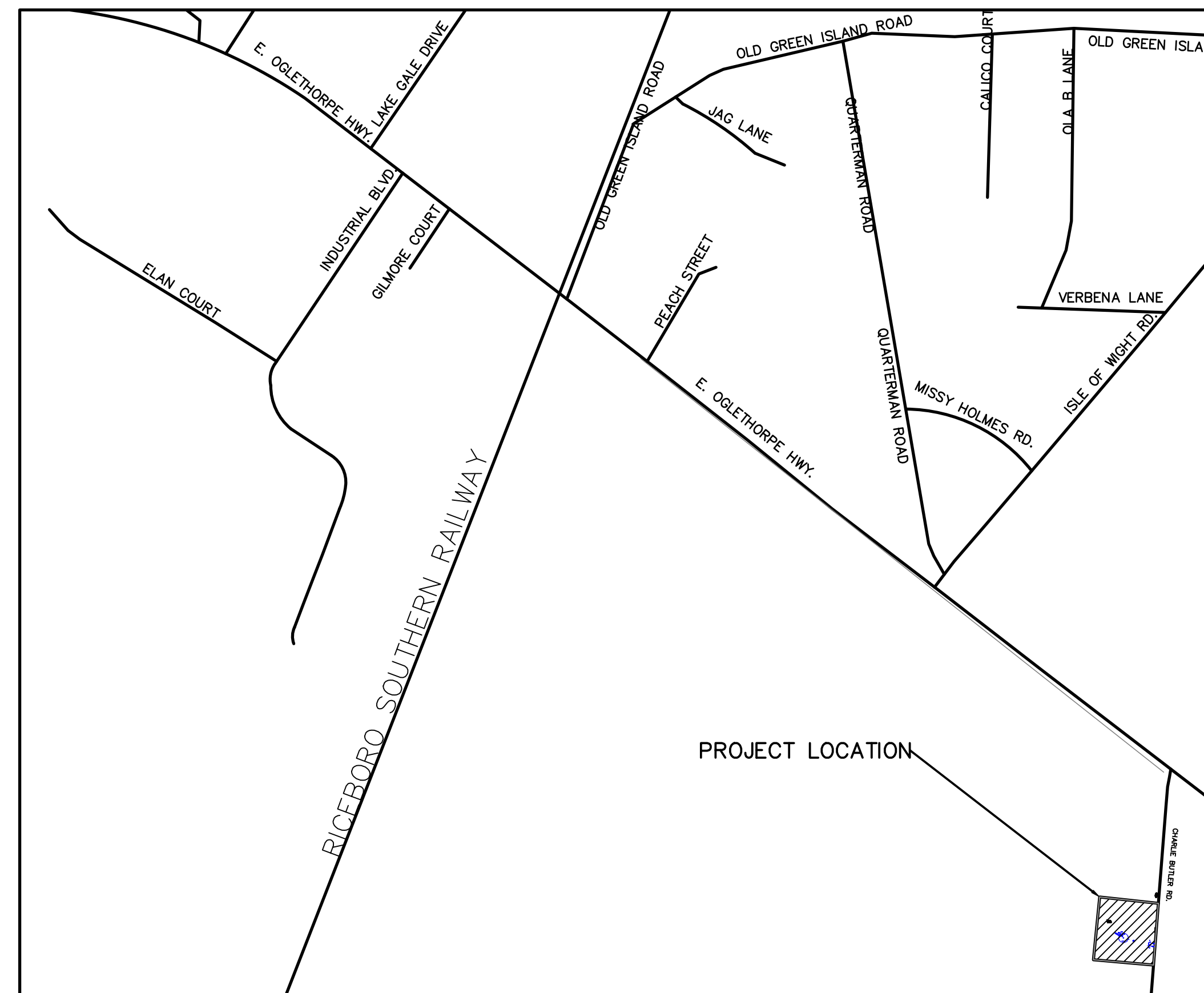


# MIDWAY WATER SYSTEM IMPROVEMENTS CHARLIE BUTLER ROAD WATER TOWER

**OWNER**  
CITY OF MIDWAY  
41 CHARLIE BUTLER RD  
MIDWAY GA, 31320  
(912)-332-4098

**24-HOUR CONTACT**  
TERRELL CHIP  
(912)-332-4098  
TERRELL.CHIPPS@CITYOFMIDWAYGA.COM

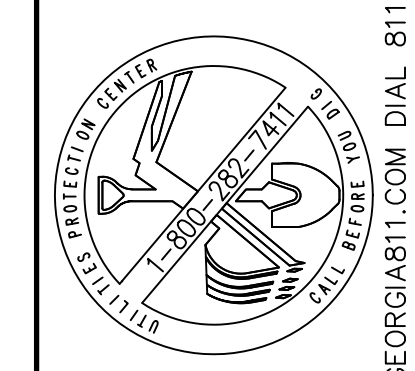
Sheet List Table	
Sheet Number	Sheet Title
C1.1	COVER SHEET
C1.2	GENERAL NOTES
C2.1	EXISTING CONDITIONS & DEMO
C3.1	STAKING & UTILITIES
C4.1	GRADING & DRAINAGE
C6.1	ESPC
C7.1	SITE DETAILS
C7.2	SITE DETAILS
C7.3	SITE DETAILS
C7.4	SITE DETAILS
C7.5	SITE DETAILS
C7.6	SITE DETAILS



VICINITY MAP N.T.S.

LOCATION: N30° 46' 47.13", W81° 37' 11.14"  
(30.780604, -81.619483)  
DISTURBED ACREAGE: 0.479 AC.  
TOTAL SITE ACREAGE: 280.86 AC.

DRAWING LEGEND		
DESCRIPTION	PROPOSED	EXISTING
RIGHT OF WAY	--- R/W	--- R/W
EDGE OF PAVEMENT	---	---
DITCH CENTERLINE	→→→	---
SANITARY SEWER	8"S	---
WATER LINE	10"W	10"W
FORCE MAIN	FM	FM
UNDERGROUND GAS LINE	8"G	8"G
CONTOURS	81	81
STORM DRAINAGE PIPE	---	---
ELEVATION	FG: 78.15	X 81.90
SILT FENCE NON-SENSITIVE	Sf1-NS	
SILT FENCE SENSITIVE	Sf1-S	
INLET PROTECTION	Sd2-F	
CHECK DAM - HAY BALE	Cd-Hb	
CHECK DAM - RIP RAP	Cd-Rp	
CONSTRUCTION EXIT	Co	
STORM OUTLET PROTECTION	St	
SILT FENCE	Sf	
MULCHING	Ds1	
TEMPORARY GRASSING	Ds2	
PERMANENT GRASSING	Ds3	
FIRE HYDRANT	Fh	
SEWER MANHOLE	Mh	
WATER VALVE	V	
DRAINAGE FLOW	DF	
WATER METER	Wm	
BENCHMARK	Bm	
WELL	W	
GUY POLE	Gp	
IRON PIN	IP	
TELEPHONE PEDESTAL	TP	
POWER POLE	PP	
	SET	FOUND
	I.P.S	I.P.F



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Hinesville, Georgia 31313  
(912) 368-5664

STATESBORO:  
302 South Zetterower Avenue  
Statesboro, Georgia 30458  
(912) 335-1046



MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD

SHEET NAME:  
COVER SHEET

REVISIONS:
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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

SHEET NUMBER:

**C1.1**

Inspection Notes

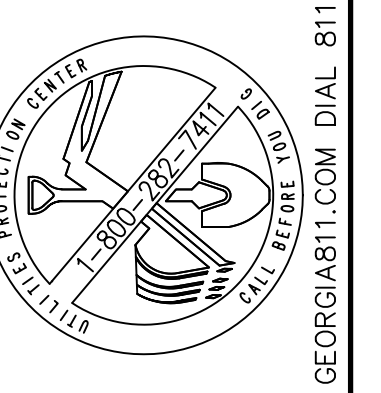
- Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect: (a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment and (b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a notice of termination is submitted.
- The primary permittee will measure rainfall once every 24 hours except any non-working Saturday, non-working Sunday, and non-working federal holiday until a notice of termination is submitted. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.
- Certified personnel (provided by the primary permittee) shall inspect the following at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 pm on any Friday holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): a) disturbed areas of the primary permittee's construction site; b) areas used by the primary permittee for storage of materials that are exposed to precipitation; and c) structural control measures. Erosion and sediment control measures identified in the plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters(s). For areas of a site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with part IV.D.4.a.(4). These inspections must be conducted until a notice of termination is submitted.
- Certified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a notice of termination is received by EPD) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving waters(s). Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).
- Based on the result of each inspection, the site description, and the pollution prevention and control measures identified in the erosion, sedimentation, and pollution control plan, the plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.
- A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial intermediate or final), major observations relating to the implementation of the erosion, sedimentation, and pollution control plan, and actions taken in accordance with part IV.D.4.a.(5). of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a notice of termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the plan. Where the report does not identify any incidents, the inspection report shall contain a certification that the best management practices are in compliance with the erosion, sedimentation, and pollution control plan. The report shall be signed in accordance with part V.G.2 of 2013 NPDES Stand Alone Permit.

Site Grading Notes

- RCP storm drain pipe is Class III reinforced concrete conforming to ASTM C-76. PVC storm drain pipe is SDR35. HDPE storm drain pipe is ADS N-12 1B WT.
- Dimensions on buildings are for grading purposes only and are not to be used to lay-out footings. Refer to Structural Drawings for foundation information.
- Grading contractor shall notify and cooperate with all utility companies or firms having facilities on or adjacent to the site before disturbing, altering, removing, relocating, adjusting or connecting to said facilities. Contractor shall pay all costs in connection with the alteration of or relocation of the facilities. Contractors shall raise or lower tops of existing manholes to remain as required to match finished grades.
- Grading contractor shall cooperate and work with all other contractors performing work on this project to insure proper and timely completion of this project.
- The grading contractor shall use whatever measures are required to prevent silt and construction debris from flowing onto adjacent properties. Contractor shall comply with all local erosion, conservation, and siltation ordinances. Contractors shall remove all temporary erosion control structures upon completion of permanent drainage facilities and not before the establishment of a stand of grass sufficient to prevent erosion.
- For any work on the state or city right-of-way, the grading contractor shall:
  - Not store material, excess dirt, or equipment in the right-of-way. The pavement shall be kept free from any mud or excavation waste from trucks or other equipment. On completion of the work, all excess material shall be removed from the right-of-way.
  - Provide all necessary and adequate safety precautions such as signs, flags, light barricades, and flag-men as required by the local authorities and in accordance with solely responsible for and hold harmless the City, State, Architect, Engineer, and Owner from any claims for damage done to existing private property, public utilities, or to the traveling public.
  - Complete work to the satisfaction of the City Public Works Department and obtain a letter from the Department stating that the work is acceptable.
- Grading contractor shall take all available precautions to control dust. Contractor shall control dust by sprinkling, or by other methods as directed by Engineer and/or Owner's representative, at no additional cost to Owner.
- Site grading contractor shall terminate all storm drain pipes five feet maximum from building unless otherwise noted.
- Storm sewer lead-ins to building shall not be installed until building plans are completed and locations established on the architectural plans. Lead-ins may change 15' horizontally and 3' vertically prior to installation at no additional cost to the owner. Contractor shall request and receive written approval from prime contractor prior to installation of lead-ins. Contractor shall coordinate locations, size, and invert elevations of storm sewers with approved building plumbing plans.
- All excavating is unclassified and shall include all materials encountered.
- Before any machine work is done, contractor shall stake out and mark the items established by the site plan, control points shall be preserved at all times during the course of the project. Lack of proper working points and grade stakes may require satisfaction owner must approved staked items prior to construction.
- Temporary erosion control devices to be installed prior to beginning of grading. Contractor shall maintain all temporary erosion control devices and shall remove silt contractor at least once a week.
- Contractor to coordinate all work with other utility installations not covered in these plans, (Electric, Telephone, Gas, Cable, Etc.) and allow for their operations and construction to be performed.
- Cut and fill slopes are not to exceed 3:1 unless otherwise noted.
- In no case shall any paved areas be less than a slope of 1.0%. All accessible sidewalks and aisle slopes not to exceed 2% cross-slope.
- Contractor shall repair or replace in-kind any damage that occurs as result of his work.
- All linear footage for all utility pipes are approximate, actual installed quantities may vary.
- Grading contractor shall restore to grade and compaction all areas disturbed by building construction prior to base and paving operations commencing.
- Grading contractor shall maintain all weather construction access roads as required by general contractor.

Site Utility Notes

- The site utility plan is for sanitary sewer and water line construction only. Do not use for grading or storm sewer construction.
- All pipe lengths are horizontal distances and are approximate.
- All domestic water and sanitary sewer stubs to be terminated 5 feet outside of the building unless otherwise noted. The end of these service lines shall be tightly plugged or capped and marked until such time as connection is made inside building by plumbing contractor.
- Site utility contractor shall provide all the materials and appurtenances necessary for the complete installation of the utilities. All pipe and fittings shall be inspected by the Water Department Inspector prior to being covered. The inspector must also be present during pressure testing and disinfection of laterals and his signature of approval is required.
- All work shall comply with all applicable codes, regulations, and/or local standards imposed by local utility and the City of Midway.
- Contractor shall adjust location of proposed water lines as required to avoid conflicts with storm sewer or other utilities and pay all applicable fees.
- All water lines shall have a minimum cover of 36" above top of pipe.
- Contractor shall adjust location of proposed water lines as required to avoid conflicts with storm sewer or other utilities at no extra cost.
- Based on the current edition of the international plumbing code, cleanouts are required at a maximum spacing of 100 feet on utility lead-ins to building. Contractor to provide a cleanout within 5 feet of building and at all bends.
- The site utility contractor shall cooperate and work with all other contractors on the site.
- All materials shall be U.L. listed and approved by the local utility company unless directed otherwise by the Engineer.
- The existing utility facilities and locations shown on the drawings are taken from readily available information. The actual locations of the utility facilities may vary somewhat from the locations shown or indicated on the drawings. The site utility contractor shall contact all agencies with utility facilities in the vicinity of the work and shall locate all underground facilities before beginning work. The contractor shall project all utility facilities and repair any damages resulting from their work, in conformance with the contract documents and specifications and relocate if required.
- All sanitary sewer pipe shall be SDR-26 meeting ASTM D3034 with gasket type joints meeting ASTM F477.
- Utility lead-ins to building shall not be installed until building plans are completed and locations established on the architectural plumbing plans. Lead-ins may change 15' horizontally and 3' vertically prior to installations at no additional cost to the owner. Utility contractor shall request and receive written approval from prime contractor prior to installation of lead-ins. Location, size and invert elevations of sanitary sewer shall be coordinated with the approved plumbing plans for the building.
- Building plumbing contractor shall pay all cost for water meters, meter boxes, valves, etc. to provide a complete job per local authority requirements.
- Thrust blocks shall be provided at all tees, elbows, and bends of sufficient size to comply with minimum standards of N.F.P.A. - Existing soil conditions.
- Should latent soil conditions necessitate, contractor shall install special supports for piping and/or appurtenances including the removal of unsuitable material and backfilling with gravel or other material. Contractor shall perform any such work as directed by the civil engineer and/or soils engineer at no cost to owner.
- Contractor to coordinate all work with other utility installations not covered in these plans (Electric, Telephone, Gas, Cable, etc.) and allow for their operations and construction to be prepared.
- The site utility contractor shall coordinate and pay for all sanitary sewer connections. Sanitary sewer connection final tie-in to the existing manhole(s) shall not be made until completion of the proposed system and all manholes have been brought above ground to insure sediment does not enter system. Lines shall be properly cleaned, if needed.
- Site utility contractor to coordinate with irrigation contractor to provide power in conduit to irrigation controller per manufacturers recommendations. Verify exact location of controller with owner prior to installation.



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GSWCC# 0000002134

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114 North Commerce Street  
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(912) 368-5664

STATESBORO:  
302 South Zetterower Avenue  
Statesboro, Georgia 30458  
(912) 335-1046



MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD  
TAX PARCEL NUMBER: 24202 MIDWAY, LIBERTY, GEORGIA

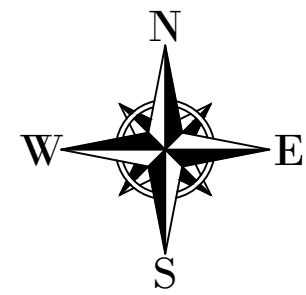
SHEET NAME:  
GENERAL NOTES

REVISIONS:

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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

SHEET NUMBER:  
**C1.2**



- NOTES:
1. T.R. LONG WILL PROVIDE ON-SITE SURVEY CONTROL PRIOR TO CONSTRUCTION.
  2. CONTRACTOR WILL BE RESPONSIBLE FOR TEMPORARY FENCING DURING CONSTRUCTION. SITE TO REMAIN SECURE AT ALL TIMES.

LIMITS OF DISTURBANCE AND CLEARING

EXISTING OUTFALL

OTHER LANDS OF THE CITY OF MIDWAY (WOODED)

OTHER LANDS OF THE CITY OF MIDWAY (WOODED)

F.F. ELV. = 18.50

REMOVE EXISTING FENCE

NO CONSTRUCTION VEHICLES SHALL DRIVE ON OR PARK ON CONCRETE DRIVEWAY. CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETE REPLACEMENT IF CRACKED

CONTRACTOR TO BE RESPONSIBLE FOR TEMPORARY FENCING DURING CONSTRUCTION

CLEAR AND GRUB AREA FOR TANK

INSTALL NEW CHAIN LINK FENCE TO MATCH EXISTING

BEGIN REMOVE EXISTING FENCE THIS SIDE

NOTE: CONTRACTOR TO PROTECT EDGE OF PAVEMENT. REPLACE PAVEMENT AS REQUIRED.

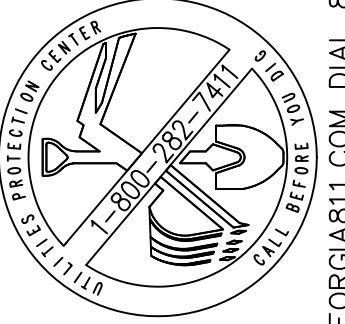
OTHER LANDS OF THE CITY OF MIDWAY (WOODED)

CHARLIE BUTLER ROAD (50' R.O.W.)

GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.



