



**AGENDA
TECHNICAL REVIEW COMMITTEE
REGULAR MEETING
FEBRUARY 23, 2023
10:00 AM
CITY HALL COMMISSION CHAMBERS
204 ASH STREET
FERNANDINA BEACH, FL 32034**

- 1. CALL TO ORDER**
- 2. ROLL CALL**
- 3. PLEDGE OF ALLEGIANCE**
- 4. APPROVAL OF MINUTES**
 - 4.1 Approval of Minutes for the Regular Meeting of December 22, 2022.
 - 4.2 Approval of Minutes for the Regular Meeting of January 26, 2023.
- 5. OLD BUSINESS**
- 6. NEW BUSINESS**
 - 6.1
 - TRC 2023-0030 - SOUTHEAST ENGINEERING GROUP, AGENT FOR NASSAU COUNTY COUNCIL ON AGING, 1901 ISLAND WALK WAY
 - Site Review for construction of a pavilion, the expansion for 10 additional parking spaces, extension of water and wastewater access, and a private sewer lift station.
- 7. COMMITTEE BUSINESS**
- 8. ADJOURNMENT**

NEXT REGULAR TRC MEETING IS SCHEDULED FOR MARCH 23, 2023

Persons with disabilities requiring accommodations in order to participate in this program or activity should contact 310-3115, TTY 711, or through the Florida Relay Services at 1-800-955-8771 (TTY number for all City offices) at least 24 hours in advance to request such accommodations.



**MINUTES
TECHNICAL REVIEW
COMMITTEE REGULAR MEETING
DECEMBER 22, 2022
10:00 AM
CITY HALL CHAMBERS**

1. CALL TO ORDER 10:04

Member Desilet called the meeting to order and noted he will be acting as Chair for this meeting.

2. ROLL CALL

MEMBERS PRESENT

Jason Higginbotham, Fire
Andre Desilet, Stormwater/Utilities
Taylor Hartmann, Planning

Michelle Forstrom, Code Enforcement
Victoria Guadagnino, Stormwater/Utilities
Charles George, City Engineer/Deputy City Manager

3. PLEDGE OF ALLEGIANCE

4. APPROVAL OF MINUTES

4.1 Approval of Minutes for the Regular Meeting of November 17, 2022.

ACTION TAKEN: A motion was made by Member Forstrom seconded by Member Guadagnino to approve the Minutes as presented.

Vote upon passage of the motion was taken by voice vote, and being all ayes carried.

5. OLD BUSINESS

5.1 TRC 2022-0027 - GULFSTREAM DESIGN GROUP, LLC, AGENT FOR I P HOLDINGS GROUP LLC, 101 N. 2ND STREET

Site Plan Review for a Mixed-Use 10-room boutique hotel, restaurant + event venue w/ food truck parking.

Member Hartman noted that Planning Department was ready to issue a Land Development Order as all other department's comments had been addressed.

Jose Miranda, agent for the applicant inquired about the Alachua Street opening. Member George answered that breaking ground is estimated to take place in the spring.

5.2 TRC 2022-0028 - TIM POYNTER, 116 N. 2nd Street

Site plan review for the construction of a multi-use pavilion and pickleball courts.

DRAFT

Applicants and owners were not present. Member Desilet shared that he spoke with the engineers and the stormwater design is to be revised.

Member Hartmann noted that a revised site plan showing the 15 ft buffer was not submitted yet and commented on the mitigation for camphor tree removal.

6. ADJOURNMENT 10:13 AM

Taylor Hartmann, Recording Secretary

Andre Desilet, Chair



**AGENDA
TECHNICAL REVIEW COMMITTEE
REGULAR MEETING
JANUARY 26, 2023
10:00 AM
CITY HALL COMMISSION CHAMBERS**

1. CALL TO ORDER 10:00 AM

2. ROLL CALL

Jason Higginbotham (Fire)
Taylor Hartmann (Planning)
Andre Desilet (Stormwater/Utilities)
Charlie George (Building/Community Services)
Salvatore Cumella (Chair)

David Neville (Arborist/Urban Forester)
Michelle Forstrom (Code Enforcement)
Victoria Guadagnino (Stormwater/Street/Utilities)
David Neville (Arborist/Urban Forester)

3. PLEDGE OF ALLEGIANCE

4. APPROVAL OF MINUTES

No Minutes were presented for approval.

5. DISCUSSION ITEMS

6. NEW BUSINESS

6.1 TRC 2022-0029 - ROBERTS CIVIL ENGINEERING, AGENT FOR FIRST BAPTIST CHURCH OF FERNANDINA BEACH, 1600 S. 8TH STREET

Site Review to addition to the existing church with a 11,853 sq ft building wing, modification of existing parking, addition of porte-cochere.

Sally Williams, Roberts Civil Engineering, agent for First Baptist Church, spoke of recent additional documents that were provided to address comments during the First Step meeting. She also confirmed that there would be no tree removal and would confirm the status of 2 palms on site. These new documents satisfy all previous comments from the Members who will finalize the review and provide additional comment if needed. If no comments are provided this will be approved.

7. OLD BUSINESS

There was no Old Business presented.

8. COMMITTEE BUSINESS

There was no additional Committee Business discussed.

9. ADJOURNMENT 10:10 AM



Matthew Phillips
11235 St. Johns Industrial Parkway North
Suite 4
Jacksonville, FL 32246

Sent Via Email to Project Team

Applicant Name: Matthew Phillips
Project Description: COA Memorial Park
Location: 1901 Island Walk Way
TRC Case Number: TRC 2023-0030

Mr. Phillips

The City of Fernandina Beach received your request for site plan review on February 1 , 2023. All submitted documents provided were routed to the Technical Review Committee (TRC). The comments provided as part of this site plan review are valid for six months from the date of issuance.

Please resubmit response documents to address each comment in a narrative form and through an amended site plan. The next available TRC meeting is Thursday, February 23, 2023, at 10 am. This project is currently scheduled to appear on the agenda. All reviewers will be present to discuss any questions you have concerning the comments provided herein.

If you have any questions, please contact us at TRCinfo@fbfl.city or 904-310-3480.

Sincerely,

Salvatore J. Cumella, Senior Planner



TRC Reviewers: After reviewing proposed plans...

- If you have comments that need to be addressed in a resubmittal, please check the first box and enter comments in the bulletized list, or
- If you have no comments or the applicant has satisfactorily addressed all of your previous comments, please check the second box and add your name and date. This is your "sign off" for issuance of the Local Development Order (LDO) once all departments have signed off.

1ST ROUND REVIEW COMMENTS:

PLANNING

☒ The Planning & Conservation Department has reviewed the submittal and noted the following comments:

- Please supply the total impervious surface lot coverage calculation.
- Please supply parking calculations on site plan or cover page
- Please supply predevelopment and post development site details or alternatively supply shading to show new impervious areas
- Will new landscaping be irrigated? If so, please supply irrigation details. LDC Section 4.05.03 (D)(7)
- Pending Memo from CM/CE on pervious parking requirement/relief.
- Is there a reason any newly created vehicle parking is unable to meet code compliance? -KG

☐ All previous comments have been addressed and the Department of Planning & Conservation approves issuance of a local development order.

Name of Approver: Kelly Gibson

Today's Date: Thursday, January 19, 2023

BUILDING

☒ The Building Department has reviewed the submittal and noted the following comments:

- No Comments as of 2/16/2023

☐ All previous comments have been addressed and the Building Department approves issuance of a local development order.

Name of Approver: First Last

Today's Date: Select Date

UTILITIES, STORMWATER, & STREETS

☒ The Public Works Department has reviewed the submittal and noted the following comments:

- Please provide on a sign by the Lift Station the number to call in case of an emergency.
- The valve box needs to be completely sealed in to prevent any drainage in case of a leak. Plumb it back to the wetwell with a p-trap to prevent gas build up as well.



☐ All previous comments have been addressed and the Public Works Department approves issuance of a local development order.

Name of Approver: First Last

Today's Date: Thursday, February 16, 2023

CODE ENFORCEMENT

☒ The Code Enforcement Department has reviewed the submittal and noted the following comments: No Comments

☐ All previous comments have been addressed and the Code Enforcement Department approves issuance of a local development order.

Name of Approver: First Last

Today's Date: Select Date

FIRE

☐ The Fire Department has reviewed the submittal and noted the following comments:

☒ All previous comments have been addressed and the Fire Department approves issuance of a local development order.

Name of Approver: Jason Higginbotham

Today's Date: Monday, February 13, 2023

Technical Review Committee: Application - Submission #10687

Date Submitted: 1/26/2023

Technical Review Committee: Application

USE THIS FORM TO To apply for review of site plans, preliminary subdivision plats, final subdivision plats, minor subdivisions, and amendments to previously issued local development orders, change of use, and nonresidential building expansions.

Fees

☒Initial submittal + two submittals of full site plans. \$400 + 2% of the project construction cost (whichever is greater) for up to a maximum of \$5,500.

☐3rd and subsequent resubmittals. 1/2 of original application fees

☐Engineering Review (Consultant Hourly Rate)



In observance of Thanksgiving on November 24, the TRC Regular Meeting is moved up to November 17.

IMPORTANT NOTES

This application will be routed to the various departments for review of the applicable codes and design standards.

****Please note that, unless otherwise indicated, the TRC meetings are scheduled as the following:**

TRC Applications are reviewed at 10:00 AM on the 4th Thursdays of each month in City Hall Chambers (204 Ash Street).**

Please see the Land Development Code (LDC) for detailed information:



Requirements for All Site Plans – see LDC section 11.01.04



Requirements for Subdivision Plats – see LDC section 11.01.05



Determination for Completeness & sufficiency – see LDC section 11.03.01



Review and Compliance Report by the Technical Review Committee – see LDC Section 11.03.02



Construction and Improvements – see LDC section 11.05.00



Amendments to Local Development Orders – see LDC section 11.06.00

The LDC is available for review at

www.fbfl.us/LDC

Application Requirements



See Development Plan Submittal Checklist



All applications are subject to a determination of completeness as required by Land Development Code section 11.03.01.



A determination of completeness is a determination that all required documents and plans have been submitted, and whether all fees have been paid.



A determination of completeness is not a determination of compliance with substantive standards and criteria.

Key Contacts

TRC will guide your application from start to finish, engaging other City departments as needed.



PROJECT INFORMATION

Submission Type*

Initial Submittal ▼

NOTICE

3rd and all subsequent submissions will be charged a fee of 1/2 the original application fees.

Case Number*

PROPERTY INFORMATION

[Property information can be found at the Nassau County Property Appraiser's Website's Map Search](#)

Site Address*

1901 Island Walk Way

City*

Fernandina Beach

State*

FL

Zip*

32034

Parcel ID #(s)

00-00-30-037M-0012-0000

Lot

12, 13, 14, & 15

Block

Subdivision

Magnolia Point

Zoning District

C-2 ▼

Future Land Use Designation*

General Commercial ▼

Overlay District*

None ▼

Size of Property (acres)*

3.49

Present Property Use*

Office

Wetlands*

No ▼

Flood Zone*

X, area of minimal flood ▼

Coastal Construction Control Line (CCCL)*

No ▼

OWNER OF RECORD

As recorded with the Nassau County Property Appraiser

First Name*

Janice

Last Name*

Ancrum

Company (if applicable)

Nassau County Council on Aging

Mailing Address*

1901 Island Walk Way

City*

Fernandina Beach

State*

FL

Zip*

32034

Telephone Number*

904-261-0701

Email Address*

jancrum@nassaucountycoa.org

OWNER'S AGENT

If other than owner. If an agent will be representing the owner, an Owner's Authorization For Agent Representation form must be included

First Name

Matthew

Last Name

Phillips

Company (if applicable)

Southeast Engineering Group

Mailing Address

11235 St. Johns Industrial Parkway North, Suite 4

City

Jacksonville

State

FL

Zip

32246

Telephone Number

904-619-3400

Email Address

matt@segcivil.com

PROJECT INFORMATION**Project Type***

Site Plan Review

Project Name

Memorial Park at NCCOA

Proposed Access Road*

Island Walk Way & Woodrow Road

Rd Maintenance Jurisdiction*

County Maintained

Project Estimated Cost*

\$695,000

Description of Request*

Pavilion with associated landscape and sidewalk improvements, expansion of parking lot by 10 spaces, and extension of private water and sewer services to the pavilion with a private sewer lift station.

Site Plan Review Checklist

The names, address, telephone number, and email address of the person preparing the plan.



The date of preparation and date(s) of any modifications, a north arrow, and a written and graphic scale.



The legal description of the property, consistent with the required survey.



A vicinity map showing the location of the property.



The location of streams, bodies of water, natural features, roads, rights-of-way, street intersections, and paved areas within the boundaries of the property.



The location of streams, bodies of water, dunes and dune systems, and other natural features within 250 feet of the boundaries of the property.



The location of the mean high-water line, if such line is within the boundaries of the property.



A topographic survey, soils report, grading plan, and an erosion control plan.



A general floodplain map indicating areas subject to inundation and high groundwater levels up to a 100-year flood classification.



A statement indicating the distances to schools and public safety facilities intended to serve the proposed development.



The name, plat book, and page number of any recorded subdivision comprising all or part of the site.



The location and use of any existing and proposed principal or accessory buildings and structures, showing proposed setbacks, building heights, and other dimensional requirements of the zoning distr



Elevations of all proposed structures.



The access points, driveway design, on-site parking, including required parking lot landscaping, internal circulation, sidewalks, and bicycle facilities



The location of existing and proposed utilities, utility services, and easements.



A tree survey showing protected trees, proposed replacement trees, if required, and landscaping and buffering. (See Section 4.05.00.)



A soil erosion and sediment control plan compliant with Section 3.01.04.



For a PUD site plan, a detailed, written list and explanation of how the proposed PUD differs from any provision of this

LDC applicable to the underlying zoning district.



For site plans and PUD site plans where development is proposed in phases, the plans shall include phase lines and the following supporting information:



o Timeline for the development; and



o Benchmarks for monitoring the progress of construction of each phase regarding land clearing, soil stabilization and erosion control, installation of infrastructure, and installation of landscaping.



A summary block containing:



o Land use category from the Future Land Use Map in the comprehensive plan;



o Zoning district;



o Total acreage;



o Total square footage for non-residential uses;



o Total density and number of units, proposed and permissible for residential uses;



o Impervious surface ratio calculation, proposed and permissible;



o Floor area ratio calculation, proposed and permissible;



o Total number of parking spaces, required and provided; and



o Number of trees required to be protected, number of trees remaining on the site, and number of trees to be planted.



Additional plans, documents, or reports that are necessary to support the application shall be submitted. Such plans, documents, or reports may include, but are not limited to:



o Subdivision Plats (subdivision plats shall contain the information set forth in Section 11.01.05.)



o Concurrency analysis (concurrency analysis reports shall contain the information set forth in Section 7.04.00.)



o Traffic analysis reports (requirements for traffic analysis reports are set forth in Section 11.01.06.)



o Parking studies (requirements for parking studies are set forth in Section 7.01.04.)



o Stormwater management plans (requirements for stormwater management plans are set forth in Section 7.03.00.)



o Environmental Impact Study (requirements for environmental impact studies are set forth by regional, State, and federal agencies with jurisdiction and in Chapter 3 of the LDC.)



o Tree Protection Plan (Section 4.05.09.)



o Landscape Plan (Section 4.05.00.)



o Lighting Plan (Section 3.05.00.), Section 7.01.04.B)



o Signage Plan (Section 5.03.00.)



o Proof of Ownership “ provide a legal description, Property Identification Number (PIN) and a copy of the warranty deed.



Concurrency analysis reports shall contain the information set forth in Section 7.04.00. Requirements for traffic analysis reports are set forth in Section 11.01.06. Requirements for parking studies



“ Any development application for development proposed within the Airport Overlay Zone established for the Fernandina Beach Municipal Airport shall provide confirmation of notification to the FAA as r

School Concurrency

New residential development is required to demonstrate compliance with school concurrency as regulated in the City of Fernandina Beach through the City of Fernandina Beach’s Comprehensive Plan Intergovernmental Coordination Element and the Interlocal Agreement Amendment for Public School Facility Planning adopted by the City on May 21, 2019. No new residential rezoning, preliminary plat, site plan or functional equivalent may be approved by the City unless the residential development is exempt from requirements outlined in Section 9.13 of the Amended Interlocal Agreement OR a School Concurrency Reservation Letter has been issued by the School Board indicating that adequate school facilities exist.

Certification*



By signing below, I certify that the information contained in this application is true and correct to the best of my knowledge at the time of the application.



I acknowledge that I understand and have complied with all of the submittal requirements and procedures.

Applicant First Name*

Matthew

Applicant Last Name*

Phillips

Today's Date*

1/26/1975

Upload Supporting Documentation*

2023, 01-26 Memorial Park TRC Submittal.pdf

Upload 2

2023, 01-26 Memorial Park Civil Bind - SS.pdf

Upload 3

Memorial Park at NCCOA (1-5-23).pdf

Upload 4

2023, 01-26 Memorial Park SWMR.pdf

Upload 5

2023, 01-17 Memorial Park Lift Station Analysis.pdf

Upload 6

Pages from 2022, 12-09 NCCOA QC Set 11-14-22.pdf

Upload 7

2023, 01-26 Agent Authorization - Nassau County Council on Aging.pdf



DEPARTMENT OF PLANNING & CONSERVATION

204 Ash Street | Fernandina Beach, FL 32034 | 904 310-3480 | www.fbfl.us/planning

Private Sanitary Lift Station Design

FOR:

Memorial Park at NCCOA

Proposed Pavilion

PREPARED BY:

Southeast Engineering Group

11235 St. Johns Industrial Parkway North, Suite 4, Jacksonville, Florida 32246

(904) 619-3400

www.SoutheastEngineers.com

PREPARED ON: January 17, 2023

Matthew
Phillips

Digitally signed by
Matthew Phillips

Date: 2023.01.17
10:52:50 -05'00'

Matthew J. Phillips, Professional Engineer, State of Florida, License No. 58733

This item has been digitally signed and sealed by Matthew J. Phillips, PE, on
01/17/2023.

Printed copies of this document are not considered signed and sealed and the
signature must be verified on any electronic copies.

Development	Unit	Quantity	Unit Flow (GPD)	Average Flow (GPD)	Average Flow (GPM)
Theaters and Auditoriums	Per seat	108	4	432	3.60
Total average daily flow				432	3.60

Average daily flow = **432** GPD

Run off time = **2** hrs

Average daily flow = **3.6** GPM

Peaking factor = **4.23** (Per 10-State Standards)

Peak flow = **15.2** GPM

Minimum pump rate = **20** GPM

Wet well diameter = 4 ft
 Storage height = 6 inches = 0.50 ft
 Storage volume = 47 gal

 Cycle time calculations

Pumping rate = 31 GPM
 Cycle time, $t = v/(p-q) + v/q =$ 15 min
 Starts per hour, $60/t =$ 4
 Time to fill wet well = 13 min
 Pump run time = 1.72 min

 Wet well dimensions

	Elevation	Dist. (in.)	Cap. (gal)	Cap. (hrs.)
Rim	15.56		813	3.8
		10.0		
Grade	14.73		731	3.4
		18.0		
Discharge	13.23		583	2.7
Influent	9.34		200	0.9
		6.4		
Alarm	8.81		148	0.7
		6.0		
Lag Pump On	8.31		99	0.5
		6.0		
Lead Pump On	7.81		49	0.2
		6.0		
All Pumps Off	7.31		0	0.0
		18.0		
Concrete Floor	5.81		0	0.0
		3.0		
Wetwell Bottom	5.56		0	0.0
Dist. Influent - Sump	2.03			
Total Wet Well Depth	10.00	ft		

Assumed weight of dry soil =	90	lb/cf	
Assumed weight of sat. soil =	118	lb/cf	
Unit weight of concrete =	150	lb/cf	
Unit weight of water =	62.4	lb/cf	
Height of wet well =	10.00	ft	
Height of dry soil cover =	0.00	ft	
Height of submerged soil cover =	7.92	ft	(fiberglass wetwell)
Diameter of wet well =	4.00	ft	
Ground water elevation =	14.73	ft	(assume flooded at ground level)

Fiberglass wet well

Thickness of top cover =	0	in	=	0.00	ft
Flange width =	24	in	=	2.00	ft (24" minimum)
Thickness of flange =	12	in	=	1.00	ft (12" minimum)
Thickness of insert =	3	in	=	0.25	ft

Self weight of wet well

Top cover =	0	lbs	
Flange =	5,655	lbs	
Soil over flange =	16,594	lbs	
Insert =	471	lbs	
Sump =	0	lbs	(set to 0 - assume empty wetwell)
Total down force =	22,720	lbs	
Total up force =	10,194	lbs	
Factor of safety =	2.23	(1.5 min.)	

