

AUGUSTA MILL PLACE WATER PROJECT - PHASE A ELEVATED WATER STORAGE TANK

AUGUSTA COUNTY, VIRGINIA

PREPARED FOR:
AUGUSTA COUNTY SERVICE AUTHORITY
P.O. BOX 859
VERONA, VIRGINIA 24482

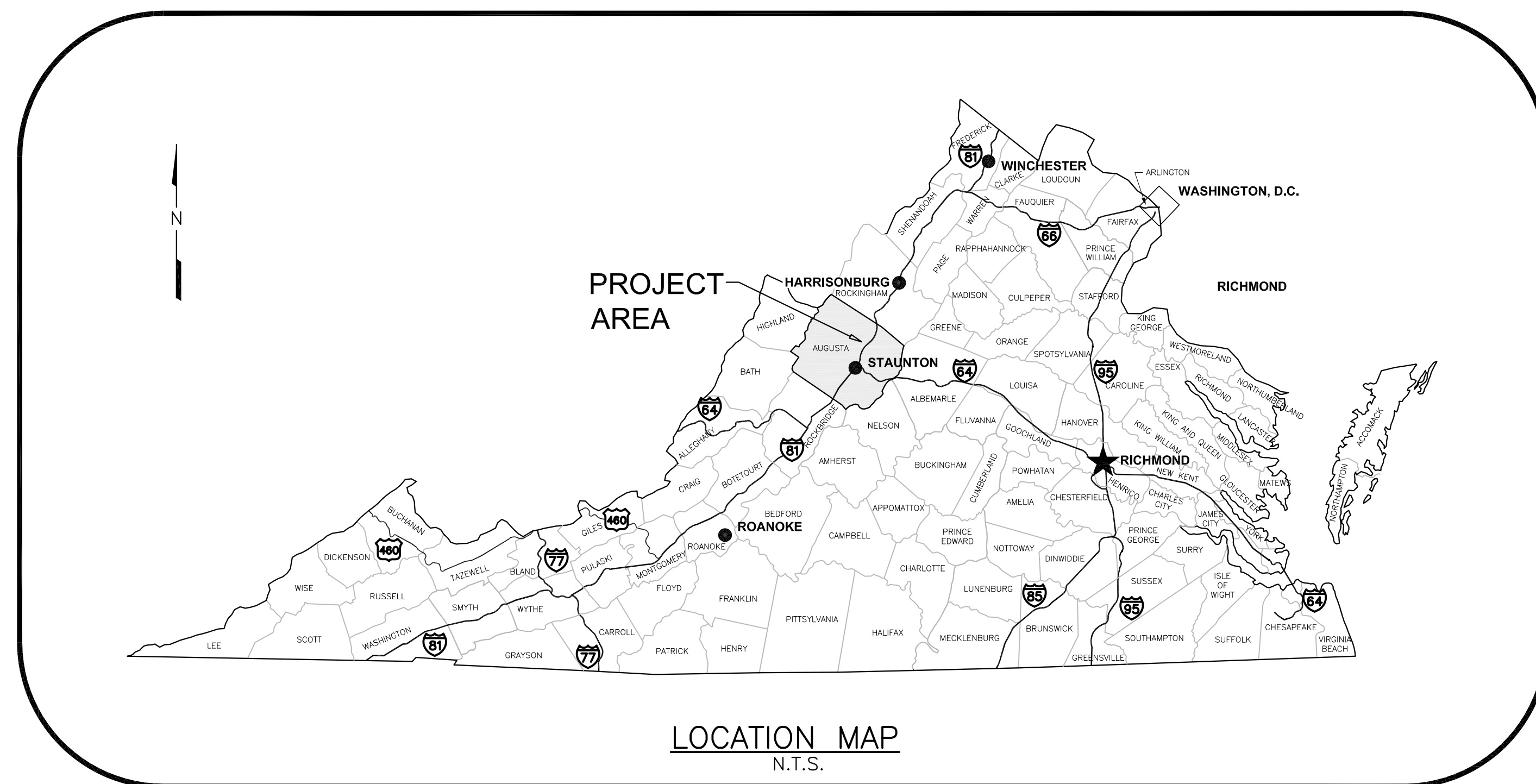
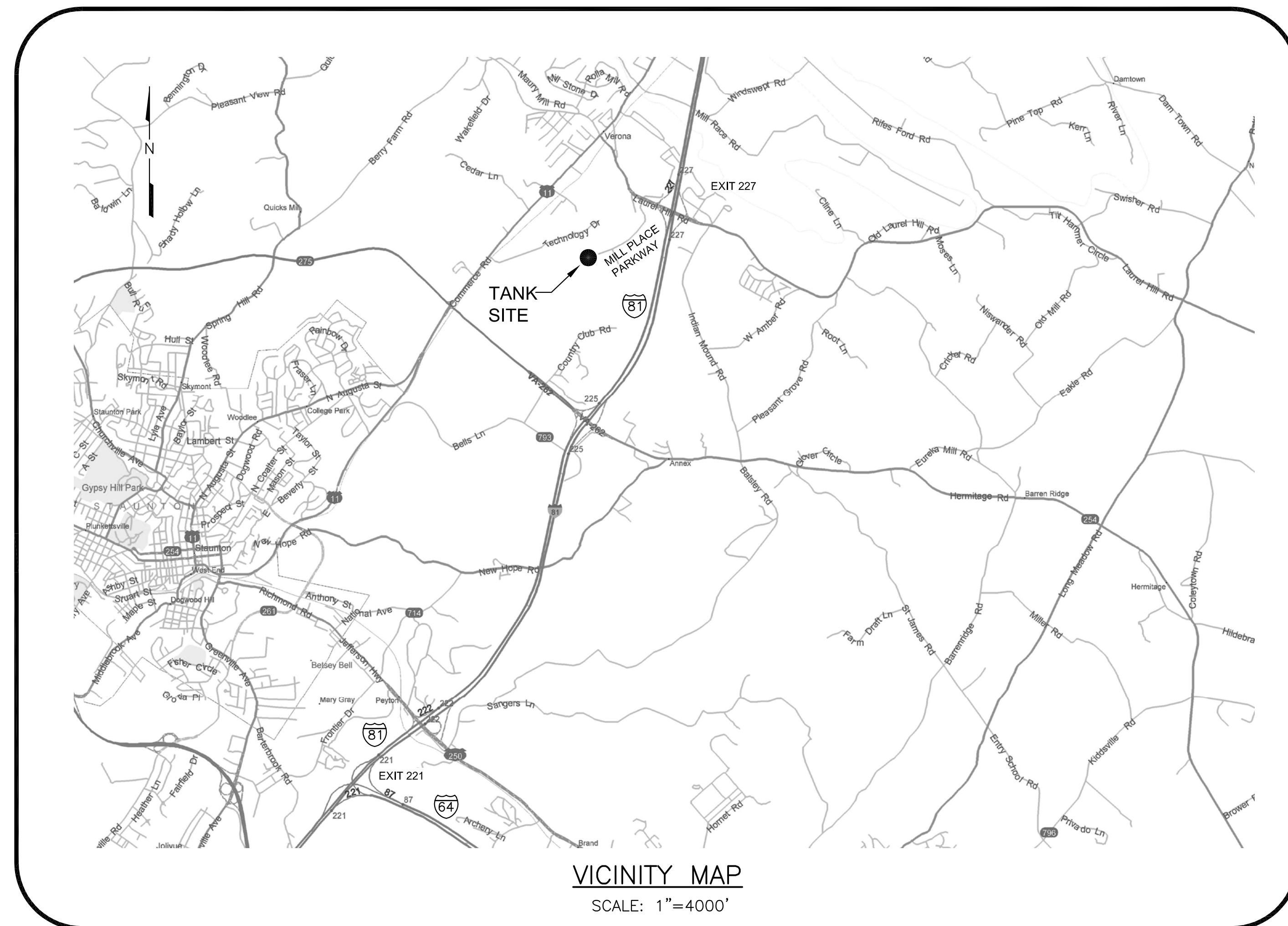
SHEET INDEX

