mixes.

^a Northern Piedmont and Mountain region. See Plates 3.22-1 and 3.22-2.

^b Southern Piedmont and Coastal Plain.

^c May be used as a cover crop with spring seeding.

^d May be used as a cover crop with fall seeding.

^e May be planted between these dates.

- May not be planted between these dates.



TEMPORARY SEEDING

NOT TO SCALE

TABLE 3.32-A

CHARACTERISTICS OF COMMONLY SELECTED GRASSES

COMMON NAME (Botanical Name)	Life Cycle	Season	pH Range	Germination Time in Days	Optimum Germination Temperature (°F)	Winter Hardness	Drought Tolerance	Fertility	Soil Drainage Tolerance	Seeds Per Pound	MAINTENANCE REQUIREMENTS	REMARKS	Suggested Varieties for Virginia
TALL FESCUE (<i>Festuca arundinacea</i>)	P	C	5.5-6.2	10-14	60-85	F	F	M	SPD	225K	Low when used for erosion control; high when used in lawn	Better suited for erosion control and rough turf application.	Ky 31
TALL FESCUES (Improved)	P	C	5.5-6.2	10-14	60-85	F	G	M	SPD	220K	Responds well to high maintenance.	Excellent for lawn and fine turf.	See current VCIA list.
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	P	C	6.0-6.5	14	60-75	G	P	M	SPD	2.2m	Needs fertile soil, favorable moisture. Requires several years to become well established.	Excellent for fine turfs-takes traffic, mowing. Poor drought-tolerance.	See current VCIA list.
PERENNIAL RYEGRASS (<i>Lolium perenne</i>)	P	C	5.8-6.2	7-10	60-75	F	F	M-H	SPD	227K	Will tolerate traffic.	May be added to mixes. * Improved varieties will perform well all year.	See current VCIA list.

COMMON NAME (Botanical Name)	Life Cycle	Season	pH Range	Germination Time in Days	Optimum Germination Temperature (°F)	Winter Hardness	Drought Tolerance	Fertility	Soil Drainage Tolerance	Seeds Per Pound	MAINTENANCE REQUIREMENTS	REMARKS	Suggested Varieties for Virginia
FINE FESCUES	HARD FESCUE (<i>Festuca Longifolia</i>)	P	C	5.0-6.2	10-14	60-80	VG	G	L	MWD	400K	Grows well in sun or shade and will tolerate infertile soils; improved disease resistance.	Reliant, Spartan, Aurora
	CHEWINGS FESCUE	P	C	5.0-6.2	10-14	60-80	VG	G	L	MWD	400K	Tolerates shade, dry infertile soils.	Poor traffic tolerance, less than other fine fescues.
	RED FESCUE (<i>Festuca Rubra</i>)	P	C	5.0-6.2	10-14	60-80	VG	G	L	MWD	400K	Low to medium fertility requirements. Requires well-drained soil.	Spreads by rhizomes, tillers and stolons. Will not take traffic - very shade tolerant.
REED CANARYGRASS (<i>Phalaris arundinacea</i>)	P	C	5.8-6.2	21	70-85	G	G	M-H	VPD	530K	Do not mow closely or often.	Conservation cover in wet areas.	No named varieties

COMMON NAME (Botanical Name)	Life Cycle	Season	pH Range	Germination Time in Days	Optimum Germination Temperature (°F)	Winter Hardness	Drought Tolerance	Fertility	Soil Drainage Tolerance	Seeds Per Pound	MAINTENANCE REQUIREMENTS	REMARKS	Suggested Varieties for Virginia
REDTOP (<i>Agrostis alba</i>)	P	C	5.8-6.2	10	65-85	G	F	L	PD	5m	Will tolerate poor, infertile soils; deep rooted.	Does well in erosion control mixes - not for lawns.	No named varieties.
WEEPING LOVEGRASS (<i>Eragrostis curvula</i>)	P	W	4.5-6.2	14	65-85	F-P	G	L-M	SPD	1.5m	Low-fertility requirements; excellent drought tolerance.	Fast-growing, warm-season bunch grass. Excellent cover for erosion control.	No named varieties.
BERMUDAGRASS (<i>Cynodon dactylon</i>)	P	W	5.8-6.2	21	70-95	P	G	M-H	SPD	1.8m	High nitrogen utilization, excellent drought tolerance. Some varieties adapted to western VA.	Common varieties used for erosion control. Hybrids used for fine turf.	See current VCIA list.
ORCHARDGRASS (<i>Dactylis glomerata</i>)	P	C	5.8-6.2	18	60-75	F	F	M	SPD	625K	Does best on well-drained, loamy soil.	Good pasture selection - may be grazed.	Virginia origin or Potomac



PERMANENT SEEDING

NOT TO SCALE

TABLE 3.33-A (CONTINUED)

TYPE OF SOD AVAILABLE IN VIRGINIA AND RECOMMENDED USES

Tall Fescue: Adapted to the entire state.

Recommended Tall Fescue Varieties:

90-100% Amigo, Apache, Bonanza, Chieftain, Finelawn SGL, Mesa, Rebel II, Shenandoah, Tribute

Promising Tall Fescues

Certified Arriba, Austin, Avanti, Aztec, Cochise, Crossfire, Eldorado, Hubbard 87, Jaguar II, Maverick II, Monarch, Olympic II, Phoenix, Safari, Shortstop, Sundance, Taurus, Thoroughbred, Titan, Tradition, Vegas, Winchester, Wrangler

0-10% Kentucky bluegrass: Baron, Cheri, Columbia, Monopoly, Nassau, Ram I, Victa

Bermudagrass: Tufcote is adapted to the Richmond-Danville-Newport News triangle. Midiron may be used east of Roanoke and south of Charlottesville. Tigreen and Tifway may be used to the east and south of Richmond. Vamont may be used east of Roanoke and at lower elevations in southwestern Virginia.

Certified Midiron, Tigreen[#], Tifway, Tifway II, Tufcote and Vamont

Zoysiagrass: This sod performs best in southeastern Virginia.

Meyer, Emerald[#]

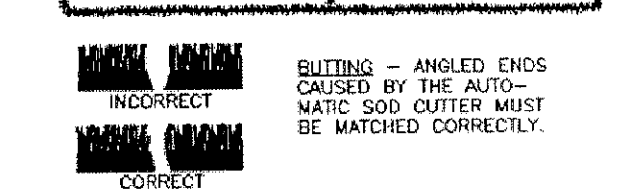
Note: Common Bermudagrass is not recommended for sod production.

[#] Only recommended in southeastern Virginia.

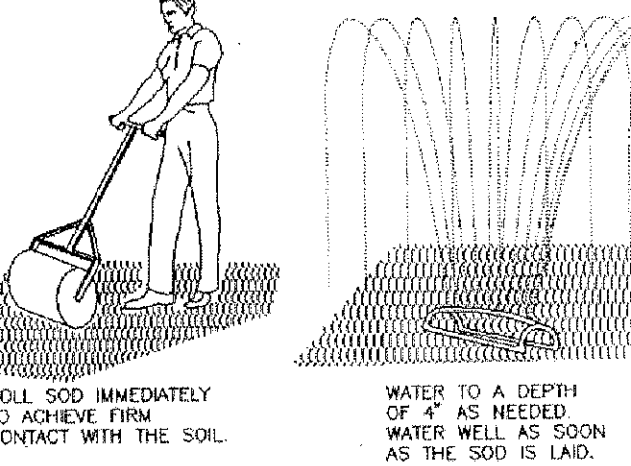
SODDING



LAY SOD IN A STAGGERED PATTERN WITH THE ROOTS OF EACH SOD FACING OPPOSITE DIRECTIONS. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.



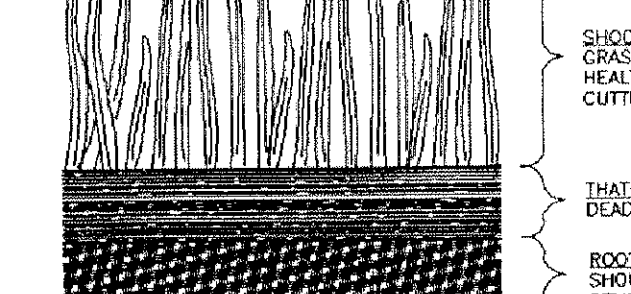
BUTTING - ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAD.

MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS, SET THE MOWER HIGH (2" - 3").

APPEARANCE OF GOOD SOD

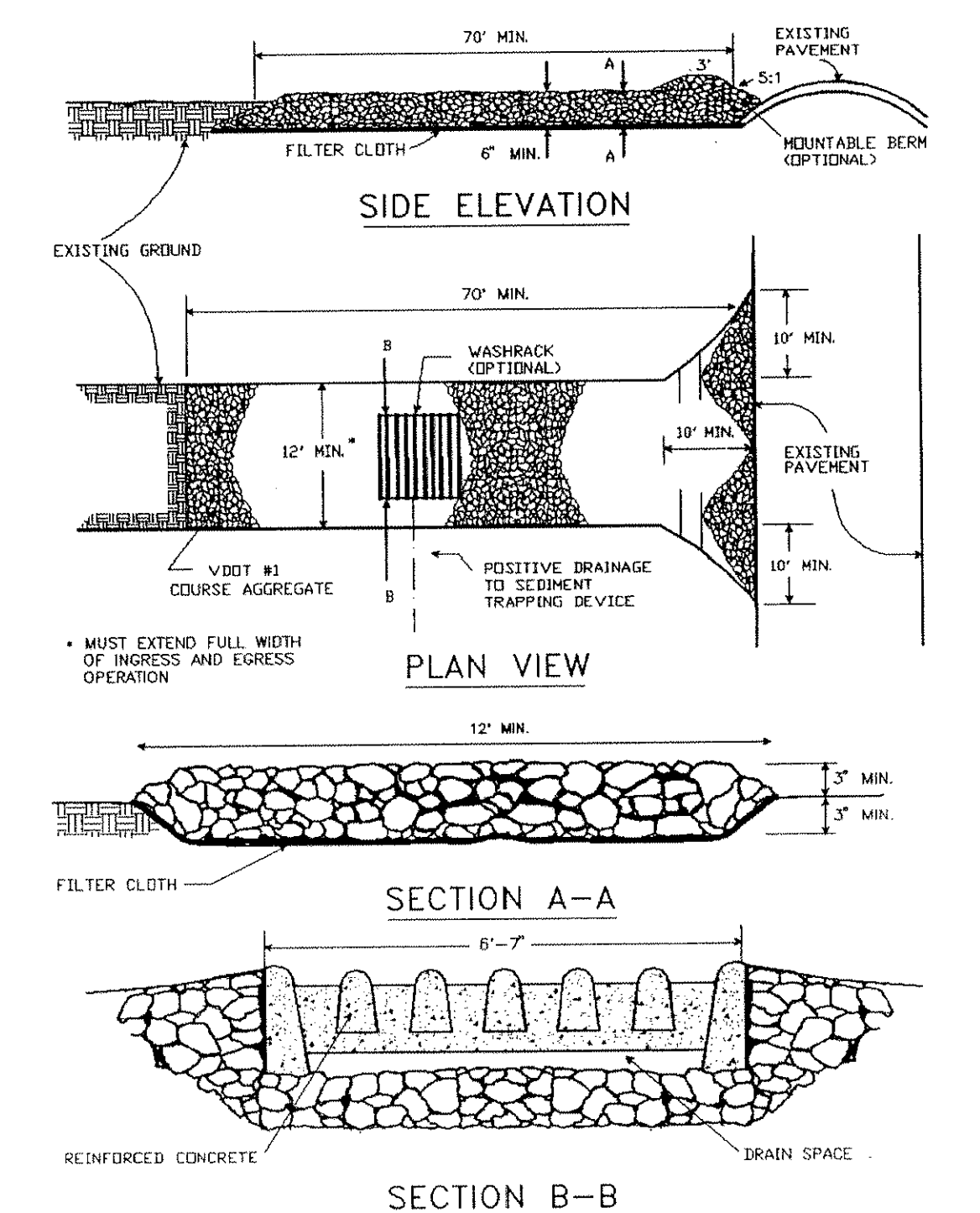


SHOOTS OF GRASS BLADES. GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2" - 3" CUTTING HEIGHT. THATCH - GRASS CLIPPINGS AND DEAD LEAVES, UP TO 1/2" THICK. ROOT ZONE - SOIL AND ROOTS. SHOULD BE 1/2" - 3/4" THICK, WITH DENSE ROOT MAT FOR STRENGTH.

SODDING

NOT TO SCALE

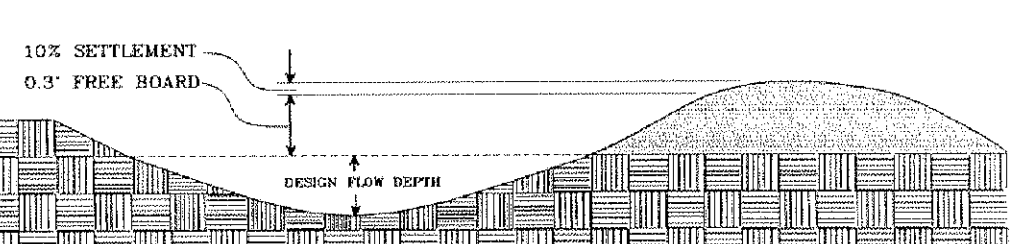
STONE CONSTRUCTION ENTRANCE



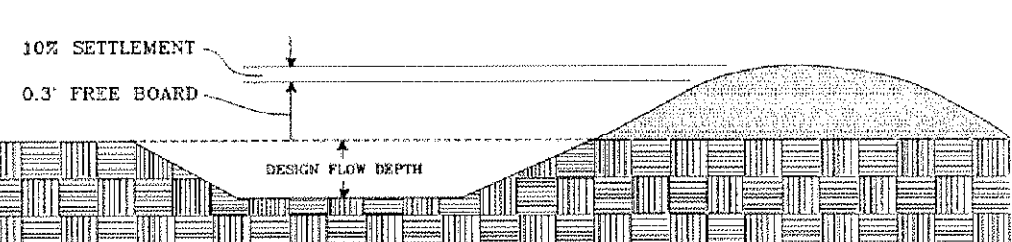
Maintenance

The entrance shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with additional stone or the washing and reworking of existing stone as conditions demand and repair and/or cleanout of any structures used to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately. The use of water trucks to remove materials dropped, washed, or tracked onto roadways will not be permitted under any circumstances.

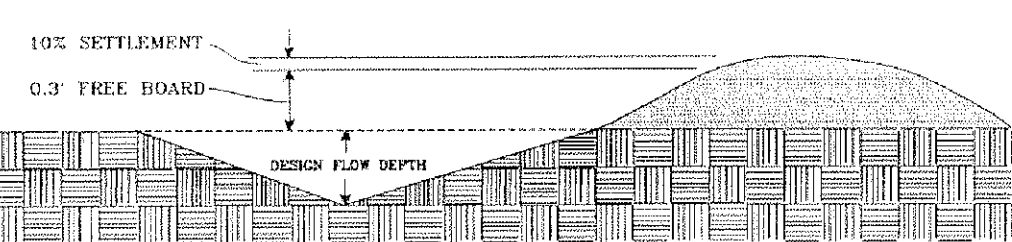
DIVERSIONS



TYPICAL PARABOLIC DIVERSION



TYPICAL TRAPEZOIDAL DIVERSION



TYPICAL VEE-SHAPED DIVERSION

Maintenance

Before final stabilization, the diversion should be inspected after every rainfall and at least once every two weeks. Sediment shall be removed from the channel and repairs made as necessary. Seeded areas which fail to establish a vegetative cover shall be reseeded as necessary.



TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE



DIVERSION

NOT TO SCALE

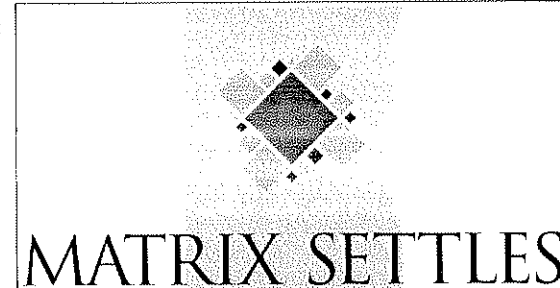
CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:



MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486

MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:



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MEP ENGINEER:



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SURVEY:



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NATIONAL CEMETERY ADMINISTRATION

Drawing Title

EROSION & SEDIMENT CONTROL DETAILS AND NOTES 1 OF 2

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY

Building Number

Location

18424 JOPLIN ROAD
TRIANGLE, VIRGINIA

Date

07-29-11

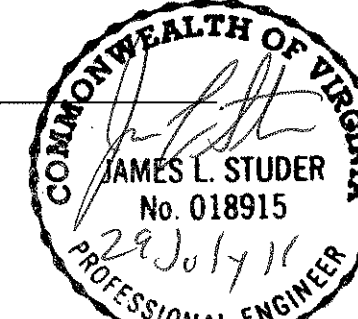
Project No.

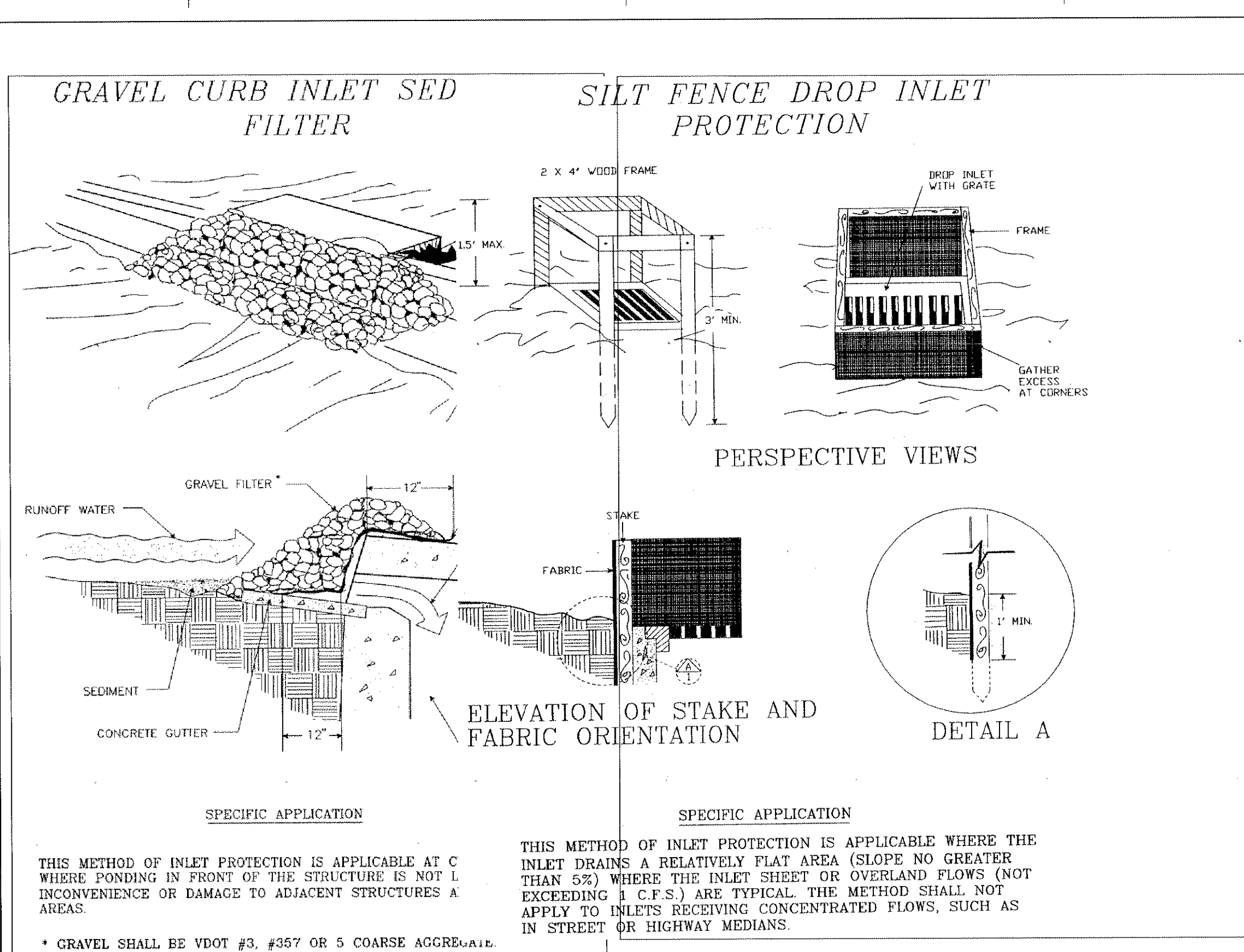
872CM3035

Drawing No.

C-507

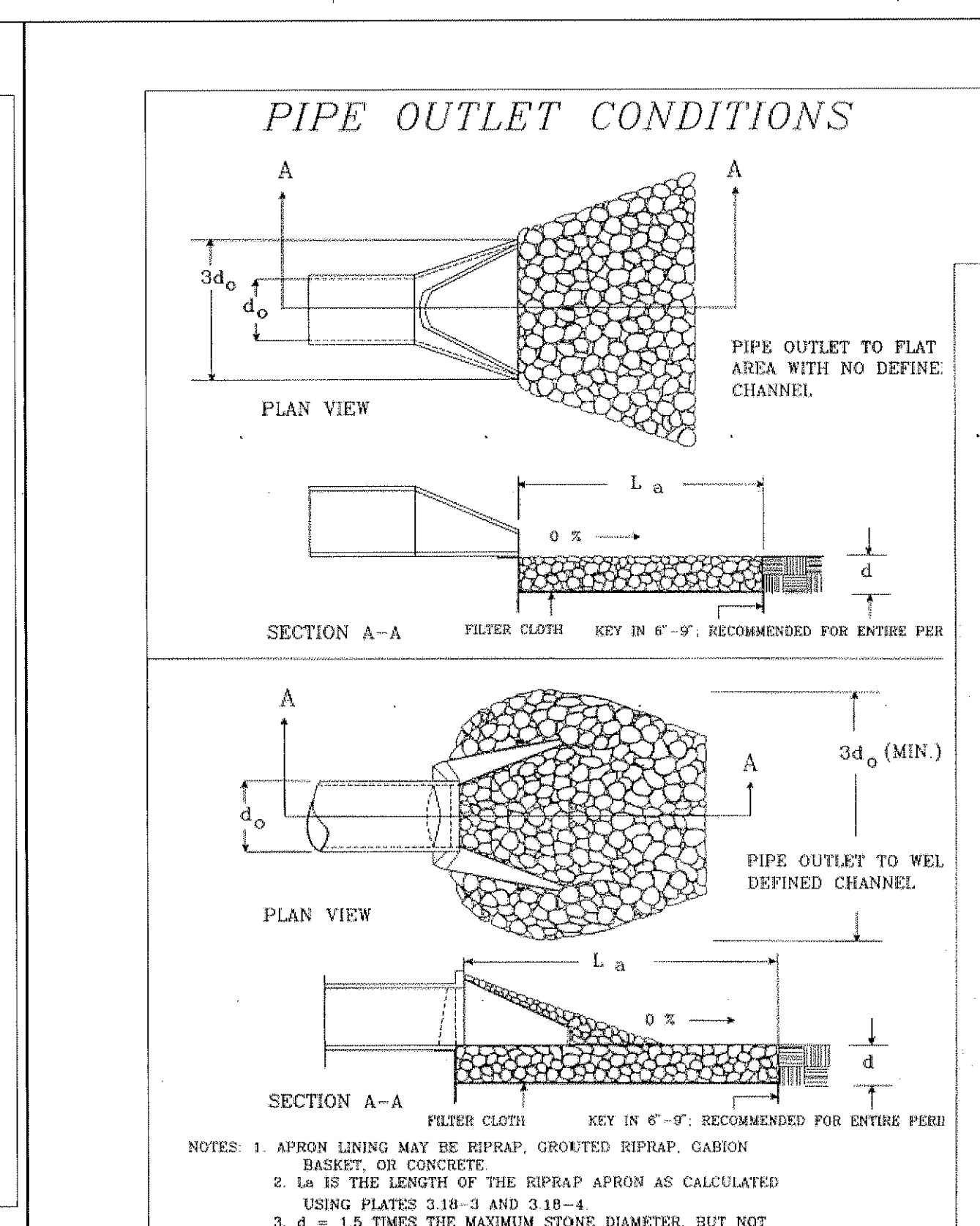
Dwg. 29 of 81





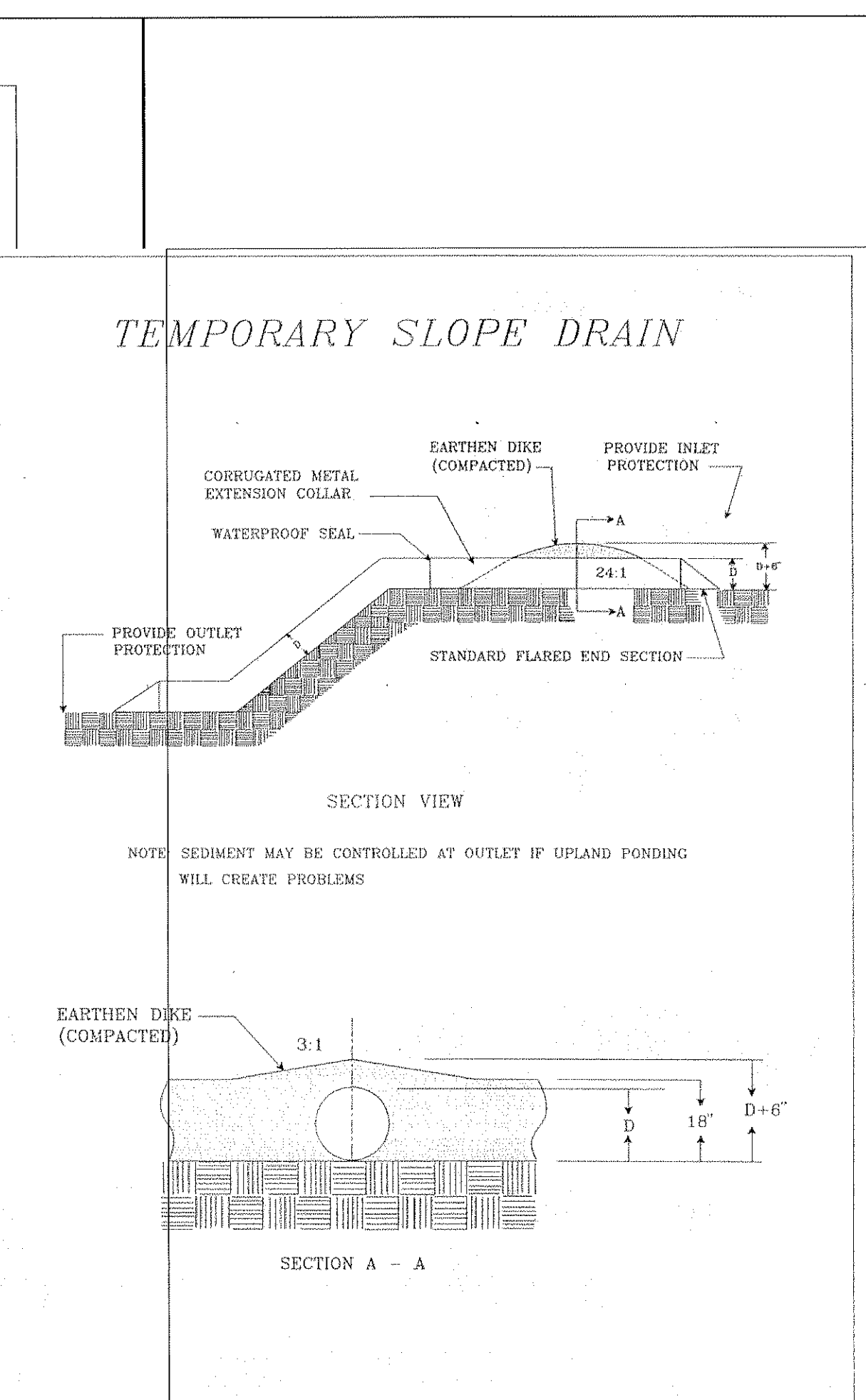
- Maintenance**
- The structure shall be inspected after each rain and repairs made as needed.
 - Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
 - Structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.

IP STORM DRAIN INLET PROTECTION
NOT TO SCALE



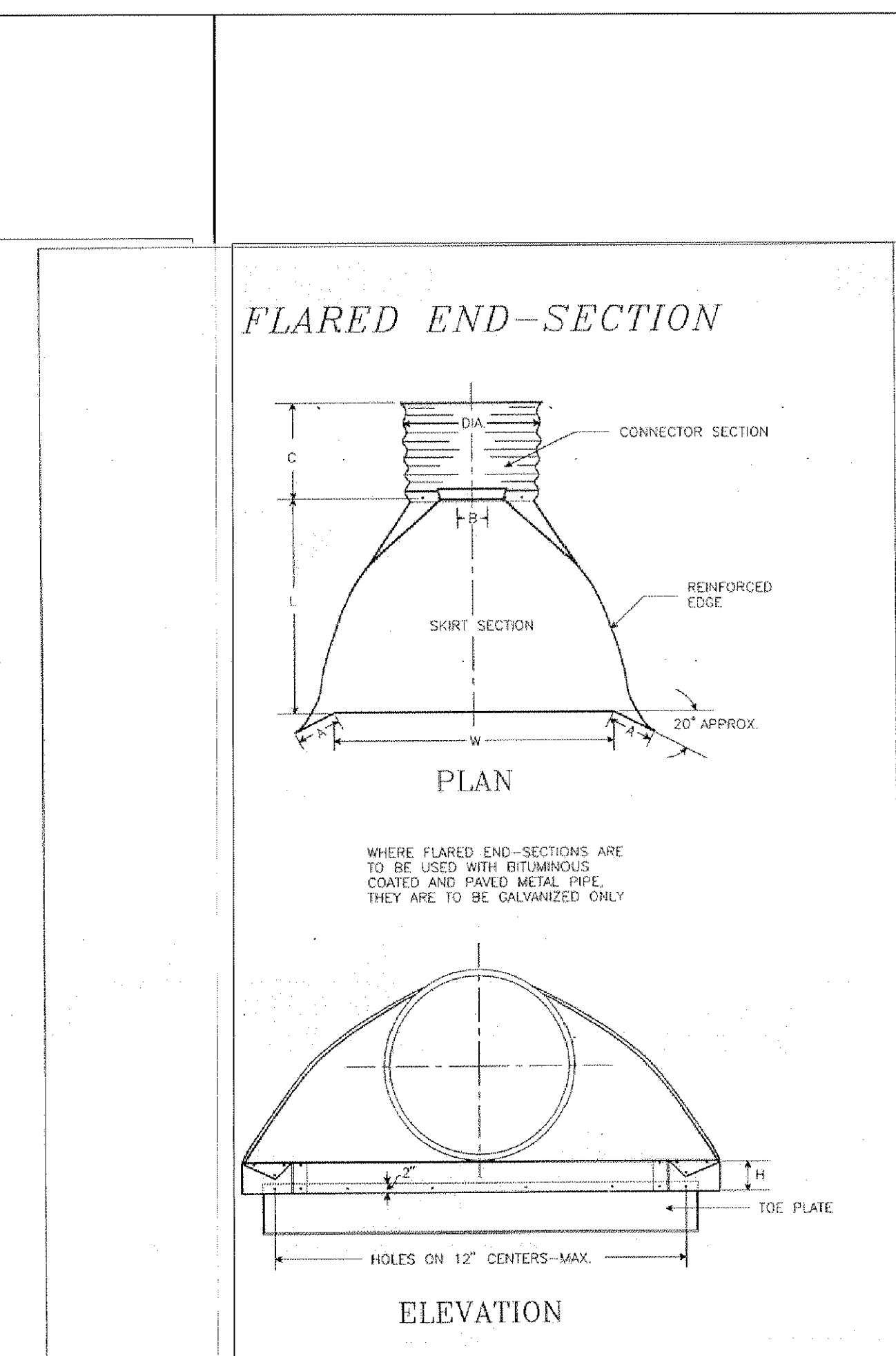
Structure Number	Q ² Flow (Cfs)	Velocity (ft/s)	Tailwater Condition	Do (ft)	W1=3Do (ft)	La (ft)	W2 (ft)	Maximum Stone Size (ft)	d: Apron Thickness (ft)
OP #1	1.76	1.88	Maximum	1.25	3.75	6	3.7	0.5	0.75
OP #2	3.49	2.49	Maximum	1.5	4.5	8	4.7	0.5	0.75