Design flow rate

Flow in force main = 31 GPM = 0.07 CFS

			<u>Area</u>	
Pump discharge diameter =	1.25	in	0.01	SF
Station piping diameter =	2.00	in	0.02	SF
Force main diameter =	2.00	in	0.02	SF

	<u>Pump Discharge</u>	<u>Station Piping</u>	<u>Force Main</u>	
Velocity	8.10	3.17	3.17	FPS

Force main elevations and connection pressures

Station discharge elevation =	13.23	ft
Highest point in line =	12.53	ft
Connection point elevation =	11.38	ft
Maximum elevation =	13.23	ft
Connection point pressure =	0.00	ft

Static head

Maximum elevation in system =	13.23	ft
Pump off elevation =	7.31	ft
Lead pump on elevation =	7.81	ft
Average static fluid elevation =	7.56	ft
Connection point pressure =	0.00	ft
Total static head =	5.67	ft

From wet well to valve box - Station

Pipe size = 2 in
 Hazen Williams 'C' = 120

Pipe length = vertical pipe + 6' for horizontal run = 12

Quantity	Fitting	Unit Equivalent Length	Total Equivalent Length
4	Standard elbow 90	5.50	22
0	Standard elbow 45	2.50	0
1	Gate valve open	1.20	1
1	Swing check valve	17.20	17
1	Tee - branch flow	11.00	11
0	Tee - through flow	3.45	0
			51
Total equivalent length =			63 ft

From pump out to stub - Force Main Section 1

Pipe size = 2 in
 Hazen Williams 'C' = 120

Pipe length = 213

Quantity	Fitting	Unit Equivalent Length	Total Equivalent Length
0	Standard elbow 90	5.50	0
4	Standard elbow 45	2.50	10
1	Gate valve open	1.20	1
0	Swing check valve	17.20	0
0	Tee - branch flow	11.00	0
0	Tee - through flow	3.45	0
			11
Total equivalent length =			224 ft

From stub to gravity main - Force Main Section 2

Pipe size = 2 in

Hazen Williams 'C' = 120

Pipe length = 50

Quantity	Fitting	Unit	Total
		Equivalent Length	Equivalent Length
0	Standard elbow 90	5.50	0
0	Standard elbow 45	2.50	0
0	Gate valve open	1.20	0
0	Swing check valve	17.20	0
0	Tee - branch flow	11.00	0
0	Tee - through flow	3.45	0
			0
Total equivalent length =			50 ft

	<u>Station Only</u>
Static head	6 ft
<u>Station</u>	
Hazen Williams 'C'	120
Pipe diameter	2.00 in
Equivalent pipe length	63 ft
<u>Force main section 1</u>	
Hazen Williams 'C'	120
Pipe diameter	2.00 in
Equivalent pipe length	224 ft
<u>Force main section 2</u>	
Hazen Williams 'C'	120
Pipe diameter	2.00 in
Equivalent pipe length	50 ft

GPM increment: 1.0

System curve					
Pump Rate (GPM)	Station Head Loss (ft)	Section 1 Head Loss (ft)	Section 1 Head Loss (ft)	Static Head (ft)	Total Dynamic Head (ft)
0.0	0.00	0.00	0.00	5.67	6
1.0	0.00	0.01	0.01	5.67	6
2.0	0.01	0.04	0.04	5.67	6
3.0	0.02	0.09	0.09	5.67	6
4.0	0.04	0.15	0.15	5.67	6
5.0	0.06	0.23	0.23	5.67	6
6.0	0.09	0.32	0.32	5.67	6
7.0	0.12	0.42	0.42	5.67	7
8.0	0.15	0.54	0.54	5.67	7
9.0	0.19	0.67	0.67	5.67	7
10.0	0.23	0.82	0.82	5.67	8
11.0	0.28	0.97	0.97	5.67	8
12.0	0.32	1.14	1.14	5.67	8
13.0	0.37	1.33	1.33	5.67	9
14.0	0.43	1.52	1.52	5.67	9
15.0	0.49	1.73	1.73	5.67	10
16.0	0.55	1.95	1.95	5.67	10
17.0	0.62	2.18	2.18	5.67	11
18.0	0.68	2.42	2.42	5.67	11
19.0	0.76	2.68	2.68	5.67	12
20.0	0.83	2.95	2.95	5.67	12
21.0	0.91	3.22	3.22	5.67	13
22.0	0.99	3.51	3.51	5.67	14
23.0	1.08	3.81	3.81	5.67	14
24.0	1.17	4.13	4.13	5.67	15
25.0	1.26	4.45	4.45	5.67	16
26.0	1.35	4.79	4.79	5.67	17
27.0	1.45	5.13	5.13	5.67	17
28.0	1.55	5.49	5.49	5.67	18
29.0	1.65	5.86	5.86	5.67	19
30.0	1.76	6.24	6.24	5.67	20
31.0	1.87	6.63	6.63	5.67	21
32.0	1.98	7.03	7.03	5.67	22
33.0	2.10	7.44	7.44	5.67	23
34.0	2.22	7.86	7.86	5.67	24
35.0	2.34	8.29	8.29	5.67	25
36.0	2.47	8.74	8.74	5.67	26
37.0	2.60	9.19	9.19	5.67	27

Conditions at design point					
31.0	1.87	6.63	6.63	5.67	21



V2 GRINDER SERIES

SHREDDING WASTEWATER CHALLENGES



PATENTED AXIAL
CUTTER TECHNOLOGY



ADVANCED HYDRAULICS



LEGENDARY SEAL
LEAK DETECTION

MYERS® V2 SERIES SUBMERSIBLE GRINDER PUMPS

The Myers V2 series grinder is engineered from the ground up, in order to overcome the increased debris and higher pressure required in today's wastewater environment. It features a patented axial cutter design and semi-open impeller to effectively macerate challenging sewage solids into a fine slurry.

Watch the video at www.Femyers.com



POLY ROPE



SHOP RAG



SWIFFERS®



MOP HEAD



PATENTED AXIAL CUTTER TECHNOLOGY

Easily slices through solids and trash found in domestic wastewater without roping or clogging.



ADVANCED HYDRAULICS

The only single stage 2 HP grinder that can deliver up to 185' of lift for superior performance and reliability.



LEGENDARY SEAL LEAK DETECTION

True early warning system for reduced downtime and maintenance costs.

A detailed technical cross-section diagram of a centrifugal pump assembly. The diagram shows the internal components, including the impeller mounted on a central shaft. The shaft is supported by bearings and a coupling. The pump housing is shown in a cutaway view, revealing the internal flow path. The diagram is labeled with letters A through I, corresponding to the following components:

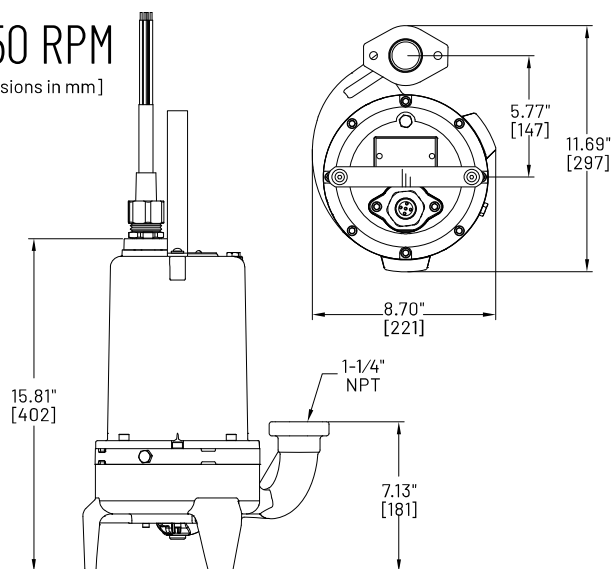
- A**: Motor connection and wiring at the top.
- B**: The impeller, which is the rotating component that moves the fluid.
- C**: The central shaft that drives the impeller.
- D**: The coupling, which connects the pump shaft to the motor shaft.
- E**: The bearings that support the shaft.
- F**: The pump housing, which contains the impeller and directs the flow of the fluid.
- G**: The base of the pump housing.
- H**: The coupling connection to the motor.
- I**: The outlet pipe, which carries the fluid away from the pump.

	V/Ph/Hz	HP	Start Amps	FL Amps	Full Load kW	Start KVA	FL KVA	NEC Code Letter	Service Factor	Model	Standard Cord	
											20'	35'
High Head	230/1/60	2	49	18.5	4.2	11.27	4.26	G	1	Catalog	VH20-21-20	VH20-21-35
										Eng	28148D000	28148D004
	200/3/60	2	53	12.5	3.9	18.3	4.33	L	1	Catalog	VH20-03-20	VH20-03-35
										Eng	28148D001	28148D005
	230/3/60	2	46	12	3.9	18.3	4.77	L	1	Catalog	VH20-23-20	VH20-23-35
										Eng	28148D002	28148D006
	460/3/60	2	23	6	3.9	18.3	4.77	L	1	Catalog	VH20-43-20	VH20-43-35
										Eng	28148D003	28148D007
	575/3/60	2	25	5	3.9	24.9	4.98	L	1	Catalog	VH20-53-20	VH20-53-35
										Eng	28148D020	28148D021
Standard Flow	200/1/60	2	66	16	3.2	13.2	3.2	G	1	Catalog	VS20-01-20	VS20-01-35
										Eng	28151D020	28151D021
	230/1/60	2	49	13.5	3.2	11.27	3.12	G	1	Catalog	VS20-21-20	VS20-21-35
										Eng	28151D000	28151D004
	200/3/60	2	53	10	3.2	18.3	3.46	L	1	Catalog	VS20-03-20	VS20-03-35
										Eng	28151D001	28151D005
	230/3/60	2	46	9	3.2	18.3	3.58	L	1	Catalog	VS20-23-20	VS20-23-35
										Eng	28151D002	28151D006
	460/3/60	2	23	4.2	3.2	18.3	3.35	L	1	Catalog	VS20-43-20	VS20-43-35
										Eng	28151D003	28151D007
575/3/60	2	25	5	3.9	24.9	4.98	L	1	Catalog	VS20-53-20	VS20-53-35	
									Eng	28151D022	28151D023	
High Flow	200/1/60	2	66	16	3.2	13.2	3.2	G	1	Catalog	VF20-01-20	VF20-01-35
										Eng	28247D020	28247D021
	230/1/60	2	49	13.5	3.2	11.27	3.12	G	1	Catalog	VF20-21-20	VF20-21-35
										Eng	28247D000	28247D004
	200/3/60	2	53	10	3.2	18.3	3.46	L	1	Catalog	VF20-03-20	VF20-03-35
										Eng	28247D001	28247D005
	230/3/60	2	46	9	3.2	18.3	3.58	L	1	Catalog	VF20-23-20	VF20-23-35
										Eng	28247D002	28247D006
	460/3/60	2	23	4.2	3.2	18.3	3.35	L	1	Catalog	VF20-43-20	VF20-43-35
										Eng	28247D003	28247D007
575/3/60	2	25	5	3.9	24.9	4.98	L	1	Catalog	VF20-53-20	VF20-53-35	
									Eng	28247D022	28247D023	

Performance Data and Dimensions

3450 RPM

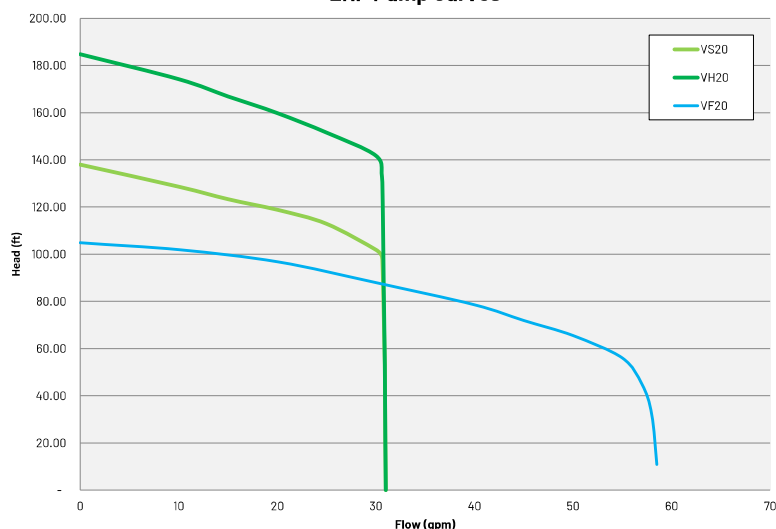
[Dimensions in mm]



Product Capabilities

Capacities To	58.5 gpm	221.4 lpm
Heads To	185 ft.	56.34 m
Liquids Handling	domestic raw sewage	
Intermittent Liquid Temp.	up to 140°F	up to 60°C
Winding Insulation Temp. (Class F)	311°F	155°C
Motor Electrical Data (Single phase motors are capacitor start type. Myers control panels or capacitor kits are recommended for proper operation and warranty.)	2 hp, 3450 rpm 1 ph – capacitor start/run. 230 volts; 60 Hz 3 ph – induction run 200, 230, 460 volts, 60 Hz	
Std. Third Party Approvals	CSA	
Acceptable pH Range	6 – 9	
Specific Gravity	.9 – 1.1	
Viscosity	28 – 35 SSU	
Discharge (Flange Dia.)	1-1/4 in.	31.75 mm
Min. Sump Diameter		
Simplex	24 in.	61.0 cm
Duplex	36 in.	91.4 cm

2HP Pump Curves



Construction Materials

Motor Housing, Seal Housing, Cord Cap and Volute Case	Cast Iron, Class 30, ASTM A48
Impeller	Semi-Open, Stainless Steel
Mechanical Seals: Standard Optional	Double Tandem Carbon and Ceramic Lower Tungsten Carbide
Pump, Motor Shaft	416 SST
Fasteners	300 Series SST
Rotating Cutter, Stationary Cutter	440 SST 57-60 Rockwell



1101 Myers Parkway | Ashland, OH 44805 | Ph: 855.274.8948 | pentair.com/pentair-myers

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Agent Authorization

Re: Agent Authorization for the following site location/property address:

Address: 1901 Island Walk Way
Fernandina Beach, Florida 32034

Parcel ID No.: 00-00-30-037M-0012-0000

Otherwise known as Project Name: Memorial Park at NCCOA

You are hereby advised that the undersigned is the legal owner of the property noted above.

Said Owner hereby authorizes and empowers Southeast Engineering Group, LLC to act as agent to file application(s) for the above referenced site location / property address, and in connection with such authorization to file such applications, papers, documents, requests, and other matters necessary for the project.

(Signature): Janice Ancrum
(Print name): Janice Ancrum

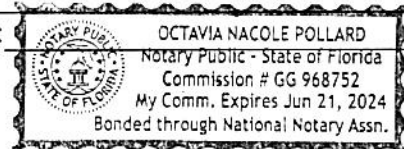
STATE OF florida
COUNTY OF nassau

Sworn to and subscribed and acknowledged before me this 26th day of January, 2023, by Janice Ancrum, as _____, who is ~~personally known to me~~ or who has produced N/A as identification and who took an oath.

Signature of Notary Public, State of
Name: Octavia N Pollard

My Commission Expires:

My Commission Number is:



MEMORIAL PARK AT NCCOA

OUTDOOR PAVILION & PARKING IMPROVEMENTS

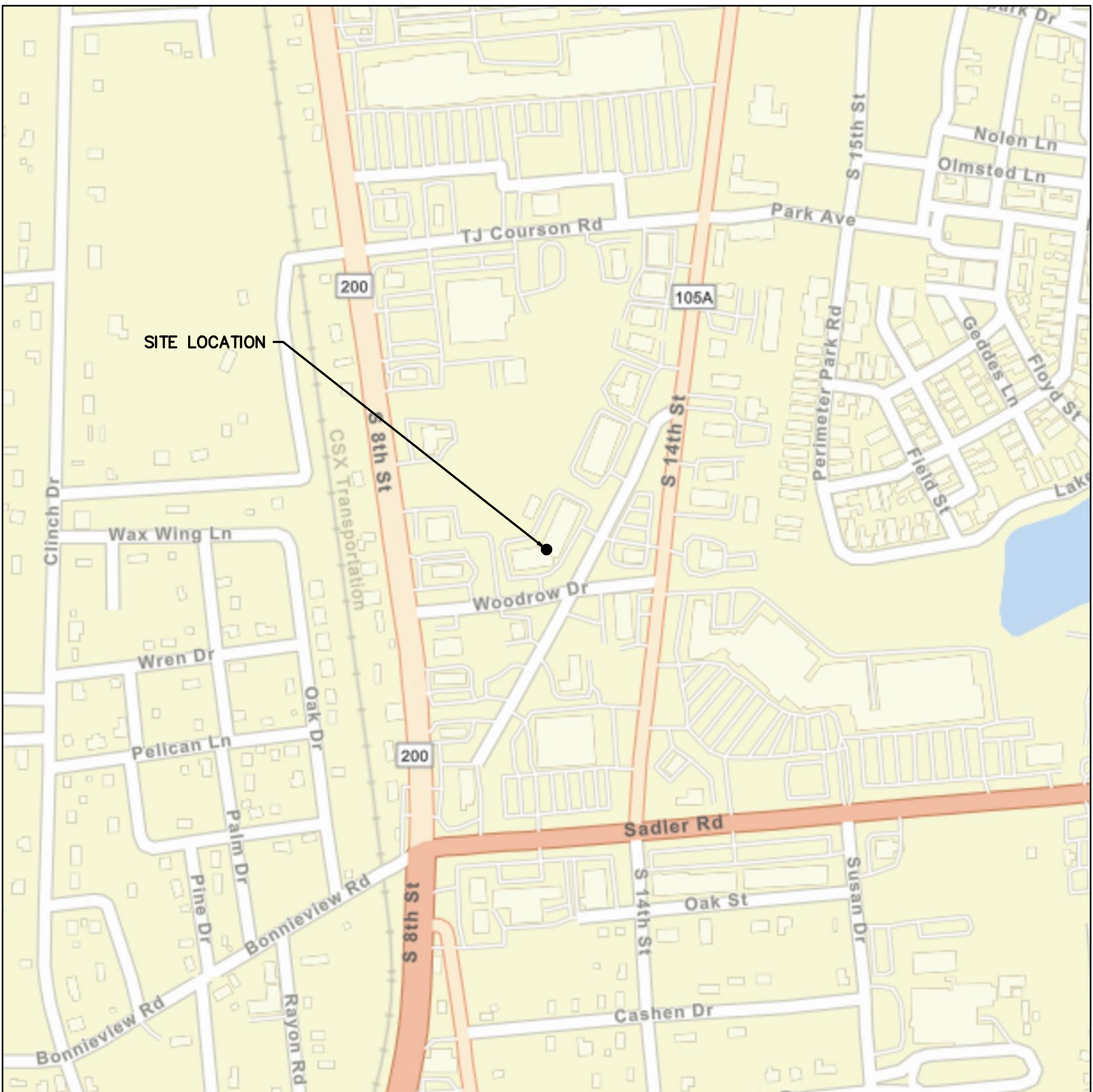
1901 ISLAND WALK WAY, FERNANDINA BEACH, FLORIDA