G01	TITLE SHEET
C01	SITE PLAN
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C04	STANDARD DETAILS

PROJECT NARRATIVE:
THIS PROJECT INCLUDES CONSTRUCTION OF A 500,000 GALLON (OPTIONAL BID FOR 1 MG) COMPOSITE ELEVATED WATER STORAGE TANK AND ASSOCIATED SITE WORK AND UTILITY LINES. THIS PROJECT SCOPE IS GENERALLY LIMITED TO WORK SHOWN ON THE TANK LOT & ACCESS/UTILITY EASEMENTS, AS WELL AS DOWNSTREAM DRAINAGE IMPROVEMENTS SHOWN. OFFSITE TANK WATER MAINS ARE BEING CONSTRUCTED AS A SEPARATE PROJECT.

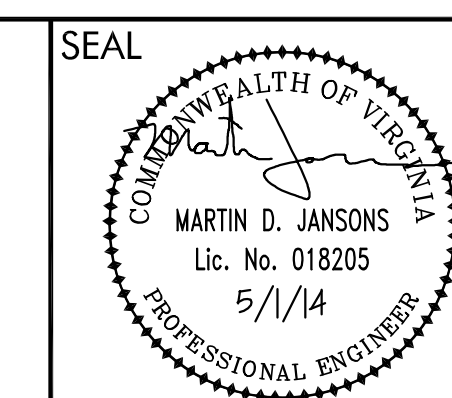
EROSION & SEDIMENT CONTROL LEGEND

(BM)	SOIL STABILIZATION BLANKETS & MATTING (VESCH 3.36)
(CD)	CHECK DAM (VESCH 3.20)
(CRS)	CONSTRUCTION ROAD STABILIZATION (VESCH 3.03)
(IP)	INLET PROTECTION (VESCH 3.07)
(OP)	OUTLET PROTECTION (VESCH 3.18)
(SF)	SILT FENCE (VESCH 3.05)
(TS) (PS) (MU)	TEMP SEEDING, PERM SEEDING, MULCHING (VESCH 3.31, 3.32, 3.35)