OP OUTLET PROTECTION
NOT TO SCALE



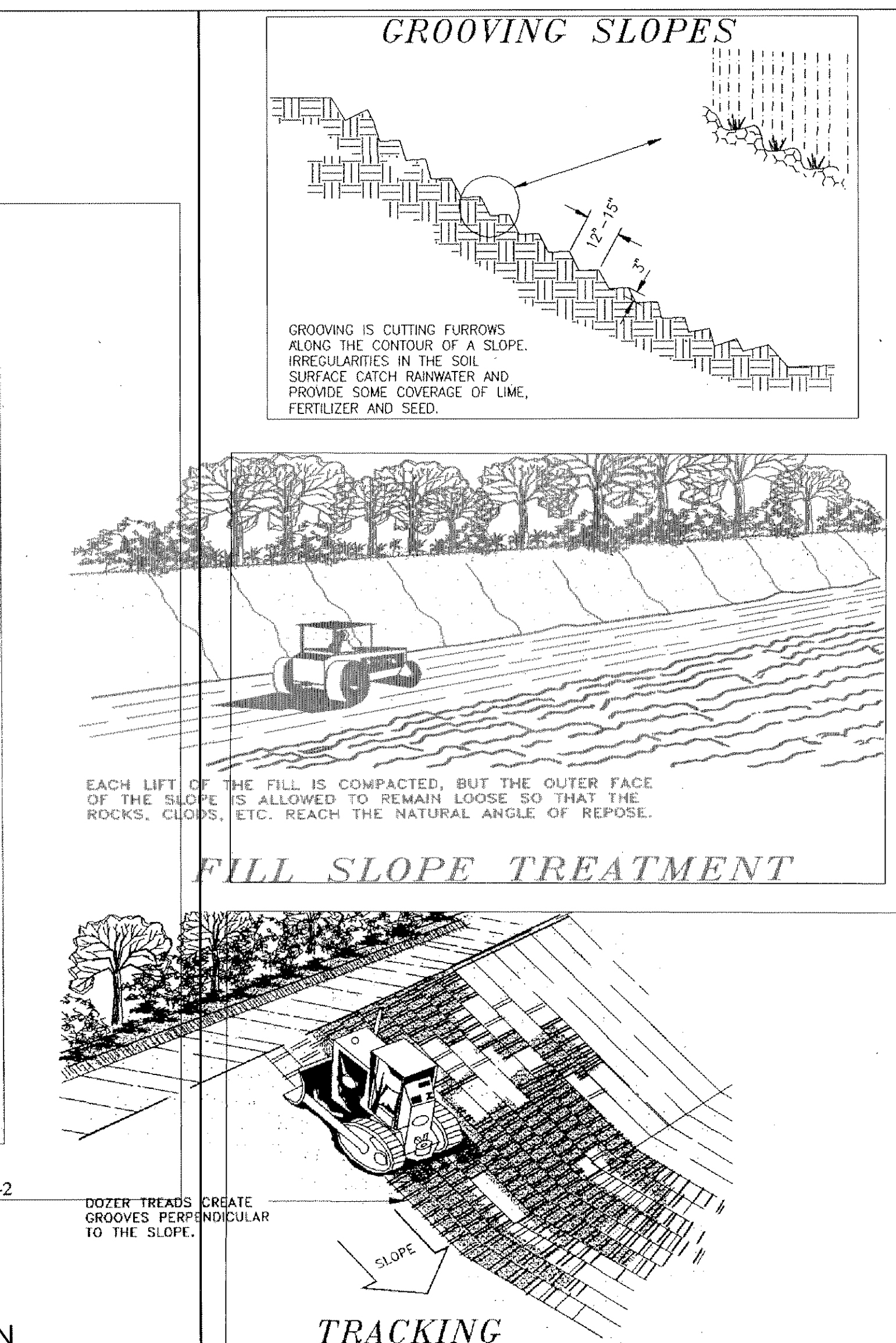
Source: Va. DSWC

TSD TEMPORARY SLOPE DRAIN
NOT TO SCALE

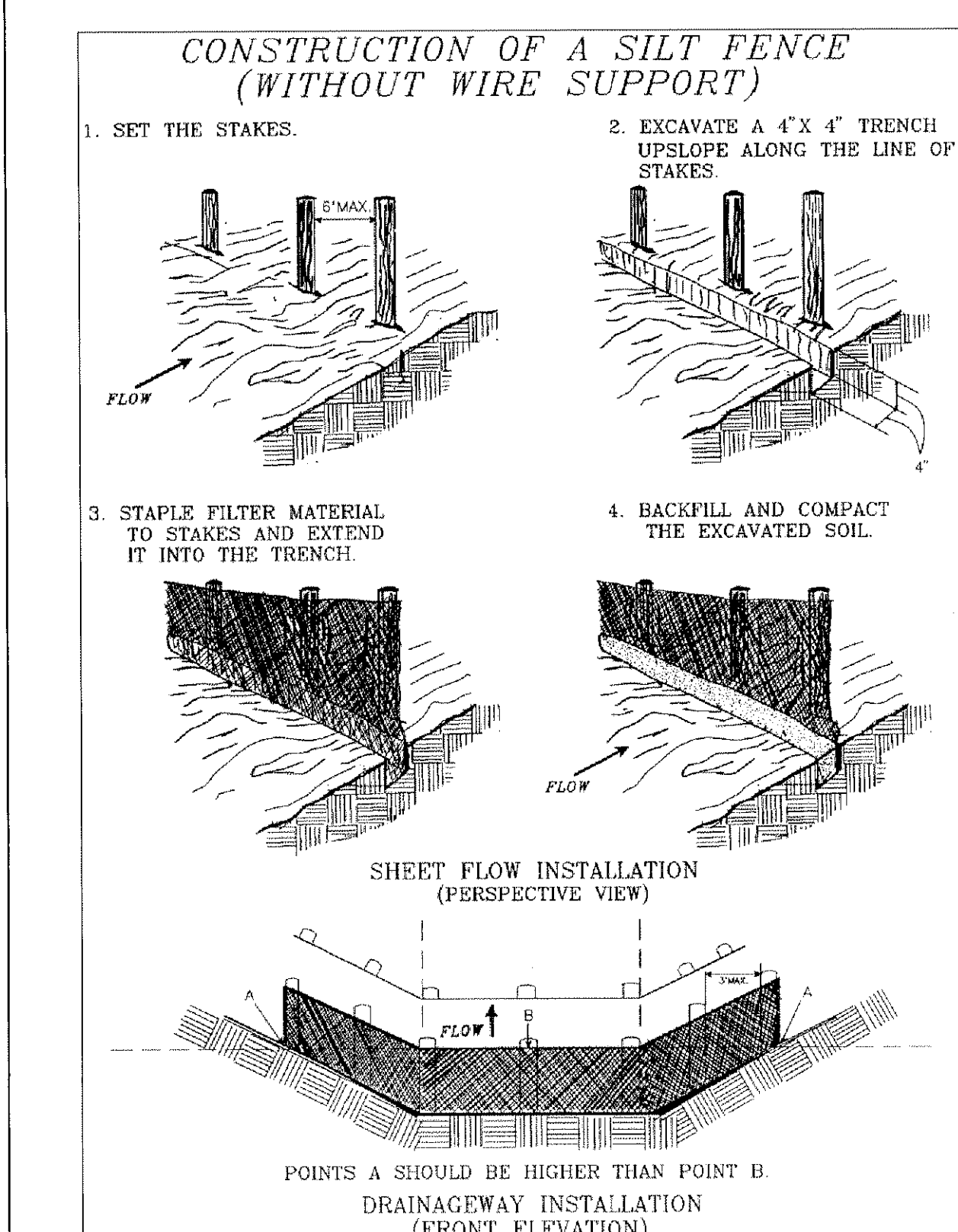


Source: VDOT Road and Bridge Standards

TSD FLARED END SECTION
NOT TO SCALE

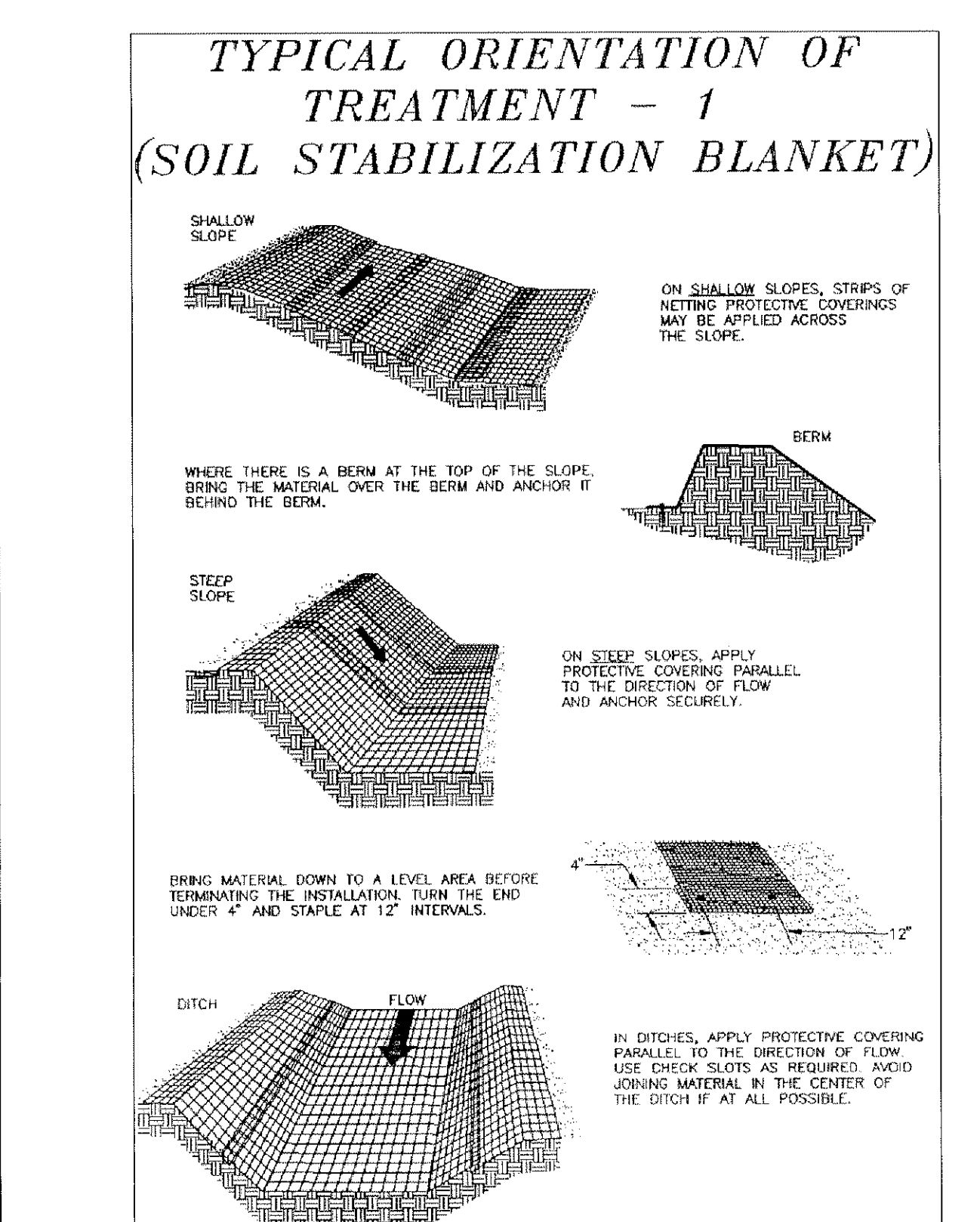


SR SURFACE ROUGHENING
NOT TO SCALE



- Maintenance**
- Silt fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
 - Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting.
 - Should the fabric on a silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.
 - Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.
 - Any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

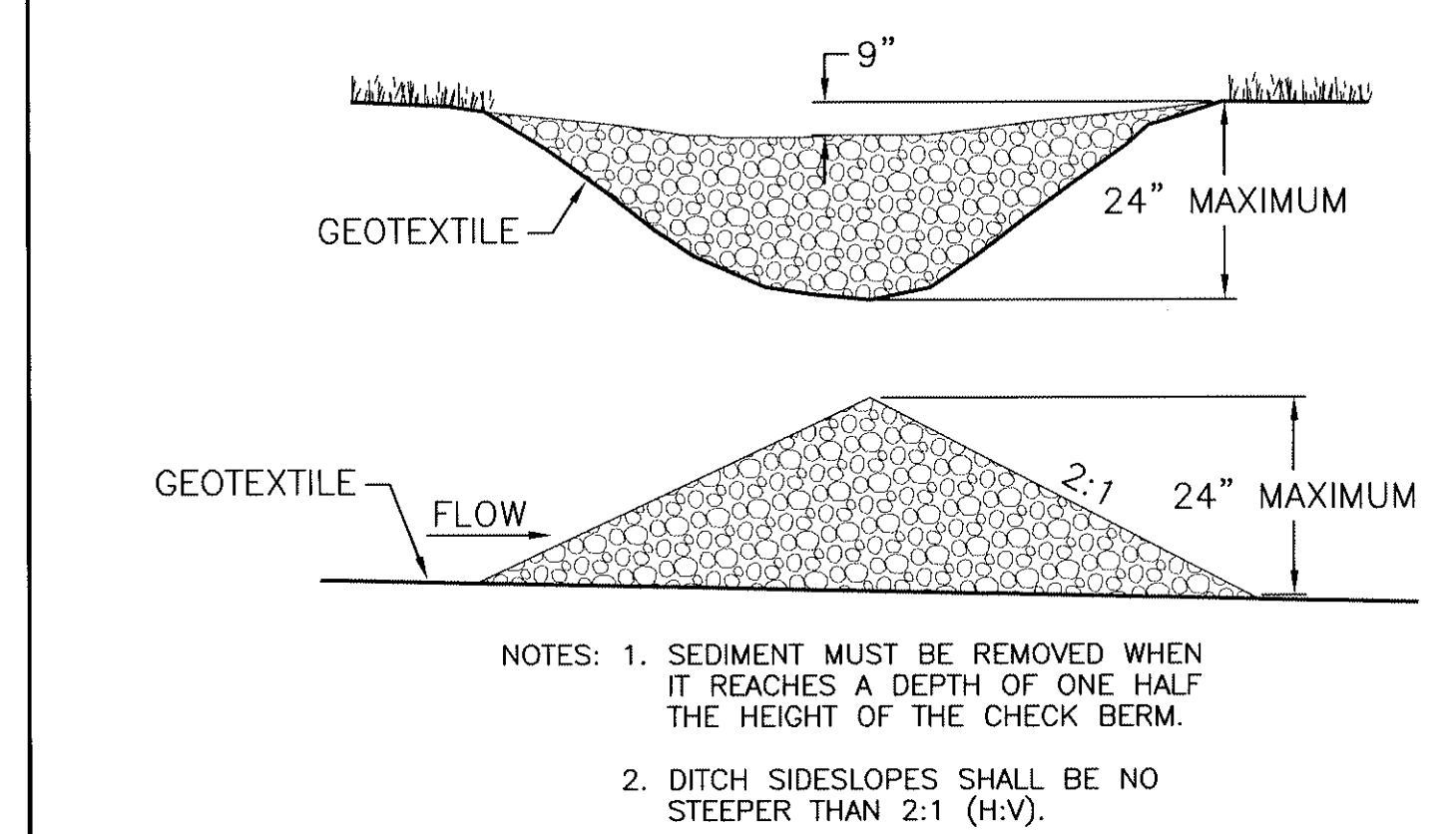
SF SILT FENCE
NOT TO SCALE



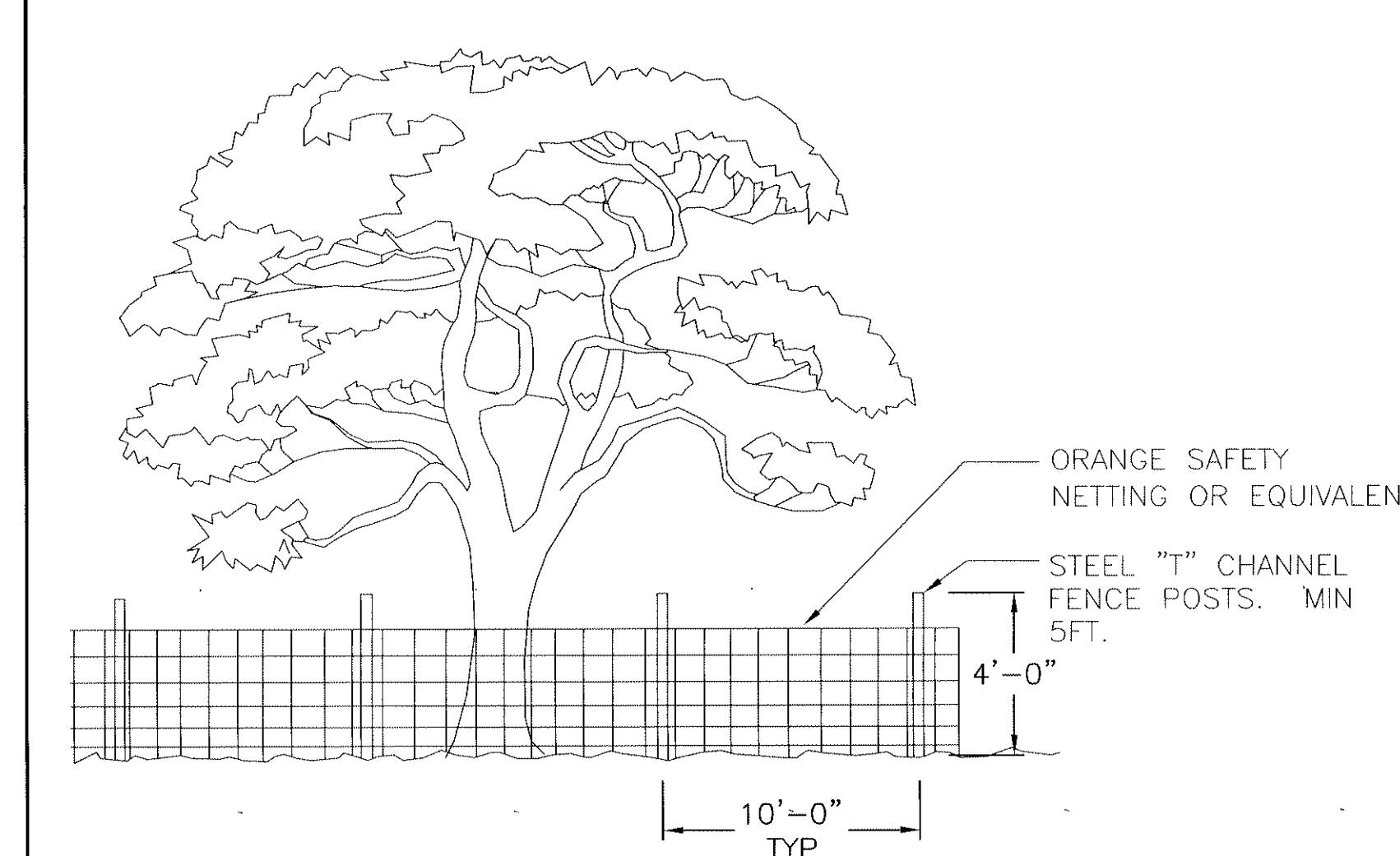
Maintenance

All soil stabilization blankets and matting should be inspected periodically following installation, particularly after rainstorms to check for erosion and undermining. Any dislocation or failure should be repaired immediately. If washouts or breakage occurs, re-install the material after repairing damage to the slope or ditch. Continue to monitor these areas until which time they become permanently stabilized; at that time an annual inspection should be adequate.

BM SOIL STABILIZATION BLANKETS/MATting
NOT TO SCALE



Cd STONE CHECK DAM
NOT TO SCALE



Tp TREE PROTECTION FENCE
NOT TO SCALE

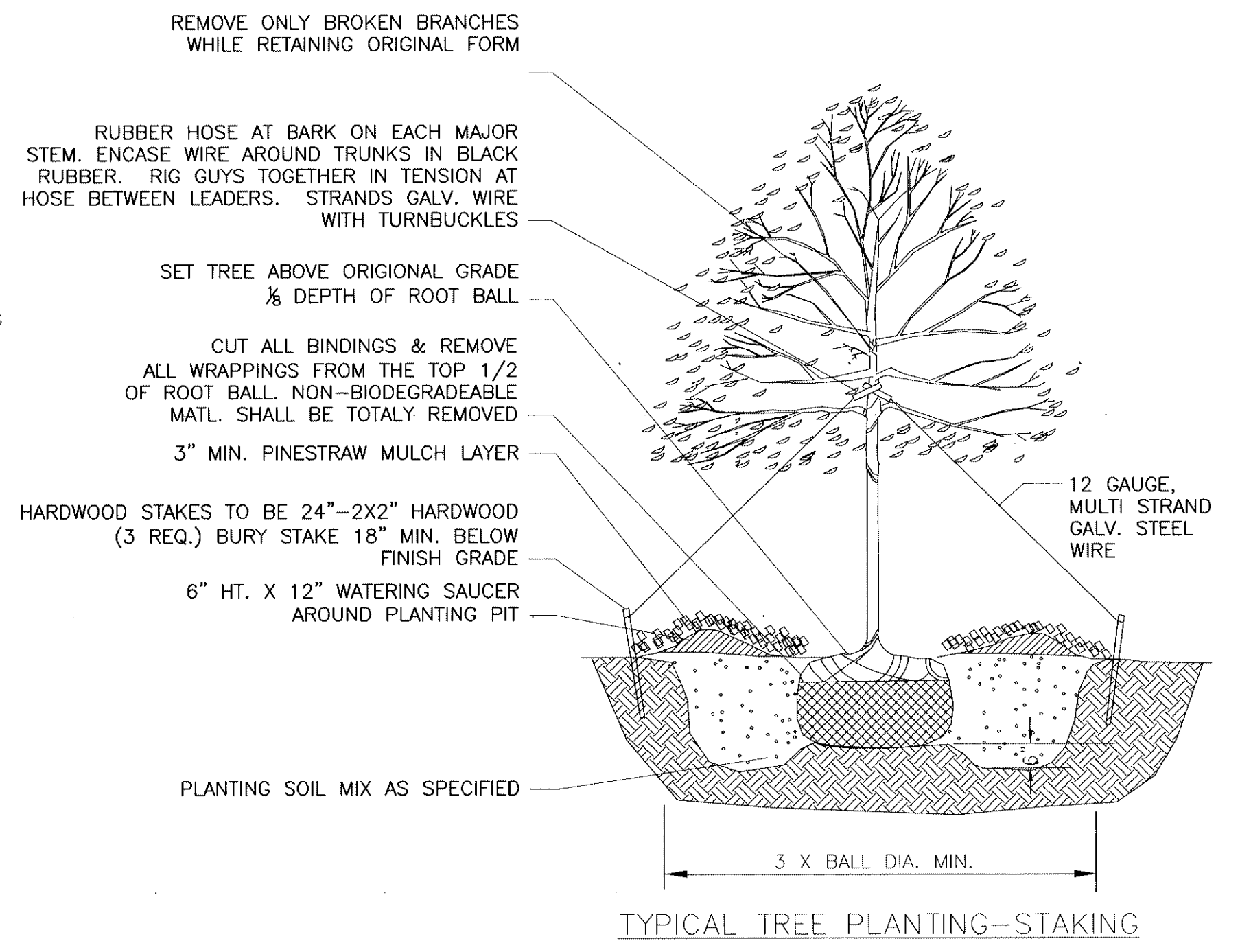
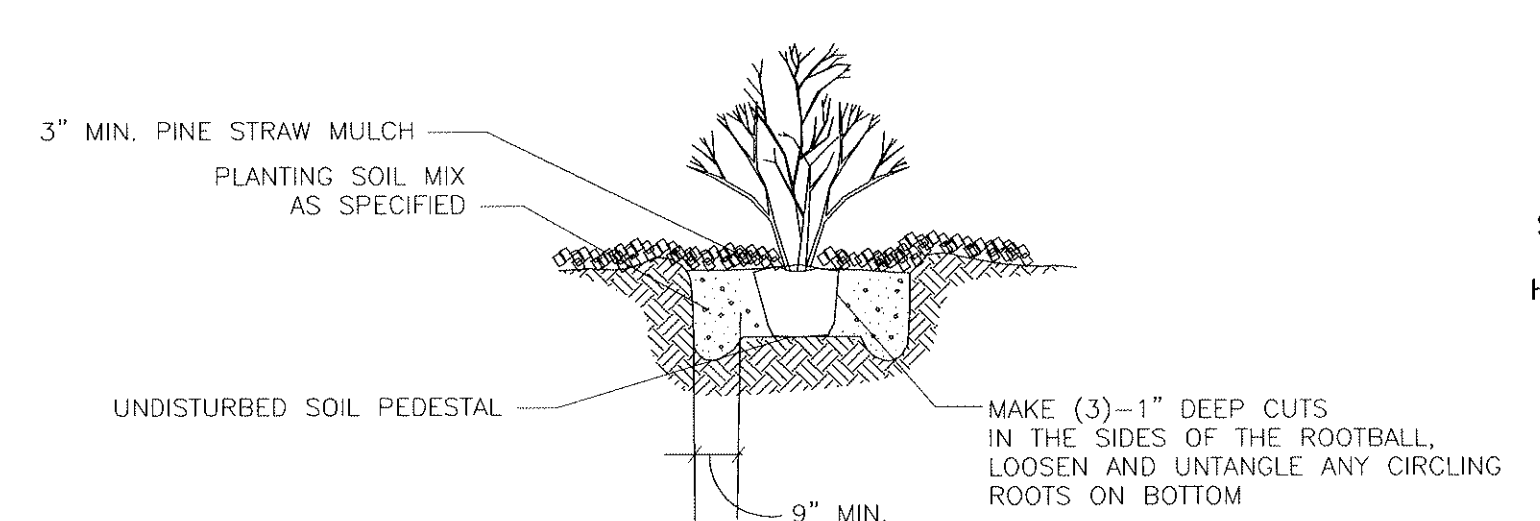
EROSION, SEDIMENTATION AND POLLUTION CONTROL NOTES

THE FOLLOWING NOTES PERTAIN TO EROSION, SEDIMENTATION AND POLLUTION CONTROL BEST MANAGEMENT PRACTICES RELATING TO SITE CONSTRUCTION ACTIVITIES OF THIS PROJECT.

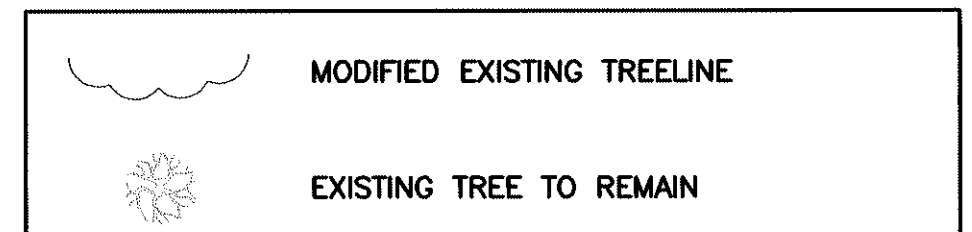
- GENERAL NOTES**
- PROJECT DESCRIPTION** - THIS SITE IS AN EXISTING DEPARTMENT OF VETERANS AFFAIRS CEMETERY. THE PROPOSED ADDITION TO THE SITE IS A NEW ADMINISTRATIVE BUILDING AND ASSOCIATED DRIVEWAYS AND PARKING. THE DISTURBED AREA: 2.45 ACRES.
 - EXISTING SITE CONDITIONS** - THE SITE FOR THE IMPROVEMENTS IS LOCATED ON TOP OF A RIDGE WITHIN THE CEMETERY BOUNDARY. THE SLOPES ARE RELATIVELY STEEP IN AREAS. THE SITE DRAINS TO THE EAST, SOUTH, AND WEST, TOWARDS EXISTING PAVED ROADS. THE EXISTING SITE VEGETATION IS MODERATELY WOODED.
 - ADJACENT AREAS** - (DESCRIBE ADJACENT AREAS)
 - OFF-SITE AREAS** - NO OFF-SITE AREAS WILL BE DISTURBED FOR THE PROPOSED IMPROVEMENTS.
 - SOILS** - THE PREDOMINANT SOILS ON THE SITE ARE LUNT LOAM (7-15% SLOPES), LUNT LOAM (15-25% SLOPES), CAROLINE FINE SANDY LOAM (6-10% SLOPES, ERODED), AND LUKA FINE SANDY LOAM (LOCAL ALLUVIUM, 0-4% SLOPES). SEE SHEETS L-211 AND L-212.
 - CRITICAL AREAS** - CRITICAL AREAS HAVE BEEN IDENTIFIED ON SHEET L-211. THE AREA ON THE NORTHERN END OF THE DISTURBANCE AREA HAS BEEN IDENTIFIED AS CRITICAL DUE TO THE PROPOSED STEEP SLOPES.
 - EROSION AND SEDIMENT CONTROL MEASURES** - UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE HANDBOOK. THE MINIMUM STANDARDS OF THE VESCR SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY VARIANCE.
 - STRUCTURAL AND VEGETATIVE PRACTICES** -
 - TEMPORARY CONSTRUCTION ENTRANCE** - A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREA INTERSECTS WITH THE EXISTING PAVED ROADWAY ON THE EASTERN SIDE OF THE LIMITS OF DISTURBANCE.
 - TEMPORARY SLOPE DRAIN** - TEMPORARY SLOPE DRAINS WILL BE INSTALLED TO PROTECT THE CUT SLOPES FROM RILL AND GULLY EROSION. THE LOCATIONS OF THIS PRACTICE ARE INDICATED ON SHEET L-211.
 - STORM DRAIN INLET PROTECTION** - ALL STORM SEWER INLETS SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT-LADEN WATER SHALL BE FILTERED BEFORE ENTERING THE STORM SEWER LINE.
 - TEMPORARY SEEDING** - ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDING WITH

- FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.
- SOIL STABILIZATION BLANKETS AND MATTING** - EROSION CONTROL BLANKETS WILL BE INSTALLED OVER THE STEEP CUT SLOPES WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEEDING TO PROTECT THE SLOPES.
- DIVERSION** - A DIVERSION DITCH WILL BE INSTALLED BELOW MAJOR GRADED AREAS TO DIRECT FLOW INTO TEMPORARY SLOPE DRAINS.
- OUTLET PROTECTION** - RIPRAP IS TO BE PLACED AT THE OUTLET OF ALL PIPES PER DETAIL SHEET.
- TREE PRESERVATION AND PROTECTION** - A FENCE BARRIER IS TO BE PLACED AROUND THE TREES AND VEGETATED AREAS WHICH WILL NOT BE DISTURBED TO PROTECT THE TREES AND OTHER VEGETATION FROM CONSTRUCTION EQUIPMENT AND SOIL COMPACTION.
- SILT FENCE** - SILT FENCE SEDIMENT BARRIERS WILL BE INSTALLED DOWNSLOPE OF AREAS WITH MINIMAL GRADES TO FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW.
- PERMANENT STABILIZATION** - ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING.
- STORMWATER MANAGEMENT** - AN UNDERGROUND PRECAST VAULT WILL BE INSTALLED TO CONTROL PEAK STORMWATER FLOWS. THE VOLUME OF THE VAULT IS DESIGNED FOR THE 10 YEAR STORM EVENT.
- MAINTENANCE** - ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECK IN PARTICULAR:
- THE SEDIMENT BASINS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEAN OUT POINT INDICATED ON THE RISER PIPE.
 - THE SEDIMENT TRAPS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT.
 - THE GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED.
 - THE SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.
 - THE SEEDING AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDING AS NEEDED.

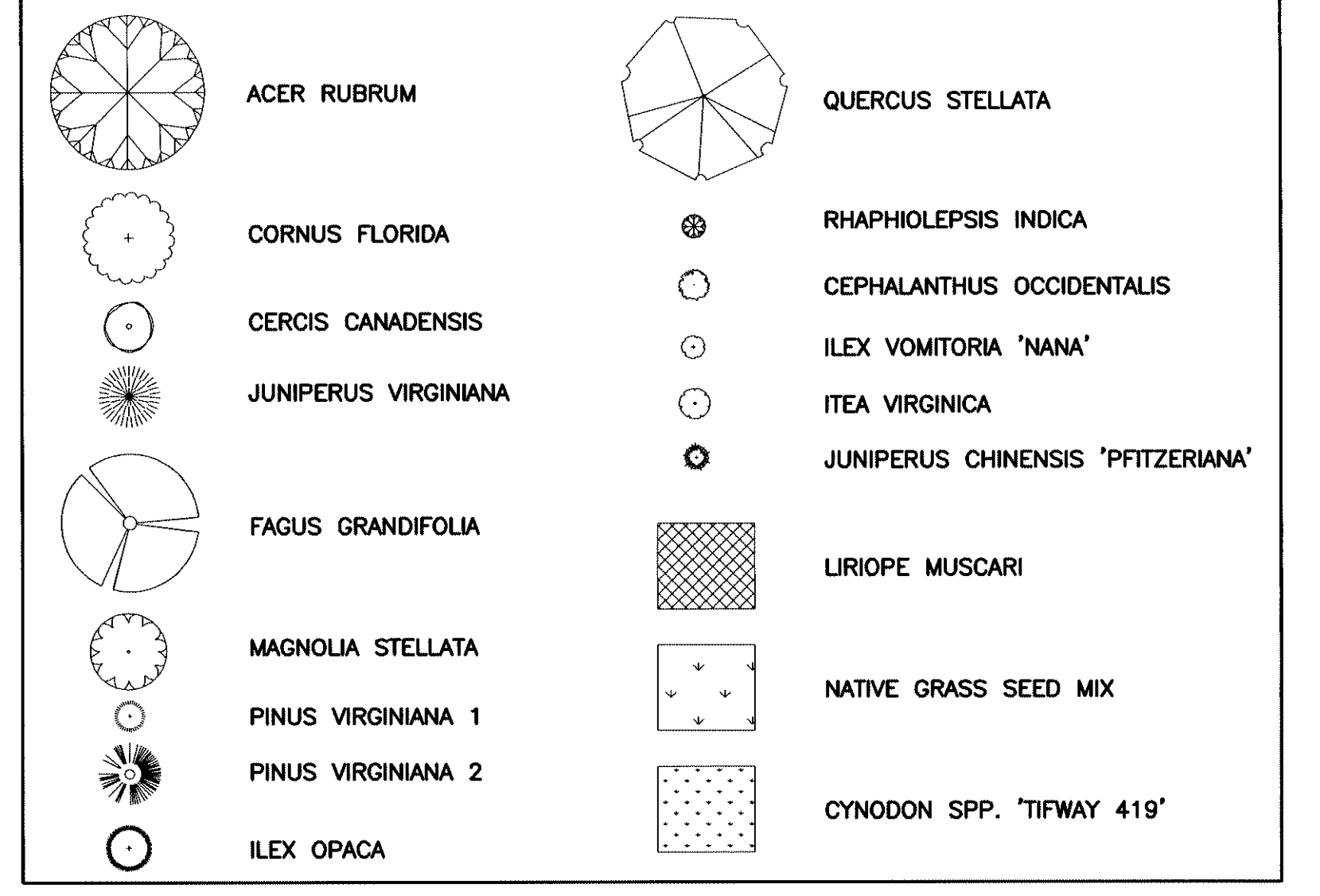
MACTEC MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085		MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424		Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 404.266.1400 www.tcieng.com Atlanta, Dubai, UAE Orlando, Mexico City, Mexico Houston, Tortola, BVI		HALDER SURVEYS 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708		NATIONAL CEMETERY ADMINISTRATION		Drawing Title EROSION & SEDIMENT CONTROL DETAILS AND NOTES 2 OF 2		Project Title ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY		Date 07-29-11	
Approved: Director, Technical Support Service		Building Number		Checked		Drawn		Project No. 872CM3035		DRAWING NO. C-508		Dwg. 30 of 81			
Approved: Chief, Architectural & Engineering Division		Location 18424 JOPLIN ROAD TRIANGLE, VIRGINIA													



EXISTING PLANT LEGEND

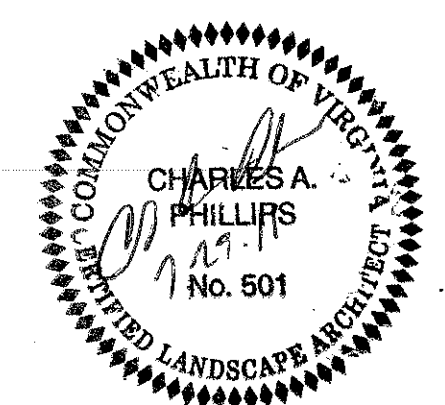


PROPOSED PLANT LEGEND



PLANT SCHEDULE

QTY.	BOTANICAL NAME	PLAN NAME	SIZE	SPACING	NOTES & COMMENTS
TREES					
15	ACER RUBRUM	RED MAPLE	2" CAL.	AS SHOWN	10' HT. MINIMUM
10	CORNUS FLORIDA	DOGWOOD	1 1/2" CAL.	AS SHOWN	8' HT. MINIMUM, MULTI-TRUNK
11	CERCIS CANADENSIS	EASTERN RED BUD	2" CAL.	AS SHOWN	8' HT. MINIMUM
10	ILEX OPACA	AMERICAN HOLLY	15 GAL.	AS SHOWN	8'-10' HT. MINIMUM
17	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	1 1/2" CAL.	AS SHOWN	8' HT. MINIMUM
4	MAGNOLIA STELLATA	STAR MAGNOLIA	2" CAL.	AS SHOWN	10' HT. MINIMUM
43	PINUS VIRGINIANA	VIRGINIA PINE 1	7 GAL.	AS SHOWN	6'-7' HT. MINIMUM
12	PINUS VIRGINIANA	VIRGINIA PINE 2	25 GAL.	AS SHOWN	10'-12' HT. MINIMUM
5	FAGUS GRANDIFOLIA	BEECH	1 1/2" CAL.	AS SHOWN	8' HT. MINIMUM
7	QUERCUS STELLATA	POST OAK	3" CAL.	AS SHOWN	12' HT. MINIMUM
SHRUBS					
56	CEPHALANTHUS OCCIDENTALIS	BUTTON BUSH	3 GAL.	AS SHOWN	FULL
41	ILEX VOMITORIA 'NANA'	DWARF YAUPOH HOLLY	3 GAL.	AS SHOWN	FULL
16	ITEA VIRGINICA	VIRGINIA SWEETSPICE	3 GAL.	AS SHOWN	FULL
64	JUNIPERUS CHINENSIS 'PFITZERIANA'	PFITZER JUNIPER	3 GAL.	AS SHOWN	FULL
43	RHAPHIOLEPSIS INDICA	INDIAN HAWTHORNE	3 GAL.	AS SHOWN	FULL
NATIVE GRASSES					
18,300 SF	NATIVE GRASS SEED MIX		6 LBS./ACRE TOTAL		CONTRACTOR SHALL FIELD MEASURE
MIXTURE	PANICUM VIRGATUM	SWITCHGRASS	2 LBS./ACRE		PURE LIVE SEED ONLY
	SORGHASTRUM NUTANS	INDIANGRASS	2 LBS./ACRE		PURE LIVE SEED ONLY
	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	2 LBS./ACRE		PURE LIVE SEED ONLY
GROUNDCOVERS					
26,200 SF	CYNODON SPP. 'TIFWAY'	TIFWAY BERMUDA	SOD	AS SHOWN	CONTRACTOR SHALL FIELD MEASURE
210 SF	LIRIOPE MUSCARI	LILYTURF	1 GAL.	18" O.C.	CONTRACTOR SHALL FIELD MEASURE



CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:

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MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:

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HALDER SURVEYS

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NATIONAL CEMETERY ADMINISTRATION

Drawing Title

LANDSCAPE PLAN

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

**ADMINISTRATION / PUBLIC INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY**

Building Number

Checked

Drawn

Location

**18424 JOPLIN ROAD
TRIANGLE, VIRGINIA**

Date

07-29-11

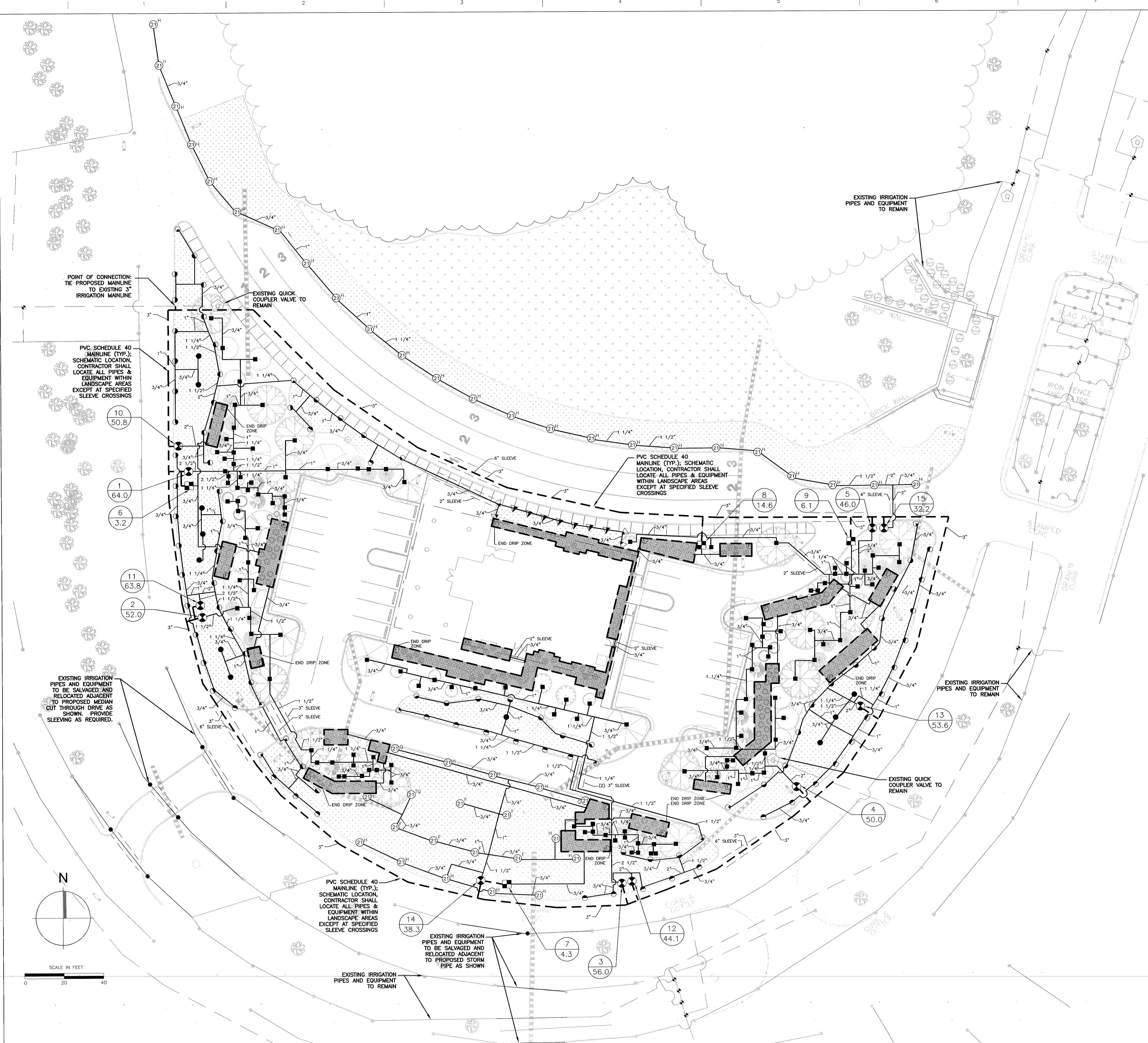
Project No.

