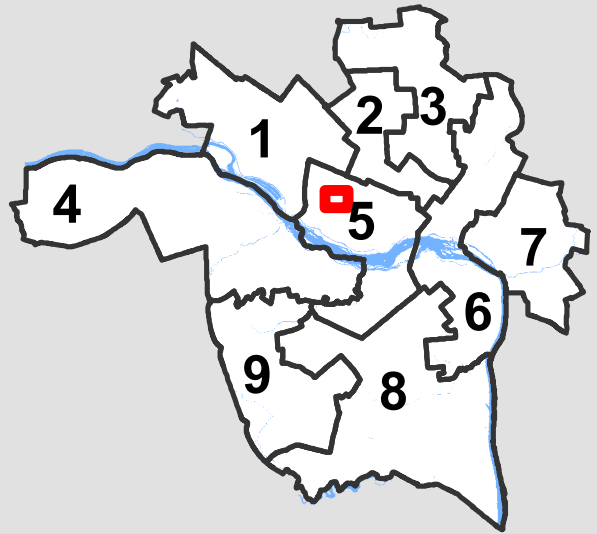




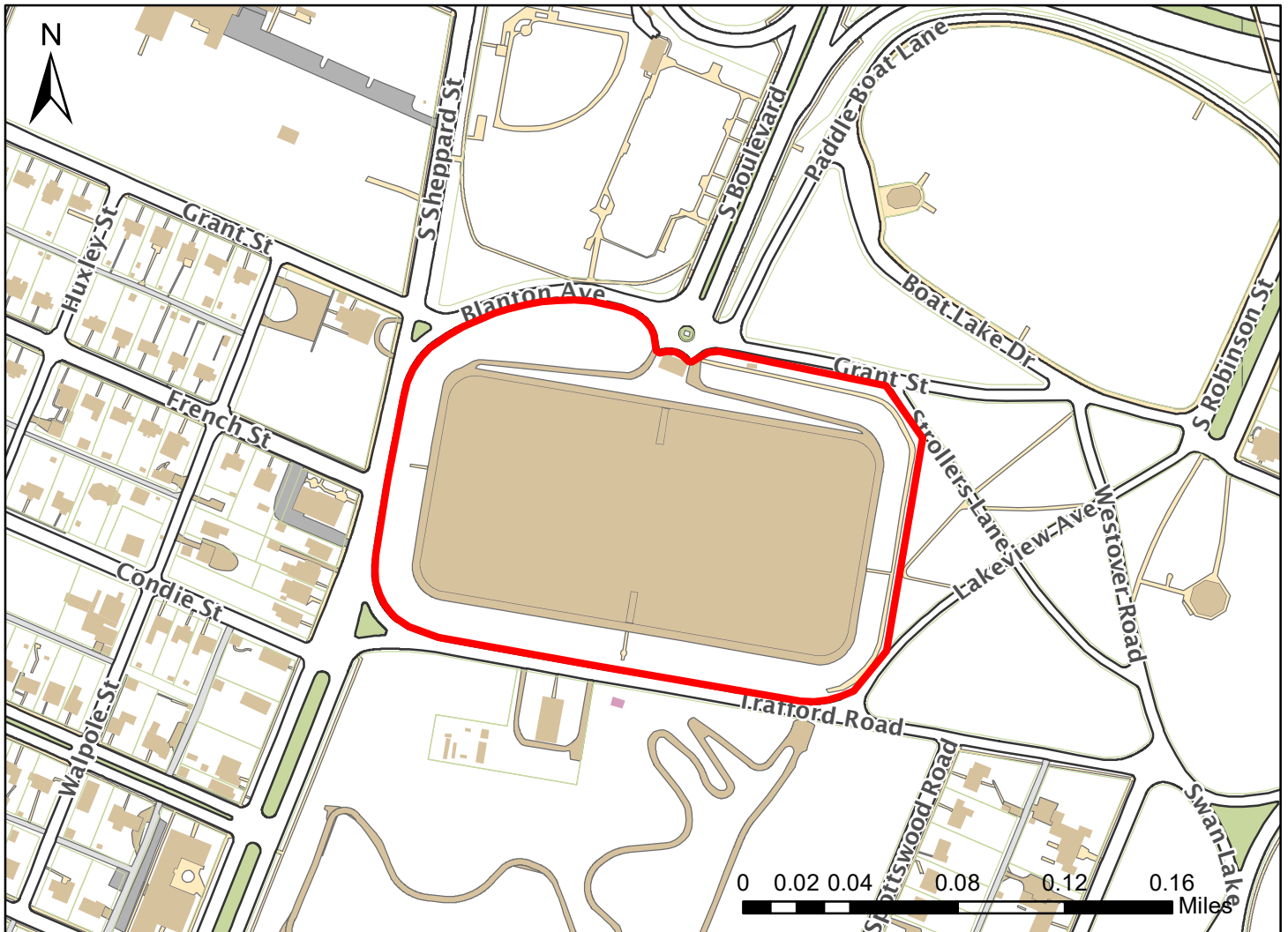
City of Richmond Department of Planning & Development Review

Location, Character, and Extent

LOCATION: 600 S. Arthur Ashe Boulevard
COUNCIL DISTRICT: 5
PROPOSAL: Final review of Byrd Park Water Tanks
roof replacement.



For questions, please contact Alex Dandridge
at 646-6569 or alex.dandridge@richmondgov.com





Application for Urban Design Committee Review

Department of Planning and Development Review

Planning & Preservation Division

900 E. Broad Street, Room 510

Richmond, Virginia 23219 | (804) 646-6335

<https://www.rva.gov/planning-development-review/urban-design-committee>



Application Type (select one)

Location, Character, & Extent

Section 17.05

Other: _____

Encroachment

Design Overlay District

Review Type (select one)

Conceptual

Final

Project Information

Submission Date: _____

Project Name: _____

Project Address: _____

Brief Project Description (this is not a replacement for the required detailed narrative):

Applicant Information (a City representative must be the applicant, with an exception for encroachments)

Name: _____ Email: _____

City Agency: _____ Phone: _____

Main Contact (if different from Applicant): _____

Company: _____ Phone: _____

Email: _____

Submittal Deadlines

All applications and support materials must be filed no later than 21 days prior to the scheduled meeting of the Urban Design Committee (UDC). Please see the schedule on page 3 as actual deadlines are adjusted due to City holidays. **Late or incomplete submissions will be deferred to the next meeting.**

Filing

Applications can be mailed or delivered to the attention of "Urban Design Committee" at the address listed at the top of this page. **It is important that the applicant discuss the proposal with appropriate City agencies, Zoning Administration staff, and area civic associations and residents prior to filing the application with the UDC.**

Submittal Deadlines

The UDC is an 11 member committee created by City Council in 1968 whose purpose is to advise the City Planning Commission (CPC) on the design of projects on City property or right-of-way. The UDC provides advice of an aesthetic nature in connection with the performance of the duties of the Commission under Sections 17.05, 17.06, and 17.07 of the City Charter. The UDC also advises the Department of Public Works in regards to private encroachments in the public right-of-way.



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Submission Requirements

- An electronic copy (PDF preferred) of all application materials, which can be emailed, or delivered by FTP or USB.
- Three (3) copies of the application cover sheet and all support materials (see below).
- Plan sheets should be 11" x 17", folded to 8 1/2" x 11". If it is not possible to scale plans to these dimensions, please provide one set of larger, scaled plans.
- All applications must include the attached cover sheet and the following support materials, as applicable to the project, based on Review Type:

Conceptual Review:

- A detailed project narrative which includes the following: purpose of the project, project background, project budget and funding sources, description of construction program and estimated construction start date (description should also provide information on the surrounding area to provide context).
- A site plan for the project indicating site characteristics which include: building footprints, parking areas, pedestrian routes, recreation areas, open areas, and areas of future expansion.
- A set of floor plans and elevations, as detailed as possible.
- A landscaping plan which shows the general location and character of plant materials and notes any existing tree to be removed.

Final Review:

- A detailed project narrative which includes the following: purpose of the project, project background, project budget and funding sources, description of construction program, and estimated construction start date (description should also provide information on the surrounding area to provide context).
- A site plan for the project indicating site characteristics which include: building footprints, parking areas, pedestrian routes, recreation areas, open areas, and areas of future expansion.
- A set of floor plans and elevations, as detailed as possible.
- A landscaping plan that includes a complete plant schedule, the precise location of all plant materials, and a landscape maintenance analysis. The plant schedule must show number, size and type of each planting proposed. If existing trees are to be removed, their size, type, and location must be noted on the landscape plan.
- The location of all lighting units should be noted on a site plan, including wall-mounted, site, and parking lot lighting. Other site details such as benches, trash containers, and special paving materials should also be located. Include specification sheets for each item.
- Samples of all proposed exterior building materials, including but not limited to brick, mortar, shingles, siding, glass, paint, and stain colors. When an actual sample cannot be provided, a product information sheet that shows the item or a photo of an existing item may be substituted.

Review and Processing

- Once an application is received, it is reviewed by Staff, who compiles a report that is sent to the UDC.
- A copy of the report and the meeting agenda will be sent to the applicant prior to the meeting.
- At the UDC meeting, the applicant or a representative should be present or the application may be deferred to the next regularly scheduled meeting. It is also strongly suggested that a representative of the City Agency which will have final responsibility for the item be present at the meeting (if the applicant and the representative are not the same).
- Once the UDC recommends action on the application, it is automatically placed on the agenda for the next City Planning Commission (CPC) meeting. Exceptions to this are encroachment applications, recommendations for which are forwarded to the Department of Public Works.
- At the CPC meeting, the applicant or a representative should be present, or the application may be deferred to the next regularly scheduled meeting.



Application for Urban Design Committee Review

Department of Planning and Development Review
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Regular meetings are scheduled on the Thursday after the first Monday of each month at **10:00 a.m. in the 5th floor conference room of City Hall, 900 E. Broad Street**. Special meetings are scheduled as needed.

Meeting Schedule 2021

UDC Meetings	UDC Submission Deadlines	Anticipated Date of Planning Commission Following the UDC Meeting
December 10, 2020	November 12, 2020	December 21, 2020
January 7, 2021	December 17, 2020	January 19, 2021 ¹
February 4, 2021	January 14, 2021	February 16, 2021 ²
March 4, 2021	February 11, 2021	March 15, 2021
April 8, 2021	March 11, 2021	April 19, 2021
May 6, 2021	April 15, 2021	May 17, 2021
June 10, 2021	May 13, 2021	June 21, 2021
July 8, 2021	June 17, 2021	July 19, 2021
August 5, 2021	July 15, 2021	August 16, 2021 ³
September 9, 2021	August 12, 2021	September 20, 2021
October 7, 2021	September 16, 2021	October 18, 2021
November 4, 2021	October 14, 2021	November 15, 2021
December 9, 2021	November 10, 2021 ⁴	December 20, 2021 ⁵

¹ Monday January 18, 2021 is a City of Richmond Holiday

² Monday February 15, 2021 is a City of Richmond Holiday

³ This meeting is subject to cancellation. If so, Planning Commission hearing would be Tuesday September 7, 2021.

⁴ Thursday November 11, 2021 is a City of Richmond Holiday.

⁵ This meeting of the Planning Commission is subject to cancellation.

The Richmond Urban Design Committee is an 11 member advisory committee created by City Council in 1968. Its purpose is to advise the City Planning Commission on the design of City projects. The Urban Design Committee reviews projects for appropriateness in "location, character, and extent" and for consistency with the City's Master Plan and forwards recommendations to the City Planning Commission. The Urban Design Committee also advises the Department of Public Works in regards to private encroachments in the public right-of-way.

For more information, please contact the Planning and Preservation Division staff at (804) 646-6335 or Alex Dandridge at (804) 646-6569 or at alex.dandridge@richmondgov.com.

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT

Project Description – Final Review

April 12, 2021

The existing Byrd Park Reservoir is located at the southern end of the Arthur Ashe Boulevard in Byrd Park. This water storage reservoir is familiar to many residents because of the 20-foot high earthen berm that forms the reservoir walls and is a little over 8 acres in size.

The Byrd Park Reservoir was built in 1876 and was provided with a prestressed concrete roof in the early 1970s that fully enclosed the open-air reservoir to form two 25 million gallon tanks. The existing concrete tank roof is reaching the end of its useful life and is being scheduled to be replaced by two new aluminum roofs.

The Department of Public Utilities plans to upgrade this water storage facility with the following improvements in addition to the tank roof replacement:

- Replacing existing tank outlet gates
- Upgrading tank overflow piping systems
- Replacing existing tank inlet and outlet valves
- Constructing new City Zone 2 North Transmission Main around the tanks for improved system reliability and redundancy
- Providing tank security system enhancements
- Providing tank ventilation system improvements
- Providing new tank mixing systems for water quality enhancement
- Constructing a new electrical and control building
- Providing other water storage facility upgrades and improvements.

In order to provide adequate roof drainage, the proposed new aluminum tank roofs will have a slightly higher level at their center than the existing concrete roofs. The new roofs will only be slightly more visible than the existing roofs because of the height of the existing earthen berms that surround the tanks. It is planned that the old concrete stairs on the east and west side of the tanks be removed to improve park user safety levels. The existing concrete stair on the south side of the tanks will be replaced by a new upgraded concrete stair to allow the operator safer access to the tanks.

The tanks will be provided with new overflow systems that need free discharge vents at grade level at the tank earth berms. It is proposed that each overflow vent be provided with small structural security enclosure that is recessed into the earthen berms to minimize park user impacts. These overflow vent structures will have architectural cast stone exterior walls that are similar to the Columbus Pumping Station Electrical Building that is located on the northwest corner of the existing tank earth berm.

The two northern access drives from Arthur Ashe Boulevard and the fencing system around the top of the tank earthen berms will not be significantly altered by this project. It is planned that two existing northern access drives from Arthur Ashe Boulevard will be used for removal of the existing concrete roofs and construction of the two new aluminum roofs and for making other water storage tank upgrades and improvements. The use of these existing tank access drives, for construction traffic, will limit project impacts on park users. The existing cobblestone pavers at the Arthur Ashe Boulevard entrances will be

removed during construction and then replaced when the project access work to the tanks has been completed.

The proposed tank valve replacements and piping system improvements on the east side of the Trafford Pumping Station will be routed through the park to minimize overall impacts, but it is expected that some existing tree removals will be needed. It is planned that some new trees will be provided at better locations within the park.

The estimated construction costs for the tank roof replacement project is \$47,388,000. The City of Richmond, Department of Public Utilities will finance this project from their Capital Budget. The City is planning to initiate construction on this project in the fall of 2021.





Existing Columbus Electrical Building
(Showing Security Fence and Architectural Finish)

BYRD PARK TANK ROOF REPLACEMENT
URBAN DESIGN COMMITTEE

UDC Conditional Approval
Final Approval Action Items

Greeley and Hansen
April 5, 2021

A. General

UDC provided the City with conditional conceptual design approval of the proposed Byrd Park Tank Roof Replacement project on March 7, 2019. During the March 18, 2019 Planning Commission Meeting, the Planning Commission accepted and approved the UDC conditional conceptual approval as shown in the meeting minutes in Appendix A. This approval included the following six conditions which were provided by UDC:

1. Condition No. 1: That the applicant consider and provide an explanation of possible alternatives to minimize the visibility of the roof from surrounding areas.
2. Condition No. 2: That the applicant provide necessary materials, when appropriate, for final review.
3. Condition No. 3: That the applicant provide a tree demolition plan including a detailed planting plan, for final review.
4. Condition No. 4: That the applicant consider and provide an explanation of possible improvements to pathway materials and circulation.
5. Condition No. 5: That the applicant consider and provide an explanation of possible alternatives to fencing design (around the reservoir roof).
6. Condition No. 6: That the applicant confirm if this project is eligible for a 1% allocation for public art, and if so, that the applicant include public art.

This report provides replies to the six (6) conditions included in the conditional UDC approval.

B. UDC Final Approval Conditions

1. Condition No. 1, Alternative Evaluation to Minimize Visibility

A list of potential preliminary alternatives was developed based on previous discussions with UDC (Joshua Son) during UDC conceptual design review period, discussions during the UDC meeting, and other potential options.

- a. Alt. 1: Perimeter landscaping to shield new roof from public view.
- b. Alt. 2: Existing fence replacement by new ornamental and security type fence.
- c. Alt. 3: Existing fence provided with fabric as a visual screen for the new roof.
- d. Alt. 4: Use existing fence without changes.

Alternative 1 (perimeter landscaping) is not considered feasible because the use of landscaping to shield the tank roofs is not recommended because of potential long term structural impacts on the overall integrity of the earthen berm type water storage facility. Landscaping root systems can result in holes in the earthen berm, when they die and those holes can then allow seepage through the embankment that can lead to failure of the embankment. Earthen berm codes and regulations and dam design practices do not allow landscaping on earthen berm used water storage facilities. The UDC also noted that this was not a feasible option in their meeting notes.

Alternative 2 (new ornamental fence) was considered feasible and will improve the visible appearance of the fencing system and is the same type of ornamental and security type fence that has been used in the past for the Columbus Pumping Station and Electrical Building located on the north side of the existing Byrd Park Tanks.

Alternative 3 (fabric vision barrier) is considered feasible and will have a low construction cost but would increase security risk because the tanks would not be visible around their exterior access areas.

Alternative 4 (existing fence without change) is not considered feasible because of UDC objections and concerns About visible appearance.

The Alternative 2 new ornamental and security type fencing has been selected by the City for implementation and is shown on the final design Drawing C16.

2. Condition No. 2, Provide Necessary Materials

Final design drawings and details for the new replacement roof are included in the final UDC Design Submittal. The final drawings should provide all the information needed for UDC review.

3. Condition No. 3, Tree Demolition and Planting Plan

The final design drawings include landscaping plans which include proposed existing tree demolition and new tree planting plans and planting details as shown on Drawings L1.00, L1.01, and L2.0.

The Department of Public Utilities has also provided Urban Forestry with a \$13,000 cost allocation to provide for any additional tree planting needed for forestry sustainability after this project has been completed.

Meetings were held with City Park and Urban Forestry staff concerning the plan for providing replacement trees in the park. City Park staff provided recommendations for placement of new trees, in the park under this project, which are consistent with the park master plan.

The landscaping plans include the replacement trees for both the Valve and Pipeline Project and the Tank Roof Project. The new trees would be installed after both projects have been completed.

4. Condition No. 4, Park Pathways, Materials and Circulation

UDC members were concerned that new park pathways are needed around the north, east and south sides of the existing Byrd Park Tanks. A study was conducted to determine the need for new park pathways, pathway routes, circulation, and construction materials.

Site inspections and evaluations were conducted and summarized and then meetings held with the Parks Department staff to discuss park pathway system improvement plans. These evaluations concluded that a new park pathway be provided around the east side of the tanks from Arthur Ashe Boulevard on the north side of the Byrd Park Tanks. This route provides a Park Pathway from Arthur Ashe Boulevard to the main Park Pathway system. The new Park Pathway will use portions of an existing pathway around the east side of the Byrd Park Tanks which appear to have been abandoned over the years. The new Park Pathway will be constructed of the same materials used for the other pathways within the Park.

The proposed location of the new Park Pathway is shown on final design Drawing C4.

5. Condition No. 5, Existing Fence Replacement Option

UDC members indicated, during the UDC meeting, that the existing chain link fencing system around the tanks needs to be replaced by a new fencing system with improved visual appearance. It is proposed that existing fence replacement alternatives be developed and evaluated.

These evaluations concluded that the existing galvanized steel chain link fencing be replaced by a new black color ornament and security type fence that has been used in the past at the Columbus Pumping Station and Electrical Building located on the north side of the Byrd Park Tanks. Details of the new black color ornamental and security type fence are shown on Drawing C16.

6. Condition No. 6, Project Eligible for Public Art Program

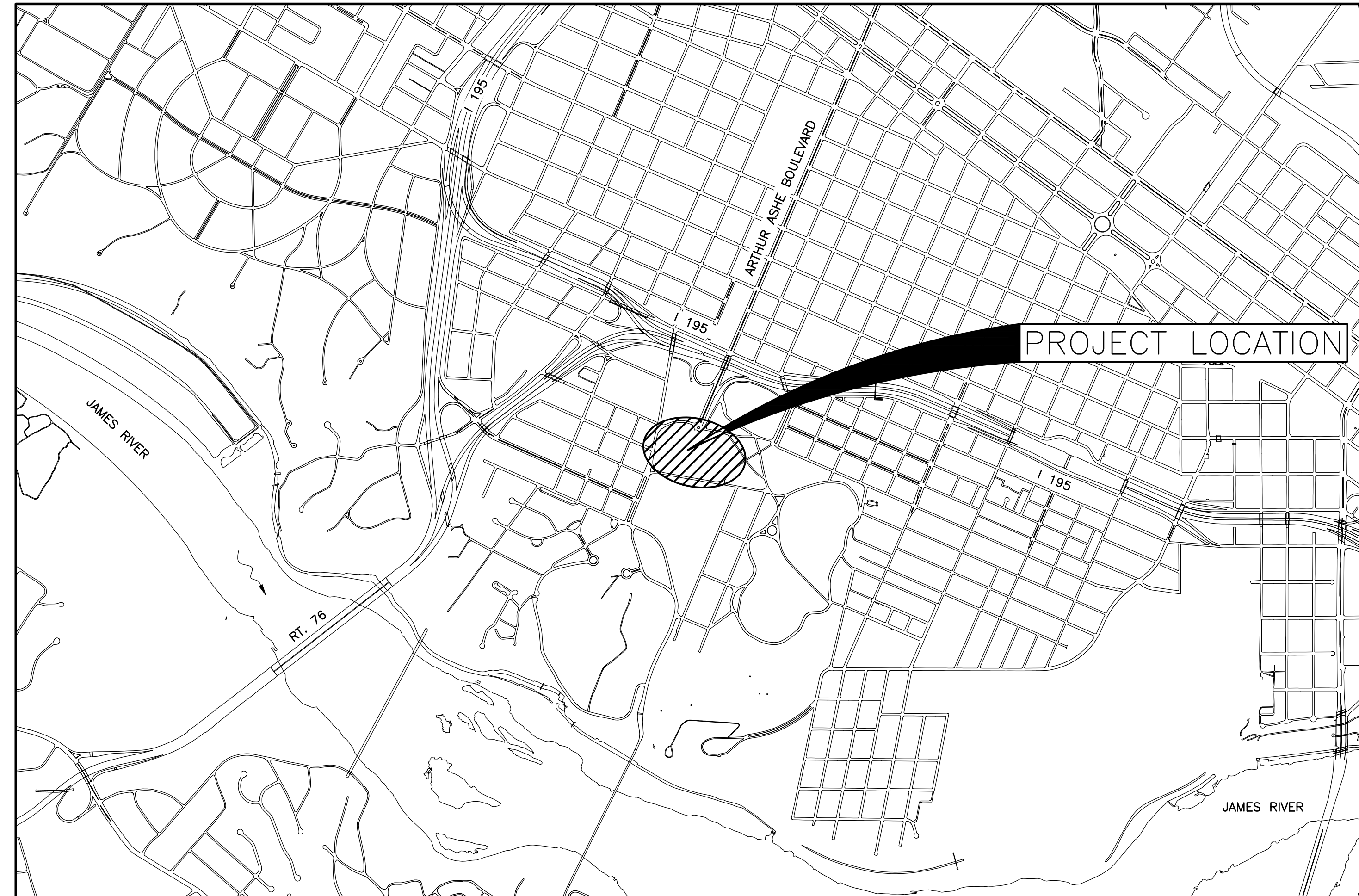
Ordinance No. 2018-205, Public Art Master Plan has updated, modified, and supersedes previous Ordinance No. 97-3-41, "1% for Art" Program concerning City public art master planning. Appendix B includes a copy of the City ordinance concerning the Public Art Master Plan.

The City has reviewed Ordinance No. 2018-205, Public Art Master Plan to see if the Byrd Park Water Storage Facility is considered to be a public building or pedestrian-oriented open space that would qualify to be included in the Public Art Master Plan.

The evaluations concluded that the proposed Byrd Park Water Storage Facility is not considered eligible to participate in the Public Art Program because it is not a public building or pedestrian-oriented open space which meet the goals of the Public Art Program. This drinking water storage facility is required by the Virginia Department of Health Waterworks Regulations to have a security type fencing system to prevent public access to the facility in order to protect the water quality and facility security.

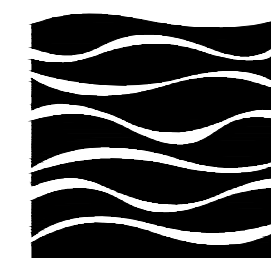
CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES

BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT



VICINITY MAP

0 600 1200 2400



GREELEY AND HANSEN

9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

IN ASSOCIATION WITH

ECE Environ-Civil Engineering, Ltd.
Engineers • Scientists • Construction Managers
2108 ☐ ☐ ☐ Avenue ☐ Suite 250 ☐ Richmond ☐ ☐ 23227

Delon Hampton
ASSOCIATES CHARTERED

HG
design studio
3701 Grove Avenue Richmond Virginia 23226
804.762.7500 www.hg.net
land planning | civil engineering
landscape architecture

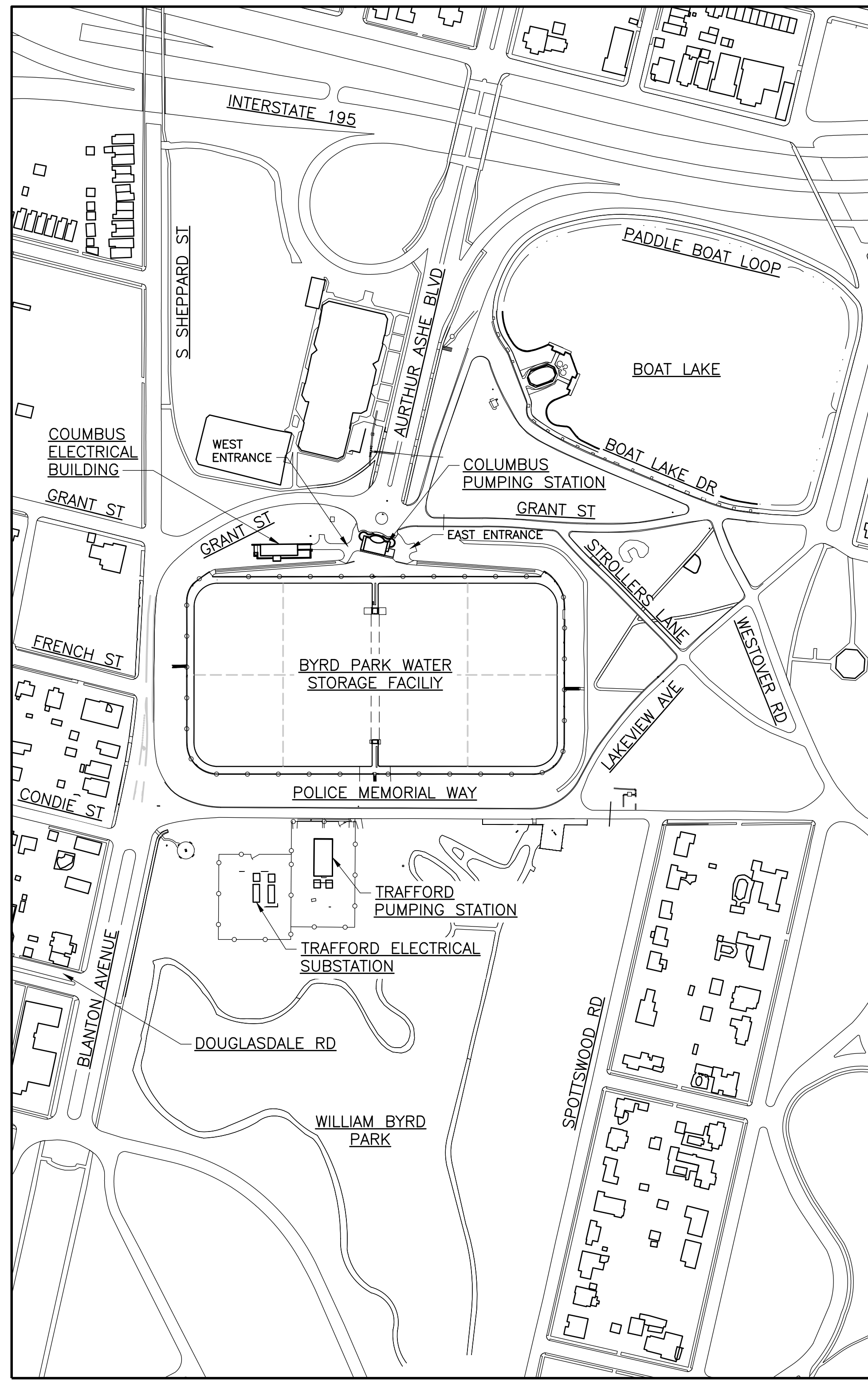
MAY 2021

PROJECT ADDRESS
700 SOUTH ARTHUR ASHE BOULEVARD
RICHMOND, VA 23220
MAP REFERENCE NUMBER: W0000879003

OWNER CONTACT
RICKY HATFIELD
DEPARTMENT OF PUBLIC UTILITIES
2700 POLICE MEMORIAL WAY
RICHMOND, VA 23220
PHONE: (804) 646-1933

DPU CONTACT
RICKY HATFIELD
DEPARTMENT OF PUBLIC UTILITIES
2700 POLICE MEMORIAL WAY
RICHMOND, VA 23220
PHONE: (804) 646-1933

- PERMITS REQUIRED**
1. LAND DISTURBANCE PERMIT
 2. VIRGINIA STORMWATER MANAGEMENT PROGRAM PERMIT
 3. STORMWATER DISCHARGE PERMIT
 4. BUILDING PERMIT
 5. ELECTRICAL PERMIT
 6. CONSTRUCTION WATER SERVICE PERMIT
 7. WORK IN STREETS PERMIT
 8. SPECIAL INSPECTIONS PROGRAM PERMIT



AREA MAP
SCALE: 1" = 200'

DRAWING NUMBER KEY

THE LETTER OF THE DWG NO. INDICATES THE DISCIPLINE AS FOLLOWS:

- G - GENERAL
- C - CIVIL
- S - STRUCTURAL
- A - ARCHITECTURAL
- M - MECHANICAL
- E - ELECTRICAL
- L - LANDSCAPE

DRAWING INDEX

SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
GENERAL		
1	-	COVER
2	G1	AREA MAP, DRAWING INDEX, GENERAL NOTES AND ABBREVIATIONS
3	G1.1	TRAFFIC CONTROL PLANS
4	G1.2	CONSTRUCTION SEQUENCE, NOTES AND DIAGRAM
5	G2	EROSION AND SEDIMENT CONTROL NOTES
6	G3	EROSION AND SEDIMENT CONTROL DETAILS
7	G4	OVERALL EROSION AND SEDIMENT CONTROL MAP
8	G5	EROSION AND SEDIMENT CONTROL PRACTICES 1
9	G6	EROSION AND SEDIMENT CONTROL PRACTICES 2
10	G7	EXISTING DRAINAGE PLAN
11	G8	POST-DEVELOPMENT DRAINAGE MAP AND PROPOSED SITE PLAN
12	G9	POST-DEVELOPMENT STORMWATER CALCULATIONS
13	G10	TEMPORARY DEWATERING AND SEDIMENT CONTROL SYSTEM SITE PLAN AND DIAGRAM
14	G11	TEMPORARY DEWATERING AND SEDIMENT CONTROL SYSTEM DETAILS AND SECTIONS
CIVIL		
15	C1	DEMOLITION SITE PLAN
16	C1.1	DEMOLITION NORTH OUTLET WELL
17	C1.2	DEMOLITION SOUTH OUTLET WELL
18	C2	DEMOLITION SECTIONS
19	C3	YARD PIPING PLAN
20	C4	SITE PLAN
21	C5	TANK OVERFLOW PLAN AND PROFILE 1
22	C6	TANK OVERFLOW PLAN AND PROFILE 2
23	C7	TANK OVERFLOW AND OVERFLOW WEIR BOX SECTIONS
24	C8	NORTH STORM SEWER PLAN AND PROFILE
25	C9	NORTH STORM SEWER PLAN AND PROFILE
26	C10	SOUTH STORM SEWER PLAN AND PROFILE
27	C11	SOUTH STORM SEWER PLAN AND PROFILE
28	C12	SOUTH STORM SEWER PLAN AND PROFILE
29	C13	TRENCH DRAIN PLANS
30	C14	DETAILS
31	C15	SECTIONS AND DETAILS
32	C16	GATE DETAILS
STRUCTURAL		
33	S1.0	GENERAL NOTES - I
34	S1.1	GENERAL NOTES - II
35	S2	WIND LOADING DIAGRAMS
36	S3	FOUNDATION PLAN
37	S4	TOTAL
38	S5	GENERAL SECTIONS
39	S6	PERIMETER WALL ELEVATIONS - I
40	S7	PERIMETER WALL ELEVATIONS - II
41	S8	PERIMETER WALL ELEVATIONS - III
42	S9	TANK SECTIONS AND DETAILS - I
43	S10	TANK SECTIONS AND DETAILS - II
44	S11	TANK SECTIONS AND DETAILS - III
45	S12	TANK SECTIONS AND DETAILS - IV
46	S13	WALL DETAILS AT ELECTRICAL BUILDING - I
47	S14	WALL DETAILS AT ELECTRICAL BUILDING - II
48	S15	NORTH OUTLET WELL DETAILS - I
49	S16	NORTH OUTLET WELL DETAILS - II
50	S17	SOUTH OUTLET WELL DETAILS - I
51	S18	SOUTH OUTLET WELL DETAILS - II
52	S19	EAST OVERFLOW STRUCTURE DETAILS - I
53	S20	EAST OVERFLOW STRUCTURE DETAILS - II
54	S21	WEST OVERFLOW STRUCTURE DETAILS - I
55	S22	WEST OVERFLOW STRUCTURE DETAILS - II
56	S23	ELECTRICAL BUILDING DETAILS - I
57	S24	ELECTRICAL BUILDING DETAILS - II
58	S25	DETAILS - I
59	S26	DETAILS - II
60	S27	DETAILS - III
61	S28	DETAILS - IV
ARCHITECTURAL		
62	A1	PLANS, ELEVATIONS AND SECTIONS
63	A2	OVERFLOW STRUCTURE
64	A3	DETAILS
65	A4	ILLUSTRATIVE RENDERING
MECHANICAL		
66	M1	SYMBOLS AND LEGEND
67	M2	BYRD PARK TANKS PIPING DIAGRAM
68	M3	OUTLET WELL SLIDE GATE DIAGRAMS
69	M4	TANK MIXING AND TANK WALL DRAIN LOWER PLAN
70	M5	UPPER PLAN
71	M6	NORTH OUTLET WELL (PHASE 2)
72	M7	SOUTH OUTLET WELL (PHASE 2)
73	M8	TANK MIXING SYSTEM DETAILS AND SECTIONS
74	M9	DETAILS 1
75	M10	DETAILS 2
76	M11	DETAILS 3
77	M12	DIAGRAMS AND DETAIL
ELECTRICAL		
78	E1	GENERAL ELECTRICAL NOTES AND ELECTRICAL CHECKLIST
79	E1.1	SYMBOLS AND LEGEND
80	E1.2	GENERAL SITE PLAN
81	E2	SITE PLAN
82	E3	DUCT BANK SECTIONS AND DETAILS
83	E4	NEW CCTV SITE PLAN
84	E5	ONE LINE DIAGRAM AND MCC-1 ELEVATION
85	E6	BLOCK DIAGRAMS
86	E7	CCTV BLOCK DIAGRAM, ELECTRICAL BUILDINGS AND SECTIONS
87	E8	ELECTRICAL BUILDING POWER AND LIGHTING PLAN
88	E9	CABLE AND CONDUIT SCHEDULE AND DETAILS
89	E10	PANEL BOARD AND LIGHTING SCHEDULES AND DETAILS
LANDSCAPE ARCHITECTURE		
90	L1.00	TREE REMOVAL PLAN - PHASE 1
91	L1.01	TREE REMOVAL PLAN - PHASE 2
92	L2.0	LANDSCAPE PLAN

GENERAL NOTES

- EXISTING PIPING, UTILITIES, BUILDINGS, ELEVATIONS AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD MEASURE ALL CONDITIONS AND DIMENSIONS AFFECTING THIS WORK AND ADJUST AS NECESSARY TO SUIT EXISTING FACILITIES.
- TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTOR'S EXPENSE. ALL TEMPORARY SUPPORT OR TEMPORARY RELOCATION OF EXISTING UTILITIES SHALL BE AT THE CONTRACTOR'S EXPENSE.
- NOTIFY MISS UTILITY (811) OF CENTRAL VIRGINIA AT LEAST 72 HOURS PRIOR TO MAKING ANY EXCAVATION.
- THE CONTRACTOR IS RESPONSIBLE TO MAKE ALL MEASUREMENTS NECESSARY TO LOCATE, FABRICATE, ERECT, CONSTRUCT AND OTHERWISE INSTALL ALL NEW WORK IN LOCATIONS SHOWN AND RELOCATE AND REWORK EXISTING WORK ALL TO THE ARRANGEMENTS, GUIDANCE AND INSTRUCTIONS SHOWN AND REQUIRED FOR A COMPLETE TROUBLE-FREE OPERATING INSTALLATION.
- SOIL BORINGS HAVE BEEN PERFORMED ON THE TANK SITE BY GEOTECH-ENVIRONMENTAL SOLUTIONS, LLC. MIDLOTHIAN, VIRGINIA AND SCHNABEL ENGINEERING, LLC. GLEN ALLEN, VIRGINIA. BOREHOLE LOCATIONS HAVE BEEN IDENTIFIED AS "B" FOLLOWED BY THE HOLE NUMBER.
- CONNECTIONS OF NEW PIPELINES TO EXISTING MAINS WILL BE PERFORMED BY THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN AND SCHEDULE FOR MAKING THE CONNECTIONS TO THE CITY OF RICHMOND FOR APPROVAL.
- PROVIDE 3.5' MINIMUM COVER (TYPICAL) FOR NEW WATERLINES UNLESS OTHERWISE SHOWN.
- LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING PIPING, EQUIPMENT, STRUCTURES AND OTHER EXISTING WORK ARE BASED ON INFORMATION FURNISHED BY VARIOUS SOURCES, INCLUDING EXISTING RECORD DRAWINGS AND CONTRACT DOCUMENTS, AND IN SOME INSTANCES FIELD MEASUREMENTS. LOCATIONS, ELEVATIONS AND DIMENSIONS OF NEW WORK CONNECTING OR ADJACENT TO OR INTERFACING WITH EXISTING WORK HAVE BEEN DEVELOPED AND ARRANGED BASED ON THE FOREGOING INFORMATION AND FIELD MEASUREMENTS. THE CONTRACTOR IS RESPONSIBLE TO FIELD CHECK AND MEASURE LOCATIONS, ELEVATIONS AND DIMENSIONS AND TO FIT AND OTHERWISE INSTALL THE NEW WORK TO ACTUAL EXISTING LOCATIONS, ELEVATIONS AND DIMENSIONS FOR A COMPLETE AND TROUBLE-FREE OPERATING FACILITY.
- DIMENSIONS NOTED BY A DOUBLE ASTERISK (**) SHALL BE CHECKED BY THE CONTRACTOR BY ACTUAL FIELD MEASUREMENTS AND DIMENSIONS AND CONSTRUCTION ADJUSTED TO FIT NEW CONSTRUCTION TO ACTUAL LOCATIONS OF EXISTING CONSTRUCTION AS SHOWN AND REQUIRED.
- AN ASTERISK (*) AT NEW CONSTRUCTION DENOTES LOCATIONS, ELEVATIONS, DIMENSIONS AND OTHER INFORMATION DEPENDENT ON THE CONTRACTOR'S SUBMITTALS. THE CONTRACTOR SHALL DEVELOP AND SHOW THE INFORMATION MARKED WITH AN ASTERISK (*) ON HIS SUBMITTALS AND SHALL DEVELOP AND PROVIDE SUCH INFORMATION FOR ALL ASTERISKS (*) WITHIN OR INTERFACING WITH ANY SUBMITTALS AND BETWEEN SUBMITTALS. ALL INFORMATION FOR ASTERISKS (*) ARE THE RESPONSIBILITY OF THE CONTRACTOR TO DEVELOP AND ASSURE COMPATIBLE INTERFACING FOR A COMPLETE, COORDINATED AND TROUBLE-FREE OPERATING INSTALLATION. ALL REQUIREMENTS HEREIN SHALL BE BASED ON FINAL PROCESSING AND/ OR REVIEW OF THE CONTRACTOR'S SUBMITTALS OR SELECTIONS.
- SURVEY INFORMATION: TOPOGRAPHIC INFORMATION TAKEN FROM A SURVEY WHICH WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF NXL CONSTRUCTION COMPANY, INC. FROM AN ACTUAL GROUND SURVEY MADE UNDER SUPERVISION BY DAVID JONES; THAT THE IMAGERY AND / OR ORIGINAL DATA WAS OBTAINED MAY THROUGH JULY, 2018; AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE SPECIFIED. HORIZONTAL DATUM: VA STATE PLANS - SOUTH ZONE - NAD 83 - US SURVEY FOOT. VERTICAL DATUM: NGVD 29.
- A DISTINCTION BETWEEN NEW AND EXISTING MATERIALS, EQUIPMENT AND STRUCTURES HAS BEEN MADE ON THE DRAWINGS BY LINE WEIGHT AND/OR DENSITY. HEAVY REPRESENTS NEW. LIGHT AND/OR SCREENED REPRESENTS EXISTING.
- THE CONTRACTOR IS RESPONSIBLE TO FABRICATE, ERECT, CONSTRUCT AND OTHERWISE INSTALL ALL NEW WORK CONNECTING TO EXISTING WORK AND MAKE ALL NECESSARY RELOCATIONS TO THE ARRANGEMENTS AND GENERAL DESIGN SHOWN. THE CONTRACTOR IS ALSO RESPONSIBLE TO MAKE ANY ADJUSTMENTS IN FABRICATION, ERECTION, CONSTRUCTION AND INSTALLATION NECESSARY TO CONSTRUCT AND FIT NEW WORK AND RELOCATIONS TO EXISTING CONDITIONS AND LOCATIONS TO CONFORM TO THE ARRANGEMENTS AND GENERAL DESIGN SHOWN. ADJUSTMENTS PROPOSED OR CONTEMPLATED BY THE CONTRACTOR SHALL CONFORM TO REQUIREMENTS AND STANDARDS OF THE CONTRACT DOCUMENTS.
- THE CONTRACTOR IS RESPONSIBLE TO MAKE RELOCATIONS SHOWN TO MATCH THE MATERIAL AND QUALITY OF THE FACILITY. CONSTRUCTION OR WORK TO BE RELOCATED, RELOCATIONS SHOWN ARE TO BE ARRANGED AS REQUIRED TO PRODUCE PERFORMANCE, UTILITY AND ACCESS EQUAL TO THE EXISTING WORK.
- EXISTING CONSTRUCTION OR WORK TO BE USED, IMPACTED OR OTHERWISE AFFECTED BY THE CONTRACTOR IN PERFORMANCE OF THE WORK UNDER THIS CONTRACT SHALL BE INSPECTED PRIOR TO STARTING WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, MODIFY, UPGRADE, PROTECT, SUPPLEMENT OR SUPPORT EXISTING CONSTRUCTION OR WORK TO OBTAIN THE DEGREE OF SERVICE REQUIRED BY THE CONTRACTOR TO PERFORM THE WORK. THE CONTRACTOR SHALL RETURN EXISTING CONSTRUCTION OR WORK TO ITS FUNCTIONAL EQUIVALENCY FOUND PRIOR TO THE START OF THE CONTRACTOR'S WORK TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR SHALL LIMIT ALL CONSTRUCTION OPERATIONS TO WITHIN THE LIMITS OF CONSTRUCTION SHOWN. IF ADDITIONAL TEMPORARY CONSTRUCTION AREA OR EASEMENTS ARE OBTAINED BY THE CONTRACTOR, THE LOCATIONS OF THESE EASEMENTS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO USE BY THE CONTRACTOR.
- ALL WORK AND COSTS ASSOCIATED WITH COMPLIANCE WITH THESE GENERAL NOTES SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS CONTRACT ITEMS AND NO SEPARATE PAYMENT WILL BE MADE THEREFOR.
- EXISTING CONSTRUCTION SHALL BE REMOVED TO THE EXTENT SHOWN AND SPECIFIED AND AS NEEDED TO BE COMPATIBLE AND ACCOMMODATE NEW WORK OR REPLACEMENT WORK.
- THE CONTRACTOR IS RESPONSIBLE TO ACCEPT ALL EXISTING CONSTRUCTION FOR WORK IN THE STATUS AND CONDITIONS THAT OCCUR WHEN WORK AT THE FACILITY COMMENCES. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO PREPARE AND MAINTAIN THE EXISTING CONSTRUCTION AS NEEDED TO PERFORM ALL WORK UNDER THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AWAY FROM THE SITE OF THE WORK TO HIS OWN PLACE OF DISPOSAL ALL EXCESS ITEMS, MATERIAL AND SUBSTANCES REMOVED. AS PART OF THIS WORK THE CONTRACTOR IS RESPONSIBLE TO FURNISH ALL DESIGN, FABRICATION, ERECTION, LABOR, EQUIPMENT, MATERIALS AND SERVICES.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL SUPPORT OR ANCILLARY ITEMS AND WORK FOR ITEMS SUBMITTED AS EQUIVALENT TO SPECIFIED ITEMS THAT ARE REQUIRED TO PROVIDE THE SAME FUNCTIONAL AND OPERATIONAL CAPABILITIES, NEEDS AND REQUIREMENTS SHOWN AND SPECIFIED FOR THE SPECIFIED ITEM. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO SUBMIT ALL SUPPORT AND ANCILLARY ITEMS AND WORK WITH HIS SUBMITTAL OF THE PROPOSED EQUIVALENT ITEM AND TO SHOW THAT THE PROPOSED EQUIVALENT ITEM HAS BEEN PROPERLY COORDINATED, INTERFACED AND OTHERWISE INCORPORATED INTO THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL SUCH SUPPORT OR ANCILLARY ITEMS AND WORK WHETHER THE NEED FOR THEM HAS BEEN DETERMINED BEFORE, DURING OR AFTER APPROVAL OR ACCEPTANCE OF THE EQUIVALENT ITEM.
- DESCRIPTIONS NOTED ON PLAN SHEETS REFER TO THE TYPE OF EXISTING SURFACE ONLY. ALL SURFACE RESTORATION SHALL BE IN KIND, UNLESS OTHERWISE SHOWN OR SPECIFIED, SHALL MATCH EXISTING GRADE, SHAPE, THICKNESS, SIZE, QUALITY AND PERFORMANCE. SEE SPECIFICATIONS.