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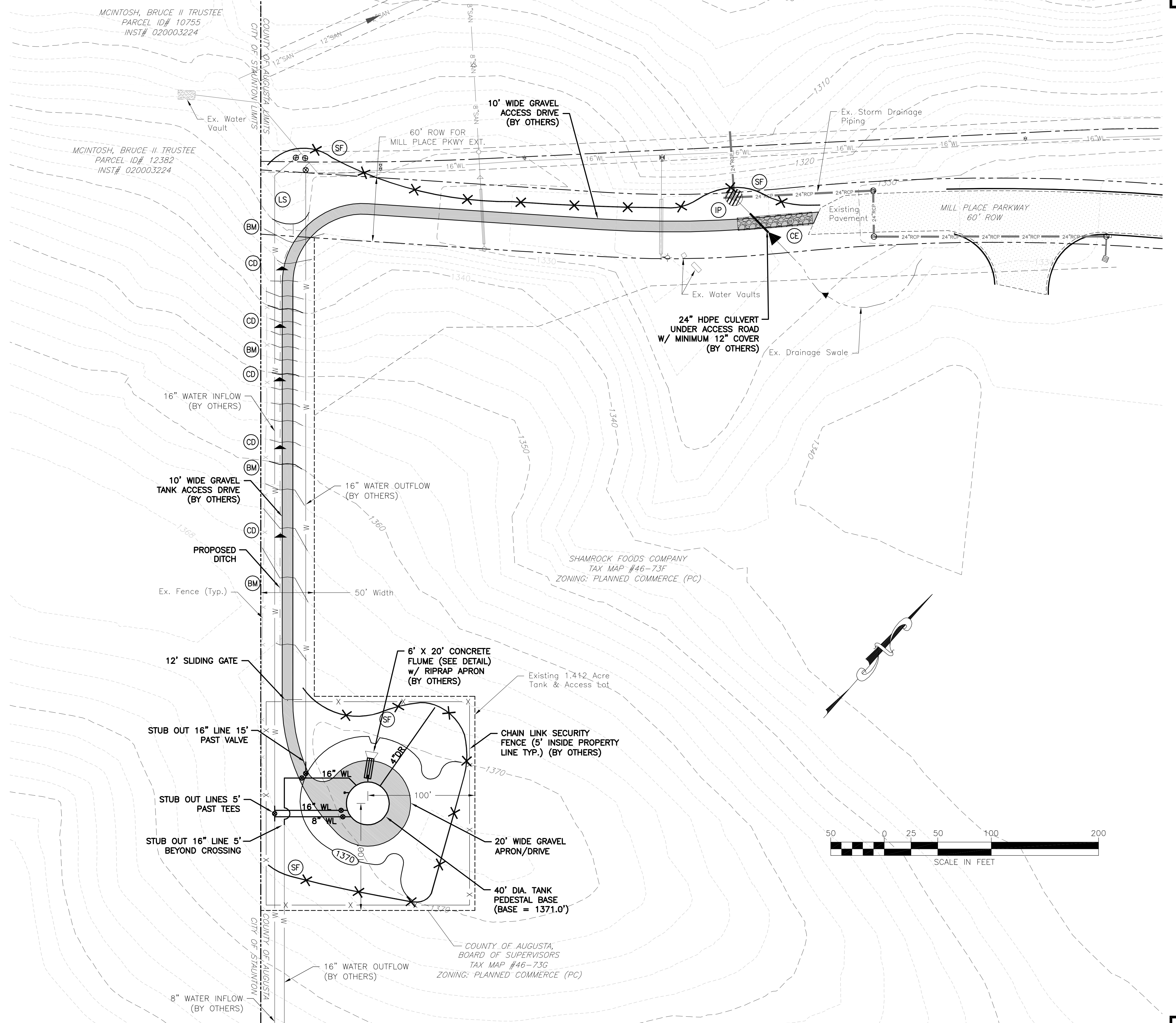
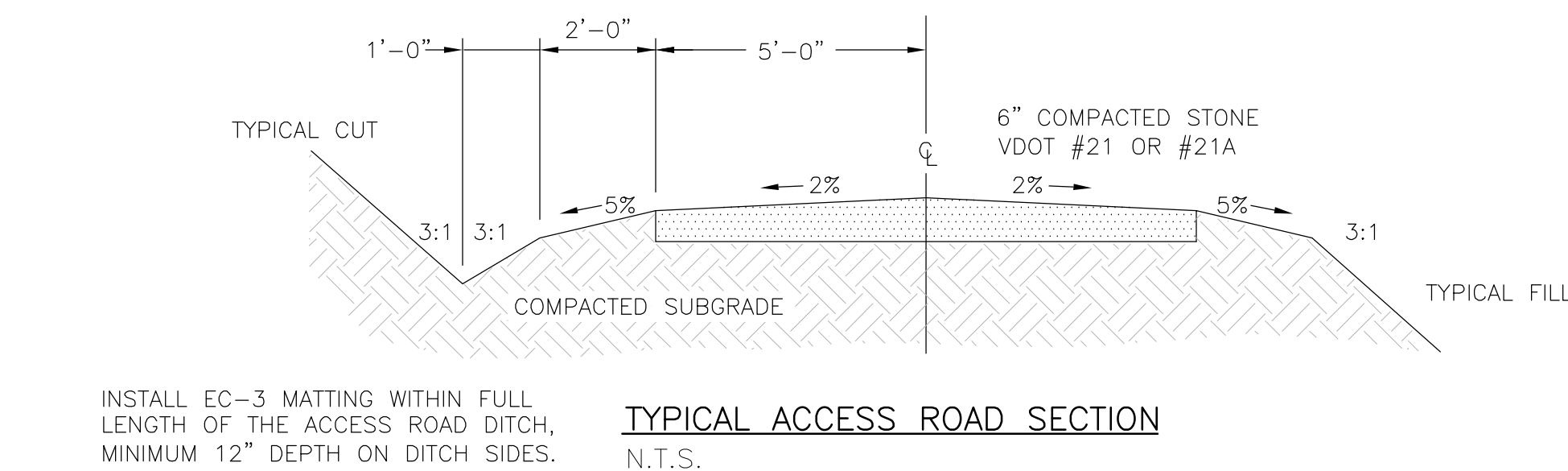
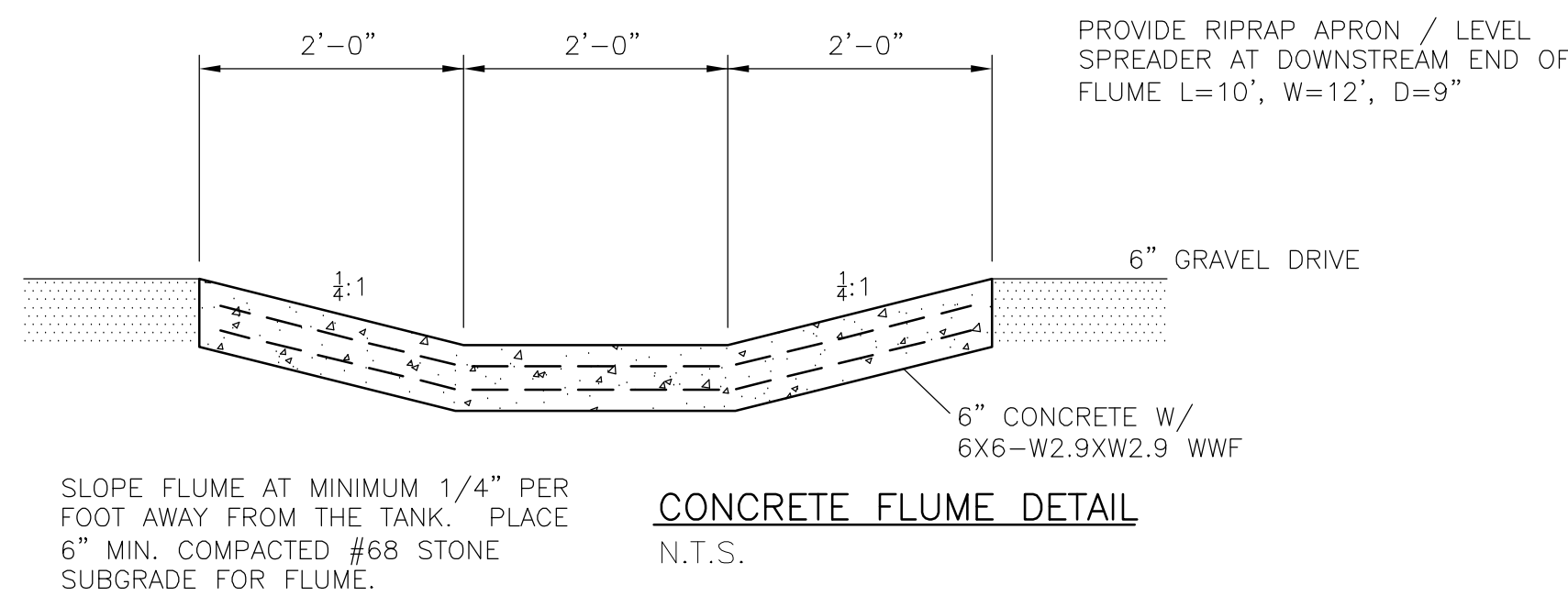
DRAWN BY:
RNJ
REVIEW BY:
MDJ
DATE:
1 MAY 2014
REVISION:

DWG DESCRIPTION:
TITLE SHEET

G01

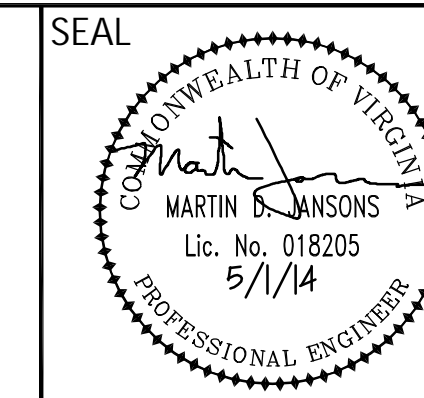
NOTES:

- PROPERTY INFORMATION AS INDICATED ON MILL PLACE COMMERCE PARK, SECTION 5 FINAL PLAT, 06-06-2013. TOPOGRAPHY PROVIDED BY BALZER & ASSOCIATES, INC.
- TOTAL DISTURBED AREA (TANK AND UTILITIES ALONG ACCESS ROAD) OUTSIDE OF MILL PLACE PARKWAY: 0.96 ACRES. ACCESS ROAD WORK WITHIN MILL PLACE PARKWAY ROW TO BE COMPLETED AS PART OF THE GENERAL PERMIT FOR THAT PROJECT.
- MAINTAIN MIN. 2% POSITIVE DRAINAGE AWAY FROM TANK. BACKFILL ELEVATION AT TANK PER TANK MANUFACTURER RECOMMENDATIONS FOR FOOTING BACKFILL.
- GATE PADLOCK LOCK TO BE STANDARD ACSA MODEL, KEYED TO MATCH MASTER KEY.
- PROVIDE 911 ADDRESS SIGN ON GATE AND "NO TRESPASSING" SIGNS ON GATE AND FENCE.
- EXISTING GRADING AND UTILITIES ALONG MILL PLACE PARKWAY ROW INSTALLED BY OTHERS AND REPRESENT APPROXIMATE LOCATIONS AND ELEVATIONS.
- DITCH OUTLET PROTECTION TO INCLUDE ADEQUATE RIPRAP AREA TO PROVIDE LEVEL SPREADING AND TRANSITION DISCHARGE TO SHEET FLOW.
- CRITICAL AREAS FOR SITE WORK INCLUDE SURFACE ROUGHENING AND SLOPE STABILIZATION OF CUT AND FILL SLOPES.
- TANK CONTRACTOR SCOPE OF WORK INCLUDES COMPLETE TANK CONSTRUCTION, TANK SITE GRADING, AND UNDERGROUND PIPING COMPONENTS AS SHOWN. ACCESS DRIVE, FENCING, AND PIPING BEYOND DEMARCATION POINTS BY OTHERS. TANK CONTRACTOR SHALL COORDINATE WITH OWNER AND OTHER CONTRACTORS AS REQUIRED TO ESTABLISH SCHEDULES AND ENSURE THAT PROPER ACCESS IS AVAILABLE FOR TANK CONSTRUCTION WORK.
- TANK CONTRACTOR SCOPE OF WORK TO INCLUDE ALL PIPING WITHIN THE TANK AND UNDERGROUND PIPING FROM THE TANK TO THE DEMARCATION POINTS NOTED ON THE SITE PLAN, INCLUDING ALL VALVES, FITTINGS, AND OTHER REQUIRED APPURTENANCES.
- OWNER WILL PROVIDE SITE ELECTRIC SERVICE FROM UTILITY COMPANY, INCLUDING ELECTRICAL UTILITY RACK TO BE LOCATED NEAR SOUTHERN CORNER OF TANK LOT. TANK CONTRACTOR SHALL PROVIDE AND INSTALL 42 SPACE SERVICE ENTRANCE RATED PANELBOARD WITH 200 AMP MAIN BREAKER WITHIN TANK PEDESTAL. TANK CONTRACTOR SHALL ALSO INSTALL 4" CONDUIT FROM SITE ELECTRICAL RACK TO PANELBOARD FOR WIRING CONNECTION BY OWNER. TANK CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRICAL WIRING ON LOAD SIDE OF THE PANELBOARD.
- THE PEDESHERE/SPHEROID TANK ALTERNATE WILL REQUIRE THAT BOTH CONTROL VALVES BE INSTALLED IN AN H20 RATED CONCRETE VAULT ADJACENT TO TANK STRUCTURE. VAULT SHALL BE ADEQUATELY SIZED AND INCLUDE 48" X 72" H20 RATED ALUMINUM ACCESS HATCH.