872CM3035

DRAWING NO.

L-100

Dwg. 31 of 81



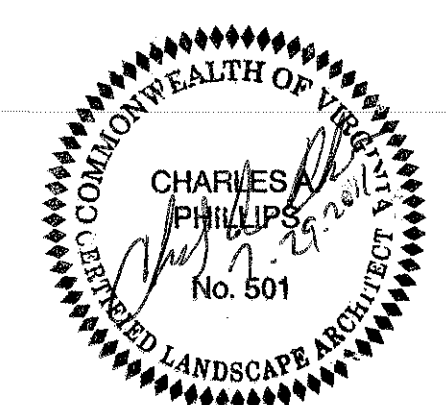
NOTE: IRRIGATION DESIGN BASED UPON RAINBIRD IRRIGATION CORP. EQUIPMENT AND DESIGN SPECIFICATIONS. CONTRACTOR MAY SUBMIT ALTERNATES FOR APPROVAL BY THE LANDSCAPE ARCHITECT AND COTR PRIOR TO BID.

NOTE: IRRIGATION PIPES AND EQUIPMENT LOCATIONS SHOWN ARE SCHEMATIC. CONTRACTOR SHALL LOCATE ALL PIPES & EQUIPMENT WITHIN LANDSCAPE AREAS EXCEPT AT SPECIFIED SLEEVE CROSSINGS. ALL PIPES SHALL BE TRENCHED TOGETHER TO GREATEST EXTENT POSSIBLE. ALL VALVES SHALL BE LOCATED IN CLUSTERS BY THE CONTRACTOR TO GREATEST EXTENT POSSIBLE.

IRRIGATION SYMBOL LEGEND

- REMOTE CONTROL VALVE (SIZE VARIES)
- 1" DRIP IRRIGATION VALVE
- PIPE JUMP
- RAIN SENSOR
- FLUSH VALVE
- RAINBIRD 1300A-F TREE BUBBLER
FLOW GPM: 2.0 GPM
- RAINBIRD 1806-SAM-PRS SERIES
POP-UP SPRINKLER W/ R17-24 ROTARY
NOZZLE AT 21" RADIUS. FLOW GPM:
Q: 75 GPM
H: 1.50 GPM
TQ: 2.25 GPM
F: 3.00 GPM
- RAINBIRD 1806-SAM-PRS SERIES
POP-UP SPRINKLER W/ U-15 SERIES
NOZZLE. FLOW GPM:
Q: 92 GPM
T: 1.23 GPM
H: 1.85 GPM
TQ: 2.78 GPM
F: 3.70 GPM
- RAINBIRD 1806-SAM-PRS SERIES
POP-UP SPRINKLER W/ U-8 SERIES
NOZZLE. FLOW GPM:
Q: 26 GPM
H: 52 GPM
- MAINLINE: PVC SCHEDULE 40
- LATERAL: PVC CLASS 200
- PIPE SLEEVE: PVC SCHEDULE 40, MIN.
2X PIPE SIZE
- DRIP IRRIGATION AREA
- ZONE #
XX.X
- ZONE CALLOUTS

IRRIGATION SCHEDULE		
ZONE	TYPE	GPM
1	BUBBLERS	64.0
2	BUBBLERS	52.0
3	BUBBLERS	56.0
4	BUBBLERS	50.0
5	BUBBLERS	46.0
6	DRIFLINE	3.2
7	DRIFLINE	4.3
8	DRIFLINE	14.6
9	DRIFLINE	6.1
10	TURFSpray	50.8
11	TURFSpray	63.8
12	TURFSpray	44.1
13	TURFSpray	53.6
14	ROTOR NOZZLE	38.3
15	ROTOR NOZZLE	32.2



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Drawing Title
IRRIGATION PLAN

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title
**ADMINISTRATION / PUBLIC INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY**

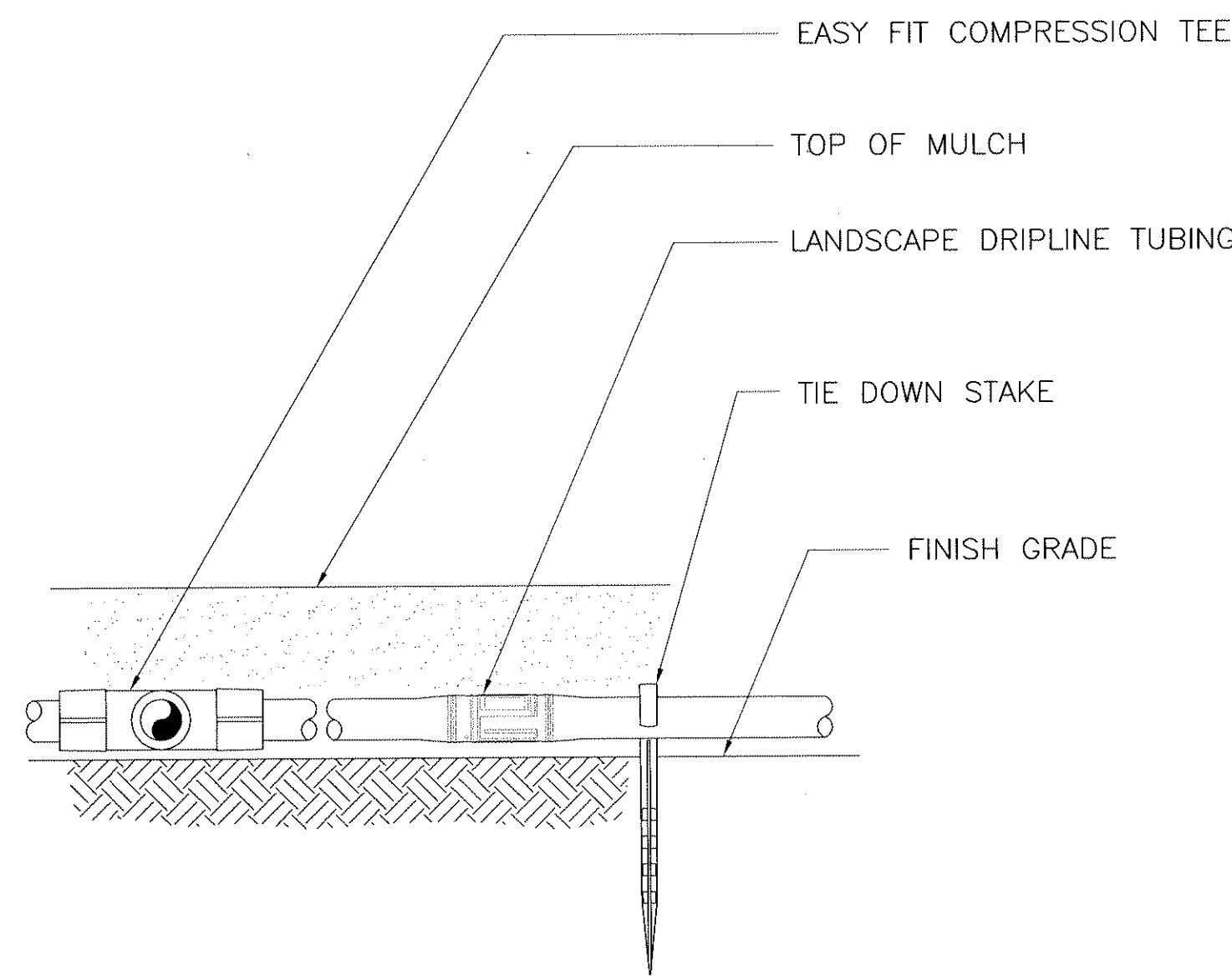
Building Number
**18424 JOPLIN ROAD
TRIANGLE, VIRGINIA**

Date
07-29-11

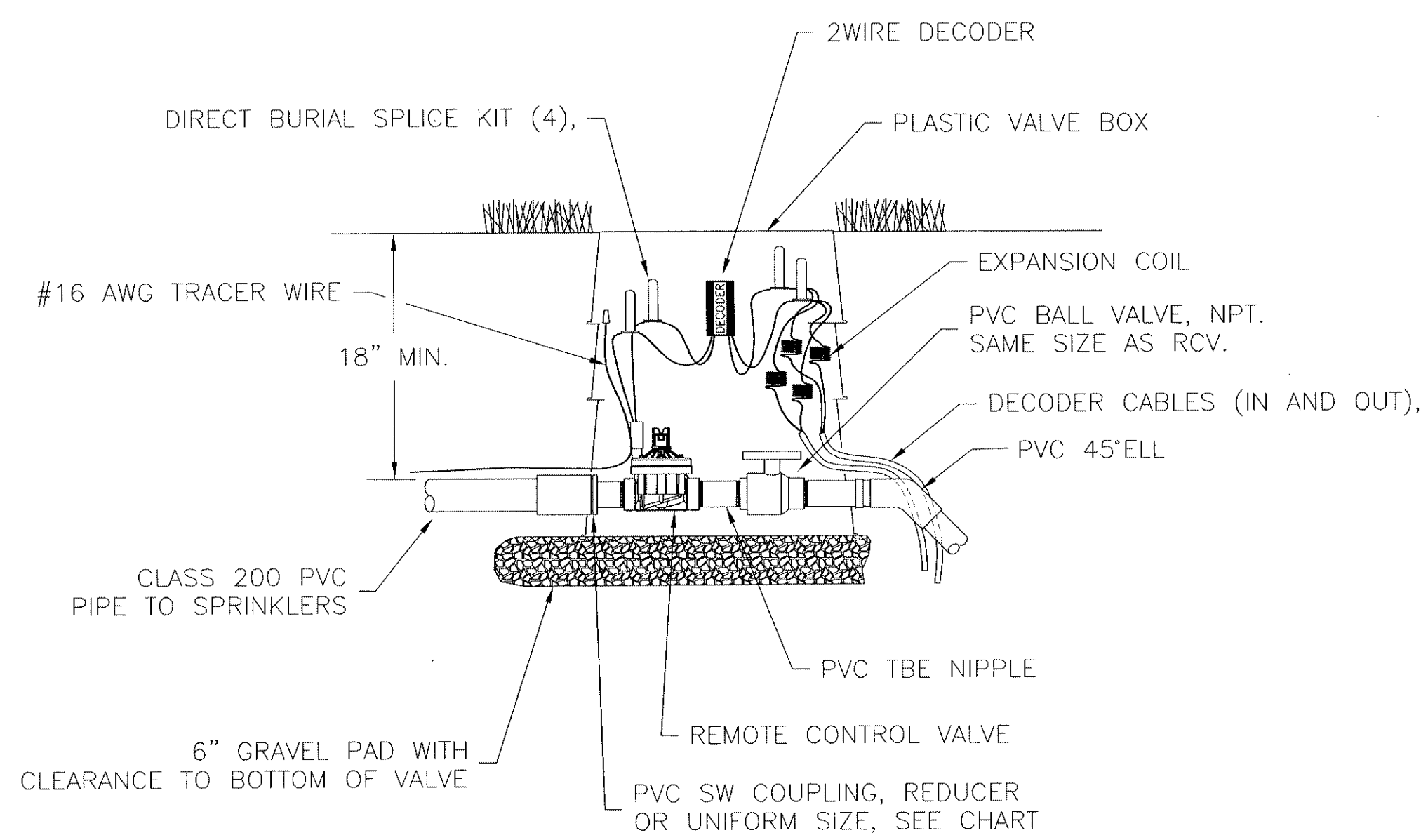
Project No.
872CM3035

Drawing No.
L-101

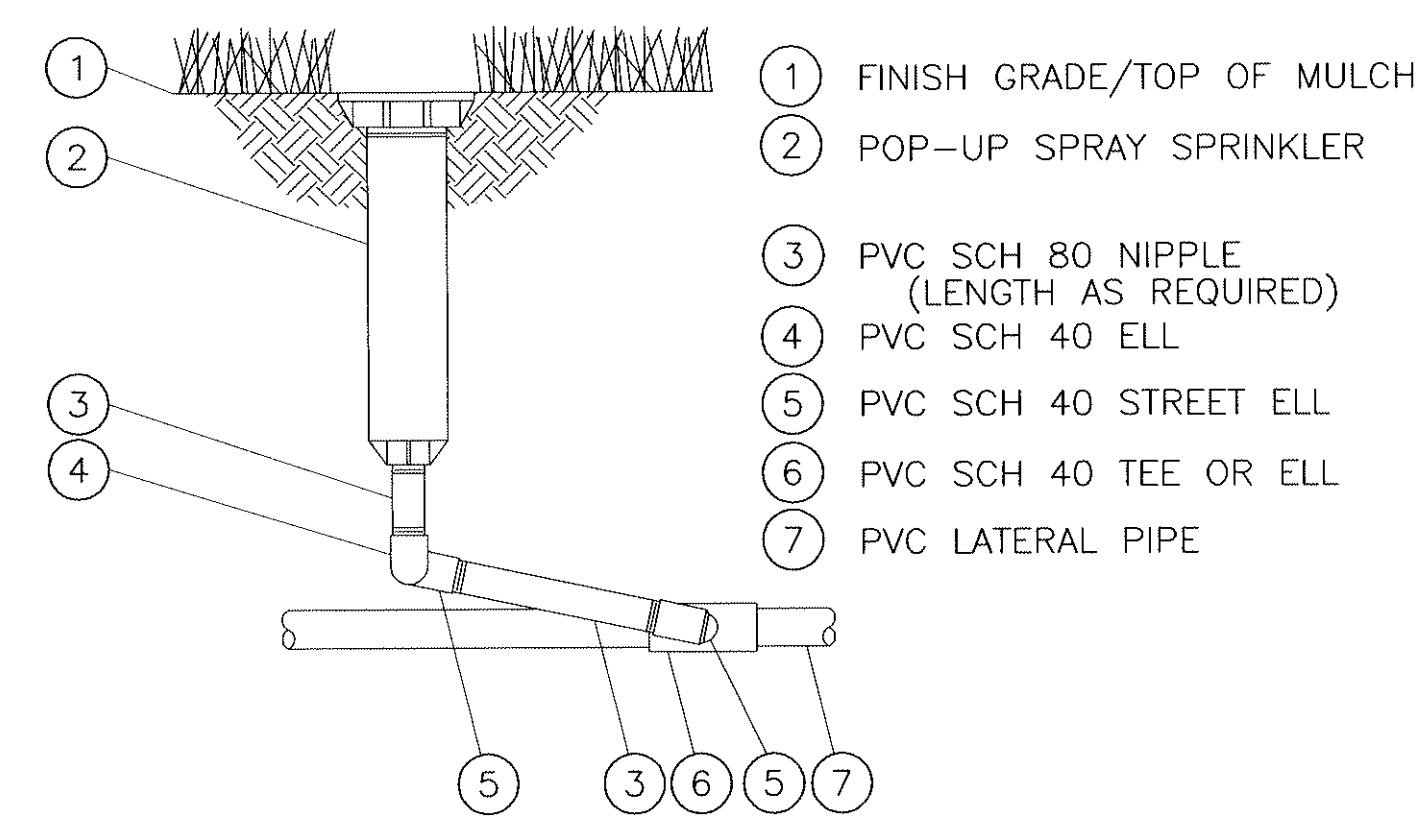
Dwg. 32 of 81



A LANDSCAPE DRIPLINE ON GRADE
N.T.S. 8-12-04
POTABLE SYSTEM

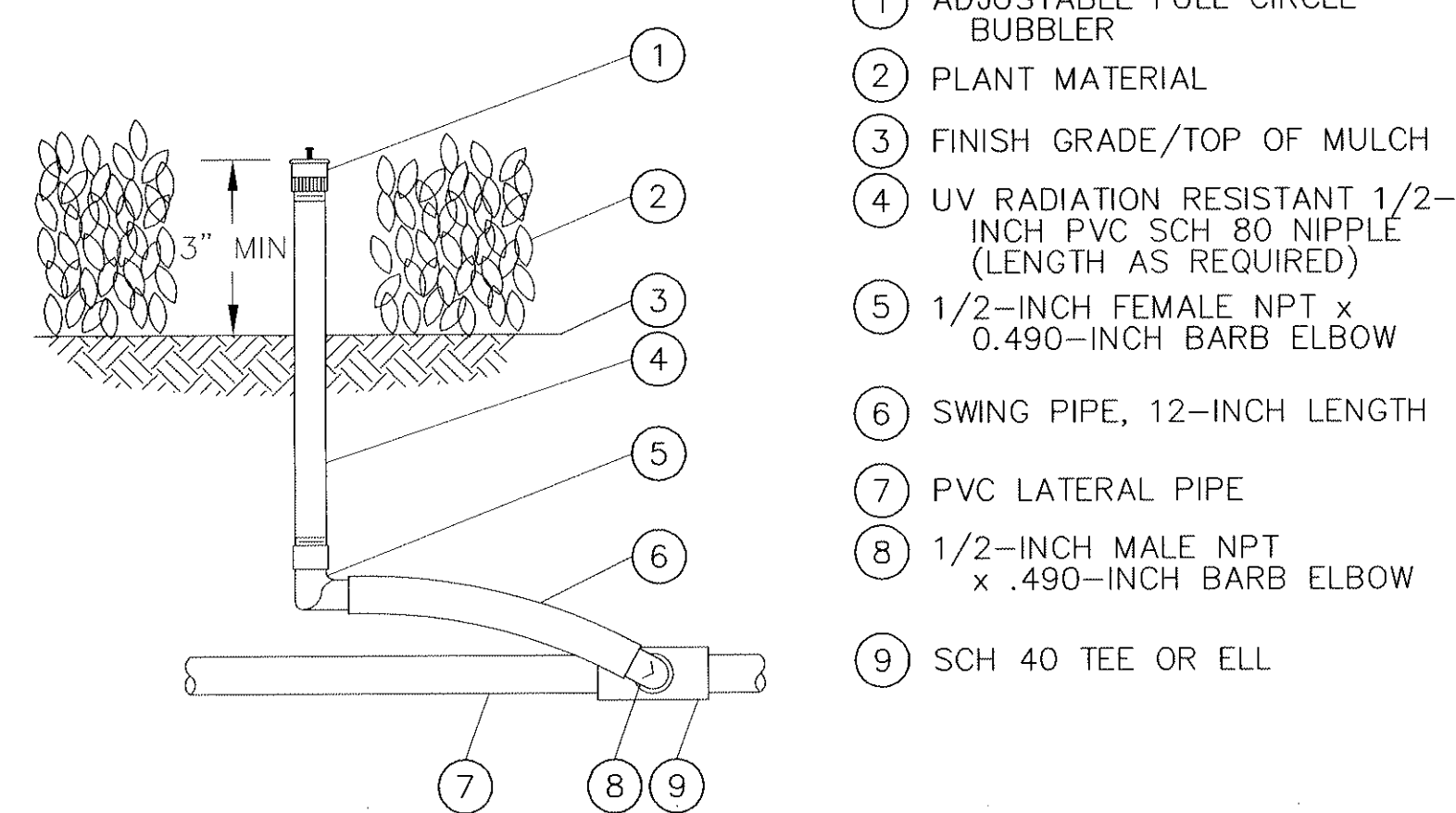


C REMOTE-CONTROL VALVE ASSEMBLY
N.T.S.



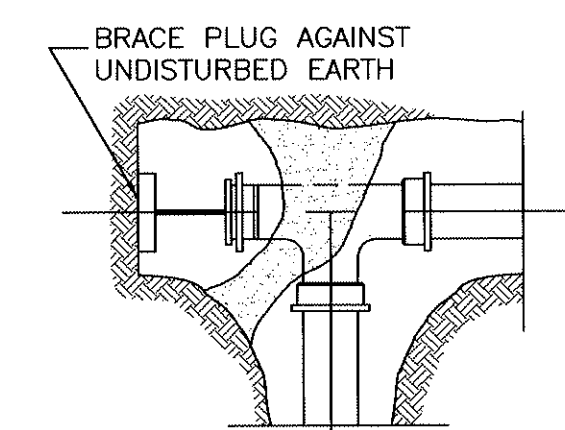
D POP-UP SPRAY SPRINKLER
N.T.S. 4-13-04

S-1804-SJ.DWG

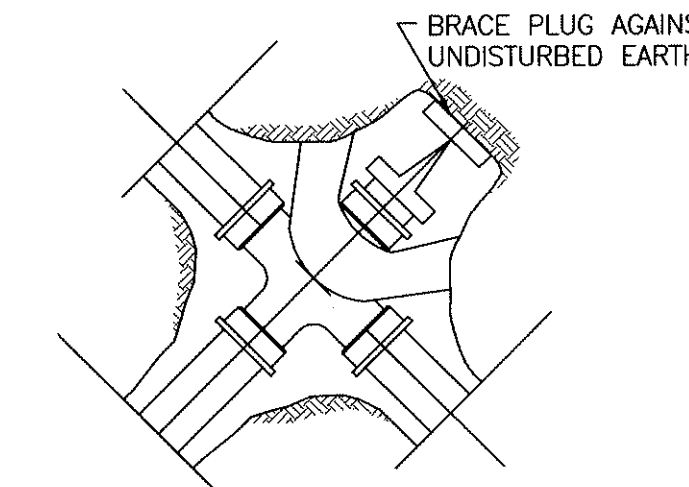


E ADJUSTABLE FULL CIRCLE BUBBLER
N.T.S. 1-08-04

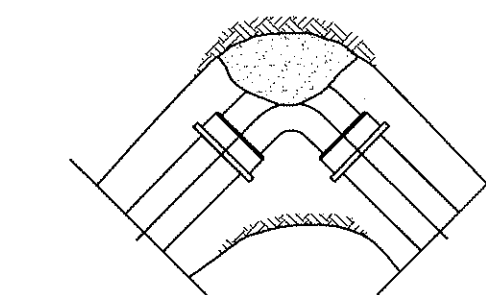
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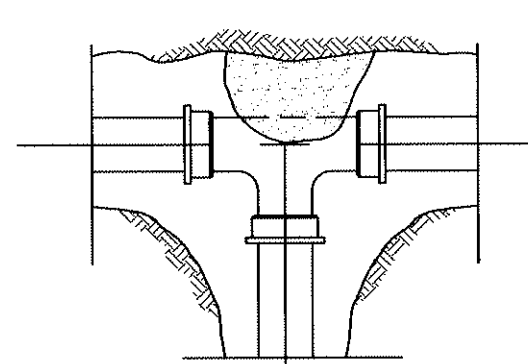
PLUGGED TEE
NOT TO SCALE



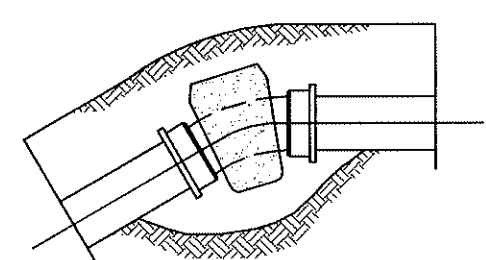
PLUGGED CROSS
NOT TO SCALE



90° ELBOW
NOT TO SCALE



TEE
NOT TO SCALE



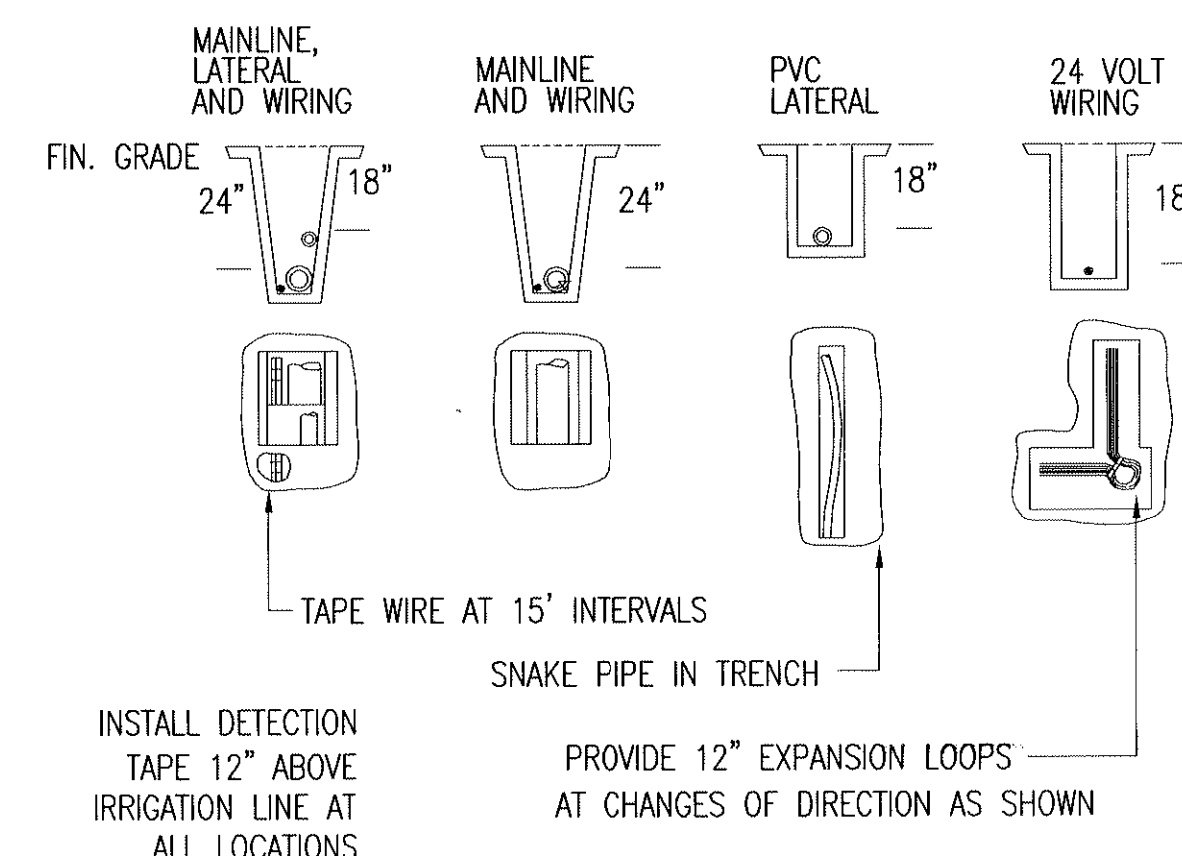
VERTICAL BEND
NOT TO SCALE

BEARING AREAS				
	TEE OR CAP	90° BEND	45° BEND	22.5° BEND
2"	1.0 S.F.	1.0 S.F.	1.0 S.F.	1.0 S.F.
3"	1.3 S.F.	1.8 S.F.	1.0 S.F.	1.0 S.F.
4"	2.7 S.F.	3.7 S.F.	1.9 S.F.	1.0 S.F.
6"	4.9 S.F.	6.9 S.F.	3.7 S.F.	1.9 S.F.
8"	8.1 S.F.	11.3 S.F.	6.2 S.F.	3.2 S.F.
10"	11.7 S.F.	16.4 S.F.	8.9 S.F.	4.6 S.F.

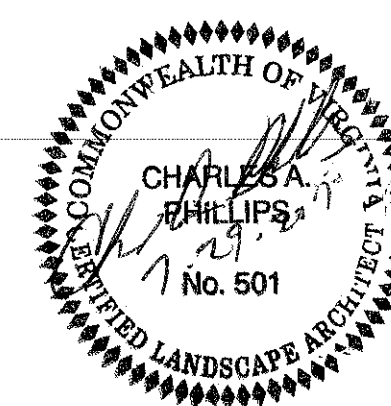
NOTE: MIN. THICKNESS OF THRUST BLOCKS TO BE 12 INCHES WITH AREA AS ABOVE.

NOTE: ALL BLOCKS BEAR AGAINST UNDISTURBED EARTH.

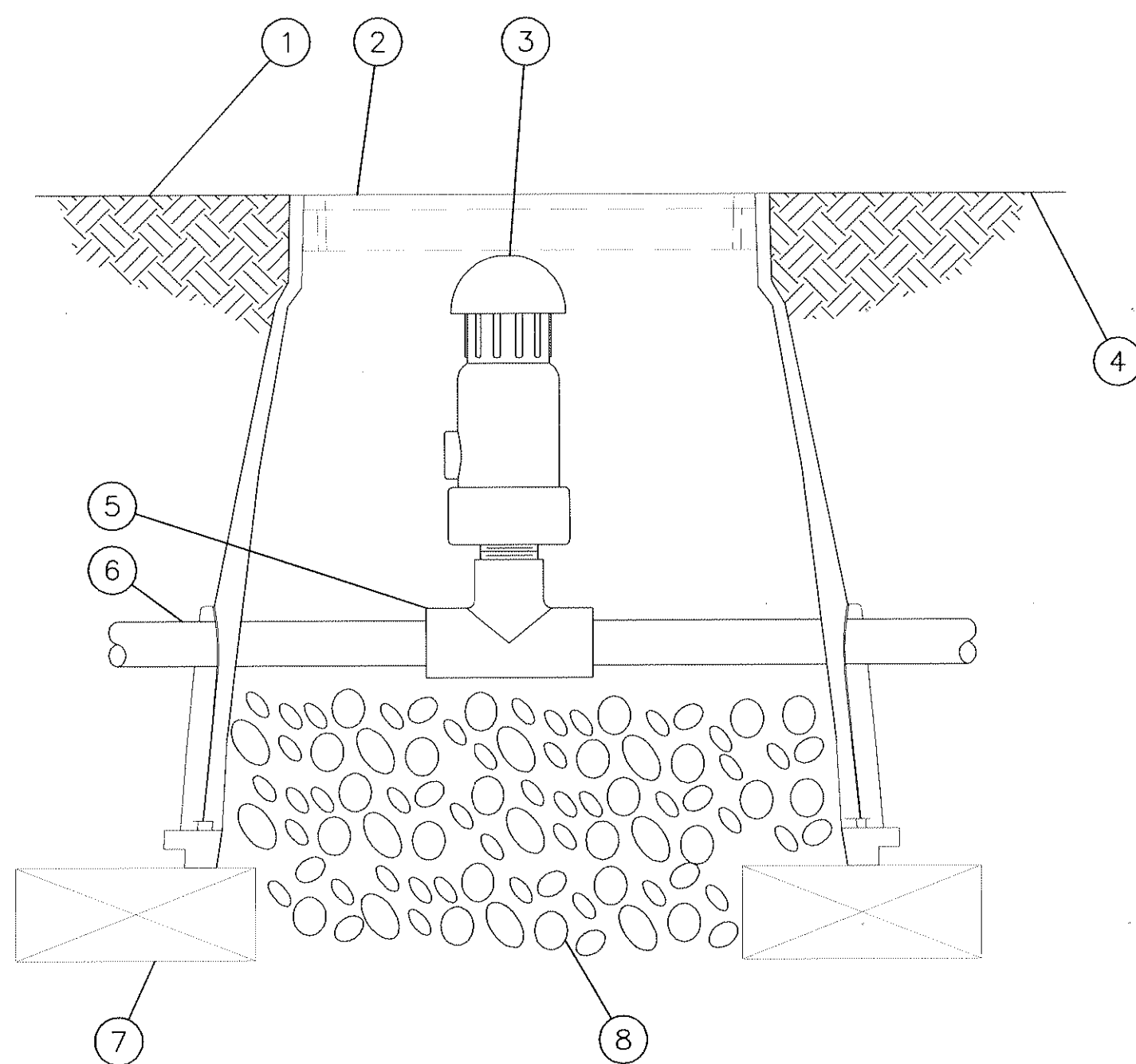
F TYPICAL THRUST BLOCK
N.T.S.



G TRENCH AND WIRE DETAIL
N.T.S.

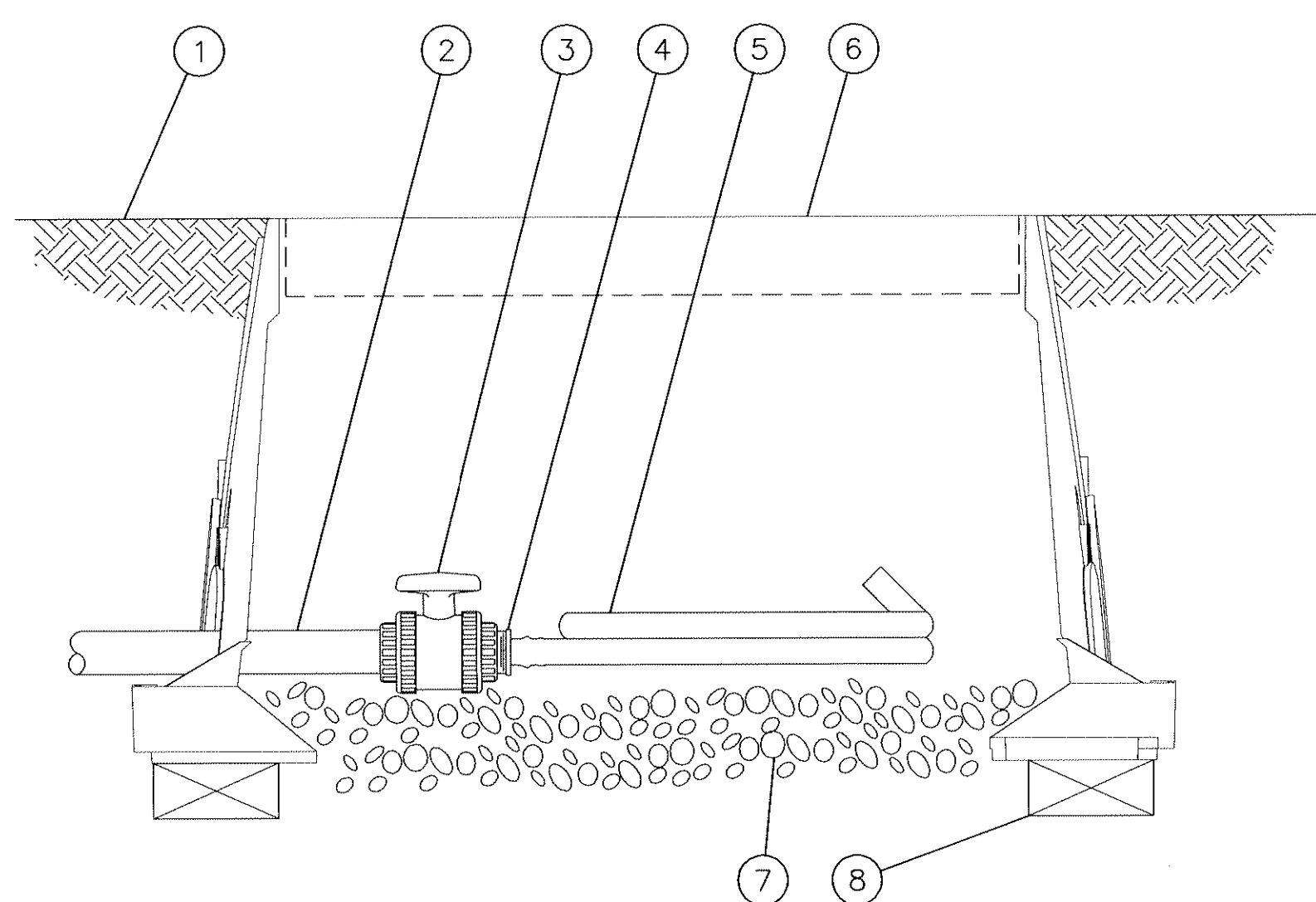


NOTE: IRRIGATION DESIGN BASED UPON RAINBIRD IRRIGATION CORP. EQUIPMENT AND DESIGN SPECIFICATIONS. CONTRACTOR MAY SUBMIT ALTERNATES FOR APPROVAL BY THE LANDSCAPE ARCHITECT AND COTR PRIOR TO BID.