ABBREVIATIONS

AL	ALUMINUM
B/	BOTTOM
BFV	BUTTERFLY VALVE
BLDG	BUILDING
CL OR C	CENTERLINE
CLR	CLEAR
CONC	CONCRETE
CONN	CONNECTION
CPJG	COUPLING
DIA	DIAMETER
DISCH	DISCHARGE
DPU	DEPARTMENT OF PUBLIC UTILITIES
DPW	DEPARTMENT OF PUBLIC WORKS
DWG	DRAWING
DWGS	DRAWINGS
EA	EACH
EL	ELEVATION
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
FL	FLOOR
FLG	FLANGE
FT	FOOT
FS	FLANGE SUPPORT
HP	HIGH POINT
INV	INVERT
LF	LINEAR FOOT
LP	LOW POINT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OPNG	OPENING
O/S	OTHER SIDE
PL	PLATE
PS	PUMP STATION
PSI	POUNDS PER SQUIRE INCH
PVC	POLYVINYL CHLORIDE
REQD	REQUIRED
SAN	SANITARY
SCH	SCHEDULE
SST	STAINLESS STEEL
SQ	SQUARE
T/	TOP OF
TEMP	TEMPORARY
THK	THICK
T&B	TOP AND BOTTOM
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
W/	WITH

LEGEND

- D - D - D -	DRAIN
- G - G -	GAS
- S - S -	SEWER
- UE - UE -	ELECTRIC
- W - W -	WATER
(E)	ELECTRIC MANHOLE
(O)	MANHOLE
(X)	UTILITY POLE
(F)	FIRE HYDRANT
R/W	RIGHT OF WAY
PL	PROPERTY LINE
(V)	WATER VALVE
(T)	TREE
(X)	FENCE

CODES:
 VIRGINIA UNIFORM STATEWIDE BUILDING CODE - 2015
 INTERNATIONAL BUILDING CODE - 2015
 INTERNATIONAL MECHANICAL CODE - 2009
 INTERNATIONAL PLUMBING CODE - 2009
 VIRGINIA ENERGY CONSERVATION CODE - 2015
 NATIONAL ELECTRIC CODE 2008

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SCALE

1" = 200'

CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES

**BYRD PARK WATER STORAGE
 TANKS ROOF REPLACEMENT**

GENERAL

**AREA MAP, DRAWING INDEX, GENERAL NOTES AND
 ABBREVIATIONS**

PROJECT NO.: 02189.08

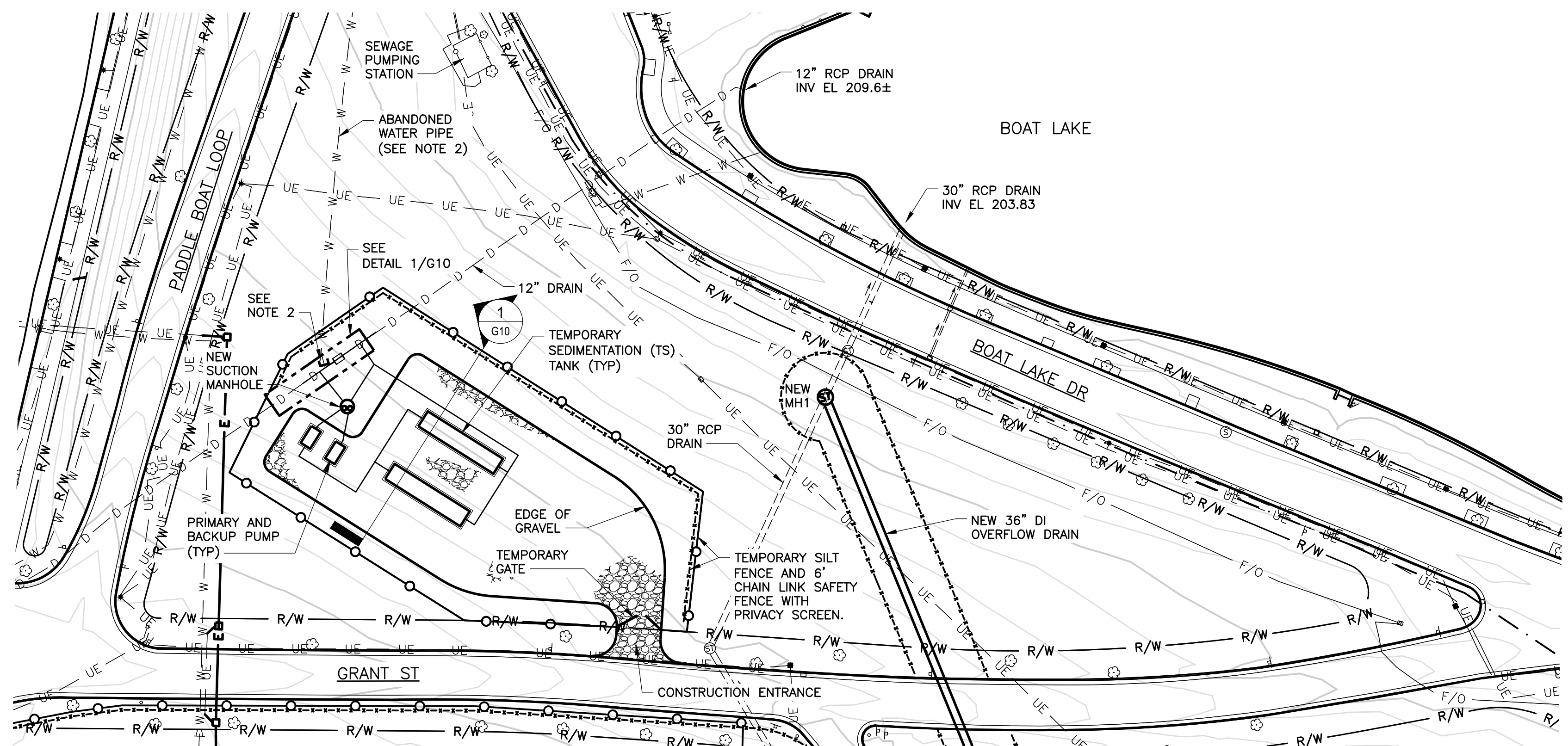
DWG **G1**

SHEET 2 OF 92

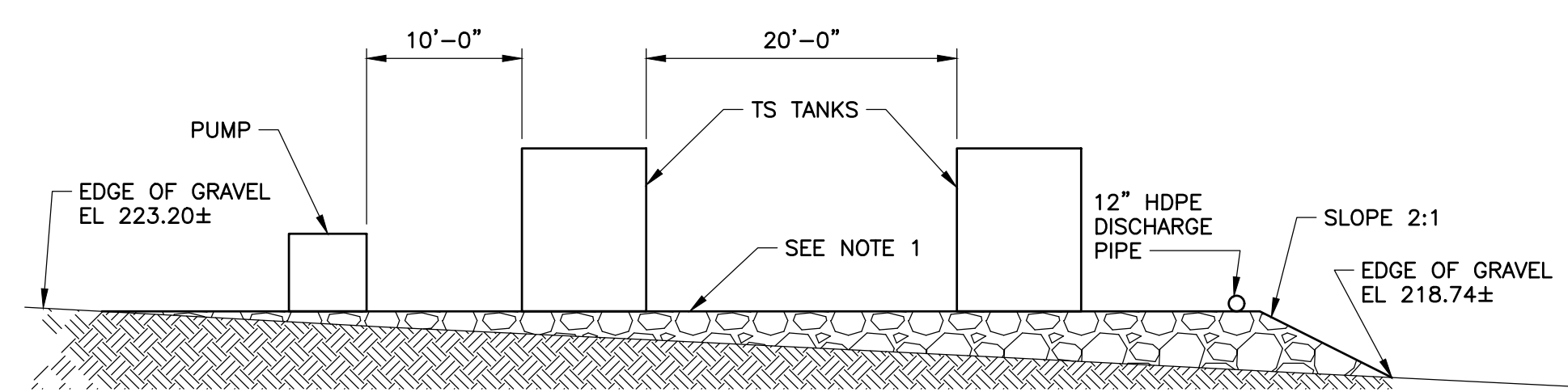
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SITE PLAN
SCALE: 1" = 40'



SECTION
SCALE: 1" = 10'

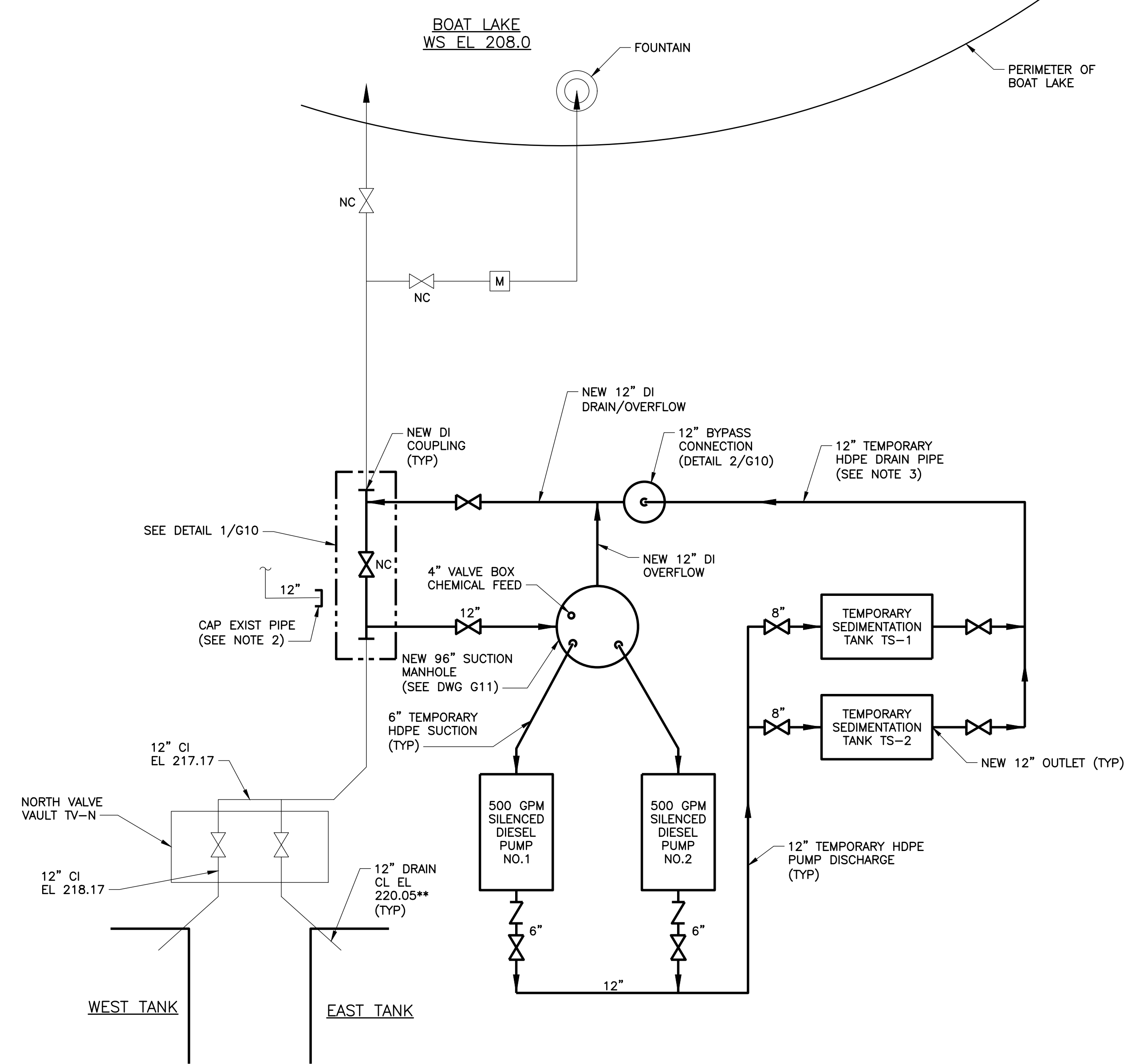
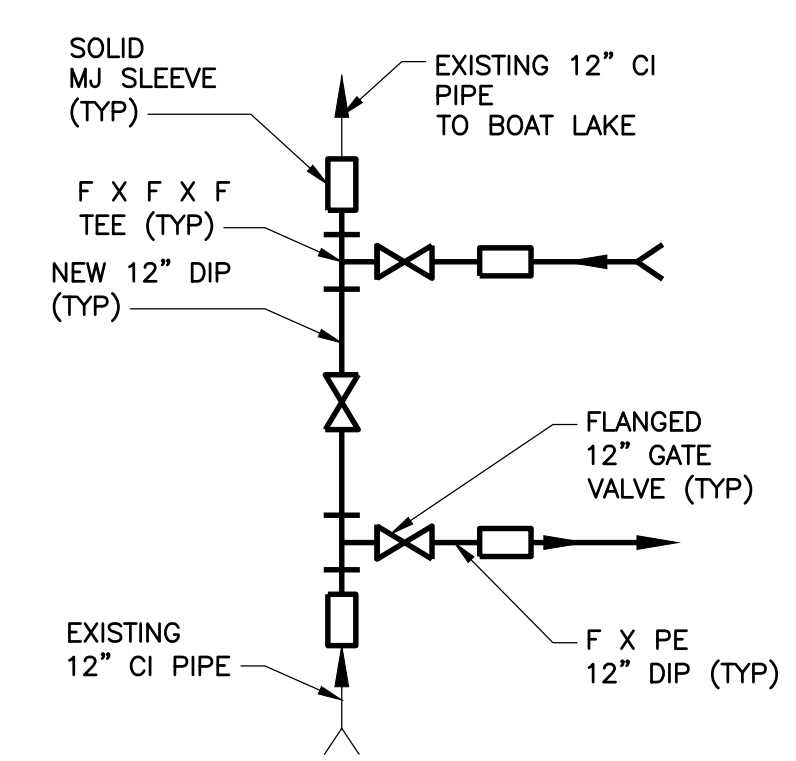
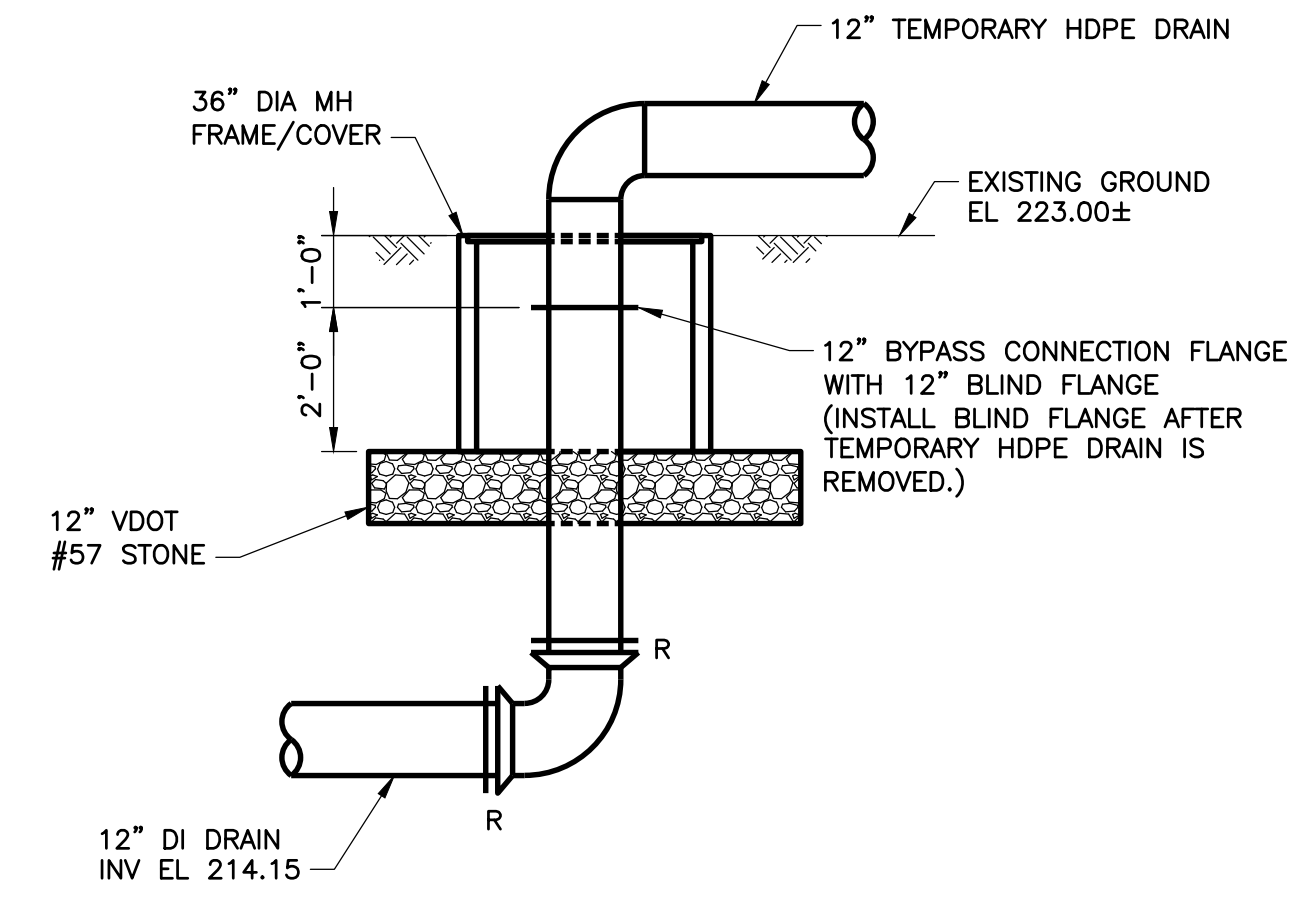


DIAGRAM NEW TEMPORARY SEDIMENTATION TANK PIPING
SCALE: NO SCALE



DETAIL NEW TEMPORARY SEDIMENTATION 12\"/>



DETAIL 12\"/>

NOTES:

1. INSTALL COMPACTED GRAVEL AND GEOTEXTILE TO PROVIDE A LEVEL BASE FOR TANKS, PUMPS, AND OTHER EQUIPMENT. UPON COMPLETION OF DEWATERING OPERATIONS REMOVE GRAVEL AND GEOTEXTILE AND RESTORE SITE TO PRE-CONSTRUCTION CONDITIONS.
2. REMOVE AND REPLACE EXISTING 12" PIPING FOR INSTALLATION OF DEWATERING AND SEDIMENT CONTROL SYSTEM PIPING AND APPURTENANCES. CUT AND CAP EXISTING ABANDONED PIPE FROM THE NORTH.
3. ALL ABOVE GROUND PIPING TO BE HDPE. ALL UNDERGROUND PIPING TO BE DUCTILE IRON.

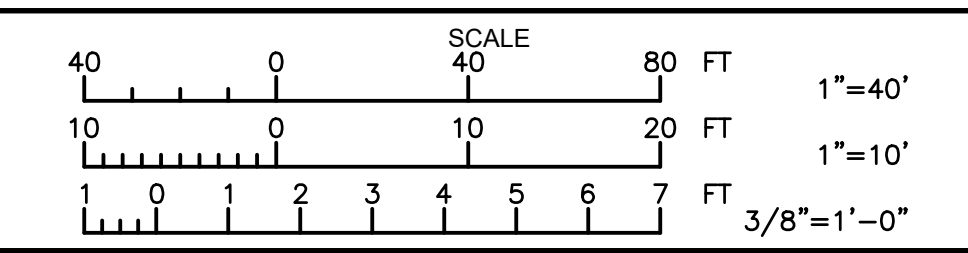
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DRAWN PMY
CHECKED RJC

APPROVED
ROGER J. CRONIN
Lic No. 016431
05/03/2021

NO.	DATE	APPD	DESCRIPTION



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TANKS ROOF REPLACEMENT

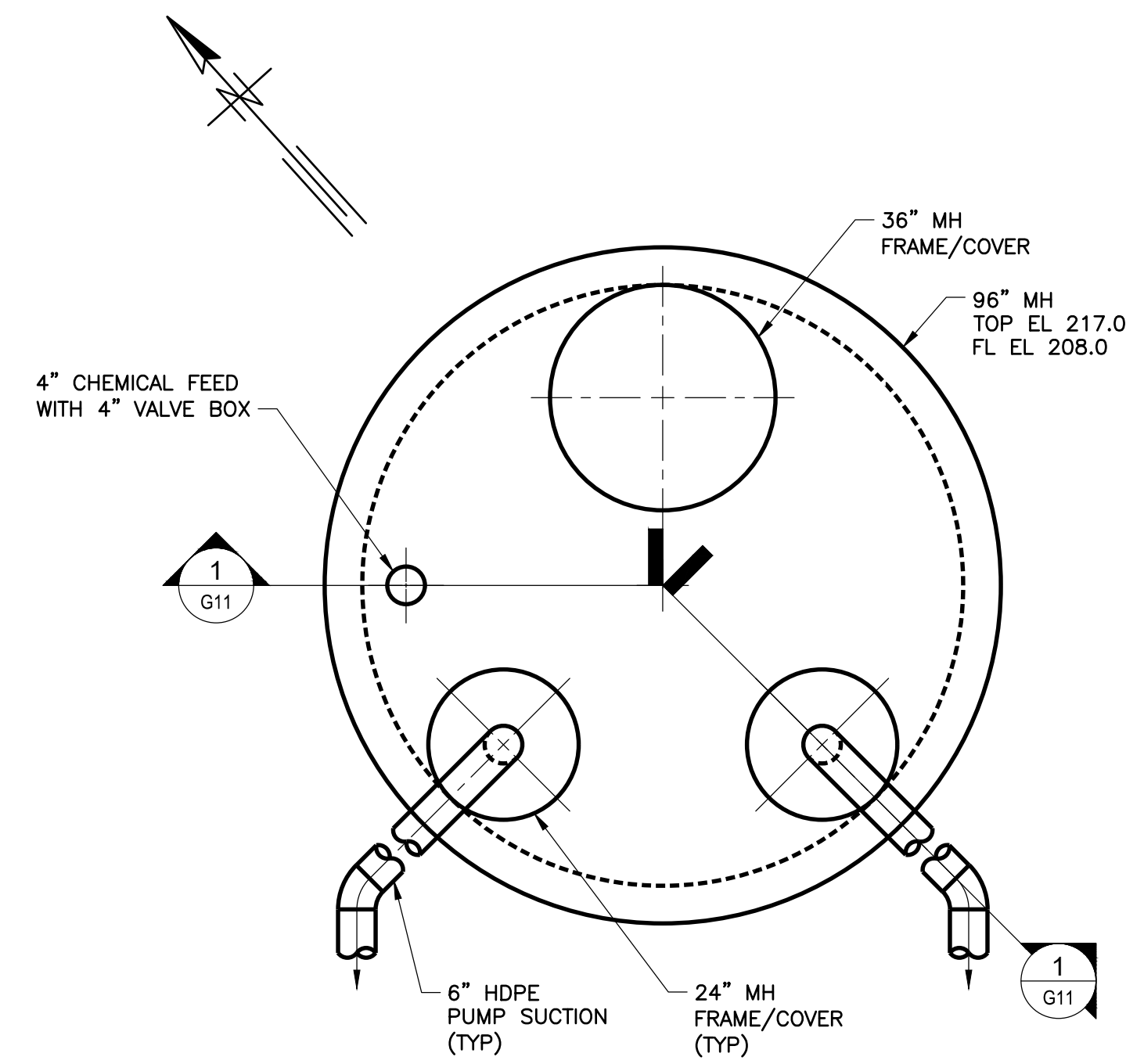


GENERAL
TEMPORARY DEWATERING AND SEDIMENT CONTROL
SYSTEM SITE PLAN AND DIAGRAM

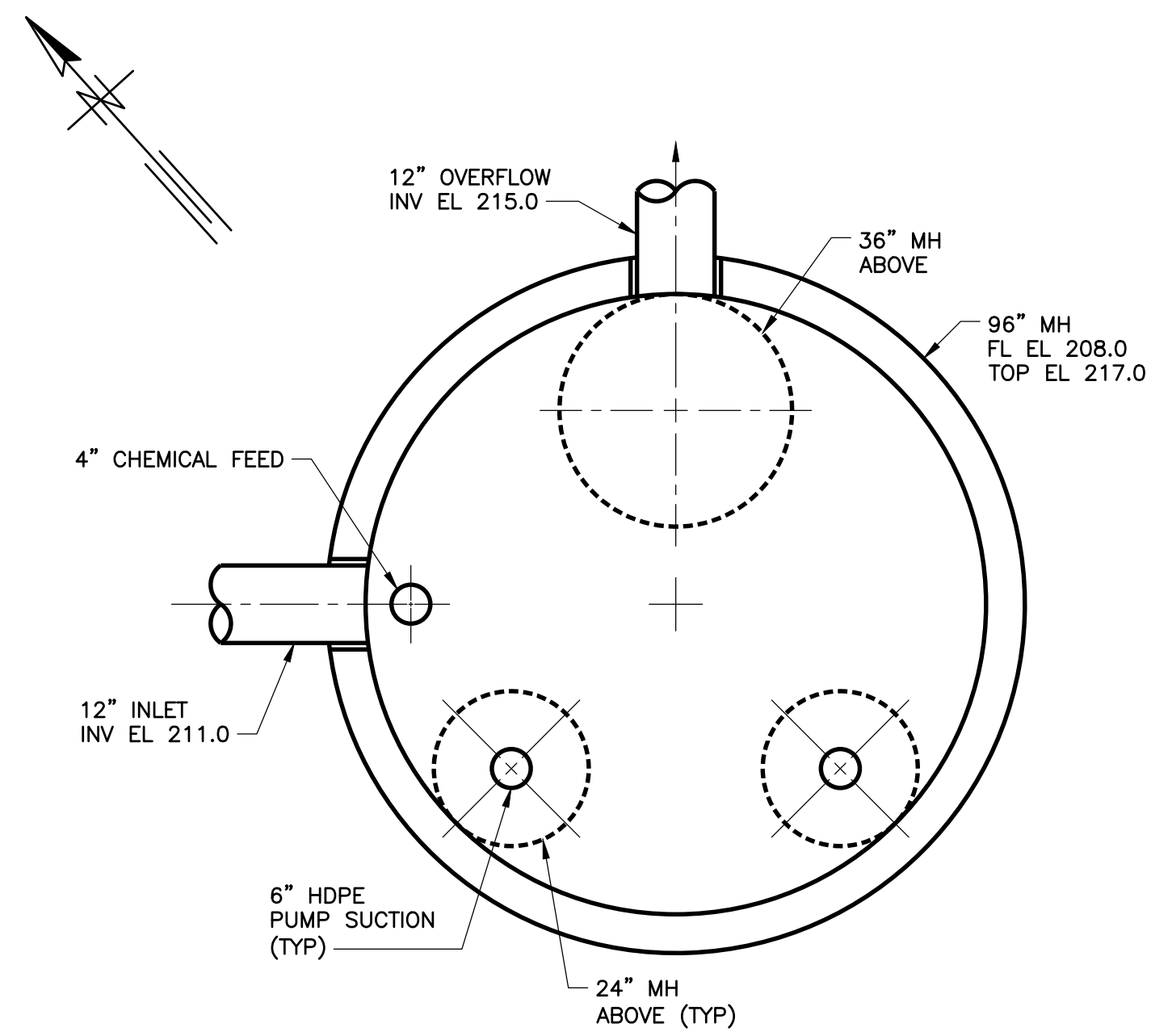
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DWG **G10**
SHEET 13 OF 92
DATE MAY 2021 REV 0

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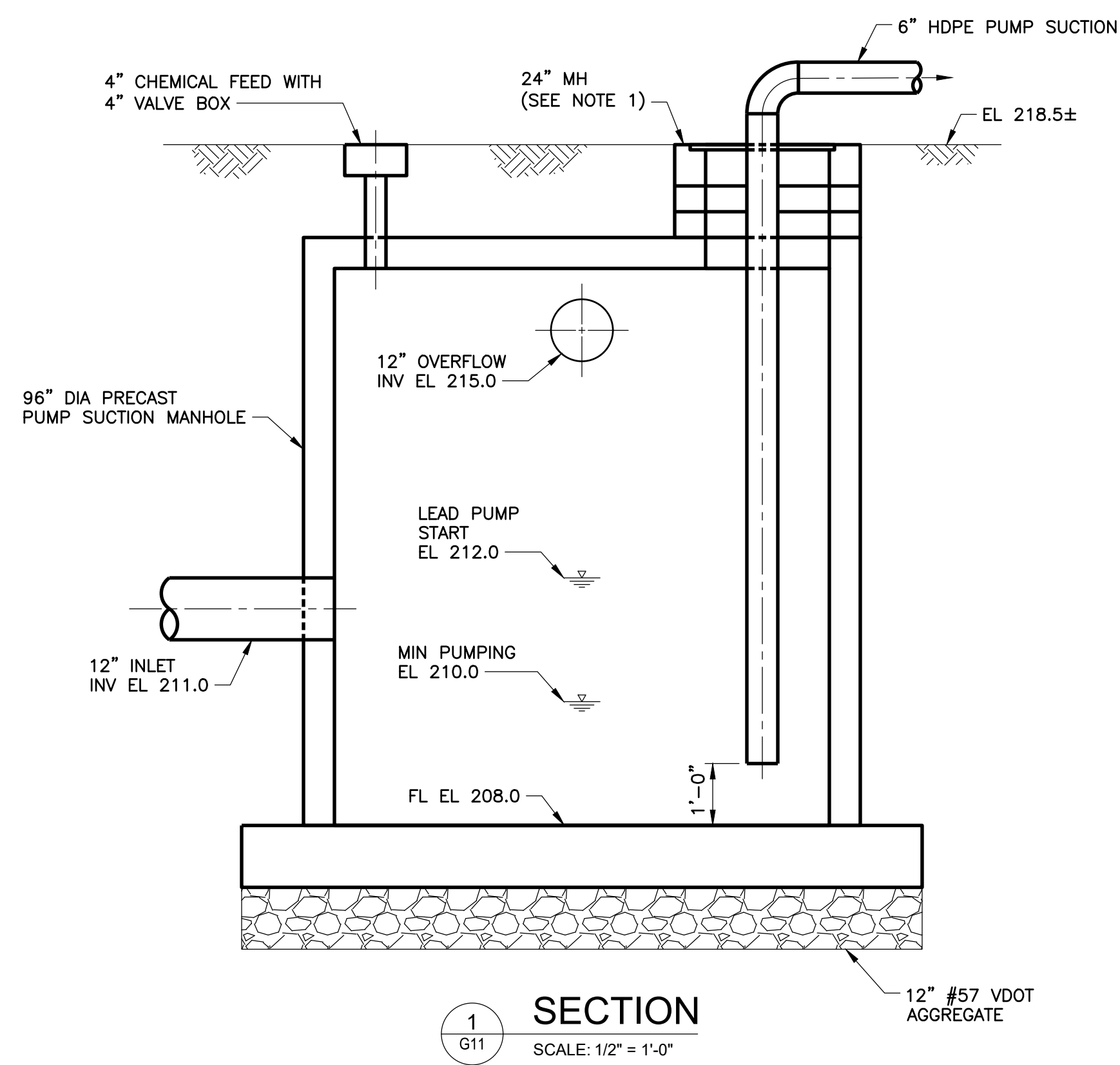
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TOP PLAN
SCALE: 1/2" = 1'-0"



PLAN AT EL 211.0
SCALE: 1/2" = 1'-0"



SECTION
SCALE: 1/2" = 1'-0"

NOTES:
1. ADJUST MANHOLE TOP TO FINAL GRADE ELEVATION (TYP).

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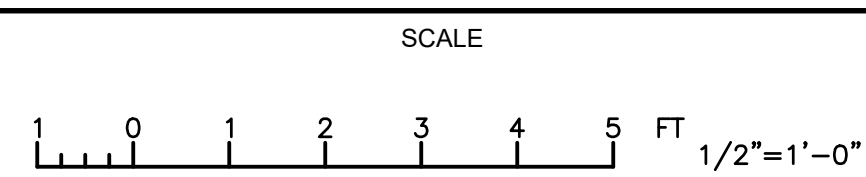
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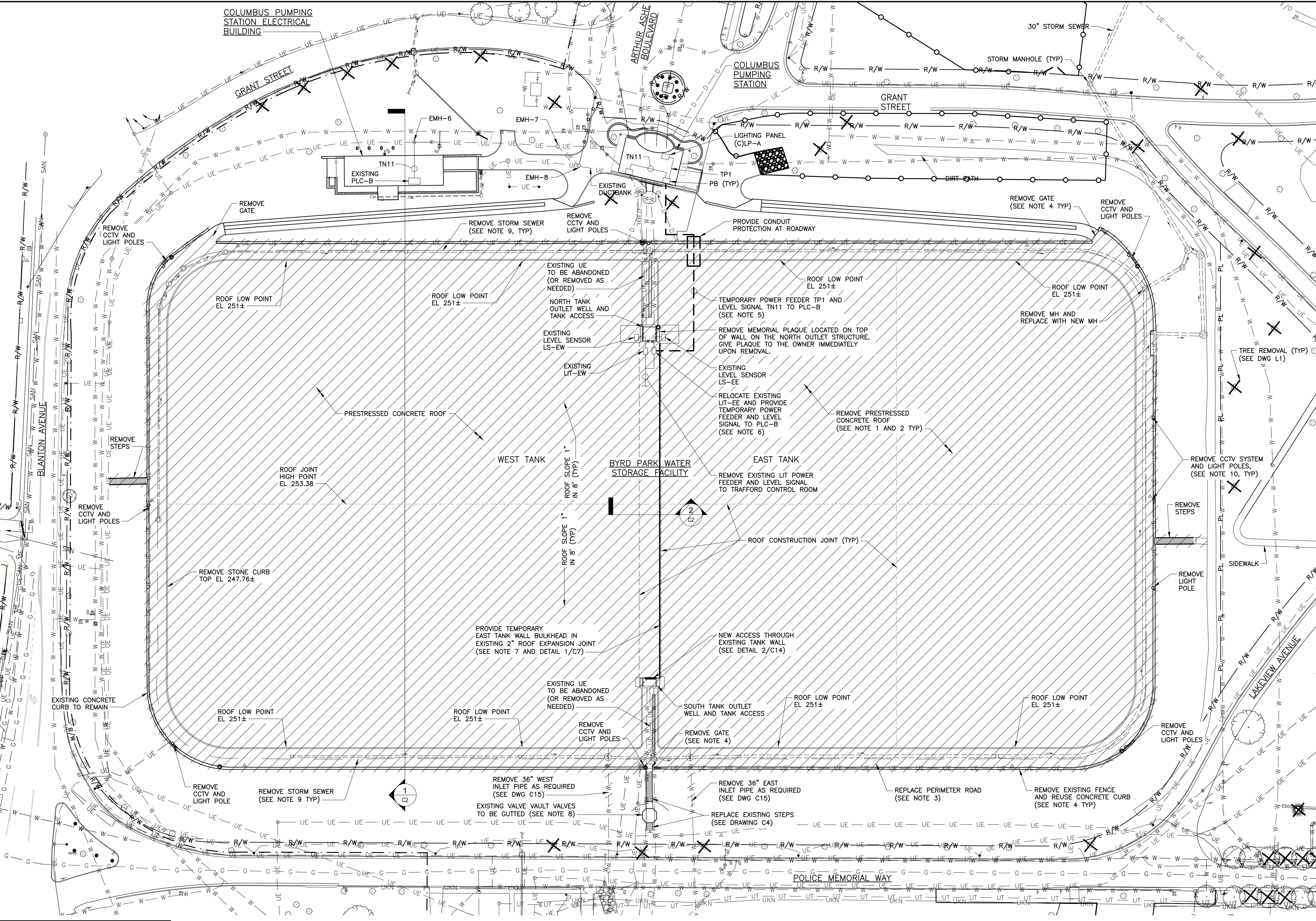
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BYRD PARK WATER STORAGE
TANKS ROOF REPLACEMENT



GENERAL
TEMPORARY DEWATERING AND SEDIMENT CONTROL
SYSTEM DETAILS AND SECTIONS

PROJECT NO.:	02189.08
DWG	G11
SHEET	14 OF 92
DATE	MAY 2021
REV	0

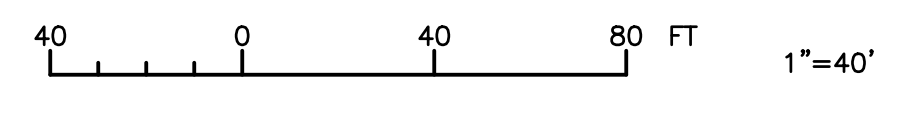
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 5/02/18 RICHMOND WATER ENG SERVICES 02189BYRD PARK TANK REHAB21 CADD21 05 WORKING DWGSRIC08-001 YONTS, PHILIP



- NOTES:**
1. REMOVE EXISTING ROOF SYSTEM.
 2. ROOFING MATERIAL CONTAINS ASBESTOS. SEE PROJECT MANUAL FOR REMOVAL SPECIFICATIONS.
 3. EXISTING PERIMETER ROAD ASPHALT IS TO BE REMOVED AND REPLACED.
 4. PROVIDE TEMPORARY GATES AND FENCING TO KEEP SITE SECURED AT ALL TIMES.
 5. PRIOR TO WEST TANK REMOVAL FROM SERVICE, CHANGE TO WEST TANK LIT-EW AND PROVIDE LIT-EE WITH TEMPORARY POWER FEEDER AND LEVEL SIGNAL TO PLC-B. MAINTAIN TEMPORARY POWER FEEDER AND TANK LEVEL SIGNAL OPERATION DURING ENTIRE PERIOD WEST TANK OUT OF SERVICE.
 6. RELOCATE EXISTING EAST TANK LEVEL TRANSMITTER LIT-EE PRIOR TO START OF WEST TANK ROOF DEMOLITION.
 7. TEMPORARY BULKHEAD INSTALLED BETWEEN EAST AND WEST TANKS PRIOR TO START WEST TANK DEMOLITION. REMOVE SUFFICIENT ROOF OVER EARTH BERM TO INSTALL BULKHEAD TO SEAL EAST TANK. PROVIDE COMPLETE WEATHERTIGHT AND VARMINT-PROOF ENCLOSURE. SEE DWG C7.
 8. GUT EXISTING 30" AND 36" GATE VALVES BY REMOVING BONNET, MOTOR OPERATOR, VALVE GATE, AND STEM. PROVIDE BODY WITH NEW GASKET AND FLANGE PLATE.
 9. PROVIDE TEMPORARY STORM SEWER PIPING TO EXISTING STORM SEWER AS NEEDED DURING WEST TANK ROOF REPLACEMENT.
 10. MAINTAIN EXISTING CCTV FULLY OPERATIONAL UNTIL REPLACED BY NEW CCTV SYSTEM.