LEGAL DESCRIPTION

LOTS 12, 13, 14, AND 15, AND TRACT A, MAGNOLIA
POINT AS RECORDED IN PLAT BOOK 5, PAGE 344 OF
THE PUBLIC RECORDS OF NASSAU COUNTY, FLORIDA

CIVIL ENGINEERING LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINE
---	---	RIGHT-OF-WAY LINE
---	---	CENTERLINE
-x-x-	-x-x-	FENCE
---	---	RETAINING WALL
---	---	BUILDING
---	---	PAVEMENT LINE/SIDEWALK LINE
---	---	CURB, CURB AND GUTTER
25.50	45.50	SPOT ELEVATIONS
---	25	CONTOURS
---6"SA---	6"SA	SANITARY SEWER/CLEANOUT
---6"PW---	6"PW	PROCESS WASTE
---RD---	RD	ROOF DRAIN
---ST---	ST	STORM SEWER
---6"W---	6"W	DOMESTIC WATER
---6"F---	6"F	FIRE MAIN
---6"G---	6"G	GAS MAIN
---6"FM---	6"FM	FORCE MAIN
---UE---	UE	UNDERGROUND ELECTRIC
---OHE---	OHE	OVERHEAD ELECTRIC
---UT---	UT	UNDERGROUND TELEPHONE
---OT---	OT	OVERHEAD TELEPHONE
---UD---	UD	UNDERDRAIN
---	---	FIRE HYDRANT
---	---	DOUBLE CHECK VALVE ASSEMBLY
---	---	RED. PRESSURE BACKFLOW PREVENTER
---	---	POST INDICATOR VALVE
---	---	VALVE
---	---	VALVE & BOX
---	---	MANHOLE
---	---	SPRINKLER RISER
---	---	WATER METER
---	---	CATCH BASIN
---	---	CURB INLET
---	---	FLARED END
---	---	MITERED END
---	---	CONCRETE FLUME
---	---	ENDWALLS
---	---	CONTROL STRUCTURE
---	---	CONCRETE POWER POLE
---	---	WOOD POWER POLE
---	---	LIGHT POLE
---	---	TRANSFORMER
---	---	VAULTS
---	---	DRAINAGE STRUCTURE
---	---	SANITARY SEWER STRUCTURE
---	---	SECTION CUT
---	---	DETAIL REFERENCE
---	---	CURVE NUMBER
---	---	SILT FENCE
---	---	HAYBALE BARRIER
---	---	SOIL BORING LOCATION/NUMBER



LOCATION MAP (NOT TO SCALE)

CIVIL DRAWING INDEX

C000	COVER SHEET
C050	CIVIL NOTES AND SPECS
C100	SITE DEMOLITION PLAN
C200	SITE GEOMETRY PLAN
C300	SITE GRADING PLAN
C400	SITE DRAINAGE AND UTILITIES PLAN
C510	SITE DETAILS I
C520	SITE DETAILS II
C530	SITE DETAILS III
C600	DRAINAGE AREA MAP

PROJECT CONTACTS

OWNER/DEVELOPER:	NASSAU COUNTY COUNCIL ON AGING 1901 ISLAND WALK WAY FERNANDINA BEACH, FL 32034 (904) 261-0701
SURVEYOR:	BOATWRIGHT LAND SURVEYORS, INC. 1500 ROBERTS DRIVE JACKSONVILLE BEACH, FL 32250 (904) 241-8550
LANDSCAPE ARCHITECT:	A & K LAND PLANNING & DESIGN 416 TORTOISE TRACE SAINT JOHNS, FL 32259 (904) 476-9692
GEOTECHNICAL ENGINEER:	AGES OF JAX, INC. 9556 HISTORIC KINGS ROAD SOUTH, SUITE 201 JACKSONVILLE, FL 32257 (904) 886-0766

Matthew
Phillips

Digitally signed by
Matthew Phillips
Date: 2023.01.26
16:16:48 -05'00'

MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

COVER
SHEET

REV	DATE	BY	DESCRIPTION
C	1-26-23	MJP	REVISED PERMIT ISSUE
B	1-17-23	MJP	REVISED PERMIT ISSUE
A	11-10-22	MJP	PERMIT ISSUE

JOB NO. 22ENG017

DRAWN: MJP

CHECKED: MJP

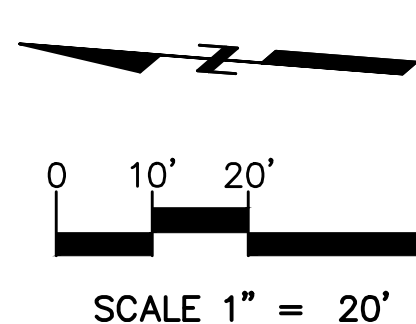
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C000

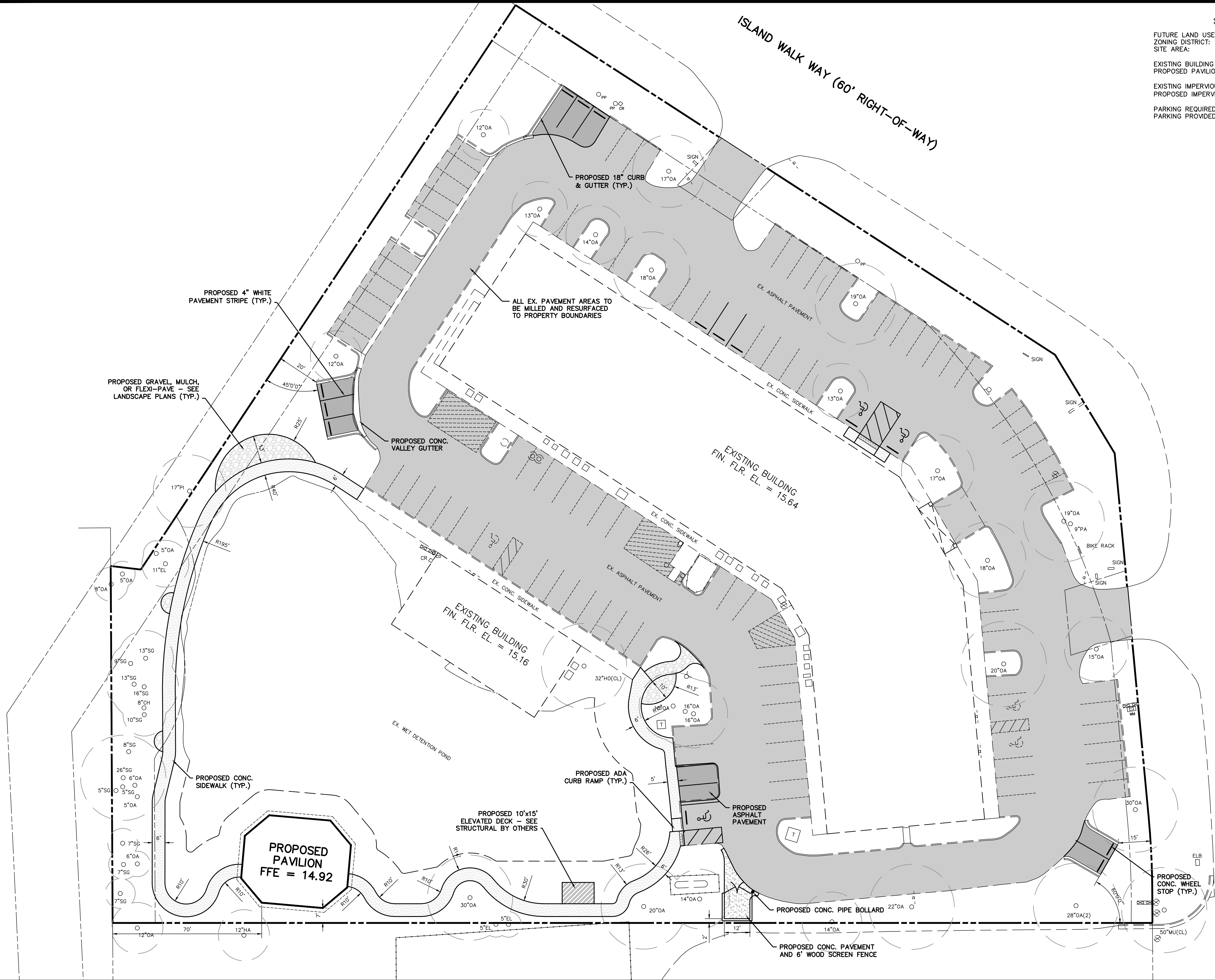
DRAWING NO.



48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-432-4770
IT'S THE LAW IN FLORIDA



<u>TREE LEGEND</u>			
ASH	WHITE ASH	PE	PINE (OTHER)
BA	BAY	PL	PLUM
BI	BIRCH	PO	POPLAR
BJO	BLACKJACK OAK	PR	PEAR
CA	CAMPHOR	PS	PERSIMMON
CE	CEDAR	RN	RAINTREE
CH	CHERRY	SC	SOUTHERN CATALPA
CM	CREPE MYRTLE	SG	SWEETGUM
CY	CYPRESS	SH	SHINGLE OAK
DW	DOGWOOD	SY	SYCAMORE
EL	ELM	TA	TALLOW
FG	FIG	TO	TURKEY OAK
HA	HAWBERRY	WA	WALNUT
HI	HICKORY	WI	WILLOW
HM	HEMLOCK	WL	WATER LOCUST
HO	HOLLY	WM	WAX MYRTLE
JU	JUNIPER	WO	WATER OAK
LAO	LAUREL OAK	WS	DEVIL'S WALKING STICK
LG	LIGUSTRUM	(2)	TWIN
LLP	LONGLEAF PINE	(3)	TRIPLE
LO	LIVE OAK	(4)	QUAD
MA	MAPLE	(CL)	CLUSTER
MG	MAGNOLIA		TREE TO REMAIN
MI	MIMOSA		
MU	MULBERRY		
OA	OAK (OTHER)		
PA	PALM		DISEASED/DETERIORATED OR INVASIVE/EXOTIC TREE
PE	PECAN		



STATISTICAL SUMMARY

FUTURE LAND USE CATEGORY:	GENERAL COMMERCIAL
ZONING DISTRICT:	C-2
SITE AREA:	3.49 AC
EXISTING BUILDING AREA:	28,769 SF (19% FAR)
PROPOSED PAVILION AREA:	1,836 SF
EXISTING IMPERVIOUS:	81,899 SF (54% ISR)
PROPOSED IMPERVIOUS:	90,082 SF (59% ISR)
PARKING REQUIRED:	1/300 SF = 96 SPACES
PARKING PROVIDED:	103 + 6 ADA = 109 SPACES

MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

SITE
GEOMETRY
PLAN

REV	DATE	BY	DESCRIPTION
C	1-26-23	MJP	REVISED PERMIT ISSUE
B	1-17-23	MJP	REVISED PERMIT ISSUE
A	11-10-22	MJP	PERMIT ISSUE

JOB NO. 22ENG017

DRAWN: MJP

CHECKED: MJP

SCALE: 1" = 20'

C200

DRAWING NO.

MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

SITE
GRADING
PLAN

REV.	DATE	BY	DESCRIPTION
C	1-20-23	MJP	REVISED PERMIT ISSUE
B	1-17-23	MJP	REVISED PERMIT ISSUE
A	11-10-22	MJP	PERMIT ISSUE

JOB NO. 22ENG017

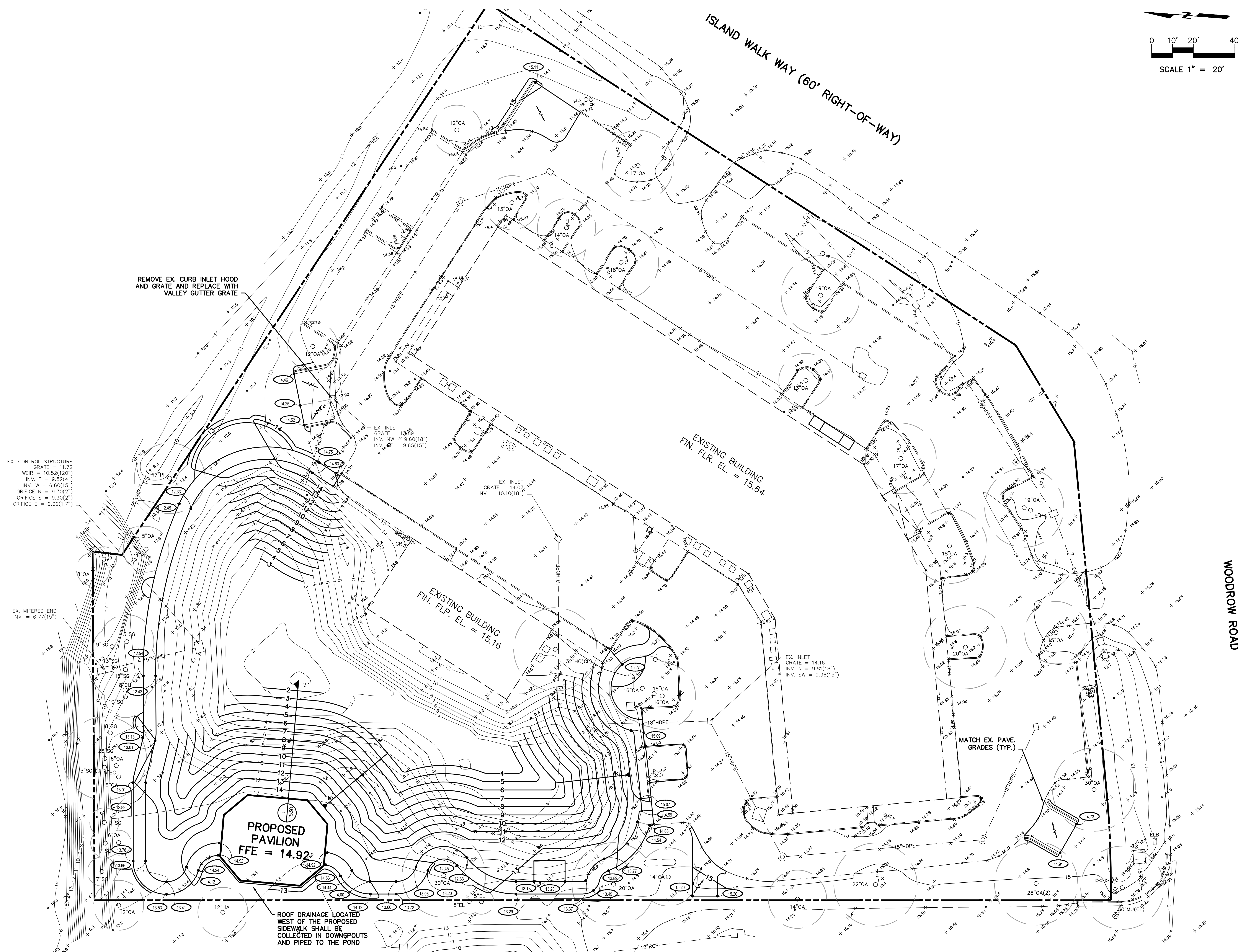
DRAWN: MJP

CHECKED: MJP

SCALE: 1" = 20'

C300
DRAWING NO.

WOODROW ROAD



ISLAND WALK WAY (60' RIGHT-OF-WAY)

EXISTING BUILDING
FIN. FLR. EL. = 15.64

EXISTING BUILDING
FIN. FLR. EL. = 15.16

PROPOSED
PAVILION
FFE = 14.92

ROOF DRAINAGE LOCATED
WEST OF THE PROPOSED
SIDEWALK SHALL BE
COLLECTED IN DOWNSPOUTS
AND PIPED TO THE POND

REMOVE EX. CURB INLET HOOD
AND GRATE AND REPLACE WITH
VALLEY GUTTER GRATE

EX. CONTROL STRUCTURE
GRATE = 11.72
WEIR = 10.52(120")
INV. E = 9.52(4")
INV. W = 6.60(15")
ORIFICE W = 9.30(2")
ORIFICE S = 9.30(2")
ORIFICE E = 9.02(1.7")

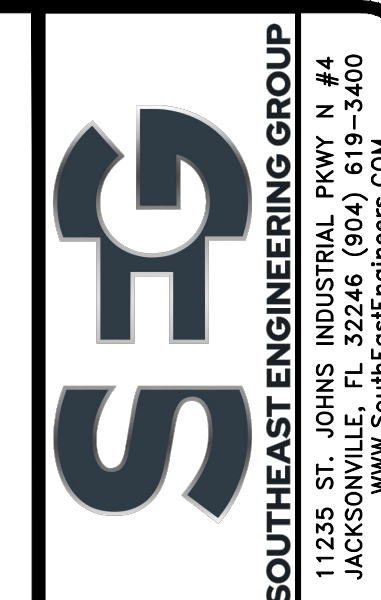
EX. MITERED END
INV. = 6.77(15")

EX. INLET
GRATE = 14.16
INV. N = 9.81(18")
INV. SW = 9.96(15")

EX. INLET
GRATE = 14.89
INV. NW = 9.60(18")
INV. SE = 9.65(15")

EX. INLET
GRATE = 14.02
INV. = 10.10(18")

MATCH EX. PAVE.
GRADES (TYP.)