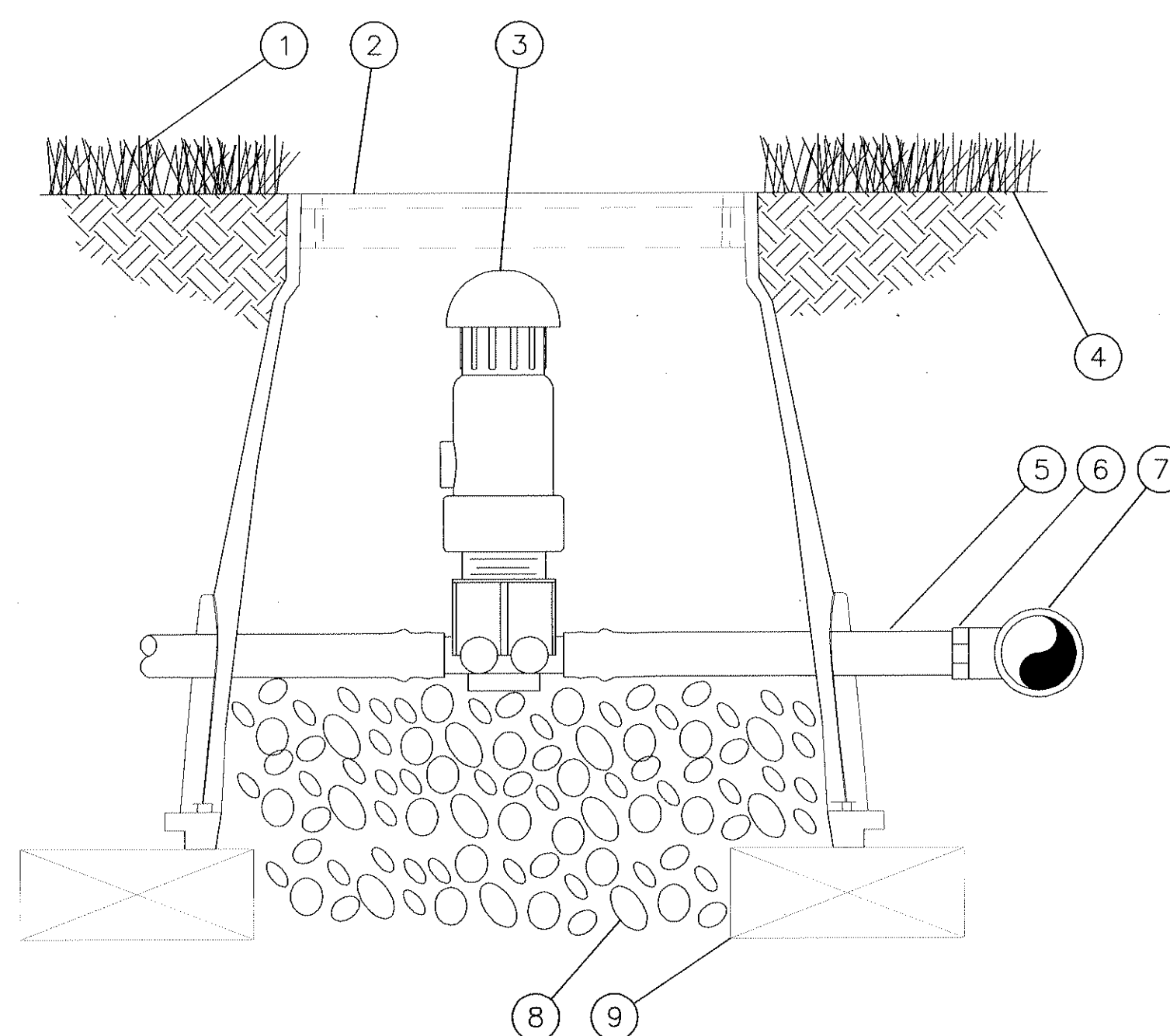
- ① FINISH GRADE
- ② SUBTERRANEAN EMITTER BOX
- ③ AIR/VACUUM RELIEF VALVE KIT:
TO BE INSTALLED AT HIGH POINT
IN DRIP ZONE AS REQUIRED
- ④ FINISH GRADE
- ⑤ PVC SCH 40 TEE
- ⑥ PVC HEADER PIPE
- ⑦ BRICK (1 OF 2)
- ⑧ 3" MINIMUM DEPTH OF
¾" WASHED GRAVEL

A XFS SUB-SURFACE DRIPLINE
N.T.S. AIR/VACCUUM RELIEF VALVE KIT IN PVC HEADER



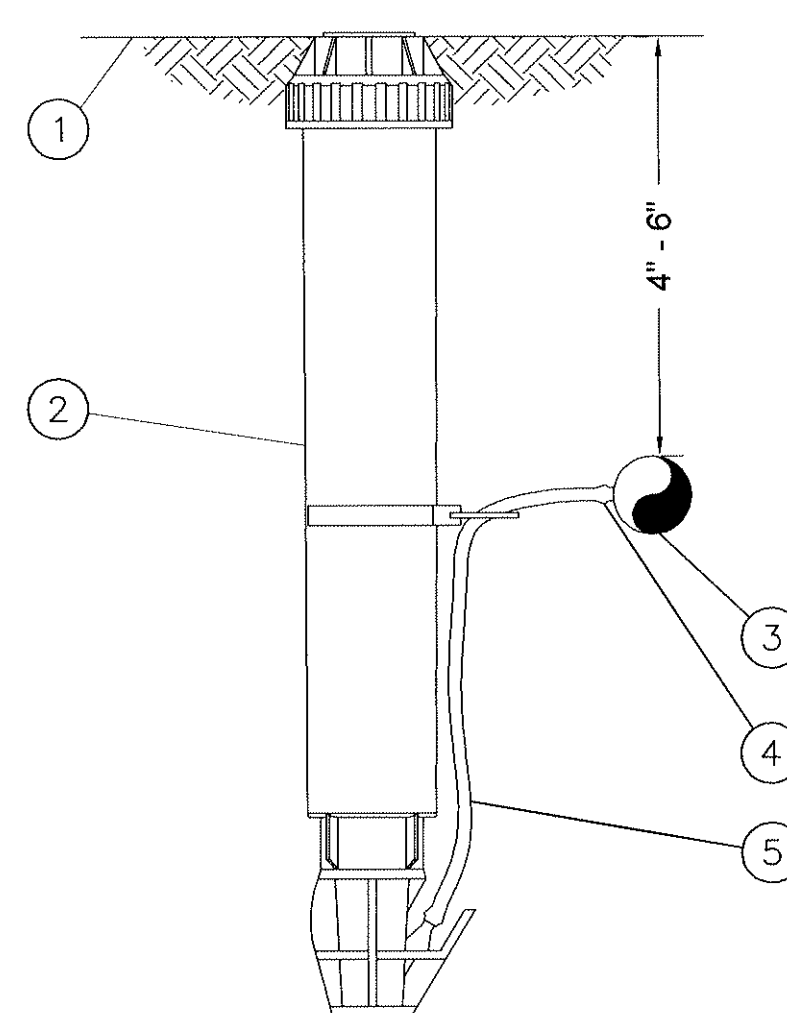
- ① FINISH GRADE
- ② PVC DRIP MANIFOLD PIPE
- ③ PVC 1" X ¾" TRUE UNION BALL VALVE
- ④ EASY FIT MALE X BARB ADAPTER
- ⑤ SUB-SURFACE DRIPLINE
- ⑥ 12-INCH VALVE BOX WITH COVER
- ⑦ 3-INCH MINIMUM DEPTH OF
¾" WASHED GRAVEL
- ⑧ BRICK (1 OF 2)

B XFS SUB-SURFACE DRIPLINE
N.T.S. FLUSH POINT WITH BALL VALVE



- ① TURF GRASS
- ② SUBTERRANEAN EMITTER BOX
- ③ AIR/VACUUM RELIEF VALVE KIT
- ④ FINISH GRADE
- ⑤ ½" BLANK DRIPLINE TUBING
- ⑥ BARB X MALE THREAD CONNECTOR
- ⑦ PVC TEE CONNECTED TO PVC
HEADER PIPE
- ⑧ 3" MINIMUM DEPTH OF
¾" WASHED GRAVEL
- ⑨ BRICK (1 OF 2)

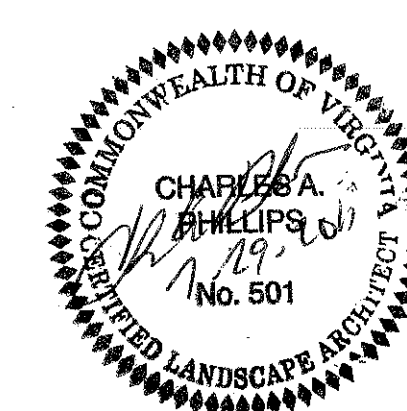
C XFS SUB-SURFACE DRIPLINE
N.T.S. AIR/VACCUUM RELIEF VALVE KIT IN XFS DRIPLINE



- ① FINISH GRADE/TURF
- ② MICRO-SPRAY POP-UP
- ③ SUB-SURFACE DRIPLINE
- ④ ¼" BARB TRANSFER FITTING
- ⑤ ¼" DISTRIBUTION TUBING
(LENGTH AS REQUIRED)

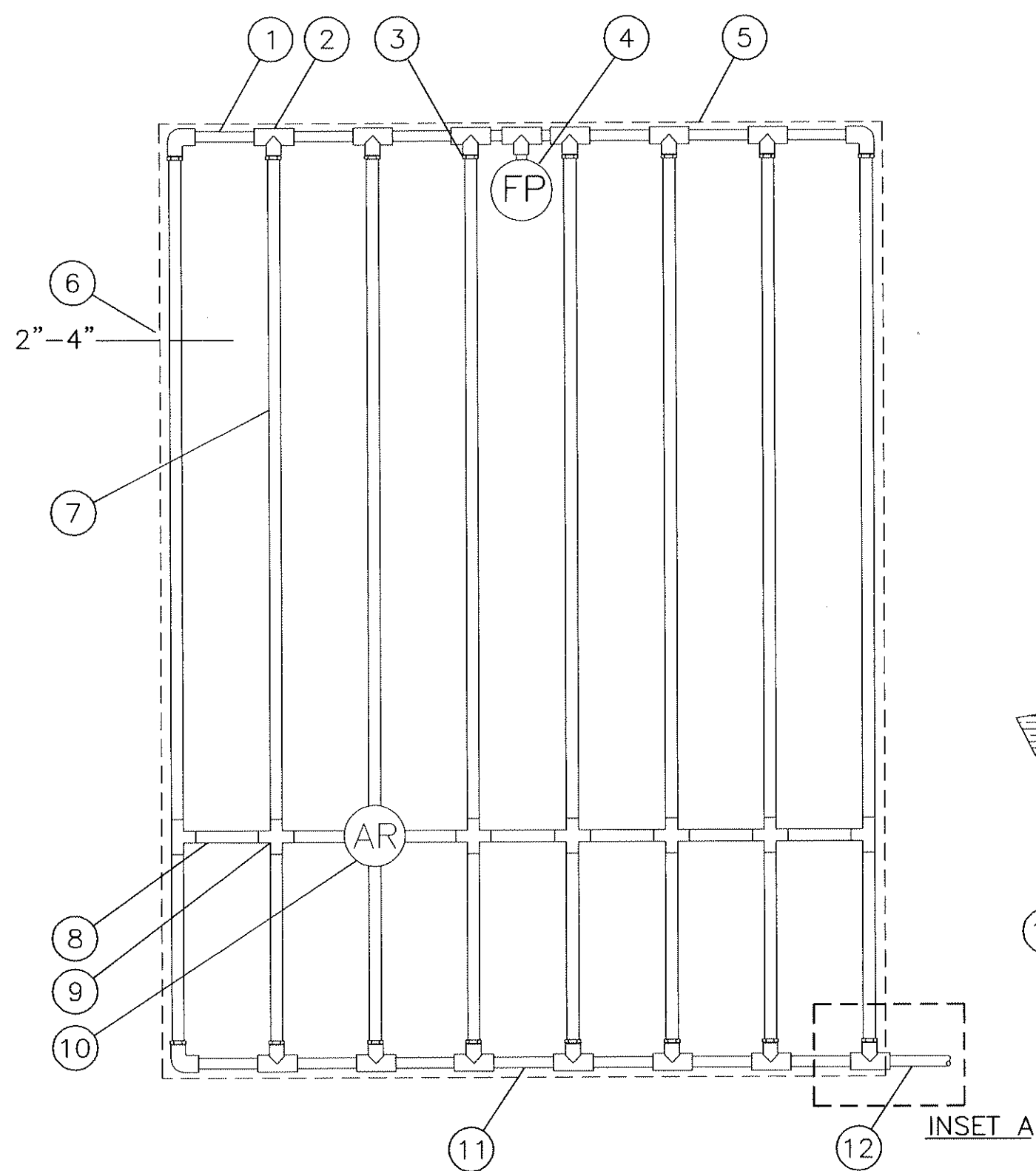
NOTE:
1. USE XERIMAN TOOL XM-TOOL TO INSERT BARB TRANSFER
FITTING DIRECTLY INTO DRIPLINE TUBING.

D XFS SUB-SURFACE DRIPLINE
N.T.S. OPERATION INDICATOR



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RAINBIRD IRRIGATION CORP. EQUIPMENT AND
DESIGN SPECIFICATIONS. CONTRACTOR MAY
SUBMIT ALTERNATES FOR APPROVAL BY THE
LANDSCAPE ARCHITECT AND COTR PRIOR TO BID.

Revisions	Date	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:	ARCHITECTURE:	MEP ENGINEER:	SURVEY:	 NATIONAL CEMETERY ADMINISTRATION	Drawing Title		Project Title		Date	
		 MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486 MACTEC PROJECT: 6151-10-0085		 MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424	 Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, Dubai, UAE Orlando, Mexico City, Mexico Houston, Tortola, BVI 404.266.1400 www.tcleng.com		 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708	IRRIGATION DETAILS 2 OF 3		ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY		07-29-11
		Approved: Director, Technical Support Service		Building Number	Checked CAP		Drawn GKC			Project No. 872CM3035		
		Approved: Chief, Architectural & Engineering Division		Location	18424 JOPLIN ROAD TRIANGLE, VIRGINIA					DRAWING NO. L-502 Dwg. 34 of 81		



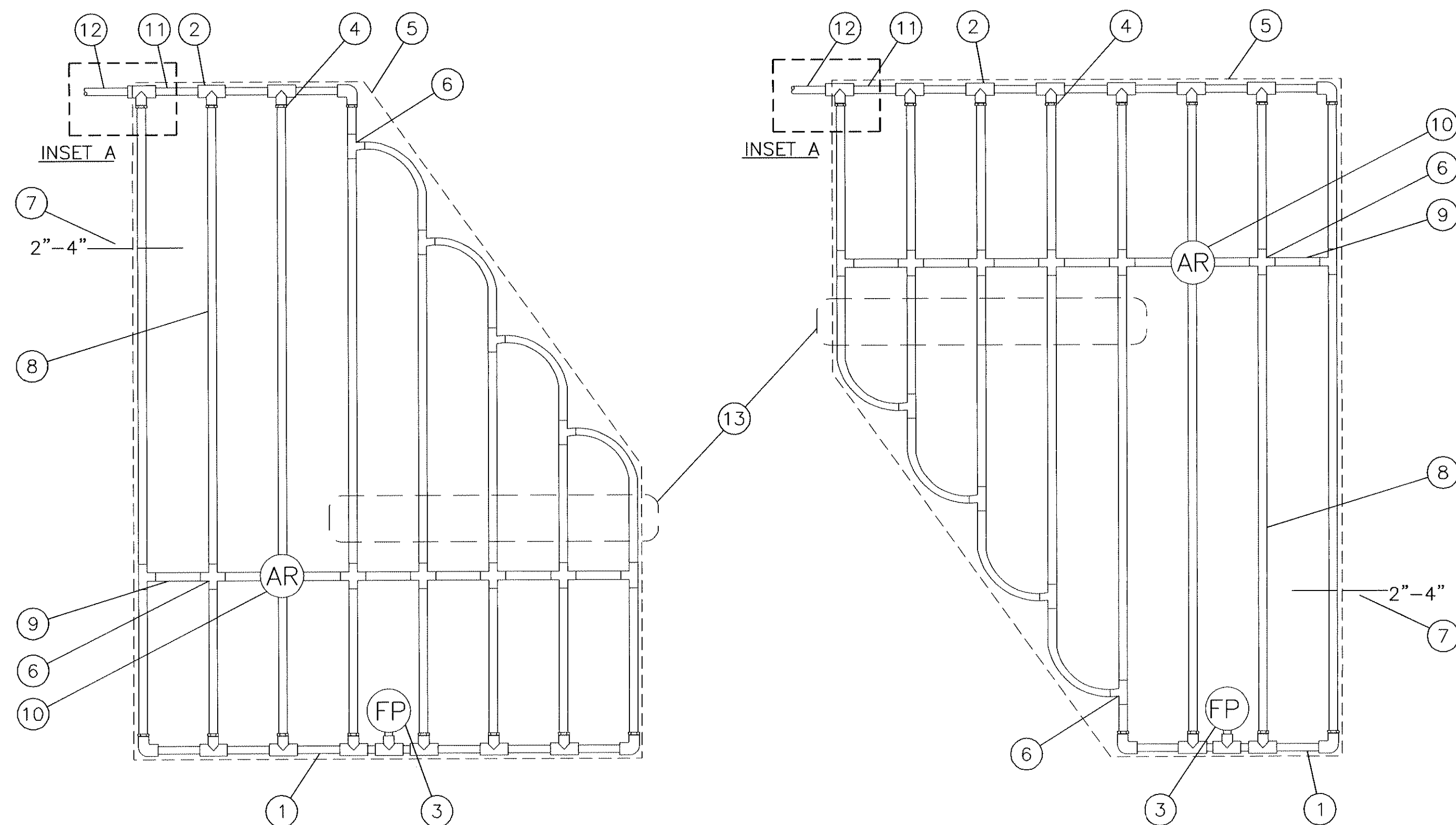
- ① PVC EXHAUST HEADER
- ② PVC SCH 40 TEE OR EL (TYPICAL)
- ③ BARB X MALE FITTING
- ④ FLUSH POINT (TYPICAL)
- ⑤ PERIMETER OF AREA
- ⑥ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- ⑦ SUB-SURFACE DRIPLINE

- ⑧ ½" POLYETHYLENE BLANK TUBING
- ⑨ BARB X BARB INSERT TEE OR CROSS
- ⑩ AIR RELIEF VALVE
- ⑪ PVC SUPPLY HEADER
- ⑫ PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ⑬ PVC SCH 40 RISER PIPE

NOTES:
 1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE 18" O.C. EMITTERS SHOULD BE PLACED ONLY AS NEEDED TO ACCOMPANY TARGETED SHRUBS AND GROUNDCOVERS AT THE FOLLOWING RATES PER PLANT SIZE:
 1 GAL: 1 EMITTER
 3 GAL-5 GAL: 2 EMITTERS
 >7 GAL: 3 EMITTERS
 2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 3. AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA AS NEEDED.

Inlet Pressure psi	XFS Dripline Maximum Lateral Lengths (Feet)					
	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)
15	255	194	357	273	448	343
20	291	220	408	313	514	394
30	350	266	494	378	622	478
40	396	302	560	428	705	541
50	434	333	614	470	775	594

A XFS SUB-SURFACE DRIPLINE
 N.T.S. END FEED LAYOUT 10-27-10

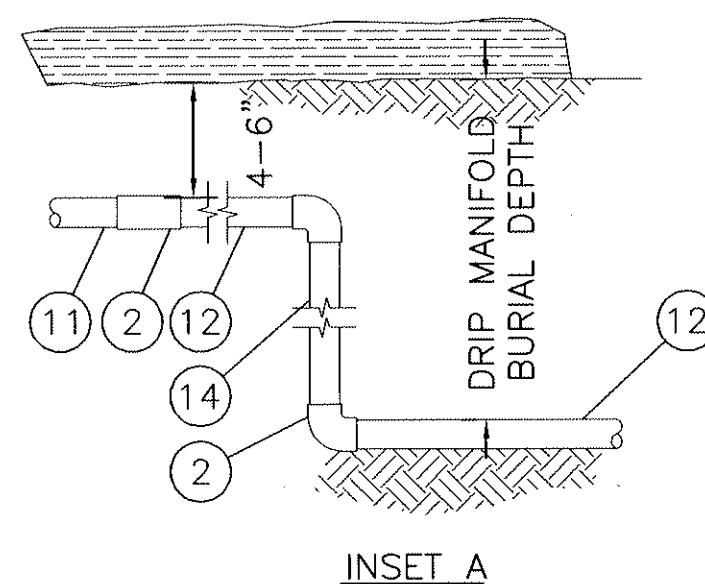


- ① PVC EXHAUST HEADER
- ② PVC SCH 40 TEE OR EL (TYPICAL)
- ③ FLUSH POINT (TYPICAL)
- ④ BARB X MALE FITTING
- ⑤ PERIMETER OF AREA
- ⑥ BARB X BARB INSERT TEE OR CROSS
- ⑦ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- ⑧ SUB-SURFACE DRIPLINE

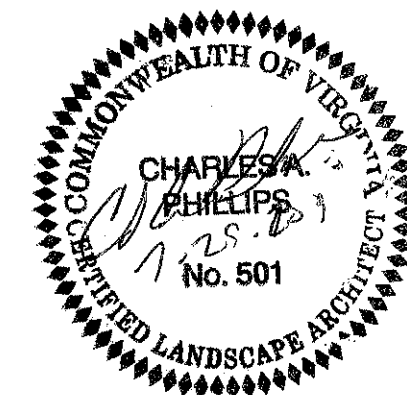
- ⑨ ½" POLYETHYLENE BLANK TUBING
- ⑩ AIR RELIEF VALVE
- ⑪ PVC SUPPLY MANIFOLD
- ⑫ PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ⑬ TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH SHOWN IN TABLE
- ⑭ PVC SCH 40 RISER PIPE

NOTES:
 1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE 18" O.C. EMITTERS SHOULD BE PLACED ONLY AS NEEDED TO ACCOMPANY TARGETED SHRUBS AND GROUNDCOVERS AT THE FOLLOWING RATES PER PLANT SIZE:
 1 GAL: 1 EMITTER
 3 GAL-5 GAL: 2 EMITTERS
 >7 GAL: 3 EMITTERS
 2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 3. AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA AS NEEDED.

B XFS SUB-SURFACE DRIPLINE
 N.T.S. IRREGULAR SHAPED LAYOUT 10-27-10



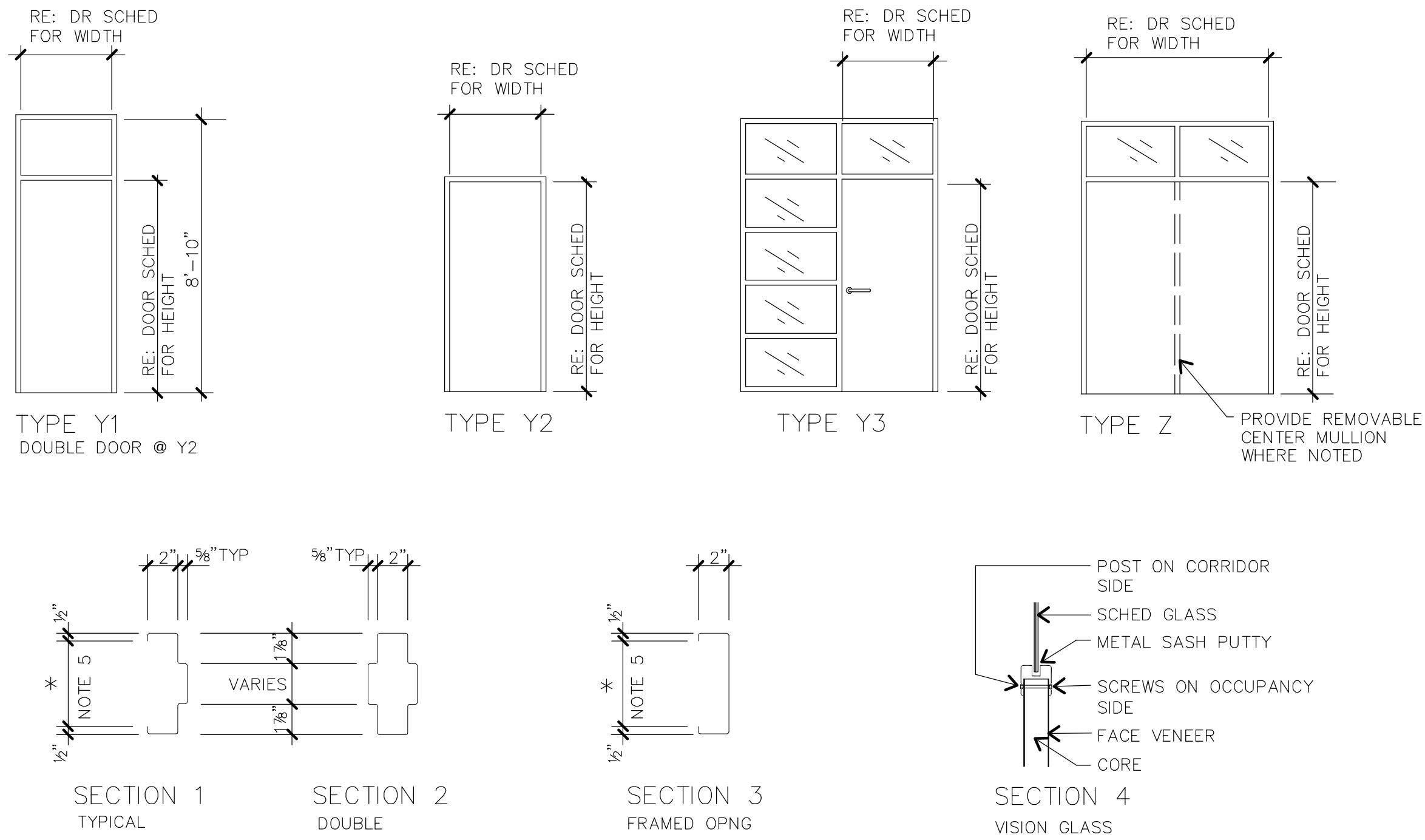
Inlet Pressure psi	XFS Dripline Maximum Lateral Lengths (Feet)					
	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)	Nominal Flow (GPH)
15	255	194	357	273	448	343
20	291	220	408	313	514	394
30	350	266	494	378	622	478
40	396	302	560	428	705	541
50	434	333	614	470	775	594



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DOOR AND DOOR FINISH SCHEDULE																				
DOOR NUMBER	DOOR CLOSER	PANIC HARDWARE	THRESHOLD	WEATHER STRIPPING	SOUND STRIPPING	NAME PLATE	DOOR TYPE	DOOR LABEL	DOOR THICKNESS	DOOR WIDTH	DOOR HEIGHT	FRAME TYPE	FRAME MATERIAL	DOOR MATERIAL	DOOR GLAZING	HARDWARE SET	HEAD DETAIL NUMBER	JAMB "A" DETAIL NUMBER	SILL DETAIL NUMBER	REMARKS:
																				1. PROVIDE SMOKE SEAL 2. PROVIDE MAGNETIC LOCKS 3. PROVIDE REMOVABLE CENTER MULLION 4. DOOR WIDTH AND HEIGHT (SHOWN) INCLUDES APPLIED STOPS AND CENTER MULLION 5. STC = 39 6. PROVIDE T-ASTRAGAL 7. FIXED CENTER MULLION. 8. KEY PAD.
A101	X	X	X	X	X	X	B		1-3/4"	6'-0"	7'-0"	Z	AL	AG	G4	-	7/A004	6/A004	-	REMARK #3
A103	-	X	X	X	-	-	G		1-3/4"	3'-3"	7'-0"	*	AL	AG	G1	-	6/A003	5/A003	-	SLIDING GLASS DOOR
A105	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A106	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y2	AL	SC/PAINTED	-	-	12/A004	11/A004	-	
A107	-	-	-	-	-	-	B		1-3/4"	3'-0"	7'-0"	Y2	HM	-	-	15/A004	14/A004	-	13/A004	
A109	X	X	X	X	X	X	B		1-3/4"	6'-0"	7'-0"	Z	AL	AG	G4	-	12/A003	11/A003	-	REMARK #3
A110	X	X	X	X	X	X	B		1-3/4"	6'-0"	7'-0"	Z	AL	AG	G4	-	12/A004	11/A004	-	REMARK #5
A111	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A112	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A113	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A114	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A115	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A116	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y2	AL	SC/PAINTED	-	-	12/A004	11/A004	-	
A117	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y2	AL	SC/PAINTED	-	-	3/A004	2/A004	-	
A118	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y2	AL	SC/PAINTED	-	-	3/A004	2/A004	-	
A119	-	-	-	-	-	-	-		1-3/4"	3'-0"	7'-0"	Y2	AL	SC/PAINTED	-	-	3/A004	2/A004	-	
A121	-	-	-	-	-	-	A		1-3/4"	3'-0"	7'-0"	Y2	AL	SC/PAINTED	-	-	12/A004	11/A004	-	
A123	-	-	-	-	-	-	A		1-3/4"	3'-0"	7'-0"	Y1	AL	SC/PAINTED	-	-	7/A004	11/A004	-	
A124	-	-	-	-	-	-	A		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A125	-	-	-	-	-	-	A		1-3/4"	3'-0"	7'-0"	Y3	AL	SC/PAINTED	-	-	7/A004	6/A004	-	
A126	X	-	-	-	-	-	E		1-3/4"	3'-0"	7'-2"	Y2	HM	HM	-	-	9/A003	8/A003	-	
A127	X	-	-	-	-	-	E		1-3/4"	3'-0"	7'-2"	Y2	HM	HM	-	-	9/A003	8/A003	-	
A128	X	-	-	-	-	-	E		1-3/4"	3'-0"	7'-2"	Y2	HM	HM	-	-	9/A003	8/A003	-	
A129	X	-	-	-	-	-	E		1-3/4"	3'-0"	7'-2"	Y2	HM	HM	-	-	9/A003	8/A003	-	

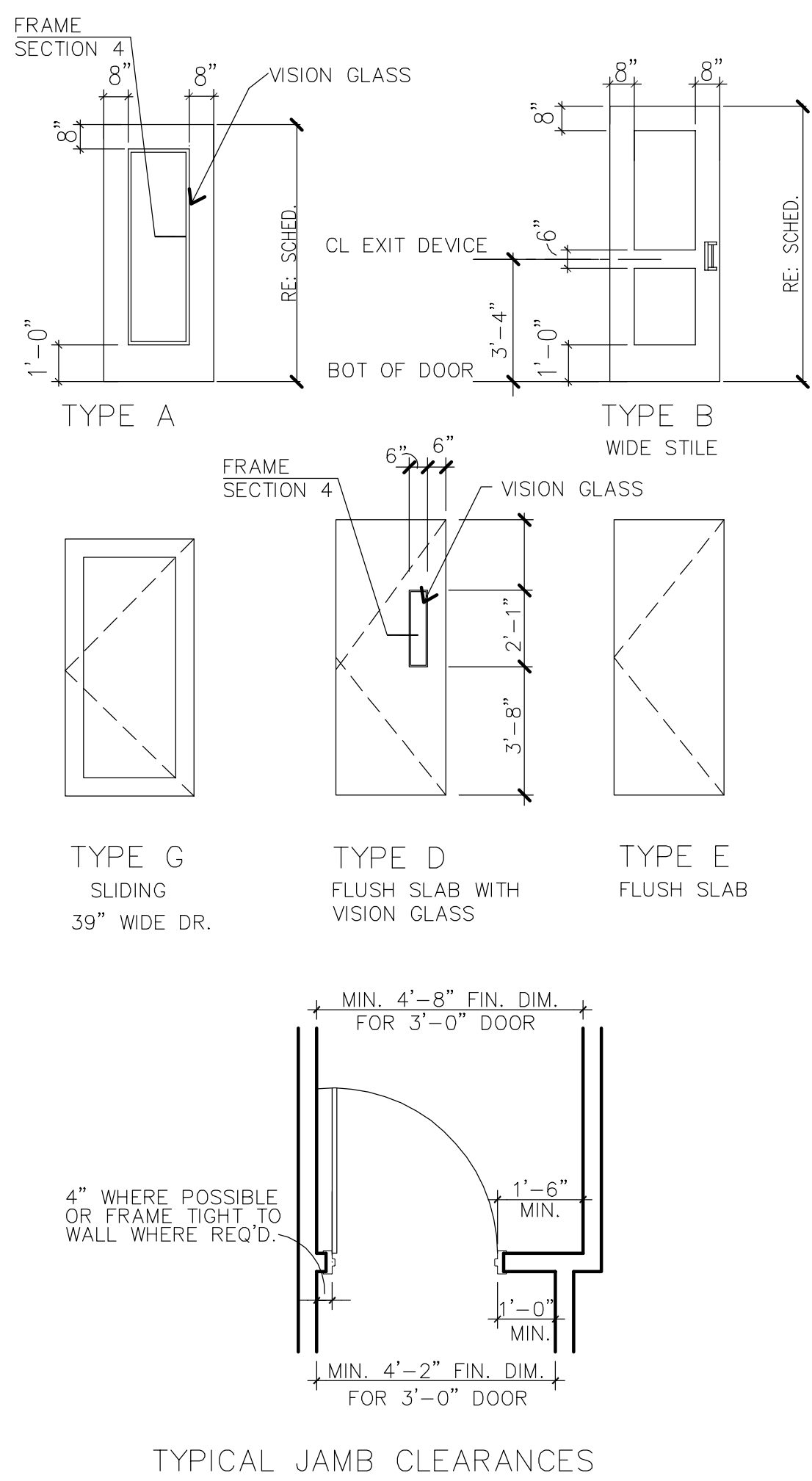
FRAME TYPES SCHEDULE



DOOR SCHEDULE ABBREVIATIONS

20	20 MINUTE RATING
A	A LABEL DOOR & FRAME (3 HOURS)
B	B LABEL DOOR & FRAME (1 1/2 HOURS)
AL	ALUMINUM
AG	ALUMINUM & GLASS
AA	ANODIZED ALUMINUM
GHM	GALVANIZED HOLLOW METAL
GP	GALVANIZED W/ BAKED COAT OF PRIMER PAINT
GSTL	GALVANIZED STEEL
HM	HOLLOW METAL
N-PLT	NAME PLATE
PA	PREFINISHED ALUMINUM
PHW	PANIC HARDWARE
S-STR	SOUND STRIP
SS	STAINLESS STEEL
STD-#	SOUND TRANSMISSION COEFFICIENT NO.
STL	STEEL
THH	THRESHOLD
W-STR	WEATHER STRIP
SC/PLAM	WOOD SOLID CORE PLASTIC LAMINATE FACE
SC/PLAM/GL	WOOD SOLID CORE PLASTIC LAMINATE FACE & GLASS
SC/PAINTED	WOOD SOLID CORE PAINTED FINISH FACE
AC/PLAM	ACOUSTICAL CORE PLASTIC LAMINATE FACE
SC/V	STEEL FRAMED PARTICLE BD WITH REINFORCED VINYL FACE
FV	FIELD VERIFY
STL/V	STEEL FRAME WITH VINYL COVERING
ST.STL.	STAINLESS STEEL
FF	FACTORY FINISH

DOOR TYPES SCHEDULE



GLASS SCHEDULE

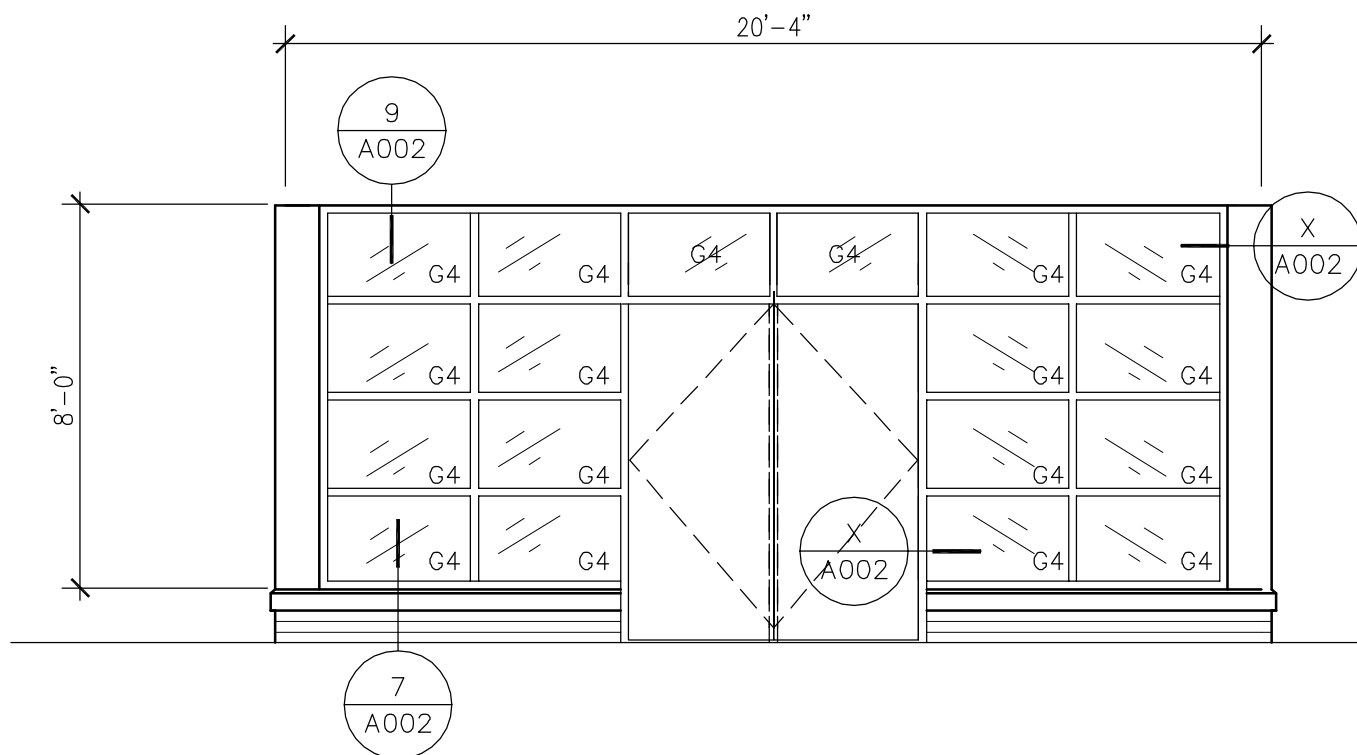
G1	1/4" CLEAR TEMPERED GLASS
G2	1/4" BRONZED LAMINATED
G3	NOT USED
G4	1/4" BRONZED TEMPERED ISOLATED GLASS
G5	1/4" CLEAR LAMINATED

DOOR FRAME GENERAL NOTES

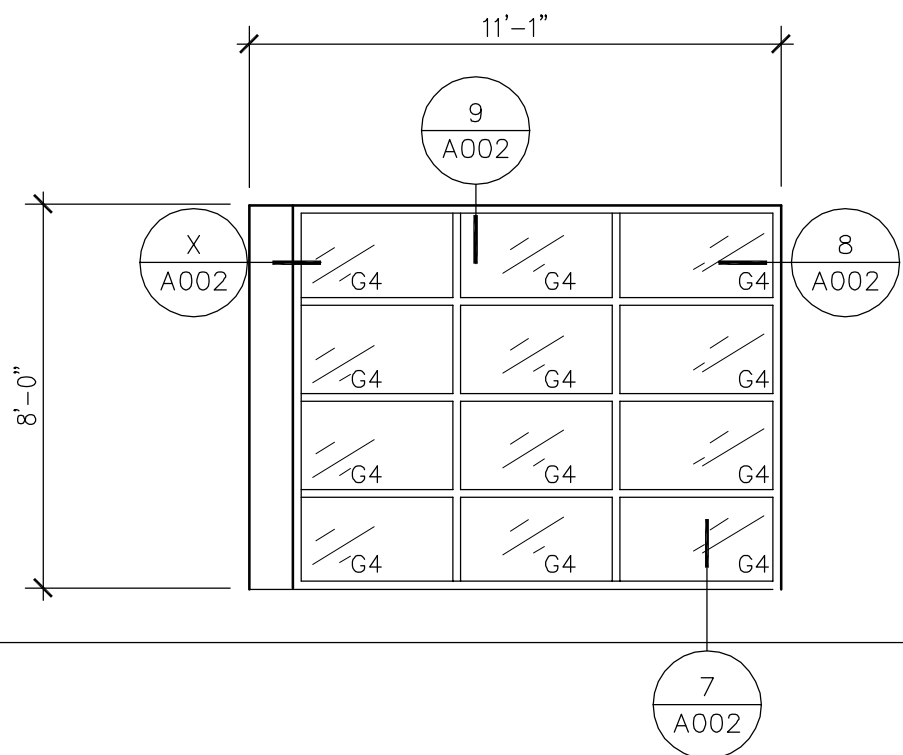
- FOR DOOR FRAMES WITH SIDELITES AND / OR TRANSOMS REFER TO SHEETS A004 INTERIOR WINDOW AND FRAME SCHEDULE.
- PROVIDE THE APPROPRIATE JAMB ANCHOR FOR LABELED OR NON LABELED FRAMES
- PROVIDE A MINIMUM OF THREE ANCHORS PER JAMB OR SPACE AT 2'-0" MAX OC WHICH EVER IS GREATER
- EACH RATED DOOR FRAME SHALL HAVE A LABEL TO MATCH THE DOOR LABEL.
- COORDINATE FRAME SIZE (THROAT OPENING) WITH PARTITION TYPES U.N.O. ON DETAILS. SEE FLOOR PLANS AND PARTITION TYPES.