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STATESBORO:  
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Statesboro, Georgia 30458  
(912) 335-1046



MIDWAY WATER SYSTEM IMPROVEMENTS CHARLIE BUTLER ROAD

TAX PARCEL NUMBER: 24202 MIDWAY, LIBERTY, GEORGIA

SHEET NAME:  
EXISTING CONDITIONS & DEMO

REVISIONS:

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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

SHEET NUMBER:

**C2.1**

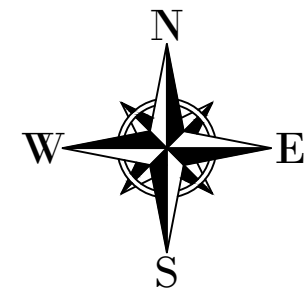
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GSWCC# 000002134

www.trlongeng.com

TAX PARCEL NUMBER: 24202 MIDWAY, LIBERTY, GEORGIA

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(912) 335-1046



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MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD

TAX PARCEL NUMBER: 24202 MIDWAY, LIBERTY, GEORGIA

SHEET NAME:  
STAKING & UTILITIES

NO.	REVISIONS
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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

SHEET NUMBER:

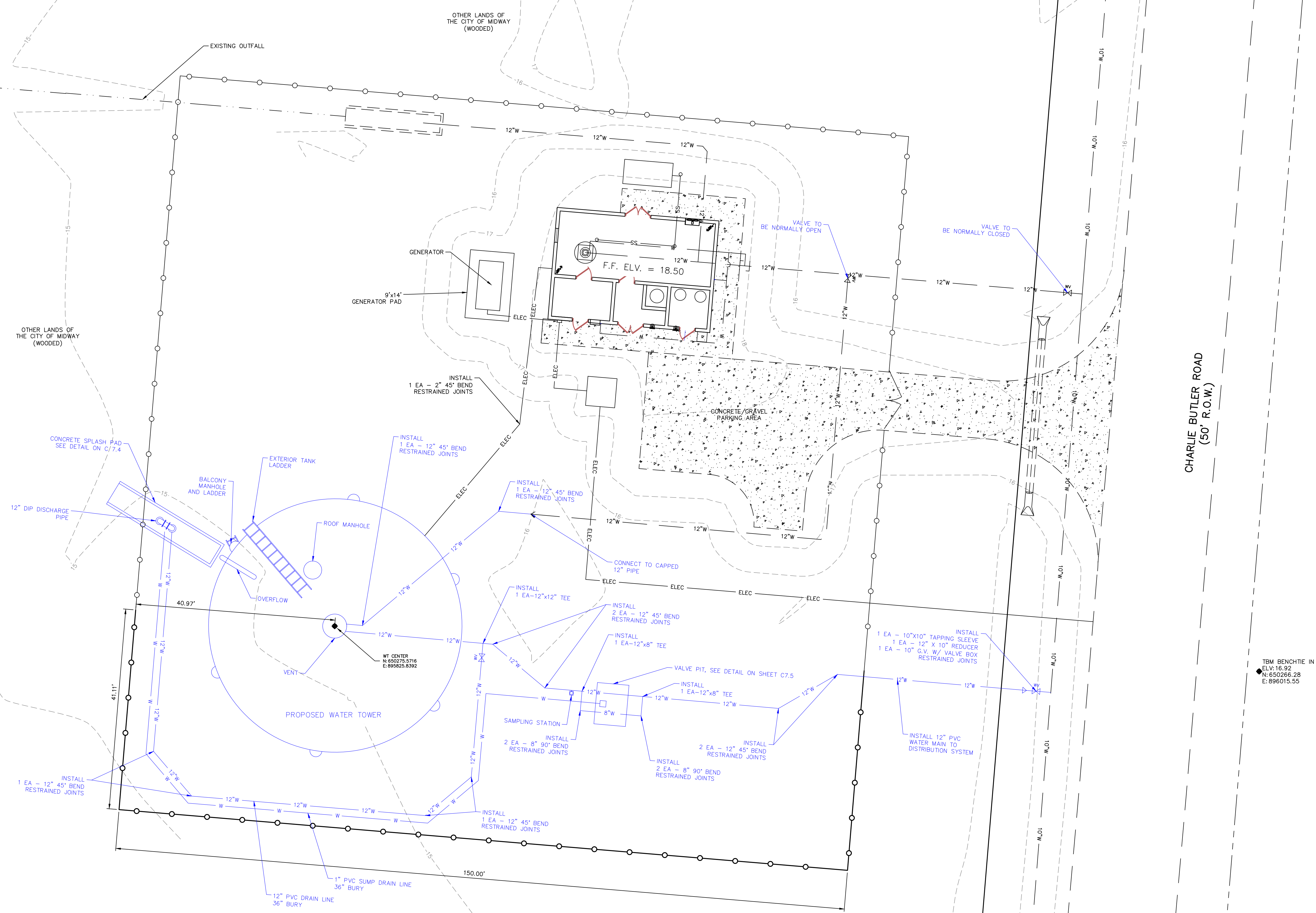
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Plotted Date: Nov 20, 2024 - 4:24pm

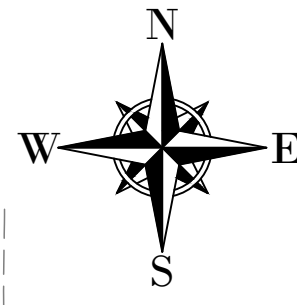
GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.



TBM BENCHMARK IN PP  
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E: 896015.55

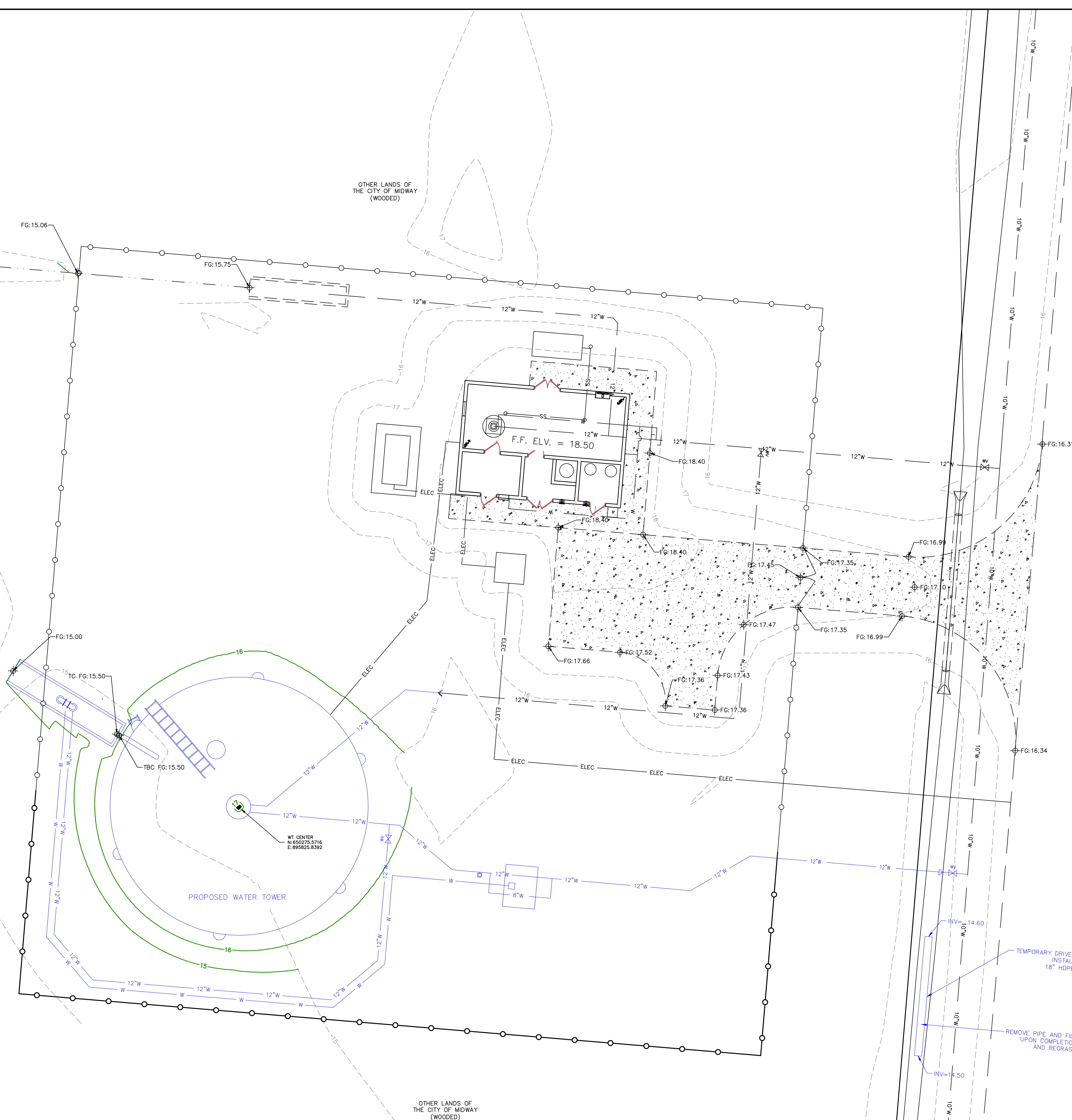


- NOTES:
1. T.R LONG WILL PROVIDE ONSITE SURVEY CONTROL PRIOR TO CONSTRUCTION.
  2. CONTRACTOR WILL BE RESPONSIBLE FOR TEMPORARY FENCING DURING CONSTRUCTION. SITE TO REMAIN SECURE AT ALL TIMES.

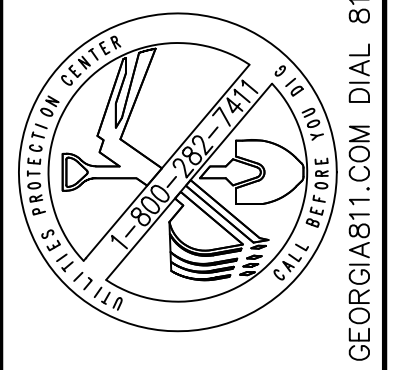
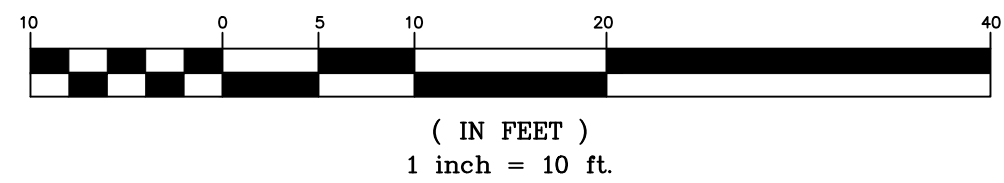
OTHER LANDS OF THE CITY OF MIDWAY (WOODED)

OTHER LANDS OF THE CITY OF MIDWAY (WOODED)

OTHER LANDS OF THE CITY OF MIDWAY (WOODED)



GRAPHIC SCALE



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MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD

TAX PARCEL NUMBER: 242W2 MIDWAY, LIBERTY, GEORGIA

SHEET NAME:  
GRADING & DRAINAGE

REVISIONS:

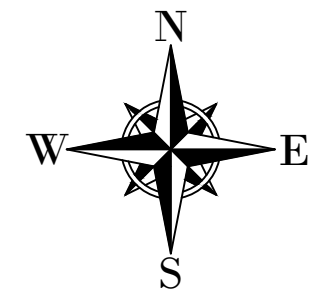
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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

SHEET NUMBER:  
**C4.1**

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GSMCC# 000002134

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Plotted Date: Nov 20, 2024 - 4:24pm



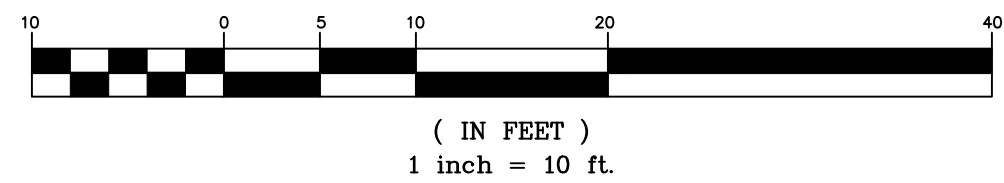
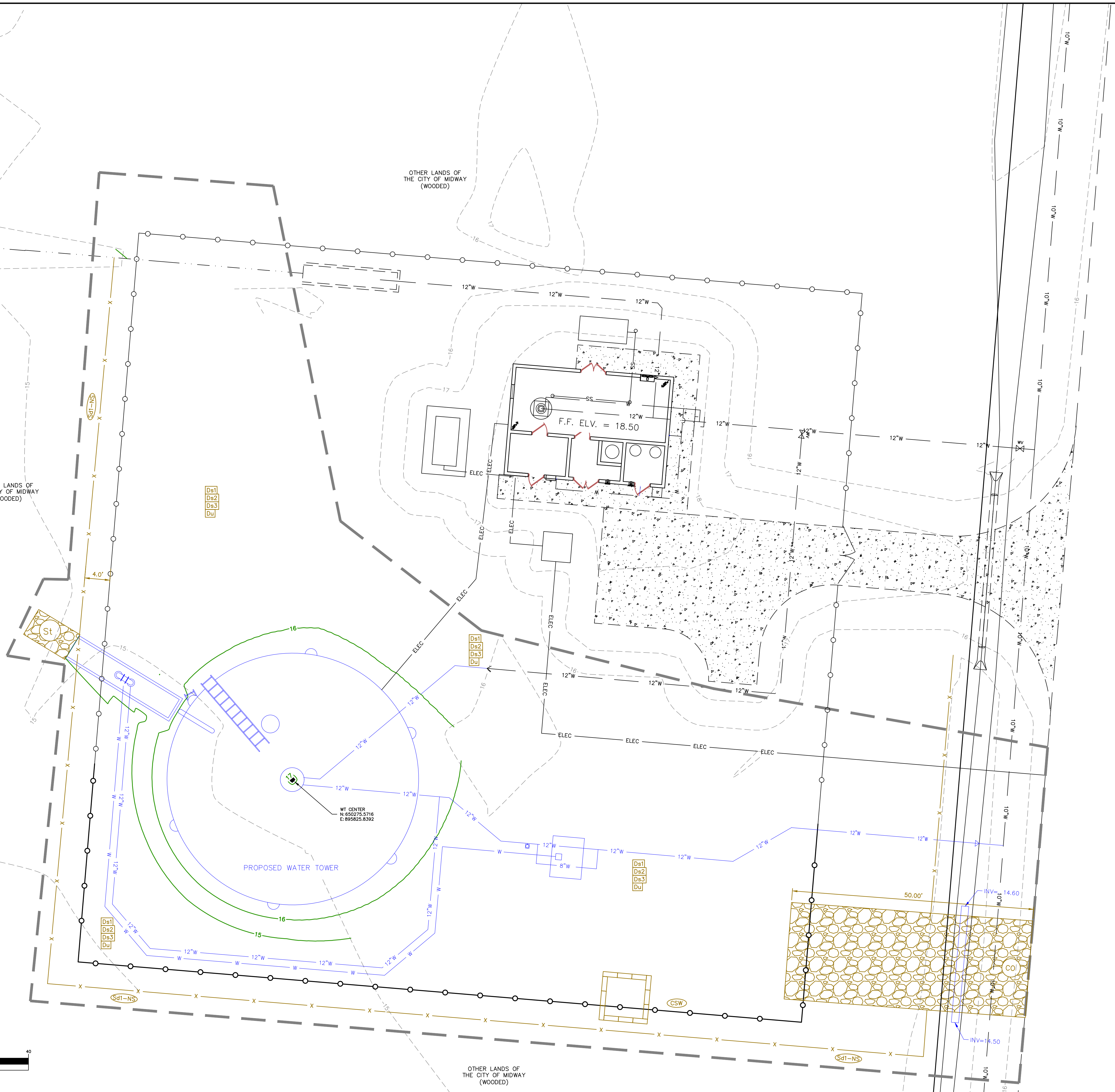
- NOTES:
1. T.R LONG WILL PROVIDE ONSITE SURVEY CONTROL PRIOR TO CONSTRUCTION.
  2. CONTRACTOR WILL BE RESPONSIBLE FOR TEMPORARY FENCING DURING CONSTRUCTION. SITE TO REMAIN SECURE AT ALL TIMES.

- NOTES:
1. STORM DRAIN OUTLET PROTECTION. RIPRAP OVER GEOTEXTILE FABRIC. L=10' D<sub>50</sub>=0.5'
  2. TOP OF RIP RAP TO BE LEVEL WITH FLOW LINE.

OTHER LANDS OF THE CITY OF MIDWAY (WOODED)

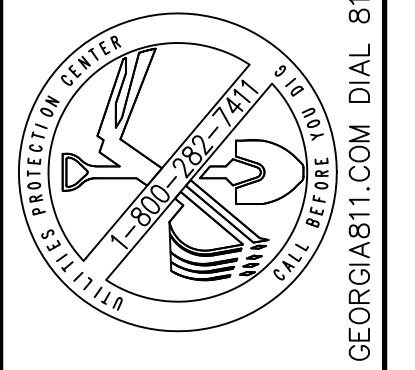
OTHER LANDS OF THE CITY OF MIDWAY (WOODED)

OTHER LANDS OF THE CITY OF MIDWAY (WOODED)



CHARLIE BUTLER ROAD  
(50' R.O.W.)