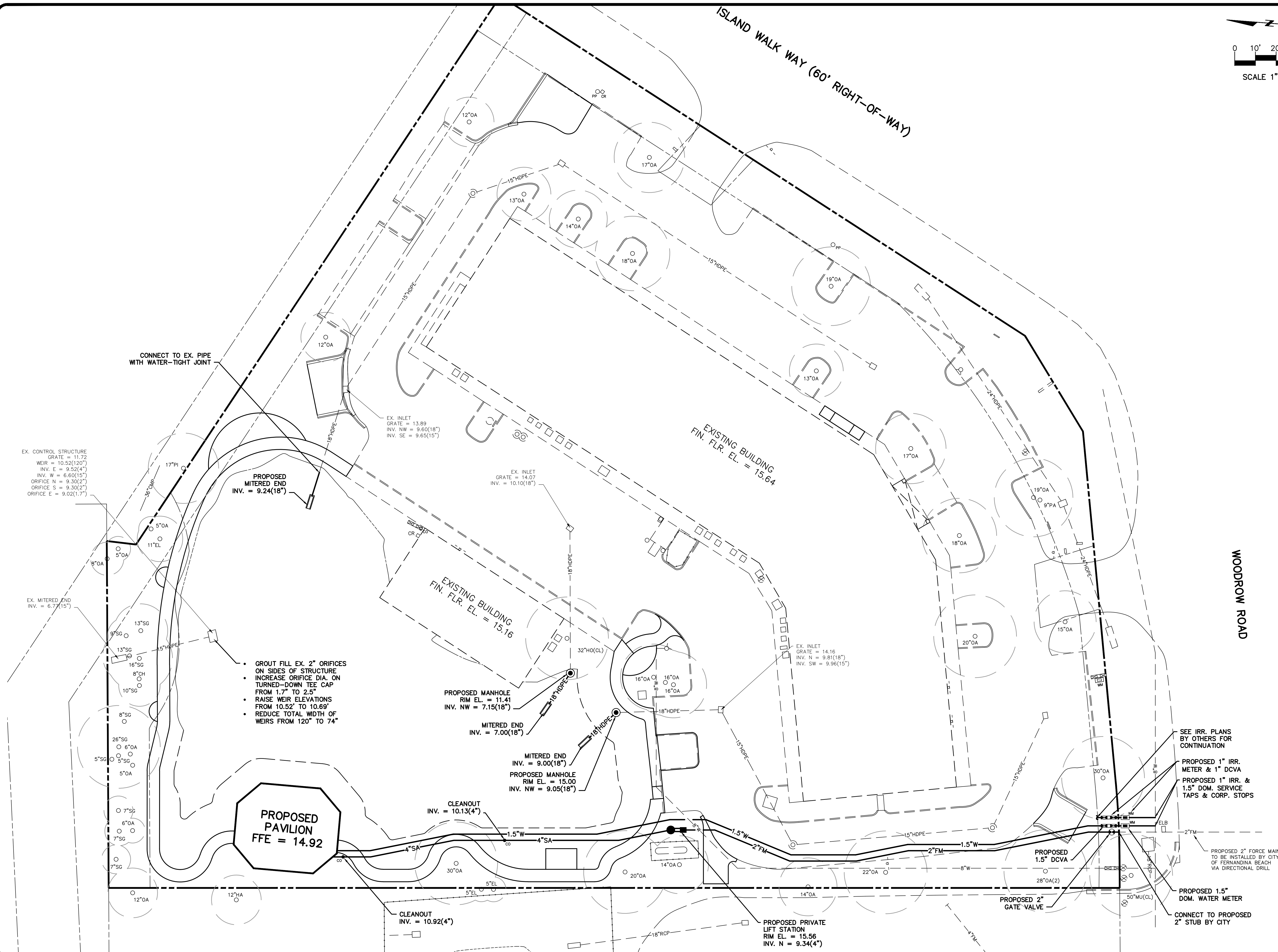


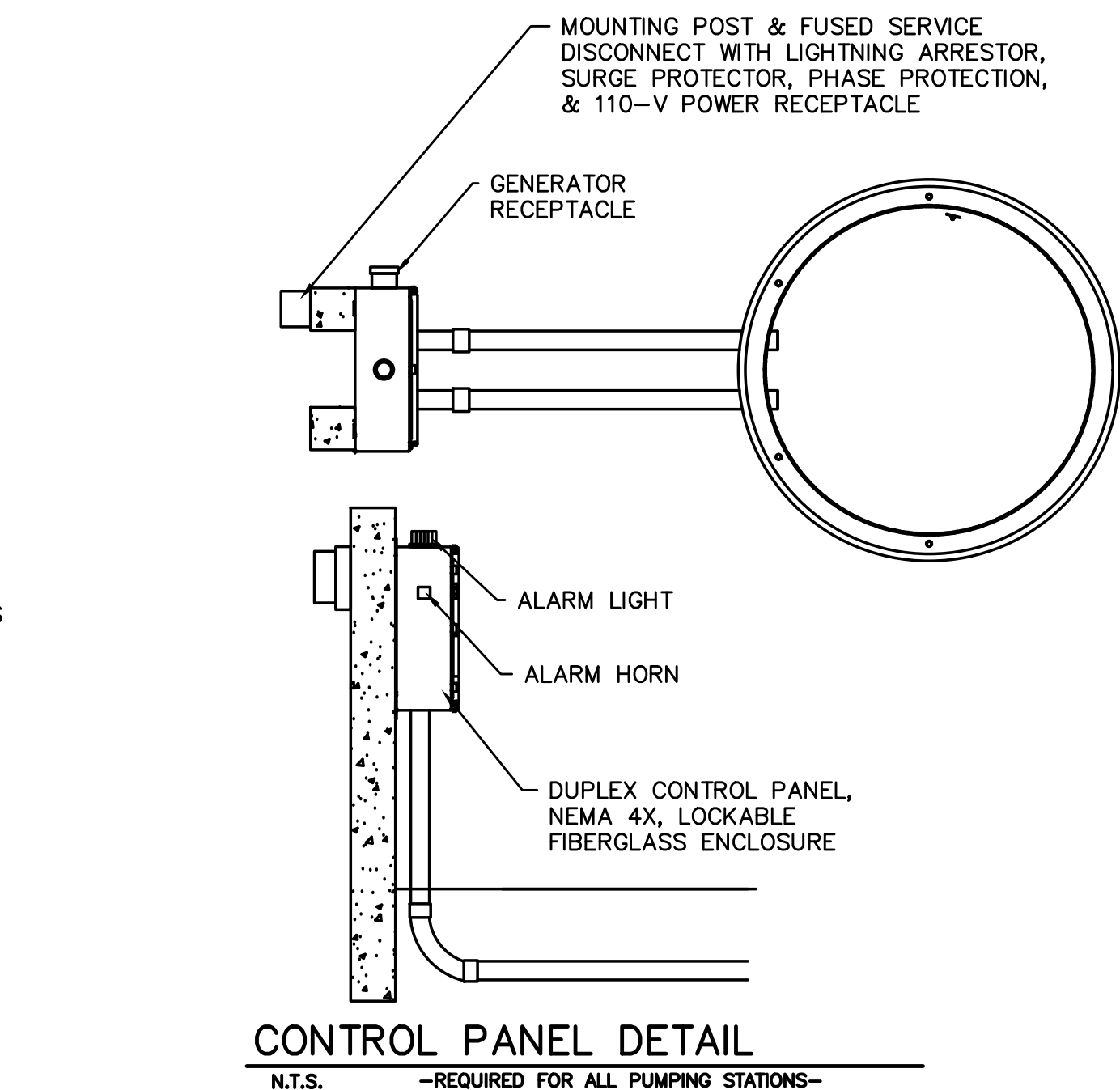
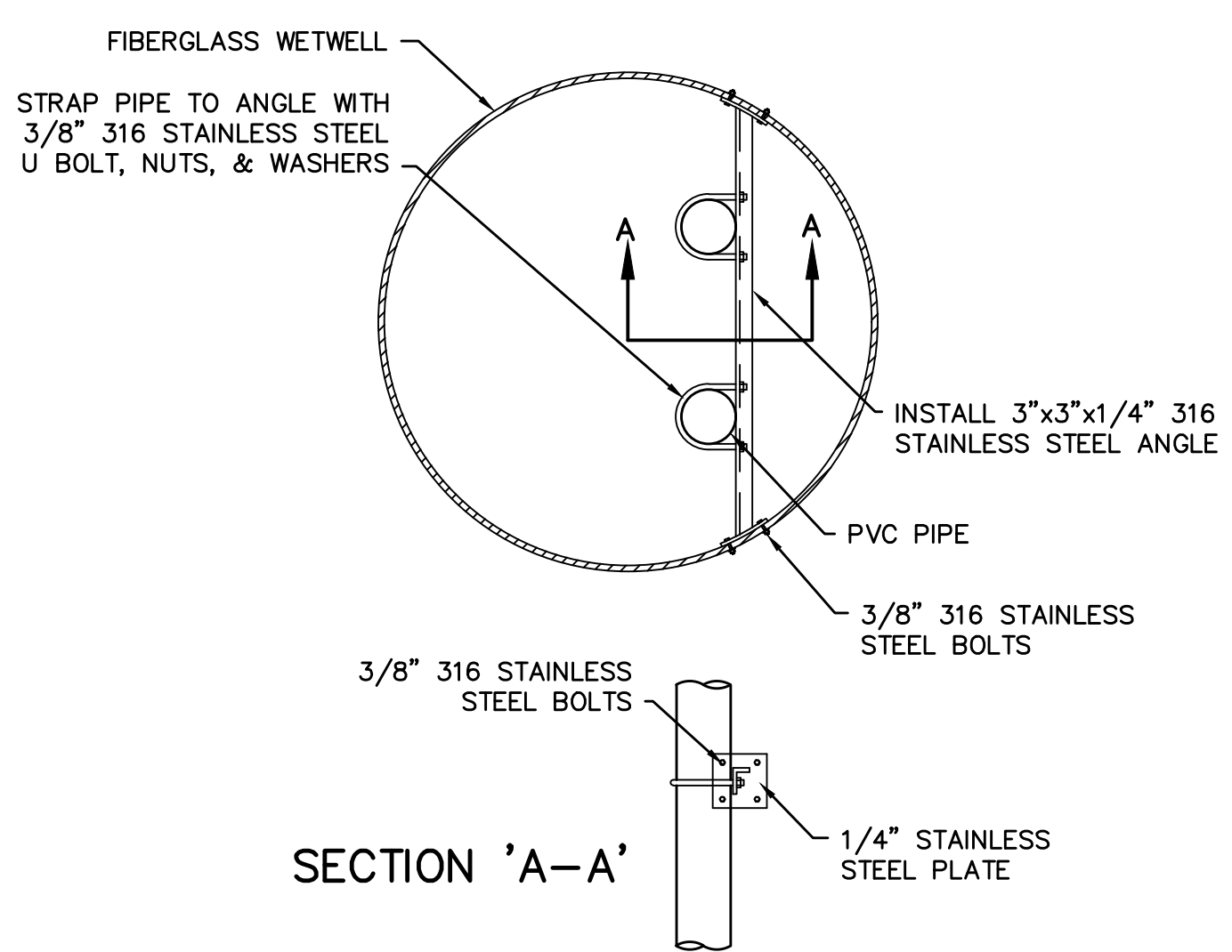
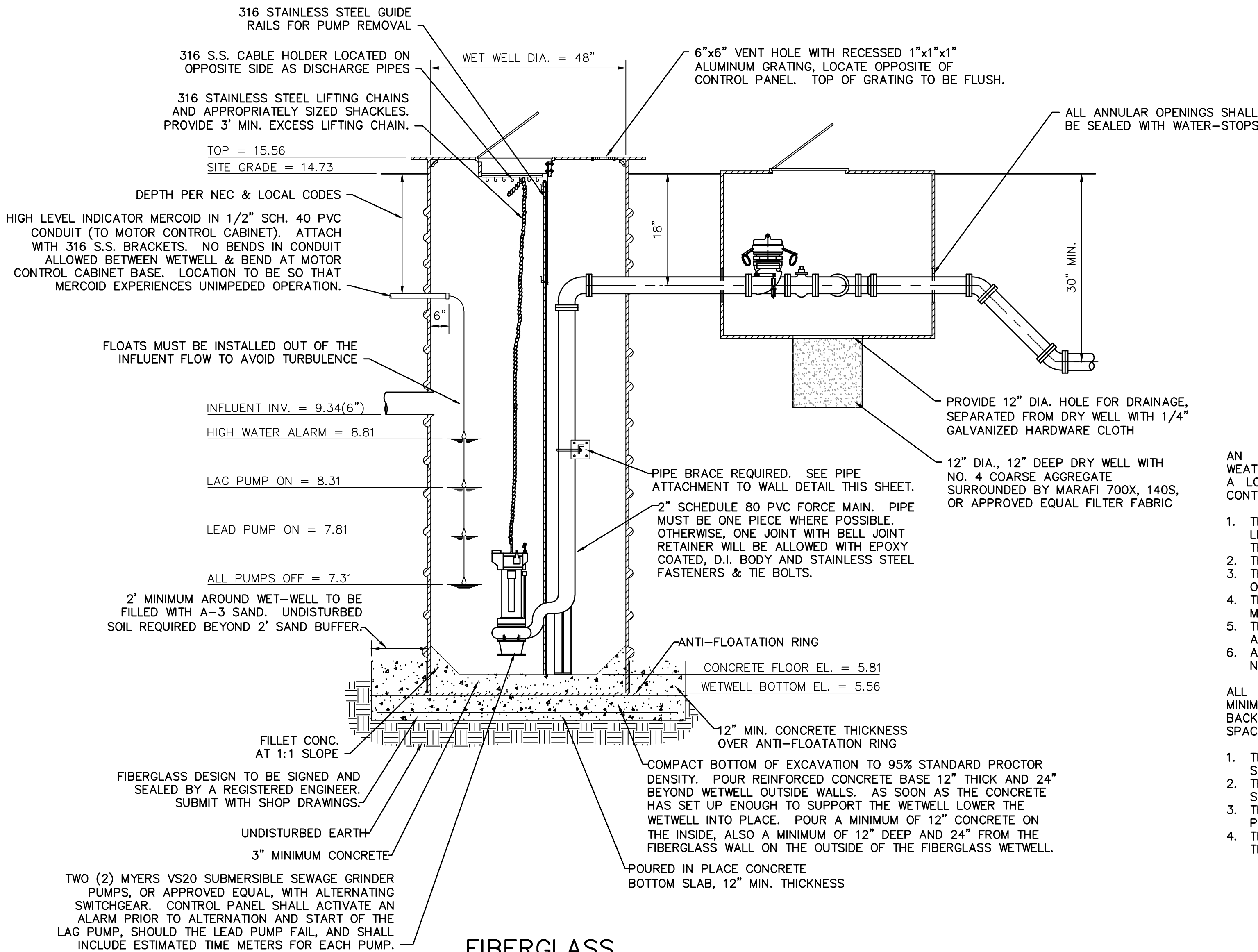
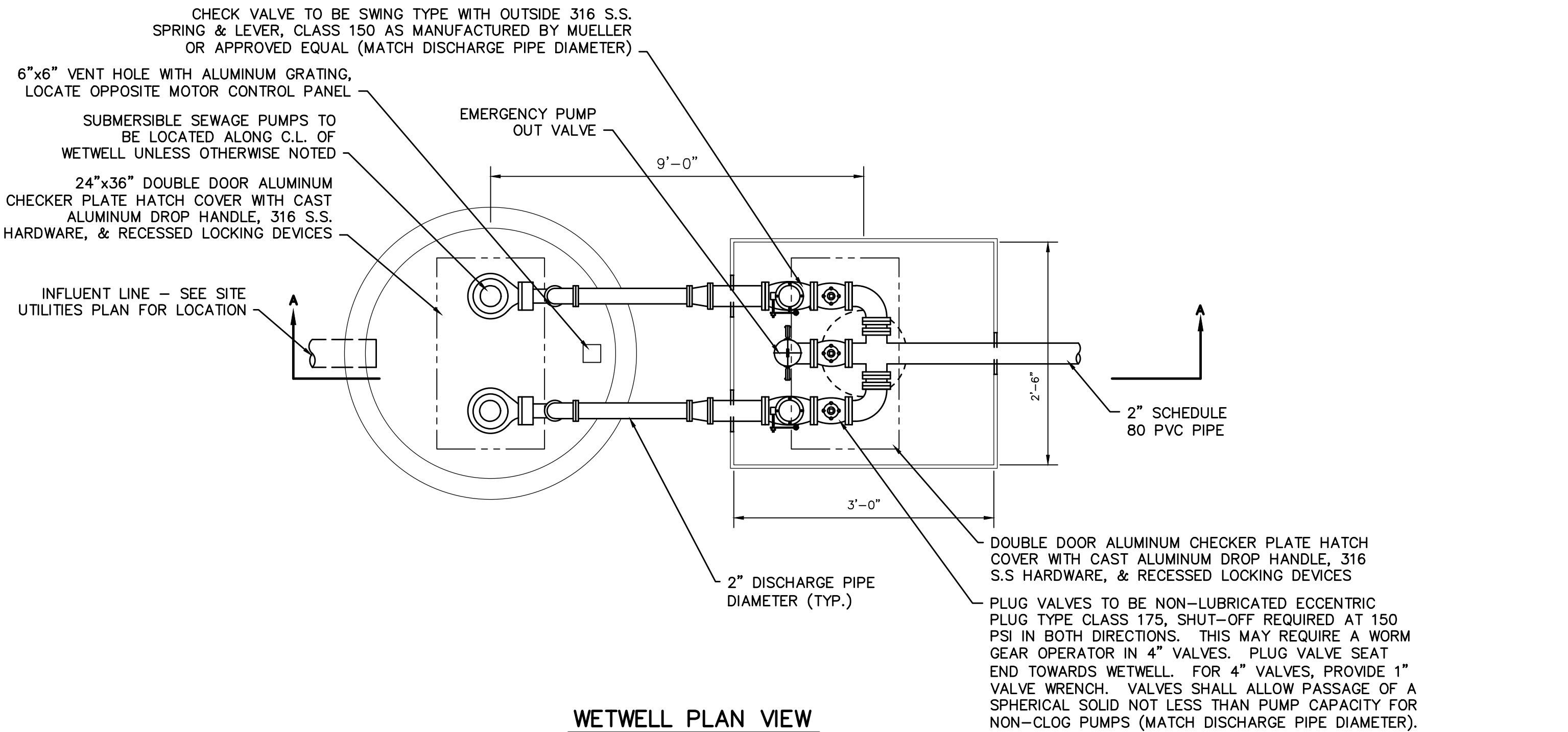
SITE DRAINAGE AND UTILITIES PLAN

[illegible]

SCALE: 1" = 20'

DRAWING NO.





PUMP STATION SIGNAGE REQUIREMENTS

AN UNOBSTRUCTED SIGN MADE OF DURABLE WEATHER RESISTANT MATERIAL SHALL BE POSTED AT A LOCATION VISIBLE TO THE PUBLIC AND SHALL CONTAIN THE FOLLOWING, CURRENT, INFORMATION:

1. THE PUMP STATION IDENTIFIER ON A SEPARATE LINE PROMINENT IN THE UPPER LEFT CORNER OF THE SIGN.
2. THE PUMP STATION ADDRESS.
3. THE TELEPHONE NUMBER OF THE PUMP STATION OWNER, IF APPLICABLE.
4. THE TELEPHONE NUMBER OF THE PROPERTY MANAGER.
5. THE NAME OF THE PUMP STATION OPERATOR, AND
6. A 24-HOUR TELEPHONE NUMBER FOR OPERATOR NOTIFICATION.

ALL PRINT SHALL BE IN A BLACK FONT WITH A MINIMUM ONE-INCH LETTER SIZE ON A WHITE BACKGROUND WITH A MINIMUM OF ONE-INCH SPACING BETWEEN EACH OF THE FOLLOWING:

1. THE PUMP STATION IDENTIFIER AND THE PUMP STATION ADDRESS;
2. THE PUMP STATION ADDRESS AND THE PUMP STATION OWNER INFORMATION;
3. THE PROPERTY MANAGER ADDRESS AND THE PROPERTY MANAGER INFORMATION; AND
4. THE PUMP STATION OWNER INFORMATION AND THE PUMP STATION OPERATOR INFORMATION.

PUMP STATION TELEMETRY REQUIREMENTS

PUMP STATION SHALL CONNECT TELEMETRY THAT INCLUDES THE FOLLOWING MINIMUM REQUIREMENTS:

1. MUST BE CELLULAR BASED WITH A SERVICE PROVIDER;
2. MUST HAVE BATTERY BACKUP WITH A MINIMUM TWO HOURS RESERVE AND ABLE TO REMAIN FUNCTIONING IN THE EVENT OF ELECTRICAL SERVICE FAILURE;
3. MUST BE ABLE TO NOTIFY BY CALL OR TEXT MESSAGE AT LEAST THE PUMP STATION OWNER, ANY PROPERTY MANAGER, AND THE CONTRACTED PUMP STATION OPERATOR;
4. MUST SEND NOTIFICATIONS FOR POWER FAILURE AT THE PUMP STATION, WETWELL HIGH WATER, AND PUMP FAILURE TO START;
5. CANNOT BE A TELEMETRY UNIT THAT IS CENTRALLY MONITORED ONLY; AND
6. MUST BE OWNED BY THE PUMP STATION OWNER, NOT RENTED OR LEASED.