DEMOLITION SITE PLAN

SCALE: 1" = 40'



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 DRAWN DRH
 CHECKED RJC

APPROVED

 ROGER J. CRONIN
 Lic. No. 016431
 05/03/2021

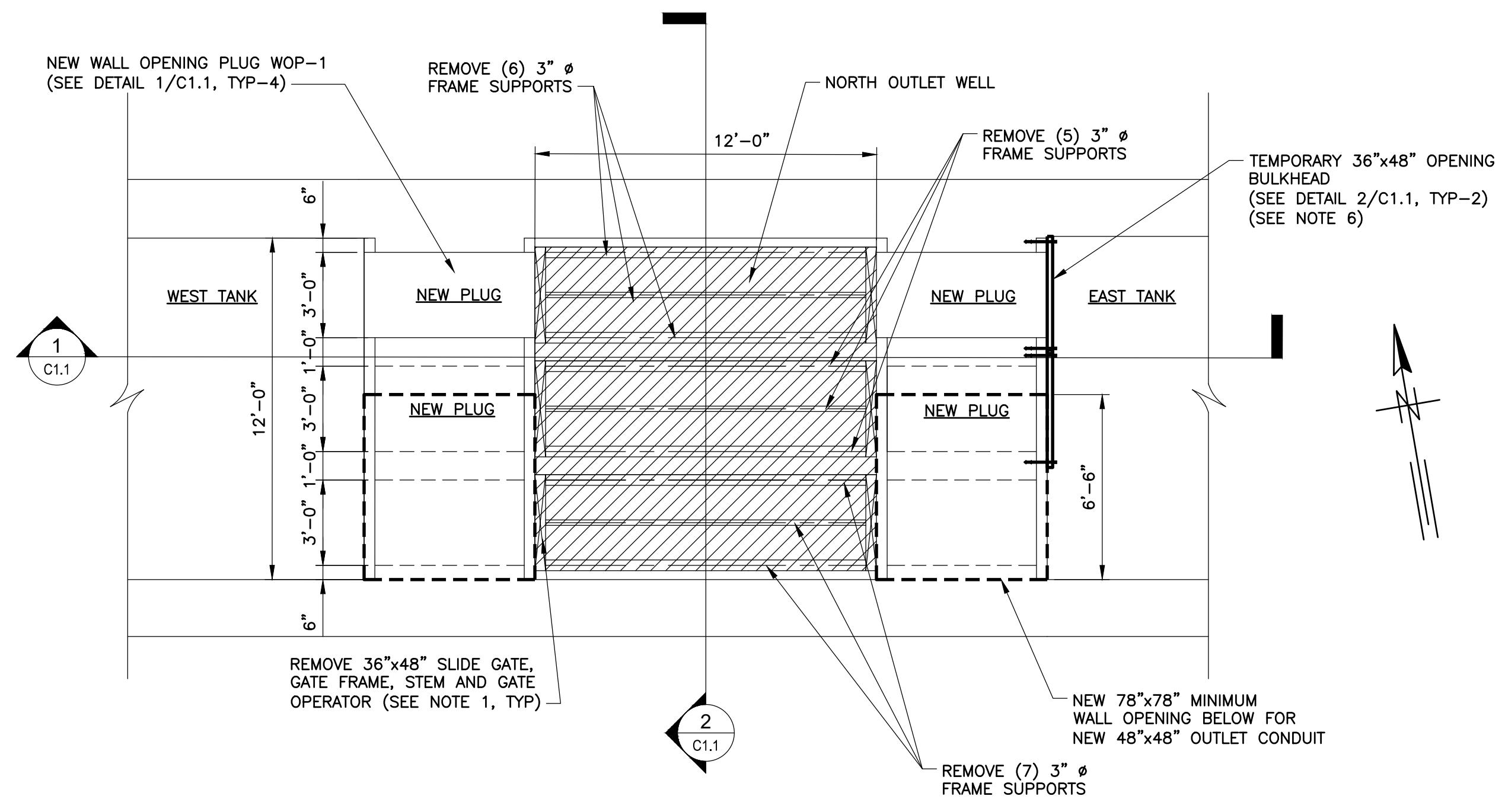
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 TANKS ROOF REPLACEMENT

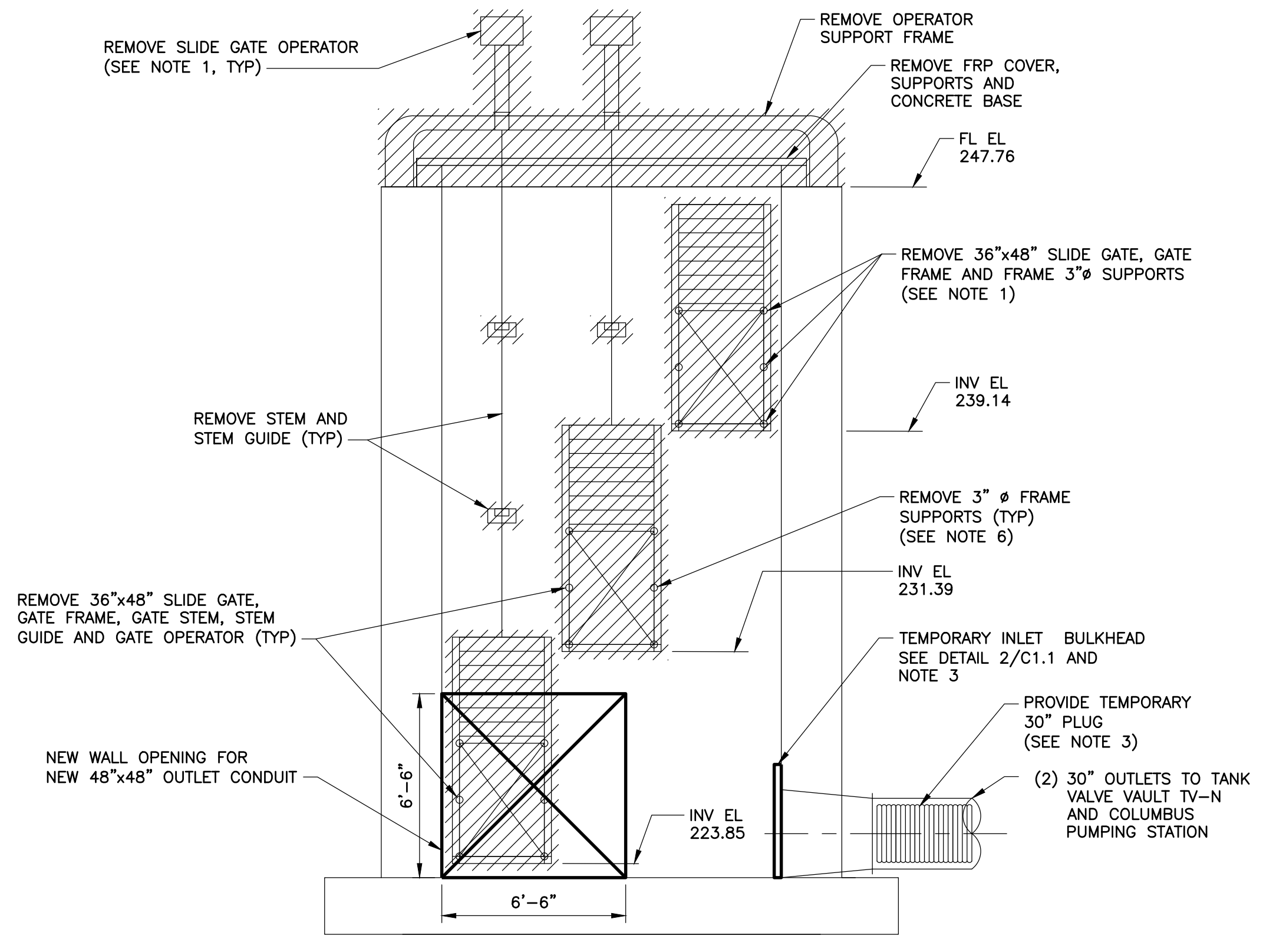


CIVIL
 DEMOLITION SITE PLAN

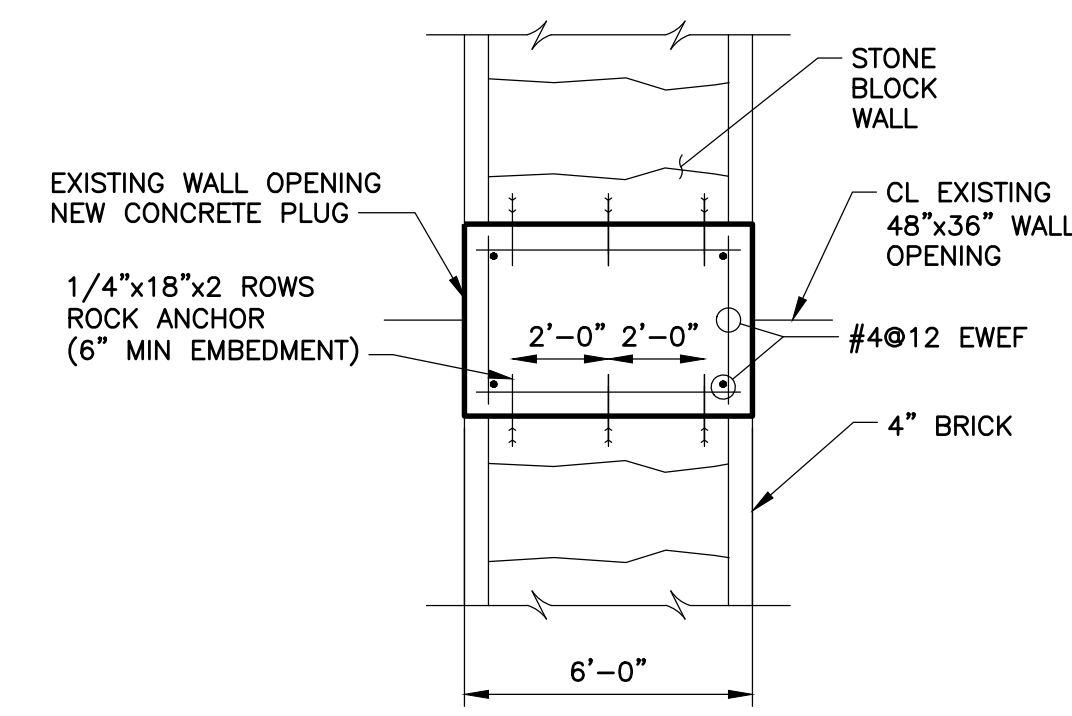
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 DWG **C1**
 SHEET 15 OF 92
 DATE MAY 2021 REV 0



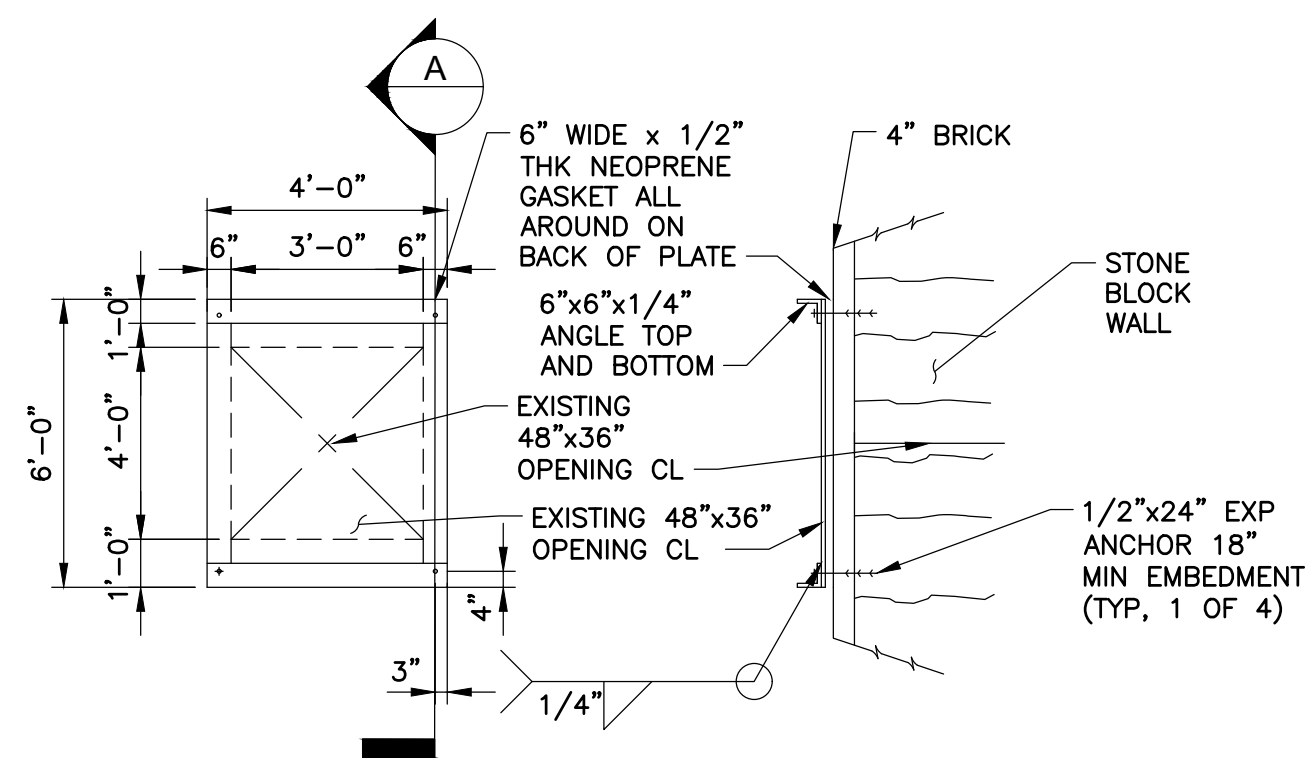
PARTIAL PLAN AT EL 240.0
 SCALE: 1/4" = 1'-0"



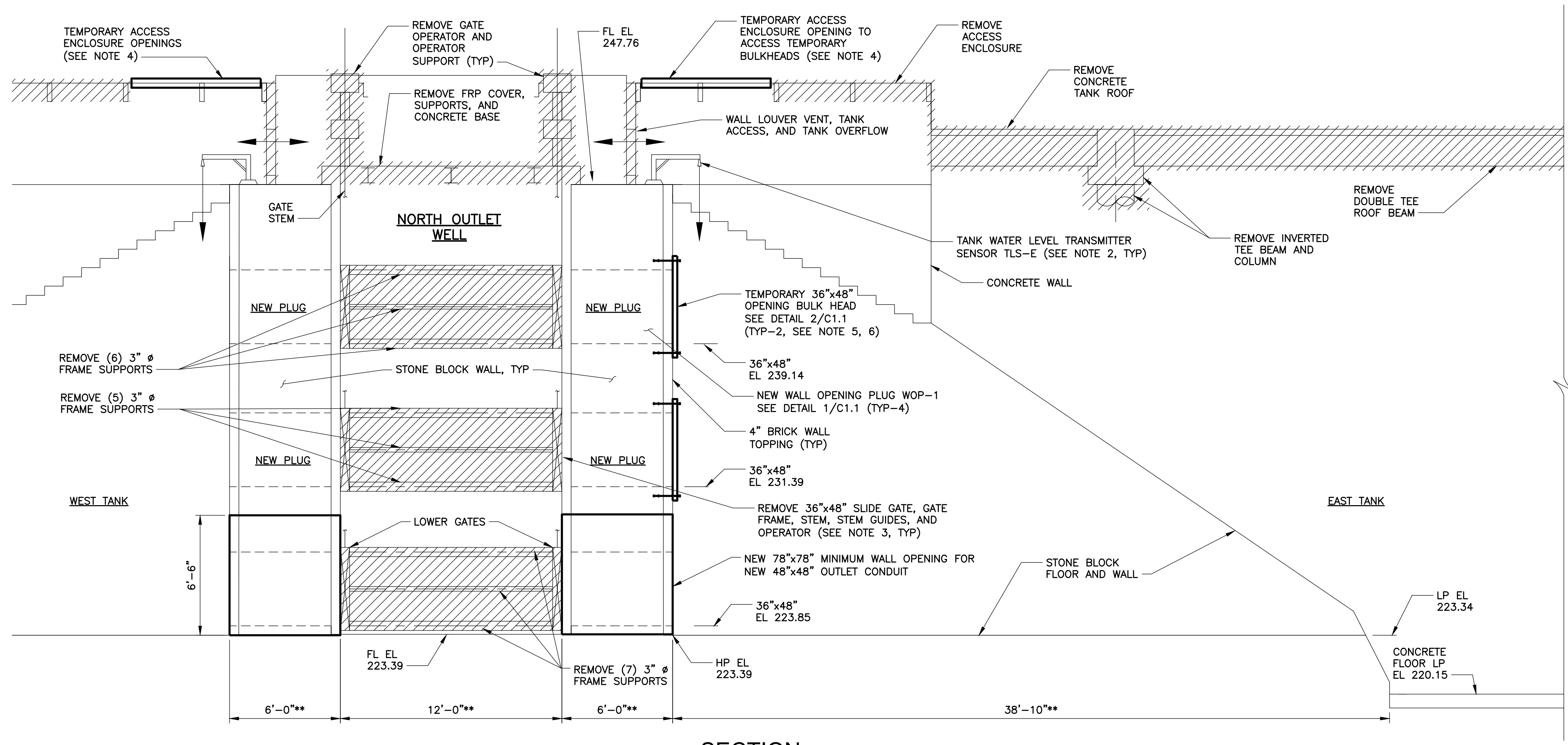
SECTION 2
 SCALE: 1/4" = 1'-0"



DETAIL CONCRETE WALL OPENING PLUG WOP-1
 SCALE: NOT TO SCALE



DETAIL TEMPORARY WALL OPENING BULKHEAD
 SCALE: NOT TO SCALE



SECTION 1
 SCALE: 1/4" = 1'-0"

- NOTES:**
- UPPER (2) SLIDE GATES CLOSED WITH GATE STEMS AND OPERATORS REMOVED.
 - RELOCATE EXISTING EAST TANK TANK LEVEL SENSOR AND TRANSMITTER SYSTEM AS NEEDED UNTIL TANK REMOVED FROM SERVICE. PROVIDE TEMPORARY TANK LEVEL TRANSMITTER WIRING TO COLUMBUS ELECTRICAL BUILDING PLC-B.
 - PROVIDE EACH 30" OUTLET PIPE WITH TEMPORARY INLET BULKHEAD AND 30" PLUG WHEN THE NORTH OUTLET WALL OUT OF SERVICE.
 - MAINTAINED CLOSED AND WATERTIGHT WHEN NOT IN USE.
 - TEMPORARY BULKHEADS INSTALLED BY DIVER WITH EAST TANK IN OPERATION.
 - REMOVE SLIDE GATE FRAME SUPPORTS AFTER EAST TANK TEMPORARY BULKHEAD INSTALLATION.

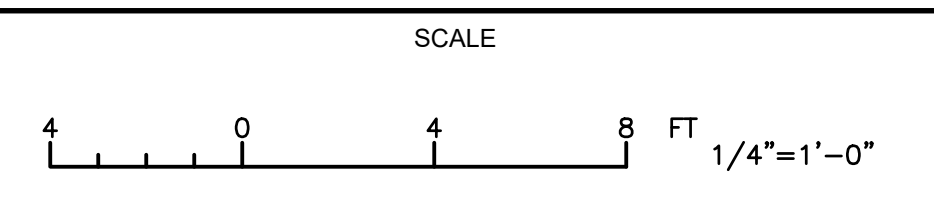
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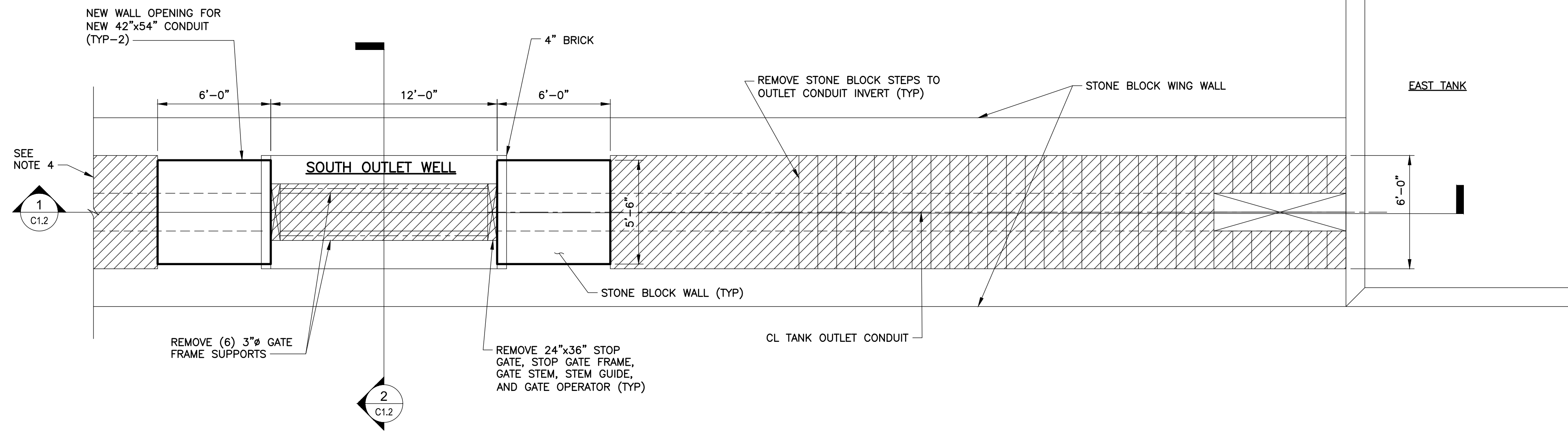


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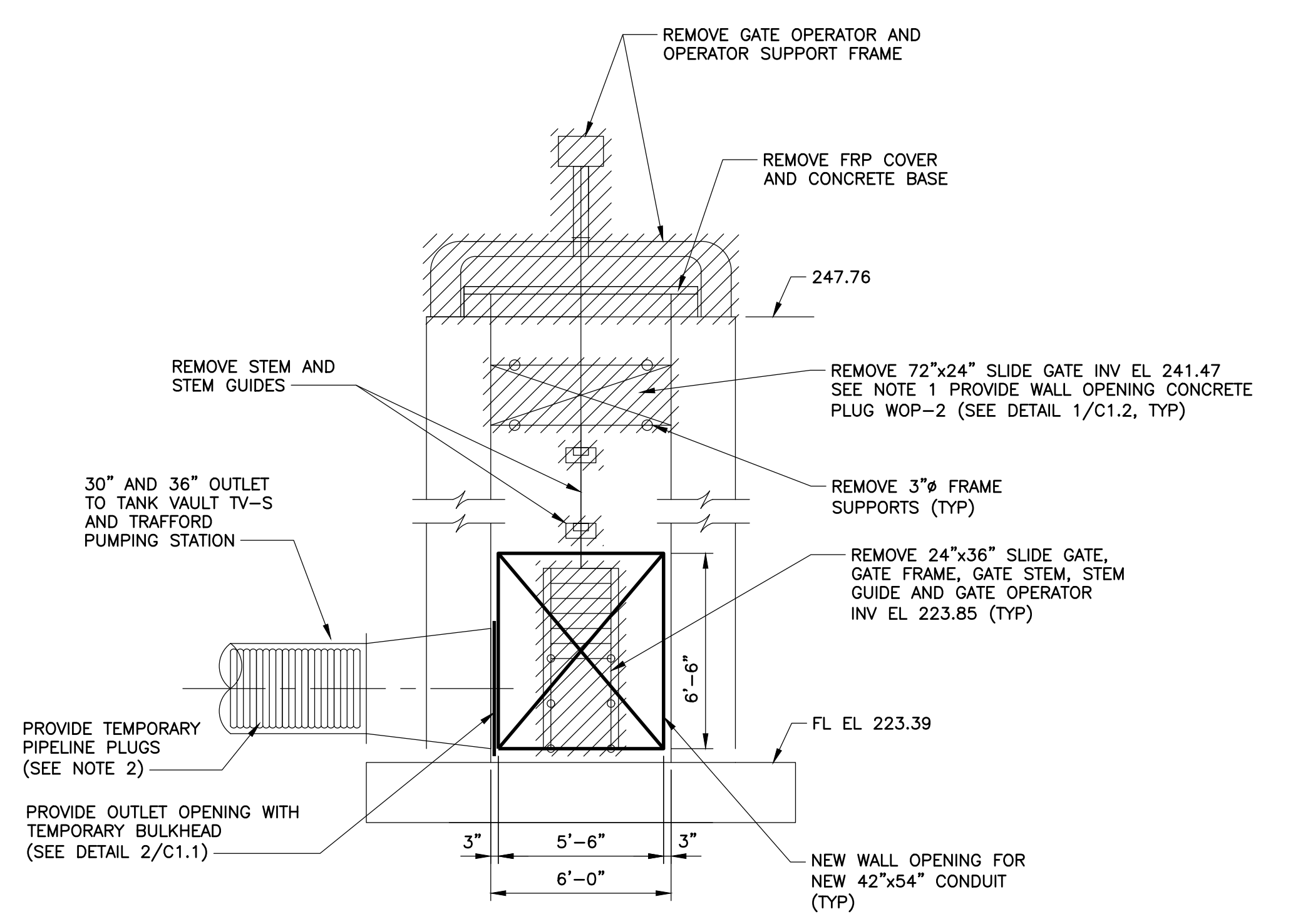


CIVIL
 DEMOLITION NORTH OUTLET WELL

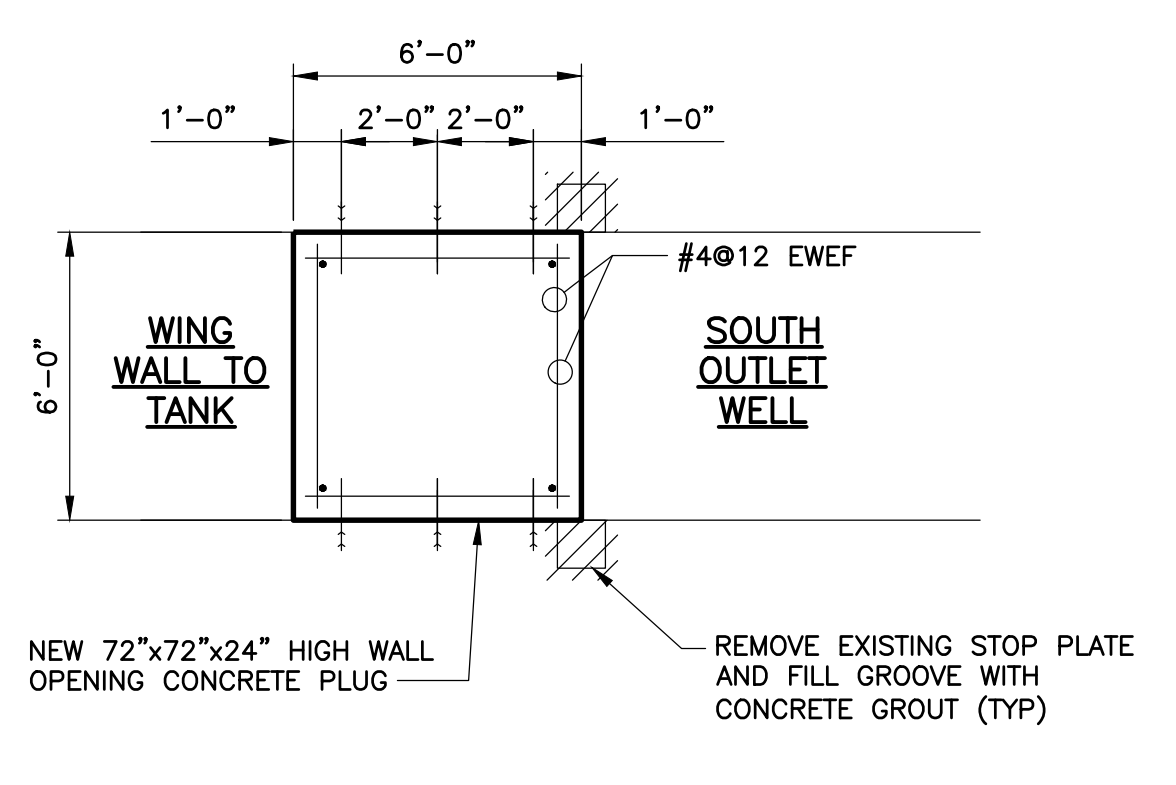
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 DWG **C1.1**
 SHEET 16 OF 92
 DATE MAY 2021 REV 0



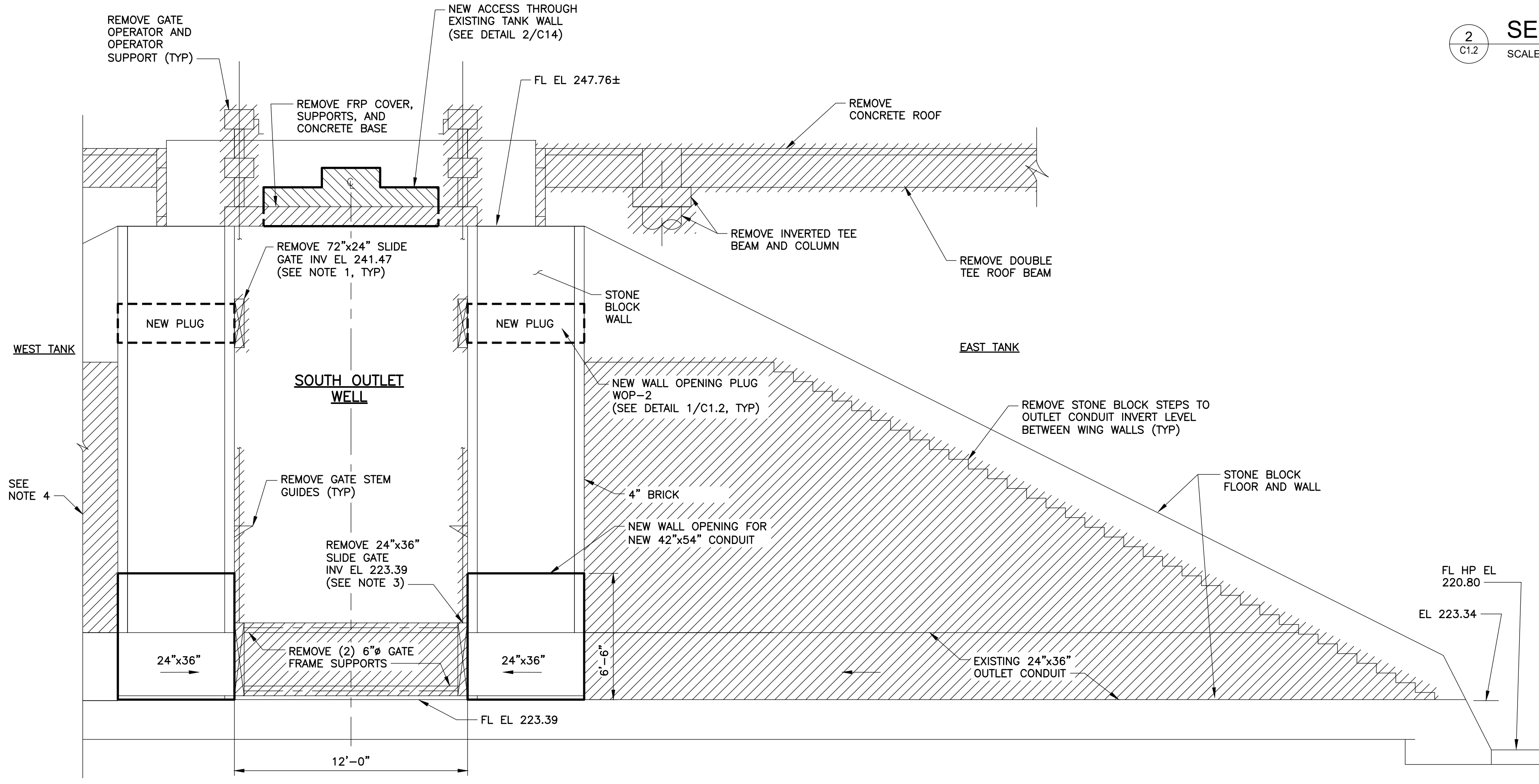
PARTIAL PLAN AT EL 240.0
SCALE: 1/4" = 1'-0"



SECTION 2
SCALE: 1/4" = 1'-0"



DETAIL CONCRETE WALL OPENING PLUG WOP-2
SCALE: NOT TO SCALE



SECTION 1
SCALE: 1/4" = 1'-0"

- NOTES:**
- 72"x24" GATE CLOSED AND STEM AND OPERATOR REMOVED.
 - PROVIDE 30" AND 36" OUTLET PIPES WITH TEMPORARY OUTLET BULKHEADS AND PIPE PLUGS WHEN SOUTH OUTLET WELL OUT OF SERVICE.
 - REMOVE SLIDE GATE, GATE FRAME, GATE STEM, GATE STEM GUIDE, GATE OPERATOR AND OPERATOR FRAME SUPPORT.
 - DEMOLITION TO WEST TANK IS SIMILAR.

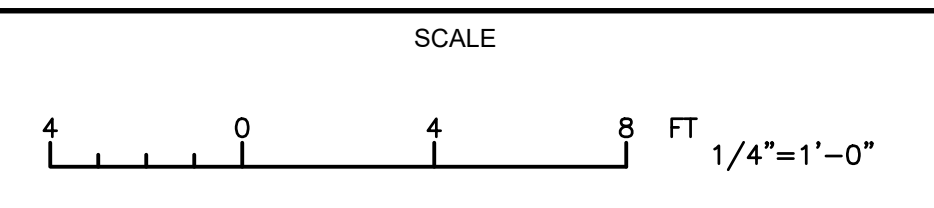
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DESIGNED RJC
DRAWN DRH
CHECKED RJC

COMMONWEALTH OF VIRGINIA
ROGER J. CRONIN
Lic N.: 016431
05/03/2021
PROFESSIONAL ENGINEER

NO.	DATE	APPD	DESCRIPTION



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BYRD PARK WATER STORAGE
TANKS ROOF REPLACEMENT

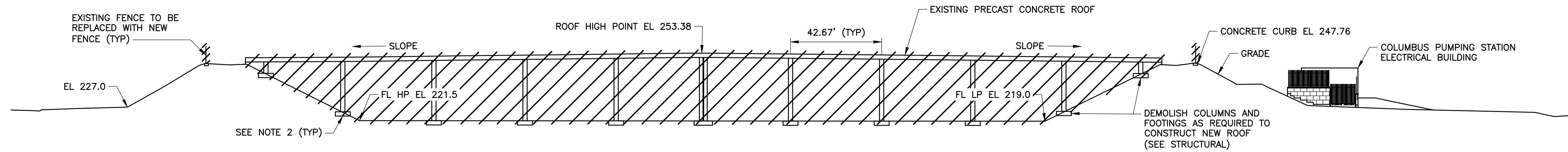


CIVIL
DEMOLITION SOUTH OUTLET WELL

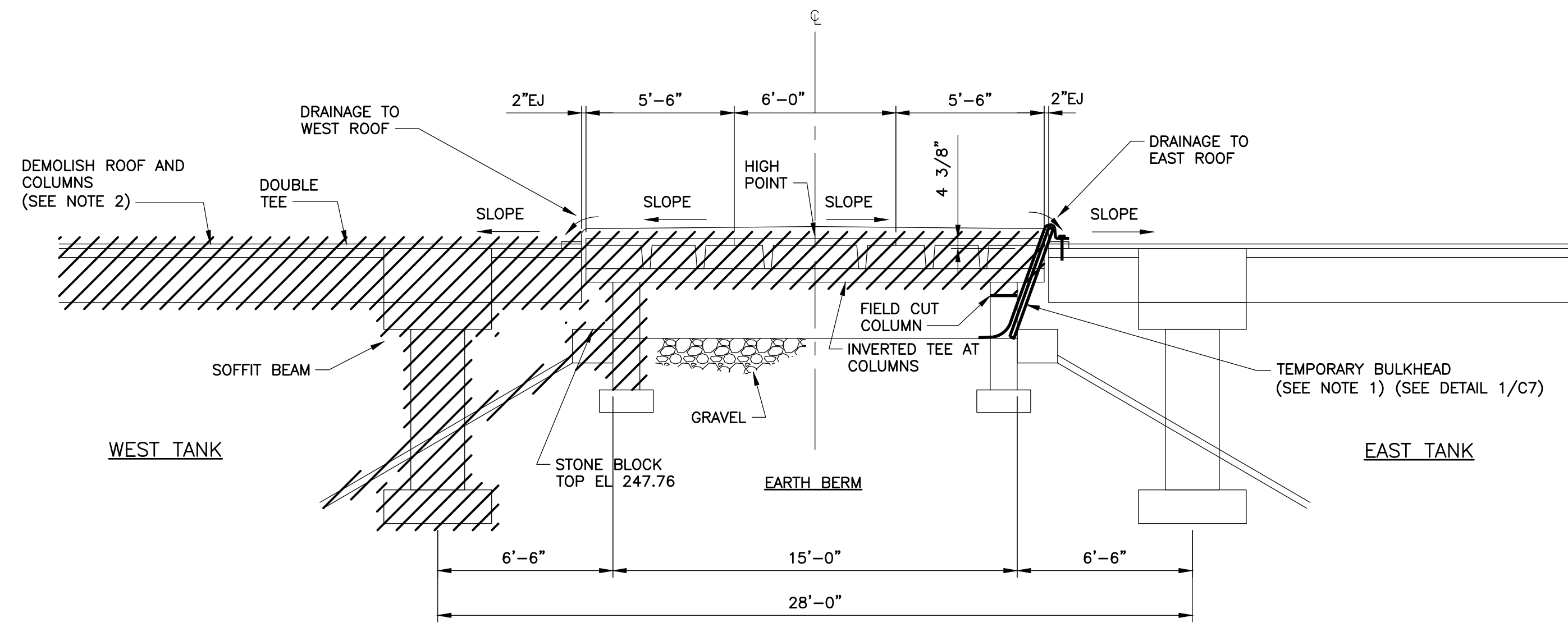
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SHEET 17 OF 92
DATE MAY 2021 REV 0

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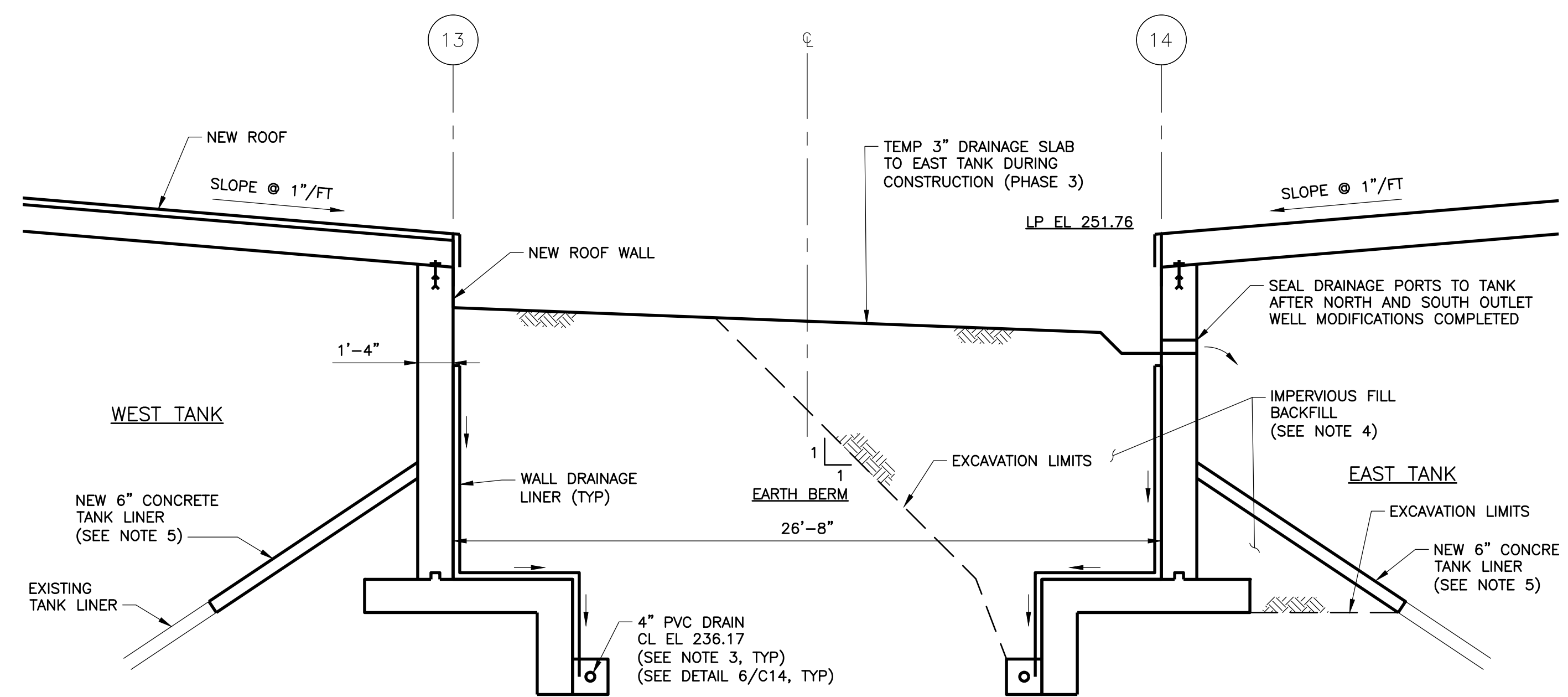
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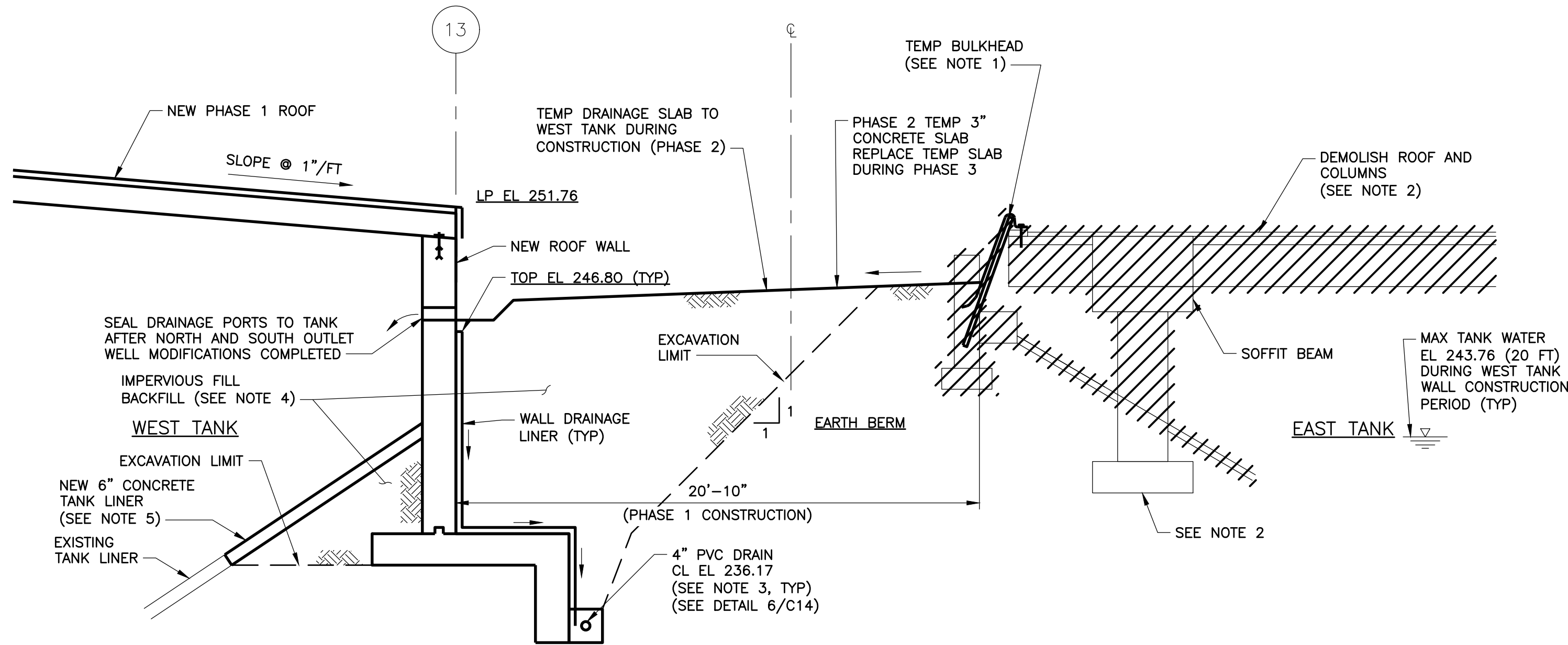
SECTION EXISTING WEST TANK (EAST TANK SIMILAR)
 1 C1 SCALE: 1" = 30'



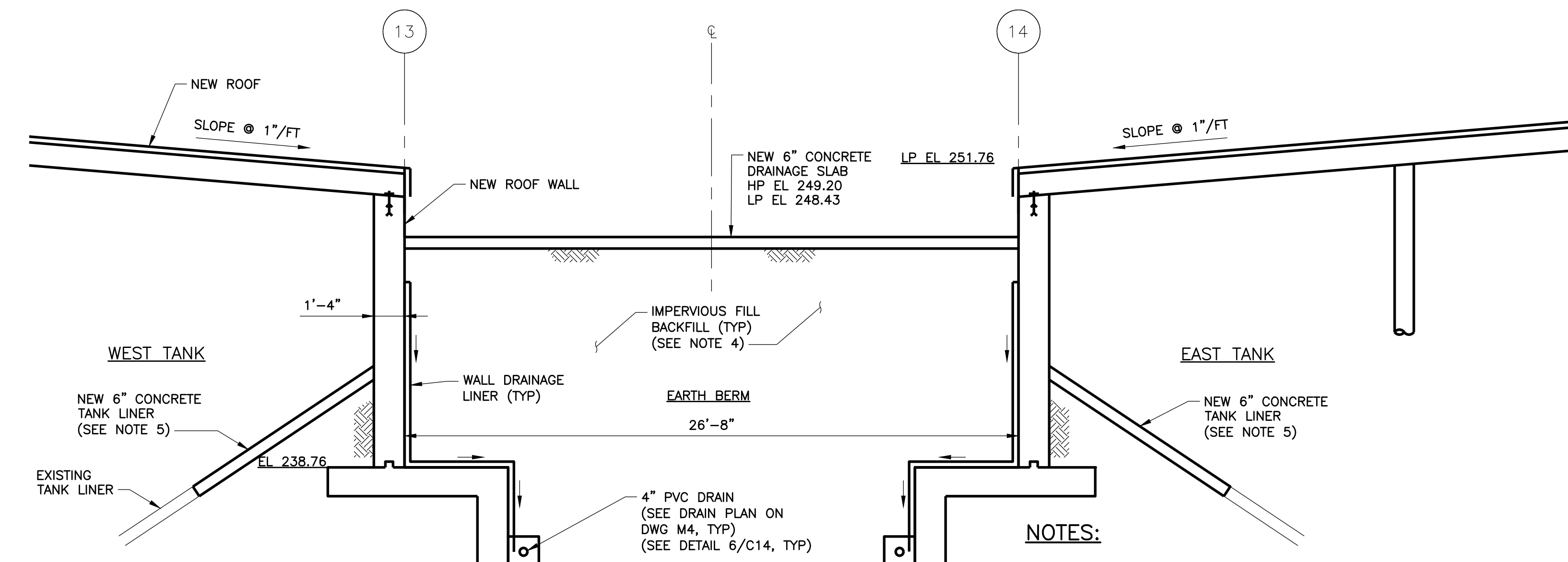
SECTION PHASE 1 (WEST ROOF DEMOLITION)
 2 C1 SCALE: 1/4" = 1'-0"



SECTION PHASE 3 (EAST TANK ROOF CONSTRUCTION)
 2 C1 SCALE: 1/4" = 1'-0"



SECTION PHASE 2 (WEST TANK ROOF CONSTRUCTION AND EAST TANK DEMOLITION)
 2 C1 SCALE: 1/4" = 1'-0"



SECTION FINAL
 1 C4 SCALE: 1/4" = 1'-0"

NOTES:

1. TEMPORARY BULKHEAD INSTALLED BETWEEN EAST AND WEST TANKS PRIOR TO STARTING WEST TANK DEMOLITION. REMOVE SUFFICIENT ROOF OVER EARTH BERM TO INSTALL BULKHEAD TO SEAL EAST TANK. PROVIDE COMPLETE WEATHERTIGHT AND VARMINT-PROOF ENCLOSURE.
2. DEMOLISH ALL COLUMNS TO TOP OF TANK FLOOR OR AS NEEDED TO CONSTRUCT NEW ROOF WALL. DEMOLISH EXISTING FOOTINGS AS NEEDED TO CONSTRUCT NEW TANK WALLS AND NEW COLUMN FOOTINGS.
3. 15"x15" STONE DRAIN FILL WITH GEOTEXILE FABRIC ENCLOSURE AND 4" PVC PERFORATED DRAINAGE PIPE.
4. USE BERM CLAY EXCAVATED SOIL FOR IMPERVIOUS FILL BACKFILL.
5. REMOVE EXISTING TANK LINER AS SHOWN OR AS REQUIRED FOR CONSTRUCTION OF NEW PERIMETER WALLS. REPLACE WITH NEW CONCRETE TANK LINER AS SHOWN.