TBM BENCHTIE IN PP  
E: 16.92  
N: 650266.28  
E: 896015.55



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MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD

TAX PARCEL NUMBER: 242W2 MIDWAY, LIBERTY, GEORGIA

SHEET NAME:  
ESPC

REVISIONS:

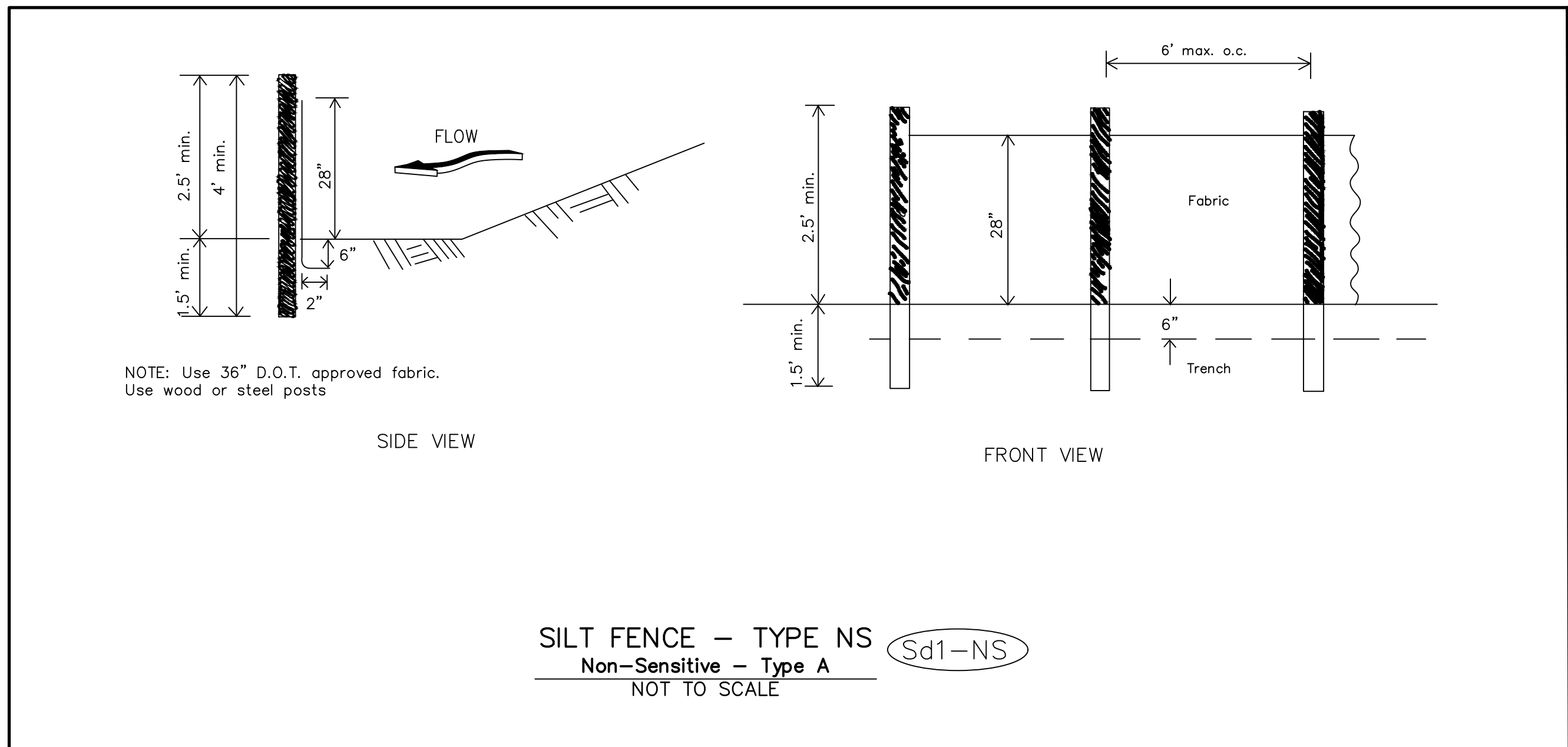
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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

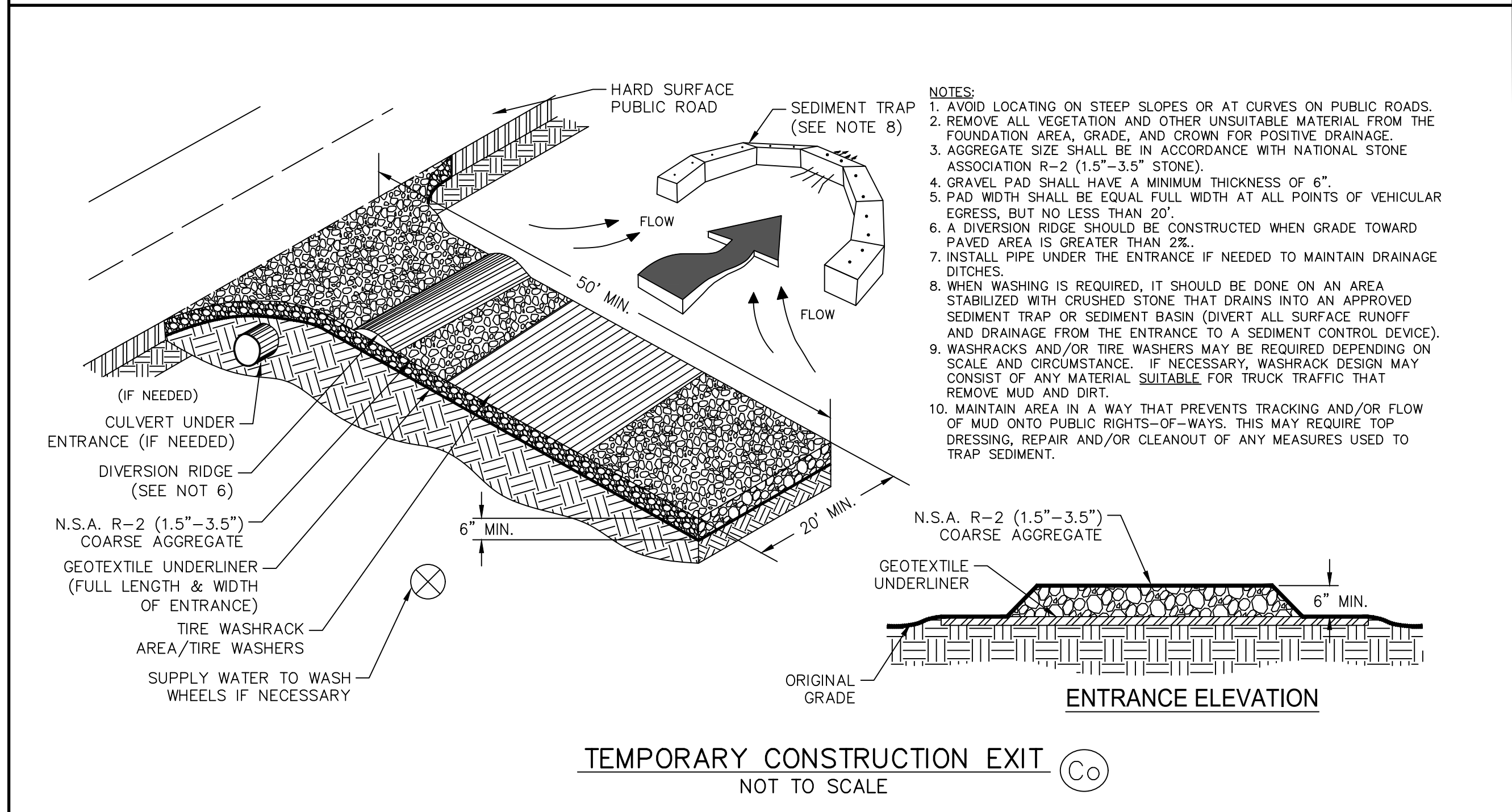
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Plotted Date: Nov 20, 2024 - 4:24pm

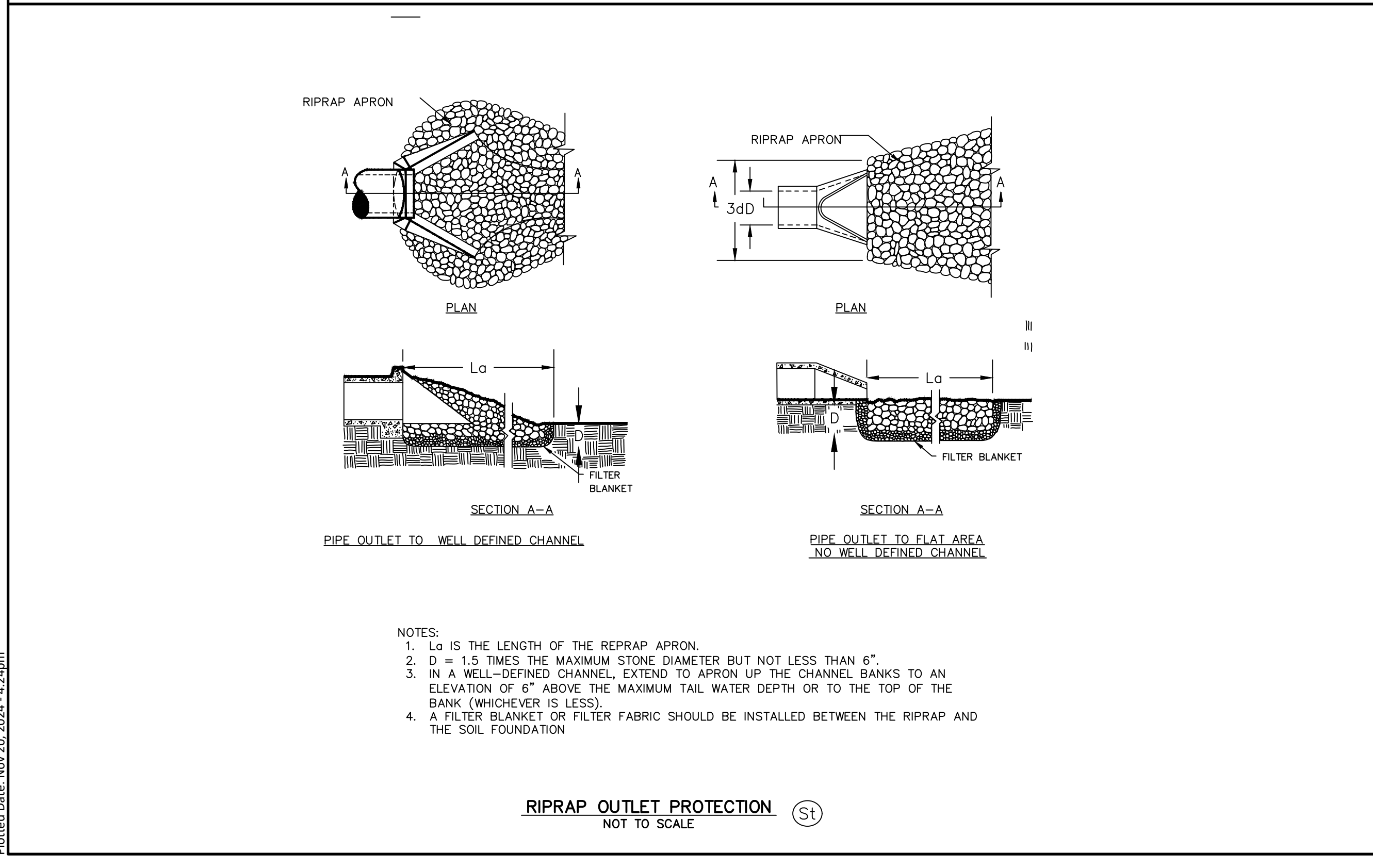
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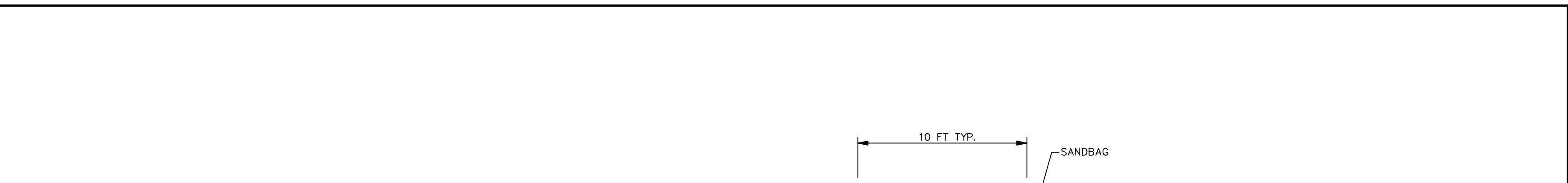
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Non-Sensitive - Type A  
NOT TO SCALE



**TEMPORARY CONSTRUCTION EXIT**  
NOT TO SCALE



**RIPRAP OUTLET PROTECTION**  
NOT TO SCALE



**EXCAVATED WASHOUT STRUCTURE**

**CONCRETE WASHOUT AREA**  
PURPOSE - PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE, OR PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA TO PREVENT POLLUTANTS FROM ENTERING SURFACE WATERS OR GROUNDWATER.  
CONDITIONS OF USE - CONCRETE WASHOUT AREA BEST MANAGEMENT PRACTICES ARE IMPLEMENTED ON CONSTRUCTION PROJECTS WHERE:  
• CONCRETE IS USED AS A CONSTRUCTION MATERIAL.  
• IT IS NOT POSSIBLE TO DISPOSE OF ALL CONCRETE WASTEWATER AND WASHOUT OFFSITE (READY MIX PLANT, ETC.).  
• CONCRETE TRUCKS, PUMBERS, OR OTHER CONCRETE COATED EQUIPMENT ARE WASHED ONSITE.  
DESIGN AND INSTALLATION SPECIFICATIONS  
IMPLEMENTATION - THE FOLLOWING STEPS WILL HELP REDUCE STORMWATER POLLUTION FROM CONCRETE WASTES:  
• PERFORM WASHOUT OF CONCRETE TRUCKS OFFSITE OR IN DESIGNATED CONCRETE WASHOUT AREAS ONLY.  
• DO NOT WASH OUT CONCRETE TRUCKS ONTO THE GROUND, OR INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.  
• DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED CONCRETE WASHOUT AREAS.  
• CONCRETE WASHOUT AREAS MAY BE PREFABRICATED CONCRETE WASHOUT CONTAINERS, OR SELF-INSTALLED STRUCTURES (ABOVE-GRADE OR BELOW-GRADE).  
• PREFABRICATED CONTAINERS ARE MOST RESISTANT TO DAMAGE AND PROTECT AGAINST SPILLS AND LEAKS. COMPANIES MAY OFFER DELIVERY SERVICE AND PROVIDE REGULAR MAINTENANCE AND DISPOSAL OF SOLID AND LIQUID WASTE.  
• IF SELF-INSTALLED CONCRETE WASHOUT AREAS ARE USED, BELOW-GRADE STRUCTURES ARE PREFERRED OVER ABOVE-GRADE STRUCTURES BECAUSE THEY ARE LESS PRONE TO SPILLS AND LEAKS.  
• SELF-INSTALLED ABOVE-GRADE STRUCTURES SHOULD ONLY BE USED IF EXCAVATION IS NOT PRACTICAL.

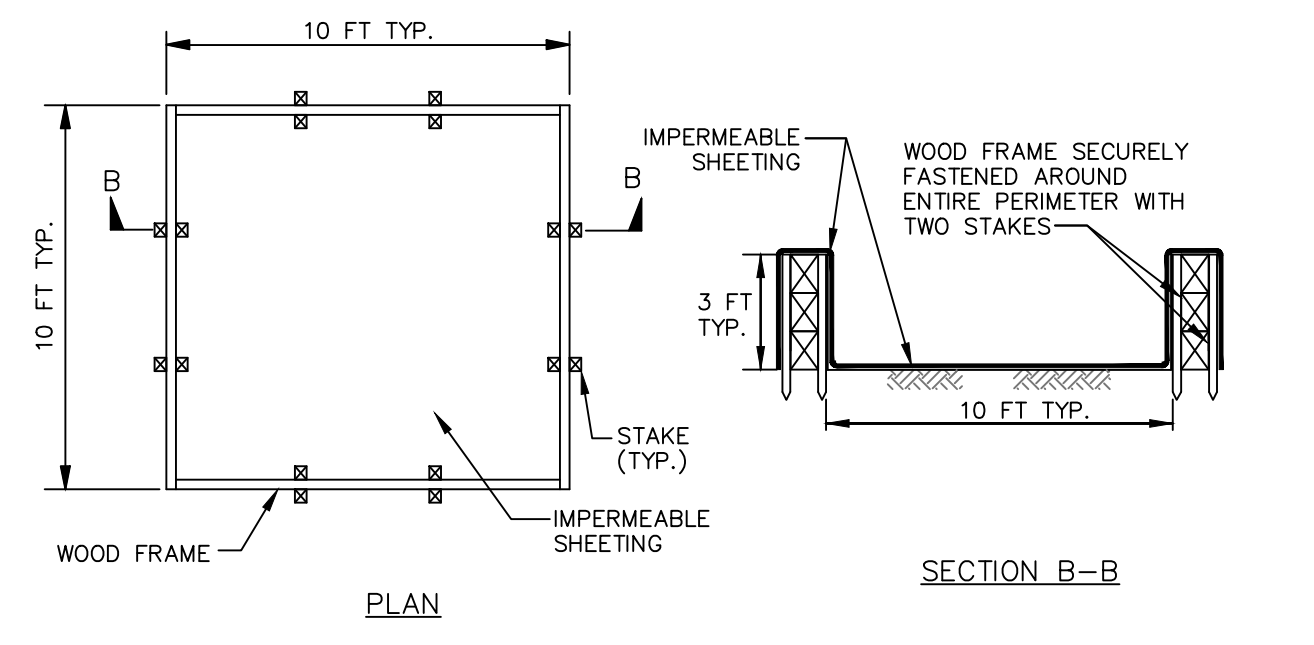
EDUCATION - THE FOLLOWING EDUCATION PRACTICES ARE RECOMMENDED:  
• DISCUSS THE CONCRETE MANAGEMENT TECHNIQUES DESCRIBED IN THIS BEST MANAGEMENT PRACTICE WITH THE READY-MIX CONCRETE SUPPLIER BEFORE ANY DELIVERIES ARE MADE.  
• EDUCATE EMPLOYEES AND SUBCONTRACTORS ON THE CONCRETE WASTE MANAGEMENT TECHNIQUES DESCRIBED IN THIS SECTION.  
• ARRANGE FOR CONTRACTOR'S SUPERINTENDENT OR LEVEL 1A CERTIFIED PERSONNEL TO OVERSEE AND ENFORCE CONCRETE WASTE MANAGEMENT PROCEDURES.  
• A SIGN SHOULD BE INSTALLED ADJACENT TO EACH TEMPORARY CONCRETE WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.  
CONTRACTS - INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO CONCRETE SUPPLIER AND SUBCONTRACTOR AGREEMENTS.  
LOCATION AND PLACEMENT - THE FOLLOWING GUIDELINES SHALL BE USED WHEN LOCATING AND PLACING THE CONCRETE WASH-OUT AREA:  
• LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE AREAS SUCH AS STORM DRAINS, OPEN DITCHES, OR WATER BODIES, INCLUDING WETLANDS.  
• ALLOW CONVENIENT ACCESS FOR CONCRETE TRUCKS, PREFERABLY NEAR THE AREA WHERE THE CONCRETE IS BEING POURED.  
• IF TRUCKS NEED TO LEAVE A PAVED AREA TO ACCESS WASHOUT, PREVENT TRACK-OUT WITH A CONSTRUCTION EXIT.  
• THE NUMBER OF FACILITIES YOU INSTALL SHOULD DEPEND ON THE EXPECTED DEMAND FOR STORAGE CAPACITY.  
• ON LARGE SITES WITH EXTENSIVE CONCRETE WORK, WASHOUTS SHOULD BE PLACED IN MULTIPLE LOCATIONS FOR EASE OF USE BY CONCRETE TRUCK DRIVERS.