PUMP STATION ACCESS REQUIREMENTS

AT A MINIMUM, THE PUMP STATION CONTROL PANEL, ANY OTHER ELECTRICAL COMPONENTS, THE WET WELL, AND THE VALVE BOX, MUST BE SECURED BY A LOCKING MECHANISM AND THE KEY AVAILABLE TO ON-SITE PERSONNEL AND/OR THE CONTRACTED OPERATOR FOR EMERGENCY ACCESS.

CONDITIONS OF SERVICE		
	PUMP RATE (GPM)	TDH (FT)
STATION ONLY	31	21

SUBMERSIBLE WASTEWATER PUMPING STATION SPECIFICATIONS

1. FURNISH SHOP DRAWINGS AND GUARANTEES COVERING THE ITEMS INCLUDED UNDER THIS SECTION OF WORK. SHOP DRAWINGS REQUIRE ENGINEER'S APPROVAL PRIOR TO INSTALLATION.
2. THE STATION MANUFACTURER SHALL SUBMIT TO THE ENGINEER, THROUGH THE GENERAL CONTRACTOR, FOUR COPIES OF A MANUAL GIVING COMPLETE OPERATION AND MAINTENANCE INSTRUCTIONS.
3. A QUALIFIED FACTORY REPRESENTATIVE SHALL PLACE THE STATION IN OPERATION, MAKE NECESSARY ADJUSTMENTS, AND CONDUCT A COMPLETE FUNCTIONAL CHECK.
4. FURNISH AND INSTALL THE COMPLETE PUMPING SYSTEM TO INCLUDE SUBMERSIBLE SEWAGE PUMPS, FOUR LEVEL CONTROLS, DISCHARGE PIPING WITH HYDRAULICALLY SEALED DISCHARGE FLANGE, PUMP MOUNTING PLATE WITH BOTTOM RAIL SUPPORTS, UPPER RAIL SUPPORTS, AND LIFTING CHAIN, ALL INSTALLED IN A FIBERGLASS WETWELL WITH COVER. DISCHARGE CHECK VALVE AND GATE VALVE SHALL BE FURNISHED AND MOUNTED IN A SEPARATE VALVE CHAMBER AS SHOWN ON THE DRAWING.
5. ALL BACKFILL AROUND THE WET WELL SHALL BE GRANULAR MATERIAL (CLEAN SAND), FREE OF SILT, CLAY OR ORGANIC MATERIALS, COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557.
6. FIBERGLASS WETWELL SHALL BE REINFORCED POLYESTER RESIN, 1/4-INCH MINIMUM THICKNESS. FIBERGLASS SHALL HAVE AN ULTIMATE TENSILE STRENGTH OF 14,000 PSI PER ASTM D-638, AND FLEXURAL STRENGTH OF 24,000 PSI PER ASTM D-790. ALL FASTENERS SHALL BE STAINLESS STEEL.
7. AT ALL POINTS WHERE PIPES MUST PASS THROUGH THE WALLS OF THE WETWELL, THE UTILITIES SUBCONTRACTOR SHALL FURNISH AND INSTALL SUITABLE SLEEVES. THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED.
8. UTILITIES SUBCONTRACTOR SHALL CHECK WITH ELECTRIC SUPPLY COMPANY TO CONFIRM PUMP VOLTAGE.
9. SUBMERSIBLE PUMPS SHALL BE CAPABLE OF HANDLING RAW, UNSCREENED SEWAGE WITH THREE-INCH SOLIDS. THE DESIGN SHALL BE SUCH THAT PUMPING UNITS SHALL BE AUTOMATICALLY CONNECTED TO THE DISCHARGE PIPING WHEN LOWERED INTO PLACE ON THE DISCHARGE CONNECTION. THE PUMPS SHALL BE EASILY REMOVABLE FOR INSPECTION OR SERVICE, REQUIRING NO BOLTS, NUTS, OR OTHER FASTENINGS TO BE REMOVED, AND NO NEED FOR PERSONNEL TO ENTER PUMP WELL. EACH PUMP SHALL BE FITTED WITH A GALVANIZED CHAIN OF ADEQUATE STRENGTH AND LENGTH TO PERMIT RAISING THE PUMP FOR INSPECTION AND REMOVAL.
10. THE CORROSION-RESISTANT IMPELLER SHALL BE CAPABLE OF PASSING SOLIDS, STRINGY MATERIAL, HEAVY SLUDGE, AND CONSTRUCTED WITH NO ACUTE TURNS.
11. A SLIDING GUIDE BRACKET SHALL BE AN INTEGRAL PART OF THE PUMPING UNIT, AND THE PUMP CASING SHALL HAVE A MACHINED CONNECTION TO CONNECT WITH THE DISCHARGE PIPING. GUIDE RAIL SUPPORTS SHALL BE BOLTED TO THE FLOOR OF THE SUMP AND SO DESIGNED AS TO RECEIVE THE PUMP WITHOUT THE NEED OF ANY BOLTS OR NUTS.
12. THE PUMP SHALL BE GUIDED TO THE BASE ELBOW DISCHARGE CONNECTION VIA GUIDE RAILS. ONE OR TWO STANDARD GALVANIZED STEEL PIPE GUIDE RAILS SHALL BE PROVIDED FOR EACH PUMP. THE PUMP SHALL BE RECEIVED BY THE BASE ELBOW AND SEAT AT THE DISCHARGE FLANGE BY A SIMPLE DOWNWARD LINEAR MOTION. THOSE REQUIRING STRAIGHTENING VANES OR ROTARY MOTION TO EFFECT SEALING OF THE DISCHARGE CONNECTION SHALL NOT BE CONSIDERED. SEALING OF THE PUMP TO THE DISCHARGE CONNECTION MAY BE ACCOMPLISHED BY EITHER METAL TO METAL OR NITRILE RUBBER LIP WITH THE ENTIRE WEIGHT OF THE PUMPING UNIT PRESSING TIGHTLY AGAINST THE CONNECTION; OR BY A DIAPHRAGM-TYPE HYDRAULIC SEALING FLANGES. SEALING DIAPHRAGM SHALL BE REMOVABLE AND MOUNTED ON THE PUMP DISCHARGE FLANGE. DIAPHRAGM MATERIAL SHALL BE BUNA N RUBBER.
13. PUMP MOTORS SHALL HAVE COOLING CHARACTERISTICS SUITABLE TO PERMIT CONTINUOUS OPERATION IN A TOTALLY SUBMERGED CONDITION.
14. PUMP MOTOR CABLE SHALL BE SUITABLE FOR SUBMERSIBLE PUMP APPLICATION, AND THIS SHALL BE PERMANENTLY EMBOSSED ON THE CABLE. THE CABLE SHALL BE CONTINUOUS WITH NO SPLICE FROM THE CONTROL PANEL TO THE PUMP.
15. FURNISH AND INSTALL STANDARD-DUTY ACCESS FRAME, COMPLETE WITH HINGED HASP-EQUIPPED COVER, UPPER GUIDE HOLDER, AND LEVEL SENSOR CABLE HOLDER. EACH ACCESS COVER ASSEMBLY SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS. EACH ACCESS COVER ASSEMBLY SHALL BE PROVIDED WITH A POSITIVE LATCH OPEN DEVICE AND A DEPENDABLE LOCK WITH AN INSIDE KEYLESS RELEASE.
16. ALL NECESSARY JOINT AND COUPLING MATERIALS, INCLUDING BOLTS, NUTS, AND GASKETS, WALL CASTINGS OR FITTINGS SHALL BE PROVIDED AS PART OF THIS WORK. HANGERS, SUPPORTS, ANCHORS, BLOCKING, HARNESSSES, AND OTHER NECESSARY CLOSURE PIPE SECTIONS AND SPECIAL FITTINGS SHALL BE FURNISHED.
17. THE FOLLOWING MAJOR COMPONENTS, PLUS ANY ADDITIONAL COMPONENTS NOT SPECIFIED BUT REQUIRED FOR PROPER OPERATION, SHALL BE MOUNTED IN THE PUMP CONTROL PANEL:
 - 17.1. ONE "PUMP RUNNING" LIGHT FOR EACH PUMP.
 - 17.2. ONE "HAND-OFF-AUTOMATIC" SELECT SWITCH SHALL BE PROVIDED WITH EACH STARTER.
 - 17.3. EXTRA TERMINALS FOR ADDITIONAL (REDUNDANT) LOW LEVEL SHUTOFF SENSOR FOR GUARANTEED PUMP IMMERSION.
 - 17.4. MOTOR THERMAL SWITCH AND LEAK DETECTOR WITH INDICATION AND OPERATIONAL INTERLOCK FOR EACH FUNCTION.
18. FURNISH AND MOUNT ON THE ROOF OF THE POWER CABINET ONE WEATHERPROOF RED ALARM LIGHT. THE ALARM LIGHT SHALL BE CONNECTED TO AND ACTUATED BY THE ALARM LEVEL REGULATOR IN THE WETWELL. THE LIGHT SHALL BE NORMALLY OFF AND SHALL BECOME BRIGHT DURING ALARM CONDITIONS. THE ALARM LIGHTS SHALL BE FURNISHED WITH A POLYCARBONATE GLOBE. THE ALARM LIGHT SHALL AUTOMATICALLY BECOME OFF AGAIN WHEN THE LEVEL OF EFFLUENT IN THE WETWELL IS REDUCED BELOW THE ELEVATION OF THE ALARM LEVEL REGULATOR.
19. ALARMS TO BE NON-LATCHING. ALARMS TO CLEAR AUTOMATICALLY AFTER ALARM CONDITION TERMINATED. ALARM LIGHT TO BE 40-WATT INCAND. WITH RED GLOBE AND PROTECTIVE CAGE AROUND GLOBE.
20. TO ENSURE COMPATIBILITY BETWEEN THE PUMPS AND THE VARIOUS ACCESSORIES, THE PUMP MANUFACTURER SHALL FURNISH THE CONTROL CENTER, LIQUID LEVEL REGULATORS, ACCESS FRAME, DISCHARGE CONNECTION, AND POWER CABLES.
21. EQUIPMENT AND SYSTEM GROUNDING SHALL BE PROVIDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS A MINIMUM.
22. WEIGHTED, DIRECT-ACTING FLOAT SWITCHES SHALL BE FURNISHED TO AUTOMATICALLY DETECT LIQUID LEVEL CHANGE. A LIQUID RISE OF ONE INCH MINIMUM FROM THE REST POSITION SHALL OPERATE THE FLOAT SWITCH AND RESET WILL OCCUR WHEN THE LIQUID LEVEL DROPS ONE-INCH MAXIMUM.
23. WEIGHT AND BUOYANCY OF THE FLOAT SWITCHES SHALL BE SUCH THAT CONTAMINATES LIKE A CAKE OF GREASE WILL NOT RESULT IN THE FLOAT SWITCH CHANGING OPERATING LEVEL MORE THAN ONE INCH.
24. AFTER THE PUMPING STATION HAS BEEN ERECTED, PERFORMANCE TESTS SHALL BE CONDUCTED. THE PURPOSE OF THESE PERFORMANCE TESTS SHALL BE TO DEMONSTRATE THAT THE UNITS HAVE BEEN PROPERLY ERECTED, AND THAT THEY AND THEIR APPURTENANT EQUIPMENT WILL OPERATE SATISFACTORILY AND MEET THE SPECIFIED CONDITIONS AND GUARANTEES OF THE UTILITIES SUBCONTRACTOR.
25. THE PERFORMANCE TESTS SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE ENGINEER WITH THE COOPERATION OF THE INSTALLATION CONTRACTOR AND PUMPING STATION EQUIPMENT MANUFACTURER'S REPRESENTATIVE. IT IS INTENDED THAT THESE TESTS SHALL BE CARRIED OUT BY OPERATING EACH PUMPING UNIT THROUGHOUT THE RANGE SPECIFIED FOR A CONTINUOUS PERIOD OF AT LEAST TWO HOURS, OR UNTIL IT IS SHOWN TO THE SATISFACTION OF THE ENGINEER THAT ALL OF THE EQUIPMENT IS IN PERFECT CONDITION AND WILL MEET THE REQUIREMENTS SPECIFIED. THROUGHOUT THESE TESTS OF THE PUMPING EQUIPMENT, THE MOTORS AND PUMPS MUST RUN SMOOTHLY WITHOUT VIBRATION OR HEATING. OTHERWISE, THE TEST SHALL BE STOPPED AND NOT AGAIN UNDERTAKEN UNTIL THE UNIT SHALL HAVE BEEN PUT INTO SMOOTH CONDITION TO COMPLY WITH THE REQUIREMENTS FOR SMOOTHNESS OF OPERATION.
26. THE STATION MANUFACTURER SHALL FURNISH, IN ADDITION TO THE PERFORMANCE TEST, OPERATOR TRAINING FOR THE TRAINING PROGRAMS SHALL BE CONDUCTED AT THE JOB SITE AND SHALL BE FOR A PERIOD OF APPROXIMATELY ONE DAY. TRAINING SHALL INCLUDE, BUT NOT BE LIMITED TO, OPERATION SAFETY, EMERGENCY, MAINTENANCE OF EQUIPMENT, AND TESTING PROCEDURES.
27. SERIES 316 STAINLESS STEEL SHALL BE USED IN THE WETWELL AND VALVE ASSEMBLY FOR FLANGE, BOLTS, BRACKETS, GUIDE RAILS, AND OTHER HARDWARE. CONTROL PANEL STRUCTURE SHALL BE NEMA 4X 304 STAINLESS STEEL HARDWARE.
28. THE CONTRACTOR SHALL FURNISH MASTER SERIES 2001 PADLOCKS WITH TWO (2) KEYS FOR PUMP CONTROL PANEL, ACCESS HATCHES, AND DISCONNECT SWITCH.
29. ALL CONCRETE SHALL BE TYPE II CEMENT.
30. DISTANCE BETWEEN PUMPS SHALL BE SET BY MANUFACTURER'S RECOMMENDATIONS OR THE DISTANCE BETWEEN DISCHARGE PIPING, WHICHEVER IS GREATER.
31. DISCHARGE PIPES SHALL BE PARALLEL TO EACH OTHER.
32. DURING INSTALLATION, THE CONTRACTOR SHALL MAINTAIN THE GROUNDWATER ELEVATION BELOW THE BOTTOM OF THE WETWELL UNTIL FULLY BACKFILLED AND COMPACTED TO AVOID FLOATATION.
33. INSTALLATION OF COVER, PUMP ANCHOR BOLTS, GUIDE RAILS, ETC. MUST BE COORDINATED WITH THE DETAILS AND SPECIFICATIONS AS RECOMMENDED BY THE MANUFACTURER.
34. THE ELECTRIC SERVICE WIRING TO THE PUMP STATION CONTROL PANEL SHALL BE SIZED BY THE ELECTRICAL CONTRACTOR TO PROVIDE A VOLTAGE DROP NO GREATER THAN 5% OF THE LINE VOLTAGE FROM POWER COMPANY WHEN ALL PUMPS ARE AT MAXIMUM START-UP LOAD.
35. THE CONTRACTOR SHALL PROVIDE COMPLETE ELECTRICAL SERVICE. COST OF POWER SERVICE MUST BE INCLUDED IN THE CONSTRUCTION COST.
36. IF A BUBBLER OR ULTRASONIC PUMP LEVEL CONTROL SYSTEM IS REQUIRED, THE CONTRACTOR SHALL COORDINATE WITH THE LEVEL CONTROL SYSTEM SUPPLIER FOR THE REQUIREMENTS AND INSTALLATION NEEDS.
37. PROVIDE APPROPRIATELY SIZED TRANSFORMER TO STEP DOWN VOLTAGE TO 120V TO PROVIDE A MINIMUM OF 20 AMP CIRCUIT IN THE RECEPTACLE.

REV.	DATE	BY	MJP	DESCRIPTION

JOB NO. 22ENG017

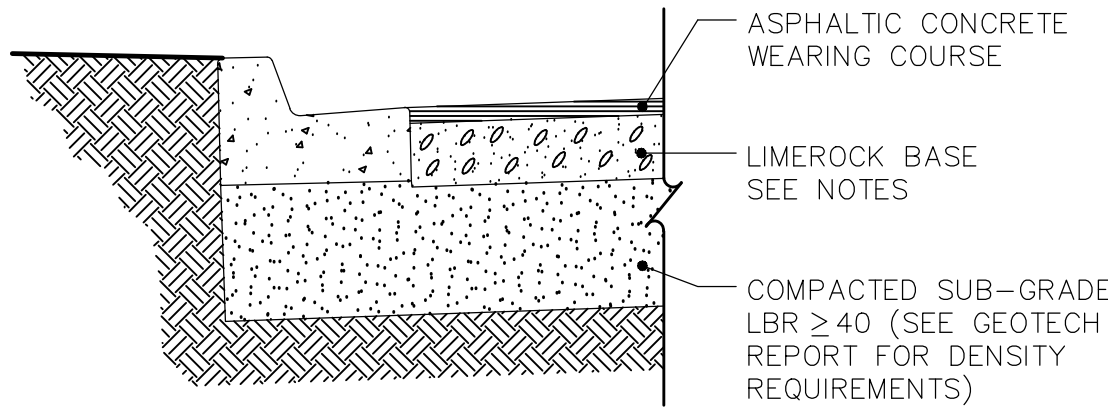
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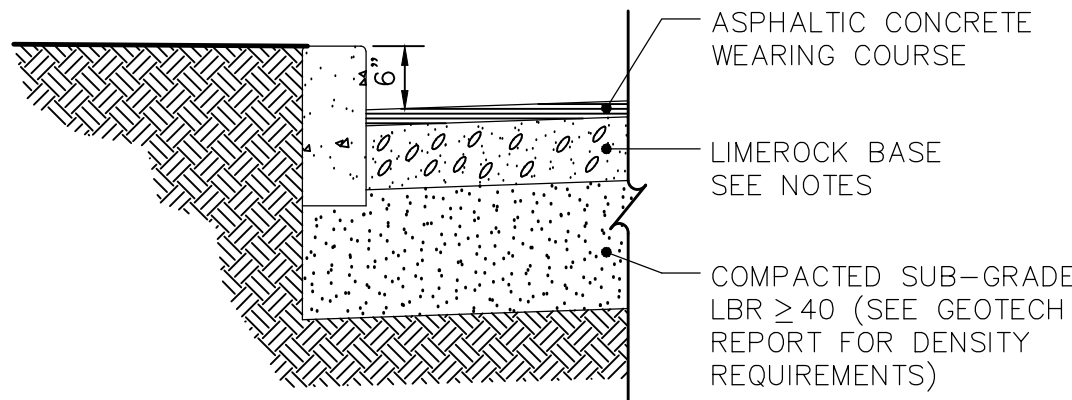
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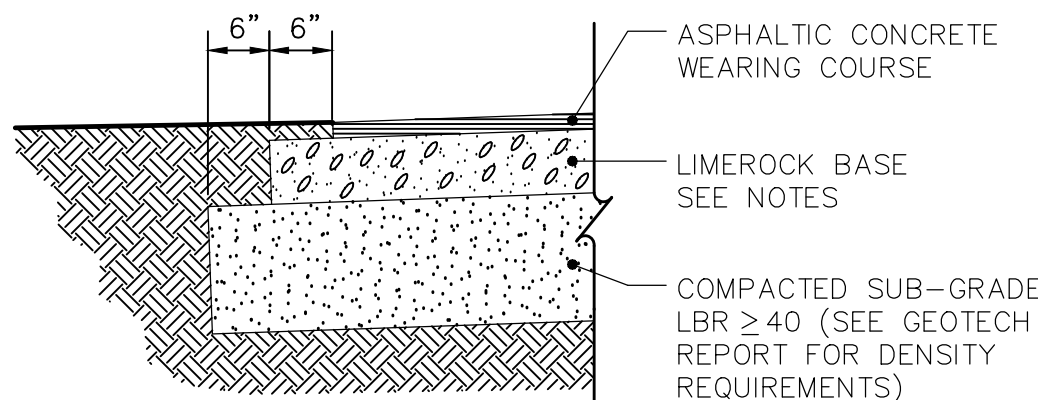
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CURB & GUTTER