DOOR GENERAL NOTES

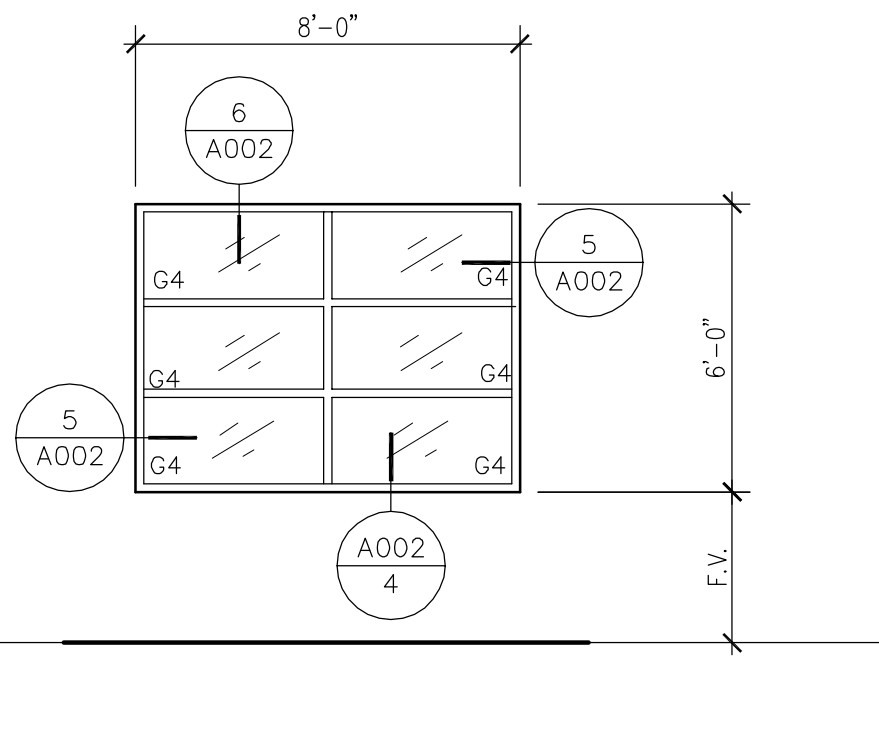
- COORDINATE ALL DOORS AND DOOR DETAILS TO PROVIDE ADEQUATE CLEARANCE AND FRAME REINFORCEMENT FOR HARDWARE TYPES
- COORDINATE DOOR UNDERCUT WITH FLOOR FINISH AND THRESHOLD
- ALL HOLLOW METAL DOORS AND FRAMES TO BE PAINTED UNLESS NOTED OTHERWISE
- TYPICAL DOOR BEVEL TO BE 1/8" IN 2" UNLESS NOTED OTHERWISE BY HARDWARE TEMPLATE REQUIREMENTS
- ALL FLOOR PIVOTS AND CLOSER PLATES ARE TO BE INSTALLED FLUSH TO SLAB BELOW FLOORING. PROVIDE ADJUSTMENT ACCESS AS REQUIRED.
- 20 MIN FIRE DOORS SHALL BE PROVIDED AS SPECIFIED IN S.B.C. 705.1.3 IN LIEU OF UBC 43-2
- B LABEL DOORS SHALL BE 1 1/2 HR RATED. THE MAX TRANSMITTED TEMP END POINT SHALL NOT EXCEED 450° F ABOVE AMBIENT AT THE END OF 30 MIN OF FIRE EXPOSURE AS SPEC. IN S.B.C. 1.3.4 IN LIEU OF UBC 43-2
- PROVIDE ASTRAGALS FOR ALL EXTERIOR DOUBLE DOORS AND INTERIOR DOUBLE DOORS WHERE ONE LEAF IS FIXED AND ONE IS ACTIVE



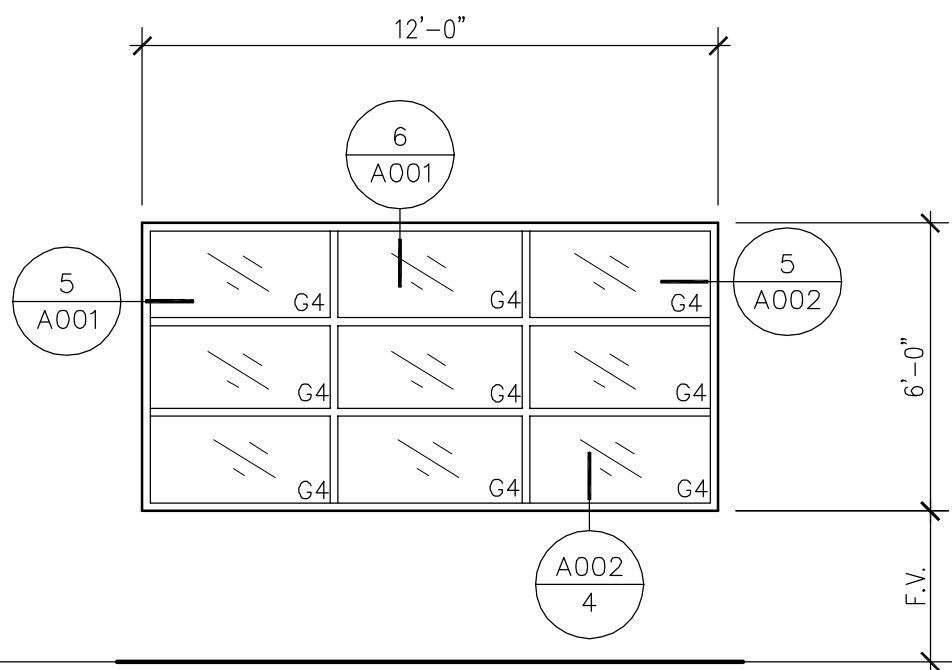
G4 1/4" BRONZED TEMPERED GLASS
A ALUMINUM WINDOW
SCALE: 1/4"=1'-0"



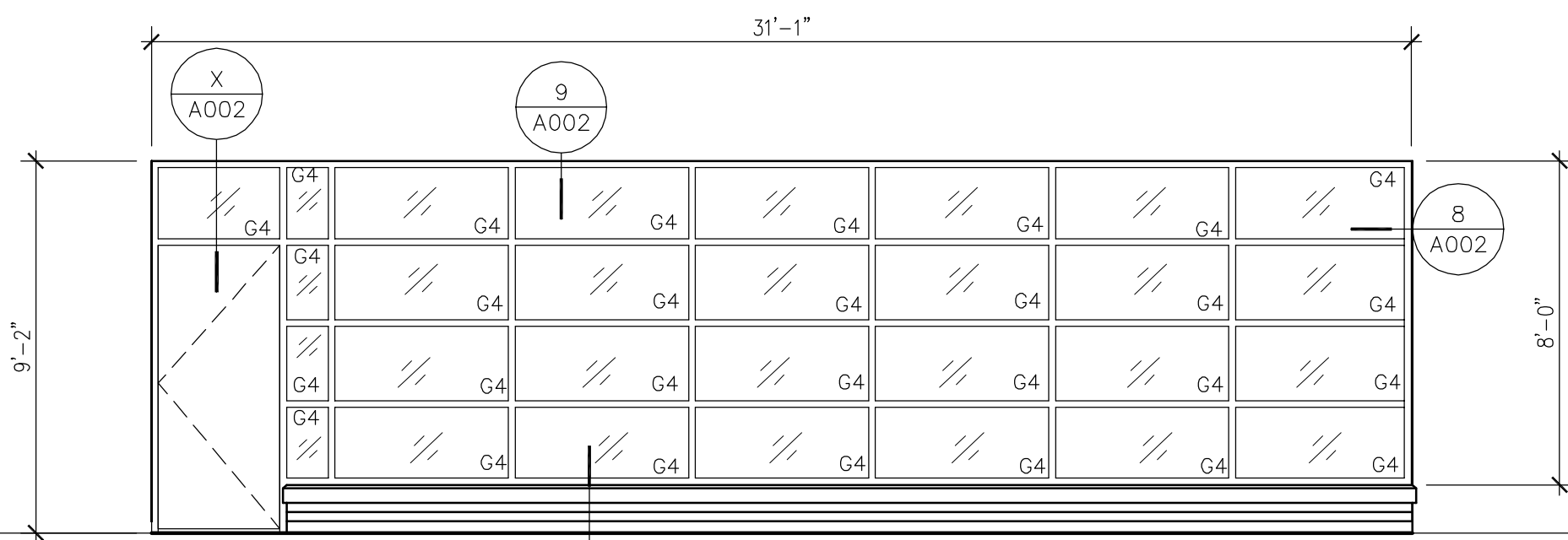
G4 1/4" BRONZED TEMPERED GLASS
B ALUMINUM WINDOW
SCALE: 1/4"=1'-0"



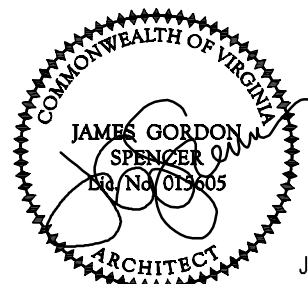
G4 1/4" BRONZED TEMPERED GLASS
C ALUMINUM WINDOW
SCALE: 1/4"=1'-0"



G4 1/4" BRONZED TEMPERED GLASS
D ALUMINUM WINDOW
SCALE: 1/4"=1'-0"



G4 1/4" BRONZED TEMPERED GLASS
E ALUMINUM WINDOW
SCALE: 1/4"=1'-0"



JULY 29, 2011

CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:



MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486

MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:

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1220 N. FILLMORE ST.
SUITE 300
ARLINGTON, VA 22211
703-525-0424

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50 Technology Parkway South
Norcross, Georgia 30092
404. 266. 1400
www.tcieng.com

Atlanta, Dubai, UAE
Orlando, Mexico City, Mexico
Houston, Tortola, BVI

SURVEY:



10400 CHESTER ROAD, CHESTER, VA 23831
TEL: (804) 748-8707 FAX: (804) 748-8708



NATIONAL
CEMETERY
ADMINISTRATION

Drawing Title

DOOR AND WINDOW SCHEDULE

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

ADMINISTRATION / PUBLIC
INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

Building Number

Checked

Drawn

Location

18424 JOPLIN ROAD
TRIANGLE, VIRGINIA

Date

7-29-11

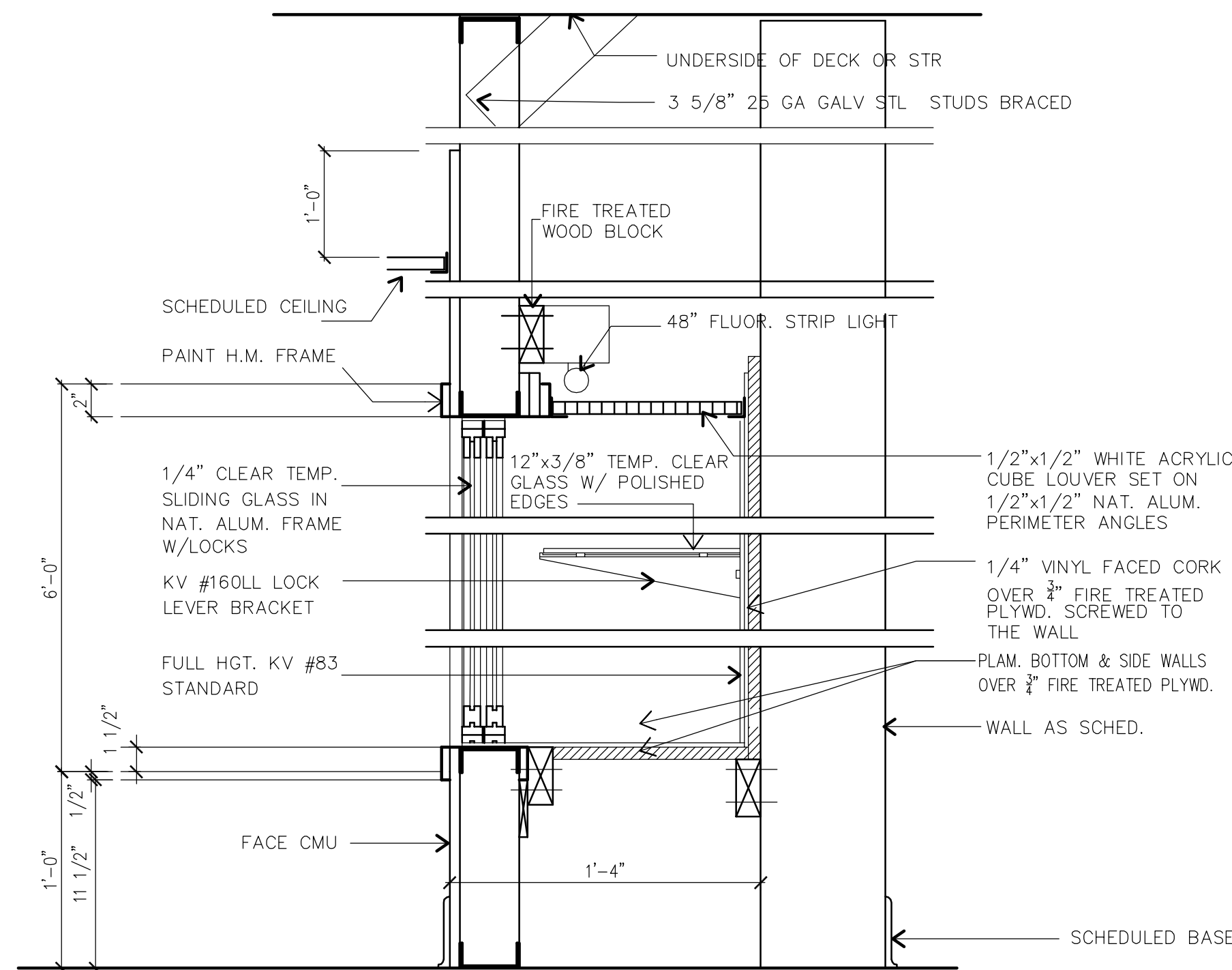
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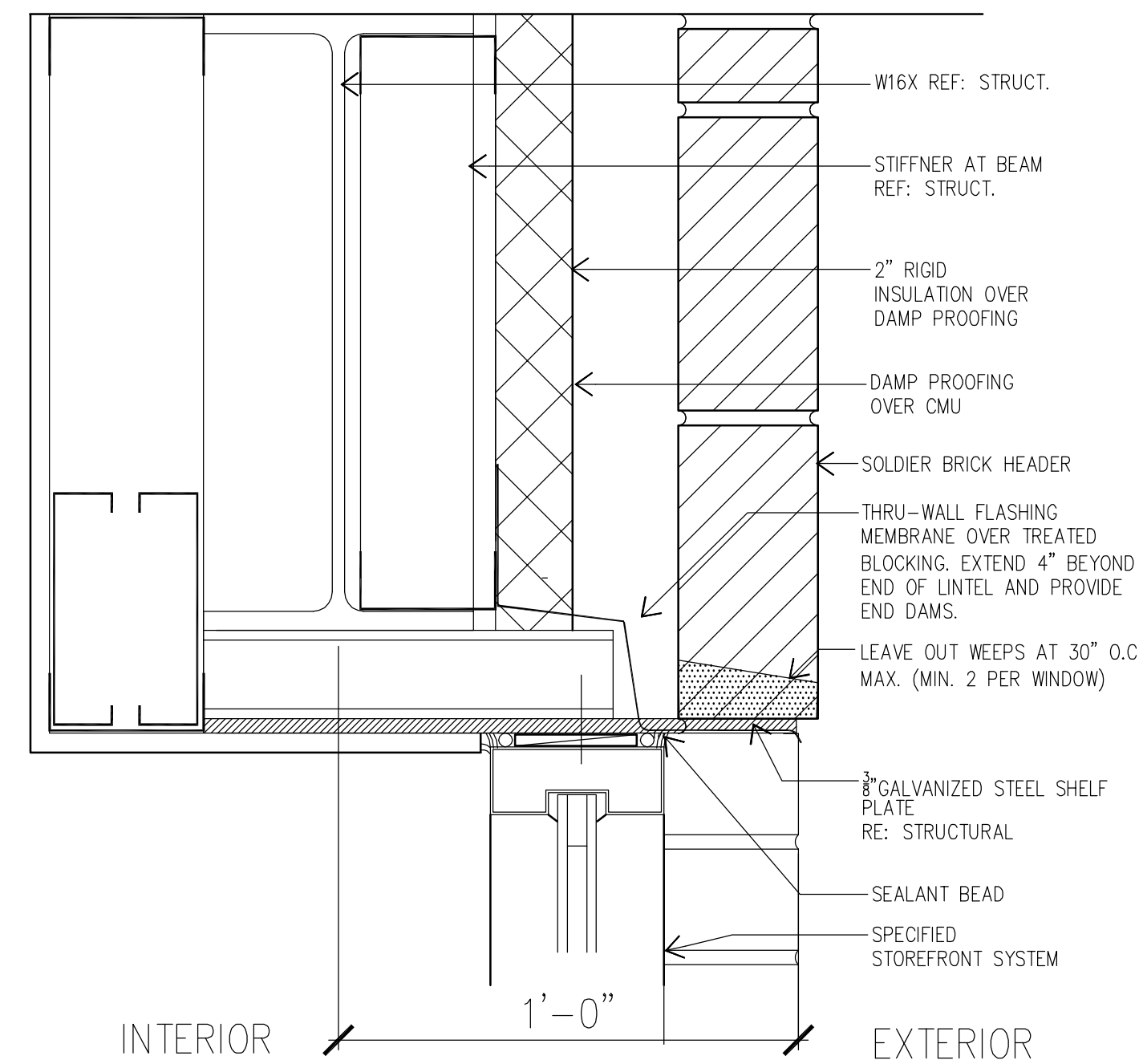
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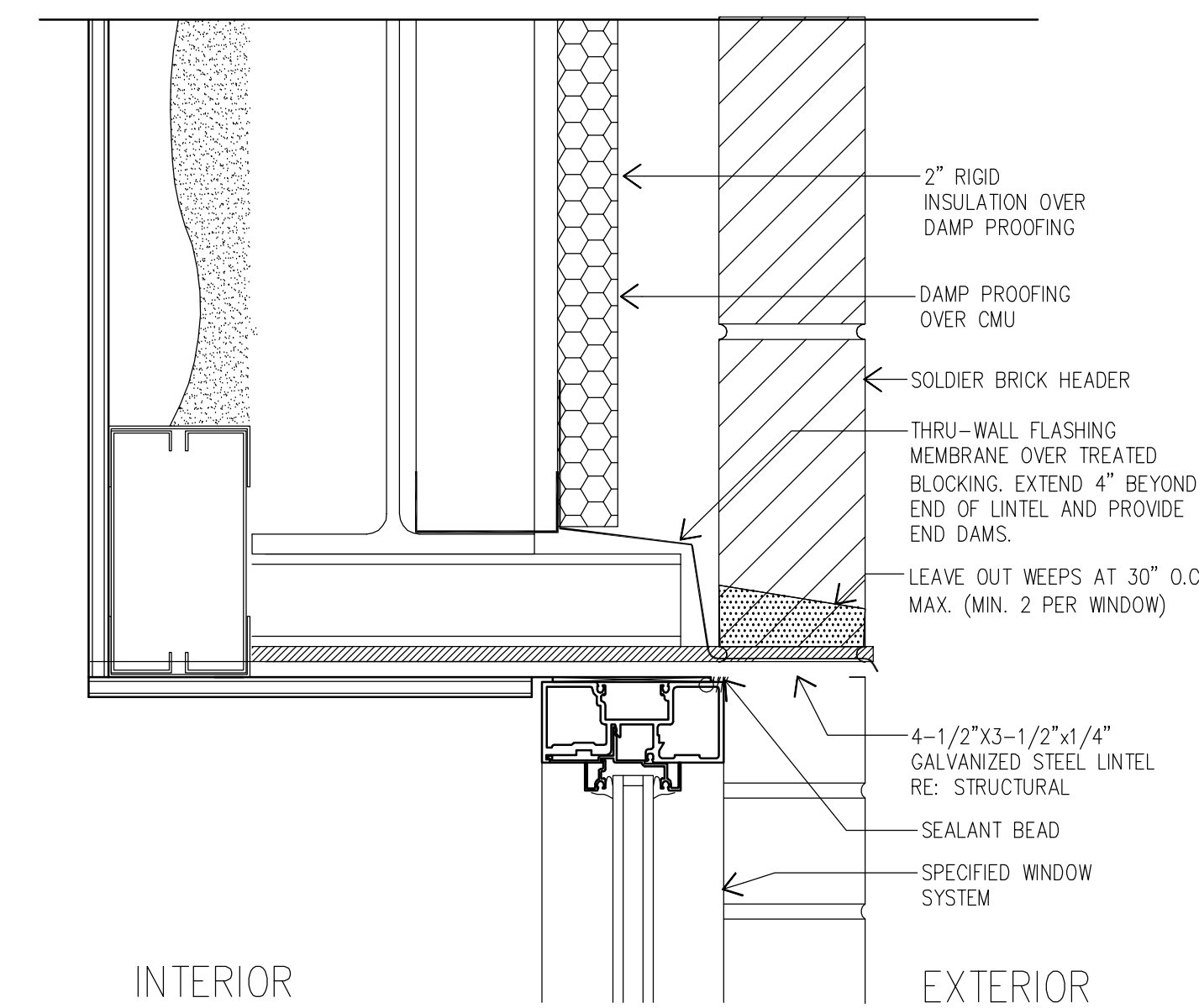
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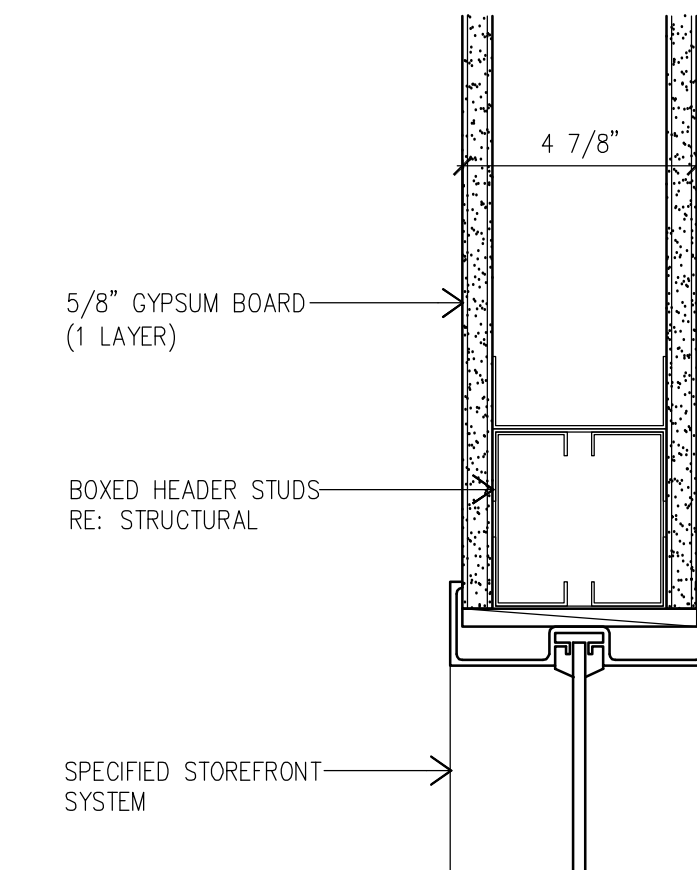
11 | DISPLAY CASE
SCALE: 1-1/2" = 1'-0"



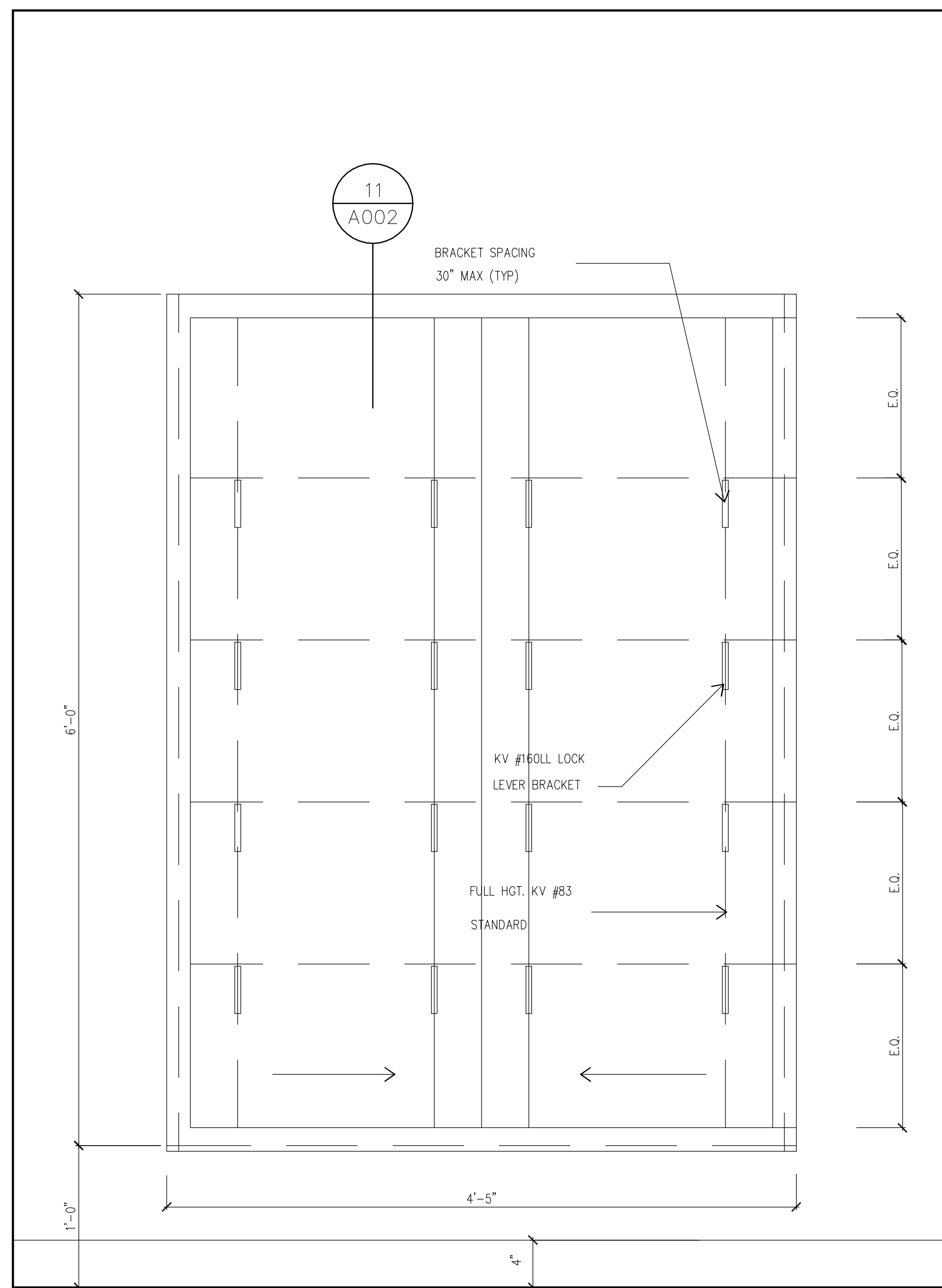
9 | WINDOW HEAD
SCALE: 3" = 1'-0"



6 | WINDOW HEAD
SCALE: 3" = 1'-0"

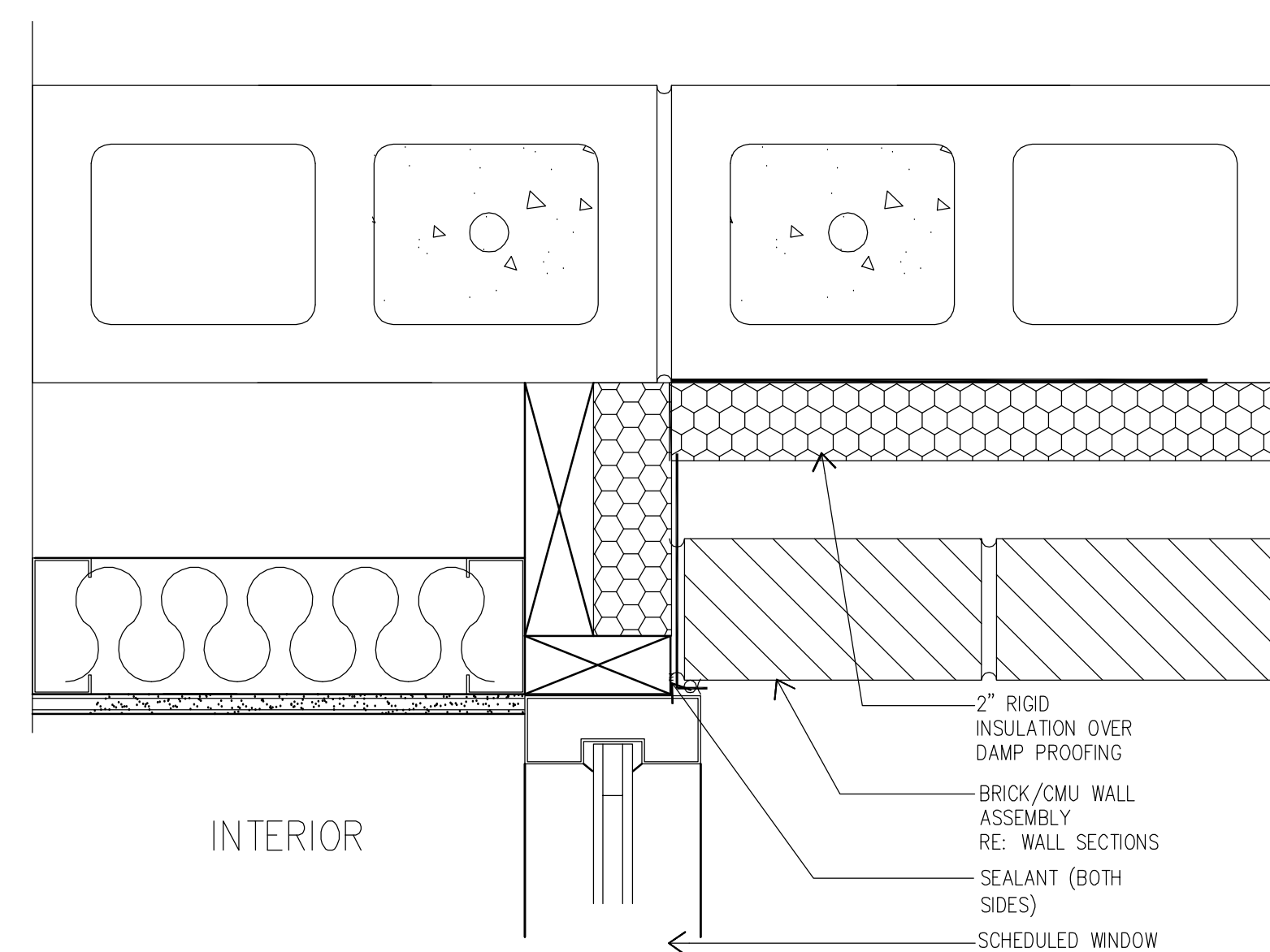


3 | WINDOW HEAD
SCALE: 3" = 1'-0"

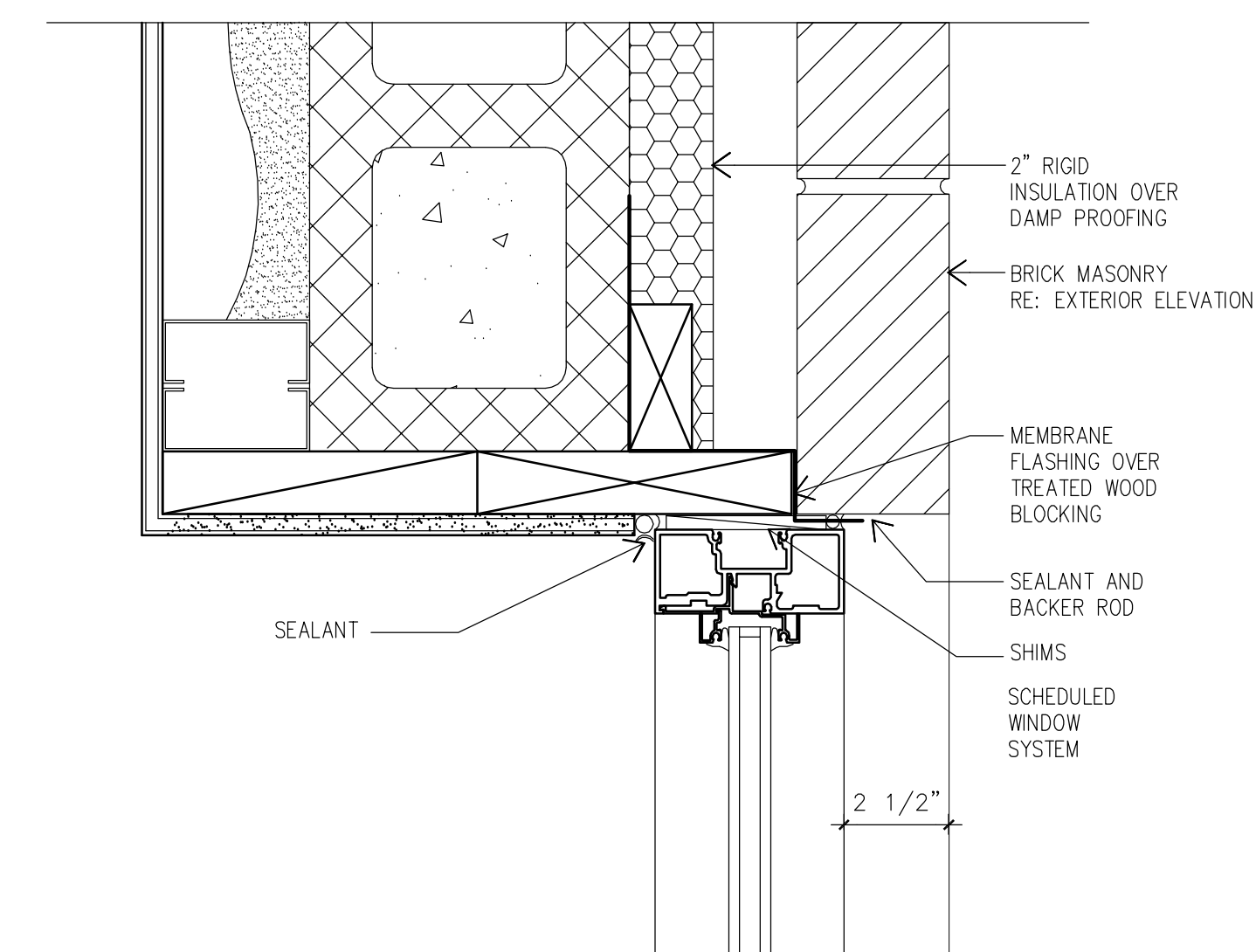


10 | DISPLAY CASE
SCALE: 1-1/2" = 1'-0"