ONSITE TEMPORARY CONCRETE WASHOUT FACILITY, TRANSIT TRUCK WASHOUT PROCEDURES:  
• TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 50 FT. FROM SENSITIVE AREAS INCLUDING STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES.  
• CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.  
• APPROXIMATELY 7 GALLONS OF WASH WATER ARE USED TO WASH ONE TRUCK CHUTE.  
• APPROXIMATELY 50 GALLONS ARE USED TO WASH OUT THE HOPPER OF A CONCRETE PUMP TRUCK.  
• WASHOUT OF CONCRETE TRUCKS SHALL BE PERFORMED IN DESIGNATED AREAS ONLY.  
• CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.  
• ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF PER APPLICABLE SOLID WASTE REGULATIONS. DISPOSE OF HARDENED CONCRETE ON A REGULAR BASIS.

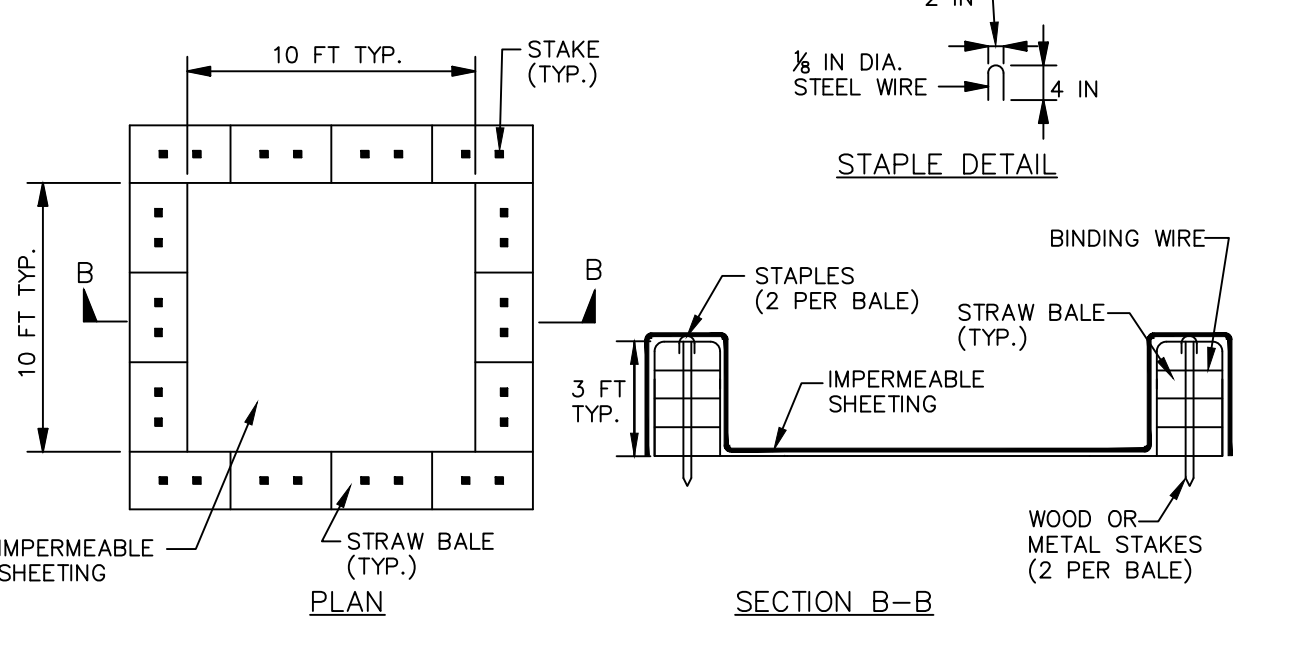
TEMPORARY ABOVE-GRADE CONCRETE WASHOUT FACILITY  
• TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT., BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.  
• PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.  
TEMPORARY BELOW-GRADE CONCRETE WASHOUT FACILITY  
• TEMPORARY CONCRETE WASHOUT FACILITIES (TYPE BELOW GRADE) SHOULD BE CONSTRUCTED WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT., BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.  
• PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.  
• LINER SEAMS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.  
• SOIL BASE SHALL BE PREPARED FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE PLASTIC LINING MATERIAL.

INSPECTION AND MAINTENANCE  
• INSPECT AND VERIFY THAT CONCRETE WASHOUT BMPs ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONCRETE WORK.  
• DURING PERIODS OF CONCRETE WORK, INSPECT DAILY TO VERIFY CONTINUED PERFORMANCE.  
• CHECK OVERALL CONDITION AND PERFORMANCE.  
• CHECK REMAINING CAPACITY (% FULL).  
• IF USING SELF-INSTALLED WASHOUT FACILITIES, VERIFY PLASTIC LINERS ARE INTACT AND SIDEWALLS ARE NOT DAMAGED.  
• IF USING PREFABRICATED CONTAINERS, CHECK FOR LEAKS.  
• WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 12 INCHES.  
• WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.  
• IF THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THE WASTE MATERIAL IN AN APPROVED MANNER.  
• DO NOT DISCHARGE LIQUID OR SLURRY TO WATERWAYS, STORM DRAINS OR DIRECTLY ONTO GROUND.  
• DO NOT USE SANITARY SEWER WITHOUT LOCAL APPROVAL.  
• PLACE A SECURE, NON-COLLAPSING, NON-WATER COLLECTING COVER OVER THE CONCRETE WASHOUT FACILITY PRIOR TO PREDICTED WET WEATHER TO PREVENT ACCUMULATION AND OVERFLOW OF PRECIPITATION.  
• REMOVE AND DISPOSE OF HARDENED CONCRETE AND RETURN THE STRUCTURE TO A FUNCTIONAL CONDITION. CONCRETE MAY BE REUSED ONSITE OR HAULED AWAY FOR DISPOSAL OR RECYCLING.  
• WHEN YOU REMOVE MATERIALS FROM THE SELF-INSTALLED CONCRETE WASHOUT, BUILD A NEW STRUCTURE; OR, IF THE PREVIOUS STRUCTURE IS STILL INTACT, INSPECT FOR SIGNS OF WEAKENING OR DAMAGE, AND MAKE ANY NECESSARY REPAIRS. RE-LINE THE STRUCTURE WITH NEW PLASTIC AFTER EACH CLEANING.

REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITIES  
• WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE, SLURRIES AND LIQUIDS SHALL BE REMOVED AND PROPERLY DISPOSED OF.  
• MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.  
• HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.



**WASHOUT STRUCTURE WITH WOOD PLANKS**

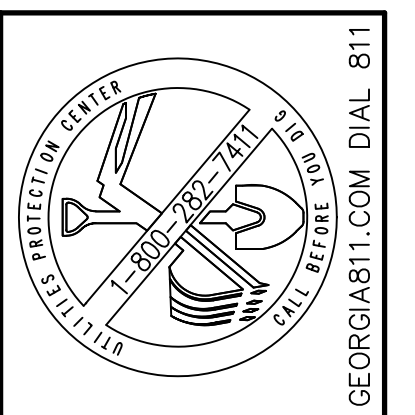


**WASHOUT STRUCTURE WITH STRAW BALES**

CONSTRUCTION SPECIFICATIONS  
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.  
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.  
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.  
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.  
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

NOTE: WASHOUT OF THE CONCRETE TRUCK DRUM AT THE CONSTRUCTION SITE IS PROHIBITED

**CONCRETE WASHDOWN AREA DETAIL**  
NOT TO SCALE



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MIDWAY WATER SYSTEM IMPROVEMENTS CHARLIE BUTLER ROAD  
TAX PARCEL NUMBER: 242902 MIDWAY, LIBERTY, GEORGIA  
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SHEET NAME: SITE DETAILS

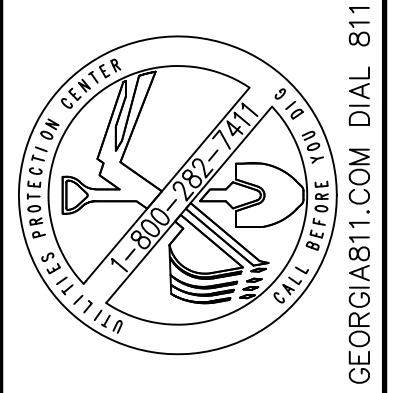
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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

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MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD

TAX PARCEL NUMBER: 24202 MIDWAY, LIBERTY, GEORGIA

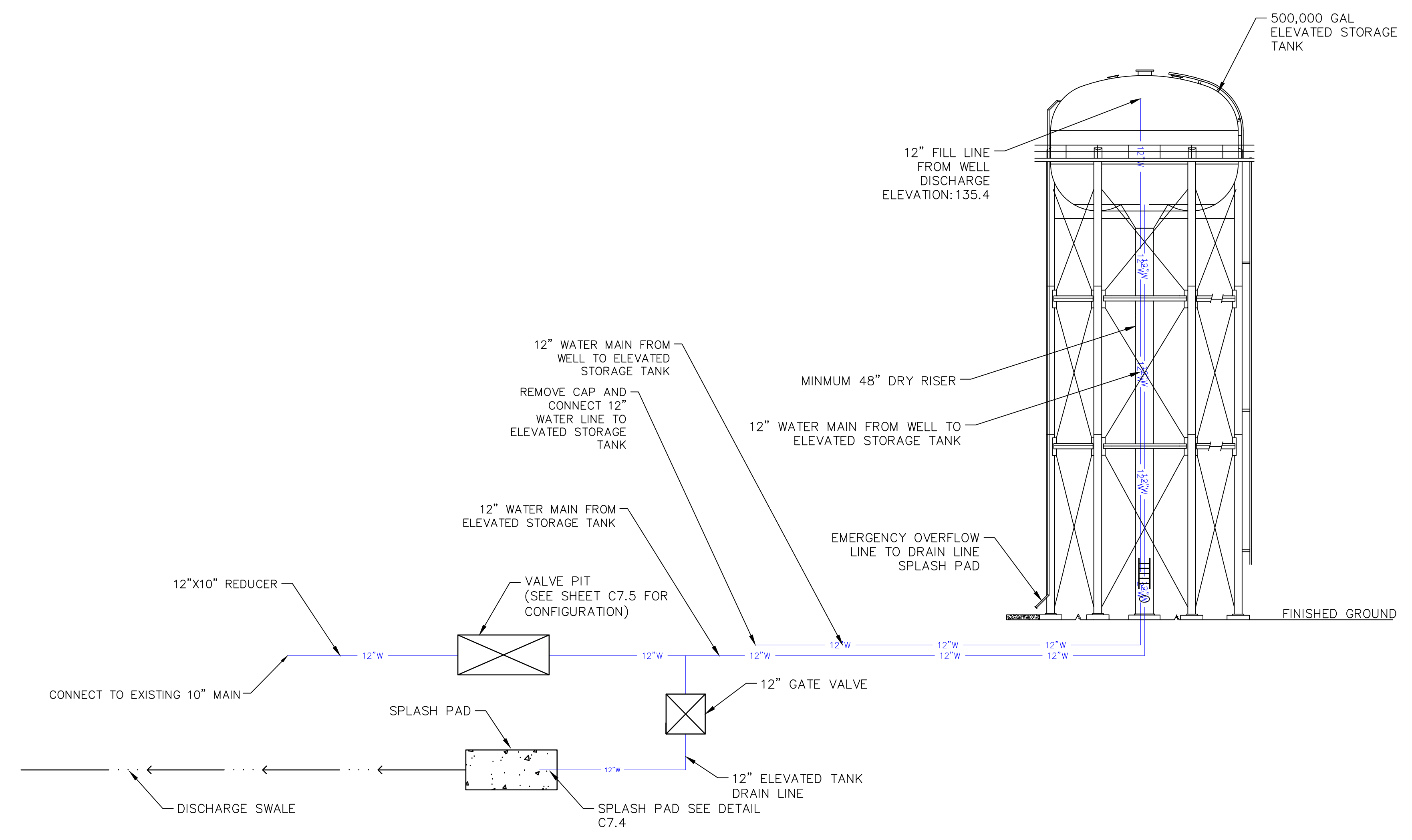
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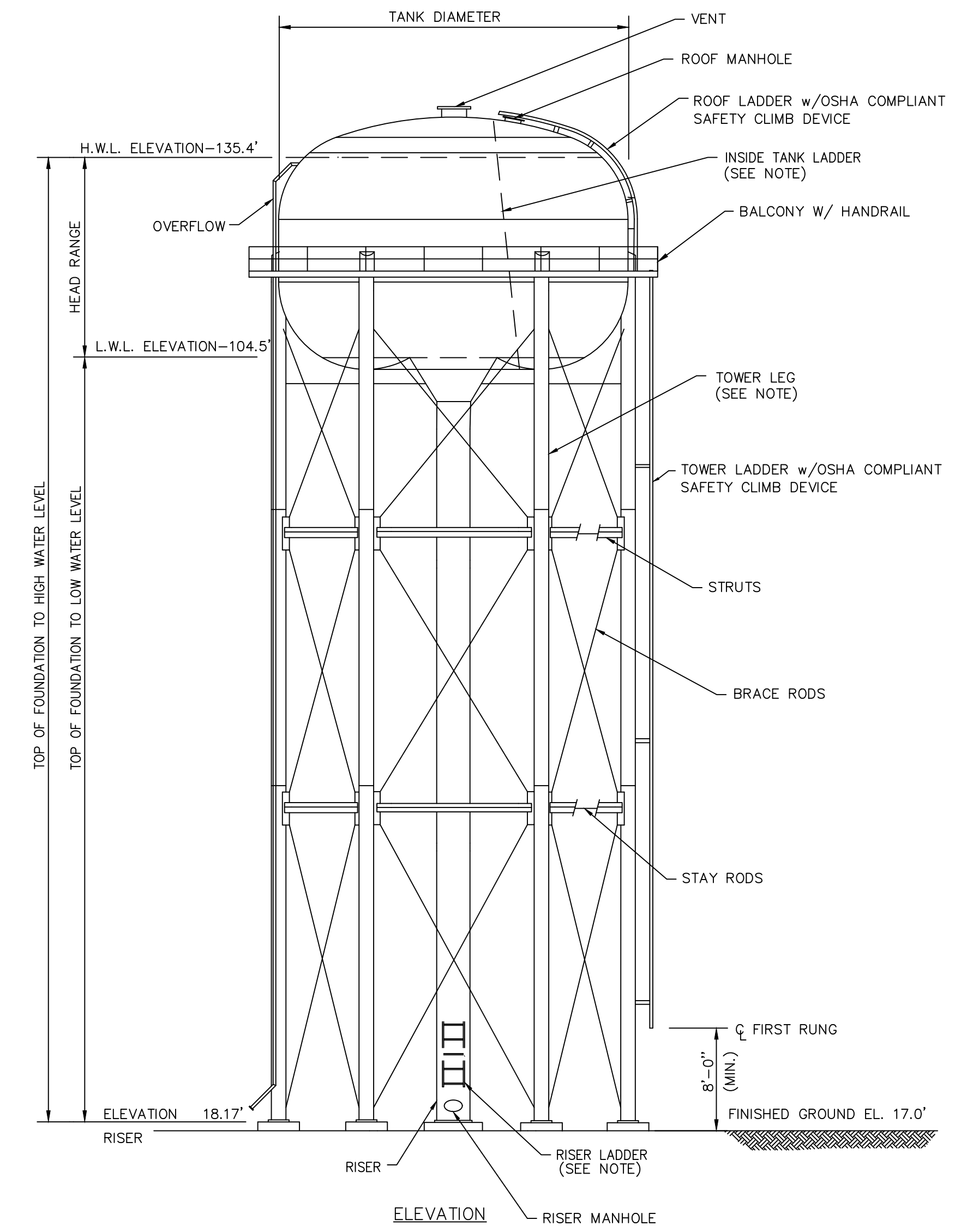
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INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

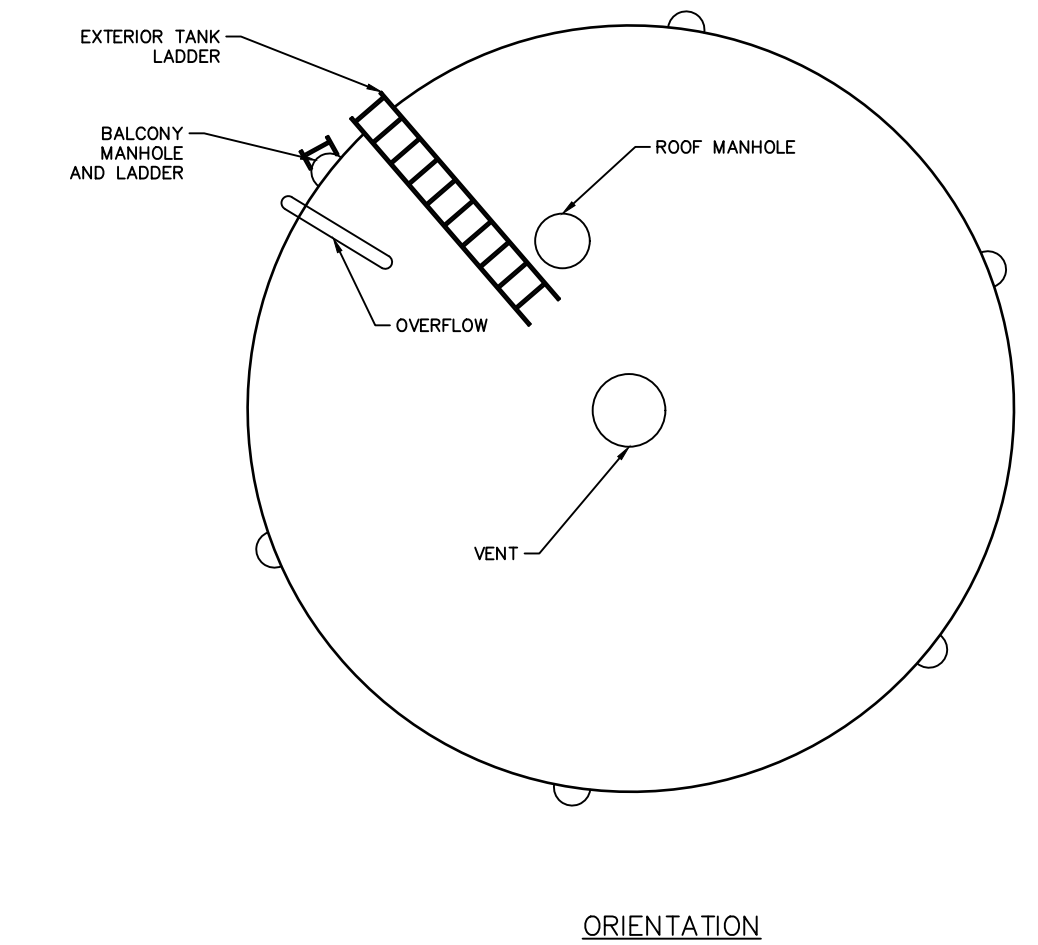
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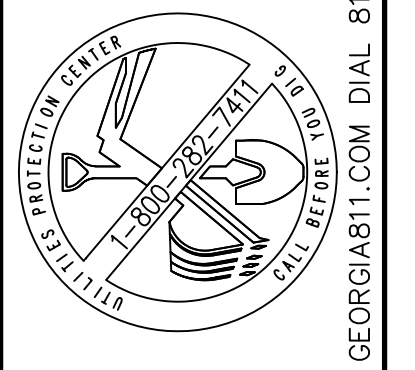
**PROCESS FLOW DIAGRAM**  
NOT TO SCALE