HEADER CURB



NO CURBING

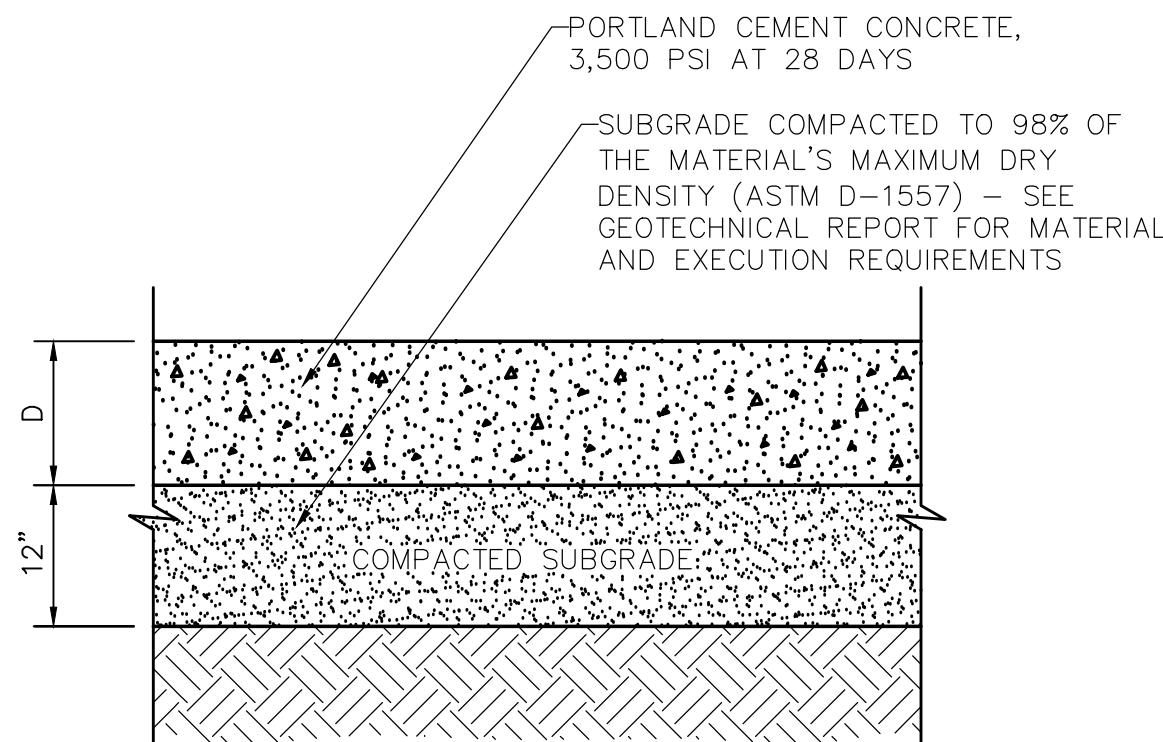
PAVEMENT STRUCTURE THICKNESS TABLE				
TYPE	SUB-GRADE	BASE	WEARING COURSE	
AUTO PAVEMENT	12"	6"	1 1/2"	
TRUCK PAVEMENT	NA	NA	NA	

LIMEROCK BASE NOTES:

- SPREAD LIMEROCK BASE UNIFORMLY IN ONE COURSE, SCARIFY AND THEN SHAPE SO AS TO PRODUCE THE REQUIRED GRADE. BRING MATERIAL TO PROPER MOISTURE CONTENT BY WETTING OR DRYING AND COMPACT TO AN AVERAGE DENSITY AS SPECIFIED IN THE GEOTECHNICAL REPORT.
- APPLY THE PRIME COAT ONLY WHEN THE BASE MEETS THE SPECIFIED DENSITY REQUIREMENTS AND THE MOISTURE CONTENT IN THE TOP HALF OF THE BASE DOES NOT EXCEED 90% OF THE OPTIMUM MOISTURE FOR THE BASE MATERIAL. AT THE TIME OF PRIMING, THE BASE SHALL BE FIRM AND UNYIELDING. APPLY THE PRIME COAT FROM A PRESSURE DISTRIBUTOR AT THE RATE OF 0.20 GALLONS PER SQUARE YARD, ONLY IN CLEAR WEATHER AT AN AMBIENT TEMPERATURE OF 60 DEGREES FAHRENHEIT OR GREATER. IF SAND IS APPLIED BEFORE CURING IS COMPLETE, SAND MUST BE REMOVED AND A TACK COAT OF 0.025 GALLONS PER SQUARE YARD OF RC-70 OR RC-250 MUST BE APPLIED JUST PRIOR TO PLACING THE WEARING SURFACE.

ASPHALT PAVING NOTES:

- PERFORM ALL PAVING WORK IN ACCORDANCE WITH THE APPROPRIATE STANDARDS OF THE JURISDICTIONAL STATE DEPARTMENT OF TRANSPORTATION.
- USE ONLY MATERIALS WHICH ARE FURNISHED BY A BULK ASPHALTIC CONCRETE PRODUCER REGULARLY ENGAGED IN PRODUCTION OF HOT-MIX, HOT-PAID, ASPHALTIC CONCRETE.
- TESTING SHALL BE PERFORMED BY AN APPROVED TESTING LABORATORY, SELECTED BY THE GENERAL CONTRACTOR.
- STRIPING PAINT SHALL BE TOP COAT SHERWIN WILLIAMS PRO MAR TRAFFIC MARKING PAINT, "H.C. BLUE" IN THOSE AREAS DESIGNATED AS HANDICAP PARKING AS SHOWN ON THE HANDICAP PARKING DETAIL. ALL OTHER STRIPING PAINT SHALL BE TOP COAT SHERWIN WILLIAMS PRO MAR TRAFFIC MARKING PAINT, AND SHALL CONFORM TO THE JURISDICTIONAL STATE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR TRAFFIC PAINT.
- FINE GRADE THE AREAS TO BE PAVED AND REMOVE ANY EXCESS MATERIAL FROM SITE. CONSTRUCT THE SUB-GRADE TRUE TO GRADE, HARD, UNIFORM AND SMOOTH, USING SUCH METHODS AND EQUIPMENT AS MAY BE NECESSARY.
- THE SITE-WORK SUBCONTRACTOR SHALL LEAVE THE SUB-GRADE AT PLUS OR MINUS 0.05' FROM THE DESIGN ELEVATIONS AS SHOWN ON THE PLANS. TAKE RESPONSIBILITY FOR CHECKING THE SUB-GRADE AND NOTIFYING THE GENERAL CONTRACTOR IF THE GRADE IS NOT TO THIS TOLERANCE.
- FOR LIMEROCK BASE, SPREAD UNIFORMLY IN ONE COURSE, SCARIFY AND THEN SHAPE SO AS TO PRODUCE THE REQUIRED GRADE. BRING MATERIAL TO PROPER MOISTURE CONTENT BY WETTING OR DRYING AND COMPACT TO AN AVERAGE DENSITY AS SPECIFIED IN THE GEOTECHNICAL REPORT.
- FOR GRADED CRUSHED AGGREGATE BASE, SPREAD THE BASED COURSE EVENLY ON TOP OF THE PREPARED SUB-GRADE TO PROVIDE THE FINISHED DEPTH CALLED FOR IN THE PLANS. ROLL WITH A 10-TON ROLLER UNTIL THE STONE IS LOCKED AND DOES NOT CREEP OR WAVE AHEAD OF THE WHEELS. APPLY SCREENING TO COMPLETELY FILL THE VOIDS, ROLL AGAIN, SPRINKLE SURFACE WITH WATER, FILL WITH ADDITIONAL SCREENING AS REQUIRED, THEN ROLL TO PROVIDE A SMOOTH SURFACE. CONTINUE COMPACTION UNTIL AN AVERAGE DENSITY MEETING THE REQUIREMENTS OF THE GEOTECHNICAL REPORT IS MET.
- FOR BASES TO RECEIVE PRIME COATS, APPLY THE PRIME COAT ONLY WHEN THE BASE MEETS THE SPECIFIED DENSITY REQUIREMENTS AND THE MOISTURE CONTENT IN THE TOP HALF OF THE BASE DOES NOT EXCEED 90% OF THE OPTIMUM MOISTURE FOR THE BASE MATERIAL. AT THE TIME OF PRIMING, THE BASE SHALL BE FIRM AND UNYIELDING. APPLY THE PRIME COAT FROM A PRESSURE DISTRIBUTOR AT THE RATE OF 0.20 GALLONS PER SQUARE YARD, ONLY IN CLEAR WEATHER AT AN AMBIENT TEMPERATURE OF 60 DEGREES FAHRENHEIT OR GREATER. IF SAND IS APPLIED BEFORE CURING IS COMPLETE, SAND MUST BE REMOVED AND A TACK COAT OF 0.025 GALLONS PER SQUARE YARD OF RC-70 OR RC-250 MUST BE APPLIED JUST PRIOR TO PLACING THE WEARING SURFACE.
- SPREAD WEARING SURFACE WITH A SELF-PROPELLED SPREADING MACHINE EQUIPPED WITH A RECEIVING AND DISBURSING HOPPER AND A MECHANICAL SCREED OR STRIPER. MEMBER MATERIAL WITH A TANDUM STEEL ROLLER, A SELF-PROPELLED, RUBBER-TIRED ROLLER, AND THEN PROVIDE A FINAL ROLLING WITH AN EIGHT TO TEN TON TANDUM STEEL ROLLER, ENSURING A DENSITY EXCEEDING THE REQUIREMENTS OF THE GEOTECHNICAL REPORT.
- HOLD HAND RAKING BEHIND THE PAVING MACHINE TO A MINIMUM. USE THE RAKE ONLY TO REMOVE EXCESS MATERIAL AND ADD ADDITIONAL MATERIAL ONLY TO LOW AREAS. WHERE HAND-SPREADING METHODS MUST BE USED, COMPLETE THE WORK IN A COMPETENT AND CAREFUL MANNER AND USE A LABOR FORCE OF SUFFICIENT SIZE AND SKILL SO THAT THE OPERATION WILL BE RAPID AND SMOOTH AND MIX WILL NOT BECOME CHILLED BEFORE SPREADING IS COMPLETED. DO NOT PLACE MIX AT ATMOSPHERIC TEMPERATURE BELOW 40 DEGREES FAHRENHEIT. USE ONLY HOT TOOLS. PAVING SUBCONTRACTOR SHALL PROVIDE EVIDENCE THAT MINIMUM ASPHALT TEMPERATURES HAVE BEEN MAINTAINED DURING ALL PAVING PLACEMENT, AS REQUIRED BY THE JURISDICTIONAL DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- PROTECT ALL ADJACENT FINISHED SURFACES FROM BITUMINOUS MATERIAL. REPAIR ANY CURBS OR WALLS THAT ARE DAMAGED BY PAVING OPERATIONS.
- PAINT AUTOMOBILE PARKING SPACES WITH CLEAN, TRUE EDGES WITHOUT BREAKS IN ALIGNMENT. PAINT DIRECTIONAL ARROWS WHERE INDICATED ON THE PLAN. APPLY A UNIFORM COATING OF PAINT SO THAT FINISHED STRIPE WILL NOT CONTAIN LIGHT SPOTS OR PAINT SKIPS. PROVIDE A MINIMUM WET FILM THICKNESS OF 15 MILS. DO NOT PAINT STRIPES UNTIL PAVEMENT HAS ADEQUATELY CURED TO RECEIVE THE TYPE OF PAINT BEING USED.
- PERFORM IN-PLACE DENSITY TESTS IN THE COMPACTED BASE MATERIAL AT THE RATE AS SPECIFIED IN THE GEOTECHNICAL REPORT, OR AT LEAST ONE TEST FOR ALL AREAS UP TO 6,000 SF AND ONE ADDITIONAL TEST FOR EACH ADDITIONAL 6,000 SF OR FRACTION THEREOF, WHEN NOT SPECIFIED IN THE GEOTECHNICAL REPORT. RE-COMPACT AREAS THAT FAIL TO MEET COMPACTION REQUIREMENTS, THEN RETEST UNTIL PASSING RESULTS ARE OBTAINED. REFERENCE TEST LOCATIONS TO EASILY IDENTIFIED POINTS ON THE SITE PLAN.
- AT THE START OF PAVING OPERATIONS, OBTAIN AT LEAST ONE SAMPLE OF ASPHALT DELIVERED TO THE JOB. CONDUCT EXTRACTION AND GRADATION ANALYSIS, MARSHALL STABILITY, AND LABORATORY-COMPACTED BULK SPECIFIC GRAVITY FOR EACH SAMPLE.
- UPON COMPLETION OF PAVING, OBTAIN AT LEAST ONE FOUR-INCH DIAMETER CORE THROUGH THE ASPHALT PAVING FOR ALL AREAS UP TO 12,000 SQUARE YARDS AND ONE ADDITIONAL CORE FOR EACH 12,000 SQUARE YARDS OR FRACTION THEREOF. OBTAIN AT LEAST ONE CORE IN BOTH THE TRUCK DRIVE AND THE AUTO PARKING AREAS. A MINIMUM OF THREE CORES SHALL BE REQUIRED, SPACED EVENLY THROUGHOUT THE PARKING LOT. GROUT CORE HOLES WITH NON-SHRINK GROUT AFTER CORE REMOVAL. REFERENCE TEST LOCATIONS TO EASILY IDENTIFIED POINTS ON THE SITE PLAN.
- MEASURE EACH ASPHALT CORE FOR THICKNESS AND TEST FOR BULK SPECIFIC GRAVITY. COMPUTE THE COMPACTION PERCENTAGES OF EACH CORE, USING THE BULK SPECIFIC GRAVITY OF THE LABORATORY COMPACTED SPECIMEN AS THE COMPACTION STANDARD.



PAVEMENT STRUCTURE THICKNESS TABLE		
D	AUTO	TRUCK
	6"	NA

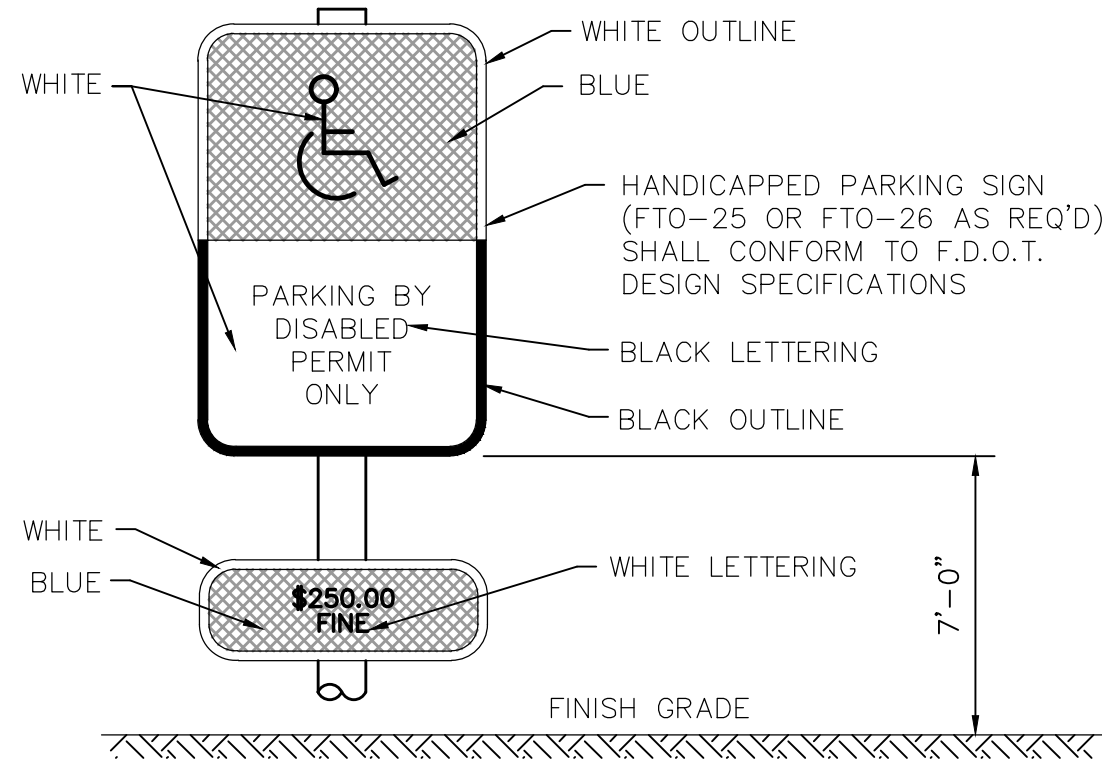
CONCRETE PAVING SPECIFICATIONS:

- FORMS SHALL BE MADE OF STEEL, WOOD, OR OTHER MATERIALS CAPABLE OF SUPPORTING MECHANICAL CONCRETE PLACING EQUIPMENT WITHOUT SETTLING VERTICALLY, BOWING INWARD OR OUTWARD, OR CRUSHING. FORMS SHALL BE CLEAN AND FREE OF DIRT, RUST, AND HARDENED CONCRETE.
- AGGREGATES SHALL CONFORM TO ASTM C-33. MAXIMUM AGGREGATE SIZE SHALL NOT EXCEED 1/3 OF THE PAVEMENT THICKNESS. AGGREGATES SHALL BE TESTED FOR SOUNDNESS IN ACCORDANCE WITH ASTM C-88 AND FOR POTENTIAL REACTIVITY IN ACCORDANCE WITH ASTM C-289.
- MEMBRANE FORMING CURING COMPOUNDS SHALL COMPLY WITH ASTM C-309.
- ESTABLISH GRADES AND MAKE ALLOWANCE FOR EXISTING IMPROVEMENTS, PROPER DRAINAGE, ADJOINING PROPERTY RIGHTS, GOOD APPEARANCE, AND OTHER PERTINENT CONSIDERATIONS. CONSTRUCT SUB-GRADE TO ENSURE THAT THE REQUIRED PAVEMENT THICKNESS IS OBTAINED IN ALL LOCATIONS. RE-GRADE AND RE-COMPACT ANY SUB-GRADE DISTURBED BY CONCRETE DELIVERY VEHICLES OR OTHER CONSTRUCTION EQUIPMENT. DO NOT USE SAND OR LOOSE MATERIAL TO OBTAIN FINAL SUB-GRADE ELEVATION.
- FINE GRADE THE AREA TO BE PAVED TO WITHIN PLUS OR MINUS 0.05 FEET OF THE DESIGN SUB-GRADE ELEVATIONS, AND REMOVE ALL EXCESS MATERIAL FROM THE SITE. CONSTRUCT SUB-GRADE TRUE TO GRADE, HARD, UNIFORM AND SMOOTH, USING SUCH METHODS AND EQUIPMENT AS REQUIRED. FINAL COMPACTION SHALL MEET THE REQUIREMENTS OF THE GEOTECHNICAL REPORT. PROPERLY MOISTURIZE DRY SUB-GRADES WITH WATER PRIOR TO PLACING THE CONCRETE.
- COAT SURFACES OF FORMS WITH BOND-BREAKING COMPOUND PRIOR TO PLACEMENT OF CONCRETE. PROVIDE COMMERCIAL FORMULATION FORM-COATING COMPOUNDS THAT WILL NOT BOND WITH, STAIN, OR ADVERSELY AFFECT CONCRETE SURFACES, AND WILL NOT IMPAIR SUBSEQUENT TREATMENT OF CONCRETE SURFACES REQUIRING BOND OR ADHESION. THE EDGE OF PREVIOUSLY PLACED CONCRETE MAY BE USED AS A FORM. DO NOT APPLY FORM RELEASE AGENT TO PREVIOUSLY PLACED CONCRETE.
- PLACE REINFORCEMENT AT LOCATIONS SHOWN ON THE DRAWINGS. SUPPORT JOINT REINFORCEMENT SO THAT IT WILL NOT BE DISLOCATED BY CONCRETE PLACING OPERATIONS.
- PLACE THE CONCRETE ON MOIST SUB-GRADE FOR THE FULL DEPTH CALLED FOR ON THE PLANS. DO NOT PLACE CONCRETE ON FROZEN SUB-GRADE. BRING TO THE REQUIRED CROWN AND CROSS SECTION BY MEANS OF SCREEDS OR TEMPLATES AND THOROUGHLY VIBRATE. DO NOT MOVE CONCRETE HORIZONTALLY WITH VIBRATOR. FINISH CONCRETE BY FLOATING AND TROWELING UNTIL THE SURFACE IS DENSE AND SMOOTH, TRUE TO CROWN AND GRADE, AND FREE FROM HUMPS OR DEPRESSIONS.
- PROVIDE THE FINAL FINISH BY LIGHTLY BROOMING THE SURFACE IMMEDIATELY BEFORE THE CONCRETE TAKES ITS FINAL SET. BROOM ALL AREAS OF PANEL IN THE SAME DIRECTION.
- JOINTS SHALL BE CONSTRUCTED AT THE LOCATIONS, DEPTHS, AND DIMENSIONS SHOWN ON THE DRAWINGS. JOINTS IN ATTACHED CURBS SHALL BE ALIGNED WITH JOINTS IN PAVEMENT. CONTRACTION JOINTS SHALL BE CONSTRUCTED BY ONE OF THE FOLLOWING METHODS:
 - CONSTRUCT CONTRACTION JOINTS IN FRESH CONCRETE AFTER CONCRETE HAS SET SUFFICIENTLY TO MAINTAIN THE FORMED JOINT TO THE SPECIFIED DEPTH AND WIDTH.
 - SAW-CUT CONCRETE AFTER CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATE BEING DISLODGED AND SOON ENOUGH TO CONTROL PAVEMENT CRACKING. IF CONTRACTION JOINT SAWING CAUSES A CRACK, DISCONTINUE SAWING THAT CONTRACTION JOINT AND CONTINUE SAWING OTHER CONTRACTION JOINTS.
- AS SOON AS FINISHING HAS BEEN COMPLETED, COVER THE CONCRETE WITH A CURING COMPOUND. DO NOT ALLOW TRAFFIC ON THE SURFACE FOR A PERIOD OF 72 HOURS.