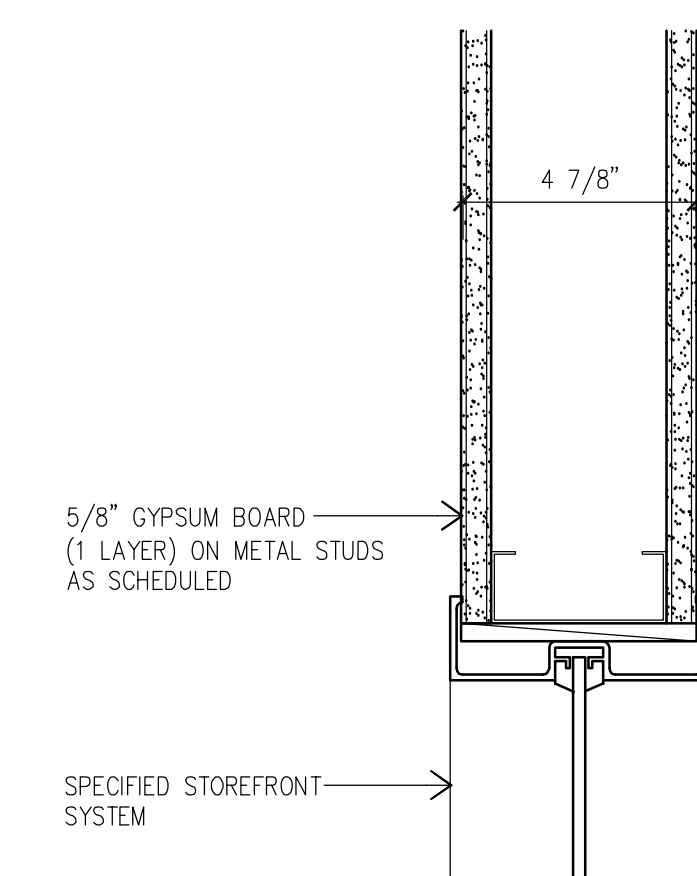
DISPLAY CASE BY : KNAPR AND VOGT
OR APPROVED EQUAL



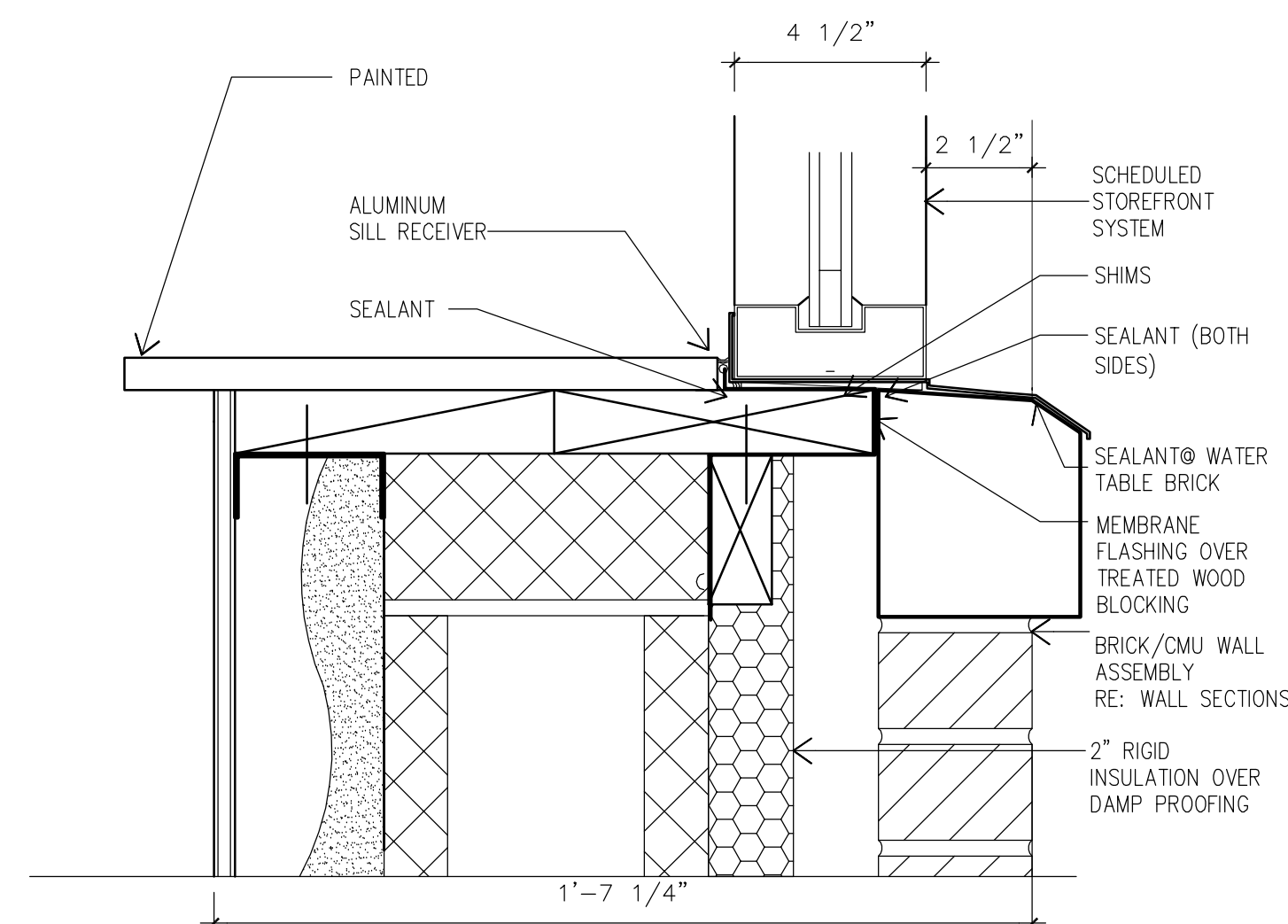
8 | WINDOW JAMB
SCALE: 3" = 1'-0"



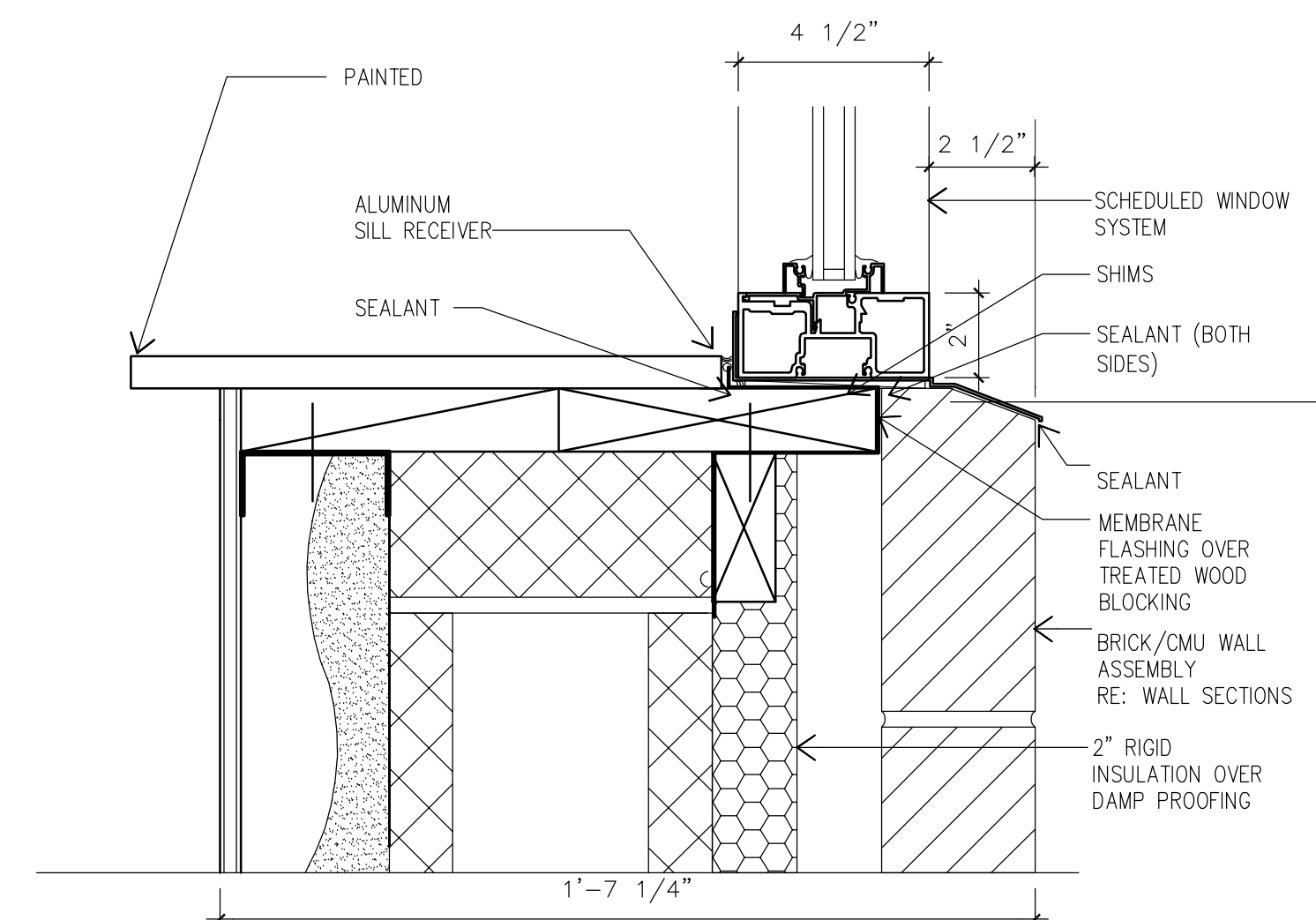
5 | WINDOW JAMB
SCALE: 3" = 1'-0"



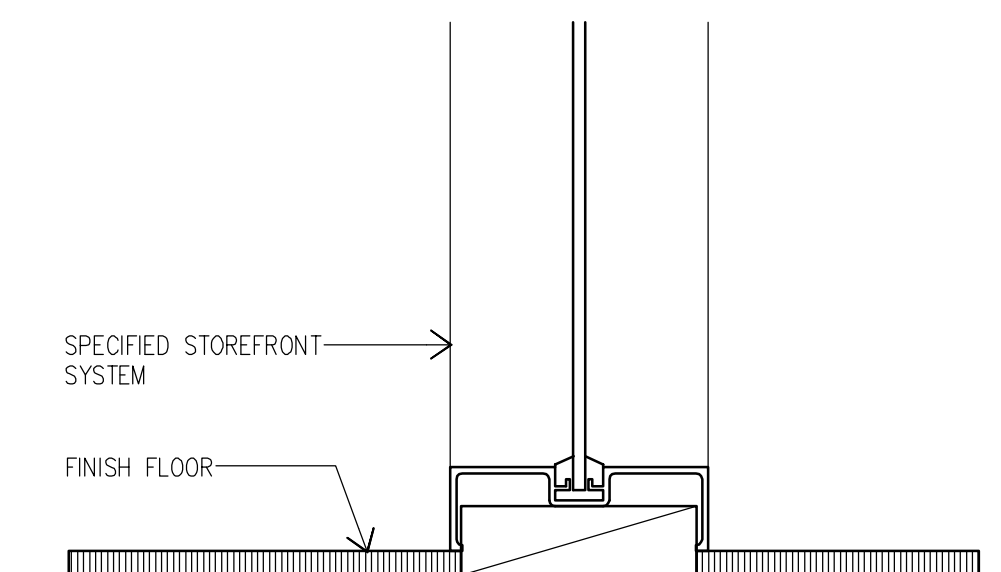
2 | WINDOW JAMB
SCALE: 3" = 1'-0"



7 | WINDOW SILL
SCALE: 3" = 1'-0"

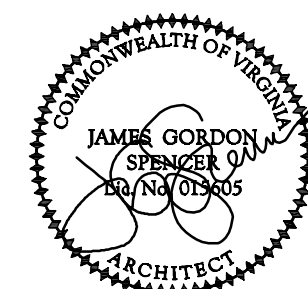


4 | WINDOW SILL
SCALE: 3" = 1'-0"



1 | WINDOW SILL
SCALE: 3" = 1'-0"

EXTERIOR WINDOW DETAILS



JULY 29, 2011

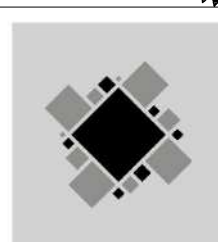
CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:



MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486

MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:



MATRIX SETTLES

1220 N. FILLMORE ST.
SUITE 300
ARLINGTON, VA 22211
703-525-0424

MEP ENGINEER:



Thompson Company
consulting engineers

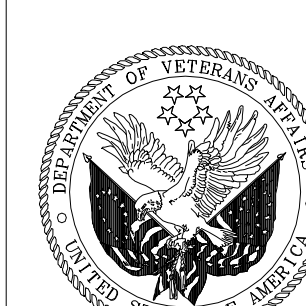
50 Technology Parkway South
Norcross, Georgia 30092
404.266.1400
www.tcieng.com

Atlanta, Dubai, UAE
Orlando, Mexico City, Mexico
Houston, Toronto, BVI

SURVEY:



10400 CHESTER ROAD, CHESTER, VA 23831
TEL: (804) 748-8707 FAX: (804) 748-8708



NATIONAL
CEMETERY
ADMINISTRATION

Drawing Title

WINDOW DETAILS

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

ADMINISTRATION / PUBLIC
INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

Building Number

Checked

Drawn

Location

18424 JOPLIN ROAD
TRIANGLE, VIRGINIA

Date

7-29-11

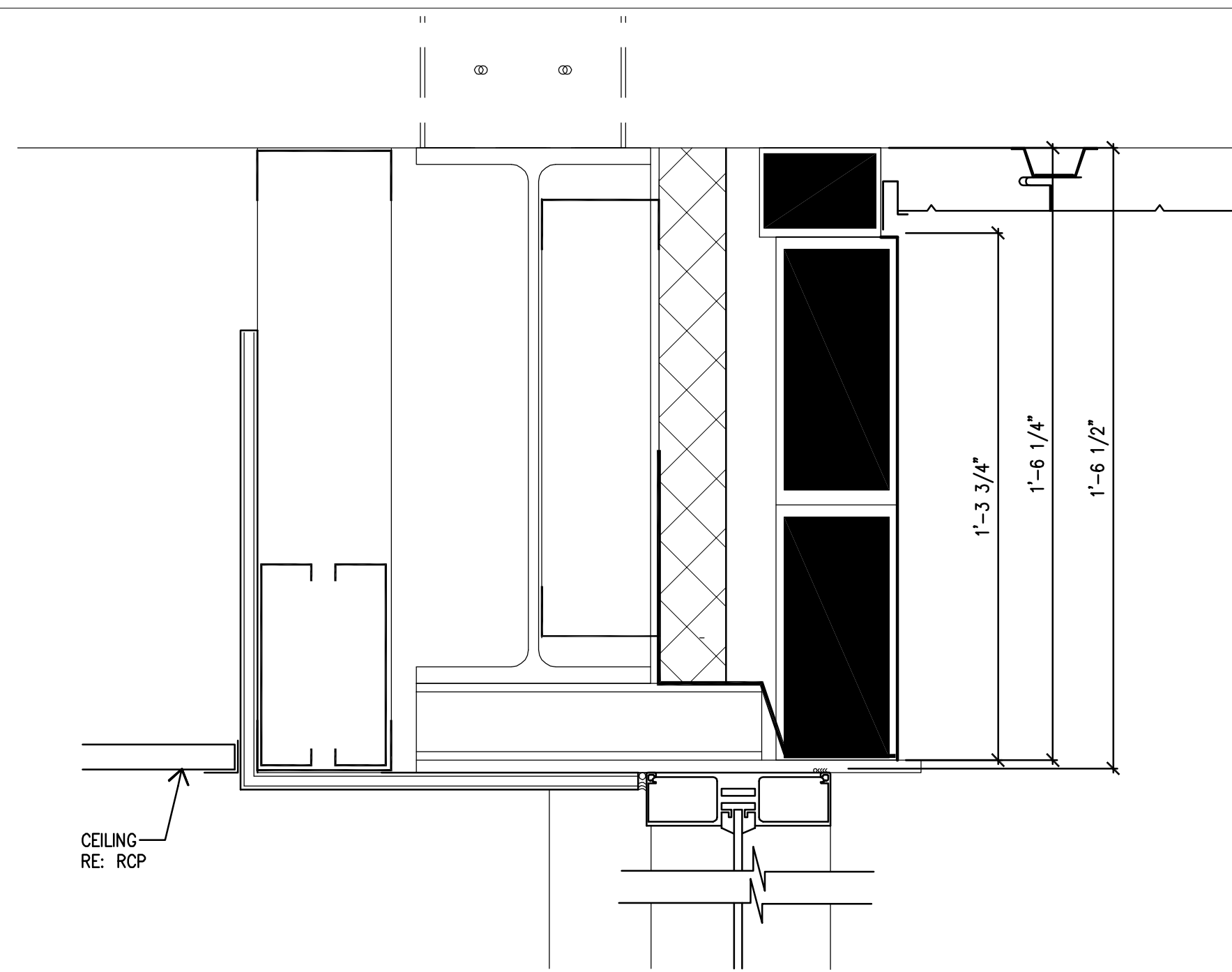
Project No.

872CM3035

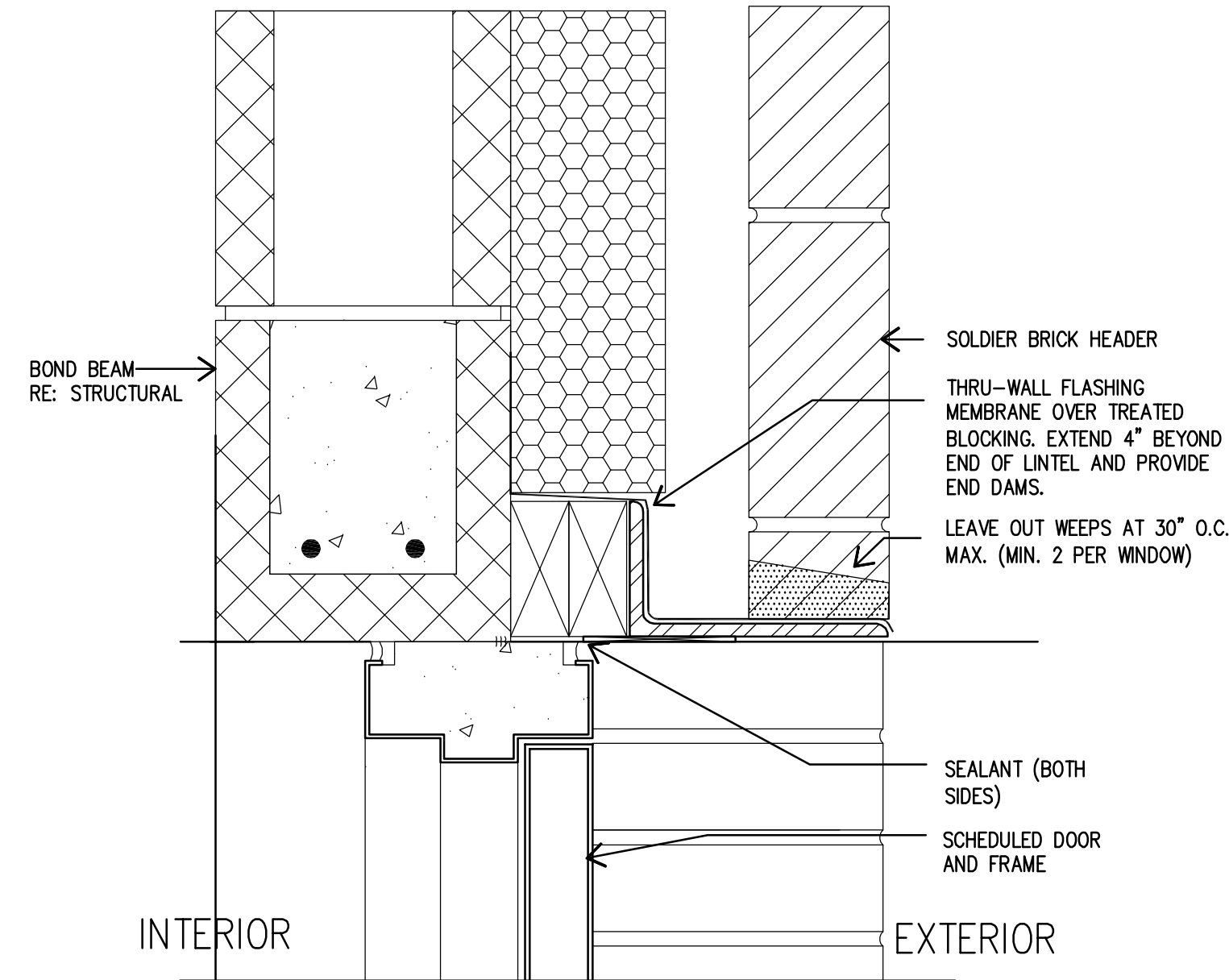
DRAWING NO.

A002

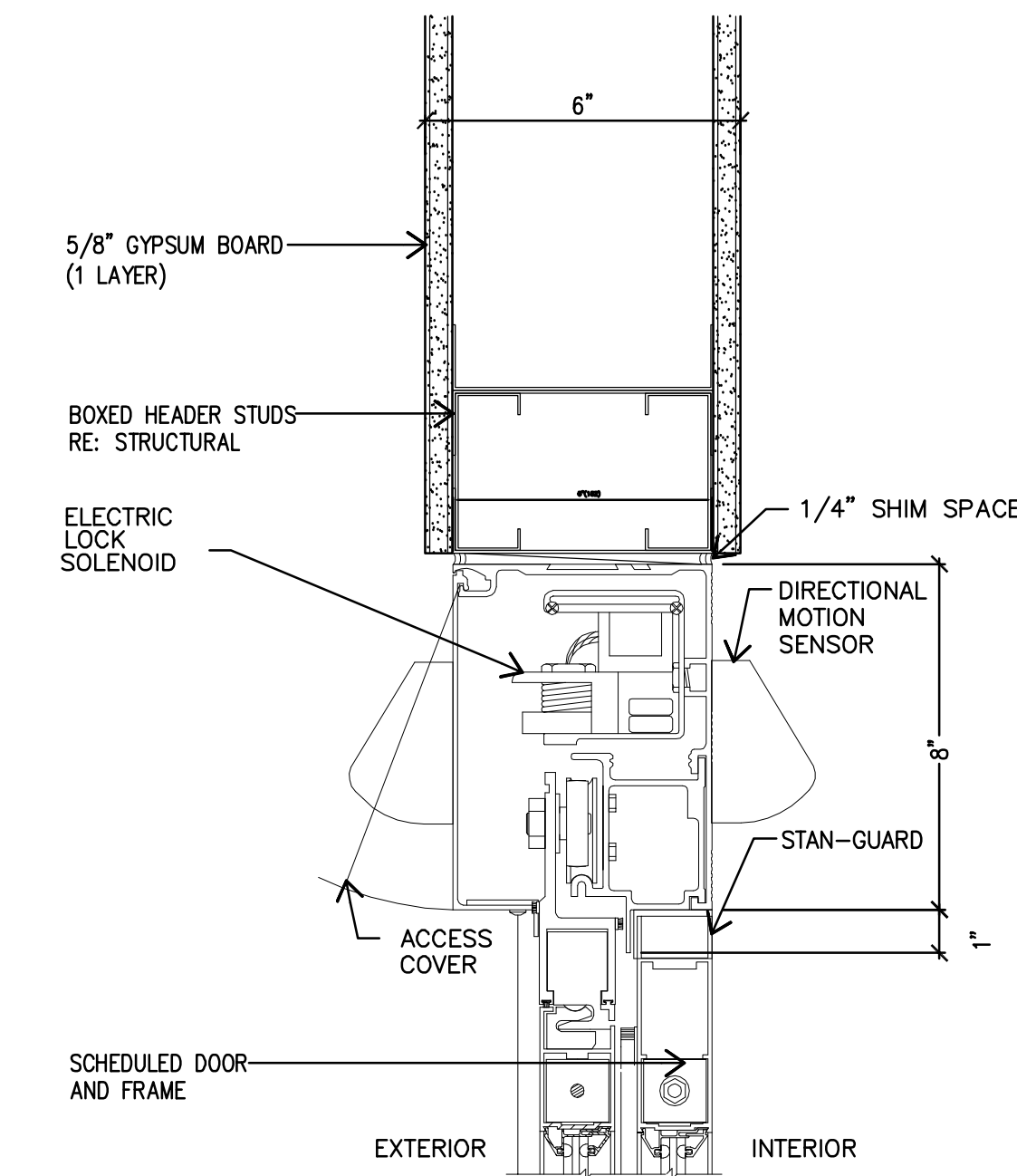
Dwg. 37 of 80



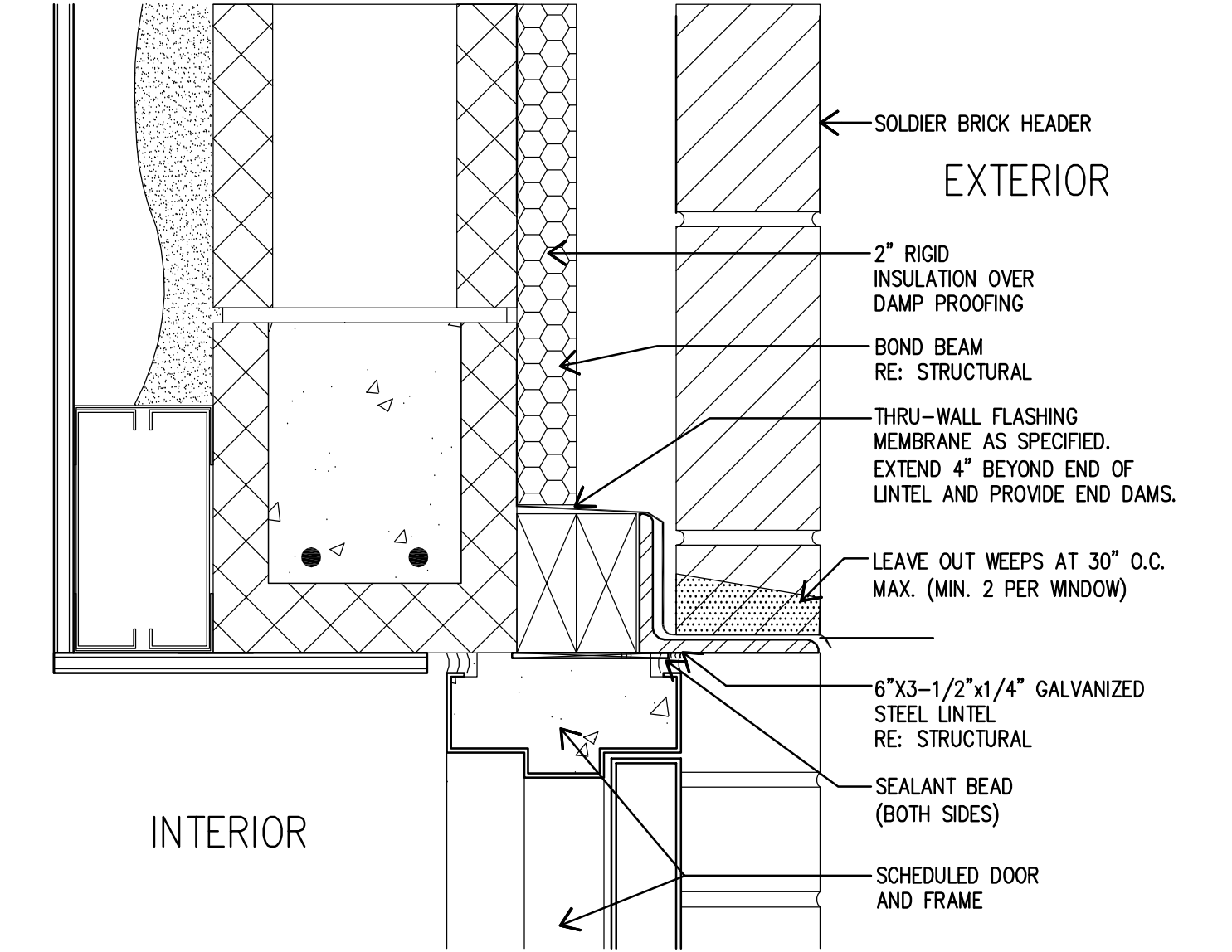
12 | Door Head
SCALE: 3" = 1'-0"



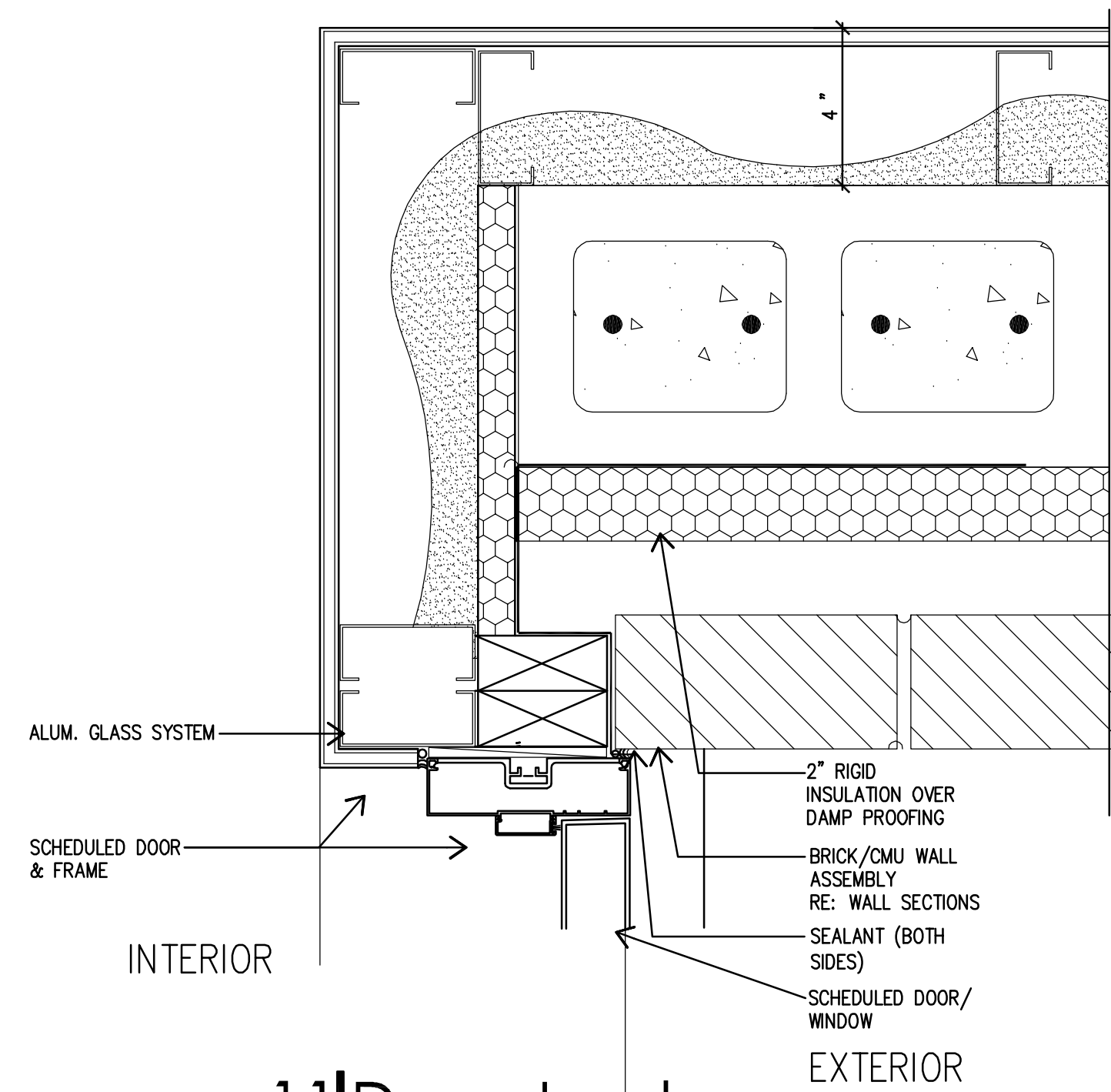
9 | Door Head
SCALE: 3" = 1'-0"



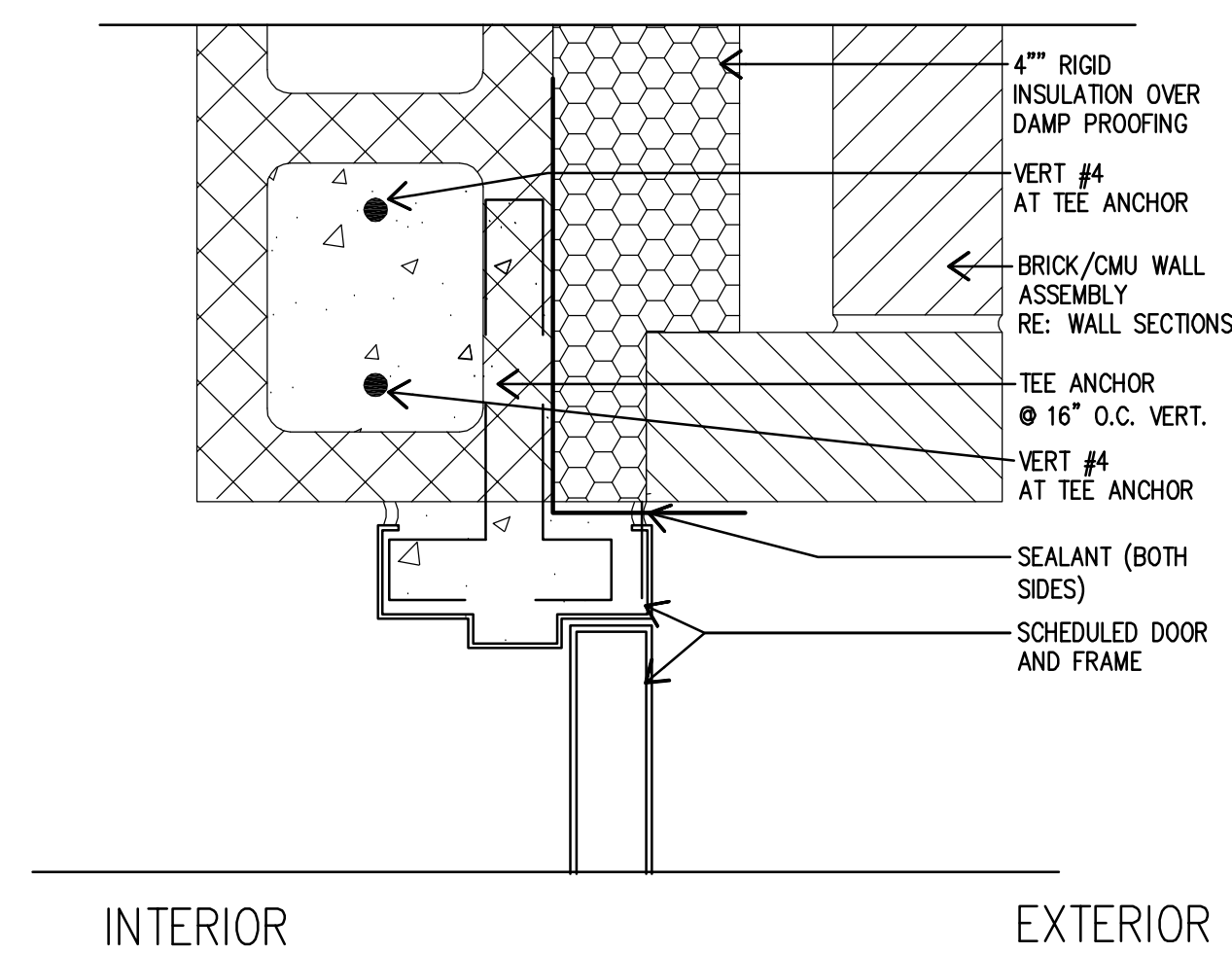
6 | Door Head
SCALE: 3" = 1'-0"



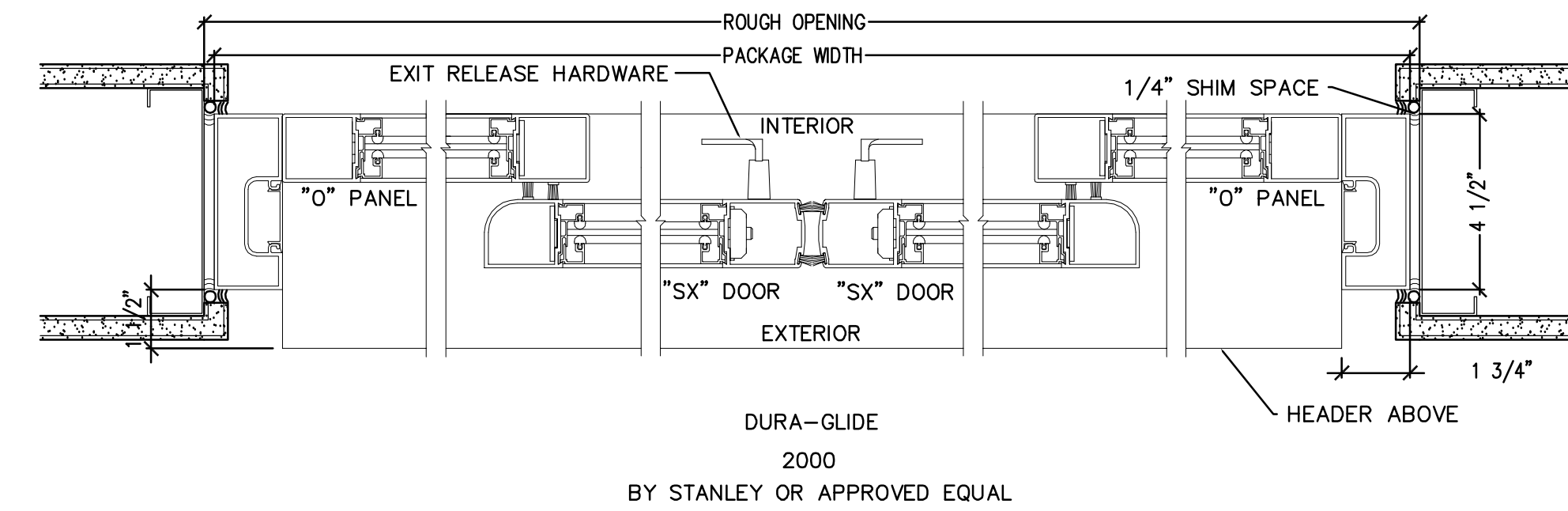
3 | Door Head
SCALE: 3" = 1'-0"