- NOTES:**
- DESIGN:**  
TANK AND TOWER SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH AWWA D100-96, PROJECT SPECIFICATIONS, GEOTECHNICAL REPORT PROVIDED BY WHITAKER LABORATORY.  
STORAGE CAPACITY: 500,000 GALLONS  
WIND LOAD: 160 MPH  
SNOW LOAD: 0 IN  
SEISMIC ZONE: 2A
- MATERIALS:**  
STEEL PLATE: ASTM A283 GR. C / A36  
STRUCTURAL STEEL SHAPES: ASTM A36  
BRACE RODS AND STAY RODS: ASTM A36  
LADDER RUNGS: ASTM A706
- GENERAL:**  
- ACCESSORIES SHOWN ON ELEVATION DRAWING ARE ROTATED FOR CLARITY.  
- ALL HANDRAILS, PLATFORM LANDINGS, WALKWAYS, LADDERS, AND SAFETY CLIMB DEVICES SHALL CONFORM WITH CURRENT OSHA STANDARDS.  
- SEE PROJECT SPECIFICATIONS FOR SHOP AND FIELD PAINT REQUIREMENTS.  
- STERILIZE TANK IN ACCORDANCE WITH AWWA C652-92 AND PROJECT SPECIFICATIONS.  
- FOR TANKS LOCATED IN REGIONS WHERE FREEZING CONDITIONS MAY OCCUR CONSIDERATION SHALL BE GIVEN TO OMISSION OF INSIDE TANK LADDER.  
- NUMBER OF TOWER LEGS PER MANUFACTURER'S STANDARD DESIGN.



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Plotted Date: Nov 20, 2024 - 4:24pm



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THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS CONTAINED WITHIN THIS SET OF DOCUMENTS AND SHALL REPORT ANY DISCREPANCIES TO T. R. LONG ENGINEERING, P.C. FOR IMMEDIATE RESOLUTION.

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MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD  
TAX PARCEL NUMBER: 242W2 MIDWAY, LIBERTY, GEORGIA

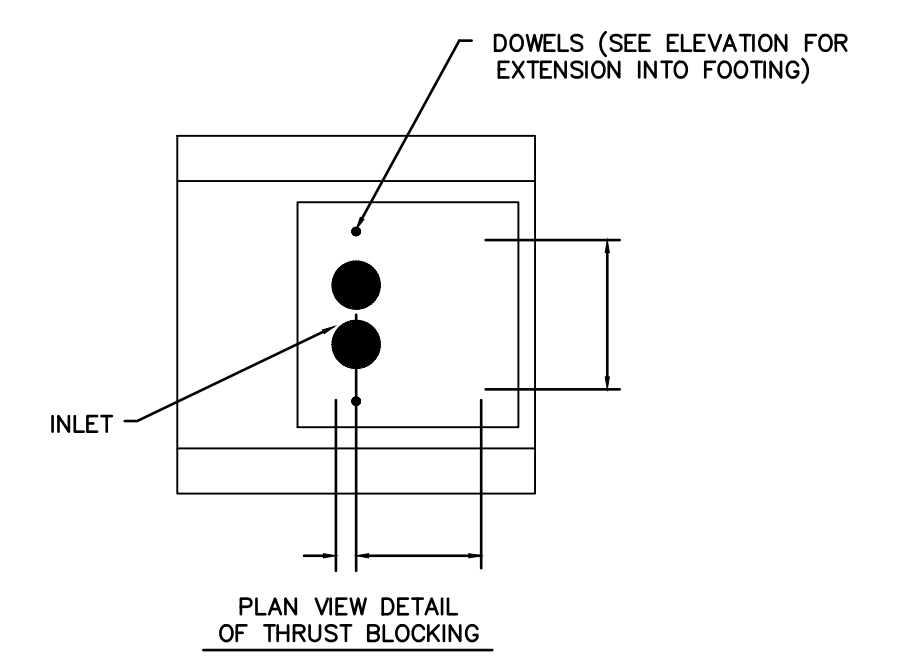
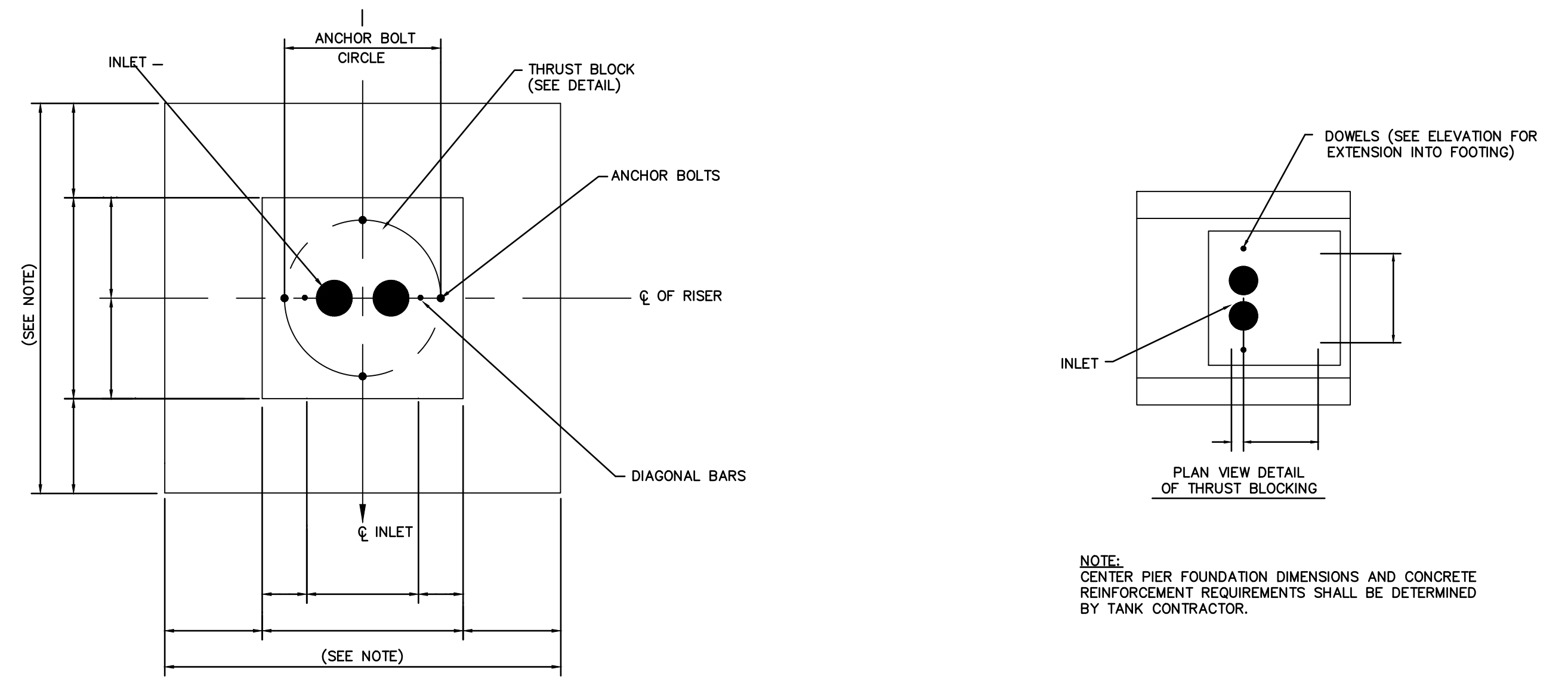
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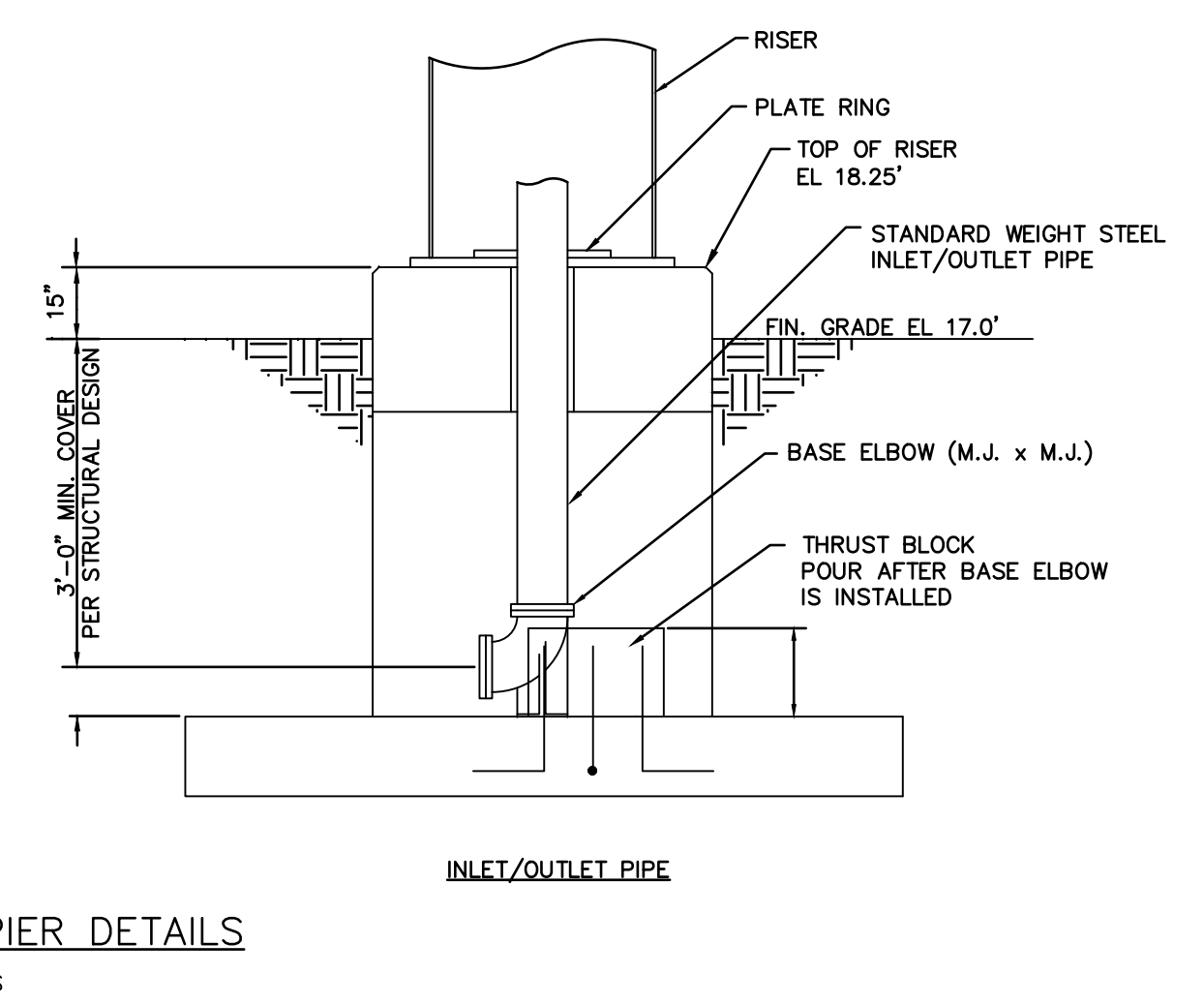
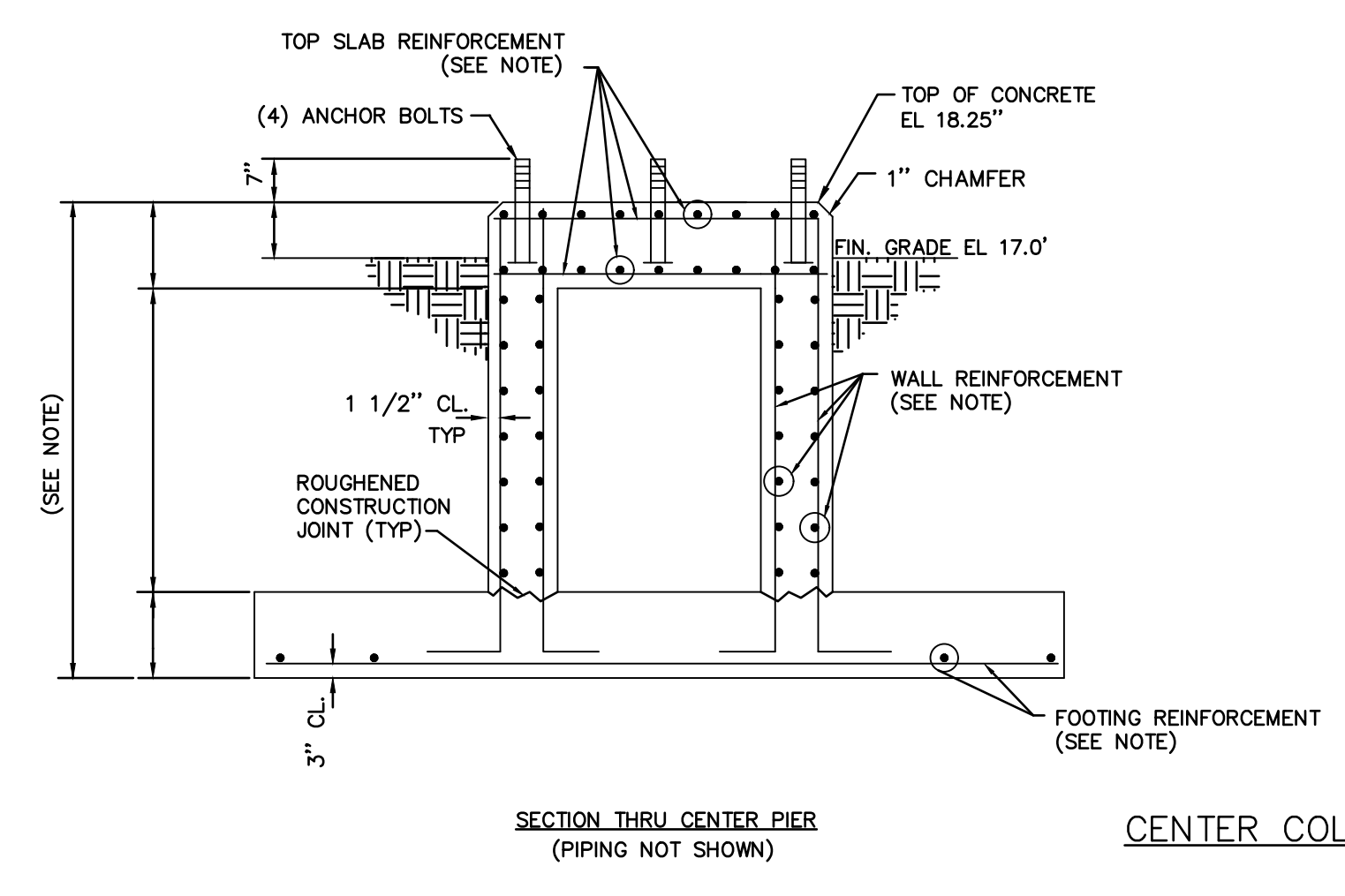
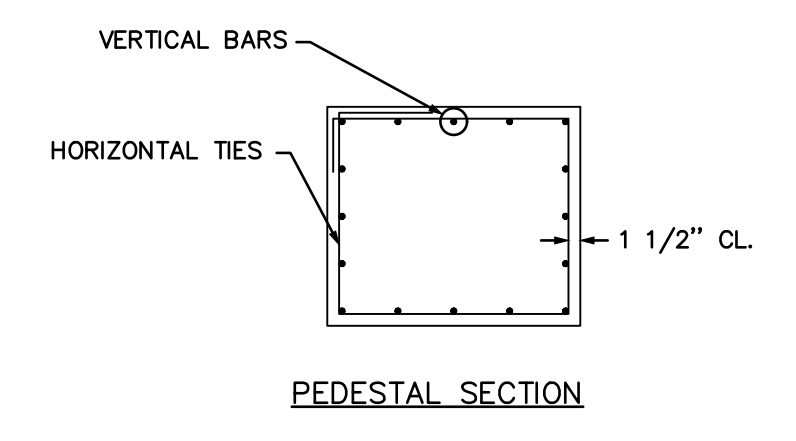
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CHECKED BY: TRL  
PROJECT #: 2024-104