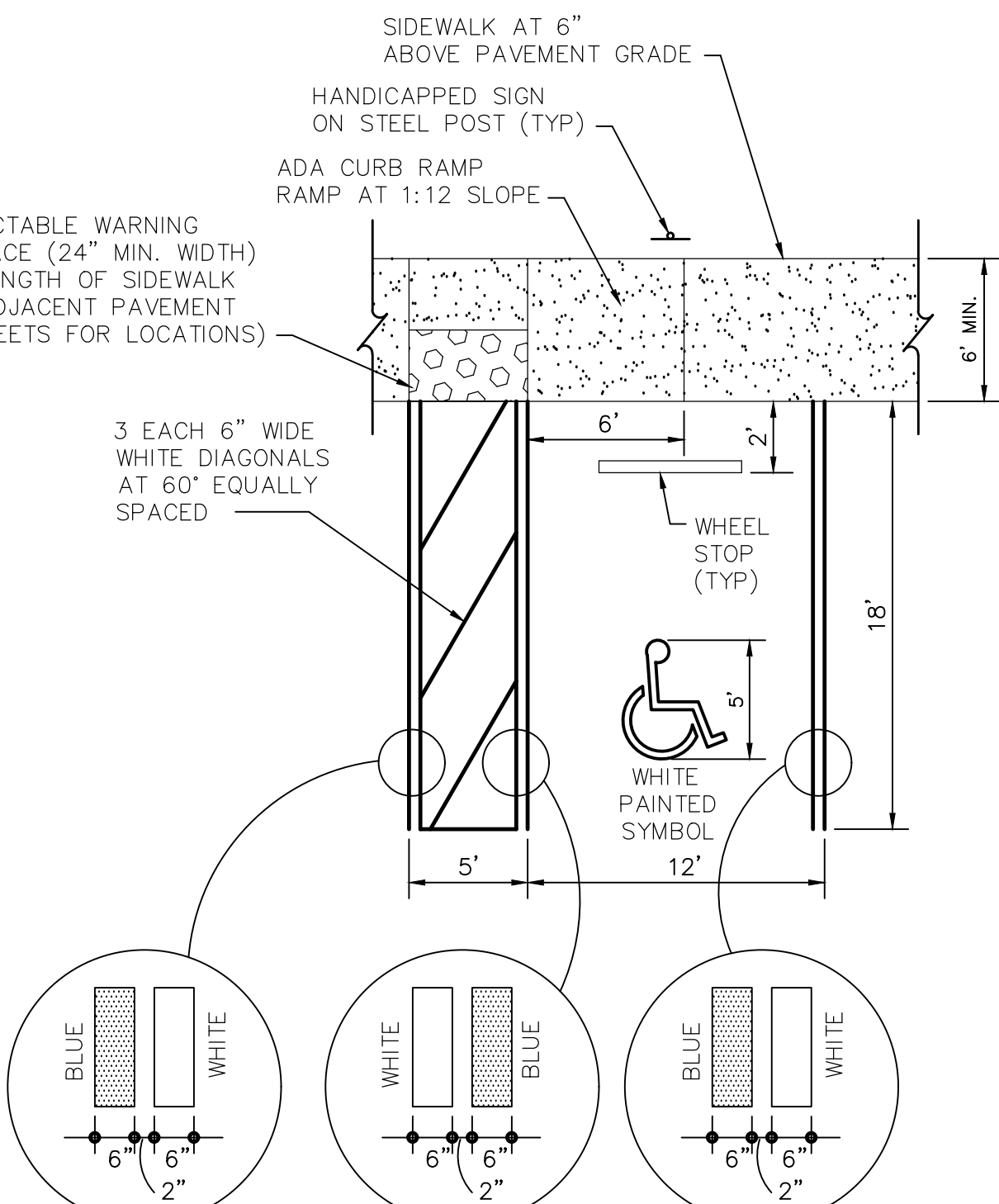
NOTES:

- MEASURE THE 12" AND 5" WIDTHS FROM THE CENTERLINE OF EACH SIDE 6" WIDE BLUE STRIPE
- LEFT SIDE ACCESS AISLE SHOWN, RIGHT SIDE ACCESS AISLE IS TYPICAL TO OPPOSITE SIDE OF PARKING SPACE.
- ALL DETECTABLE WARNING SURFACES REQUIRED BY THE CODE SHALL BE GOVERNED BY THE REQUIREMENTS OF AMERICAN NATIONAL STANDARDS INSTITUTE A117.1-1986.

PROVIDE DETECTABLE WARNING TACTILE SURFACE (24" MIN. WIDTH) FOR ENTIRE LENGTH OF SIDEWALK FLUSH WITH ADJACENT PAVEMENT (SEE PLAN SHEETS FOR LOCATIONS)



SIGN DETAIL



PLAN

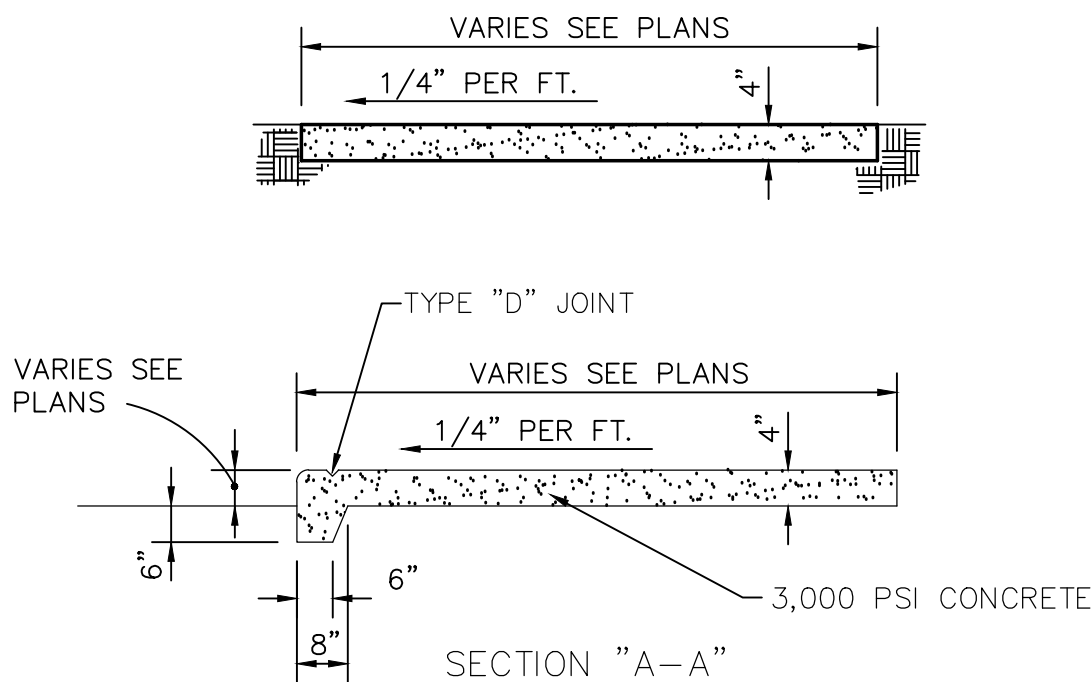
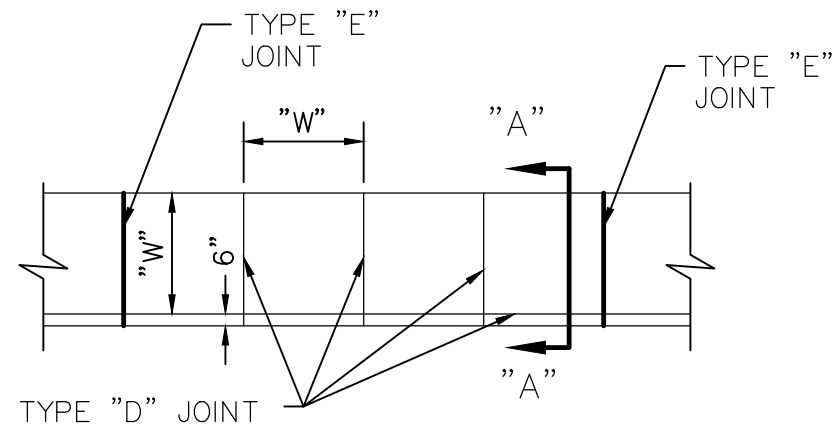
HANDICAPPED PARKING

RCP/CMP	A	B	C	D	E	F	G
15"/18"	2'-3"	2'-0"	6"	6"	6.75"	1'-6"	1'-7"
24"	2'-10"	2'-7"	6"	5'	4.5"	1'-11"	2'-1"
30"	3'-4"	3'-2"	6"	6"	5.5"	2'-5"	2'-6.5"
36"	4'-1"	3'-10"	6"	7"	5.5"	2'-9"	3'-0"
RCP/CMP	H	J	K	L	M	N	
15"/18"	2'-10"	2'-4"	8"	6"	6'-10"	7'-0"	
24"	3'-6"	3'-1"	7.5"	5"	10'-0"	10'-3.5"	
30"	3'-9"	3'-5"	7"	5"	11'-5"	11'-8.13"	
36"	4'-6"	4'-0"	6"	6"	14'-0"	14'-4.5"	

CONCRETE 4000 PSI

STEEL: #4 @ 12" E.W., WITH 1 #6 OVER PIPE OPENING.
(1 1/2" OF CONCRETE COVER OVER STEEL, 1/2" TOLERANCE).

ASPHALT PAVEMENT



NOTE: SIDEWALK SLOPE IS 1/4" PER FOOT UNLESS SPOT ELEVATIONS SHOWN ON THE GRADING PLAN DICTATE A DIFFERENT SLOPE IN SPECIFIC AREAS.

1

CONCRETE PAVEMENT

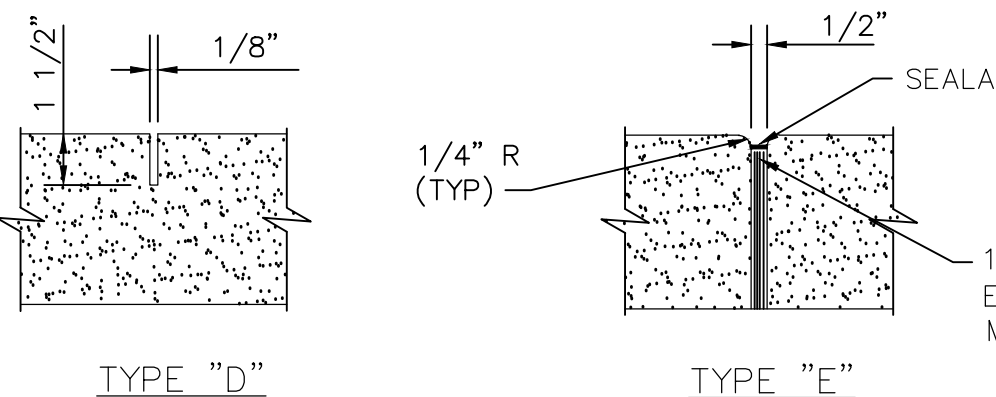
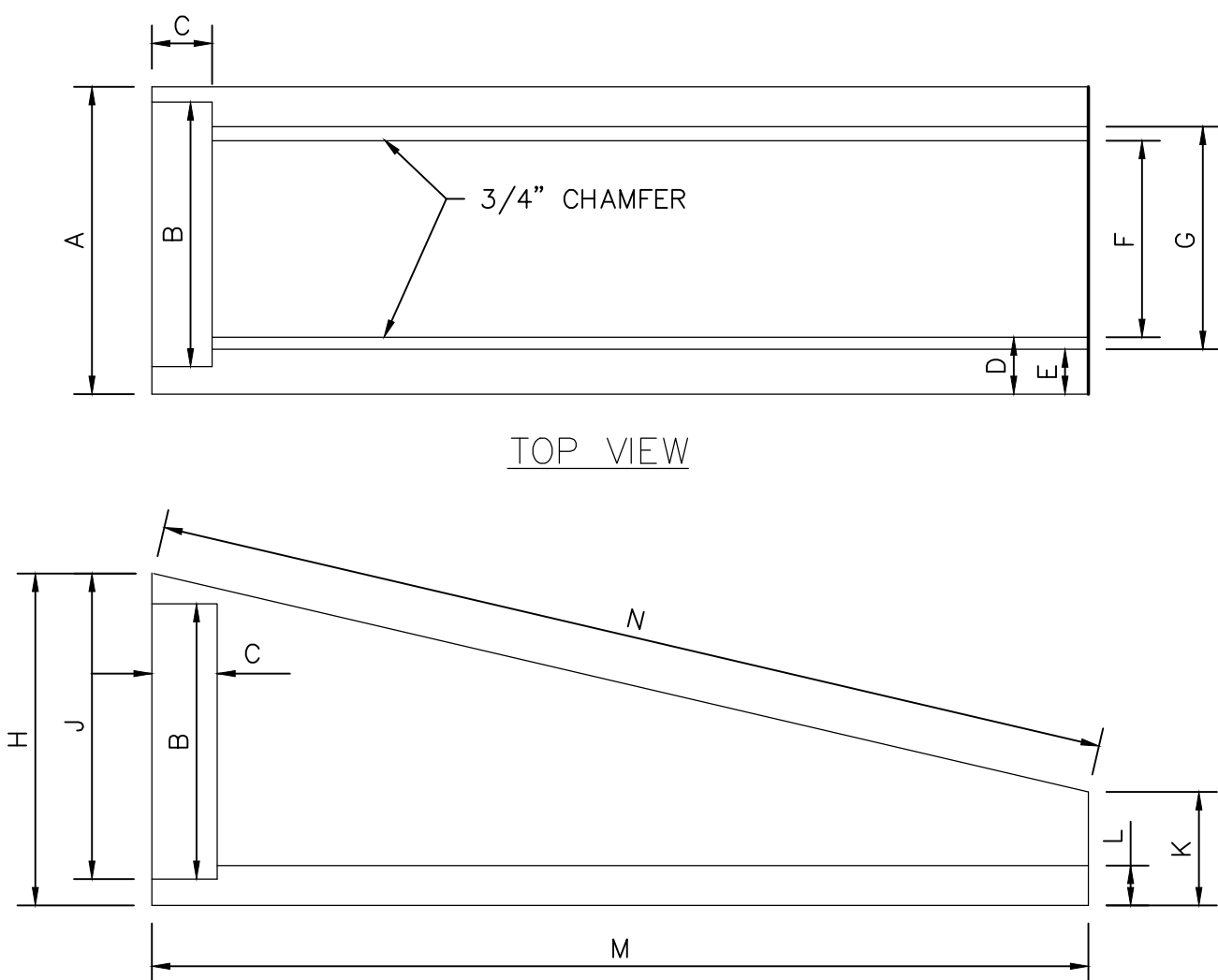


TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"D"	TRANSVERSE JOINT AT INTERVALS EQUAL TO THE SIDEWALK WIDTH EXCEPT EVERY FOURTH JOINT WHICH IS A TYPE "E" JOINT.
"E"	EVERY FOURTH TRANSVERSE JOINT, P.C. AND P.T. OF CURVES, ABRUPT CHANGES IN DIRECTION, AND WHERE NEW SIDEWALK ABUTS EXISTING SIDEWALK OR OTHER EXIST. CONCRETE SURFACE STRUCTURES.

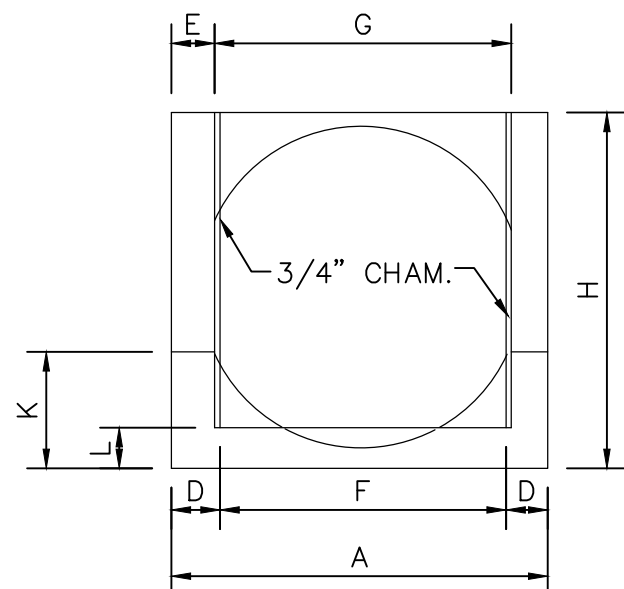
NOTE: TYPE "D" JOINT MAY BE EITHER TOOLED IN WET CONCRETE OR SAWCUT WITHIN 18 HOURS OF PLACEMENT OF CONCRETE.