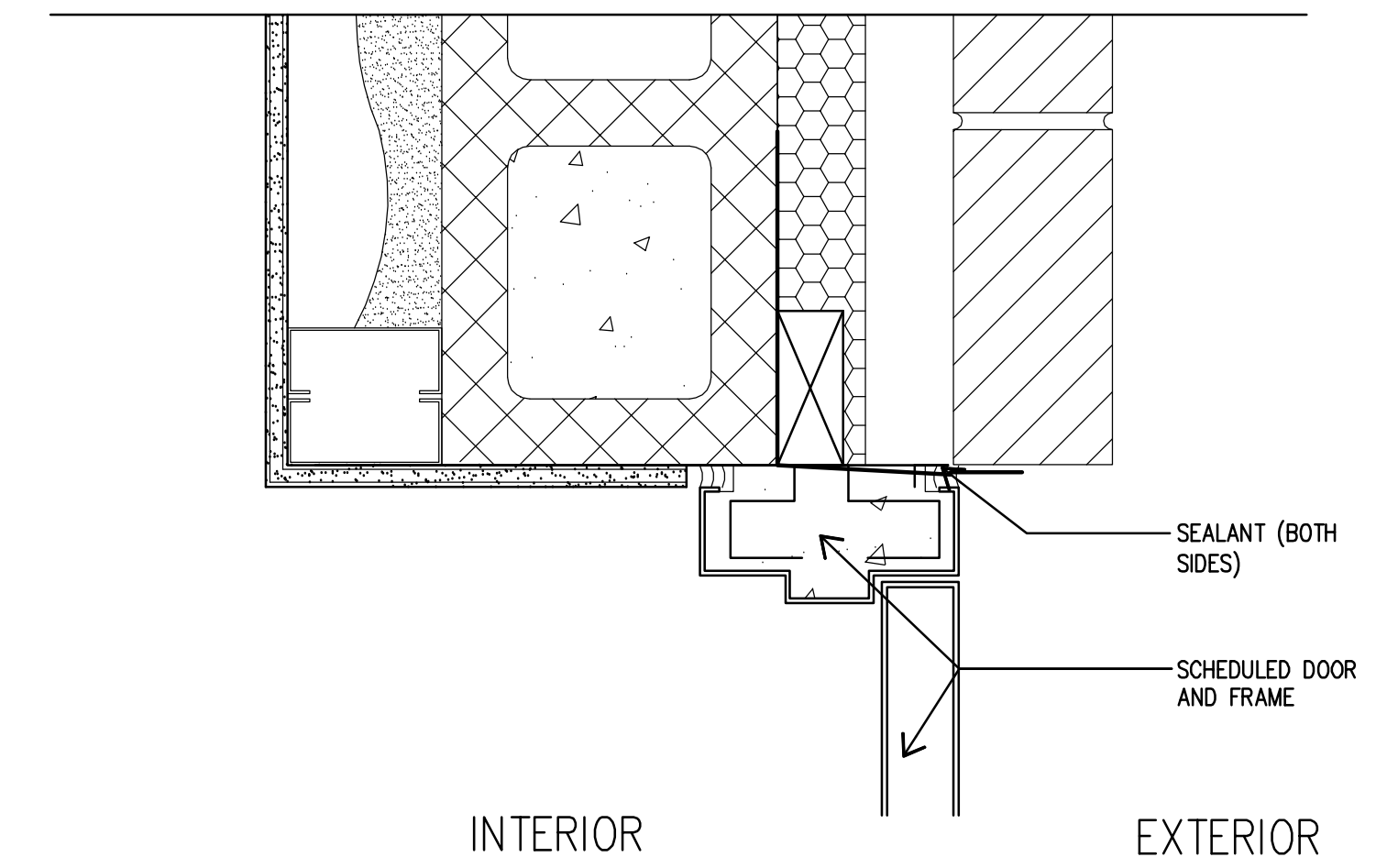
11 | Door Jamb
SCALE: 3" = 1'-0"



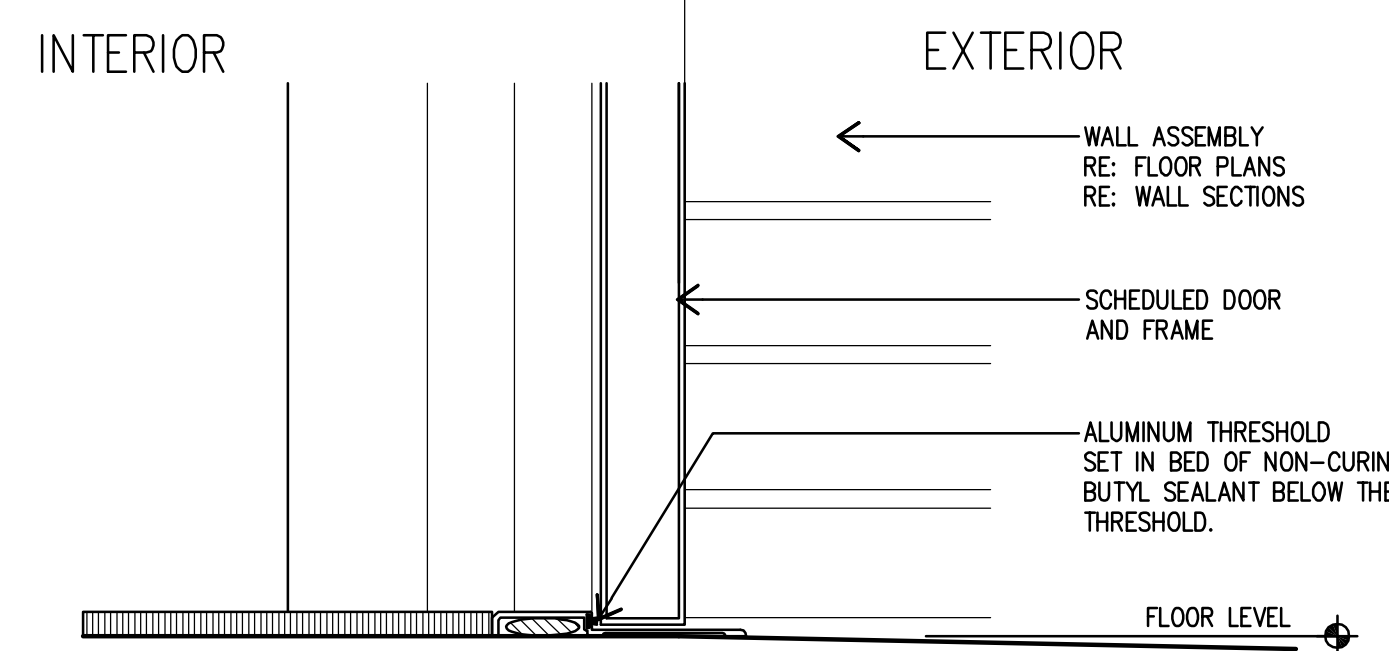
8 | Door Jamb
SCALE: 3" = 1'-0"



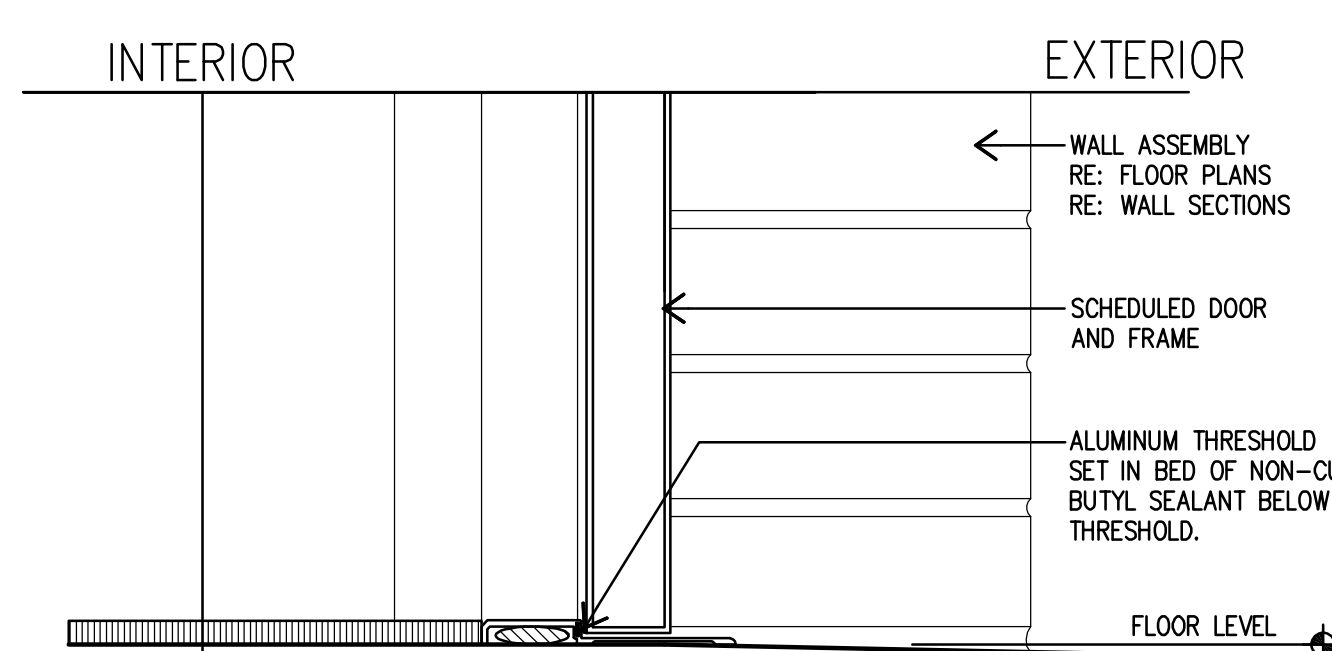
5 | Door Jamb
SCALE: 3" = 1'-0"



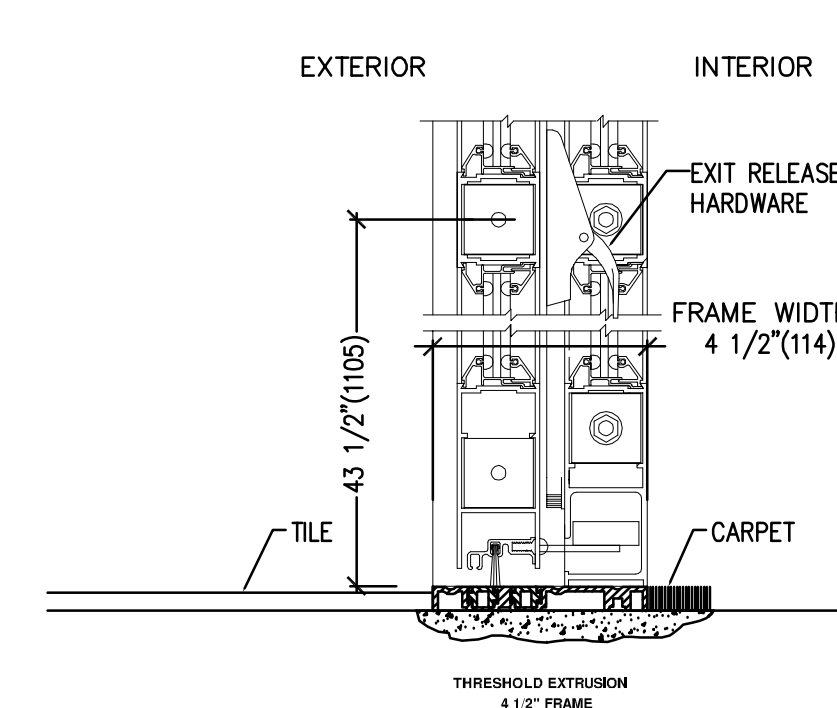
2 | Door Jamb
SCALE: 3" = 1'-0"



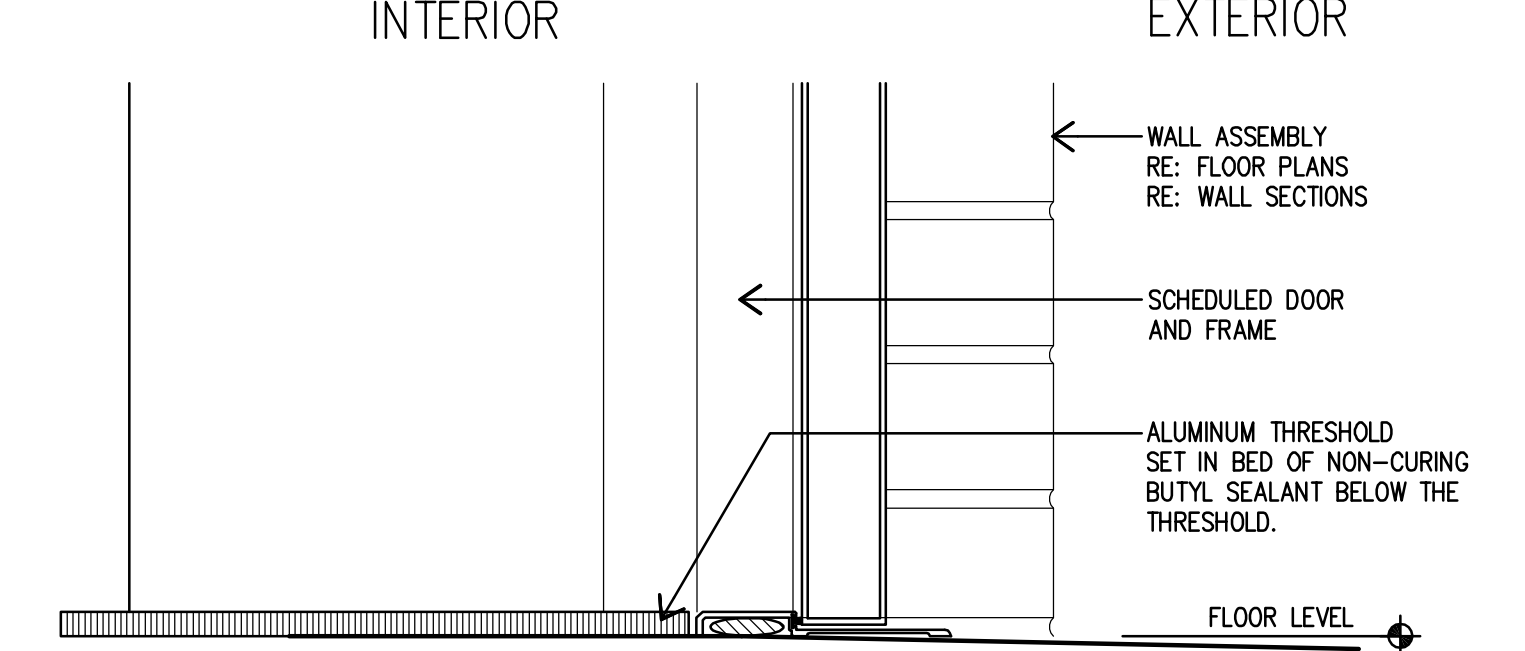
10 | Door Sill
SCALE: 3" = 1'-0"



7 | Door Sill
SCALE: 3" = 1'-0"

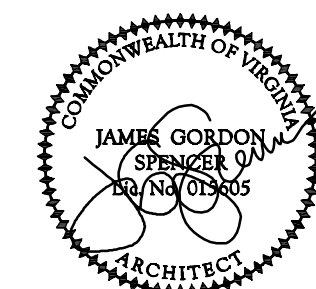


4 | Door Sill
SCALE: 3" = 1'-0"



1 | Door Sill
SCALE: 3" = 1'-0"

EXTERIOR DOOR DETAILS



JULY 29, 2011

CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:



MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486

MACTEC PROJECT: 6151-10-0085

ARCHITECTURE:



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SURVEY:



10400 CHESTER ROAD, CHESTER, VA 23831
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NATIONAL
CEMETERY
ADMINISTRATION

Drawing Title

EXTERIOR DOOR DETAILS

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

ADMINISTRATION / PUBLIC
INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

Building Number

Checked

Drawn

Location

18424 JOPLIN ROAD
TRIANGLE, VIRGINIA

Date

7-29-11

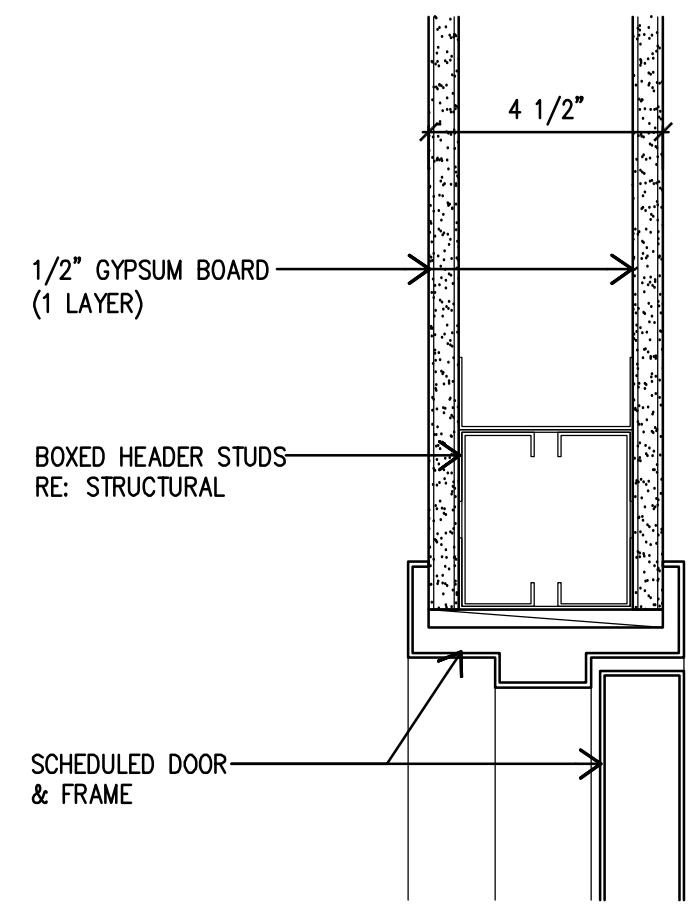
Project No.

872CM3035

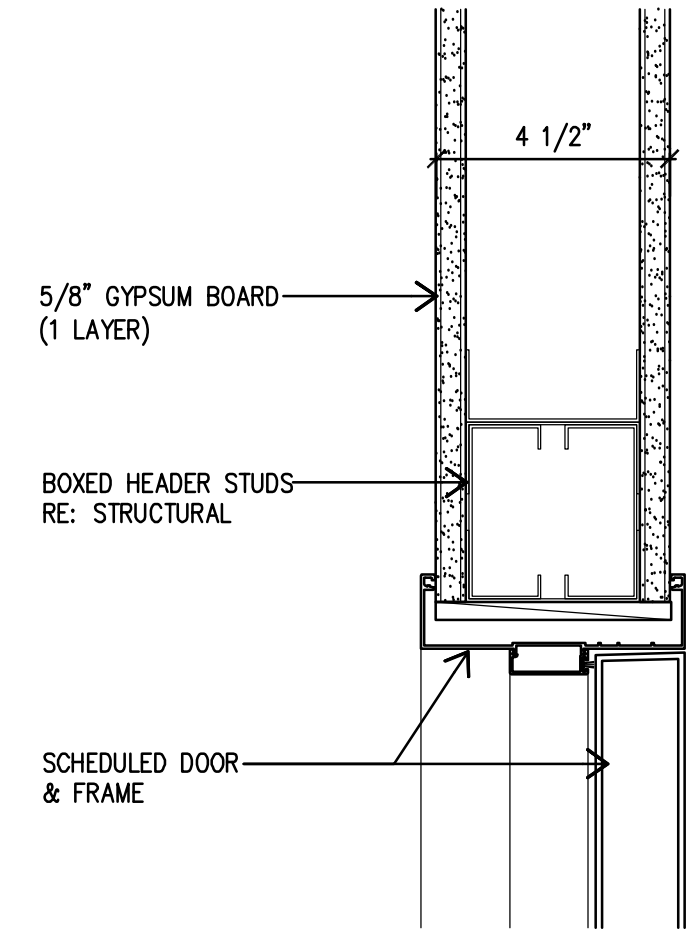
DRAWING NO.

A003

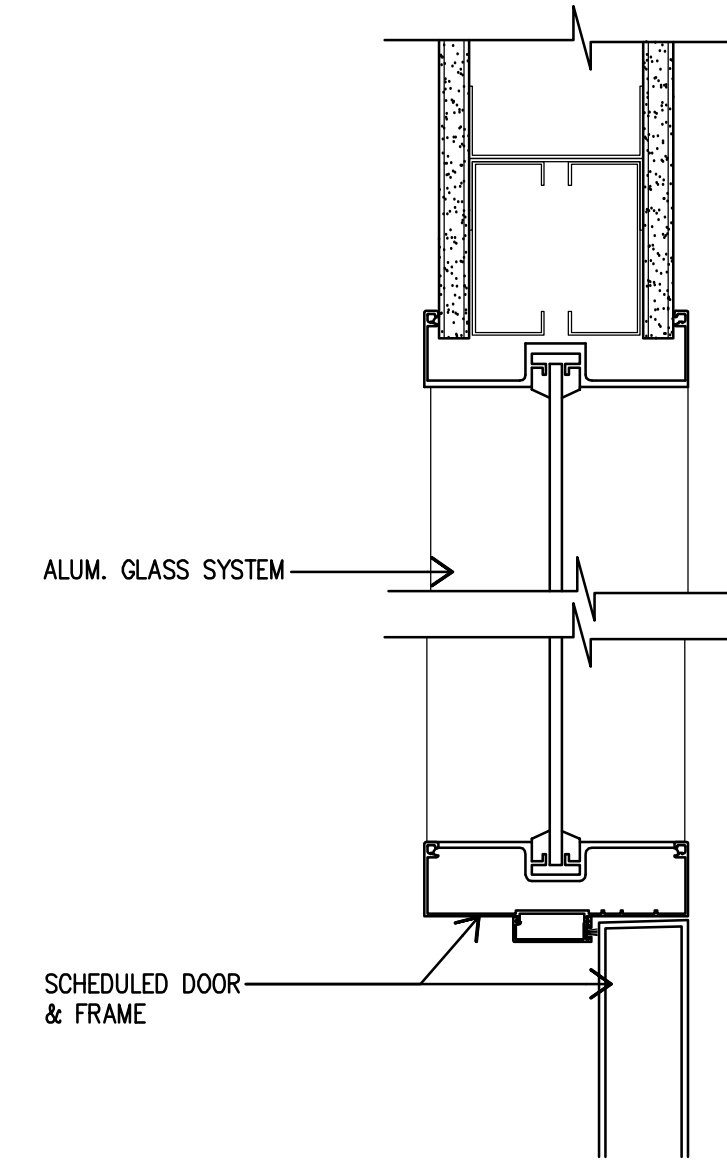
Dwg. 38 of 80



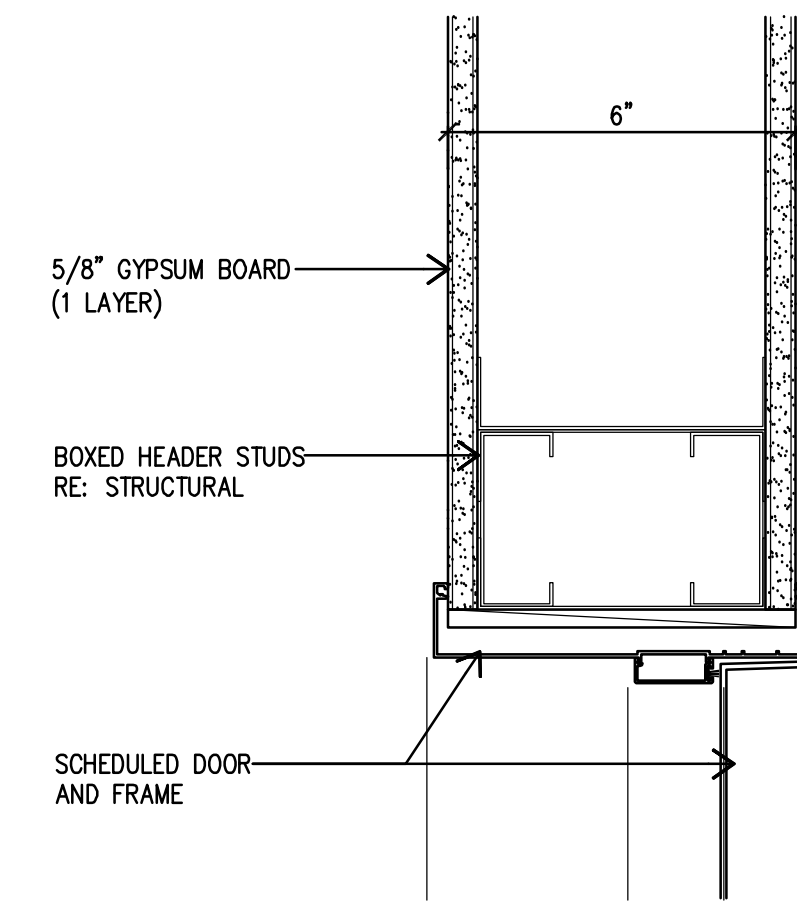
15 | Door Head
SCALE: 3" = 1'-0"



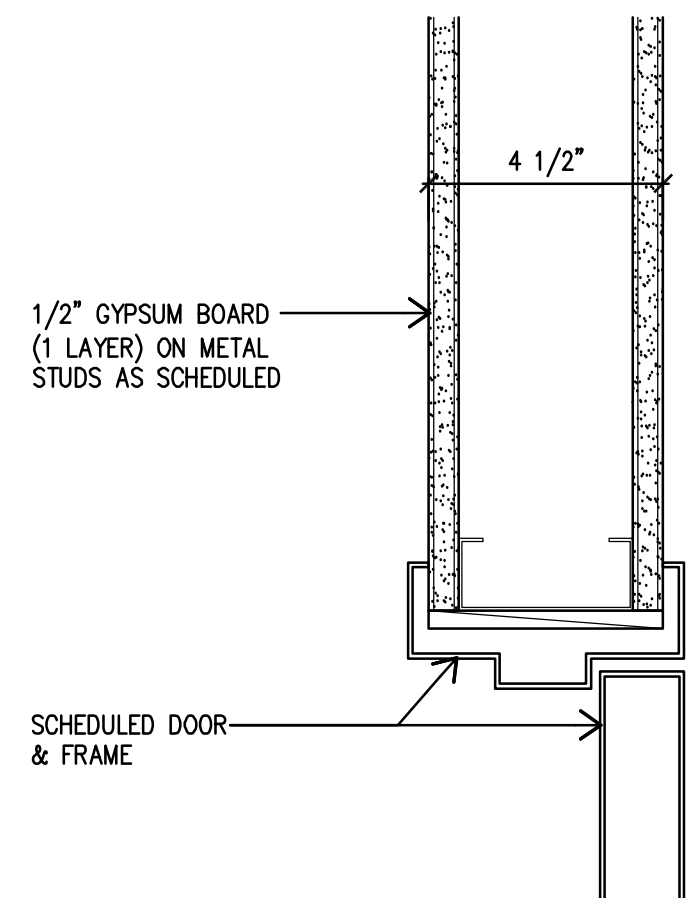
12 | Door Head
SCALE: 3" = 1'-0"



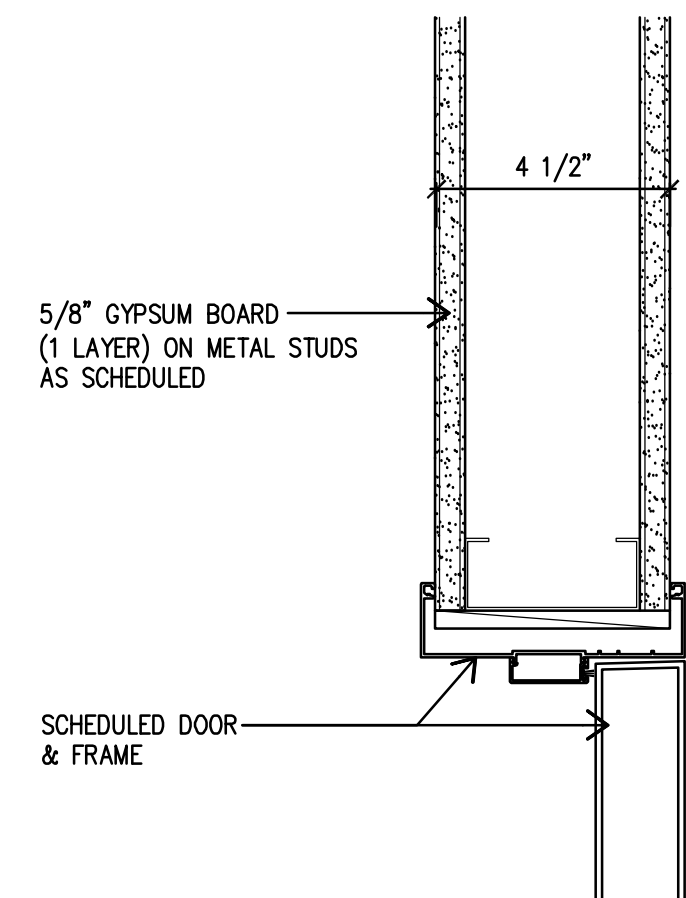
7 | Door Head
SCALE: 3" = 1'-0"



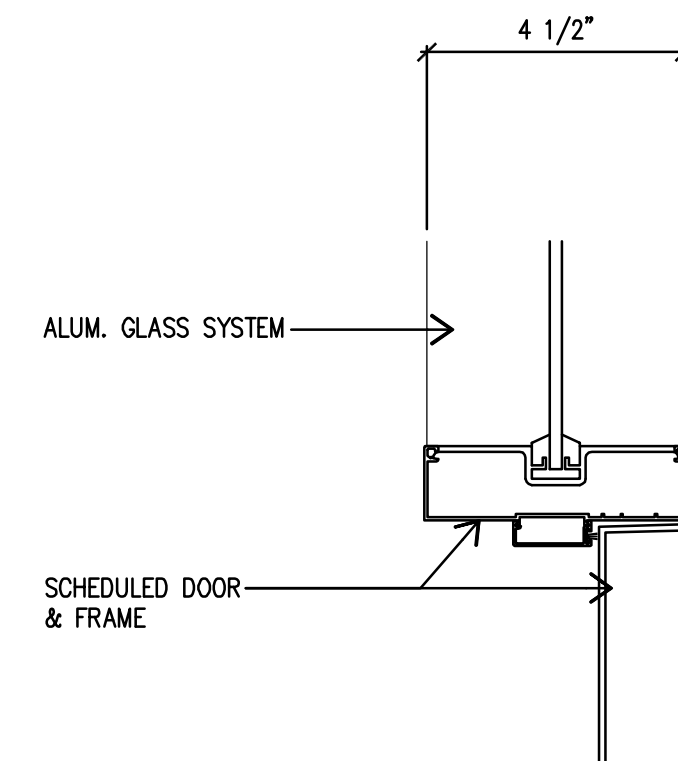
3 | Door Head
SCALE: 3" = 1'-0"



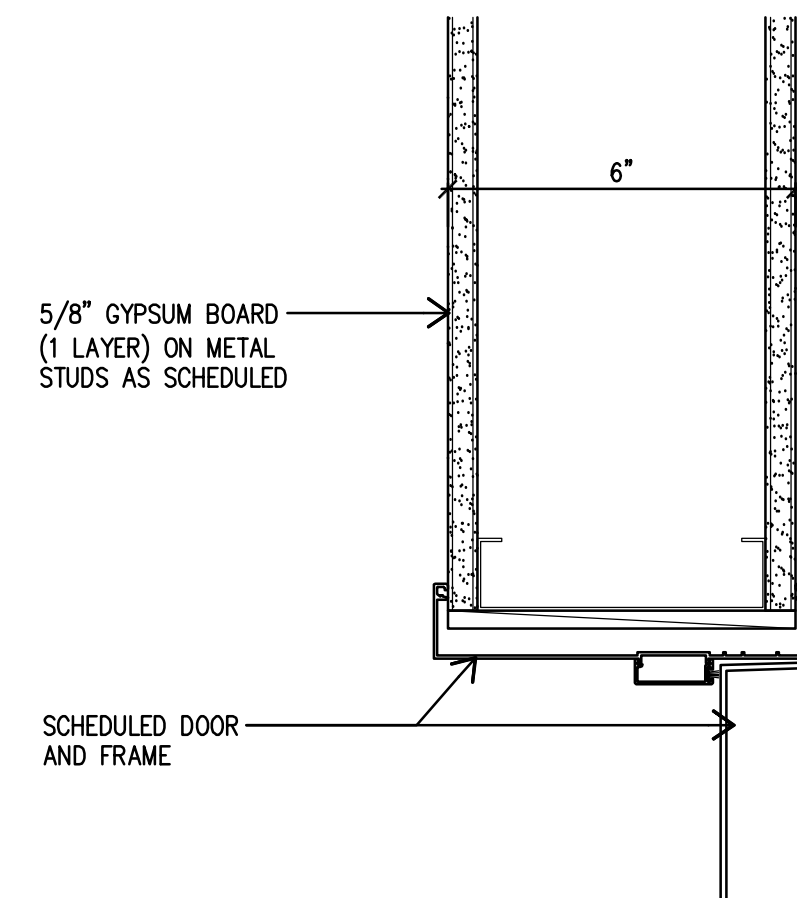
14 | Door Jamb
SCALE: 3" = 1'-0"



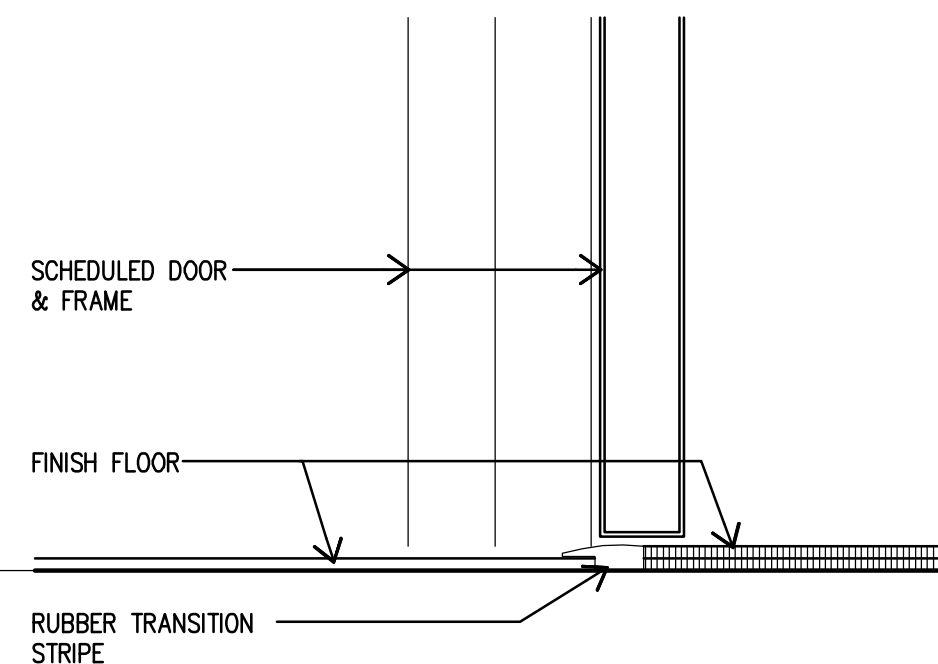
11 | Door Jamb
SCALE: 3" = 1'-0"



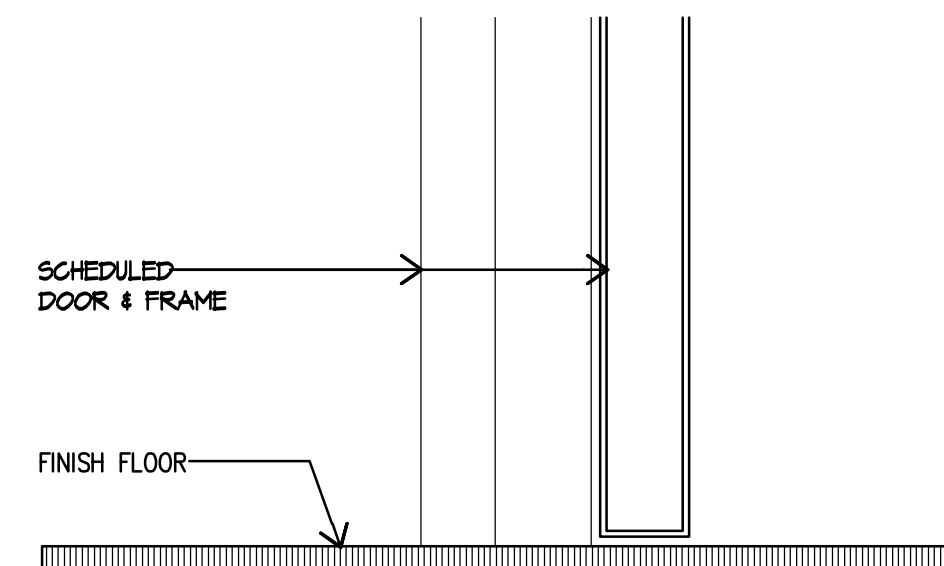
6 | Door Jamb
SCALE: 3" = 1'-0"