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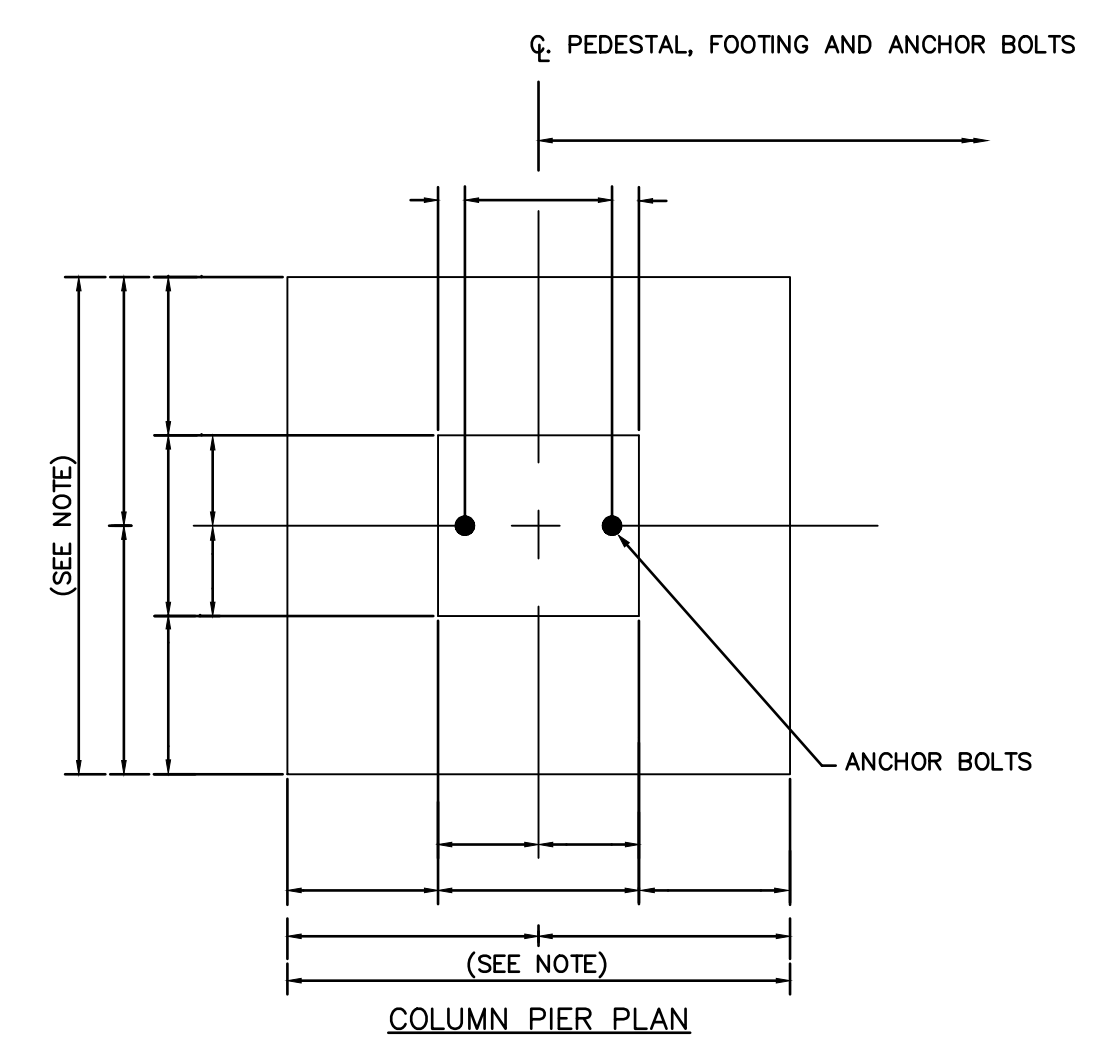


NOTE:  
CENTER PIER FOUNDATION DIMENSIONS AND CONCRETE REINFORCEMENT REQUIREMENTS SHALL BE DETERMINED BY TANK CONTRACTOR.

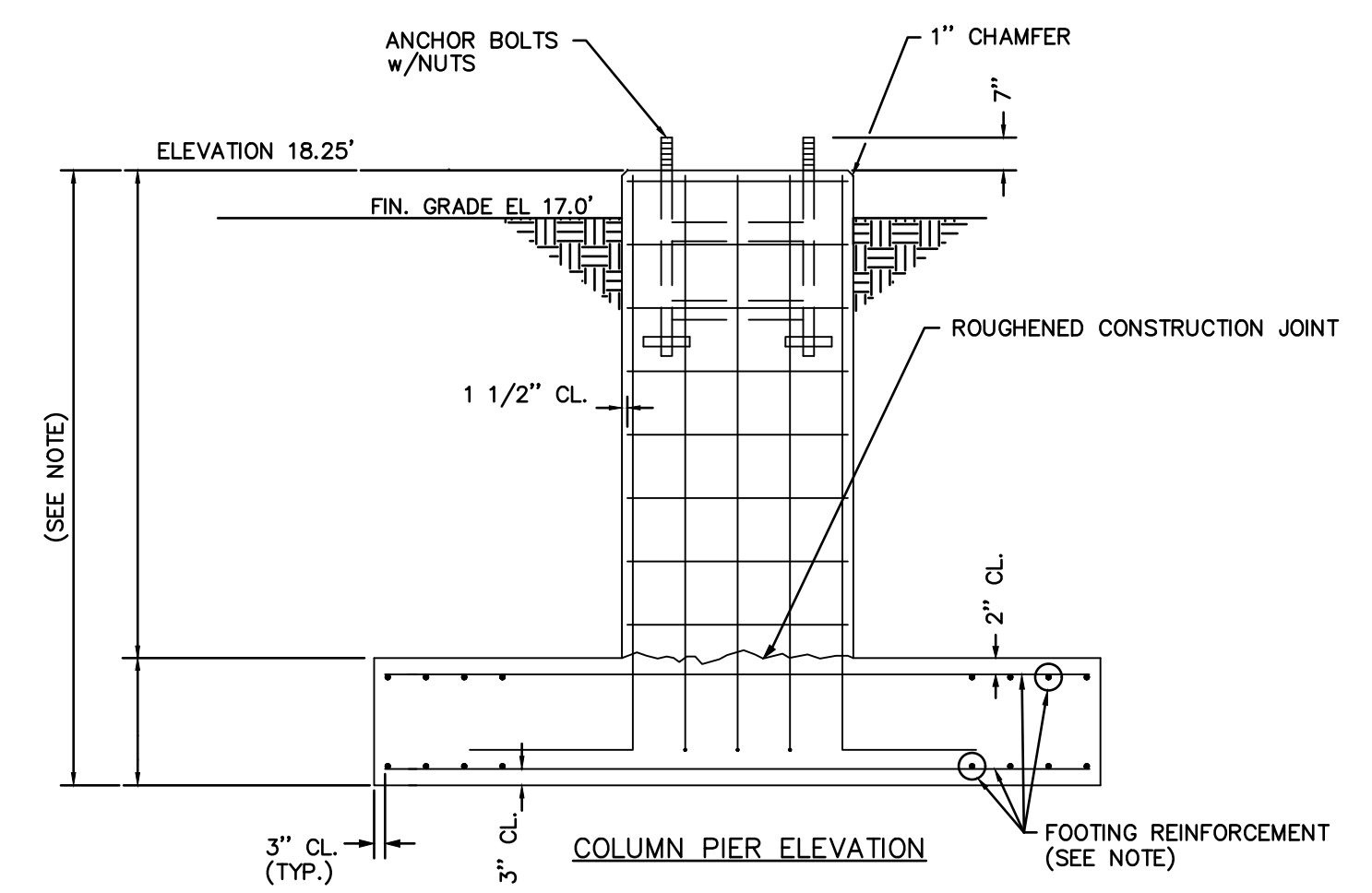
NOTES:  
FOUNDATION DESIGN WILL BE THE RESPONSIBILITY OF THE TANK CONTRACTOR AND SHALL REFLECT THE GEOTECHNICAL REPORT PROVIDED BY WHITAKER LABS.  
FOUNDATION DIMENSIONS AND CONCRETE REINFORCEMENT SHALL BE DETERMINED BY THE TANK CONTRACTOR.  
FOUNDATION CONSTRUCTION SHALL COMPLY WITH AWWA D100-96, A.C.I. 318-99, A.C.I. 301-96 AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS AND THE PROJECT SOILS REPORT.  
CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI @ 28 DAYS.  
REINFORCEMENT SHALL CONFORM TO A.S.T.M. A615 GR. 60.  
CONSTRUCTION JOINTS SHALL BE ROUGHENED ACROSS ENTIRE FACE WITH 1/4" MINIMUM DEPTH INDENTATIONS.  
THE TOP OF CONCRETE FOR ALL PIERS ALONG THE PERIMETER SHALL BE LEVEL AND SHALL BE THE SAME ELEVATION (UNLESS OTHERWISE NOTED BY A SPECIFIED ELEV.) WITH A MAXIMUM DIFFERENTIAL OF (+-) 1/4".  
ANCHOR BOLTS SHALL BE PLACED WITHIN (+-) 1/8" OF THE PLAN DIMENSIONS AT THE TOP OF THE CONCRETE, PLUMB WITHIN 1/4" IN 12" AND EXTEND WITHIN 1/2" OF THE SPECIFIED PROJECTION ABOVE THE TOP OF THE FOUNDATION.



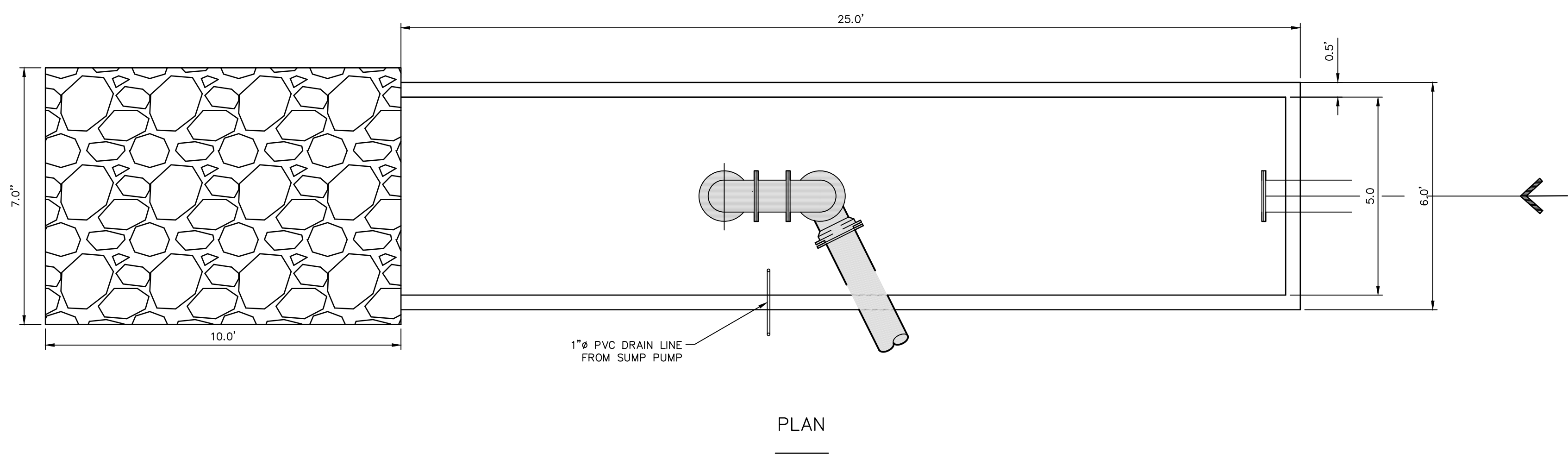
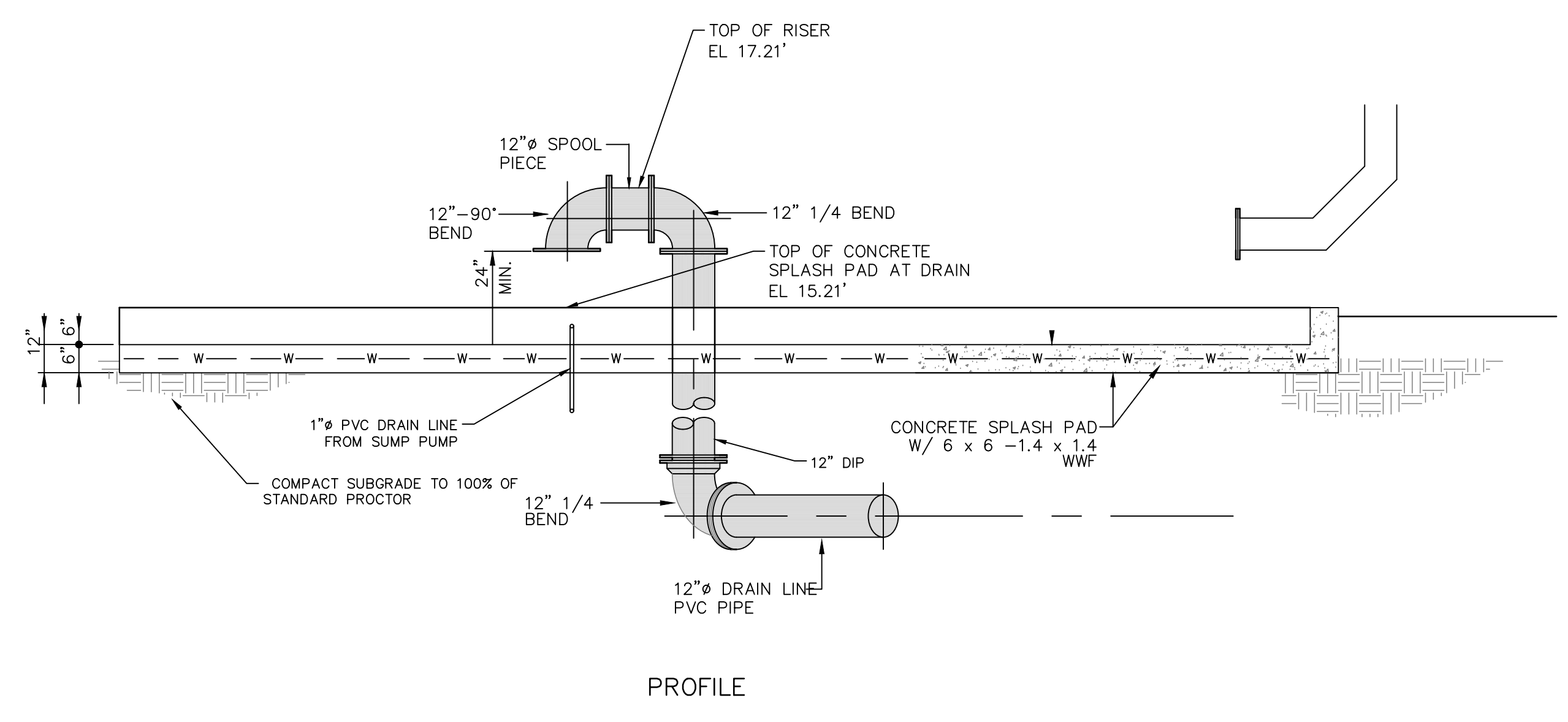
CENTER COLUMN PIER DETAILS  
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COLUMN PIER DETAILS  
SCALE: NTS



NOTE:  
THE SECTIONAL VIEW OF SPLASH PAD IS ROTATED BACK 45° FOR DIMENSIONING.