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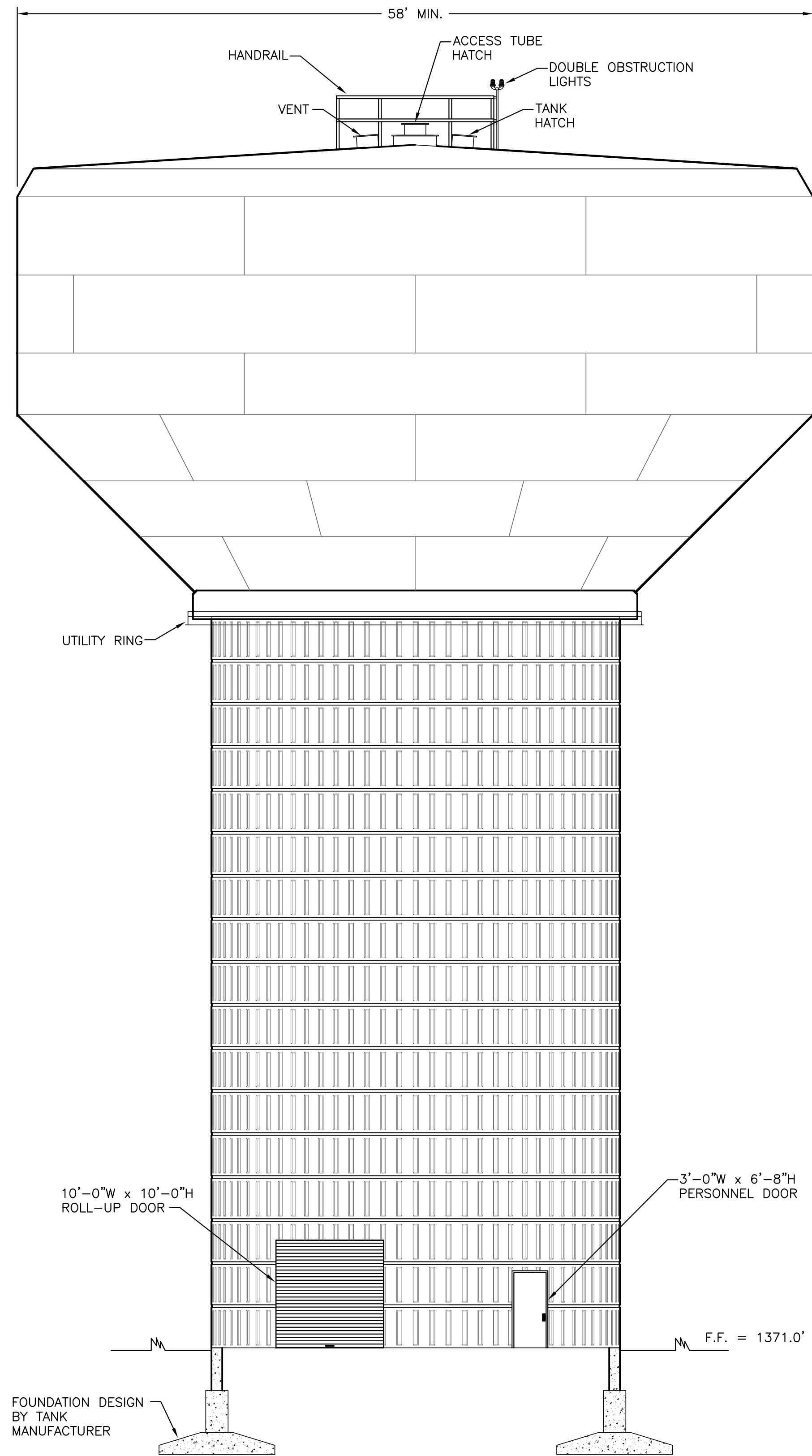
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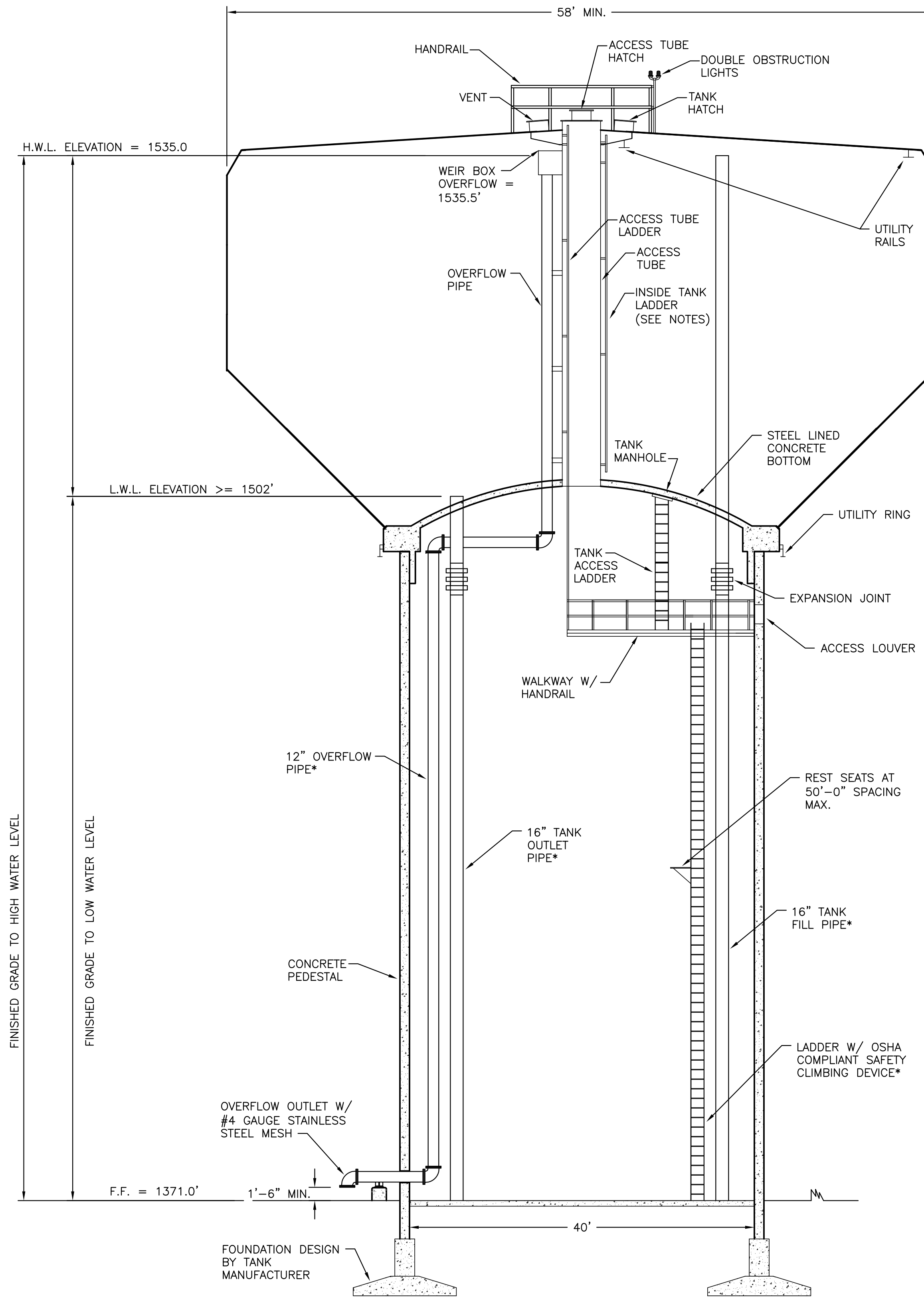
DRAWN BY: RNJ
REVIEW BY: MDJ
DATE: 1 MAY 2014
REVISION:

DWG DESCRIPTION: SITE PLAN

C01



TANK EXTERIOR ELEVATION
1/8"=1'-0"



TANK SECTION
1/8"=1'-0"

DESIGN:
THE TANK AND CONCRETE SUPPORT PEDESTAL SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AWWA D100-96, A.C.I. 318-99, A.C.I. 301-96 AND PROJECT SPECIFICATIONS.
DESIGN LOADS SHALL BE IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND LOCAL REGULATIONS.
THE EXTERIOR OF THE CONCRETE PEDESTAL SHALL INCORPORATE VERTICAL AND HORIZONTAL RUSTICATIONS TO CREATE AN ARCHITECTURAL PATTERN.
THE INTERIOR SURFACES SHALL HAVE A SMOOTH AS-CAST FINISH.

MATERIALS:
STEEL PLATE: ASTM A283 GR.C/A36
STRUCTURAL STEEL SHAPES: ASTM A36
LADDER RUNGS: ASTM A706
PIPING: TYPE 304 STAINLESS STEEL

- GENERAL NOTES:**
- ACCESSORIES SHOWN ON ELEVATION DRAWINGS ARE ROTATED FOR CLARITY.
 - ALL HANDRAILS, PLATFORM LANDINGS, WALKWAYS, LADDERS AND SAFETY CLIMB DEVICES SHALL CONFORM WITH CURRENT OSHA STANDARDS.
 - ALL LADDERS, LANDINGS AND ASSOCIATED COMPONENTS INSTALLED INSIDE THE CONCRETE PEDESTAL SHALL BE HOT-DIP GALVANIZED.
 - SEE PROJECT SPECIFICATIONS FOR SHOP AND FIELD PAINT REQUIREMENTS.
 - STERILIZE TANK IN ACCORDANCE WITH AWWA C652-92 AND PROJECT SPECIFICATIONS.
 - LADDERS SHALL HAVE SWING-OUT REST SEATS AT 50'-0" MAXIMUM SPACING.
 - REFER TO SHEET C03 FOR CONTROL VALVE PIPING & DETAILS.

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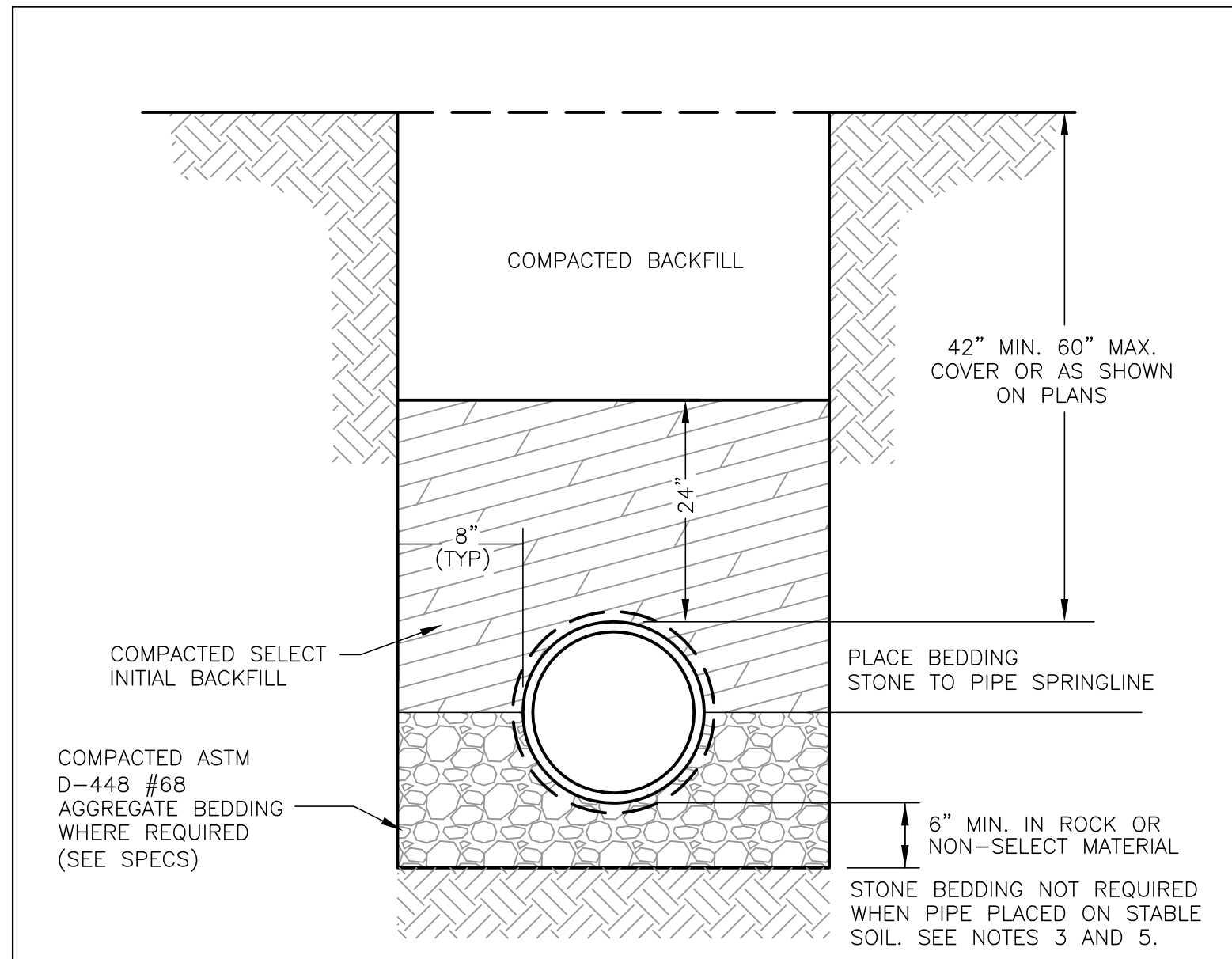
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AUGUSTA COUNTY VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
MARTIN D. JANSONS
Lic. No. 018205
5/1/14
PROFESSIONAL ENGINEER