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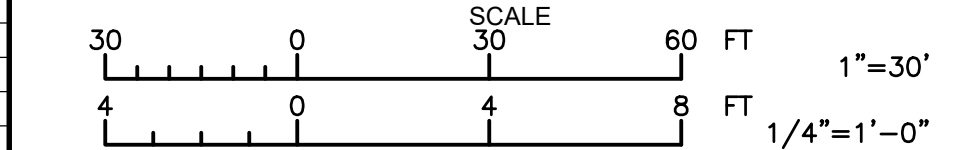
GREELEY and HANSEN
 9020 STONY POINT PARKWAY, SUITE 475
 RICHMOND, VIRGINIA 23235

DESIGNED RJC
 DRAWN PMY
 CHECKED RJC

APPROVED



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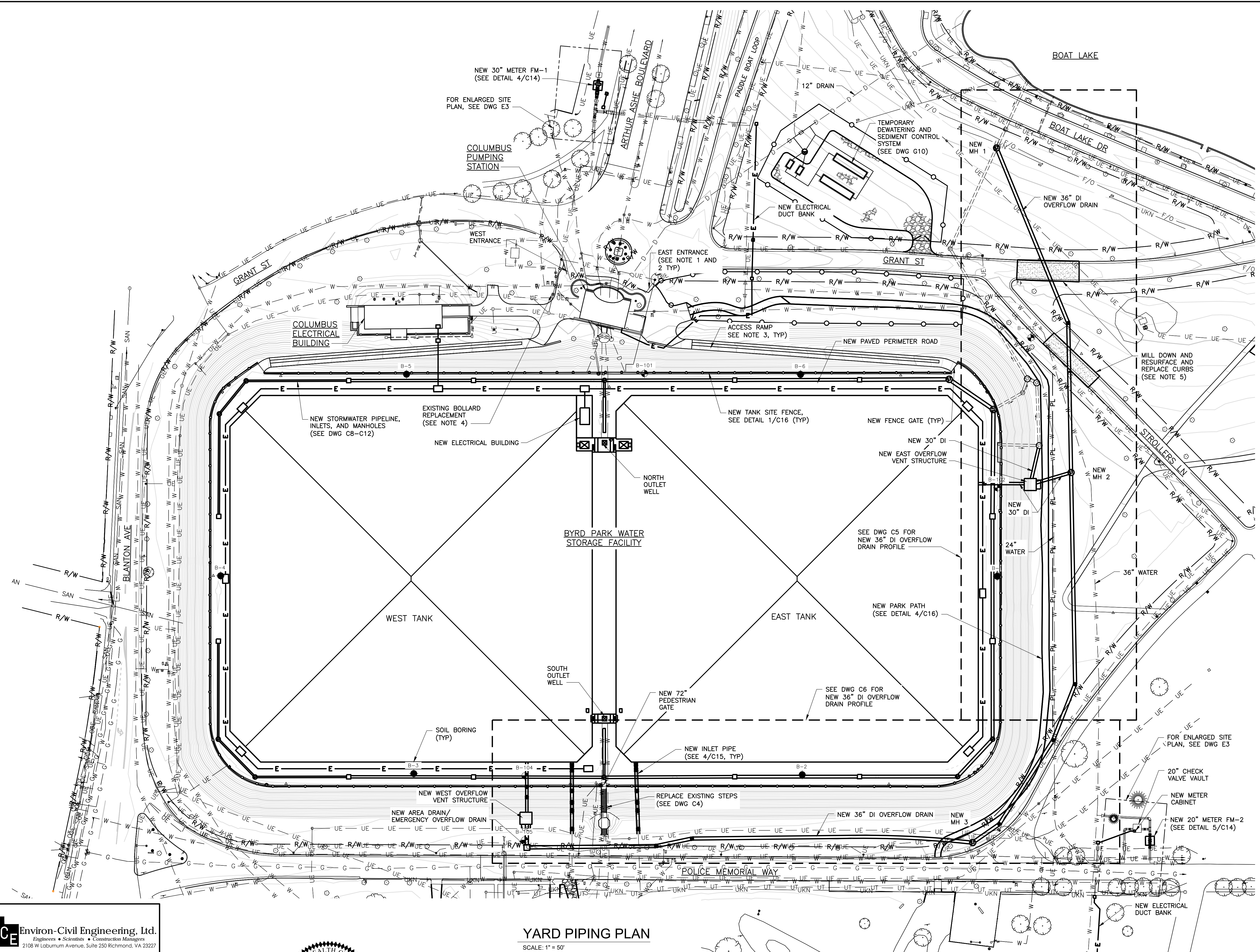


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 BYRD PARK WATER STORAGE
 TANKS ROOF REPLACEMENT



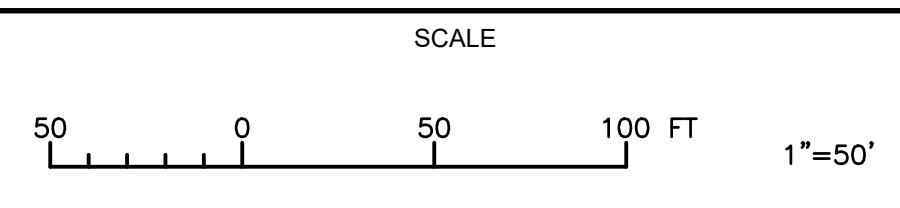
CIVIL
 DEMOLITION SECTIONS

PROJECT NO.: 02189.08
 DWG **C2**
 SHEET 18 OF 92
 DATE MAY 2021 REV 0



- NOTES:**
1. REMOVE COBBLESTONES AND USE FOR RESTORATION AT TANK SITE ENTRANCES.
 2. MAINTAIN CITY ACCESS TO COLUMBUS ELECTRICAL BUILDING AND PUMPING STATION.
 3. REPLACE EXISTING ACCESS RAMP CONCRETE WITH NEW CONCRETE VEHICLE TRACKS.
 4. REMOVE EXISTING BOLLARDS AND INCREASE WEST ENTRANCE WIDTH TO 20 FEET.
 5. MILL DOWN AND RESURFACE WITH 2" ASPHALT AND REPLACE CURBS (SEE DETAIL 5/C15)

YARD PIPING PLAN
SCALE: 1" = 50'



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DESIGNED EMP
DRAWN PMY
CHECKED RJC

APPROVED
ROGER J. CRONIN
Lic N.: 016431
05/03/2021

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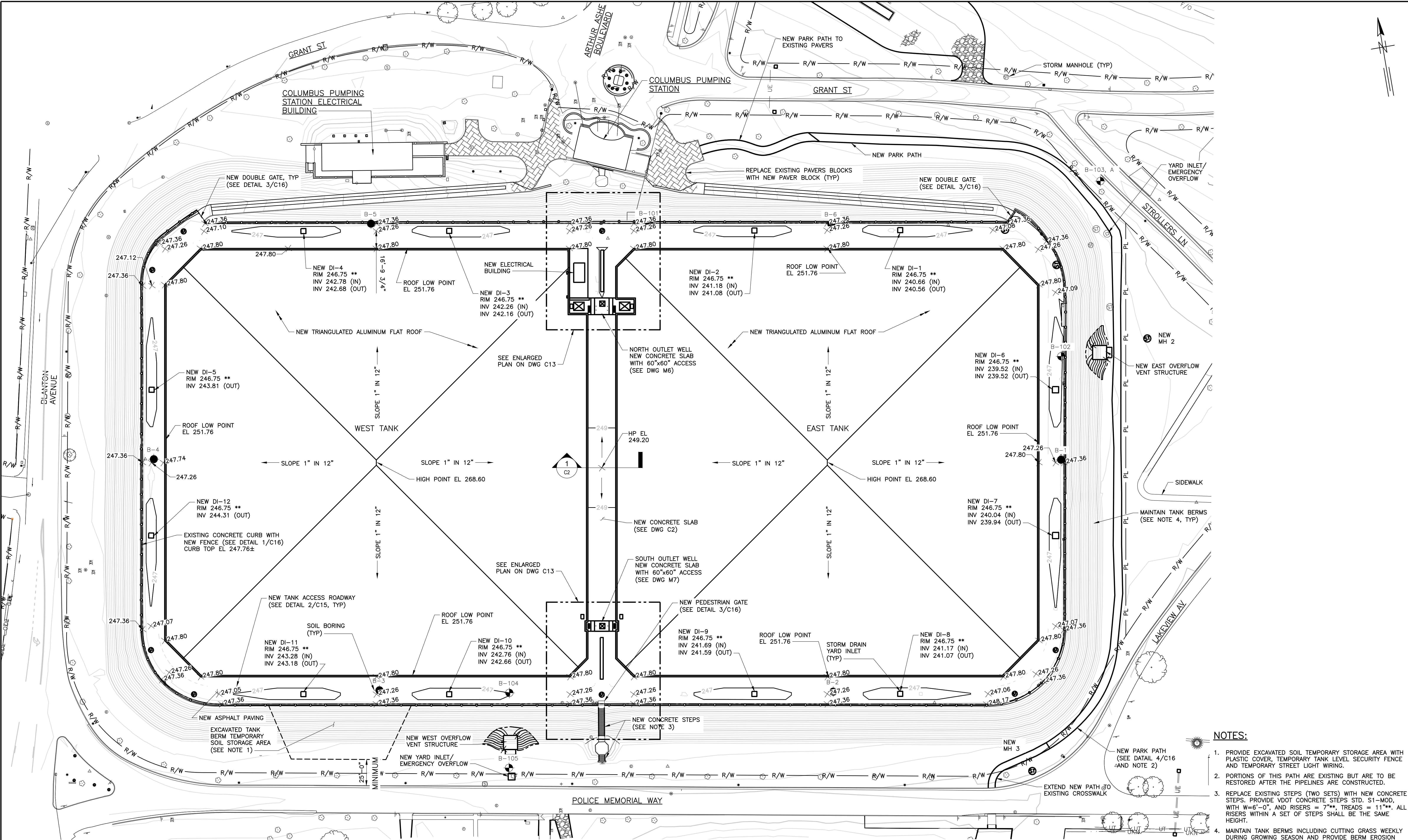


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PROJECT NO.: 02189.08
DWG **C3**
SHEET 19 OF 92
DATE MAY 2021 REV 0

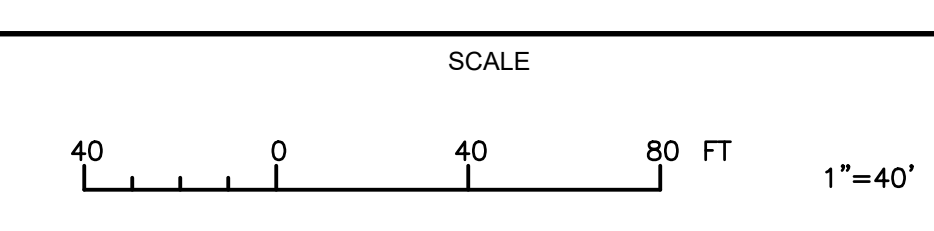
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S:\0218 RICHMOND WATER ENG SERVICES\0218BYRD PARK TANK REHAB\21 CAD\21.05 WORKING DWGS\R08-DCM YONTS.PHILIP



- NOTES:**
1. PROVIDE EXCAVATED SOIL TEMPORARY STORAGE AREA WITH PLASTIC COVER, TEMPORARY TANK LEVEL SECURITY FENCE AND TEMPORARY STREET LIGHT WIRING.
 2. PORTIONS OF THIS PATH ARE EXISTING BUT ARE TO BE RESTORED AFTER THE PIPELINES ARE CONSTRUCTED.
 3. REPLACE EXISTING STEPS (TWO SETS) WITH NEW CONCRETE STEPS. PROVIDE VDOT CONCRETE STEPS STD. S1-MOD, WITH W=6'-0", AND RISERS = 7"**, TREADS = 11"**. ALL RISERS WITHIN A SET OF STEPS SHALL BE THE SAME HEIGHT.
 4. MAINTAIN TANK BERMS INCLUDING CUTTING GRASS WEEKLY DURING GROWING SEASON AND PROVIDE BERM EROSION PROTECTION.

SITE PLAN
SCALE: 1" = 40'



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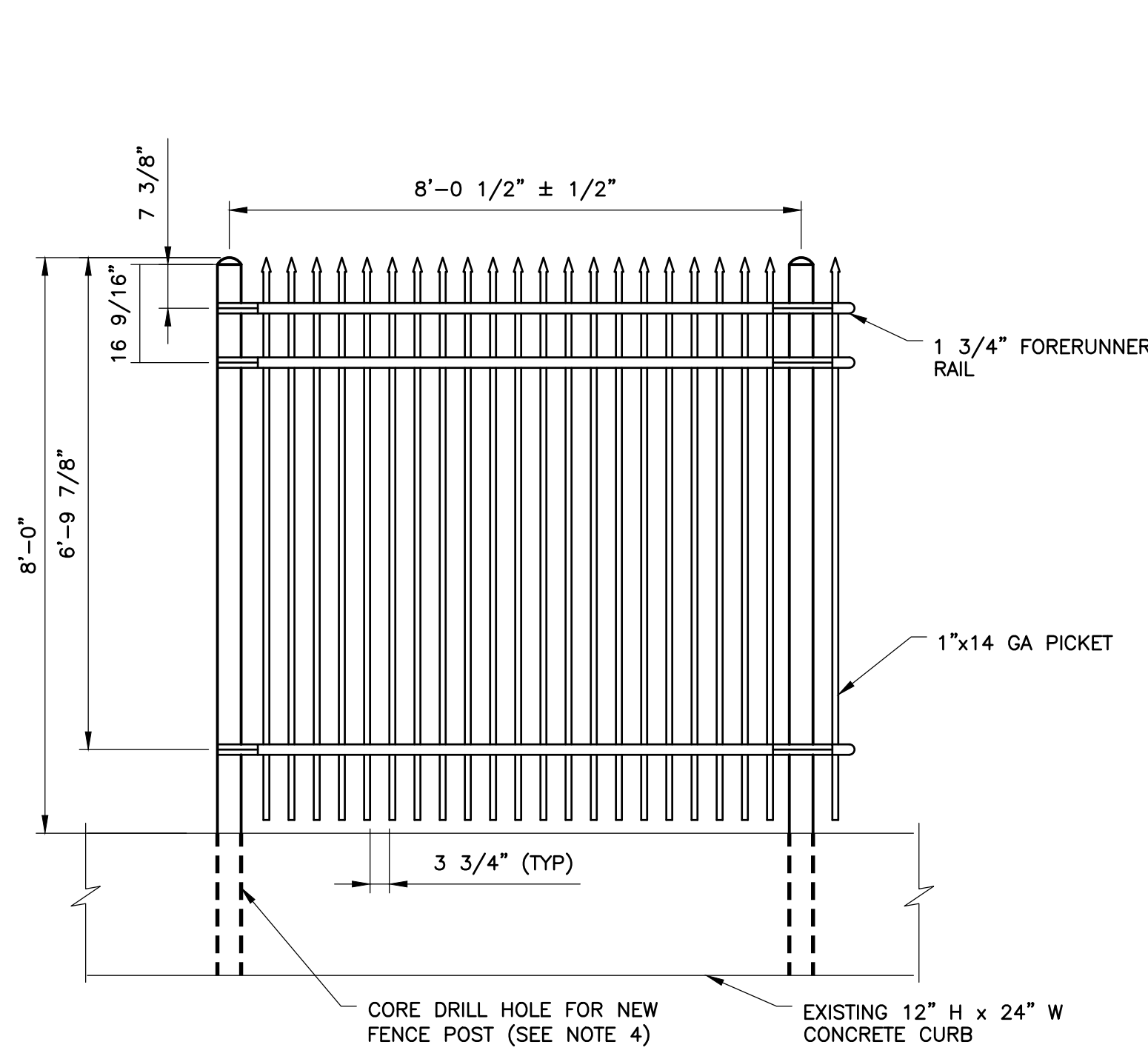
NO.	DATE	APPD	DESCRIPTION

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TANKS ROOF REPLACEMENT

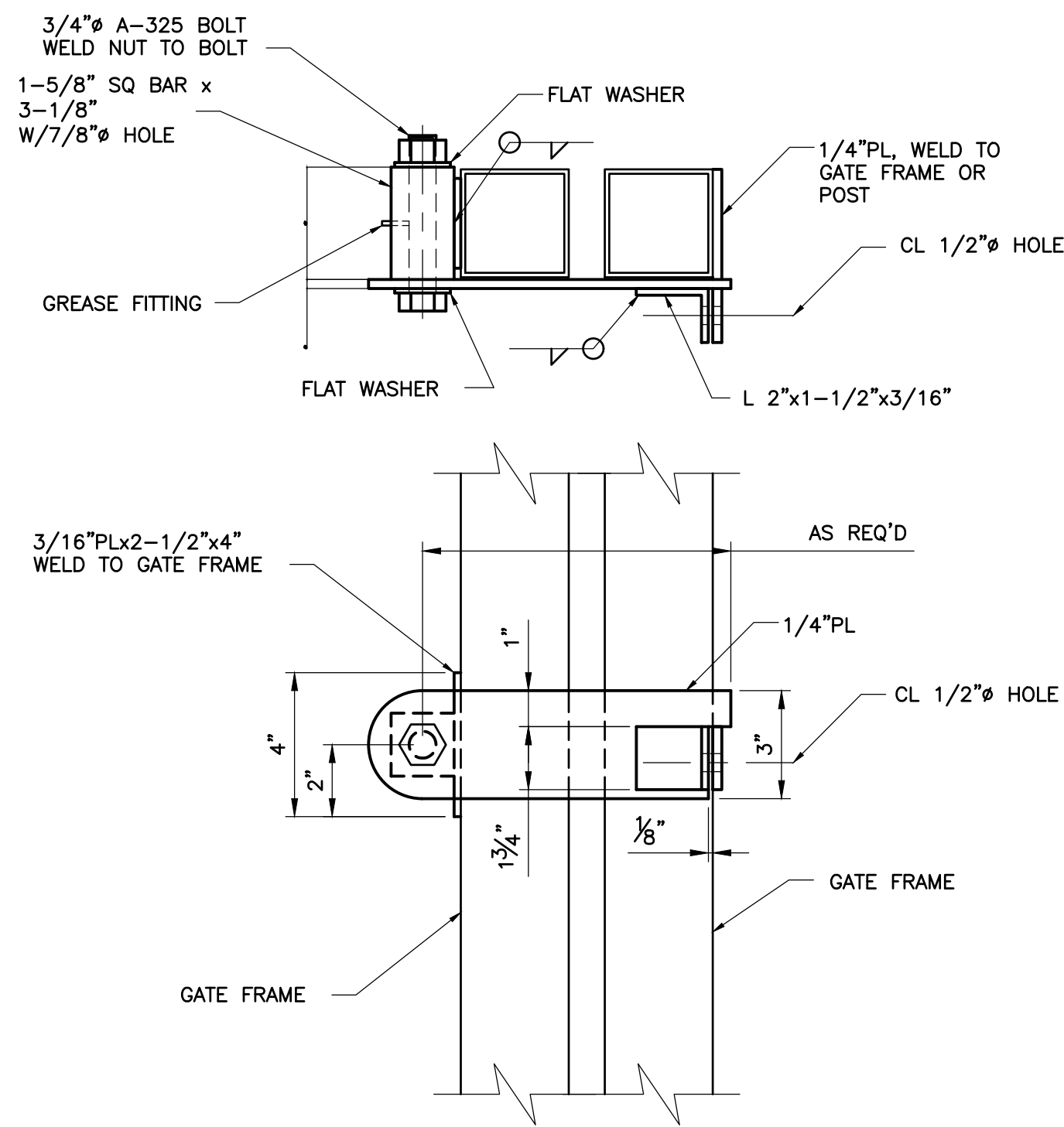


CIVIL
SITE PLAN

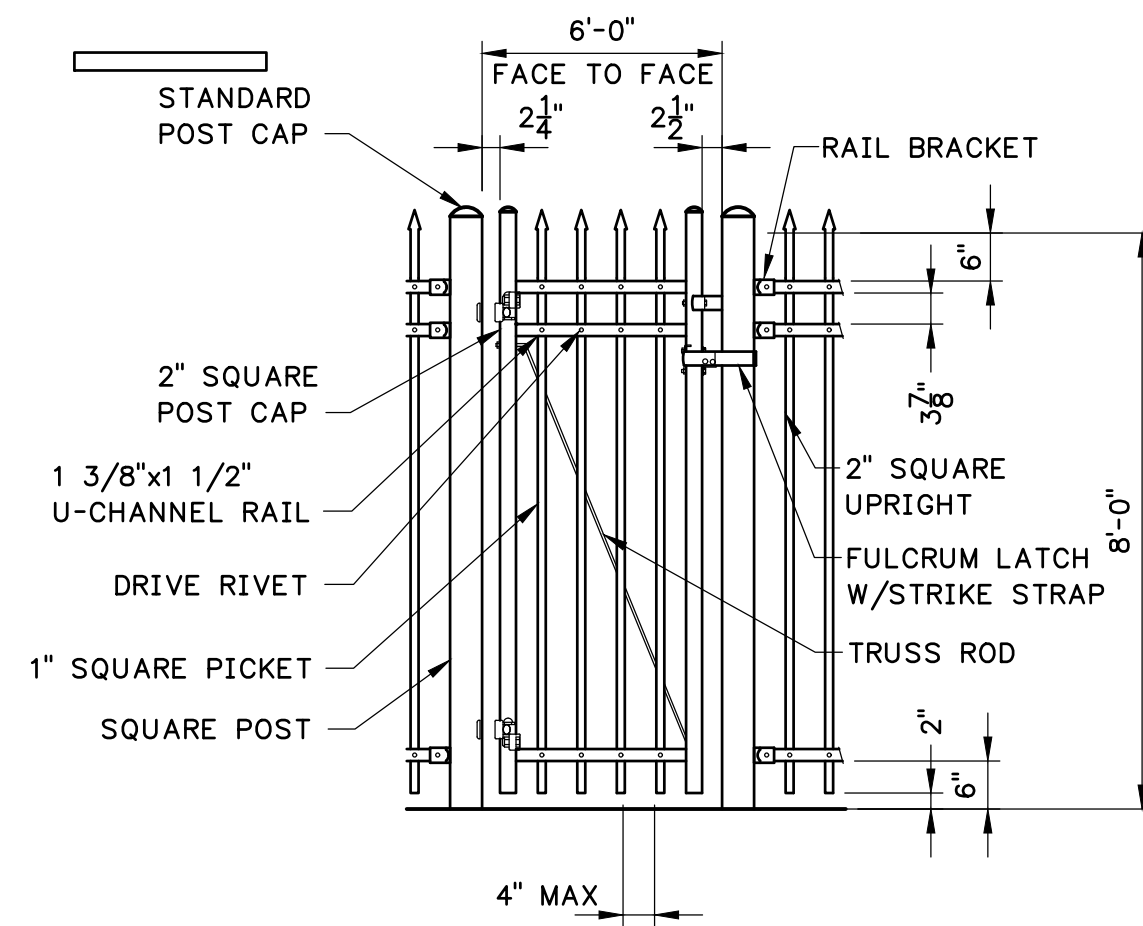
PROJECT NO.: 02189.08
DWG **C4**
SHEET 20 OF 92
DATE MAY 2021 REV 0



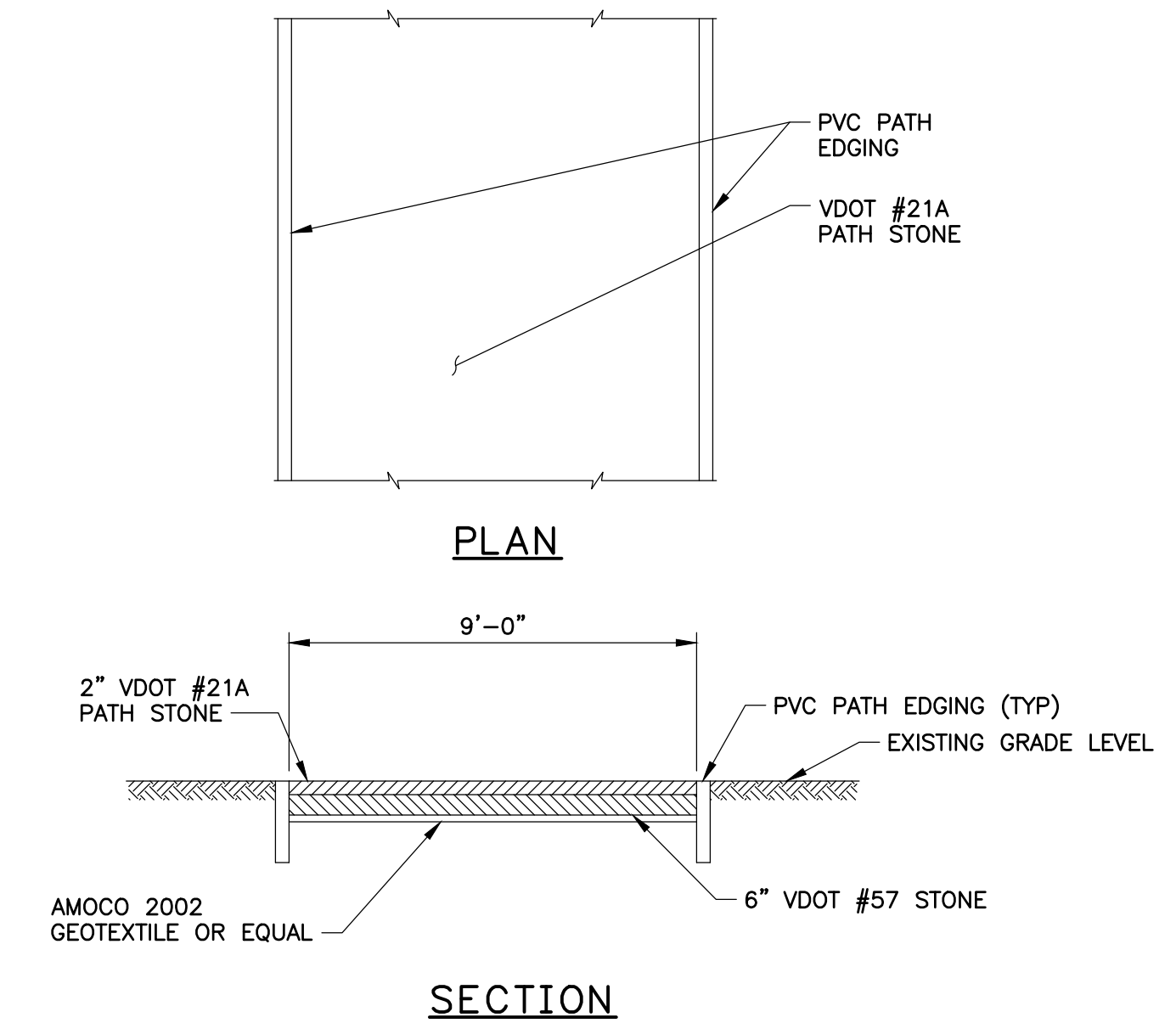
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C16
DETAIL ORNAMENTAL SECURITY FENCE
SCALE: NOT TO SCALE



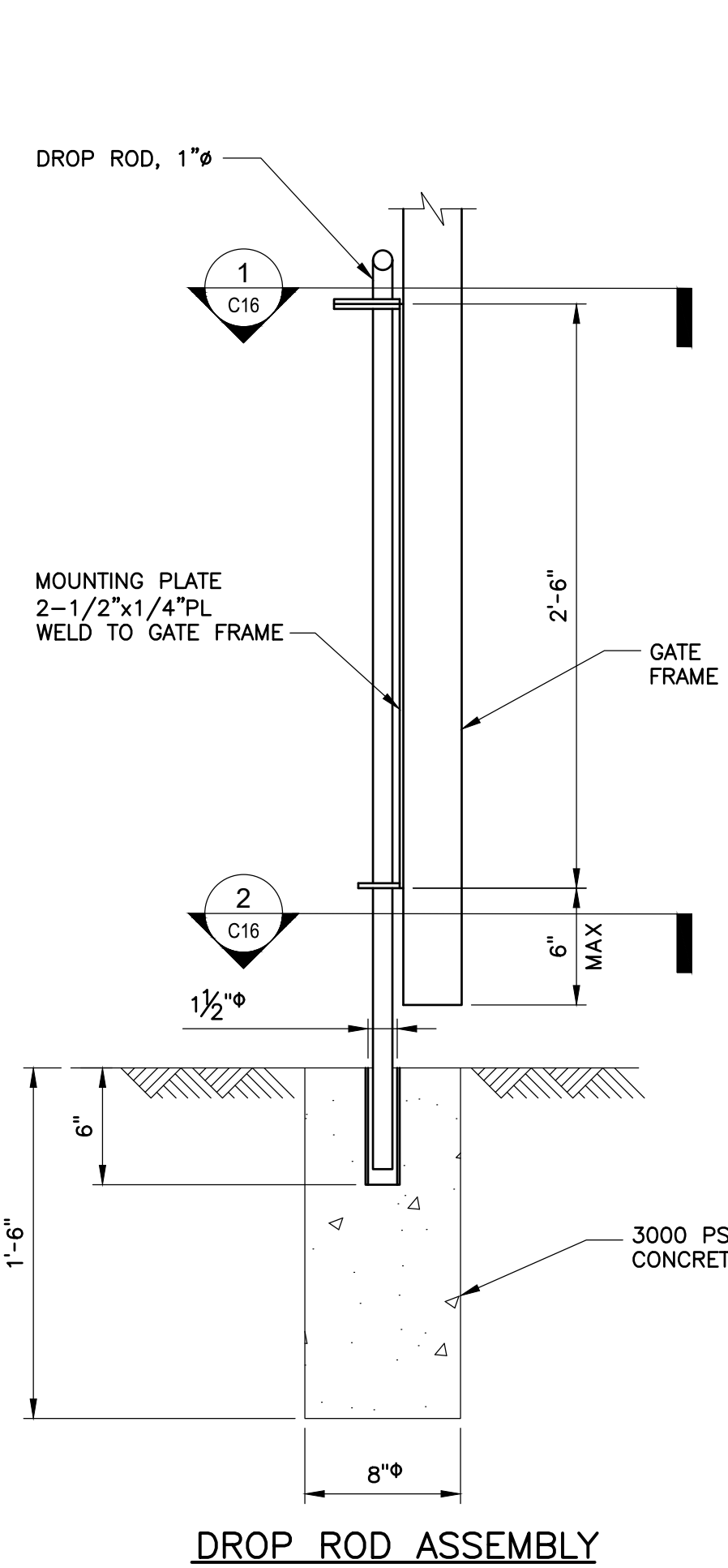
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C16
DETAIL GATE LOCK
SCALE: NOT TO SCALE



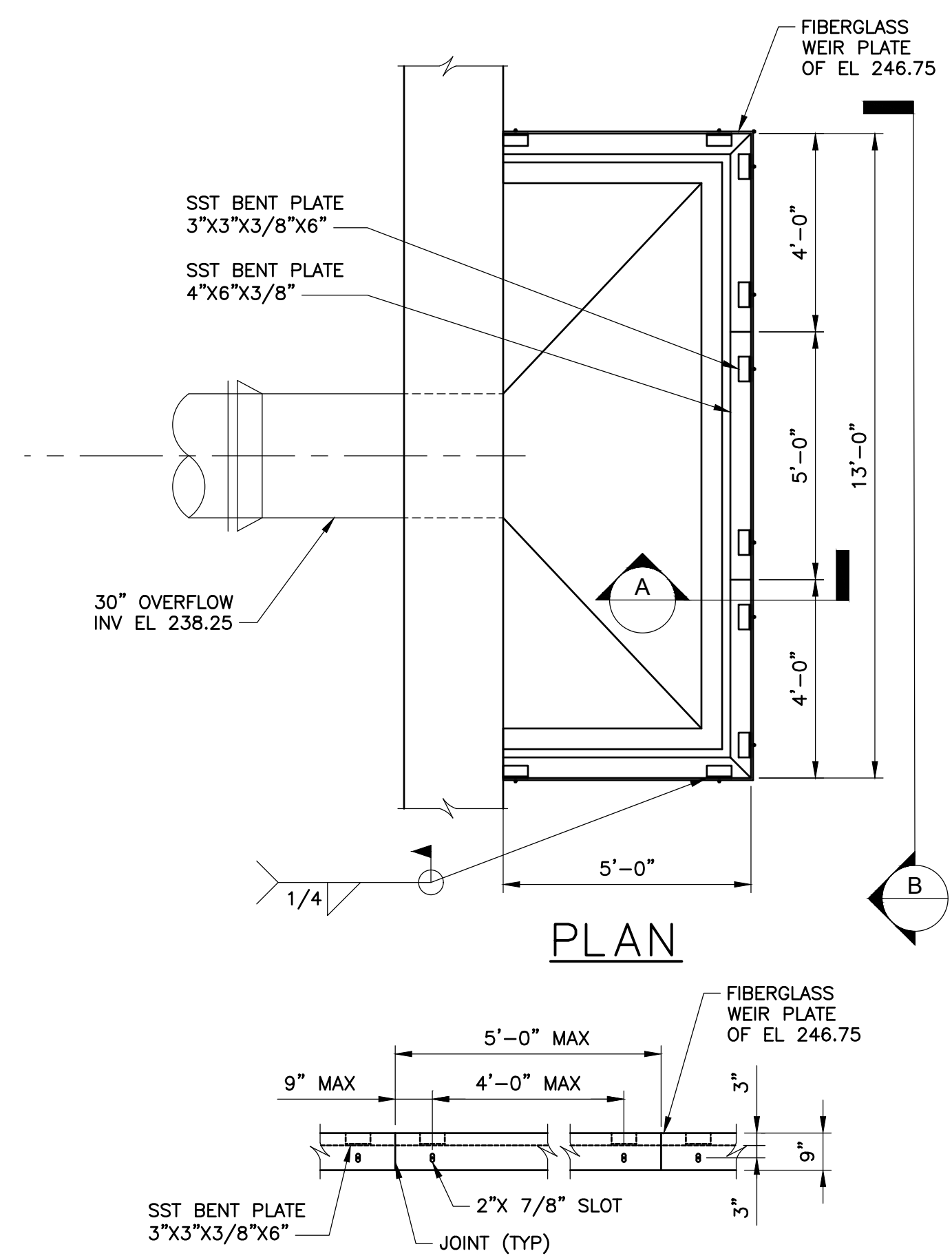
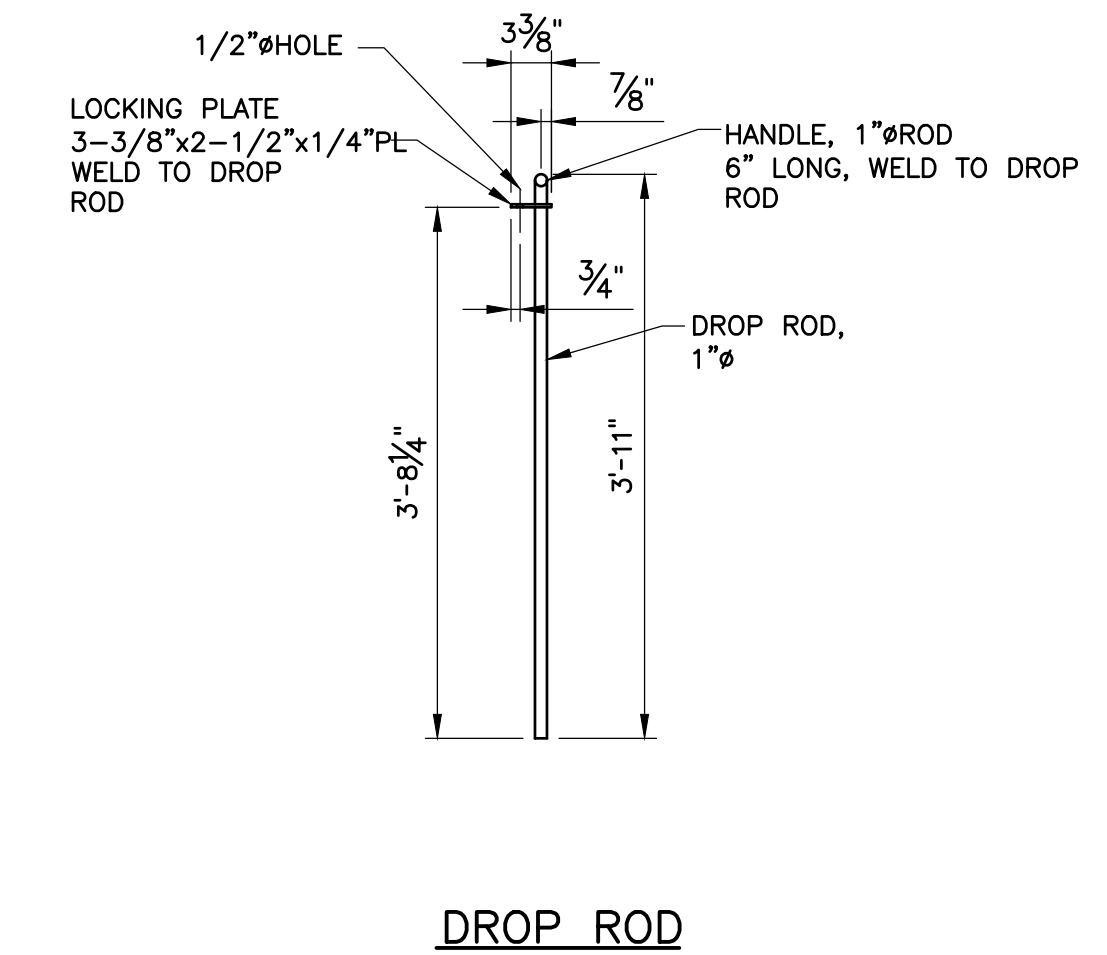
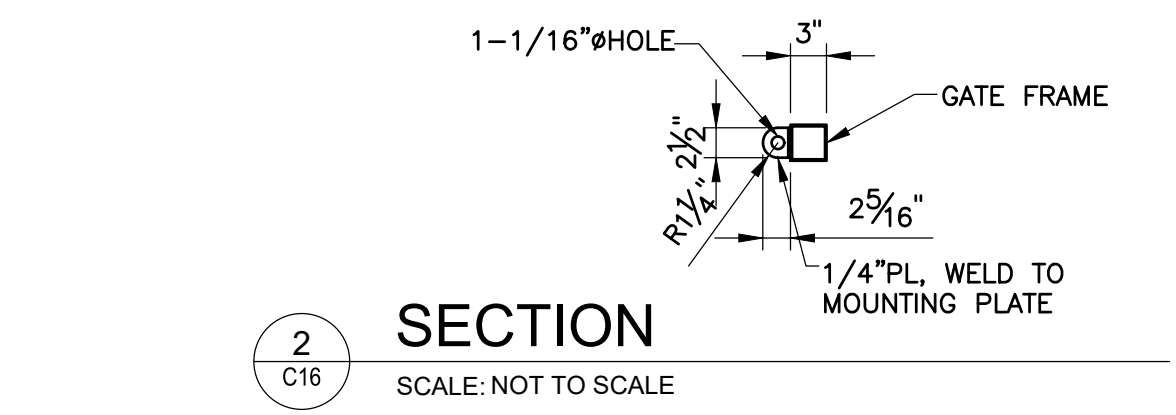
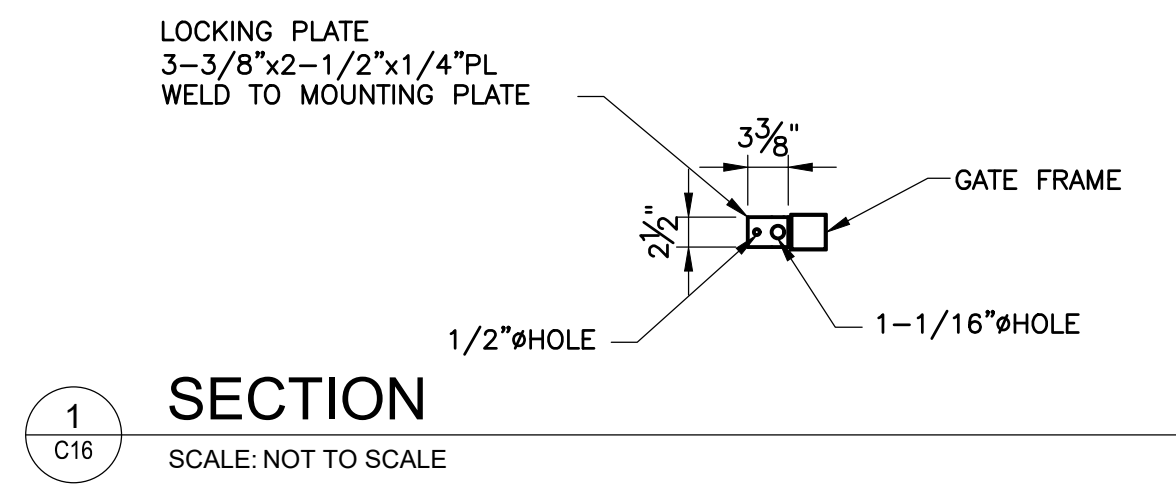
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C16
DETAIL PEDESTRIAN GATE ELEVATION
SCALE: NOT TO SCALE