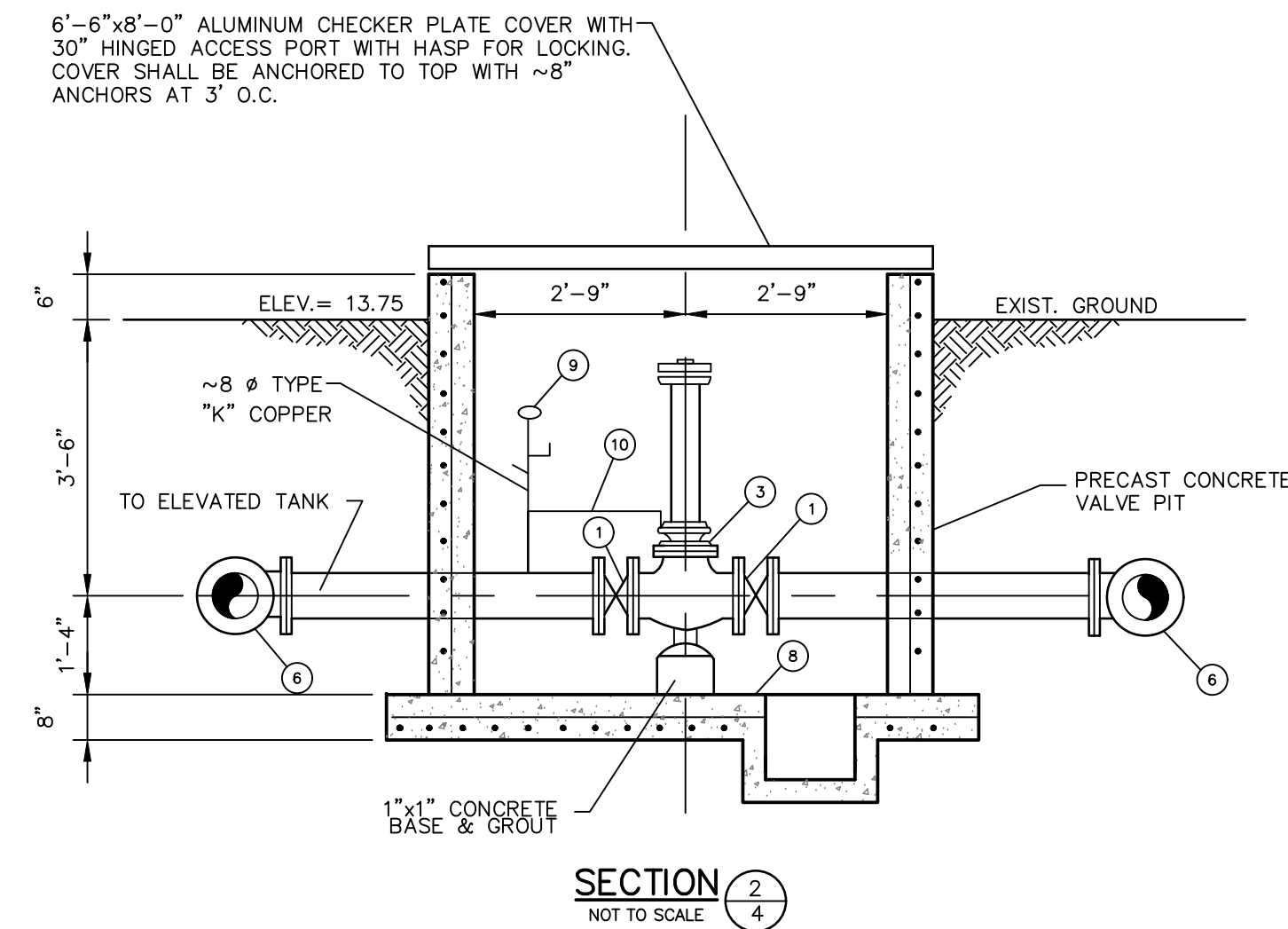
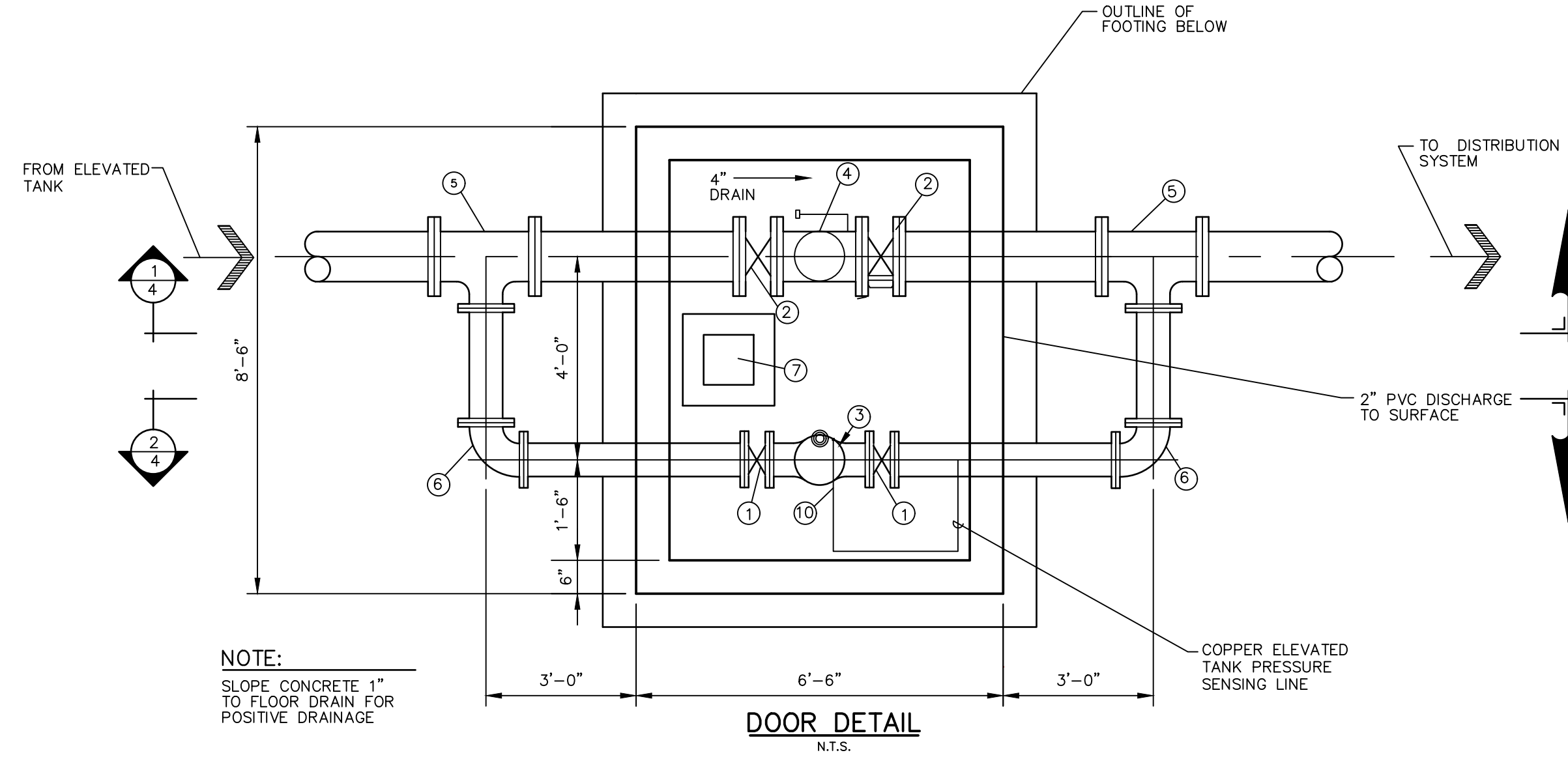
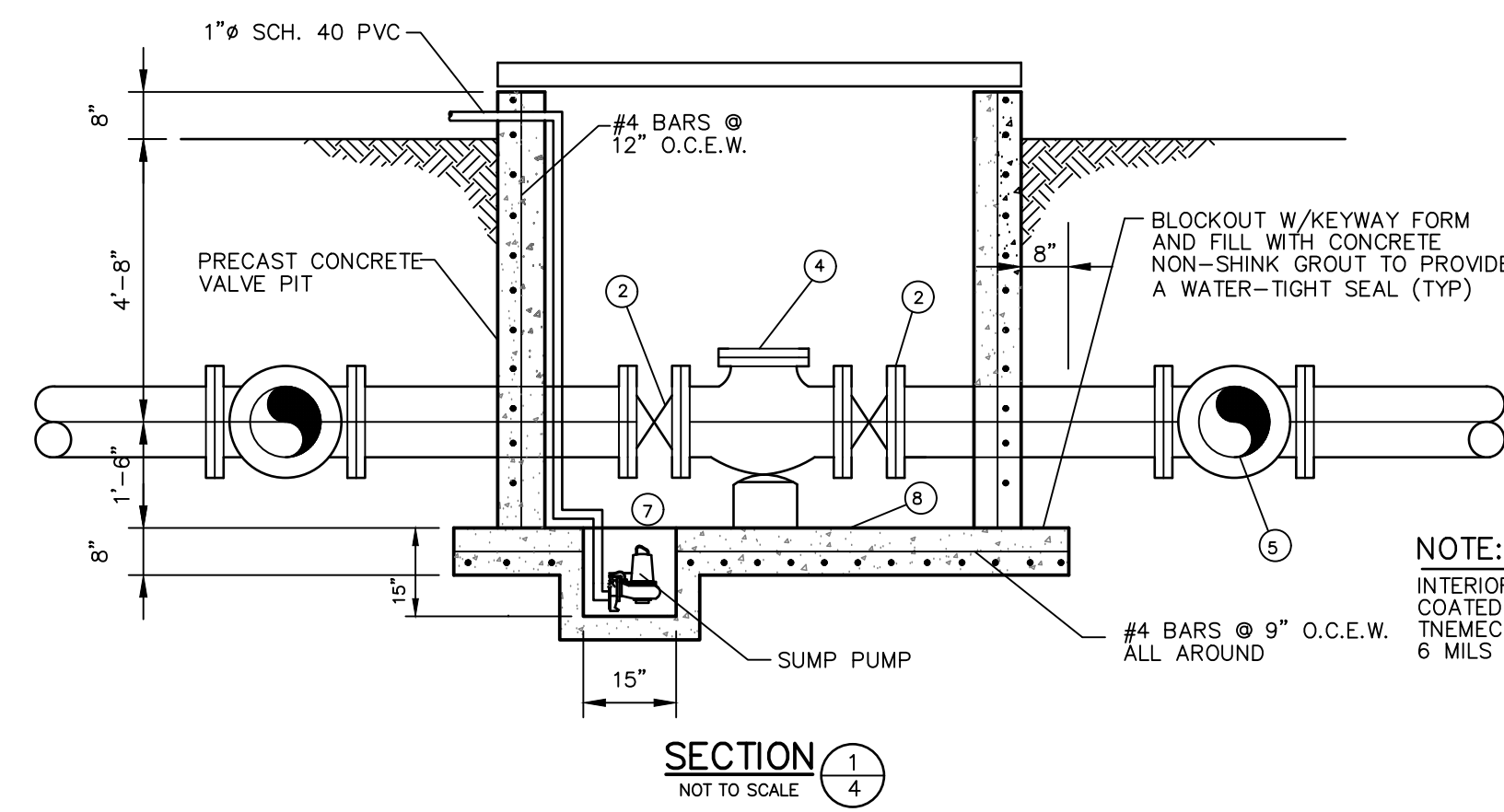


ELEVATED TANK DRAIN SPLASH PAD DETAIL  
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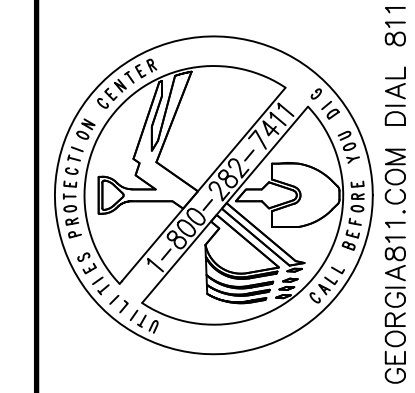
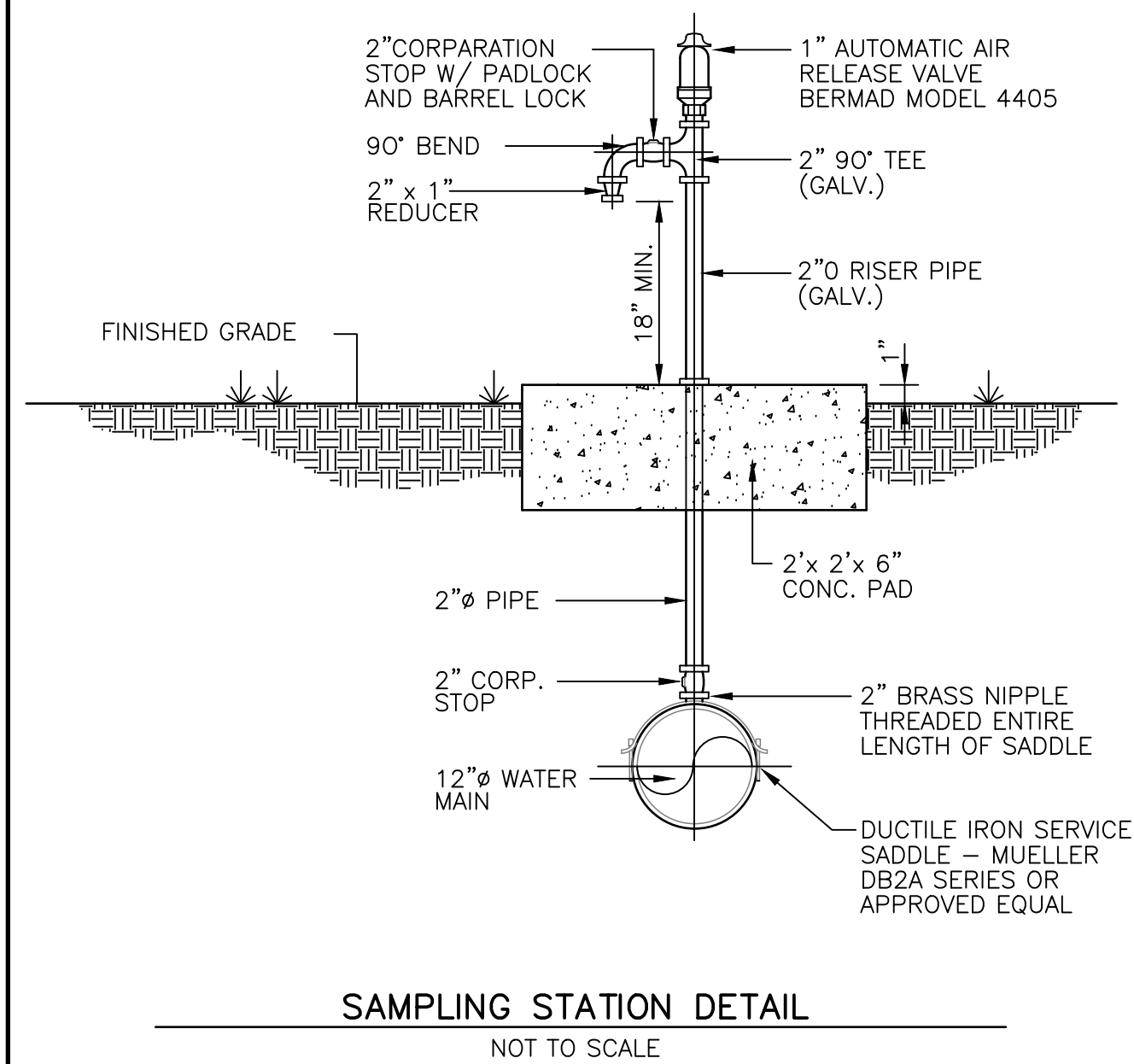
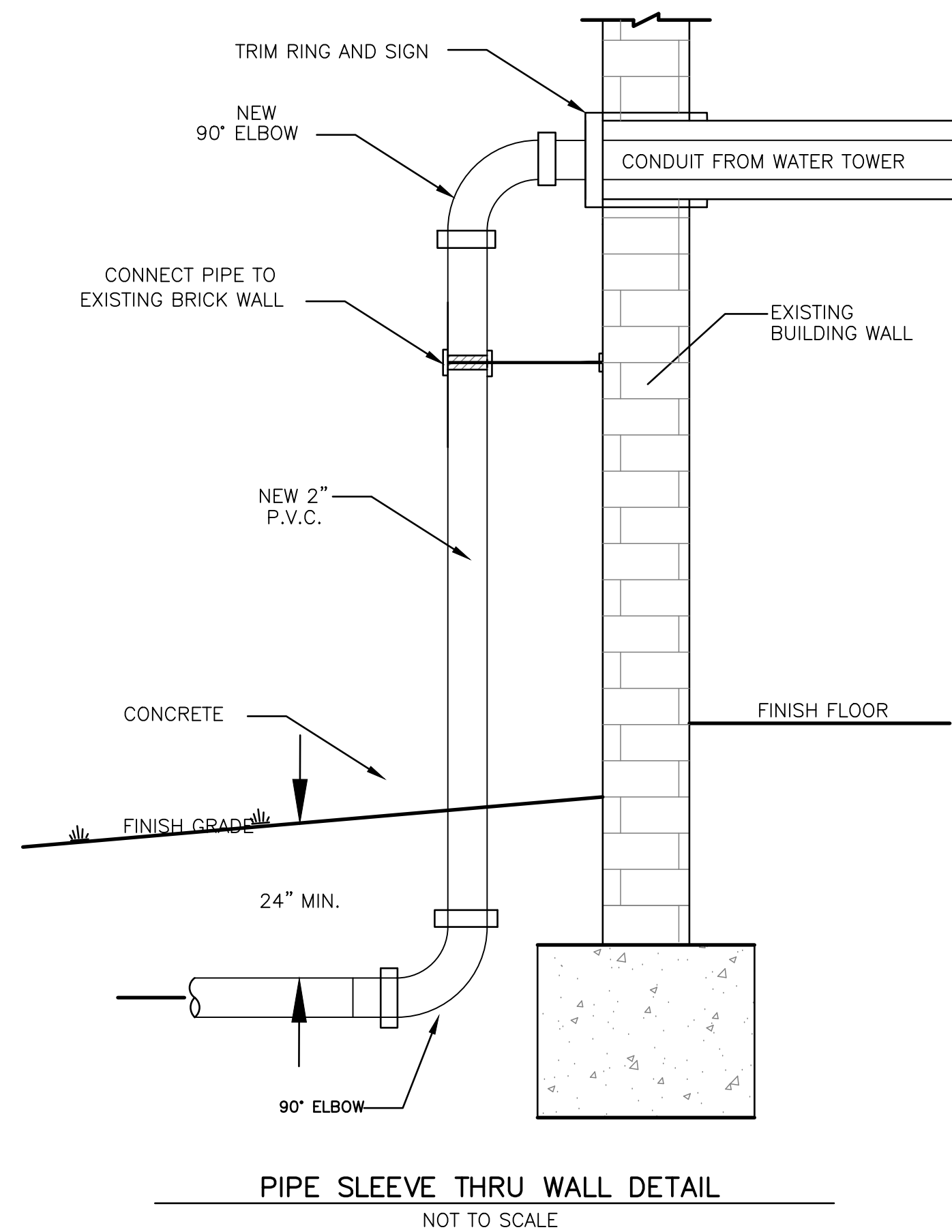
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Plotted Date: Nov 20, 2024 - 4:24pm

VALVE PIT SCHEDULE

SYM.	DESCRIPTION	SIZE
1	BUTTERFLY VALVE, FLxFL	8"
2	BUTTERFLY VALVE, FLxFL	12"
3	SINGLE ACTING ALTITUDE VALVE, GA. 3200-D, OR EQUAL	8"
4	CHECK VALVE W/LEVER & WEIGHT MUELLER A-2602-6-02, OR EQUAL	12"
5	TEE, FLxFL	12"x8"
6	90° BEND, FLxFL	8"
7	1HP - SUMP PUMP	1"
8	CONCRETE SLAB W/6"x6" #6 WWF	
9	PET COCK VALVE & 0-100 PSI/0-230 FT. WATER PRESSURE GAUGE	3~8 DIA.
10	PIPE INSULATED & WRAPPED	3~8 DIA. COPPER



VALVE PIT DETAILS  
NOT TO SCALE



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GSWCC# 0000002134

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Hinesville, Georgia 31513  
(912) 368-5664

STATESBORO:  
302 South Zetterower Avenue  
Statesboro, Georgia 30458  
(912) 335-1046



MIDWAY WATER SYSTEM  
IMPROVEMENTS  
CHARLIE BUTLER ROAD  
TAX PARCEL NUMBER: 24202 MIDWAY, LIBERTY, GEORGIA

SHEET NAME:  
SITE DETAILS

REVISIONS:

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

SHEET NUMBER:  
**C7.5**

Drawing File: C:\ACTIVE PROJECTS\2024-104-H - Midway Water Sys Improv\900-DRAWINGS\DWG\2024-104.dwg  
Plotted Date: Nov 20, 2024 - 4:24pm