DRAWN BY: RNJ
REVIEW BY: MDJ
DATE: 1 MAY 2014
REVISION:

DWG DESCRIPTION:
TANK ELEVATIONS

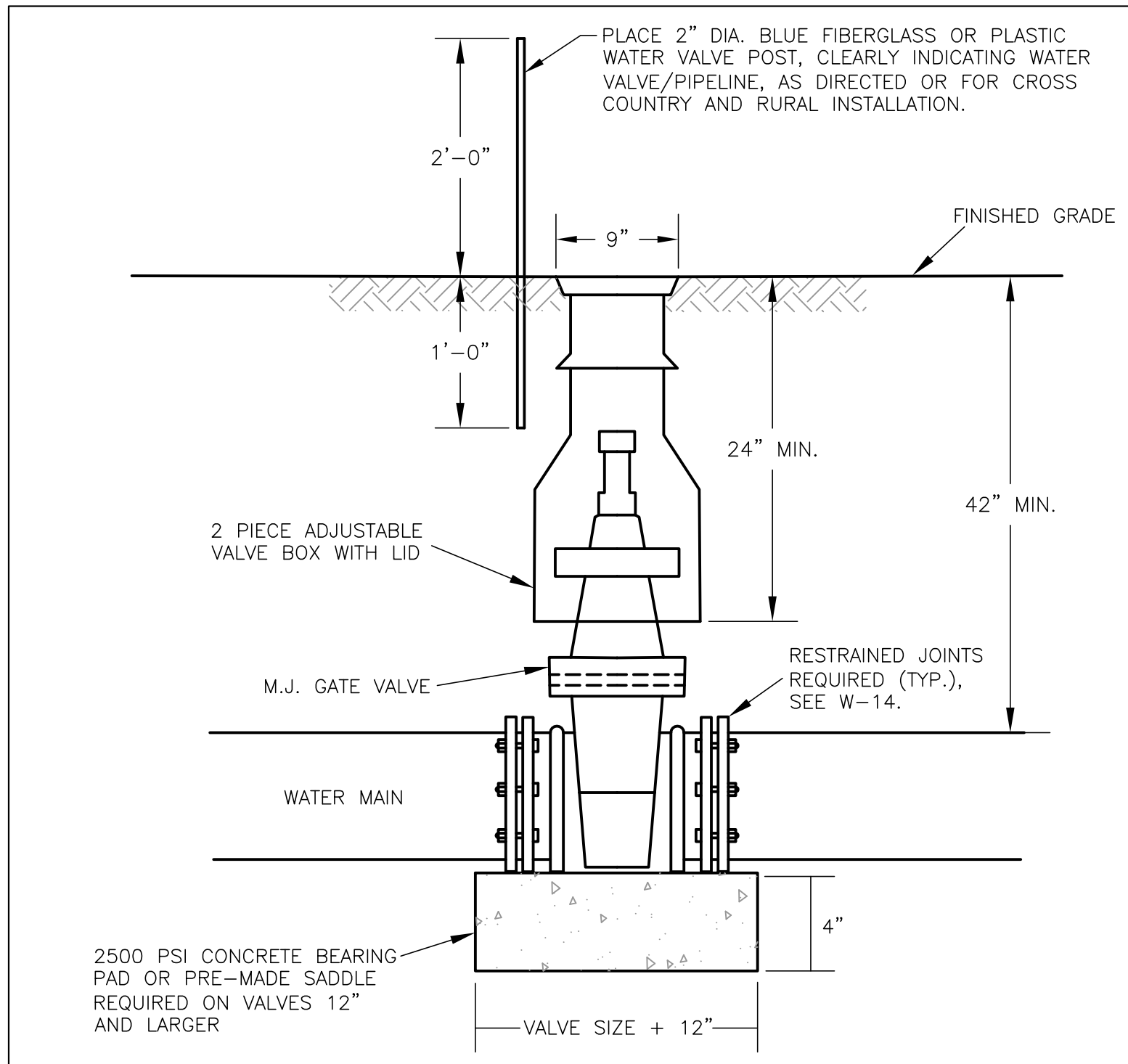
C02



- NOTES:
1. SELECT BACKFILL SHALL BE COMPACTED IN 6" LIFTS.
 2. NO STONE ABOVE SPRING LINE.
 3. IF PREFERRED MATERIAL IS NOT AVAILABLE ON SITE, IT IS TO BE BROUGHT IN.
 4. WHEN SELECT BACKFILL NOT AVAILABLE - 6" OF #68 STONE REQ'D ABOVE PIPE.
 5. BELL HOLES WHERE APPLICABLE SHALL BE PROVIDED FOR EACH JOINT TO ALLOW JOINT ASSEMBLY AND TO ENSURE THAT THE PIPE BARREL WILL BE FLAT ON TRENCH BOTTOM.
 6. THIS DETAIL APPLICABLE FOR DEPTHS LESS THAN 14 FEET. SEE PLANS FOR MODIFICATIONS IN DEEPER TRENCHES.
 7. WHEN PIPE PLACED ON STABLE SOIL, SCRAPE THE BOTTOM OF THE TRENCH, REMOVE ALL STONES TO ENSURE THE PIPE DOES NOT REST ON ROCK, THEN COMPACT THE SOIL.