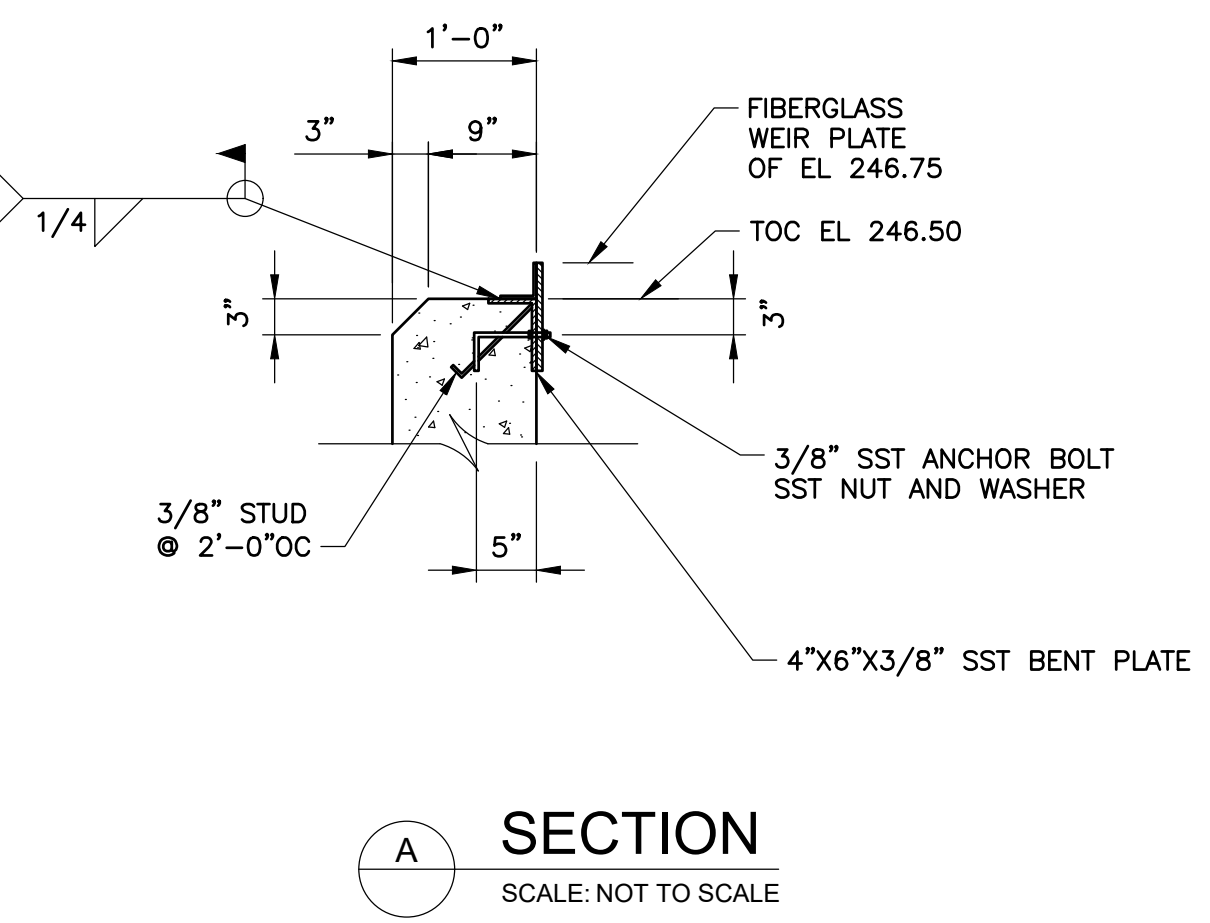
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C16
DETAIL NEW PARK PATH
SCALE: NOT TO SCALE



5
C16
DETAIL DROP ROD ASSEMBLY
SCALE: NOT TO SCALE



B
SECTION
SCALE: NOT TO SCALE



A
SECTION
SCALE: NOT TO SCALE

NOTES:

- STEEL FENCE MATERIALS SHALL BE BLACK IN COLOR (SEE SPECS).
- WHEN USING SWIVEL BRACKETS ON EITHER OR BOTH ENDS OF A PANEL INSTALLATION, CARE MUST BE TAKEN TO ENSURE THE SPACING BETWEEN POST AND ADJOINING PICKETS MEETS APPLICABLE CODES. THIS MAY REQUIRE TRIMMING ONE OR BOTH ENDS OF THE PANEL AS NEEDED.
- IN LOCATIONS SUBJECT TO FREEZING, WHERE POSTS ARE GROUTED INTO CORE-DRILLED HOLES, A 1/4" DIAMETER HOLE SHALL BE DRILLED IN THE POST APPROXIMATELY 1/2" ABOVE ELEVATION TO ALLOW FOR DRAINAGE OF BUILT-UP GROUND WATER. THE DRILLED HOLE MUST BE WIPED CLEAN AND DRY AND SPRAYED WITH AMERISTAR ZINC RICH PRIMER AND AMERISTAR COLOR MATCH FINISH.
- GROUT NEW FENCE PARTS INTO EXISTING CONCRETE CURB.
- DRAWING SHOWS FENCE PANEL AT LEVEL GROUND ELEVATION; FOR INSTALLATIONS THAT MUST BE RAKED TO FOLLOW SLOPING GRADES, THE POST SPACING DIMENSION SHOWN MUST BE MEASURED ALONG THE GRADE.
- PROVIDE FENCE GATES WITH DETAIL 2/C16 GATE LOCK.
- GATES ACROSS ACCESS ROAD SHALL BE DOUBLE-LEAF AND OPEN OUTWARD.
- PROVIDE ALL DOUBLE-LEAF GATES WITH LOCKING DROP ROD.
- PROVIDE GATE LOCK AT ALL GATES.

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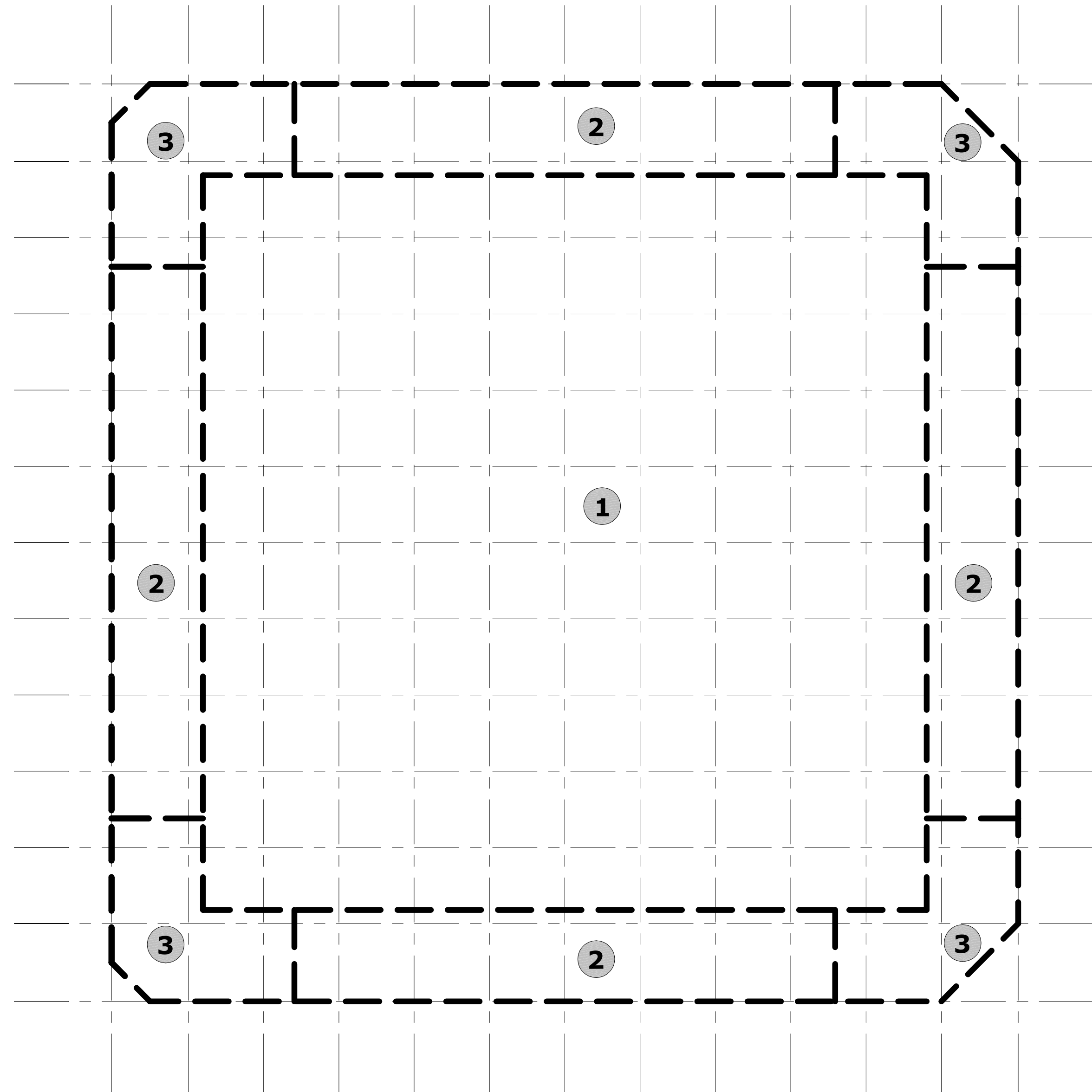
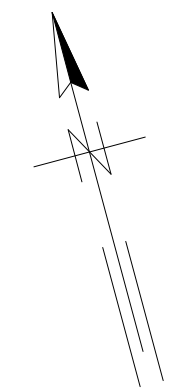
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DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK WATER STORAGE
TANKS ROOF REPLACEMENT



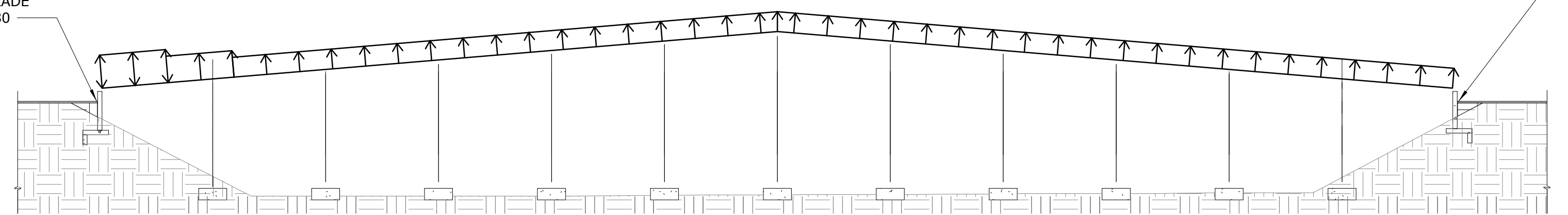
CIVIL
GATE DETAILS

PROJECT NO.: 02189.08	C16
DWG	SHEET 32 OF 92
DATE MAY 2021	REV 0



WIND LOADING DIAGRAM - COMPONENTS AND CLADDING
SCALE: 1" = 40'-0"

APPROXIMATE FINISHED GRADE
H.P. EL. 247.80



WIND LOADING DIAGRAM - MWFRS
SCALE: 1" = 30'-0"

- WIND LOADING:**
1. MAIN WIND FORCE RESISTING SYSTEM
 - a. BASIC WIND SPEED: $V = 120$ MPH
 - b. TOPOGRAPHIC FACTOR: $K_{zt} = 1.0$
 - c. DIRECTIONALITY FACTOR $K_d = 1.0$
 - d. GUST FACTOR 0.85
 - e. EXPOSURE C
 - f. VELOCITY PRESSURE: $q_h = 32.6$ PSF AT EL. h
 2. COMPONENTS AND CLADDING
 - a. IN ACCORDANCE WITH ASCE 7, CHAPTER 30
 - b. NEGATIVE VALUES ARE UPLIFT; POSITIVE VALUES ARE PRESSURE
 - b. SEE COMPONENTS AND CLADDING WIND LOADING DIAGRAM FOR ZONES

ZONE	PRESSURES
1	-36 PSF OR 16 PSF
2	-42 PSF OR 16 PSF
3	-42PSF OR 16 PSF

LOADS SHOWN HEREIN ARE MINIMUM DESIGN LOADS. MANUFACTURER TO VERIFY THESE LOADS AND / OR DERIVE THE MWFRS AND COMPONENT AND CLADDING WIND LOADS FOR THEIR PARTICULAR ROOF STRUCTURE AS REQUIRED.

Delon Hampton
ASSOCIATES CHARTERED

GREELEY AND HANSEN

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DRAWN N.J.
CHECKED M.N.

APPROVED

MICHAEL STEWART NYE
Lic. No. 0402062033
PROFESSIONAL ENGINEER
4/12/21

NO.	DATE	APPD	DESCRIPTION

SCALE

30 0 30 60 FT 1" = 30'

40 0 40 80 FT 1" = 40'

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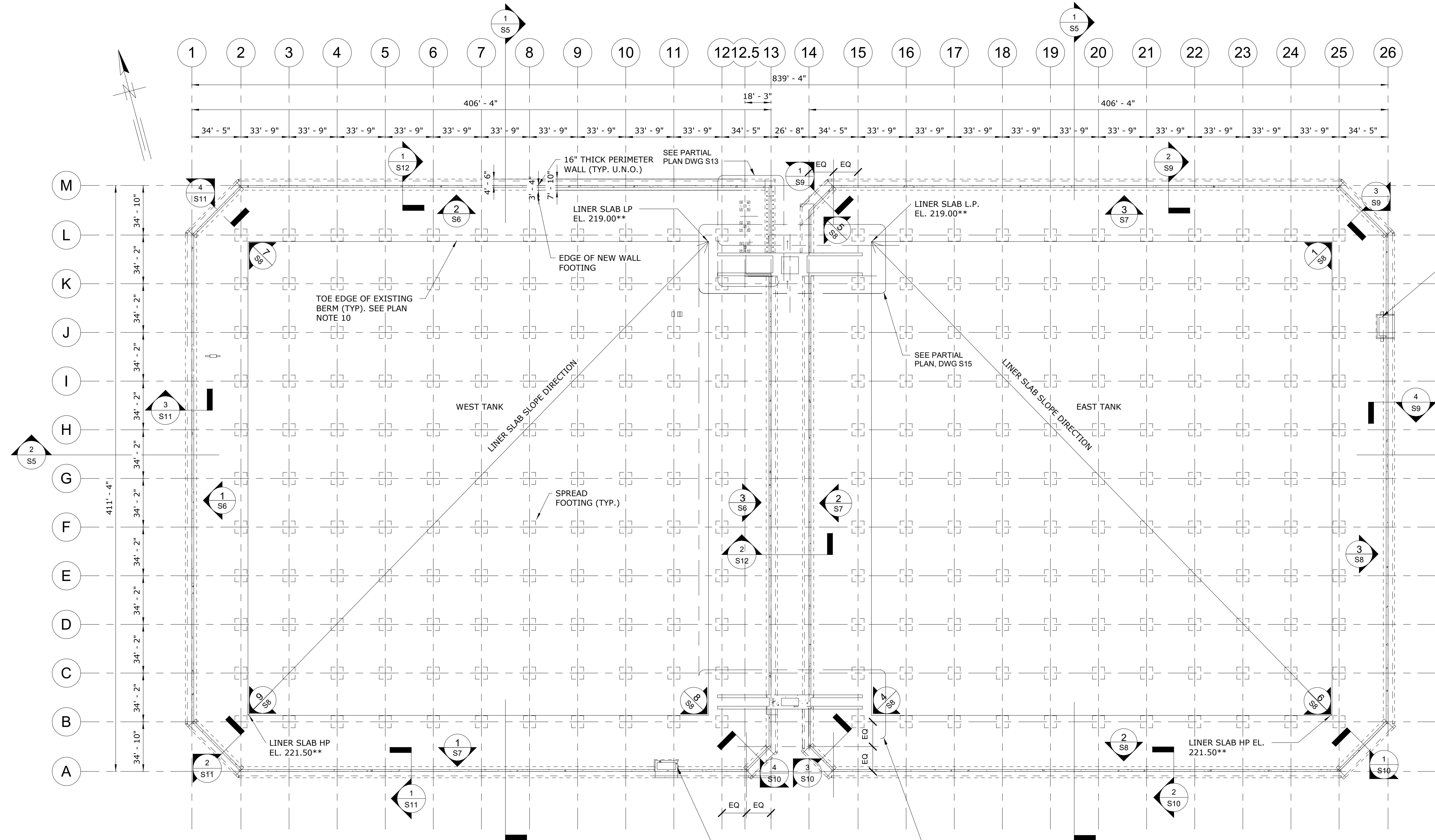
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ROOF REPLACEMENT PROJECT



STRUCTURAL

WIND LOADING DIAGRAMS

PROJECT NO.:	02189.08
DWG	S2
SHEET	OF
DATE	MAY 2021
REV	



FOUNDATION PLAN
 SCALE: 1" = 40'-0"

FOUNDATION PLAN NOTES:

1. ALL COLUMN SPREAD FOOTINGS SHALL BE 8'-6"X8'-6" IN PLAN AND 3'-6" DEEP U.N.O. SEE TYPICAL DETAIL 1/S24
2. TOP OF COLUMN SPREAD FOOTINGS TO BE EL. 221.50
3. ALL SPREAD FOOTINGS TO BE CENTERED ON GRIDS U.N.O.
4. HOOK ALL TOP BARS IN SPREAD FOOTINGS AND WALL FOOTINGS WITH STD. 90 DEGREE HOOKS U.N.O.
5. VERIFICATION OF THE ALLOWABLE SOIL BEARING CAPACITY AND ACCEPTANCE OF PREPARATION OF THE CLAY (OR SOIL) /CONCRETE INTERFACE SHALL BE BY THE ENGINEER.
6. TANK LINER SLAB TO BE 6" CONCRETE WITH WELDED WIRE FABRIC. SEE PLAN FOR SPOT ELEVATIONS OF TOP OF LINER SLAB AT TANK BASE, SLOPE SLAB ACCORDINGLY.
7. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATIONS OF ALL EQUIPMENT PADS. SEE DETAIL 1/E9 FOR ANCHORING OF EQUIPMENT PADS TO CONCRETE BASE.
8. NOT ALL OPENINGS IN WALLS MAY BE SHOWN IN THESE DRAWINGS. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATIONS OF ALL OPENINGS. SUBMIT SHOP DRAWINGS OF THE LAYOUT OF ALL OPENINGS INCLUDING THOSE NOT SHOWN ON THIS PLAN FOR REVIEW. SUBMIT ALL OPENINGS IN ONE LAYOUT AND NOT SEPARATELY SO THAT THEY CAN ALL BE REVIEWED IN RELATION TO EACH OTHER. SEE DETAIL 6/S18 FOR ADDITIONAL REINFORCEMENT AROUND OPENINGS IN WALLS.
9. GRID LINES A, M, 1, 13, 14, AND 26 ARE LOCATED AT THE OUTER FACE OF THE PERIMETER WALLS
10. EDGE OF EXISTING BERM (TOE) ELEVATION VARIES.
11. ALL COLUMNS WITH CROSS BRACING TO BE CONNECTED WITH GRADE BEAMS AS SHOWN.
12. SEE DETAIL 2/S27 FOR STEPPED FOOTING IN PERIMETER WALLS.

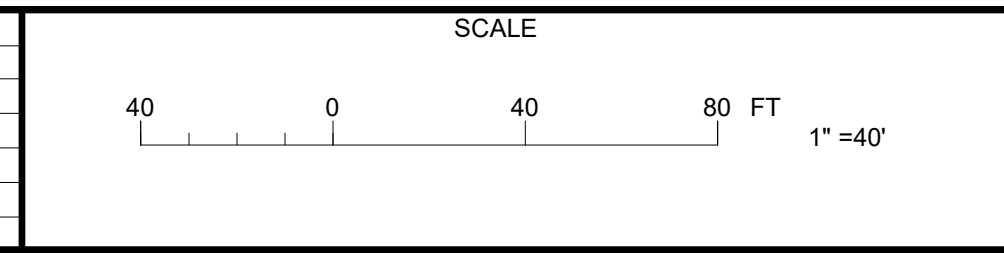


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DESIGNED D.L.
 DRAWN N.J.
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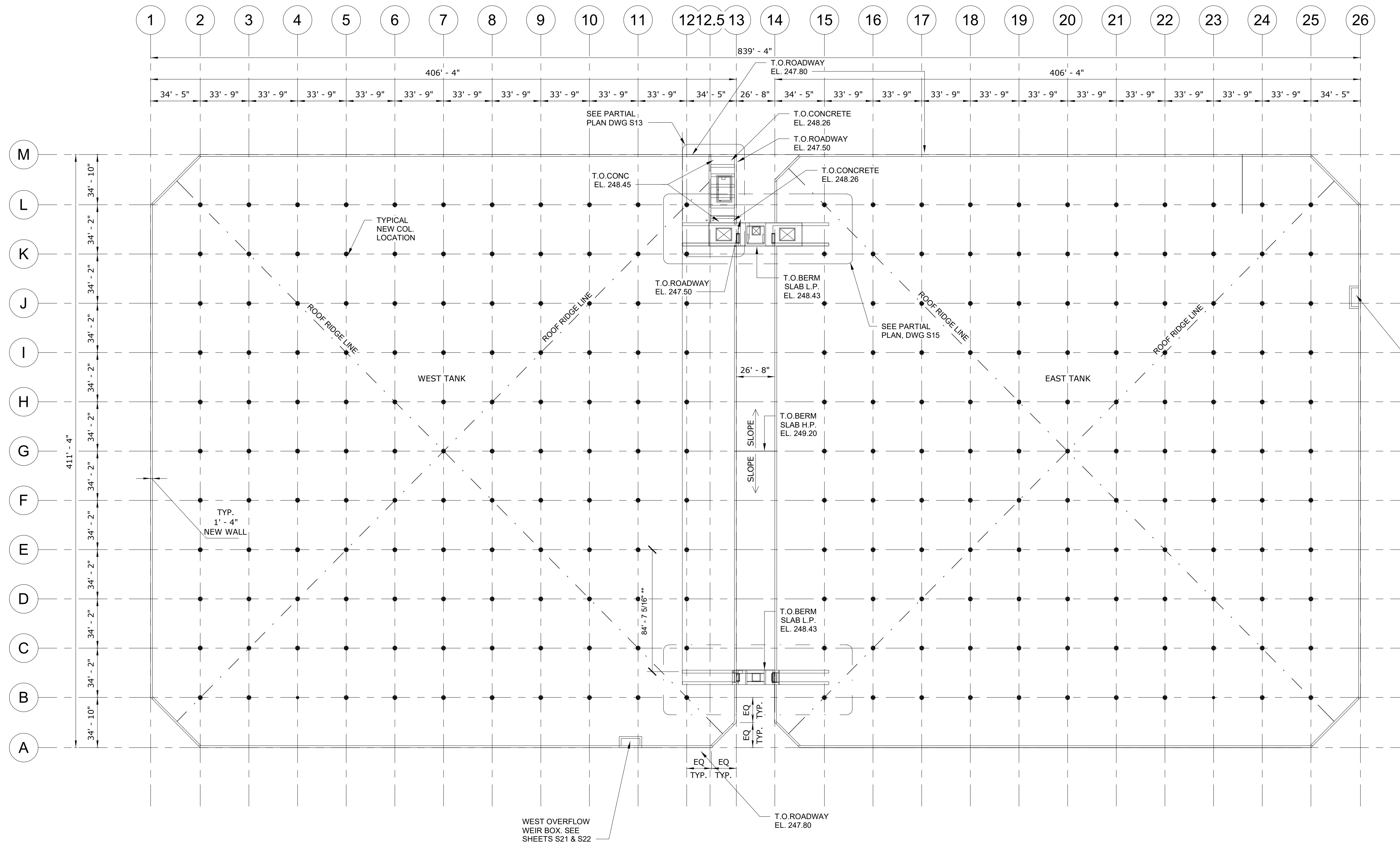
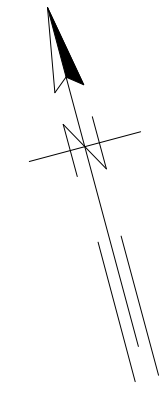


CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES
**BYRD PARK WATER STORAGE TANKS
 ROOF REPLACEMENT PROJECT**



STRUCTURAL
FOUNDATION PLAN

PROJECT NO.: 02189.08
 DWG **S3**
 SHEET OF
 DATE MAY 2021 REV



TOP PLAN
SCALE: 1" = 40'-0"

ROOF STRUCTURE NOTES:

1. ROOF MANUFACTURER TO DESIGN AND SUPPLY ROOF STRUCTURE INCLUDING INTERIOR SUPPORT COLUMNS AND LATERAL FORCE RESISTING STRUCTURE FOR A COMPLETE SYSTEM, BASED ON LAYOUT AND DESIGN CRITERIA LISTED IN DRAWINGS AND SPECS.
2. LATERAL LOADS TO BE ACCOUNTED FOR IN ROOF MANUFACTURER'S DESIGN INCLUDING, BUT NOT LIMITED TO, MODIFICATIONS TO PERIMETER SUPPORT STRUCTURE FOR LOCATIONS AT WHICH THE ROOF INDUCED LATERAL SHEAR FORCE EXCEEDS THE LATERAL SHEAR FORCE-CARRYING CAPACITY LISTED BELOW.
3. CROSS BRACING OR SIMILAR SYSTEMS MAY BE USED FOR LATERAL FORCE RESISTANCE. PROVIDE THE CONFIGURATION AND LOCATION OF SUCH SYSTEMS AS APPROVED BY THE ENGINEER. MINIMUM ONE BAY PER EACH GRIDLINE FOR LOCATIONS IDENTIFIED FOR COLUMN CROSS BRACING TO HAVE AN ALTERNATE TYPE OF BRACING TO ALLOW FOR INTERIOR ACCESS FOR INSPECTION BOATS. TYPICAL FOR ALL GRIDLINES WITH CROSS BRACINGS, AND IN EACH BASIN.
3. NO LATERAL LOADS TO BE INDUCED ONTO EXISTING OUTLET WELL STRUCTURES.
4. PERIMETER AND OTHER WALLS TO NOT BE SUBJECT TO ANY LATERAL LOADS IN DIRECTION ORTHOGINAL TO THE PLANE OF THE WALL.
5. SUBMERGED AND PARTIALLY SUBMERGED PORTIONS OF ROOF STRUCTURE (INTERIOR COLUMNS, CROSS BRACING AND ASSOCIATED CONNECTIONS AND BASE PLATES) ARE TO BE STAINLESS STEEL. REMAINDER OF ROOF FRAMING AND ROOF SHEETING TO BE ALUMINUM. SEE GENERAL NOTES SHEET AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. SUBMIT SIGNED AND SEALED CONNECTION DETAILS AND CALCULATIONS TO BE REVIEWED BY THE ENGINEER FOR IMPACT ON THE BASE STRUCTURE PRIOR TO CONSTRUCTION OF REINFORCED CONCRETE PERIMETER STRUCTURES, IN CASE MODIFICATIONS ARE REQUIRED.
7. SEE M DRAWINGS FOR HATCHES AND OTHER OPENINGS IN ROOF.
8. REFER TO FOUNDATION PLAN NOTES FOR INFORMATION NOT SHOWN HERE.

WALL LATERAL SHEAR FORCE CAPACITIES:

- a. PERIMETER WALLS: 251 LBS/FT

NOTE: THE GIVEN FORCE IS IN LBS/FT. IF THIS FORCE IS CONCENTRATED AT LOCAL POINTS ON THE WALL, THEN THE WALL SHOULD BE CHECKED FOR SUCH CONCENTRATED LOAD EFFECT AND MODIFIED AS NEEDED TO RECEIVE AND DISSIPATE THE SHEAR FORCE ACCORDINGLY.

EAST OVERFLOW WEIR BOX STRUCTURE. SEE SHEETS S19 & S20

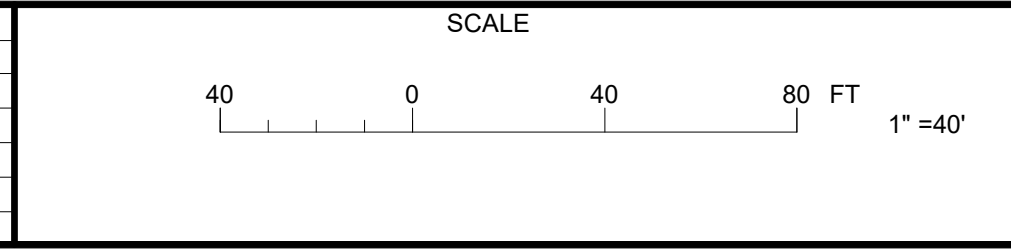
Delon Hampton
ASSOCIATES CHARTERED

Greeley and Hansen

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DRAWN	N.J.		
CHECKED	M.N.		

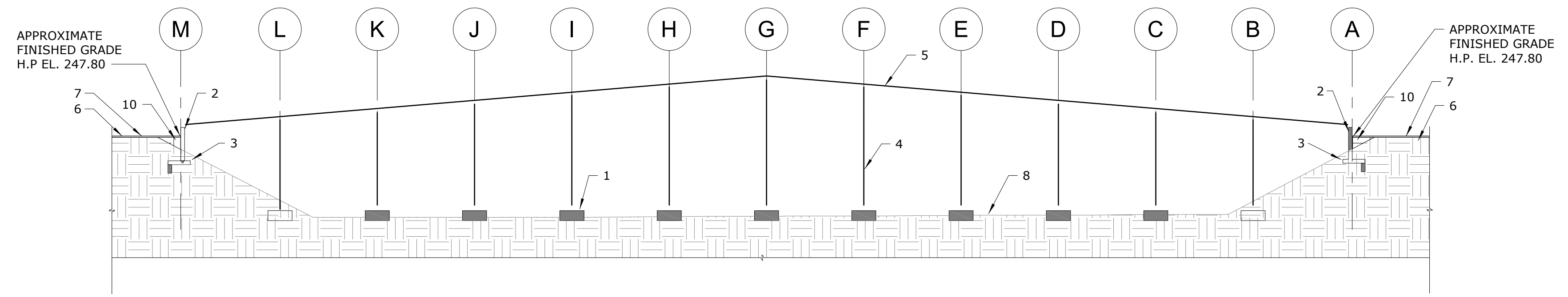
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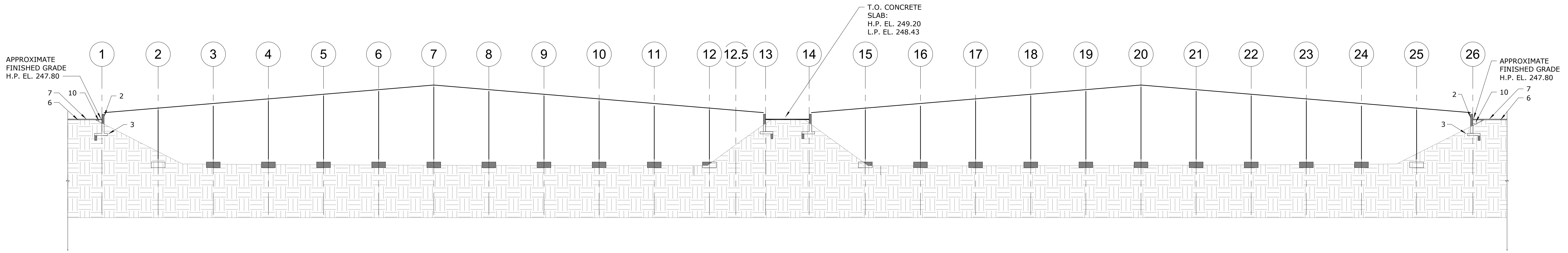
**BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT**

PROJECT NO.:	02189.08
DWG	S4
SHEET	OF
DATE	MAY 2021
REV	



1 NORTH - SOUTH SECTION
S3 SCALE: 1" = 30'-0"

- LEGEND:**
1. NEW TYPICAL 8'-6" X 8'-6" X 3'-6" SPREAD FOOTING. TOP OF FOOTING EL. 221.50
 2. NEW 1'-4" (TYP.) THICK PERIMETER WALL. T.O.WALL EL. 250.76
 3. NEW 1'-6" (TYP.) THICK CONTINUOUS WALL FOOTING. T.O. WALL FTG. EL. 237.00
 4. NEW TYPICAL STAINLESS STEEL ROOF SUPPORT COLUMN.
 5. NEW TRIANGULATED ALUMINUM FRAMED ROOF STRUCTURE.
 6. EXISTING END BERM. T.O.BERM H.P. EL. 247.80 (V.I.F.).
 7. NEW PAVEMENT
 8. NEW 6" THICK CONCRETE LINER
 9. V.I.F. : VERIFY IN FIELD
 10. FILL ANY VOID SPACE WITH STRUCTURAL FILL OR GRAVEL



2 EAST - WEST SECTION
S3 SCALE: 1" = 30'-0"

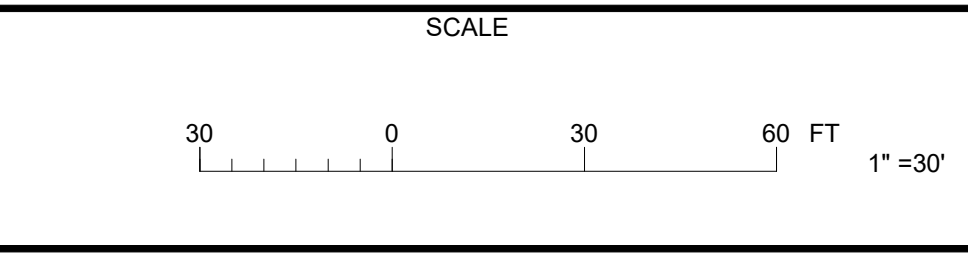
Delon Hampton
ASSOCIATES CHARTERED

GREELEY AND HANSEN

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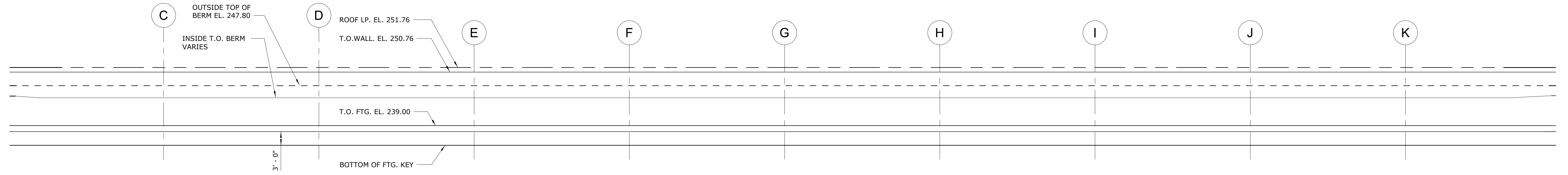
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ROOF REPLACEMENT PROJECT



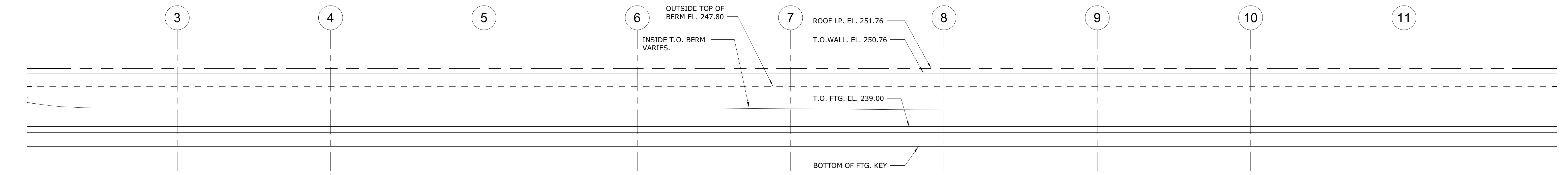
STRUCTURAL

GENERAL SECTIONS

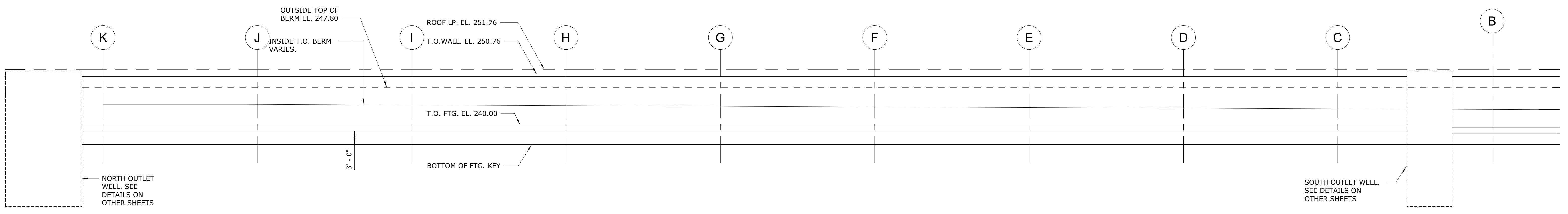
PROJECT NO.:	02189.08
DWG	S5
SHEET	OF
DATE	MAY 2021
REV	



1 WEST TANK - WEST WALL ELEVATION
SCALE: 3/32" = 1'-0"



2 WEST TANK - NORTH WALL ELEVATION
SCALE: 3/32" = 1'-0"



3 WEST TANK - EAST WALL ELEVATION
SCALE: 3/32" = 1'-0"

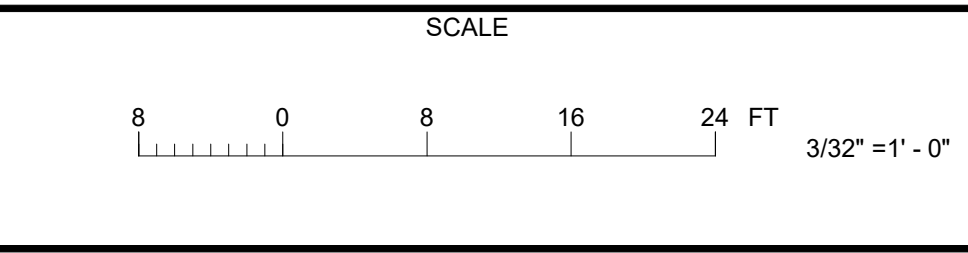
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ASSOCIATES CHARTERED

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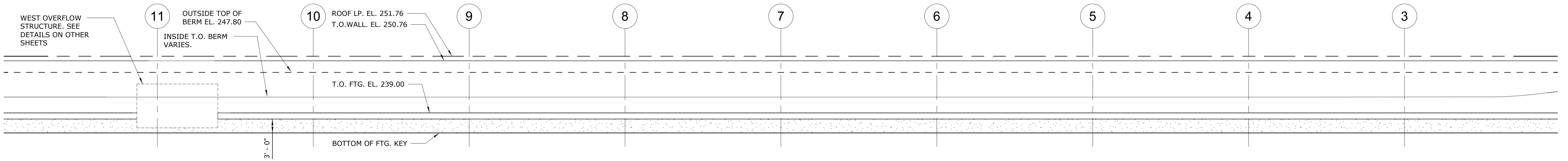


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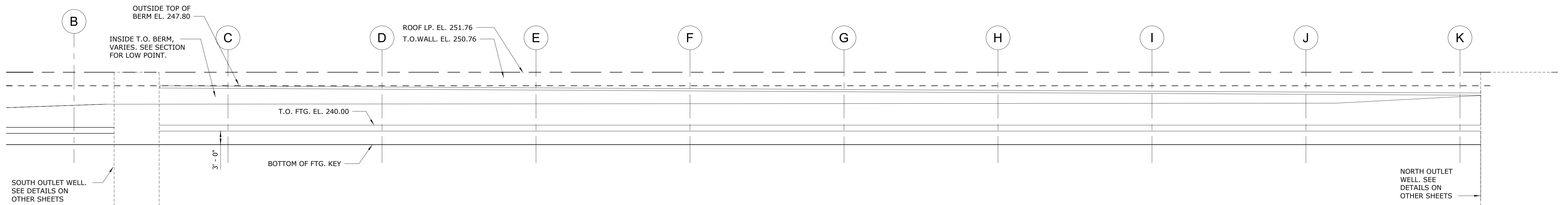
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ROOF REPLACEMENT PROJECT

PROJECT NO.:	02189.08
DWG	S6
SHEET	OF
DATE	MAY 2021
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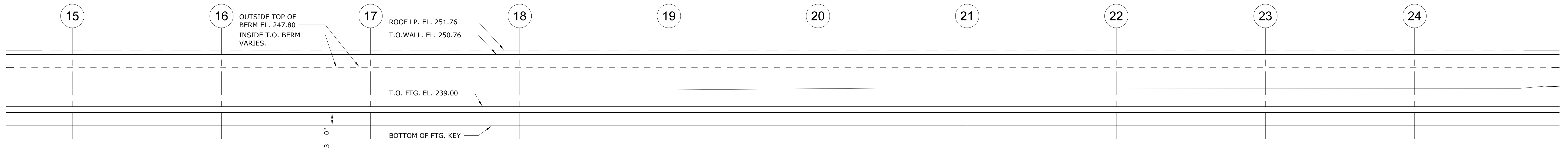
PERIMETER WALL ELEVATIONS - I



1 WEST TANK - SOUTH WALL ELEVATION
 S3 SCALE: 3/32" = 1'-0"



2 EAST TANK - WEST WALL ELEVATION
 S3 SCALE: 3/32" = 1'-0"



3 EAST TANK - NORTH WALL ELEVATION
 S3 SCALE: 3/32" = 1'-0"

Delon Hampton
 ASSOCIATES CHARTERED

Greeley and Hansen

9020 STONY POINT PARKWAY, SUITE 475
 RICHMOND, VIRGINIA 23235

DESIGNED	D.L.	APPROVED	
DRAWN	N.J.		
CHECKED	M.N.		