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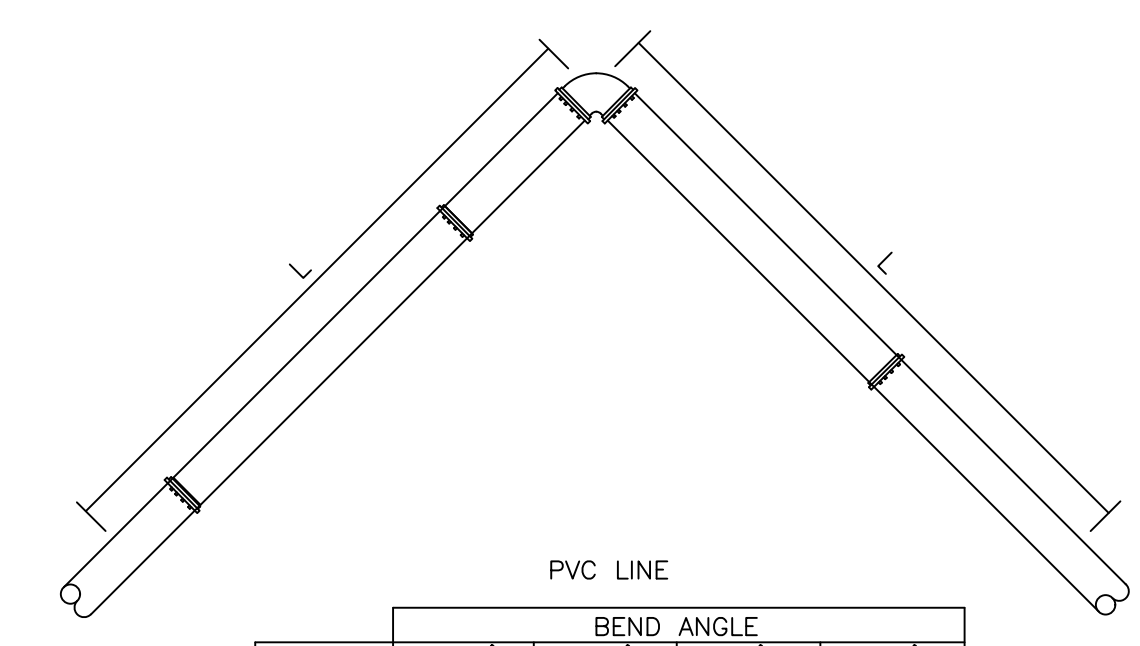
SHEET NAME:  
SITE DETAILS

REVISIONS:

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

INITIAL DATE: 10/14/2024  
DRAWN BY: AJG  
CHECKED BY: TRL  
PROJECT #: 2024-104

SHEET NUMBER:  
**C7.6**



PVC LINE

PIPE DIA.	BEND ANGLE		
	11 1/4"	22 1/2"	45"
4	2	4	8
6	3	5	11
8	4	7	14
10	4	8	16
12	5	9	19
16	5	9	19
20	6	11	23
24	8	16	26

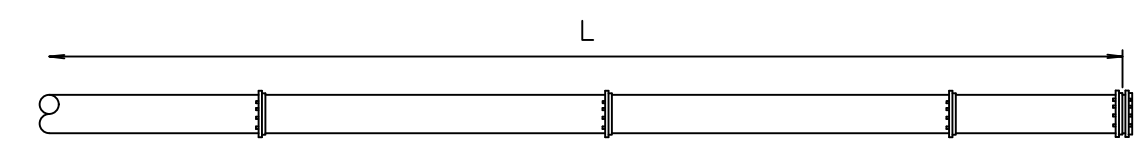
DUCTILE IRON LINE

PIPE DIA.	BEND ANGLE		
	11 1/4"	22 1/2"	45"
4	3	5	9
6	3	6	12
8	4	8	16
10	5	9	19
12	6	11	22
16	7	14	28
20	8	16	33
24	9	19	38

MINIMUM RESTRAINED LENGTH (L)

NOTES:  
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIAMETERS ARE IN INCHES.  
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.  
3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

HORIZONTAL BEND RESTRAINT  
N.T.S.



POLYETHYLENE WRAPPED DUCTILE IRON LINE

PIPE DIA.	L
4	58
6	82
8	107
10	128
12	151
16	193
20	234
24	273

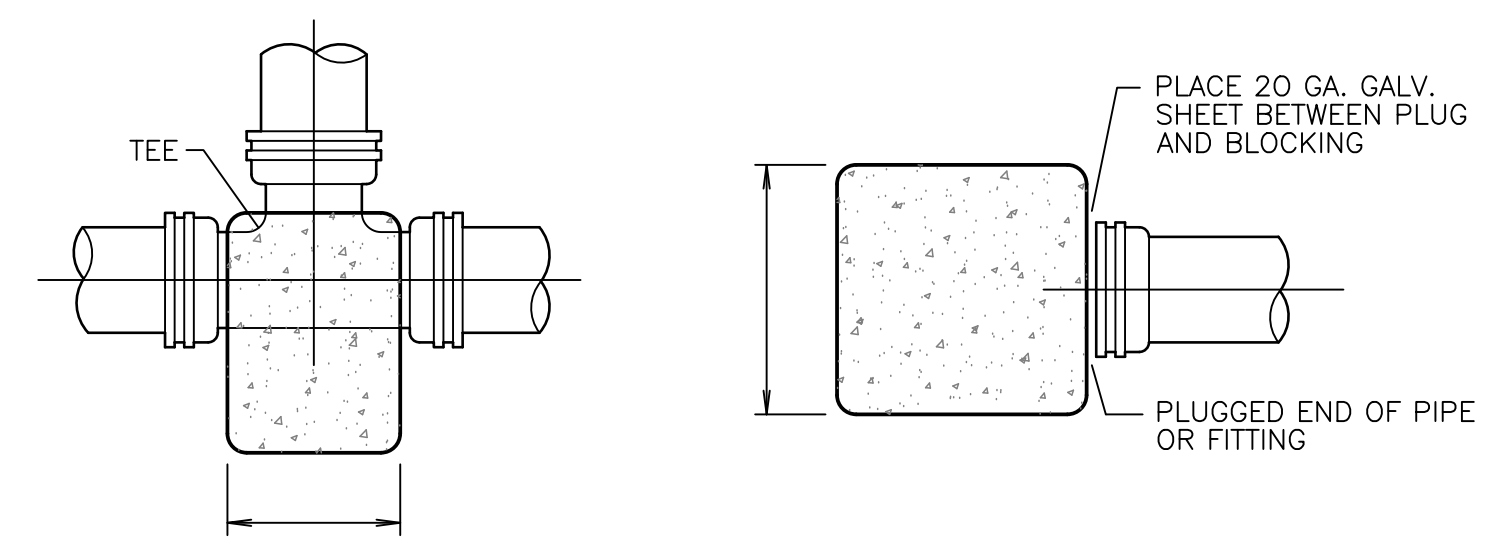
PVC LINE

PIPE DIA.	L
4	39
6	55
8	72
10	87
12	102
16	131
20	159
24	185

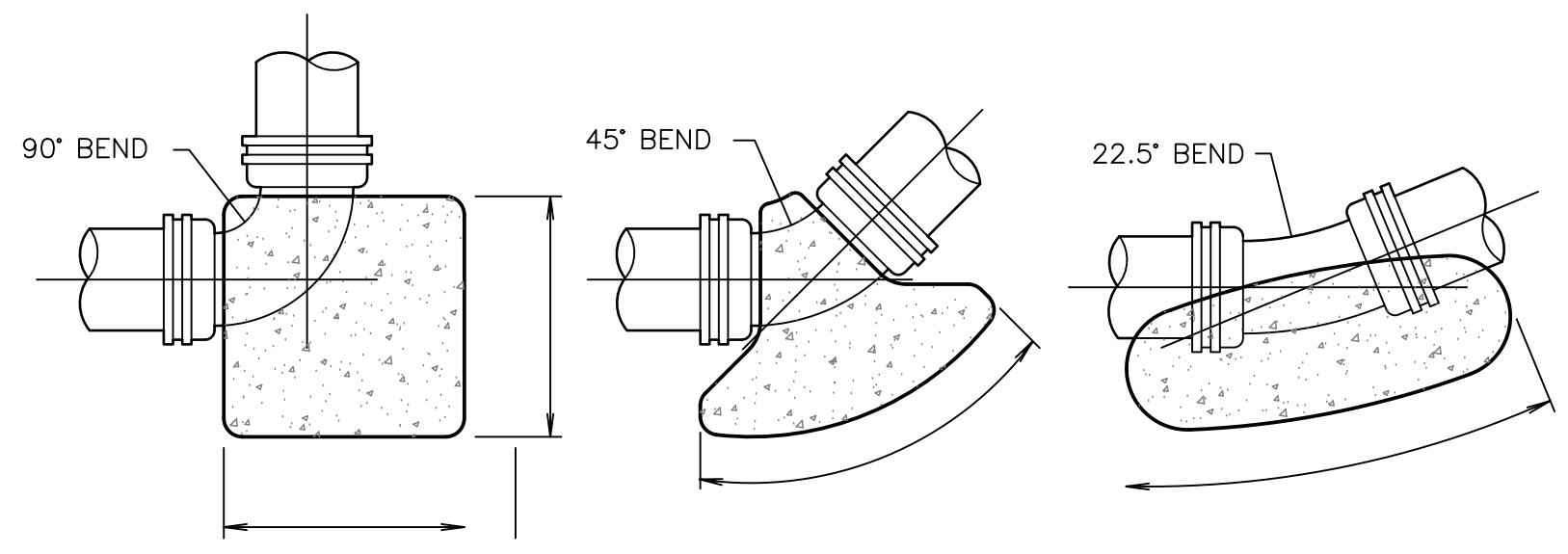
NOTES:  
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.  
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.  
3. FOR LINE STUBS, THE LENGTH OF RESTRAINT (L) SHALL BE FROM THE VALVE AND NOT THE CAP.  
4. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

DEAD END RESTRAINT  
N.T.S.

NOTE:  
PIPING LESS THAN 2" DIAMETER SHALL HAVE THE SAME REQUIREMENTS AS 2" DIAMETER PIPE.

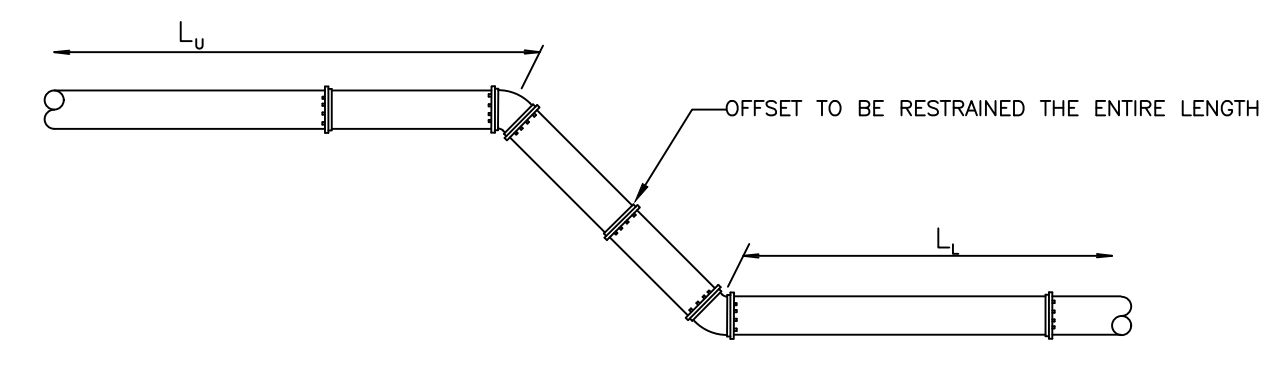


PIPE	AREA AGAINST UNDISTURBED SOIL	PIPE	AREA AGAINST UNDISTURBED SOIL
2"	1'-0" x 1'-0"	2"	1'-0" x 1'-0"
4"	1'-2" x 1'-2"	4"	1'-2" x 1'-2"
6"	1'-6" x 1'-6"	6"	1'-6" x 1'-6"
8"	1'-9" x 1'-9"	8"	1'-9" x 1'-9"
10"	2'-2" x 2'-2"	10"	2'-2" x 2'-2"
12"	2'-8" x 2'-8"	12"	2'-8" x 2'-8"



PIPE	AREA AGAINST UNDISTURBED SOIL	PIPE	AREA AGAINST UNDISTURBED SOIL	PIPE	AREA AGAINST UNDISTURBED SOIL
2"	1'-0" x 1'-0"	2"	1'-0" x 1'-0"	2"	1'-0" x 1'-0"
4"	1'-0" x 1'-0"	4"	1'-0" x 1'-0"	4"	1'-0" x 1'-0"
6"	1'-3" x 1'-3"	6"	1'-3" x 1'-3"	6"	1'-0" x 1'-0"
8"	2'-0" x 2'-0"	8"	1'-6" x 1'-6"	8"	1'-2" x 1'-2"
10"	2'-6" x 2'-6"	10"	2'-0" x 2'-0"	10"	1'-6" x 1'-6"
12"	3'-0" x 3'-0"	12"	2'-3" x 2'-3"	12"	1'-8" x 1'-8"

REACTION BLOCKING DETAILS  
NOT TO SCALE



PVC LINE

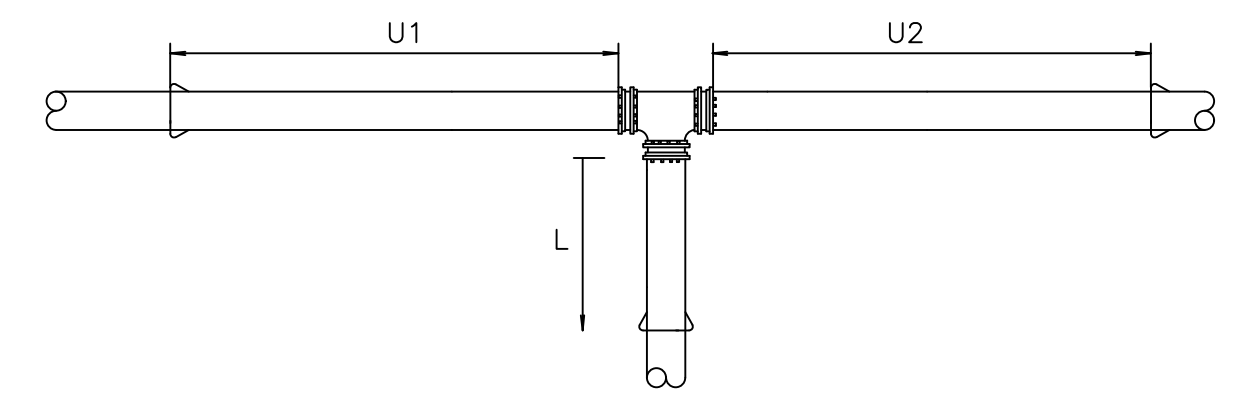
PIPE DIA.	BEND ANGLE		
	11 1/4"	22 1/2"	45"
4	4	1	8
6	6	1	11
8	8	2	15
10	9	2	18
12	11	2	21
16	10	3	21
20	13	3	25
24	15	4	29

POLYETHYLENE WRAPPED DUCTILE IRON LINE

PIPE DIA.	BEND ANGLE		
	11 1/4"	22 1/2"	45"
4	6	1	12
6	9	2	17
8	11	2	22
10	13	2	26
12	15	3	30
16	19	3	39
20	23	4	47
24	27	4	55

NOTES:  
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIA. IS IN INCHES.  
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.  
3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

VERTICAL BEND RESTRAINT  
N.T.S.



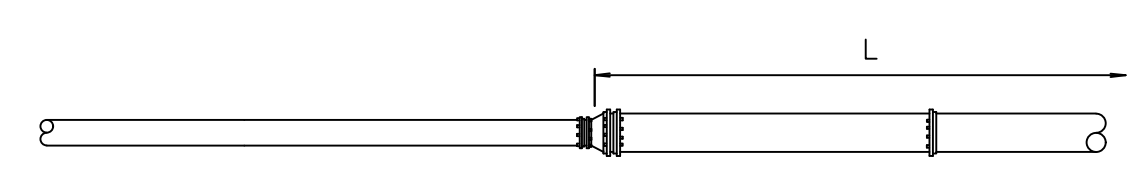
NOTES:  
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.  
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.  
3. U1 AND U2 = UNINTERRUPTED STRAIGHT RUNS OF PIPE IN EACH DIRECTION.  
4. Ur = THE SMALLER OF U1 OR U2  
5. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.  
6. WHERE Ur IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.  
7. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

PVC LINE

TEE	Ur	5'-10'	11'-20'	21'-35'	> 35'
4X4		43	28	4	*
6X4		38	17	*	*
6X6		64	49	25	*
8X4		34	6	*	*
8X6		61	42	10	*
8X8		87	72	48	12
10X4		29	*	*	*
10X6		58	34	*	*
10X8		84	66	35	*
10X10		106	91	67	31
12X4		24	*	*	*
12X6		54	26	*	*
12X8		82	60	23	*
12X10		104	86	57	13
12X12		126	112	87	51

MINIMUM RESTRAINED LENGTH (L)  
\*RESTRAIN AT TEE ONLY.

TEE RESTRAINT (PVC PIPE)  
N.T.S.



PVC LINE

REDUCER	L
6X4	29
8X4	52
8X6	31
10X4	71
10X6	53
10X8	29
12X4	89
12X6	74
12X8	54
12X10	30
16X6	111
16X8	96
16X10	78
16X12	56
20X10	117
20X12	100
20X16	56
24X12	137
24X16	101
24X20	56

PVC DESIGN:  
SOIL TYPE: SM  
TRENCH TYPE: 3  
COVER: 3' <12" DIA.  
4' >12" DIA.  
TEST PRESSURE: 150 PSI

PE WRAPPED DIP:  
SOIL TYPE: SM  
TRENCH TYPE: 3  
COVER: 3'  
TEST PRESSURE: 150 PSI

POLYETHYLENE WRAPPED DUCTILE IRON LINE

REDUCER	L
6X4	43
8X4	77
8X6	45
10X4	104
10X6	79
10X8	43
12X4	131
12X6	110
12X8	80
12X10	45
16X6	163
16X8	141
16X10	115
16X12	82
20X10	172
20X12	147
20X16	82
24X12	201
24X16	149
24X20	82

U = MINIMUM UNINTERRUPTED STRAIGHT RUN OF PIPE ON SMALL SIDE OF REDUCER.  
L = MINIMUM RESTRAINED LENGTH.

\* WHERE MINIMUM "L" IS NOT MET, PIPE ON LARGE SIDE OF REDUCER SHALL BE RESTRAINED FOR A MINIMUM OF "L" FEET.

NOTES:  
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.  
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.  
3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

REDUCER RESTRAINT  
N.T.S.