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SCALE: NTS	DRAWN BY: ACSA
DATE: FEB. 1996	REVISED: NOV. 2012
TYPICAL DUCTILE IRON PIPE INSTALLATION AND BEDDING REQUIREMENTS	
DRAWING NUMBER: W-1	PAGE: 1 OF 1



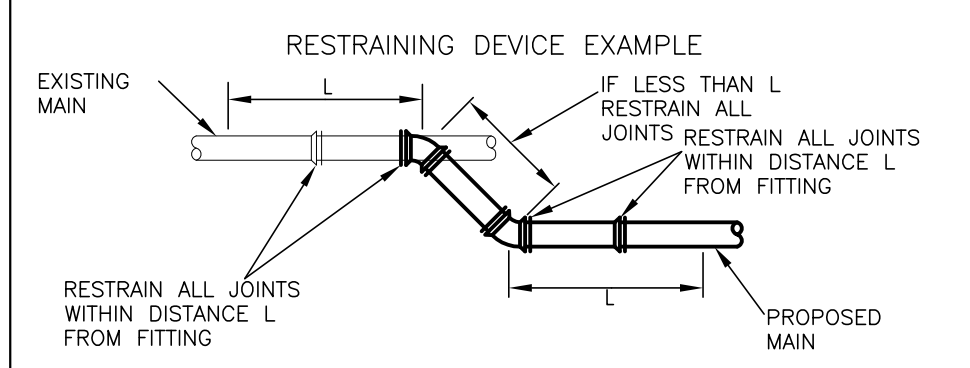
- NOTE:
- ALL VALVES 2" AND LARGER SHALL BE PROVIDED WITH A STANDARD 2" OPERATING NUT.

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SCALE: NTS	DRAWN BY: ACSA
DATE: FEB. 1996	REVISED: NOV. 2012
TYPICAL GATE VALVE INSTALLATION	
DRAWING NUMBER: W-7	PAGE: 1 OF 1

MINIMUM LENGTH OF PIPE WITH RESTRAINED JOINTS (L) IN FEET FOR DUCTILE IRON PIPE (SEE NOTE 4 FOR PVC)

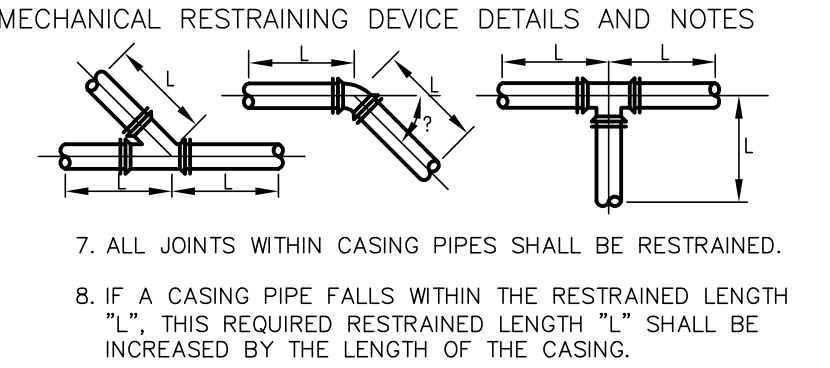
PIPE SIZE	TEST PRESSURE 200 PSI									
	HORIZONTAL				VERTICAL				DEAD END	TEE OR WYE
4"	10	10	10	18	10	10	17	NOT ALLOWED	29'	10'
6"	10	10	10	25	10	12	25	*	41'	10'
8"	10	10	14	33	10	16	32	*	54'	14'
10"	10	10	16	40	10	19	39	*	65'	16'
12"	10	10	19	47	11	22	46	*	77'	19'
14"	10	11	22	54	13	25	53	*	89'	22'
16"	10	12	25	61	14	29	60	*	101'	25'
18"	10	13	28	67	16	32	67	*	112'	28'
20"	10	15	31	74	17	35	73	*	124'	31'
24"	10	17	36	86	20	41	86	*	146'	36'



- NOTES:
1. RESTRAINING DEVICES OR RESTRAINED JOINTS SHALL HAVE A WORKING PRESSURE OF 250 PSI WITH A MINIMUM SAFETY FACTOR OF 2.
 2. RESTRAINED LENGTH SHOWN IS BASED ON 3' OF COVER, SOILTYPE CL, TRENCH TYPE 4, 2:1 SAFETY FACTOR, AND DUCTILE IRON PIPE.
 3. VALVES SHALL BE RESTRAINED BASED ON RESTRAINED LENGTH FOR DEAD ENDS.
 4. FOR PVC PIPE, INCREASE LENGTH "L" BY 25% FOR HORIZONTAL BENDS, AND INCREASE LENGTH "L" BY 100% FOR VERTICAL BENDS AND DEADENDS.
 5. EXISTING PIPE ADJACENT TO PROPOSED BENDS, WYES, VALVES, TEES, AND PLUGS SHALL BE UNCOVERED AND THE JOINTS RESTRAINED FOR THE LENGTHS INDICATED. IF THE EXISTING PIPE IS UNABLE TO ACCEPT THE MECHANICAL JOINT RESTRAINING MECHANISM, THE EXISTING PIPE SHALL BE REPLACED WITH DUCTILE IRON WATER MAIN IN ACCORDANCE WITH THE SPECIFICATIONS, AND RESTRAINED FOR THE LENGTH INDICATED. IN LIEU OF RESTRAINING JOINTS OF EXISTING PIPE A BULKHEAD ANCHOR AS SHOWN IN DETAIL CA-5 MAY BE USED.
 6. FIRE HYDRANTS SHALL BE RESTRAINED AT EACH JOINT IN THE ASSEMBLY.

TEST PRESSURE 250 PSI

PIPE SIZE	TEST PRESSURE 250 PSI									
	HORIZONTAL				VERTICAL				DEAD END	TEE OR WYE
4"	10	10	10	22	10	10	22	NOT ALLOWED	36'	10'
6"	10	10	13	31	10	15	31	*	51'	13'
8"	10	10	17	41	10	19	40	*	68'	17'
10"	10	10	21	50	12	23	49	*	81'	21'
12"	10	12	24	59	14	28	58	*	97'	24'
14"	10	13	28	67	16	32	66	*	111'	28'
16"	10	15	31	76	18	36	75	*	126'	31'
18"	10	17	35	84	20	40	83	*	140'	35'
20"	10	18	38	92	22	44	91	*	155'	38'
24"	11	21	45	108	26	52	108	*	183'	45'



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SCALE: NTS	DRAWN BY: ACSA
DATE: AUG. 2004	REVISED: NOV. 2012
TYPICAL RESTRAINING DEVICE	
DRAWING NUMBER: W-14	PAGE: 1 OF 1

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DRAWN BY:
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DWG DESCRIPTION:
STANDARD DETAILS

C04