NO.	DATE	APPD	DESCRIPTION

SCALE

3/32" = 1'-0"

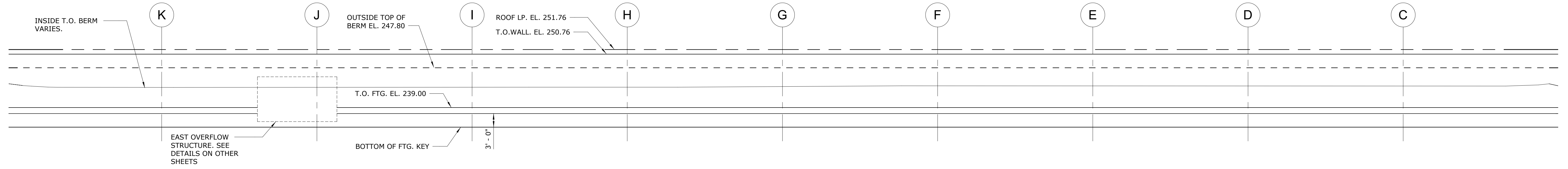
CITY OF RICHMOND, VIRGINIA

BYRD PARK WATER STORAGE TANKS
 ROOF REPLACEMENT PROJECT

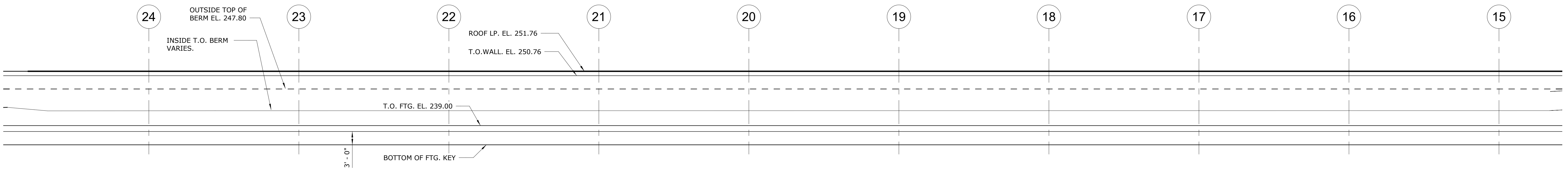


PERIMETER WALL ELEVATIONS - II

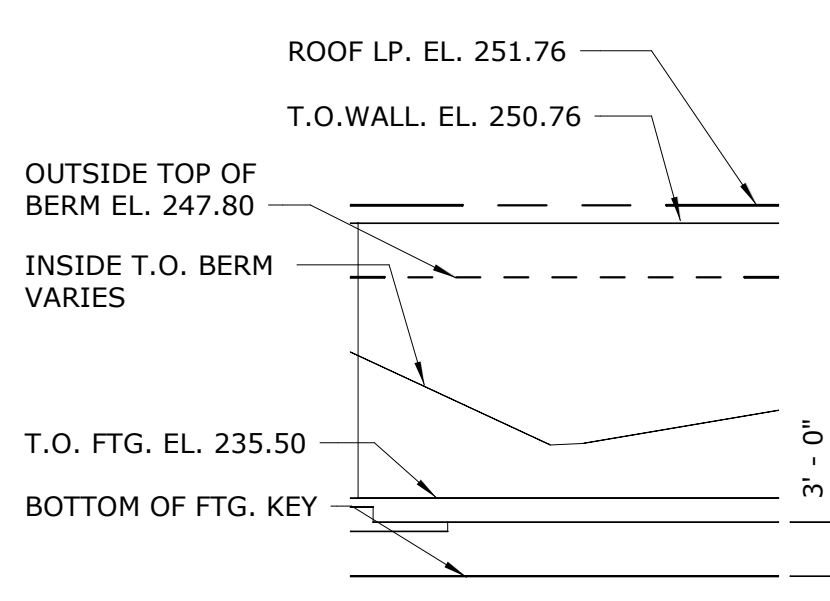
PROJECT NO.:	02189.08
DWG	S7
SHEET	OF
DATE	MAY 2021
REV	



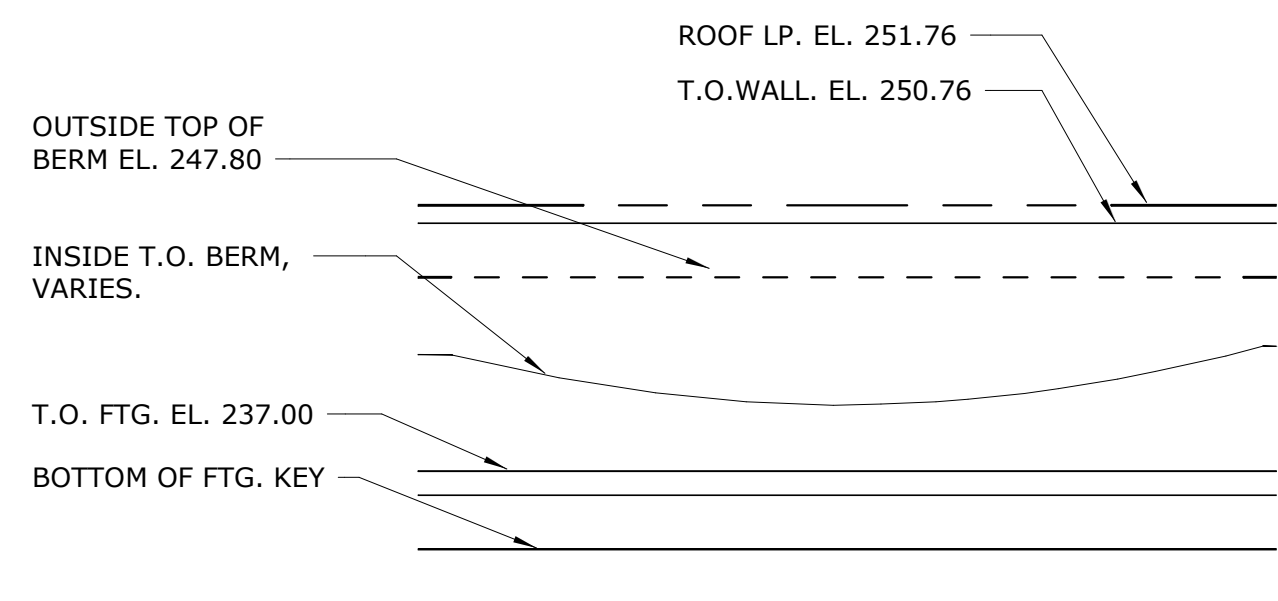
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S3 SCALE: 3/32" = 1'-0"



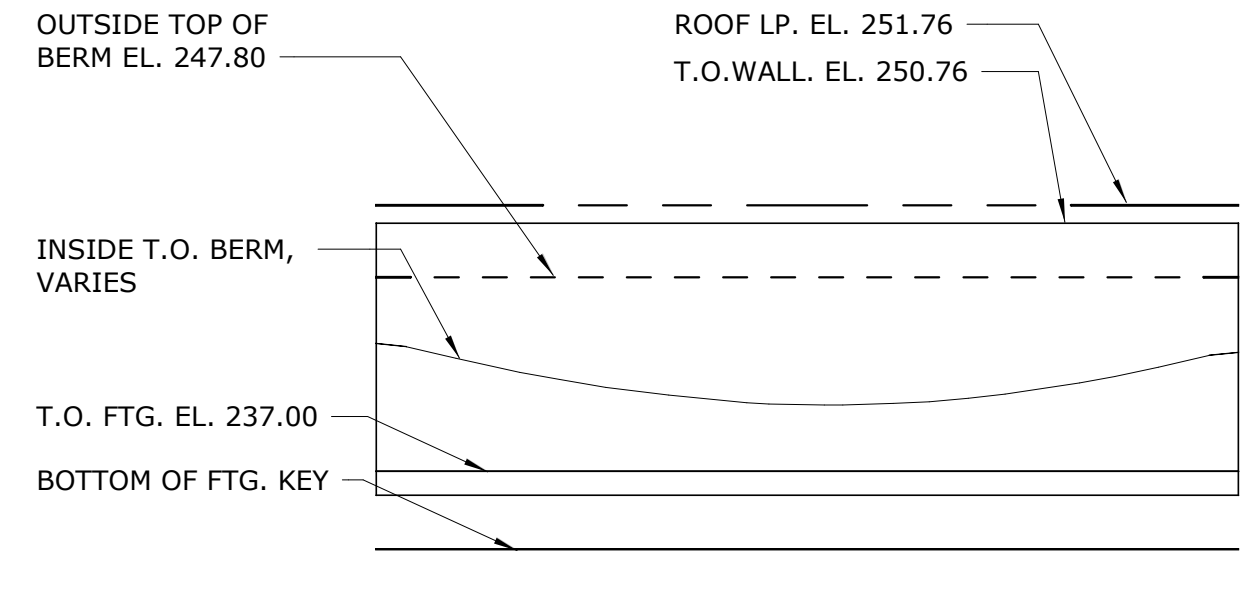
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S3 SCALE: 3/32" = 1'-0"



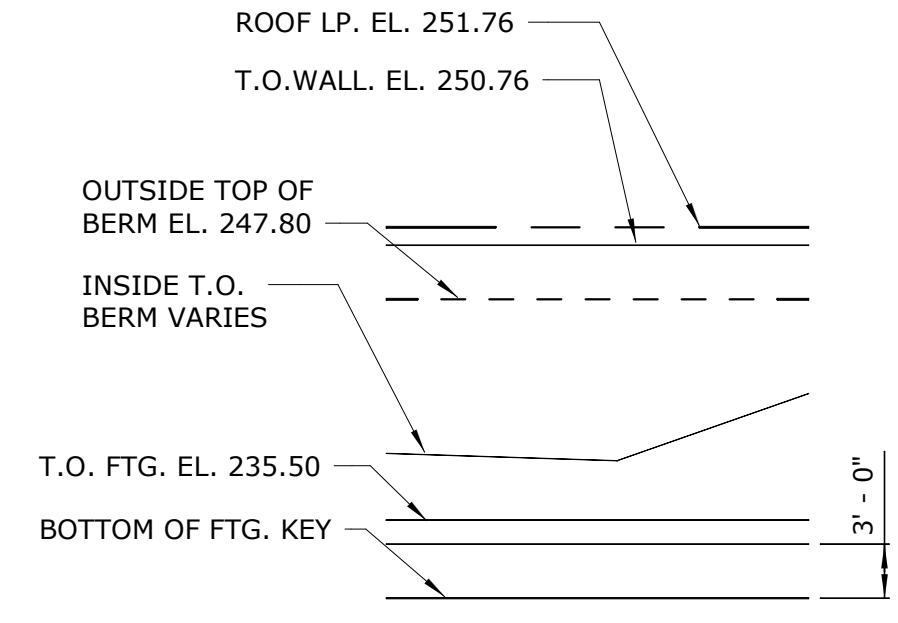
5 EAST TANK - NORTHWEST CORNER
S3 SCALE: 3/32" = 1'-0"



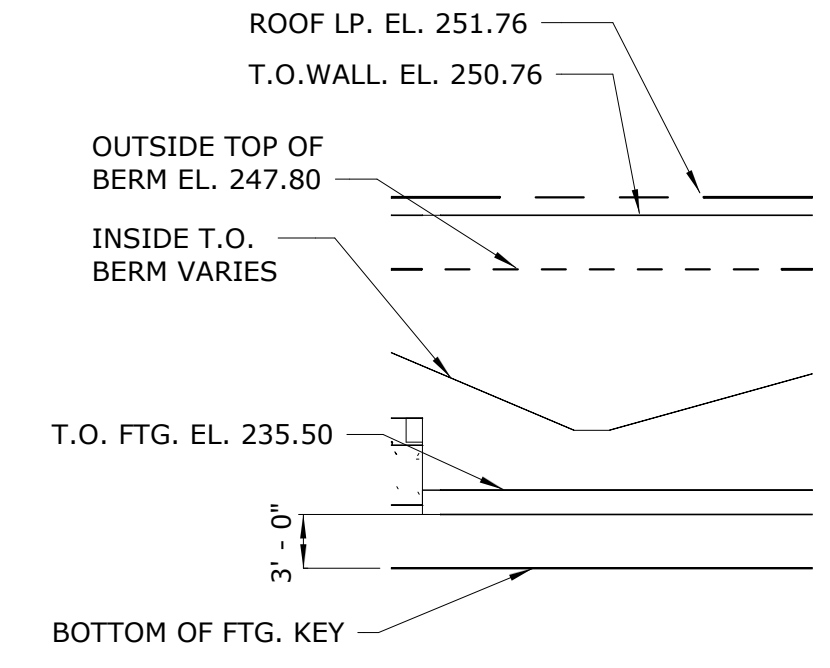
1 EAST TANK - NORTHEAST CORNER
S3 SCALE: 3/32" = 1'-0"



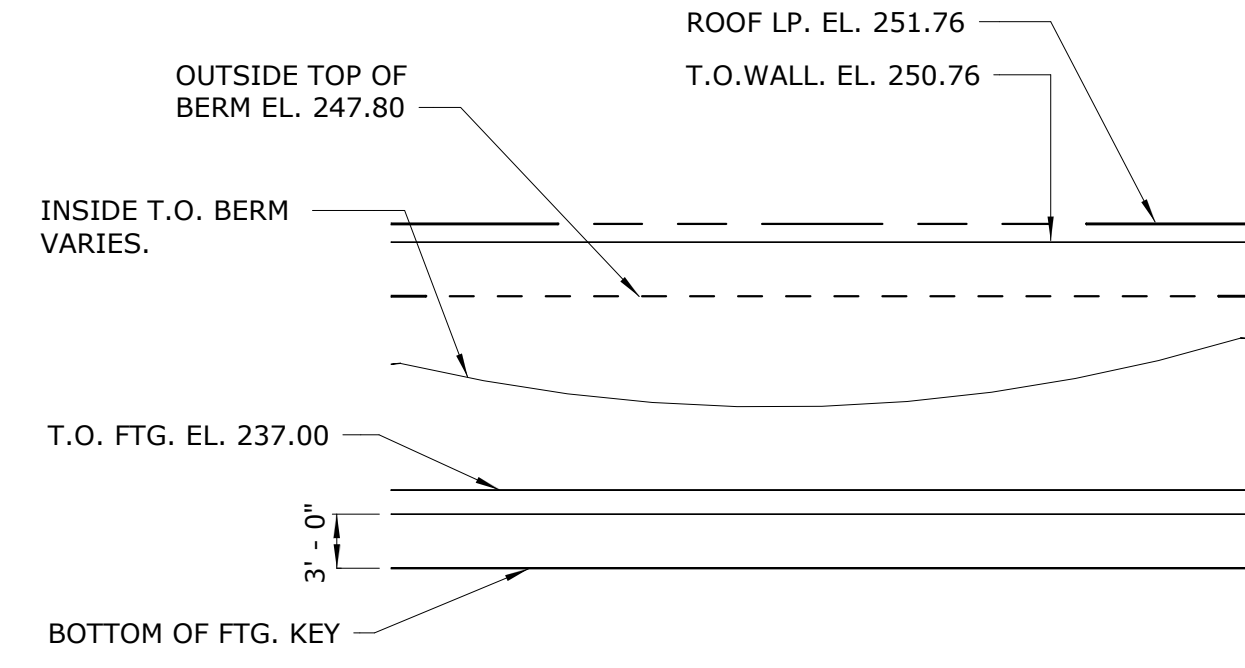
6 EAST TANK - SOUTHEAST CORNER
S3 SCALE: 3/32" = 1'-0"



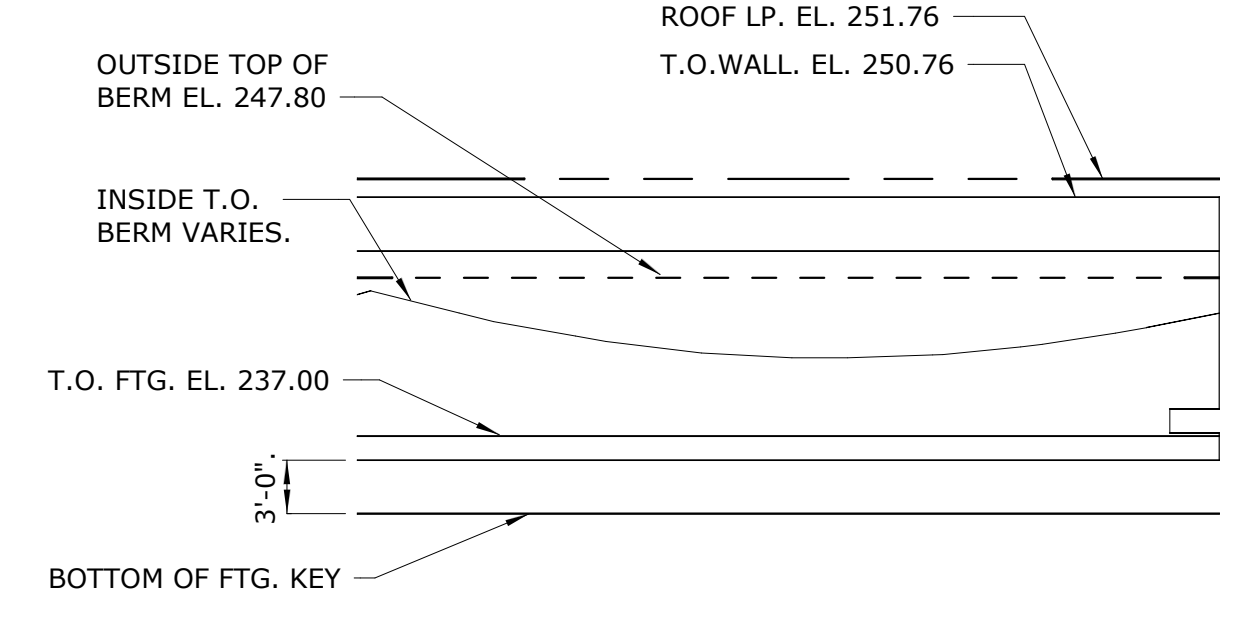
4 EAST BASIN - SOUTHWEST CORNER
S3 SCALE: 3/32" = 1'-0"



8 WEST TANK - SOUTHEAST CORNER
S3 SCALE: 3/32" = 1'-0"



9 WEST TANK - SOUTHWEST CORNER
S3 SCALE: 3/32" = 1'-0"



7 WEST TANK - NORTHWEST CORNER
S3 SCALE: 3/32" = 1'-0"

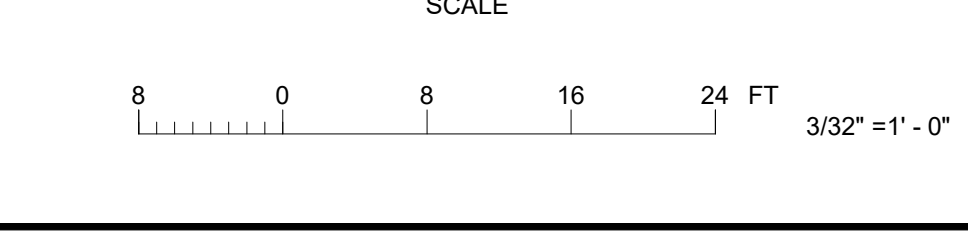
WALL ELEVATION NOTES:
1. WALL ELEVATIONS ARE SHOWN FOR GENERAL COORDINATION PURPOSES ONLY. SEE PLANS AND WALL SECTION SHEETS FOR ALL DETAILS.



GREELEY AND HANSEN
9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

DESIGNED	D.L.	APPROVED	MICHAEL STEWART NYE Lic. No. 0402062033 PROFESSIONAL ENGINEER 4/12/21
DRAWN	N.J.		
CHECKED	M.N.		

NO.	DATE	APPD	DESCRIPTION



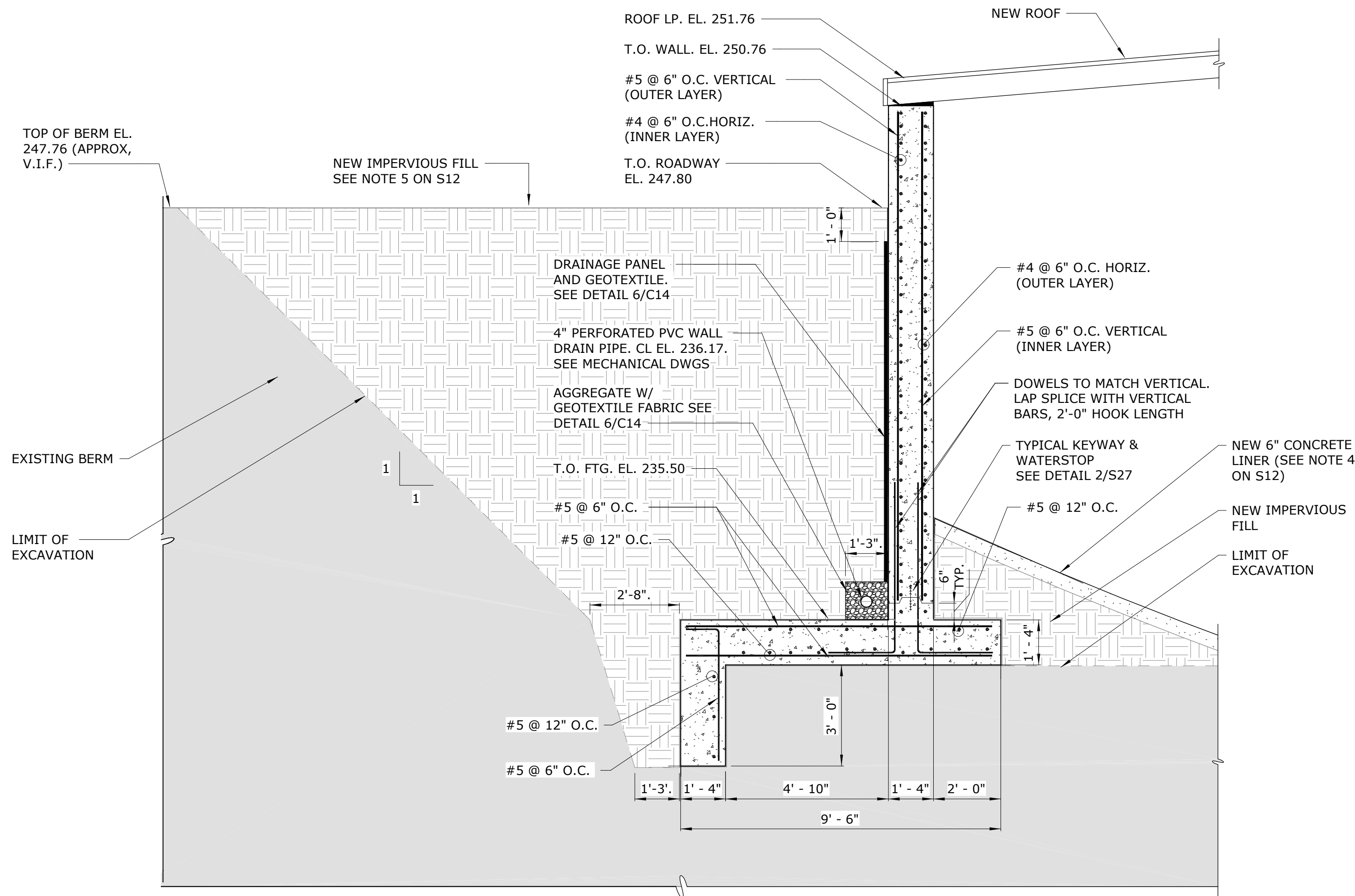
CITY OF RICHMOND, VIRGINIA
BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT



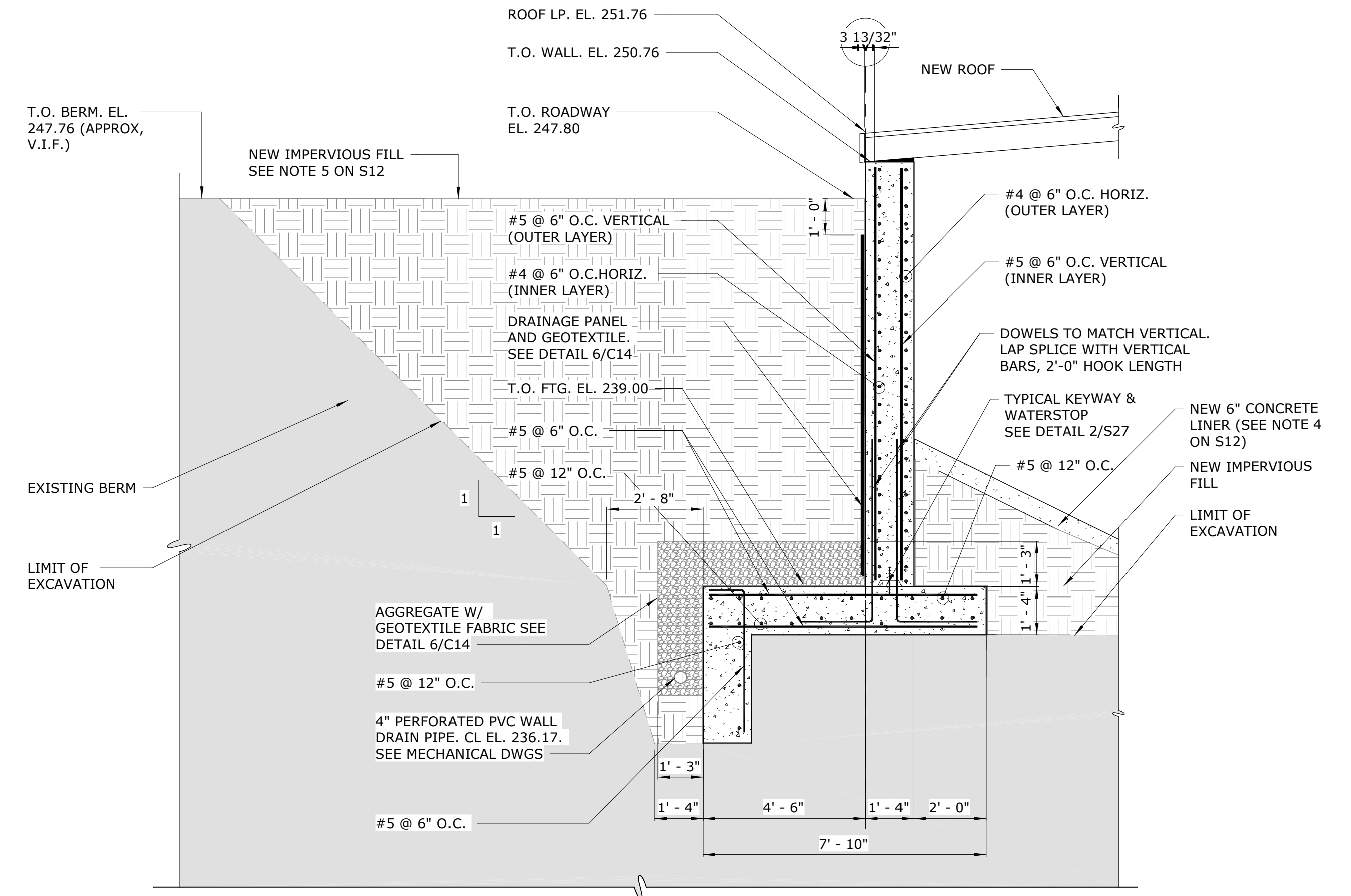
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SHEET	OF
DATE	MAY 2021
REV	

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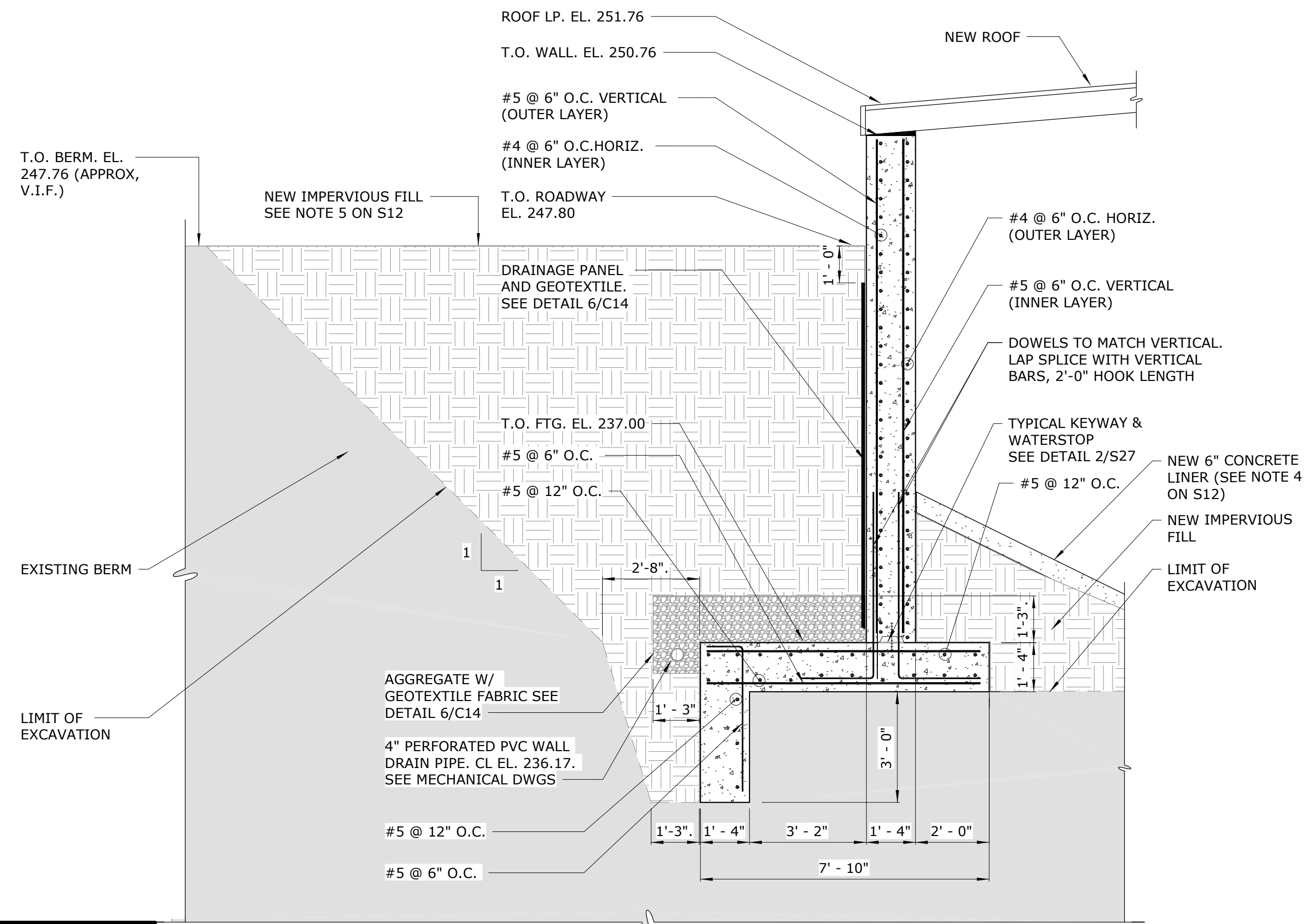
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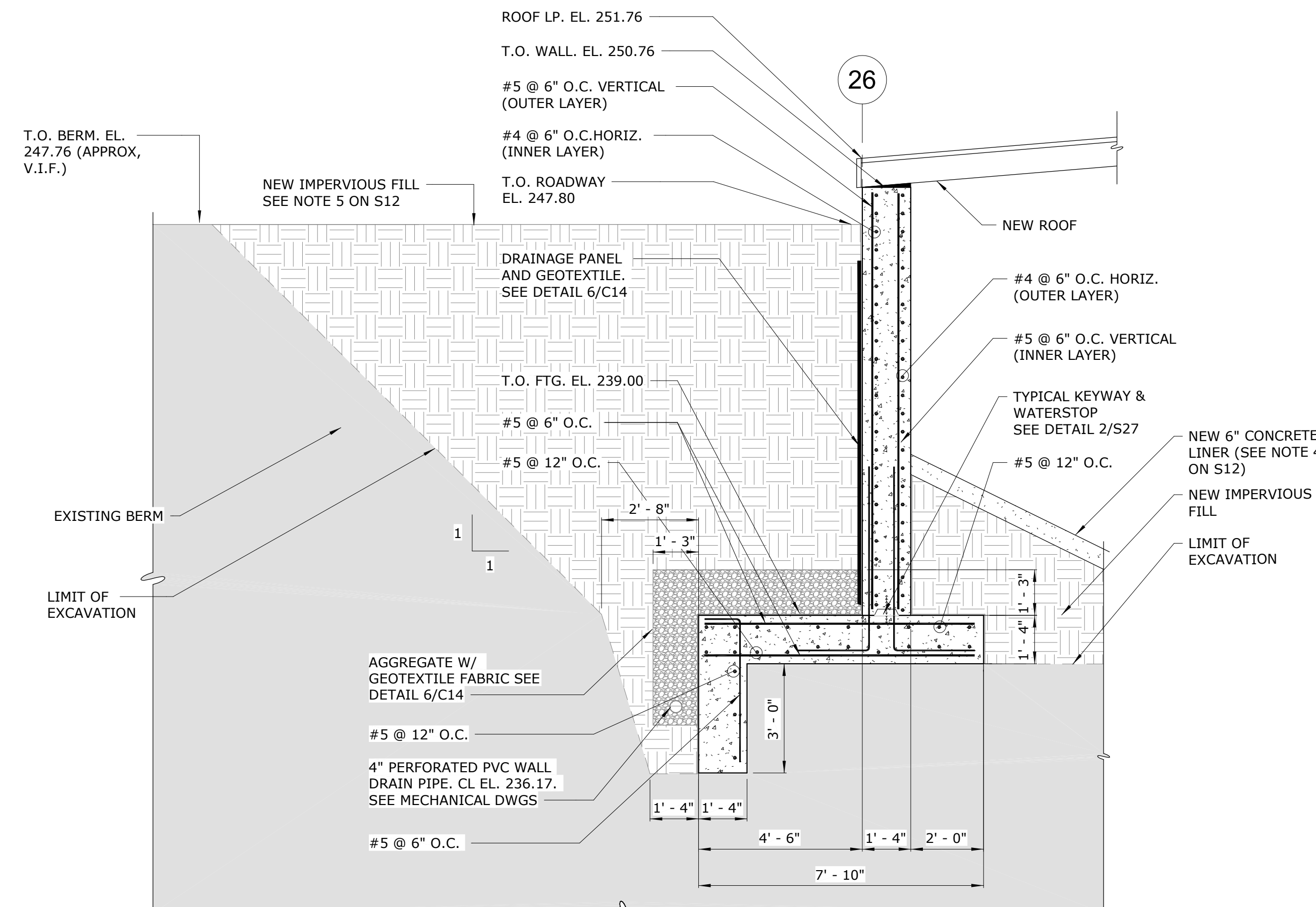
1 EAST BASIN - NORTHWEST CORNER WALL
SCALE: 3/8" = 1'-0"



2 EAST BASIN - NORTH WALL
SCALE: 3/8" = 1'-0"



3 EAST BASIN - NORTHEAST CORNER WALL
SCALE: 3/8" = 1'-0"



4 EAST BASIN - EAST WALL
SCALE: 3/8" = 1'-0"

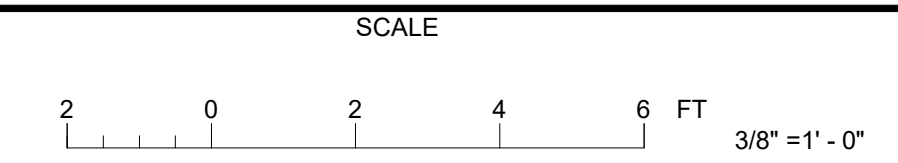
SEE PERIMETER WALL NOTES ON S12



GREELEY AND HANSEN
9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

DESIGNED D.L.
DRAWN N.J.
CHECKED M.N.
APPROVED
MICHAEL STEWART NYE
Lic. No. 0402062033
PROFESSIONAL ENGINEER
4/12/21

NO.	DATE	APPD	DESCRIPTION



CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT

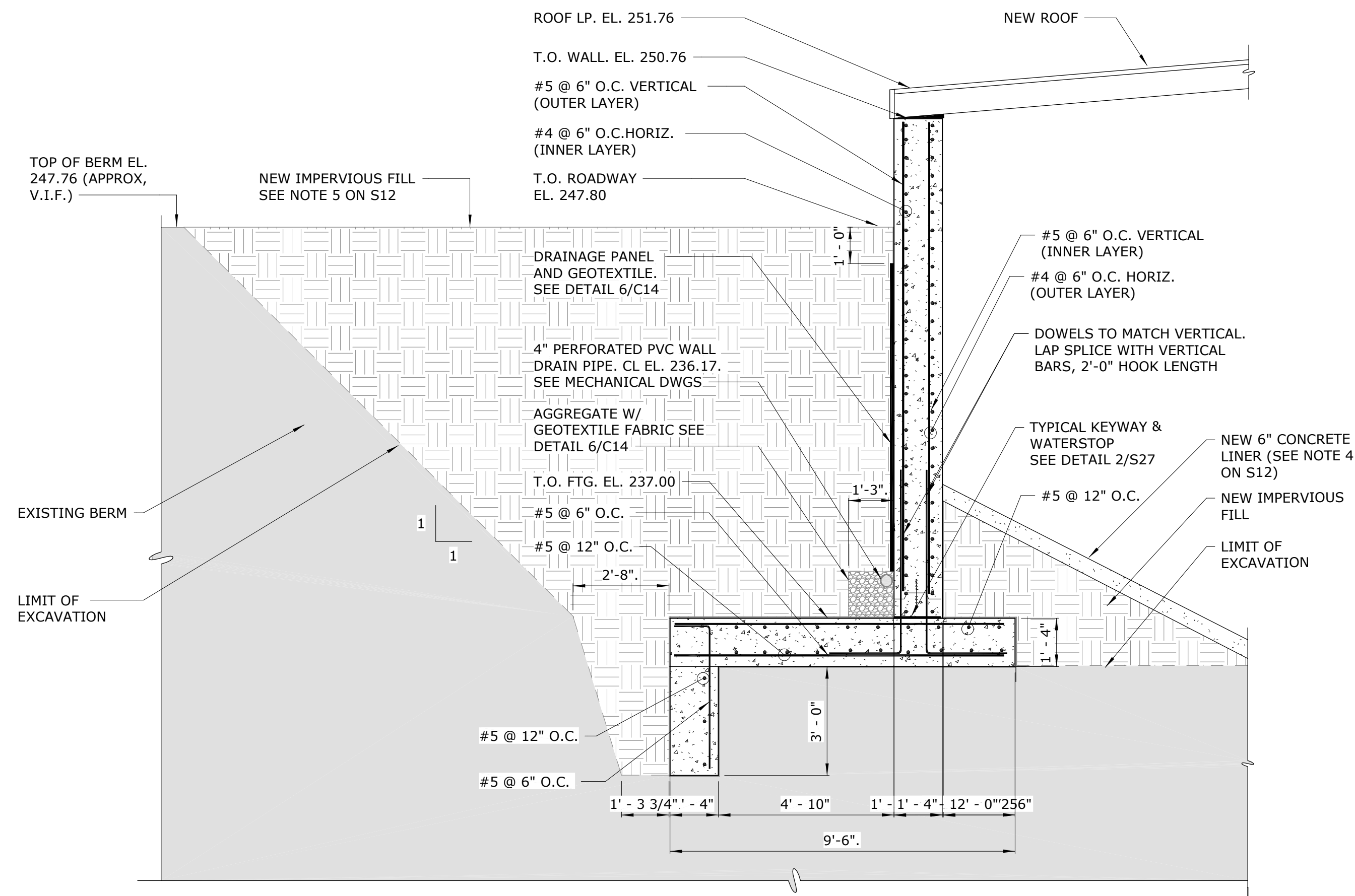


STRUCTURAL
TANK SECTIONS AND DETAILS - I

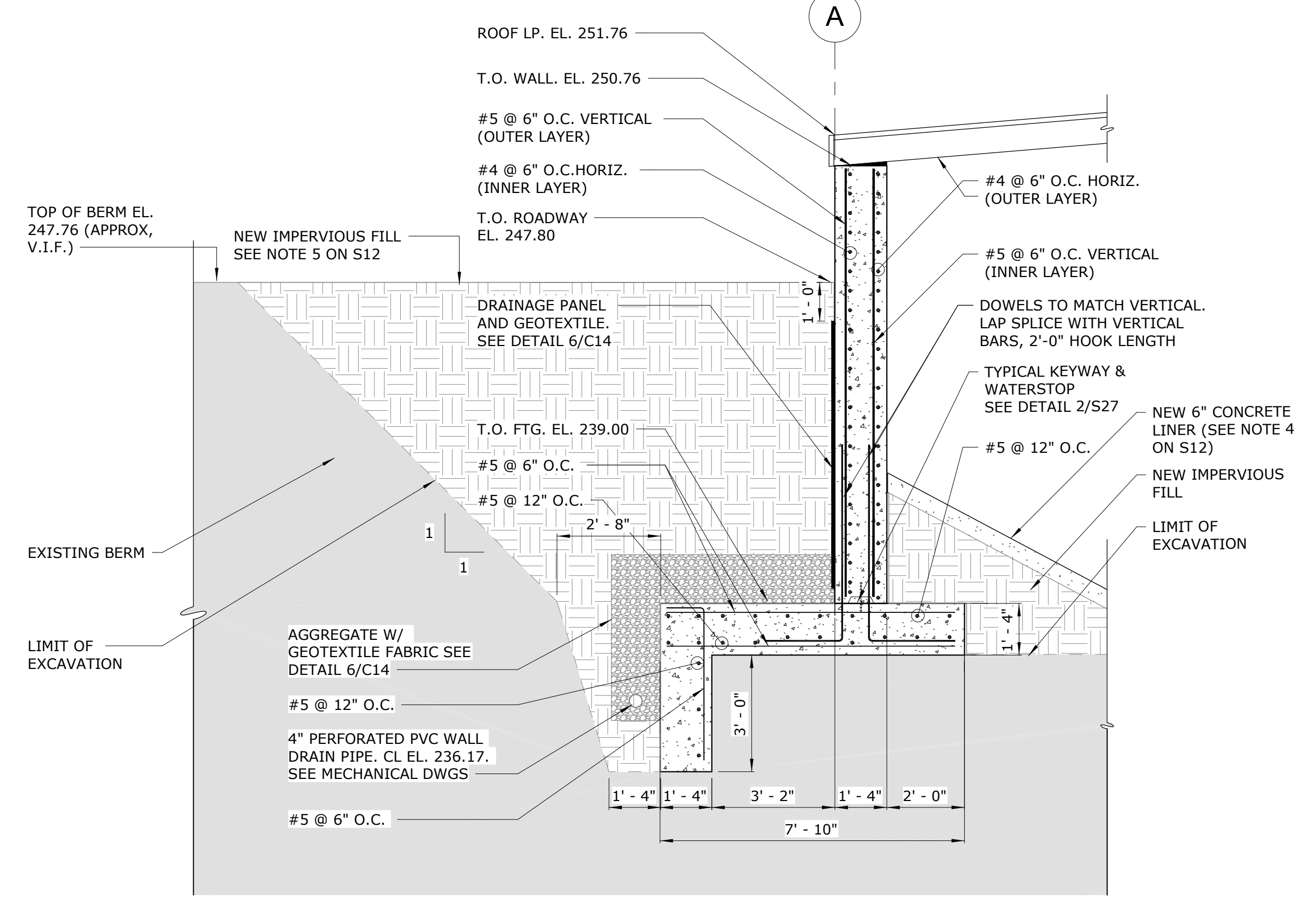
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DWG **S9**
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DATE MAY 2021 REV