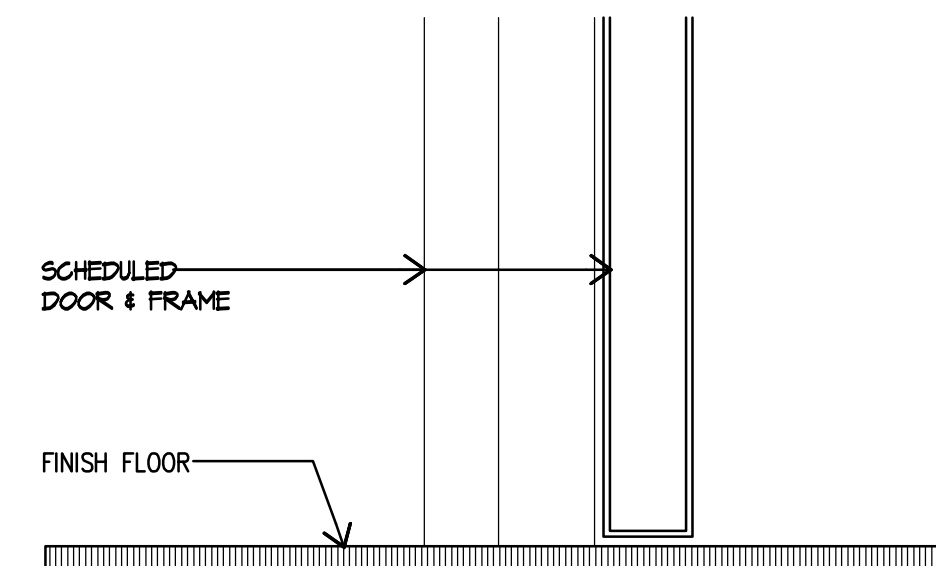
2 | Door Jamb
SCALE: 3" = 1'-0"



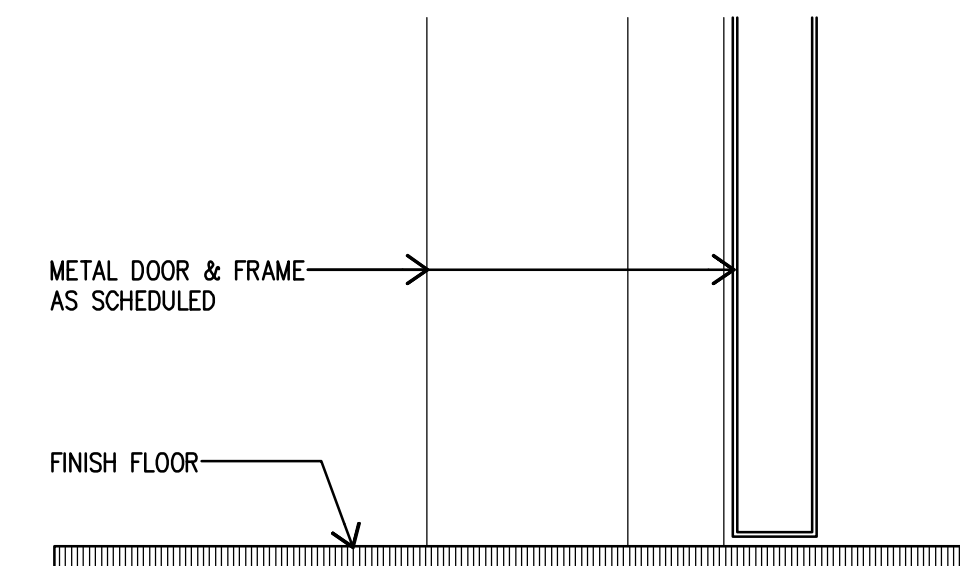
13 | Door Sill
SCALE: 3" = 1'-0"



10 | Door Sill
SCALE: 3" = 1'-0"



5 | Door Sill
SCALE: 3" = 1'-0"



1 | Door Sill
SCALE: 3" = 1'-0"

INTERIOR DOOR DETAILS



JULY 29, 2011

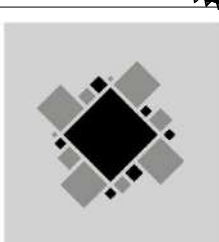
CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:



MACTEC ENGINEERING AND CONSULTING, INC.
3200 TOWN POINT DR., KENNESAW, GA. 30144
TEL: (770) 421-3400 FAX: (770) 421-3486

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Mexico City, Mexico
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SURVEY:



10400 CHESTER ROAD, CHESTER, VA 23831
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NATIONAL
CEMETERY
ADMINISTRATION

Drawing Title

INTERIOR DOOR DETAILS

Approved: Director, Technical Support Service

Approved: Chief, Architectural & Engineering Division

Project Title

ADMINISTRATION / PUBLIC
INFORMATION BUILDING
QUANTICO NATIONAL CEMETERY

Building Number

Checked

Drawn

Location

18424 JOPLIN ROAD
TRIANGLE, VIRGINIA

Date

7-29-11

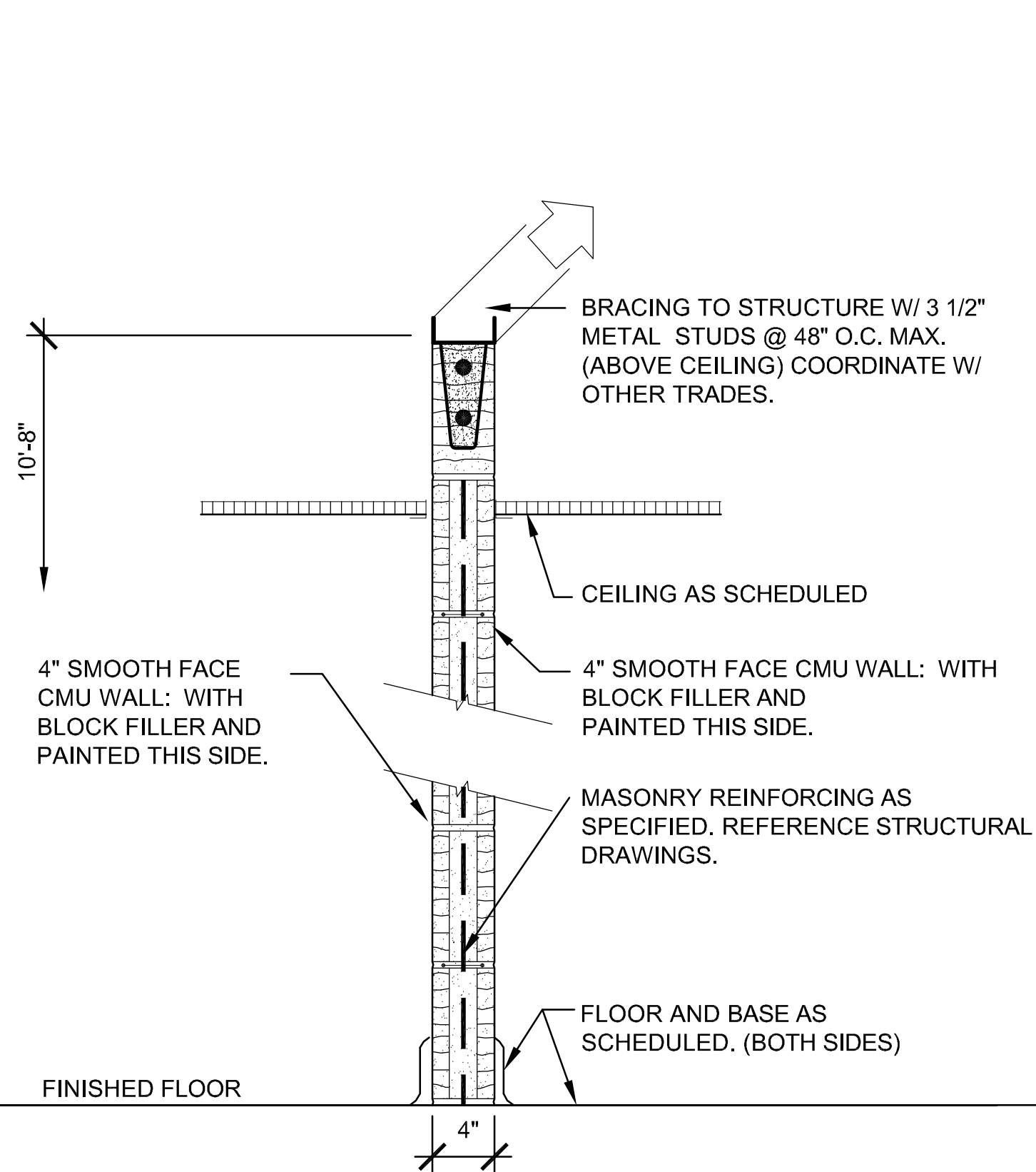
Project No.

872CM3035

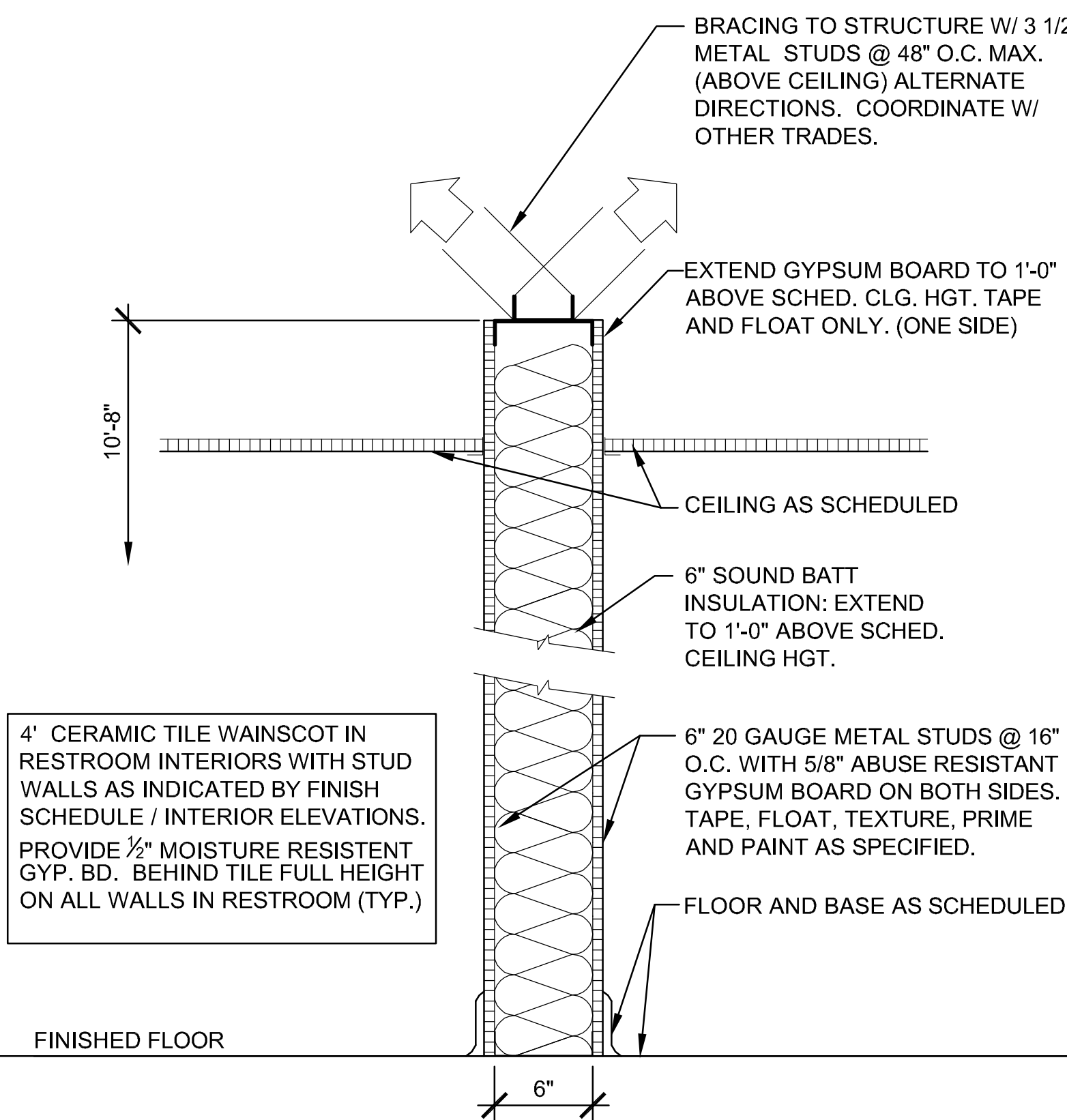
DRAWING NO.

A004

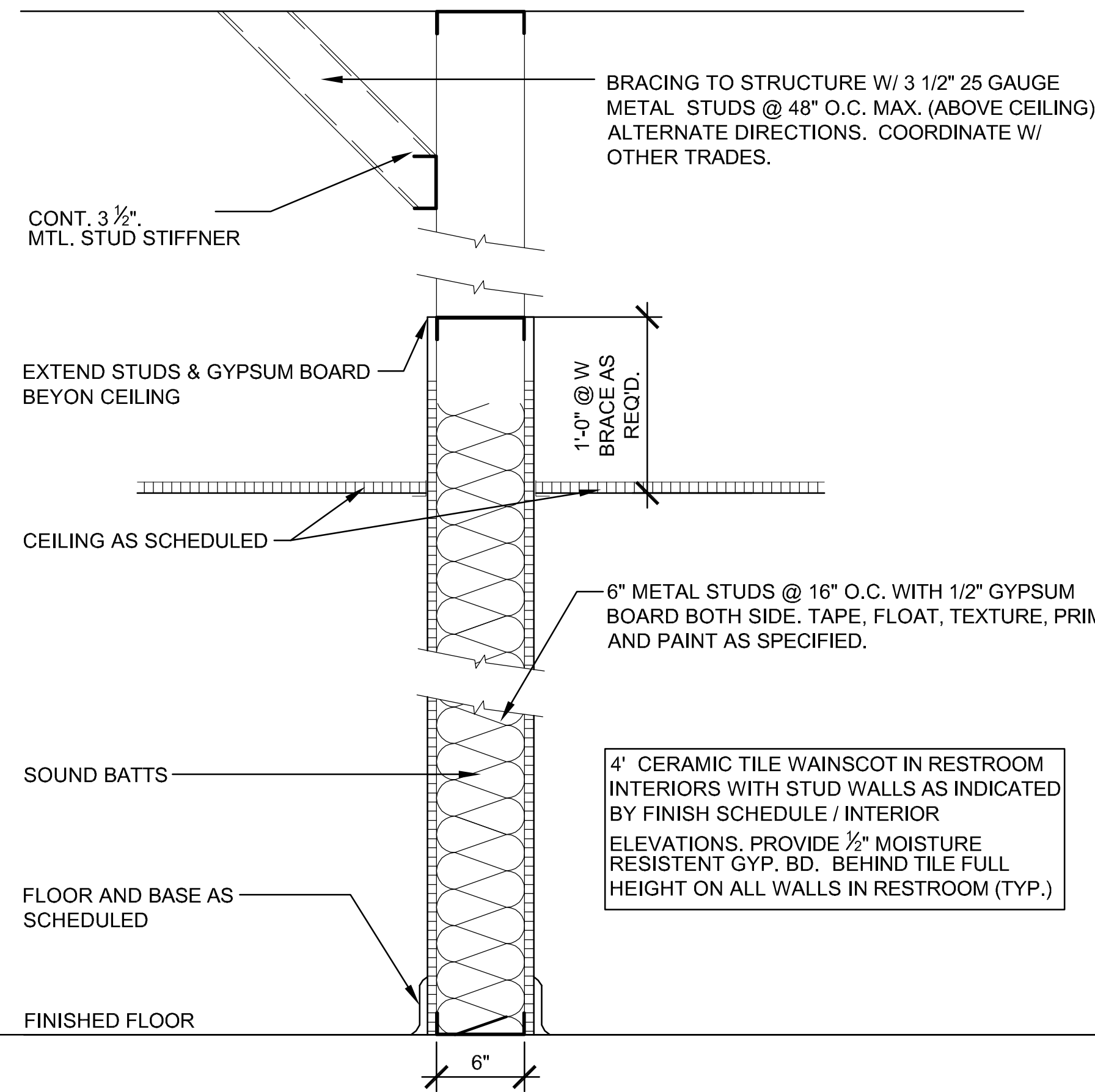
Dwg. 39 of 80



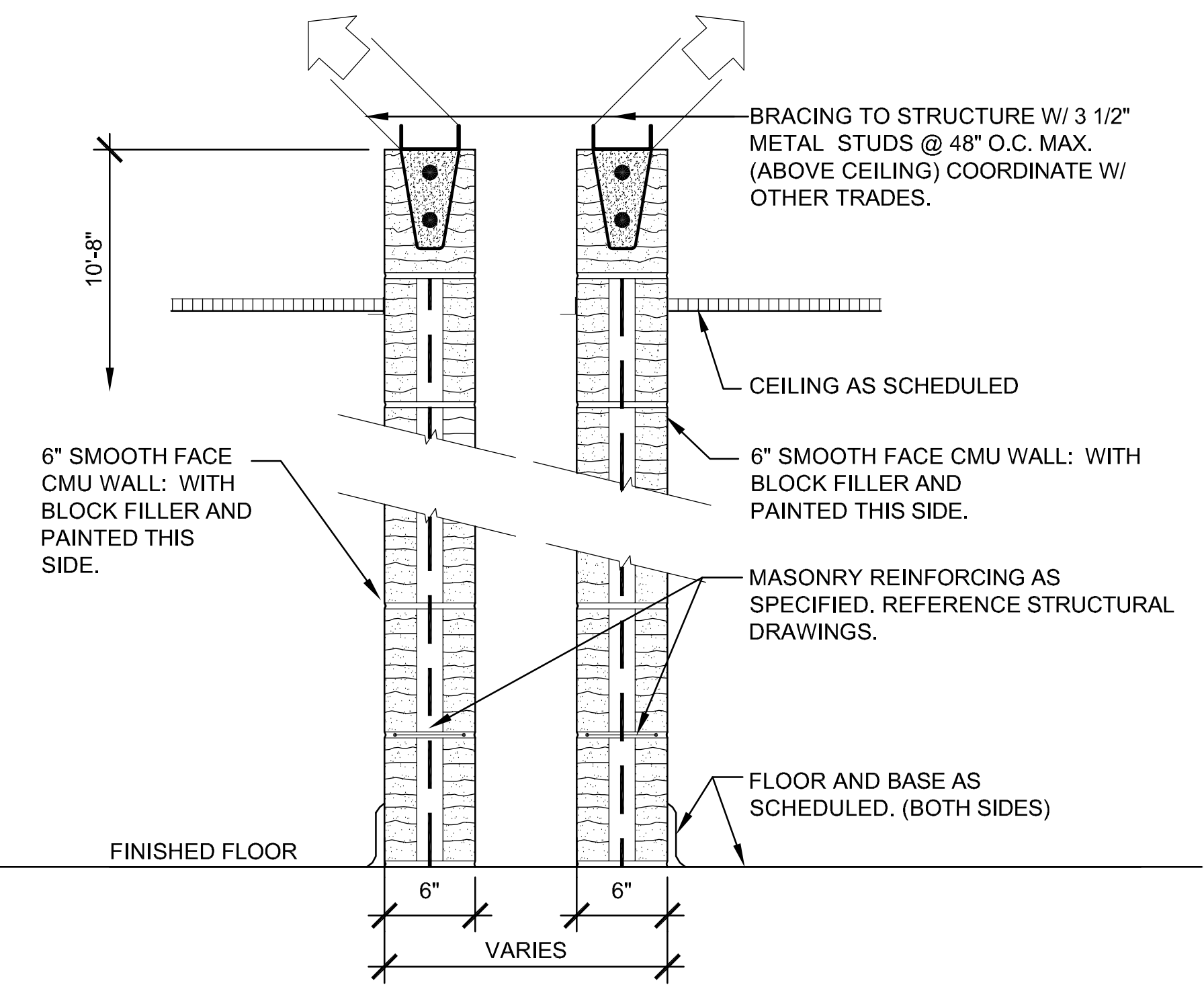
H WALL TYPE
SCALE: 3/4" = 1'-0"



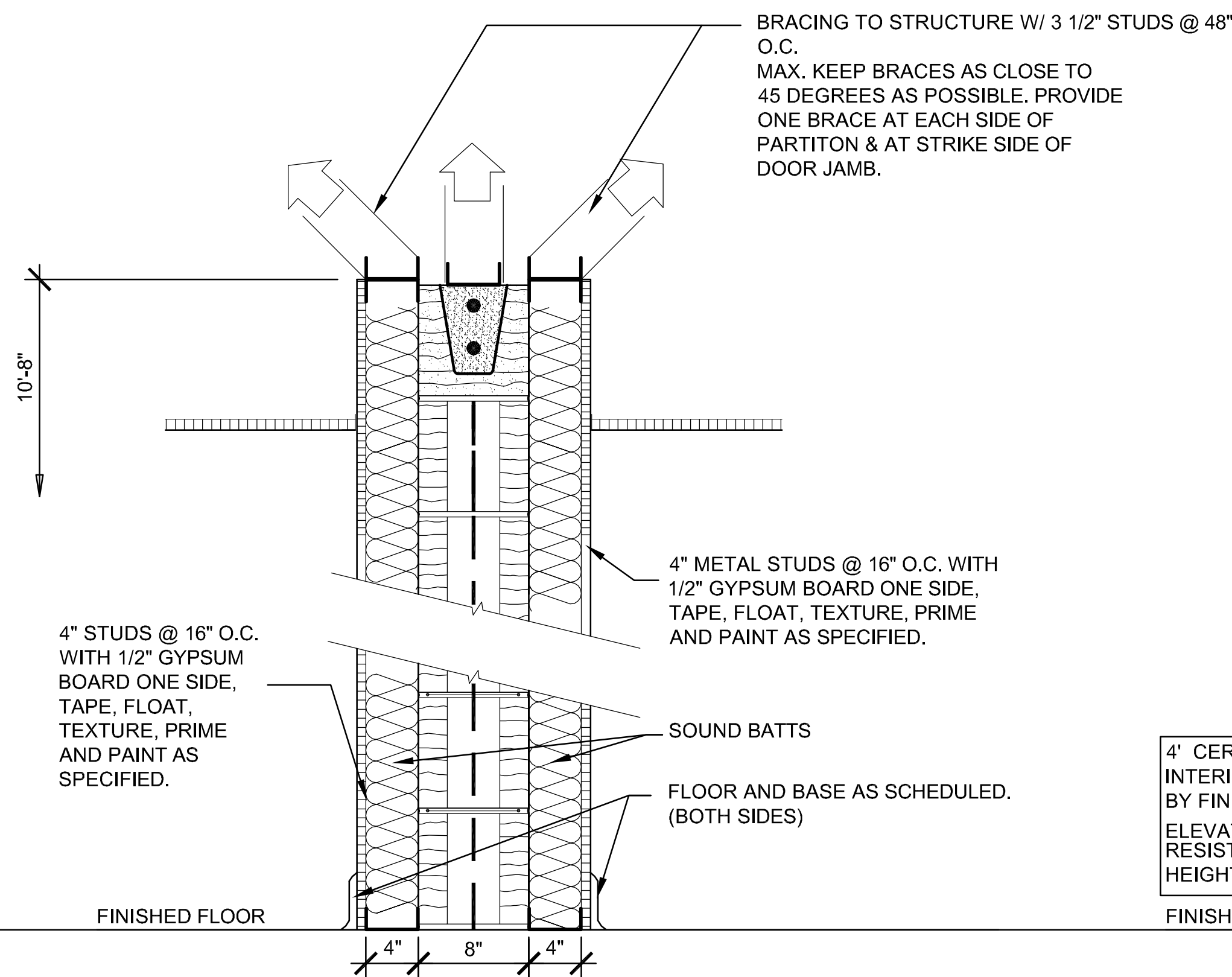
G WALL TYPE
SCALE: 3/4" = 1'-0"



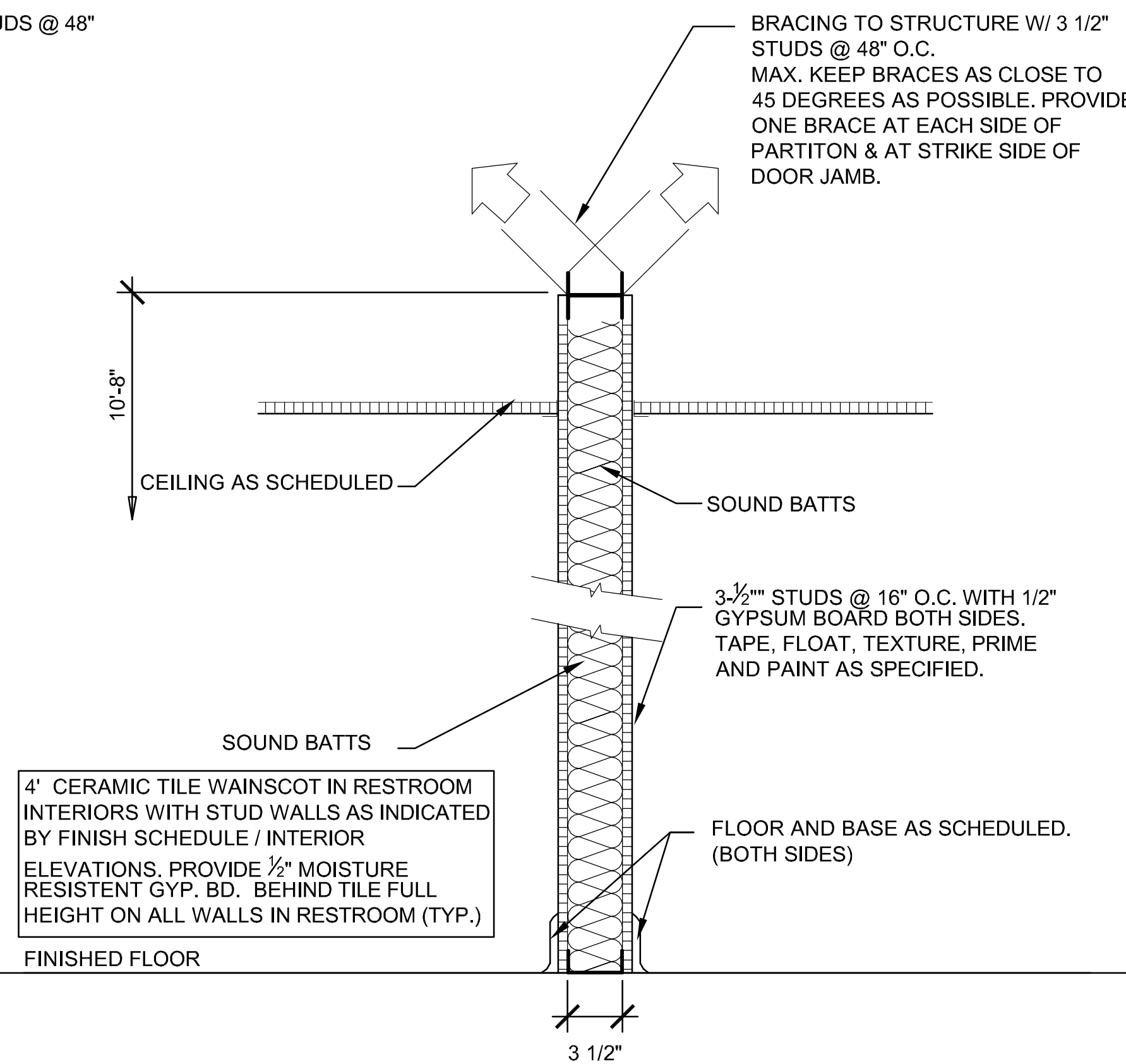
F WALL TYPE
SCALE: 3/4" = 1'-0"



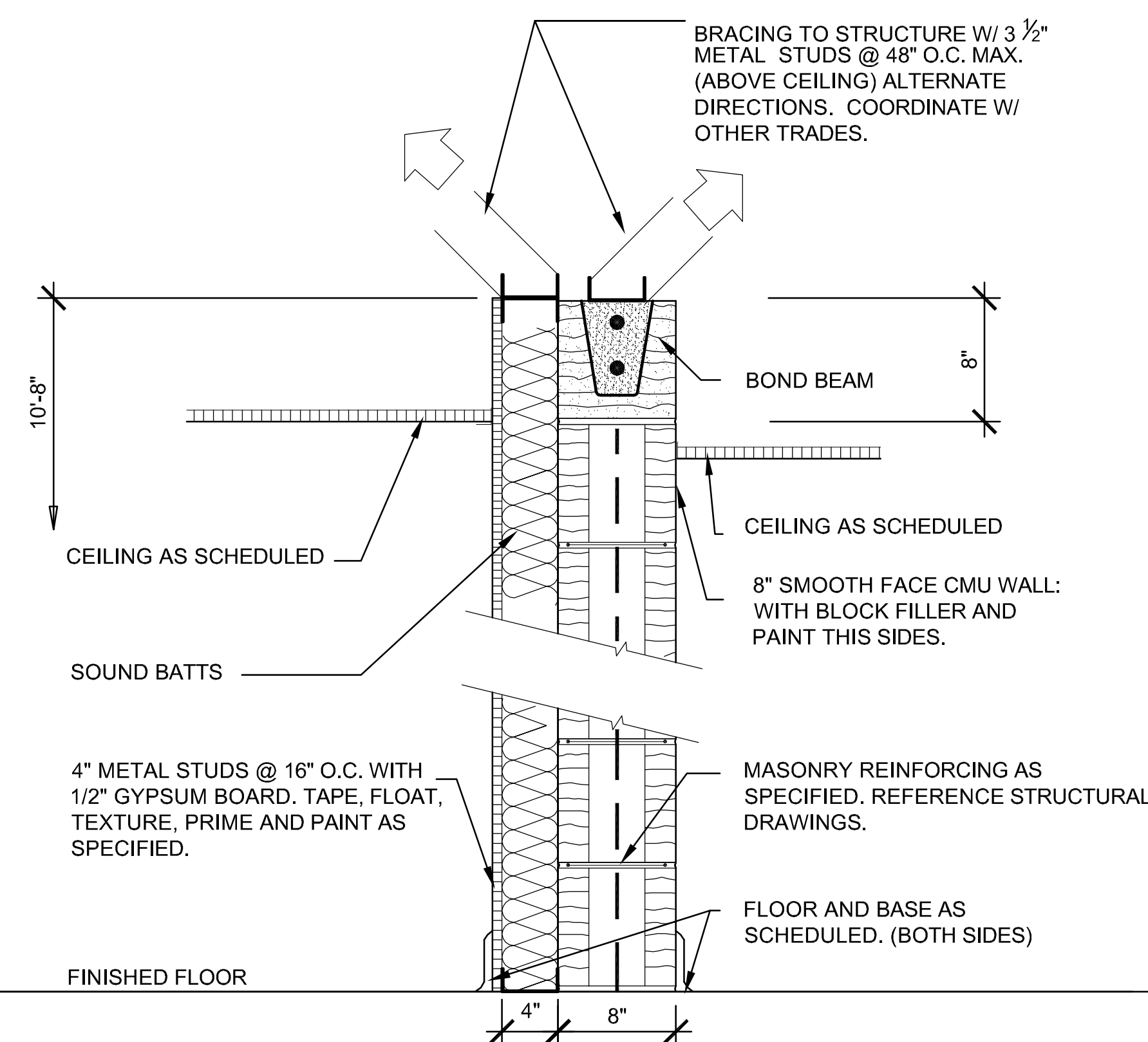
E WALL TYPE
SCALE: 3/4" = 1'-0"



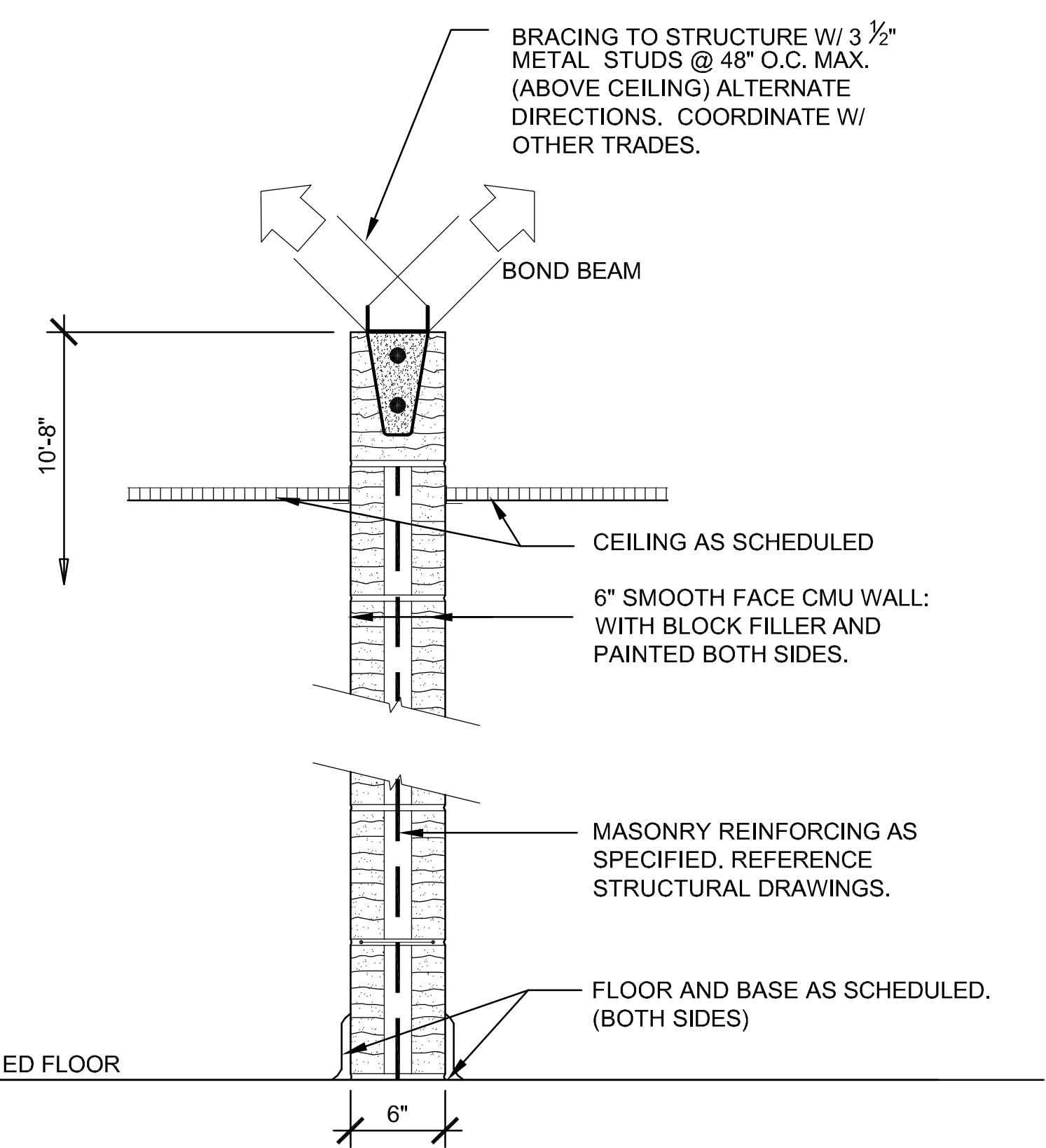
D WALL TYPE
SCALE: 3/4" = 1'-0"



C WALL TYPE
SCALE: 3/4" = 1'-0"



B WALL TYPE
SCALE: 3/4" = 1'-0"



A WALL TYPE
SCALE: 3/4" = 1'-0"



JULY 29, 2011

Revisions	Date	CIVIL ENGINEER/LANDSCAPE ARCHITECTURE:		ARCHITECTURE:		MEP ENGINEER:		SURVEY:		Drawing Title		Project Title		Date		
		 MACTEC ENGINEERING AND CONSULTING, INC. 3200 TOWN POINT DR., KENNESAW, GA. 30144 TEL: (770) 421-3400 FAX: (770) 421-3486		 MATRIX SETTLES 1220 N. FILLMORE ST. SUITE 300 ARLINGTON, VA 22211 703-525-0424		 Thompson Company consulting engineers 50 Technology Parkway South Norcross, Georgia 30092 Atlanta, Dubai, UAE Orlando, Mexico City, Mexico Houston, Toronto, BVI		 10400 CHESTER ROAD, CHESTER, VA 23831 TEL: (804) 748-8707 FAX: (804) 748-8708		WALL PARTITION TYPES		ADMINISTRATION / PUBLIC INFORMATION BUILDING QUANTICO NATIONAL CEMETERY		7-29-11		
		MACTEC PROJECT: 6151-10-0085								Approved: Director, Technical Support Service		Building Number		Checked		
										Approved: Chief, Architectural & Engineering Division		Location		DRAWING NO.		
												18424 JOPLIN ROAD TRIANGLE, VIRGINIA		A005		
														Dwg. 40 of 80		