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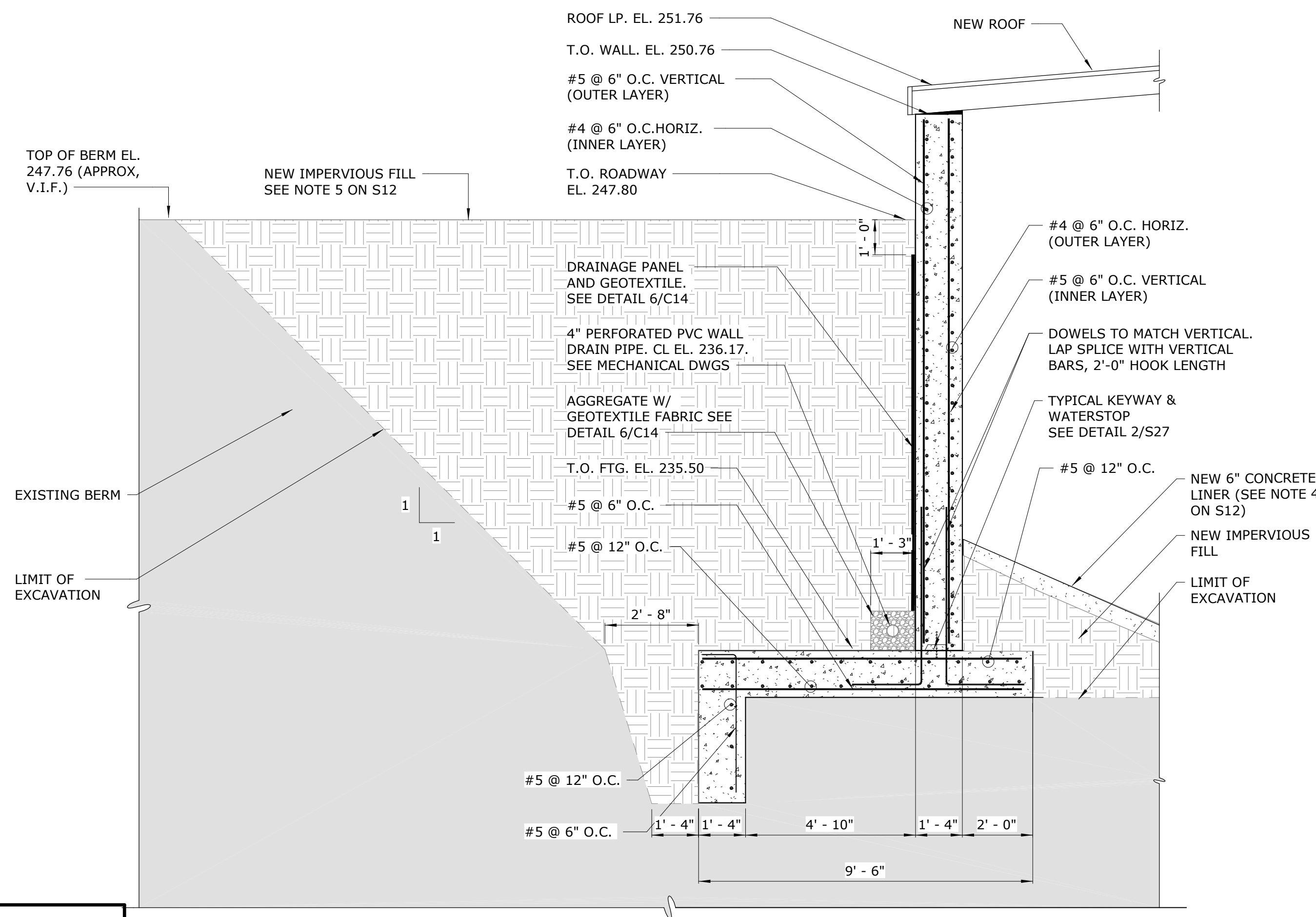


1 EAST BASIN - SOUTHEAST CORNER WALL
SCALE: 3/8" = 1'-0"

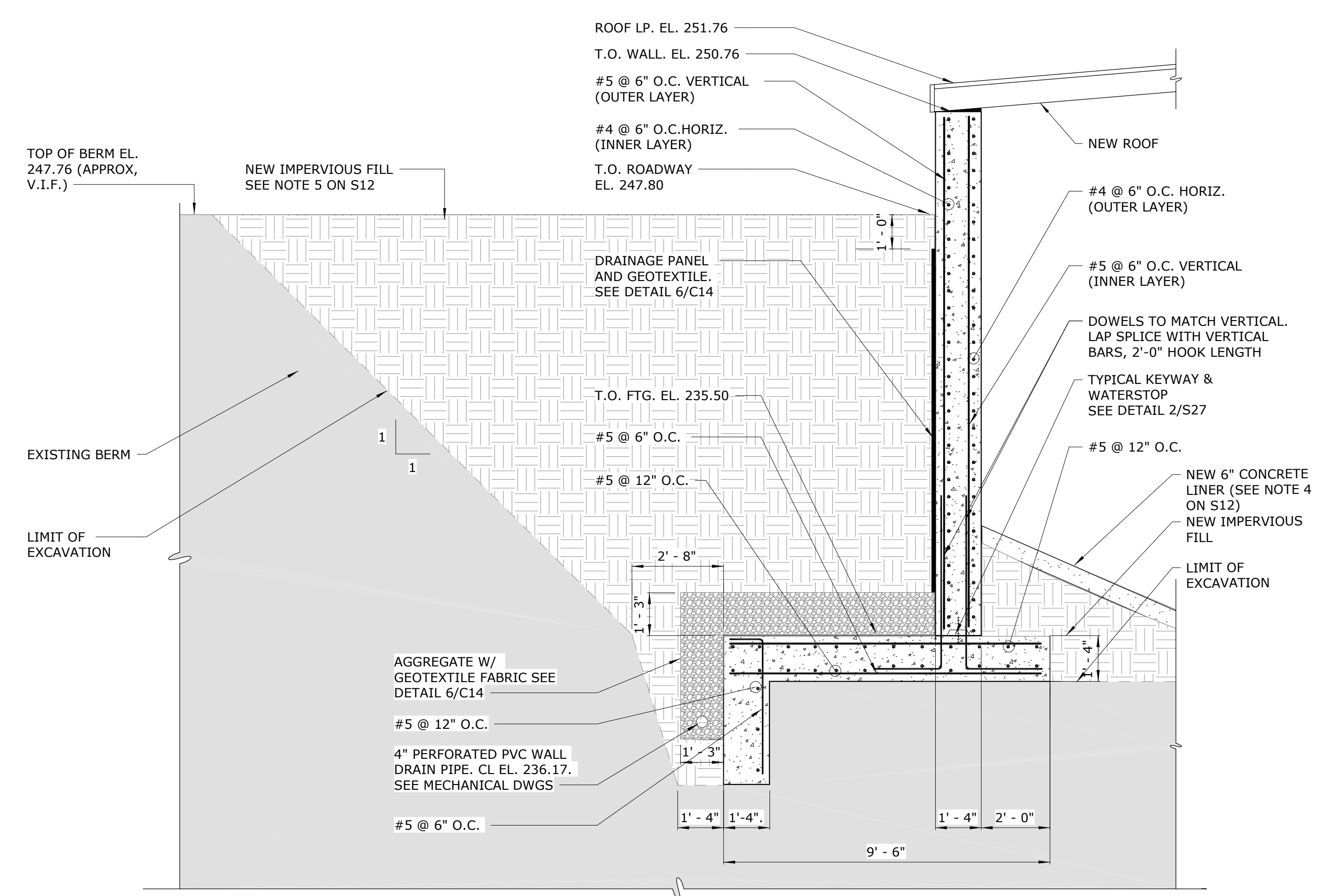


2 EAST BASIN - SOUTH WALL
SCALE: 3/8" = 1'-0"

SEE PERIMETER WALL NOTES ON S12



3 EAST BASIN - SOUTHWEST CORNER WALL
SCALE: 3/8" = 1'-0"



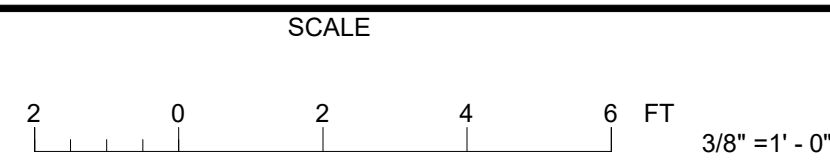
4 WEST BASIN - SOUTHEAST CORNER WALL
SCALE: 3/8" = 1'-0"



GREELEY AND HANSEN
9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

DESIGNED D.L.
DRAWN N.J.
CHECKED M.N.
APPROVED
MICHAEL STEWART NYE
Lic. No. 0402062033
4/12/21

NO.	DATE	APPD	DESCRIPTION



CITY OF RICHMOND, VIRGINIA
BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT

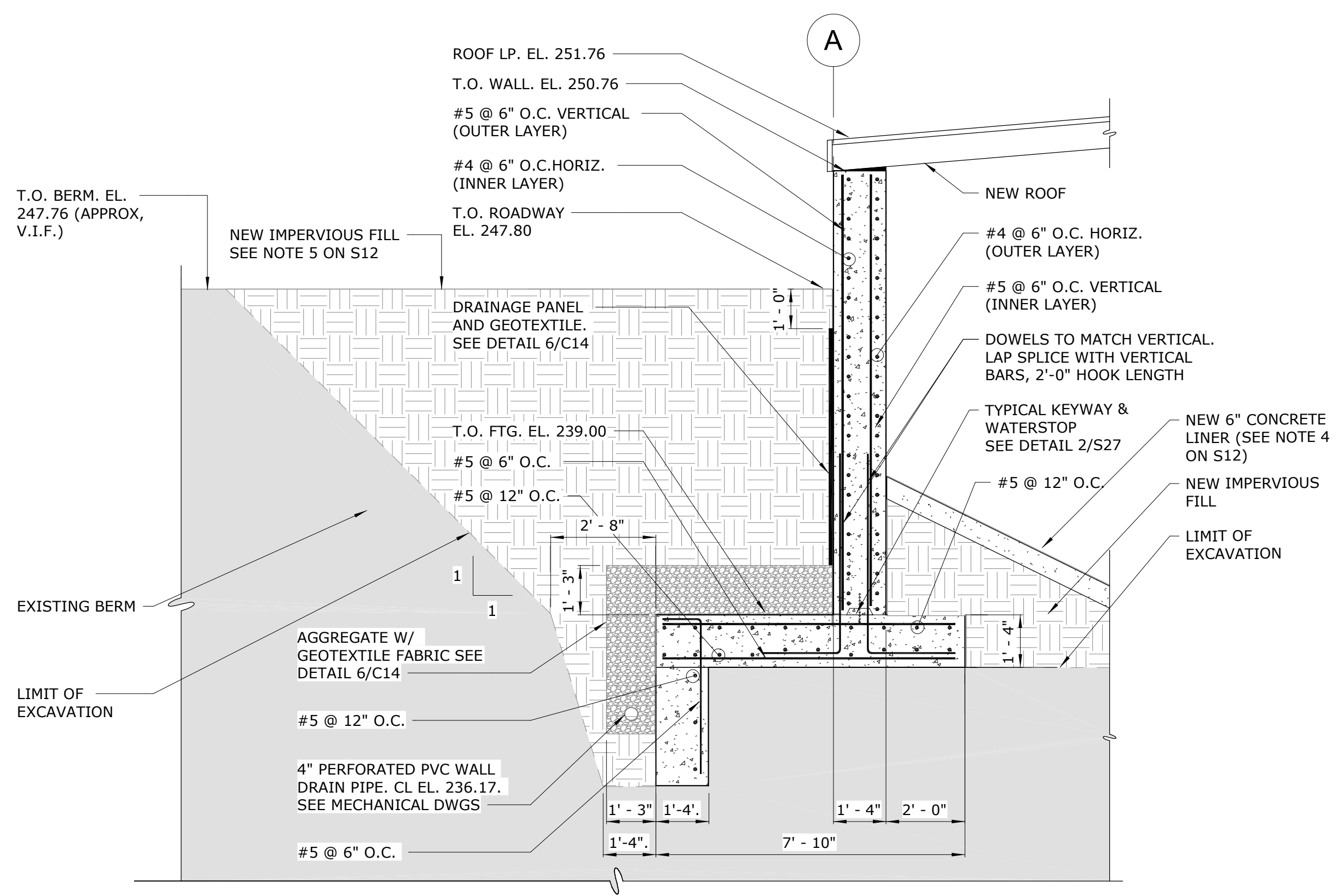


TANK SECTIONS AND DETAILS - II

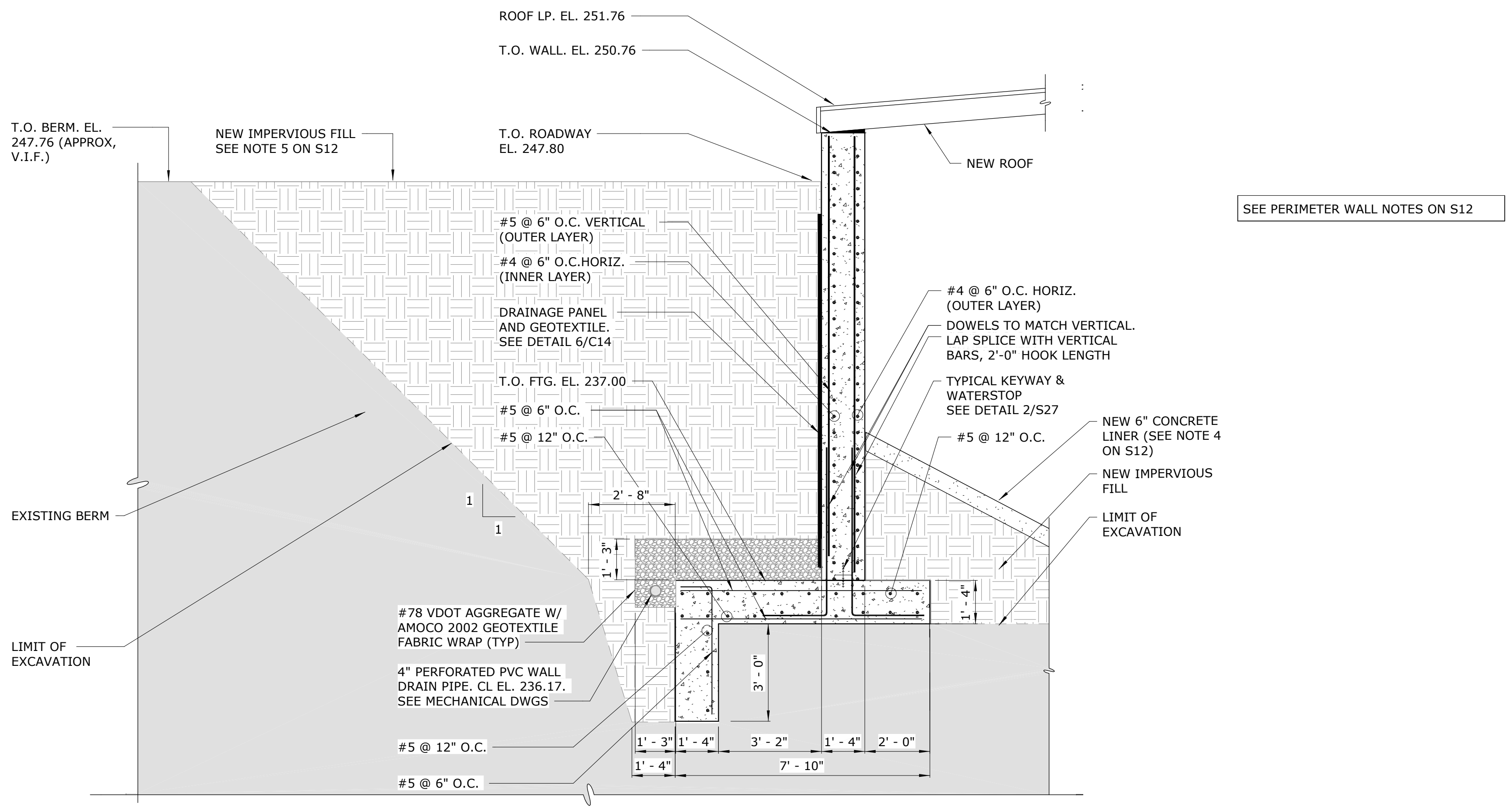
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DWG S10
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DATE MAY 2021 REV

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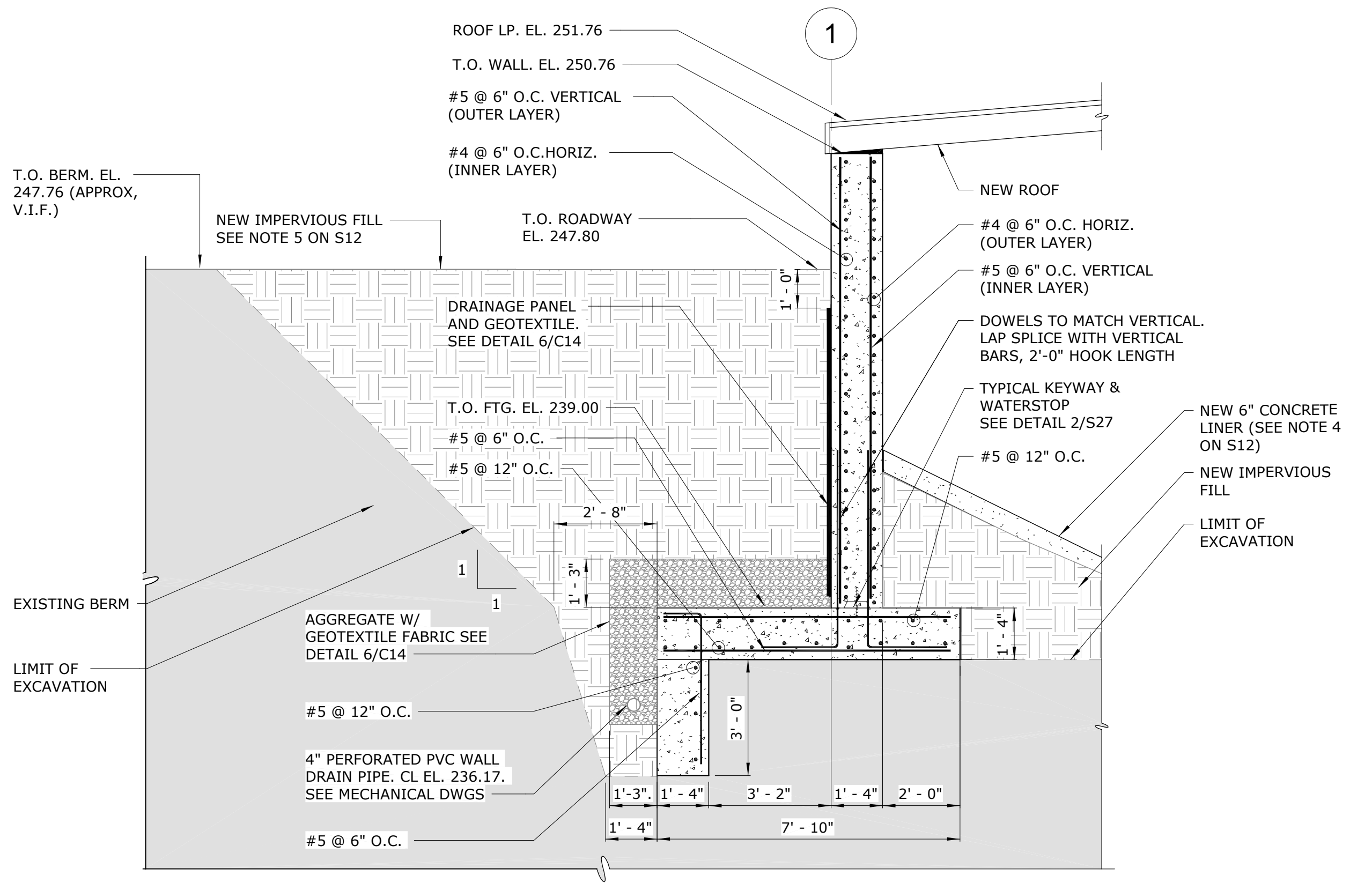
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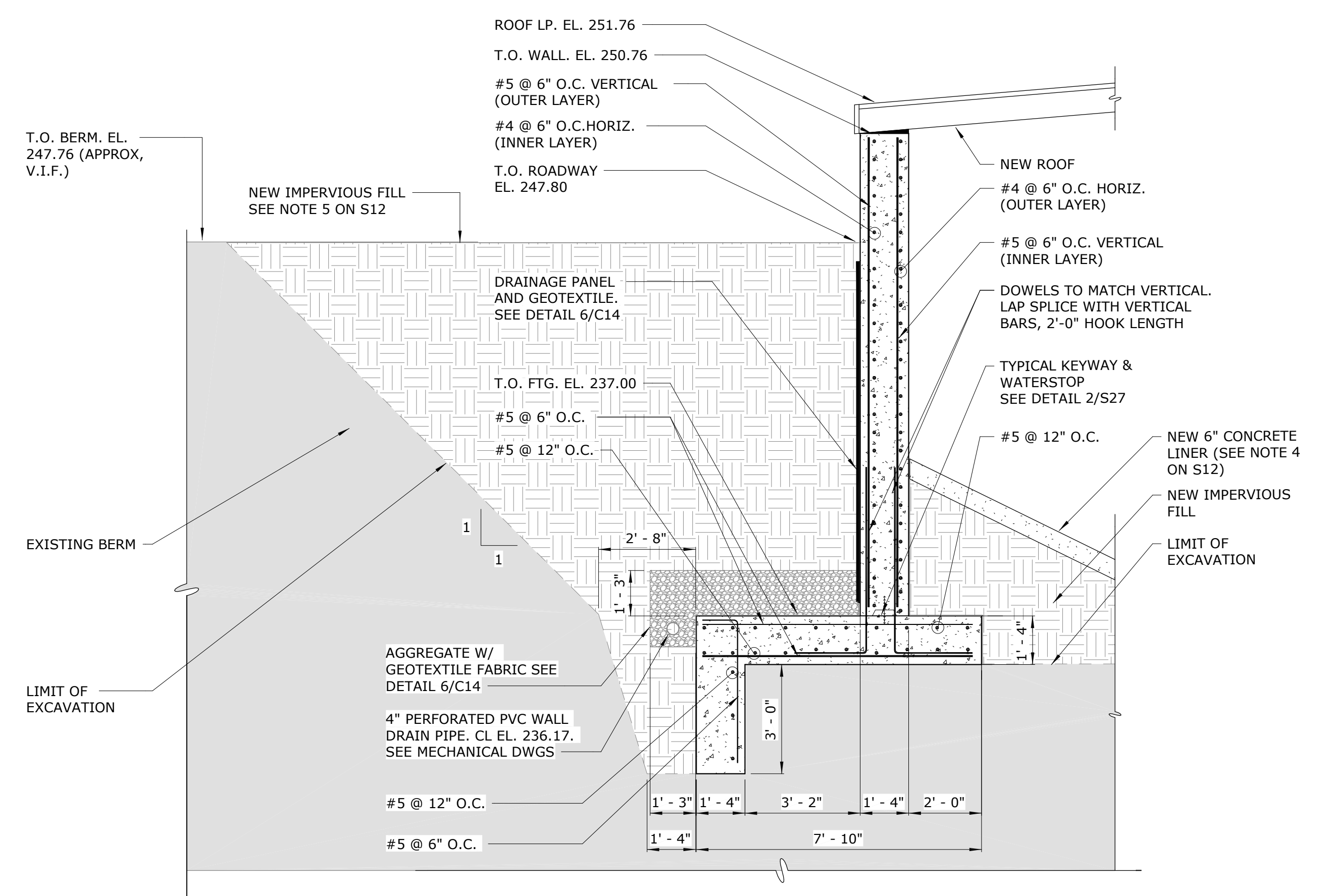
1 WEST BASIN - SOUTH WALL
SCALE: 3/8" = 1'-0"



2 WEST BASIN - SOUTHWEST CORNER WALL
SCALE: 3/8" = 1'-0"



3 WEST BASIN - WEST WALL
SCALE: 3/8" = 1'-0"



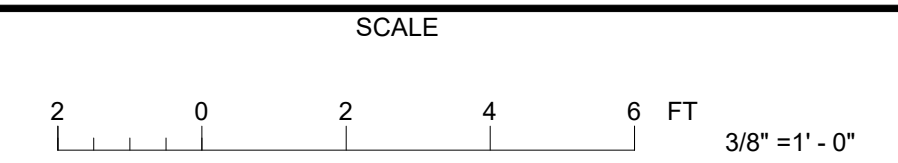
4 WEST BASIN - NORTHWEST CORNER WALL
SCALE: 3/8" = 1'-0"



GREELEY AND HANSEN
9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

DESIGNED	D.L.	APPROVED	
DRAWN	N.J.		
CHECKED	M.N.		

NO.	DATE	APPD.	DESCRIPTION

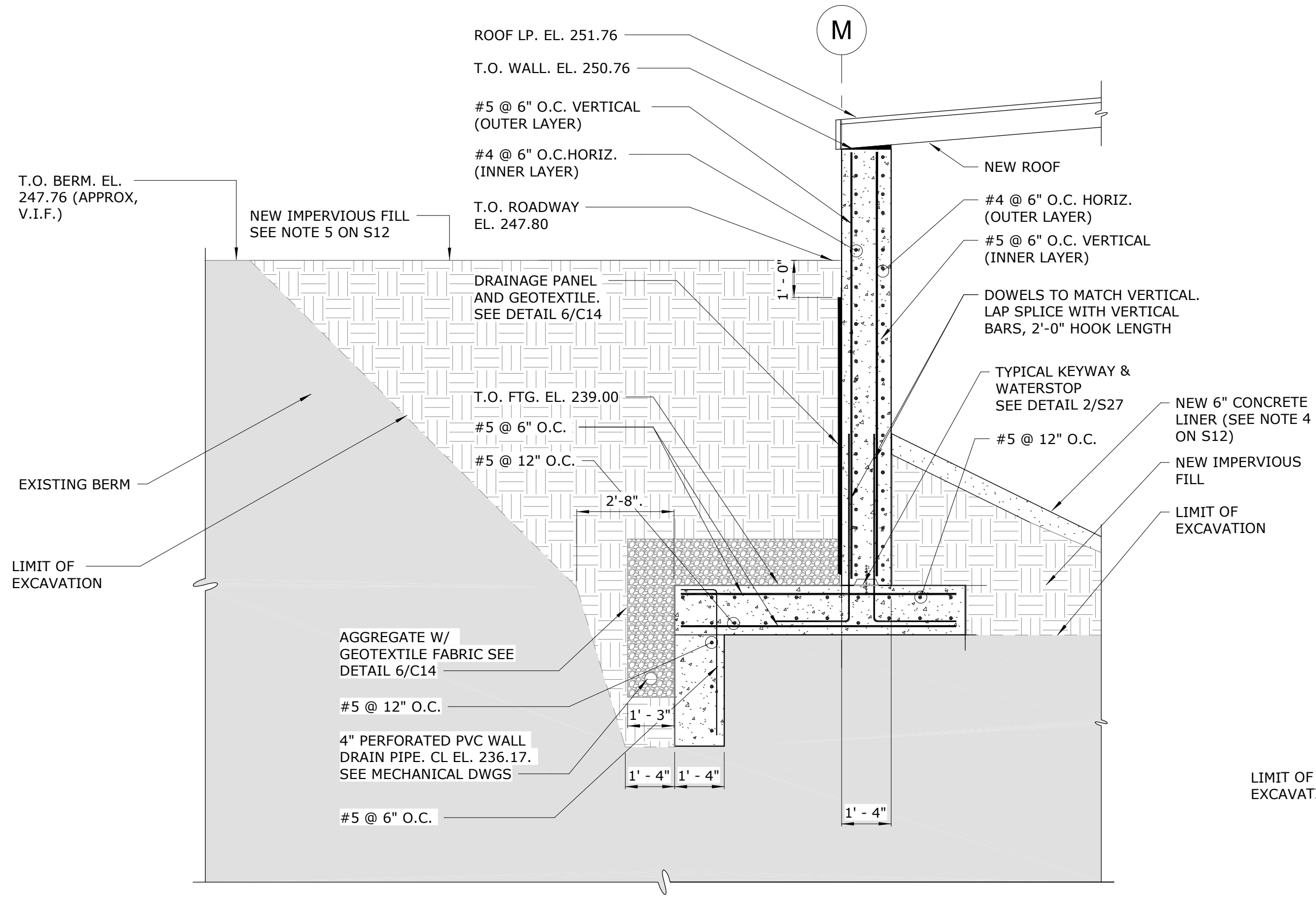


CITY OF RICHMOND, VIRGINIA
BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT

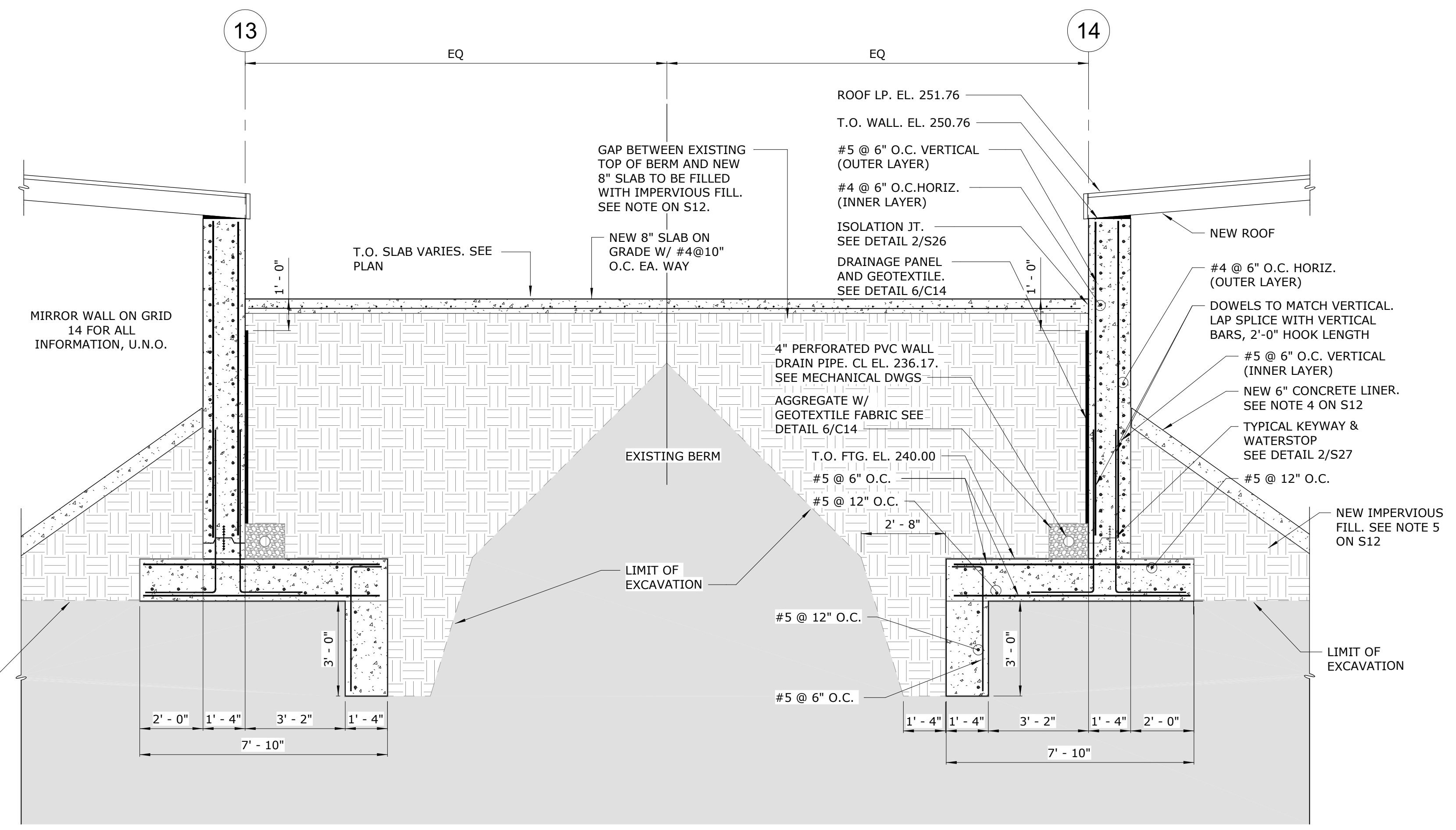


TANK SECTIONS AND DETAILS - III

PROJECT NO.:	02189.08
DWG	S11
SHEET	OF
DATE	MAY 2021
REV	



1 WEST BASIN - NORTH WALL
 S3 SCALE: 3/8" = 1'-0"



2 SECTION AT MIDDLE BERM
 S3 SCALE: 3/8" = 1'-0"

TYPICAL PERIMETER WALL NOTES:

1. ALL WALL FOOTINGS MUST BE INSTALLED ON STABLE GROUND. SEE GEOTECHNICAL REPORT FOR INFORMATION ON SLOPE STABILIZATION MEASURES AND ANY OTHER REQUIREMENTS FOR CASTING THE WALL AND FOOTING. ALL FOOTING REBAR MUST BE SUPPORTED ON HIGH CHAIRS TO PROVIDE THE REQUIRED CLEAR COVER.
2. IN ORDER TO INSTALL NEW PERIMETER WALLS, EXISTING BERM TO BE EXCAVATED WITH CARE SO AS NOT TO DISTURB THE BERM MORE THAN REQUIRED. BERM TO BE RESTORED AFTER WALL IS CONSTRUCTED. SEE GENERAL NOTES FOR ALL BACKFILL INFORMATION.
3. VERIFY SLOPE AND EXTENTS OF EXISTING BERM IN FIELD.
4. REPLACE ALL PORTIONS OF THE EXISTING LINER AFFECTED BY CONSTRUCTION WITH NEW 6" CONCRETE LINER WITH A 6x6 WELDED WIRE FABRIC.
5. PROVIDE CLAY OR CLAY-LIKE IMPERVIOUS COMPACTED FILL WHICH COMPLIES WITH ALL CONTRACT REQUIREMENTS.

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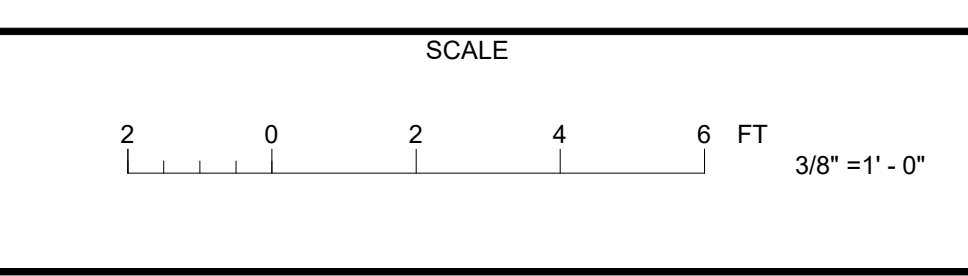
Delon Hampton
 ASSOCIATES CHARTERED

Greeley and Hansen

9020 STONY POINT PARKWAY, SUITE 475
 RICHMOND, VIRGINIA 23235

DESIGNED	D.L.	APPROVED	
DRAWN	N.J.		
CHECKED	M.N.		

NO.	DATE	APPD	DESCRIPTION



CITY OF RICHMOND, VIRGINIA

BYRD PARK WATER STORAGE TANKS
 ROOF REPLACEMENT PROJECT

STRUCTURAL

TANK SECTIONS AND DETAILS - IV

PROJECT NO.:	02189.08
DWG	S12
SHEET	OF
DATE	MAY 2021
REV	

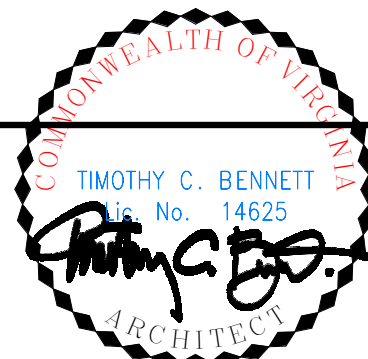


GREELEY AND HANSEN
ARCHITECTS
100 S WACKER DR. SUITE 1400
CHICAGO, IL 60606

GREELEY AND HANSEN

DESIGNED SHS
DRAWN SHS
CHECKED TCB

APPROVED
04/07/2021



NO.	DATE	APPD	DESCRIPTION

SCALE

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT



ILLUSTRATIVE RENDERING

PROJECT NO.:	02189.08
DWG	A4
SHEET	OF
DATE	MAY 2021
REV	

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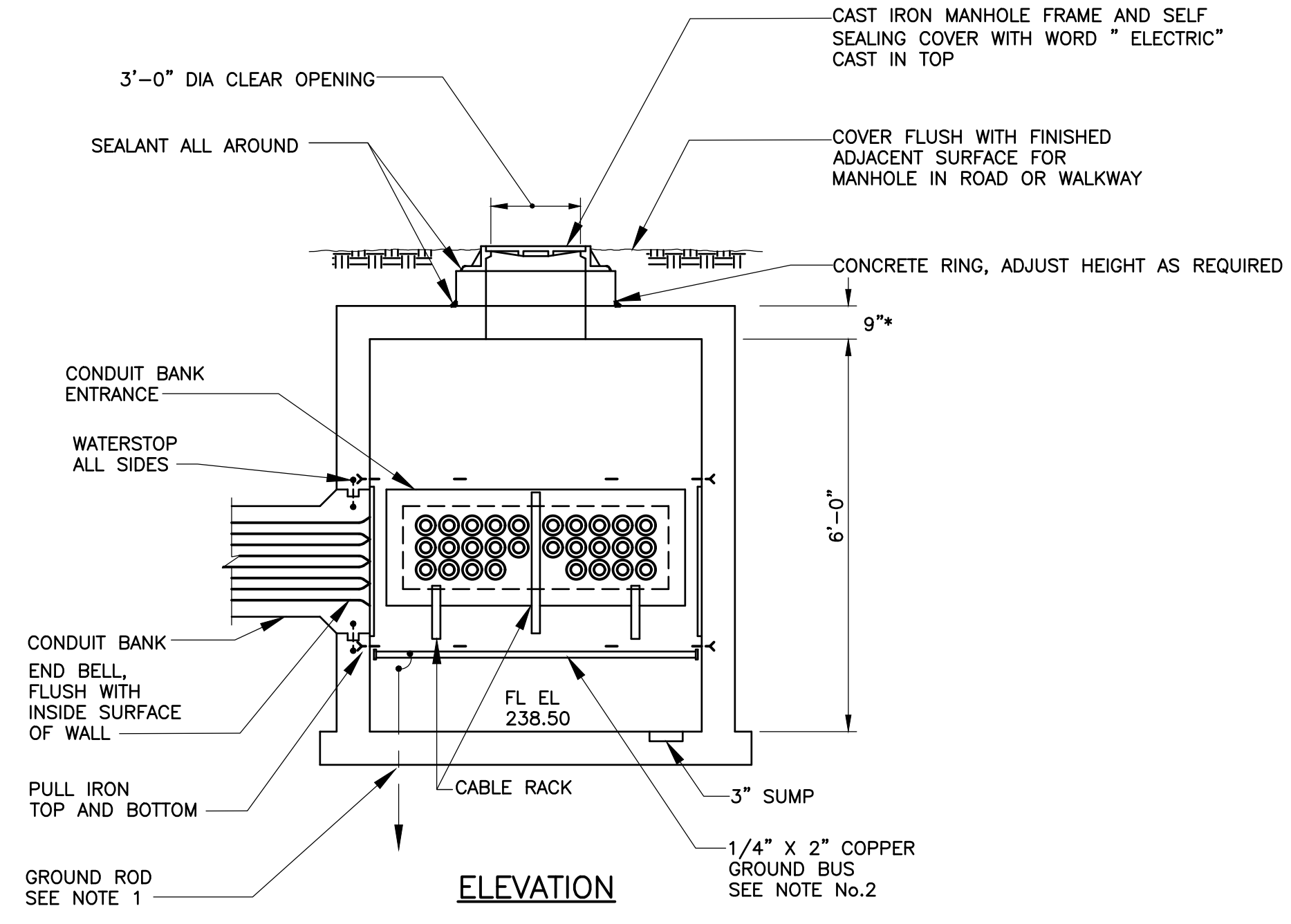
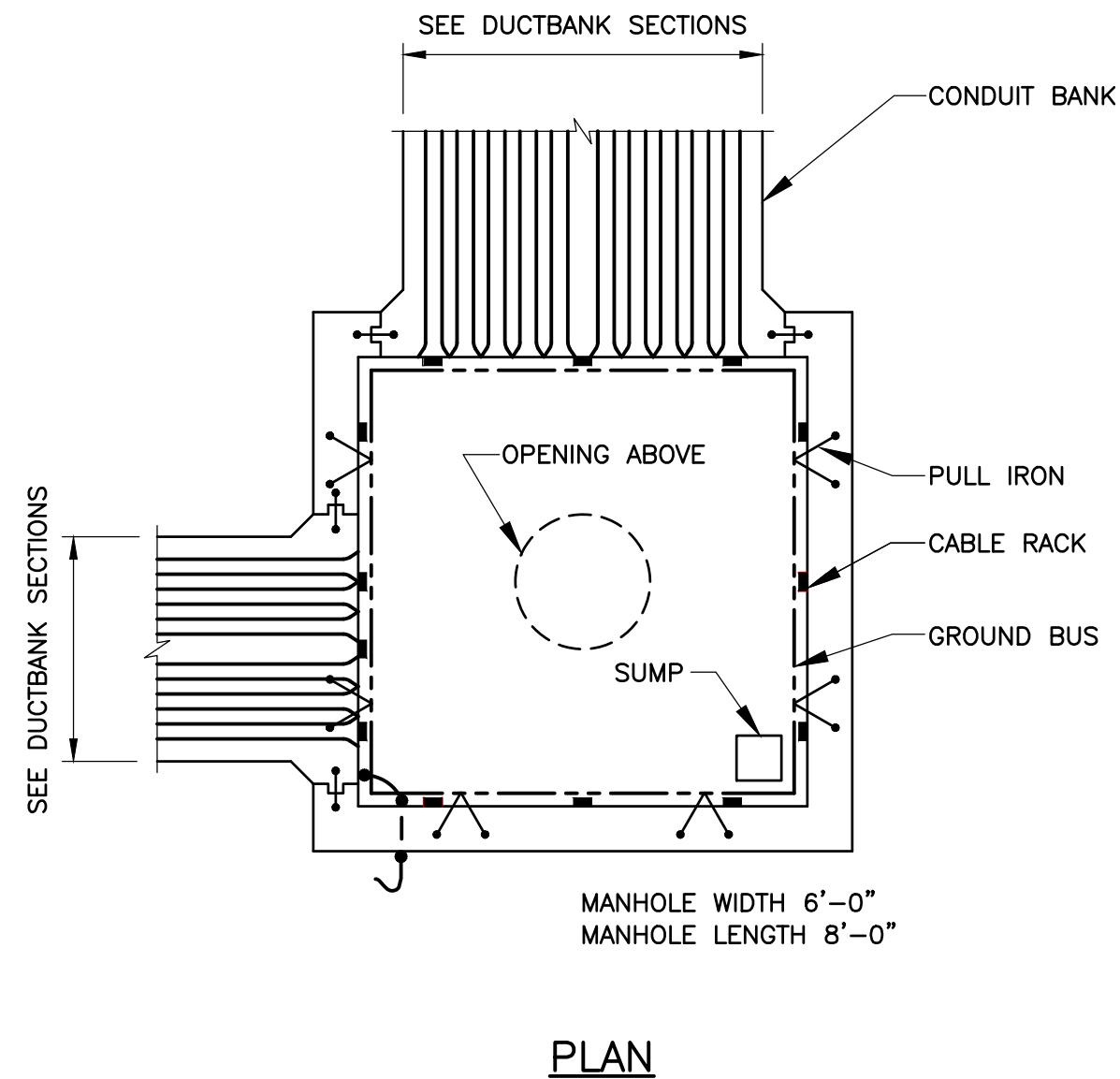
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LIGHTING FIXTURE SCHEDULE										
MARK	MANUFACTURER OR EQUAL	CATALOG NUMBER	VOLTS	LAMPS			MOUNTING	DESCRIPTION		
				NO.	WATTS	TYPE				
A	LUMARK	MPBE-5A-250-H-120V-LL-SCF-P-SHK	120	1	250	MH250W / HBU/PS MH	SURFACE	LOW BAY INDUSTRIAL LUMINAIRE WITH DIE CAST ALUMINUM HOUSING, HINGED ACRYLIC PRISMATIC REFRACTOR, PULSE START METAL HALIDE LAMP, HOUSING SAFETY CHAIN, HOOK WITH SAFETY SCREW AND MOUNTING BRACKET FOR SURFACE MOUNTING.		
B	METALUX	DIMN-240-120-LE3-POX	120	2	34	F40LW/RS/WM FLUOR	SUSPENDED	4'-0" HEAVY DUTY INDUSTRIAL FIXTURE CONSTRUCTED FROM CODE GAUGE PRIME COLD ROLLED STEEL, REFLECTORS WITH 10% UPLIGHT, PORLUX FINISH AND ENERGY SAVING BALLAST.		
C	METALUX	VT2-240-LEX-120-LE3-DL	120	2	34	F40LW/RS/WM FLUOR	SUSPENDED	4'-0" INDUSTRIAL VAPORTIGHT FIXTURE WITH REINFORCED POLYESTER PLASTIC HOUSING, HIGH IMPACT LOW BRIGHTNESS PATTERN POLYCARBONATE SHIELDING AND ENERGY SAVING BALLAST.		
D	LUMARK	MHWY-PL-100-120V-LL	120	1	100	MXR100 /U/MED MH	SURFACE	COMPACT WALL MOUNT FIXTURE WITH DIE CAST ALUMINUM HOUSING, POLYCARBONATE PRISMATIC REFRACTOR, NORMAL POWER FACTOR REACTOR TYPE BALLAST.		
E	LUMIERE	1211-OP-CF13-120-BK	120	1	13	F13BX/SPX27/B27 COMPACT FLUOR	RECESSED	STEP LIGHT FIXTURE WITH RECESSED MOUNTED HOUSING CONSTRUCTED FROM CORROSION PROOF INJECTION MOLDED POLYCARBONATE, OPEN FACE PLATE CONSTRUCTED OF INJECTION MOLDED POLYCARBONATE, TEMPERED GLASS LENS.		
F1	STERNBERG LIGHTING	D650-SR/5P PT/4212 TFP5/100MH 208/LO3/PG	208	1	100	MH100/MED MH	POLE	ACORN STYLE FIXTURE WITH DECORATIVE CAST ALUMINUM FITTER, CAST BALLAST HOUSING, POLYCARBONATE TEXTURED ACORN GLOBE, MULTI TIER REFLECTOR CONSTRUCTED OF SPECULAR ANODIZED ALUMINUM, TYPE 3 DISTRIBUTION, MOUNTED ON A 12' POLE WITH A 5" DIAMETER TAPERED FLUTED SHAFT.		
F2	STERNBERG LIGHTING	D650-SR/5P PT/4212 TFP5/100MH 208/LO5/PG	208	1	100	MH100/MED MH	POLE	SIMILAR TO TYPE F1 EXCEPT WITH TYPE 5 DISTRIBUTION.		
F3	STERNBERG LIGHTING	D650-SR/5P /80WB/50MH120/LO3/PG	120	1	50	MH50/MED MH	WALL	SIMILAR TO TYPE F1 EXCEPT MOUNTED ON A CAST ALUMINUM WALL BRACKET.		
F4	STERNBERG LIGHTING	D650-SR/5P PT/4208 FP4/100MH208/LO5/E2/PG	208	1	100	MH100/MED MH	POLE	SIMILAR TO TYPE F2 EXCEPT WITH 4" DIAMETER, 8' STRAIGHT FLUTED POLE WITH ELECTRONIC 208V PHOTOCCELL.		
F5	STERNBERG LIGHTING	D650-SR/5P /80WB/50MH120/LO3/E1/PG	120	1	50	MH50/MED MH	WALL	SIMILAR TO TYPE F3 EXCEPT WITH ELECTRONIC 120V PHOTOCCELL.		
H	METALUX	VT2-240-LEX-120-LE3-DL	120	2	34	F40LW/RS/WM FLUOR	SUSPENDED	2'-0" INDUSTRIAL VAPORTIGHT FIXTURE WITH REINFORCED POLYESTER PLASTIC HOUSING, HIGH IMPACT LOW BRIGHTNESS PATTERN POLYCARBONATE SHIELDING AND ENERGY SAVING BALLAST.		
XA	SURE-LITES	CAX1LEDSR120SD	120			LED	SURFACE	SELF POWERED EMERGENCY EXIT SIGN WITH DIE CAST ALUMINUM HOUSING, STENCILED BRUSHED ALUMINUM FACE PLATE WITH RED LETTERS, LEAD CALCIUM SEALED MAINTENANCE FREE BATTERY, DOWNLIGHT DIFFUSER, SOLID STATE INTEGRAL CHARGER AND TEST SWITCH.		
BPA	SURE-LITES	UMB-7	120	2	8	6VDC 29-03 INCAND	SURFACE	EMERGENCY LIGHTING BATTERY PACK WITH NEMA 4X INDUSTRIAL FIBERGLASS ENCLOSURE, 6VDC LEAD CALCIUM MAINTENANCE FREE BATTERY, SOLID STATE CHARGER, TEST PUSHBUTTON, POWER ON INDICATING LIGHT, 2 INTEGRAL FIXTURE HEADS CONSTRUCTED OF HIGH IMPACT THERMOPLASTIC AND CAPABLE OF PROVIDING EMERGENCY ILLUMINATION FOR 1 1/2 HOURS DURING LOSS OF NORMAL POWER AT 87 1/2% OF RATED DC VOLTAGE.		

LIGHTING FIXTURE SCHEDULE
SCALE: NO SCALE

PANELBOARD LP-1 SCHEDULE													
CIRCUIT NO.	DESCRIPTION	LOAD KVA			CIRCUIT BREAKER AMPS, POLES	NOTES	CIRCUIT NO.	DESCRIPTION	LOAD KVA			CIRCUIT BREAKER AMPS, POLES	NOTES
		PHASE A	PHASE B	PHASE C					PHASE A	PHASE B	PHASE C		
150	AMP MCB					3	PHASE					SHORT CIRCUIT RATING (KAIC): 10	
200	AMP BUS RATING					4	WIRE					LOCATION: ELEC.BLDG	
208/120	VOLTS					48	POLES					ENCLOSURE NEMA RATING: 12	
												MOUNTING TYPE: WALL	
1	ELECTRICAL BUILDING RECEPTACLES	2.00			20A,1P		2	ELECTRICAL BUILDING LIGHTS	0.50			20A,1P	
3	TRANSMITTER LIT-E		0.50		20A,1P		4	208V, STREET LIGHTS NO1A		0.50		20A,2P	
5	ELECTRICAL BUILDING OUTDOOR RECEPTACLE			2.00	20A,1P	GFIC	6	208V, STREET LIGHTS NO1B			0.50	20A,2P	
7	CCTV CP-1	1.0			20A,1P		8	208V, STREET LIGHTS NO2A	0.50			20A,2P	
9	SECURITY PANEL SP-1		1.0		20A,1P		10	208V, STREET LIGHTS NO2B		0.50		20A,2P	
11	PLC-C UPS			2.00	20A,1P		12	CCTV-1/7, GCP-1			1.50	20A,1P	
13	TRANSMITTER LIT-W	0.50			20A,1P		14	CCTV-8/11	1.50			20A,1P	
15	CCTV RECEPTACLE CP-7, 8, 9, 10		2.00		20A,1P	GFIC	16	CCTV-12		0.50		20A,1P	
17	CCTV RECEPTACLE CP-2, 3, 4, 5			2.00	20A,1P	GFIC	18	SMOKE DETECTOR			0.10	20A,1P	
19	EXHAUST FAN EF-E8	2.00			20A,1P		20	DOOR LIGHT	0.20			20A,1P	
21	EXIT SIGN		0.02		20A,1P		22	EMERGENCY LIGHT		0.50		20A,1P	
23	MOTION DETECTORS			0.10	20A,2P		24	CCTV CP-1			0.20	20A,1P	
25	SPARE				20A,2P		26	CCTV-R1	0.30			20A,1P	
27	SPARE				20A,1P		28	SPARE				20A,1P	
29	SPARE				20A,1P		30	SPARE				20A,1P	
31	SPARE				20A,1P		32	SPARE				20A,1P	
33	SPARE				20A,1P		34	SPARE				20A,1P	
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39	SPARE				20A,1P		40	SPARE				20A,1P	
41	SPARE				20A,1P		42	SPARE				20A,1P	
43	SPARE				20A,1P		44	SPARE				20A,1P	
45	SPARE				20A,1P		46	SPARE				20A,1P	
47	SPARE				20A,1P		48	SPARE				20A,1P	
		5.50	3.52	6.10				TOTAL KVA PER PHASE	3.0	2.0	2.30		
								TOTAL THREE PHASE KVA		22.42			

LP-1 PANELBOARD SCHEDULE
SCALE: NO SCALE



- NOTES:
1. PROVIDE 3/4" X 10'-0" STAINLESS STEEL GROUND ROD.
 2. PROVIDE 500 KCMIL BARE COPPER GROUND CABLE BUSS.

1 ELECTRICAL MANHOLE DETAIL
SCALE: NOT TO SCALE

ECE Environ-Civil Engineering, Ltd.
Engineers • Scientists • Construction Managers
2108 W Laburnum Avenue, Suite 250 Richmond, VA 23227

GREELEY and HANSEN
9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

DESIGNED RJC
DRAWN DRH
CHECKED RJC

APPROVED
ROGER J. CRONIN
Lic. No. 016431
05/03/2021

NO.	DATE	APPD	DESCRIPTION

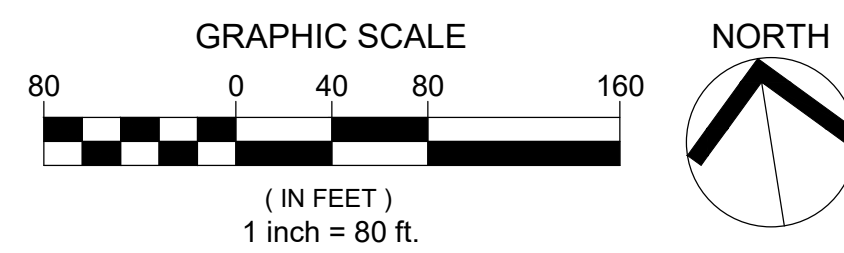
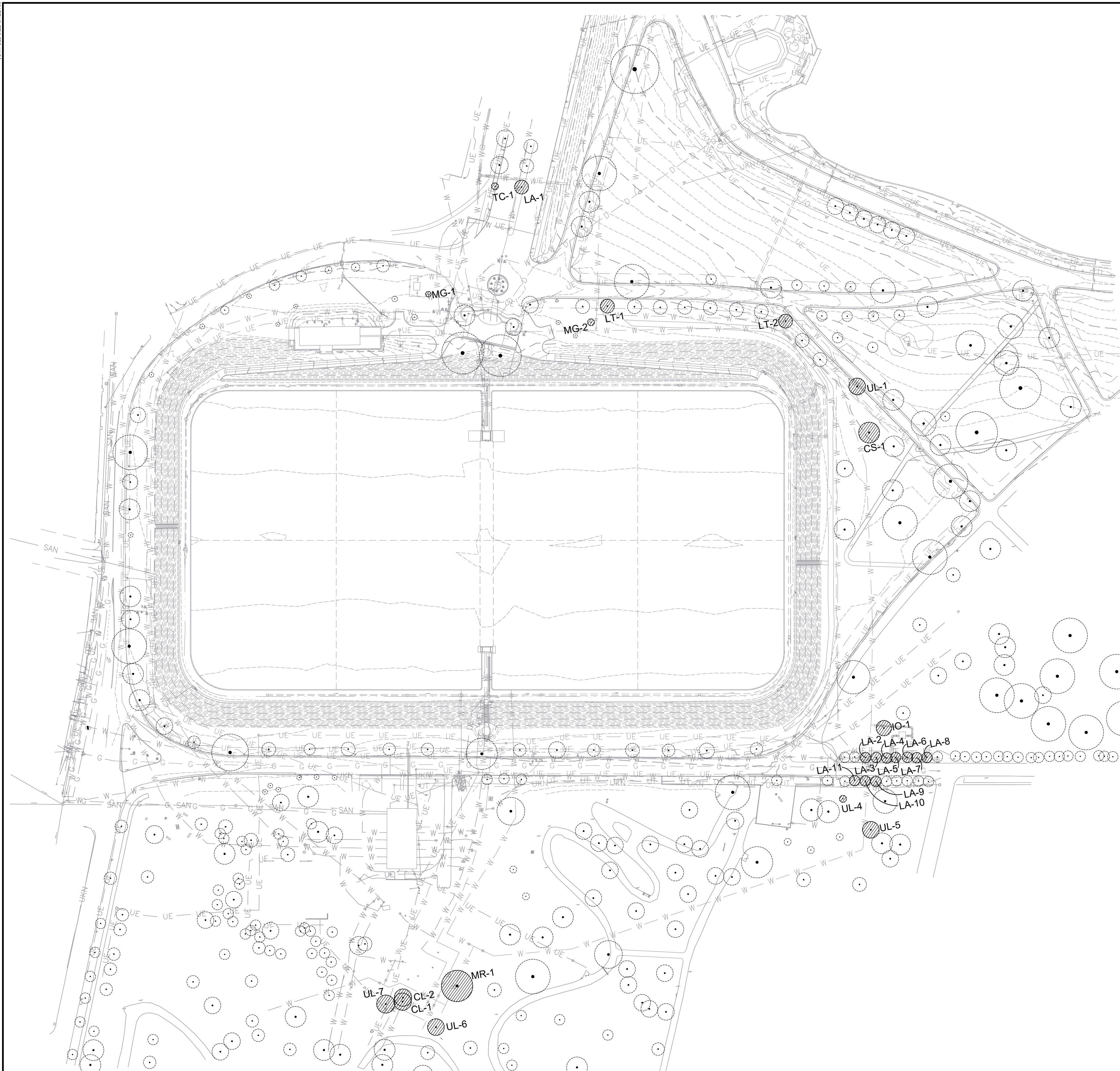
SCALE
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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK WATER STORAGE
TANKS ROOF REPLACEMENT



ELECTRICAL
PANEL BOARD AND LIGHTING SCHEDULES AND DETAILS

PROJECT NO.: 02189.08
DWG **E10**
SHEET 89 OF 92
DATE MAY 2021 REV 0



PLANT MATERIAL SCHEDULE - TREES TO BE REMOVED

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	CALIPER	REMARKS
TREES					
CL	2	CELTIS SP.	SUGARBERRY	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
CS	1	CASTANEA SP.	CHESTNUT	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
IO	1	ILEX OPACA	AMERICAN HOLLY	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
LA	11	LAGERSTROEMIA SP.	CRAPEMYRTLE	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
LT	2	LIRIODENDRON TULIPIFERA	TULIP POPLAR	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
MG	2	MAGNOLIA SP.	MAGNOLIA	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
MR	1	MORUS SP.	MULBERRY	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
TC	1	TILIA CORDATA	LINDEN	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED
UL	5	ULMUS SP.	ELM	VARIABLES	SEE INDIVIDUAL TREES TO BE REMOVED

INDIVIDUAL TREES TO BE REMOVED					
TREE ID NUMBER	PLAN NUMBER	TYPE	SIZE DBH	COMMENTS	SHEET REFERENCE
97955	LA-1	CRAPEMYRTLE	19	GOOD, 5 CANE, 4-8" EACH	C02, AREA 1
98069	TC-1	LINDEN	6	FAIR	C02, AREA 1
N/A	MG-1	MAGNOLIA	8	GOOD	C02, AREA 2
129320	LA-10	CRAPEMYRTLE	13	GOOD, 4 CANE, 3-5" EACH	C02, AREA 3
129319	LA-11	CRAPEMYRTLE	8	POOR, 2 CANE, 3-4" EACH	C02, AREA 3
68286	LA-2	CRAPEMYRTLE	9	FAIR, 3 CANE, 3-4" EACH	C02, AREA 3
68285	LA-3	CRAPEMYRTLE	11	FAIR, 2 CANE, 6" EACH	C02, AREA 3
68284	LA-4	CRAPEMYRTLE	10	POOR, 2 CANE, 3-6" EACH	C02, AREA 3
68283	LA-5	CRAPEMYRTLE	19	GOOD, 5 CANE, 6-8" EACH	C02, AREA 3
68282	LA-6	CRAPEMYRTLE	7	POOR, 3 CANE, 3" EACH	C02, AREA 3
68281	LA-7	CRAPEMYRTLE	9	FAIR, 3 CANE, 3-4" EACH	C02, AREA 3
68280	LA-8	CRAPEMYRTLE	22	GOOD, 5 CANE, 6-10" EACH	C02, AREA 3
129321	LA-9	CRAPEMYRTLE	13	GOOD, 4 CANE, 3-5" EACH	C02, AREA 3
129700	CL-1	SUGARBERRY	15	GOOD	C03, AREA 4
129699	CL-2	SUGARBERRY	31	FAIR, MEASURED BELOW SPLIT	C03, AREA 4
129693	MR-1	MULBERRY	36	GOOD, MEASURED BELOW SPLIT	C03, AREA 4
129698	UL-6	ELM	0	POOR, THIN CANOPY	C03, AREA 4
129701	UL-7	ELM	18	FAIR, THIN CANOPY	C03, AREA 4
129329	UL-4	ELM	0	POOR, TRUNK ROT, MOST OF CROWN MISSING	C04
129338	UL-5	ELM	15	FAIR, THIN CANOPY	C04
97735	CS-1	CHESTNUT	25	POOR, HEAT STRESS	C05
68289	IO-1	AMERICAN HOLLY	48	GOOD, MULTISTEM, 12" EACH	C05
97731	LT-2	TULIP POPLAR	9	GOOD	C05
97734	UL-1	ELM	26	FAIR, ONE MAIN BRANCH BROKEN	C05
97724	LT-1	TULIP POPLAR	9	GOOD	C06
N/A	MG-2	MAGNOLIA	4	GOOD	C06

TREE REMOVAL NOTES:

1. TREE REMOVAL FOR PHASE 1 EQUALS 390 DBH.
2. TREE REPLACEMENT FOR PHASE 1 AND 2 TO BE ADDRESSED AT THE END OF PHASE 2 CONSTRUCTION.
3. CONTACT URBAN FORESTRY AT 804-646-7000 PRIOR TO CONSTRUCTION TO SETUP A PRE-CONSTRUCTION MEETING.
4. TREES DESIGNATED FOR REMOVAL SHALL BE REMOVED BY A CERTIFIED ARBORIST.
5. TREE REMOVAL CONTRACTOR SHALL HAVE THEIR INSURANCE COMPANY FAX A PROOF OF INSURANCE FORM DIRECTLY TO THE URBAN FORESTRY DIVISION AT 804-646-3087.



GREELEY AND HANSEN
 9020 STONY POINT PARKWAY, SUITE 475
 RICHMOND, VIRGINIA 23235

DESIGNED ATS
 DRAWN JCG
 CHECKED RJB

APPROVED

NO.	DATE	APPD	DESCRIPTION

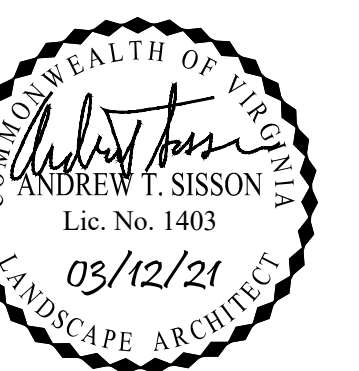
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CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES
**BYRD PARK WATER STORAGE
 TANKS ROOF REPLACEMENT**



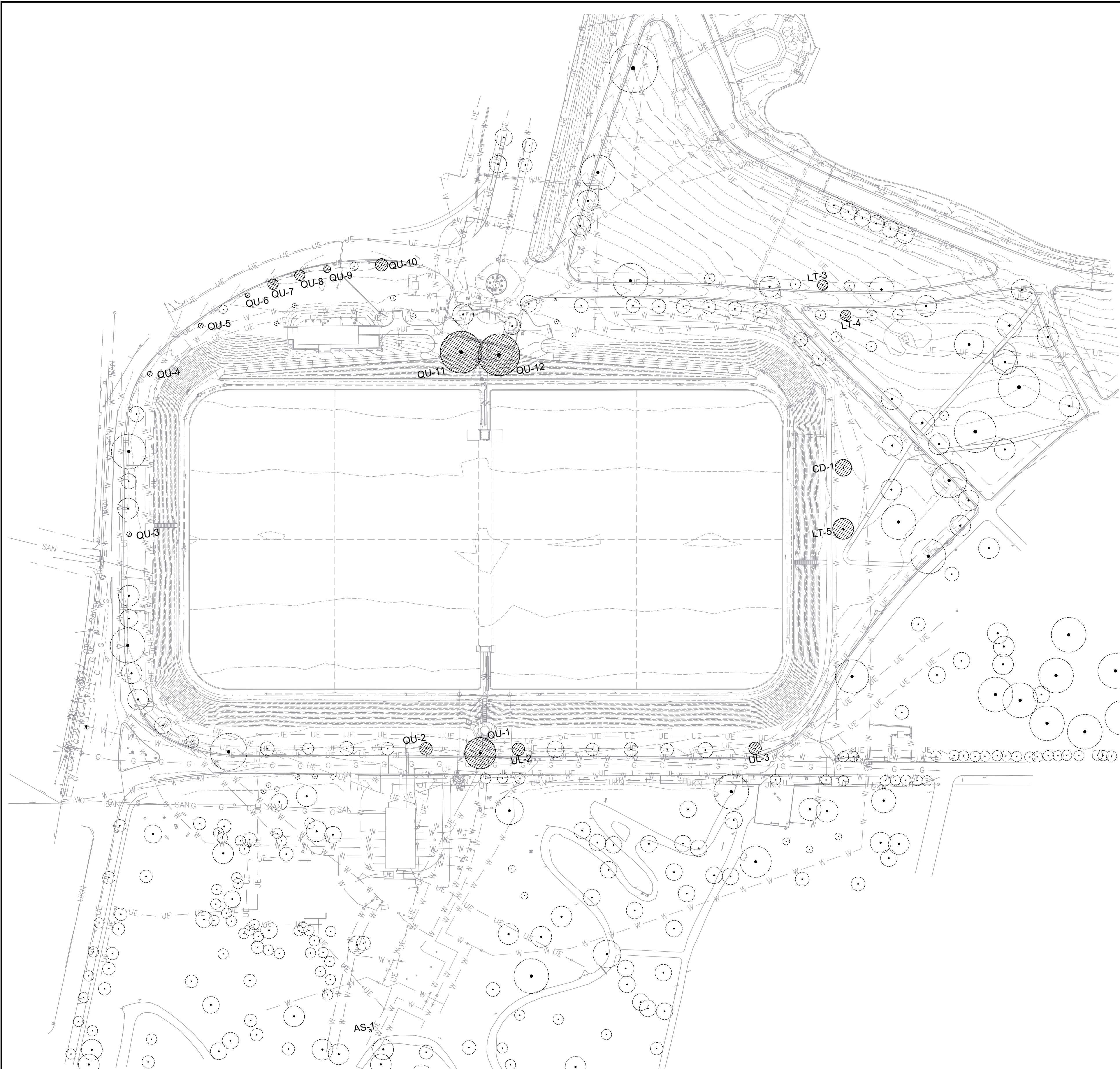
LANDSCAPE ARCHITECTURE
TREE REMOVAL PLAN - PHASE 1

PROJECT NO. 02189.08
 DWG **L1.00**
 SHEET OF
 DATE MAY 2021 REV



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F:\2019\BYRD PARK M19XXX\02 CAD DRAWINGS\SHEET FILES\L1.0 TREE SURVEY ANDY SISSON



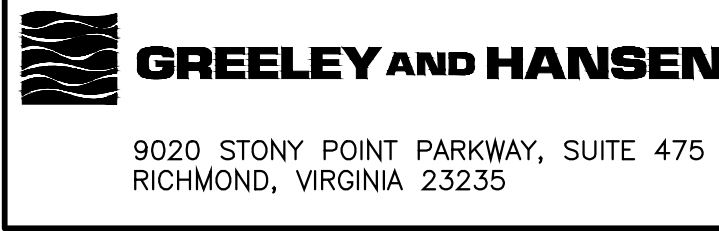
PLANT MATERIAL SCHEDULE - TREES TO BE REMOVED

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	CALIPER	REMARKS
TREES					
AS	1	ACER SP.	MAPLE	VARIABLE	SEE INDIVIDUAL TREES TO BE REMOVED
CD	1	CEDRUS SP.	CEDAR	VARIABLE	SEE INDIVIDUAL TREES TO BE REMOVED
LT	3	LIRIODENDRON TULIPIFERA	TULIP POPLAR	VARIABLE	SEE INDIVIDUAL TREES TO BE REMOVED
QU	4	QUERCUS SP.	OAK	VARIABLE	SEE INDIVIDUAL TREES TO BE REMOVED
UL	2	ULMUS SP.	ELM	VARIABLE	SEE INDIVIDUAL TREES TO BE REMOVED

INDIVIDUAL TREES TO BE REMOVED					
TREE ID NUMBER	PLAN NUMBER	TYPE	SIZE DBH	COMMENTS	SHEET REFERENCE
129702	AS-1	MAPLE	0	DEAD	
97737	CD-1	CEDAR	16	GOOD	
97761	LT-3	TULIP POPLAR	10	GOOD	
97755	LT-4	TULIP POPLAR	10	GOOD	
97738	LT-5	TULIP POPLAR	16.5	GOOD	
97699	QU-1	OAK	33	GOOD	
97700	QU-2	OAK	9.5	GOOD	
N/A	QU-3	OAK	39	GOOD	
N/A	QU-4	OAK	51	GOOD	
97698	UL-2	ELM	10	GOOD	
97692	UL-3	ELM	10	GOOD	

TREE REMOVAL NOTES:

1. TREE REMOVAL FOR PHASE 2 EQUALS 205 DBH.
2. TREE REPLACEMENT FOR PHASE 1 AND 2 TO BE ADDRESSED AT THE END OF PHASE 2 CONSTRUCTION.
3. CONTACT URBAN FORESTRY AT 804-646-7000 PRIOR TO CONSTRUCTION TO SETUP A PRE-CONSTRUCTION MEETING.
4. TREES DESIGNATED FOR REMOVAL SHALL BE REMOVED BY A CERTIFIED ARBORIST.
5. TREE REMOVAL CONTRACTOR SHALL HAVE THEIR INSURANCE COMPANY FAX A PROOF OF INSURANCE FORM DIRECTLY TO THE URBAN FORESTRY DIVISION AT 804-646-3087.



DESIGNED	ATS	APPROVED	
DRAWN	JCG		
CHECKED	RJB		

NO.	DATE	APPD	DESCRIPTION	SCALE

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK WATER STORAGE
TANKS ROOF REPLACEMENT



LANDSCAPE ARCHITECTURE
TREE REMOVAL PLAN - PHASE 2

PROJECT NO.	02189.08
DWG SHEET	L1.01 OF
DATE	MAY 2021
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DATE: 2021/03/15 11:17 AM
 SCALE: 1/8" = 1'-0"

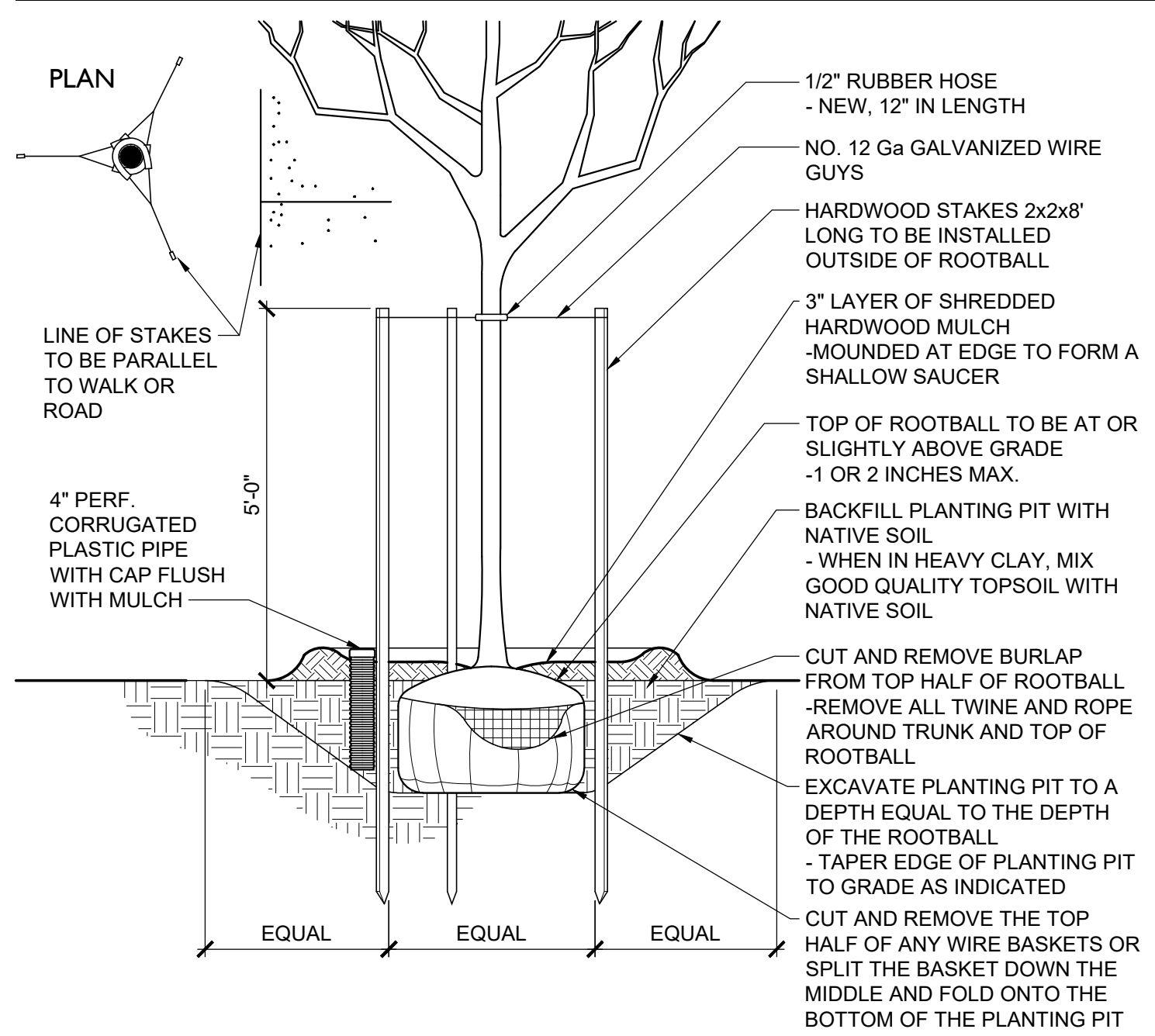
PLANT MATERIAL SCHEDULE

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SPACING	CALIPER	HEIGHT	ROOT TYPE	DETAIL	REMARKS
TREES									
LA	11	LAGERSTROEMIA	CRAPEMYRTLE	AS SHOWN	3	CANE/3" EA.		B&B	B 11 X 6" = 99"
LT	20	LIRIODENDRON TULIPIFERA	TULIP POPLAR	AS SHOWN	4"			B&B	A 20 X 4" = 80"
LS	14	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SEEDLESS SWEETGUM	AS SHOWN	4"			B&B	A 14 X 4" = 56"
MG	13	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	AS SHOWN	4"			B&B	A 13 X 4" = 52"
QP	28	QUERCUS PHELLOS	WILLOW OAK	AS SHOWN	4"			B&B	A 28 X 4" = 112"
QR	22	QUERCUS RUBRA	RED OAK	AS SHOWN	4"			B&B	A 22 X 4" = 88"
TC	1	TILIA CORDATA	LITTLELEAF LINDEN	AS SHOWN	4"			B&B	A 1 X 4" = 4"
									TOTAL CAL. = 458"

LANDSCAPE CALCULATIONS

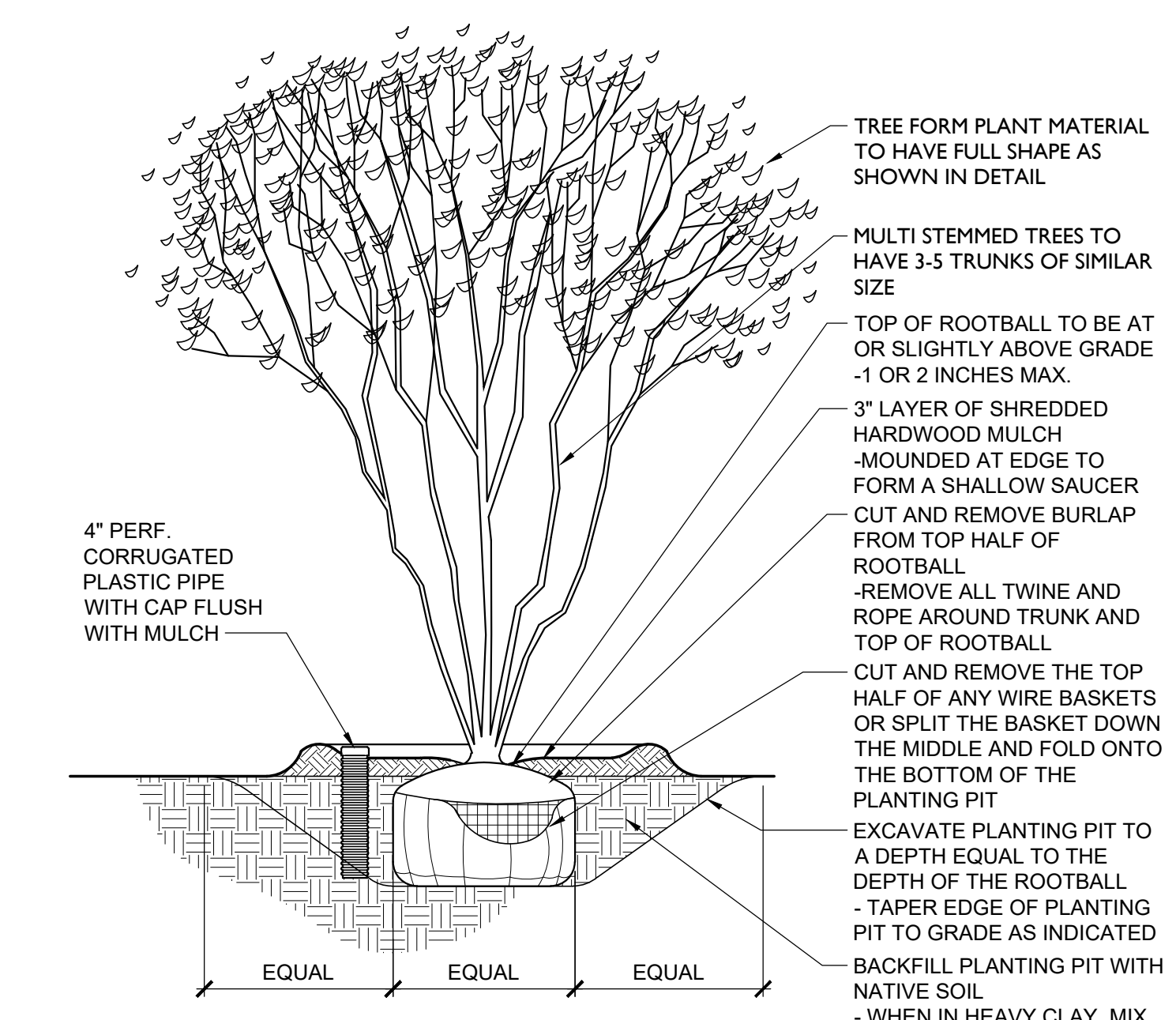
THE TREE REPLACEMENT REQUIREMENT IS THAT EVERY INCH OF EXISTING TREE CALIPER REMOVED SHALL BE REPLACED WITH AN INCH OF PROPOSED TREE CALIPER.
 THE TOTAL CALIPER OF TREES REMOVED FROM THE SITE IS 595".
 THE TOTAL CALIPER PROVIDED BY REPLACEMENT TREES IS 491".
 DIFFERENCE TO BE ADDRESSED THROUGH TREE REMEDIATION FEES.

PLANTING DETAILS



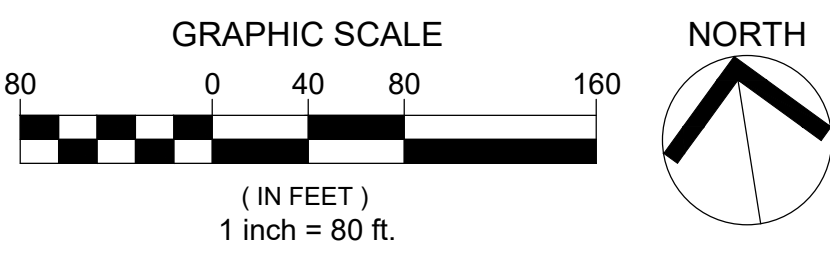
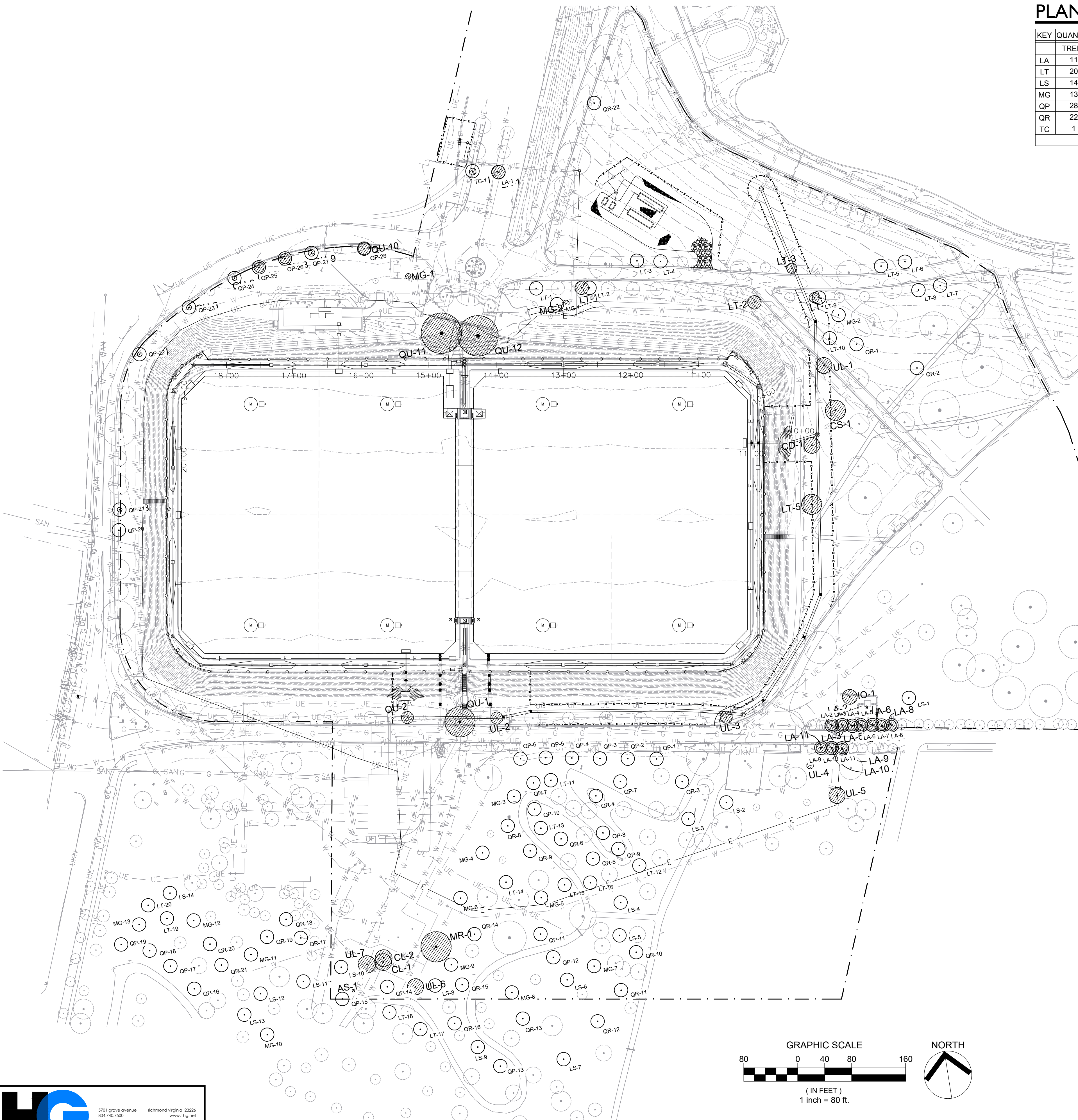
A DECIDUOUS TREE STAKING DETAIL

NOT TO SCALE



B MULTI-STEM TREE PLANTING DETAIL

NOT TO SCALE



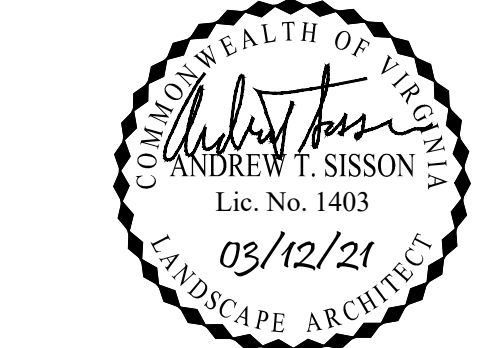
GREELEY AND HANSEN
 9020 STONY POINT PARKWAY, SUITE 475
 RICHMOND, VIRGINIA 23235

DESIGNED	APPROVED	NO.	DATE	APPD	DESCRIPTION	SCALE
ATS						
JCG						
RJB						

CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES
 BYRD PARK WATER STORAGE
 TANKS ROOF REPLACEMENT



LANDSCAPE ARCHITECTURE
 LANDSCAPE PLAN



PROJECT NO.	02189.08
DWG	L2.0
SHEET	OF
DATE	MAY 2021
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