2

MITERED END SECTION



SIDE VIEW



END VIEW

3

MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

SITE
DETAILS
I

REV.	DATE	BY	APP.	DESCRIPTION
1	11-10-22	MJP		PERMIT ISSUE
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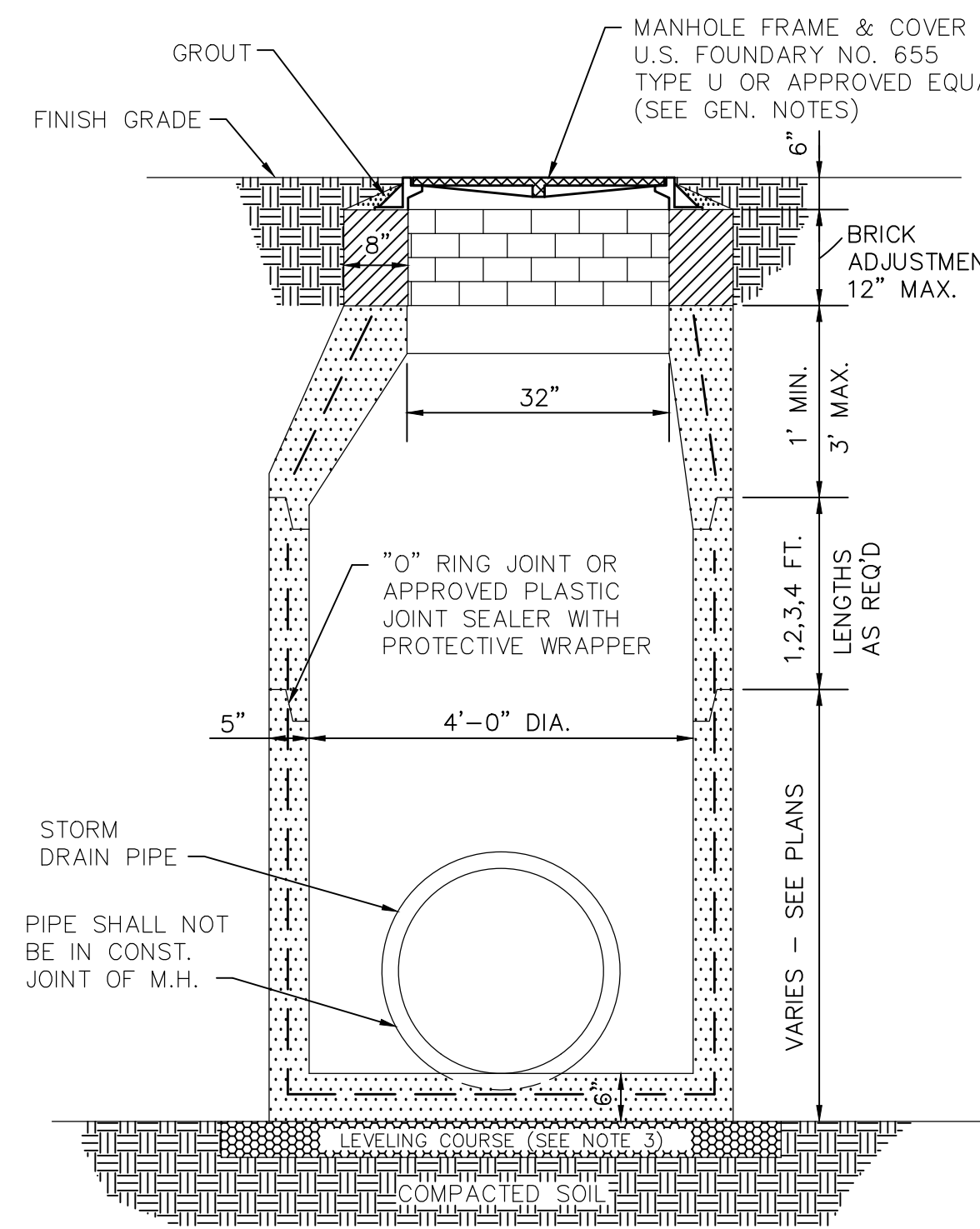
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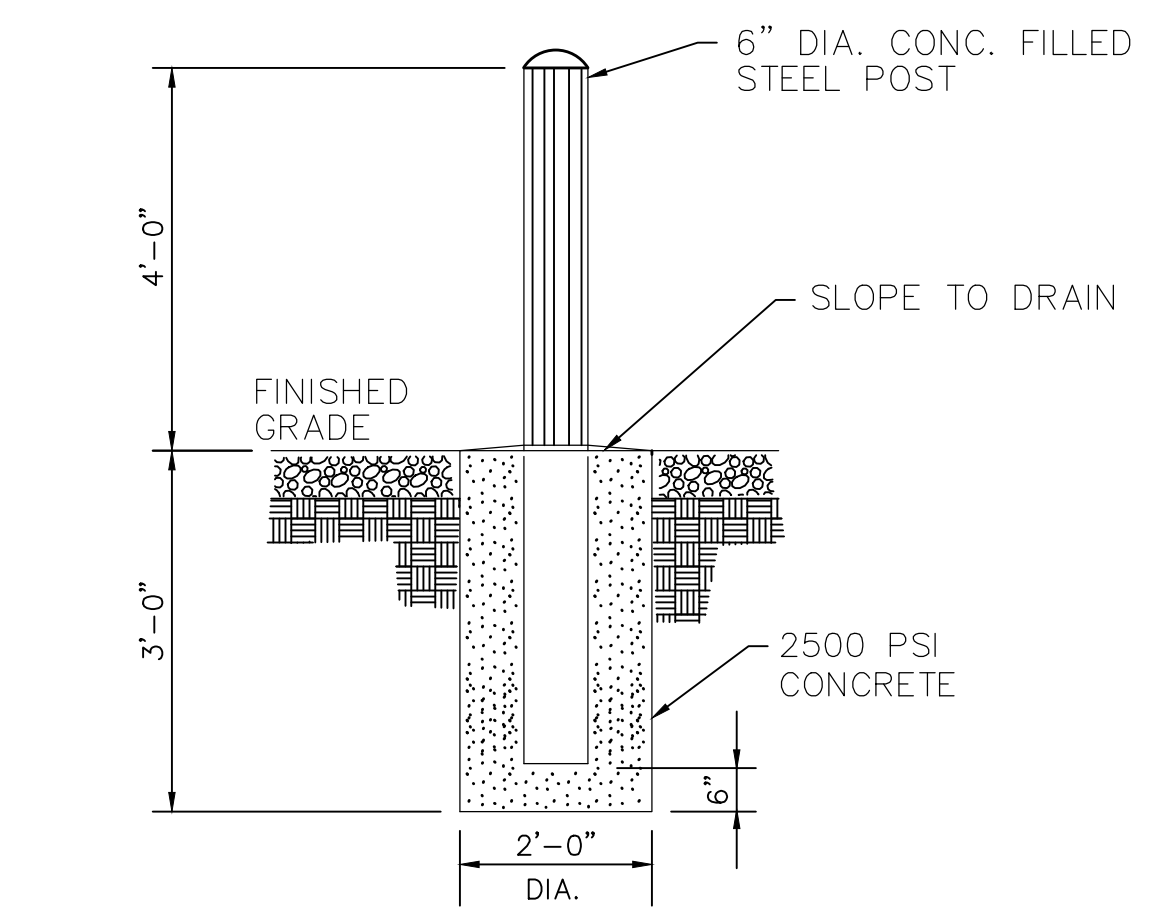
C510

DRAWING NO.



- NOTES:
1. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH LATEST EDITIONS OF ASTM C-478 WITH 4,000 PSI CONCRETE, TYPE II CEMENT.
 2. THE INTERIOR AND EXTERIOR OF MANHOLE SHALL BE GIVEN TWO COATS OF FARBERTITE BITUMINOUS WATERPROOFING MATERIAL. DO NOT COAT JOINTS OR PIPE OPENING SURFACES.
 3. SET MANHOLE ON FOUR-INCH (MIN.) THICK LEVELING COURSE OF NO. 57 CRUSHED STONE OR TWO-INCH (MIN.) THICK LEVELING COURSE OF CLASS "C" CONCRETE AS REQUIRED BY SITE SOIL CONDITIONS.
 4. JOINTS SHALL BE MADE IN ACCORDANCE WITH ASTM C-443. ALL JOINTS SHALL BE EQUIPPED WITH A PRE-MOLDED PLASTIC JOINT SEALER, AND SHALL BE DOUBLE SEALED.
 5. CONCRETE BLOCK SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C90-70, GRADE N, TYPE I OR II.
 6. GROUT ALL HANDLING HOLES AND ANNULAR SPACE BETWEEN ALL WALLS AND PIPES.
 7. FRAMES SHALL BE SET CONCENTRIC IN A FULL BED OF MORTAR.
 8. GROUT SHALL BE 4,000 PSI, AND SHALL BE NON-METALLIC, NON-SHRINK, PRE-MIXED.

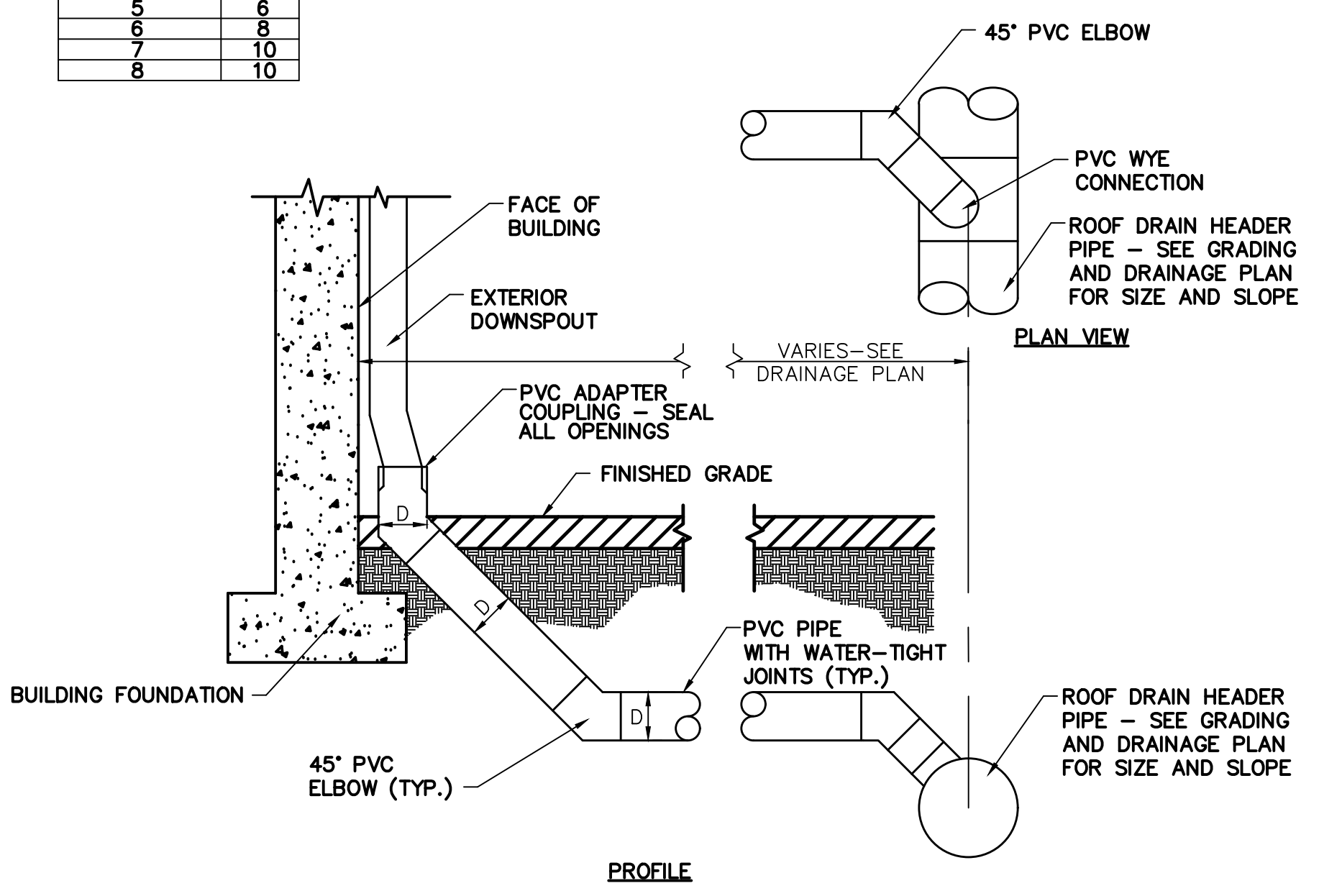
PRIVATE STORM MANHOLE



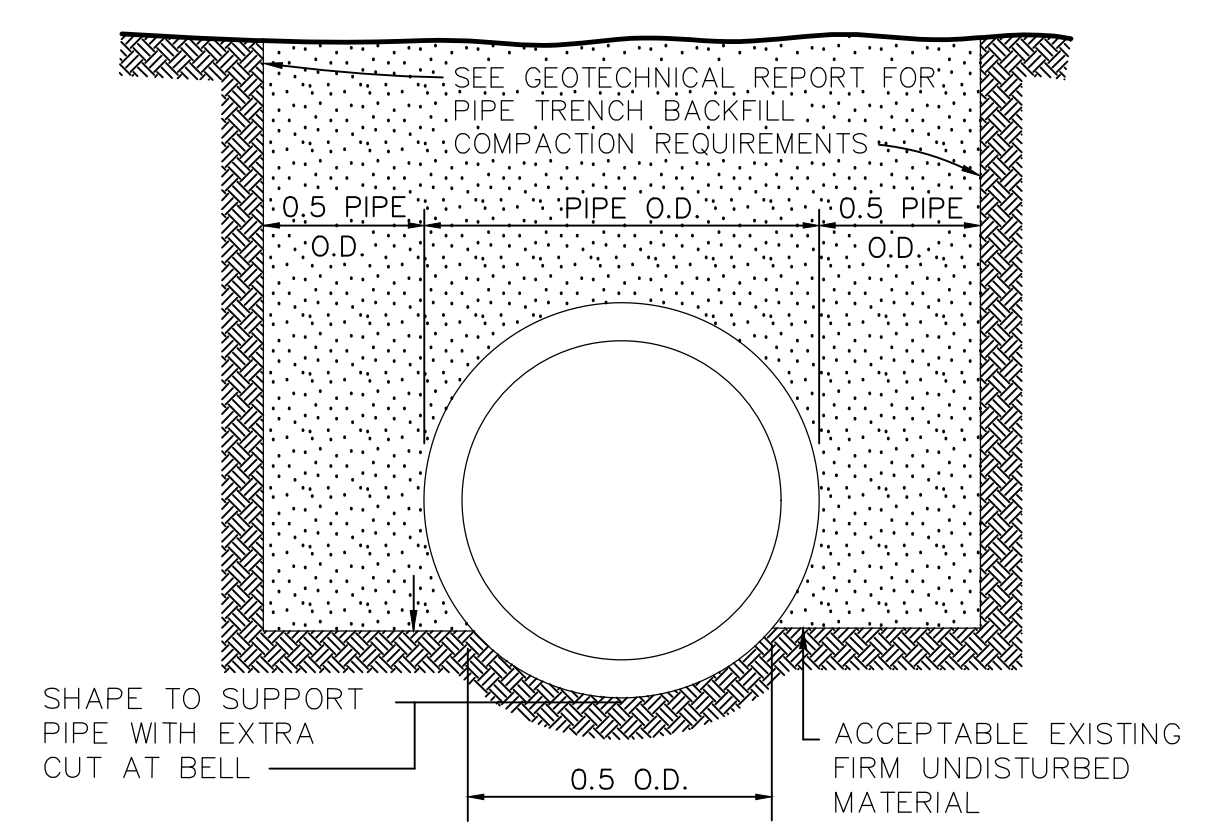
GUARD POST

SIZE OF DOWNSPOUT (INCHES)*	D(IN)
2	3
2.5	3
3	4
4	6
5	6
6	8
7	10
8	10

*ROUND, SQUARE, OR RECTANGULAR DOWNSPOUTS ARE CONSIDERED EQUIVALENT WHEN ENCLOSING A SCRIBED CIRCLE EQUIVALENT TO THE DOWNSPOUT DIAMETER.

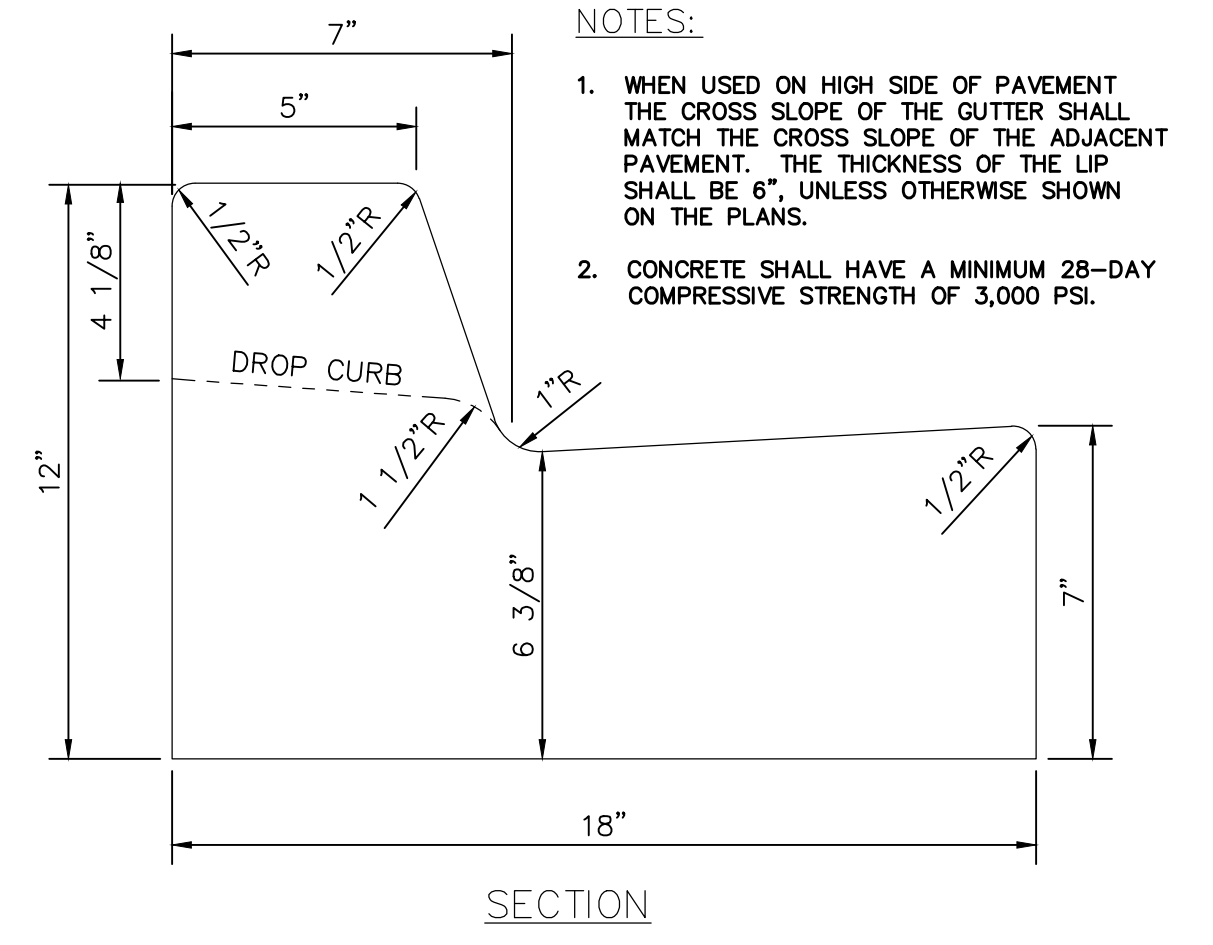


ROOF DRAIN LEADER CONNECTION

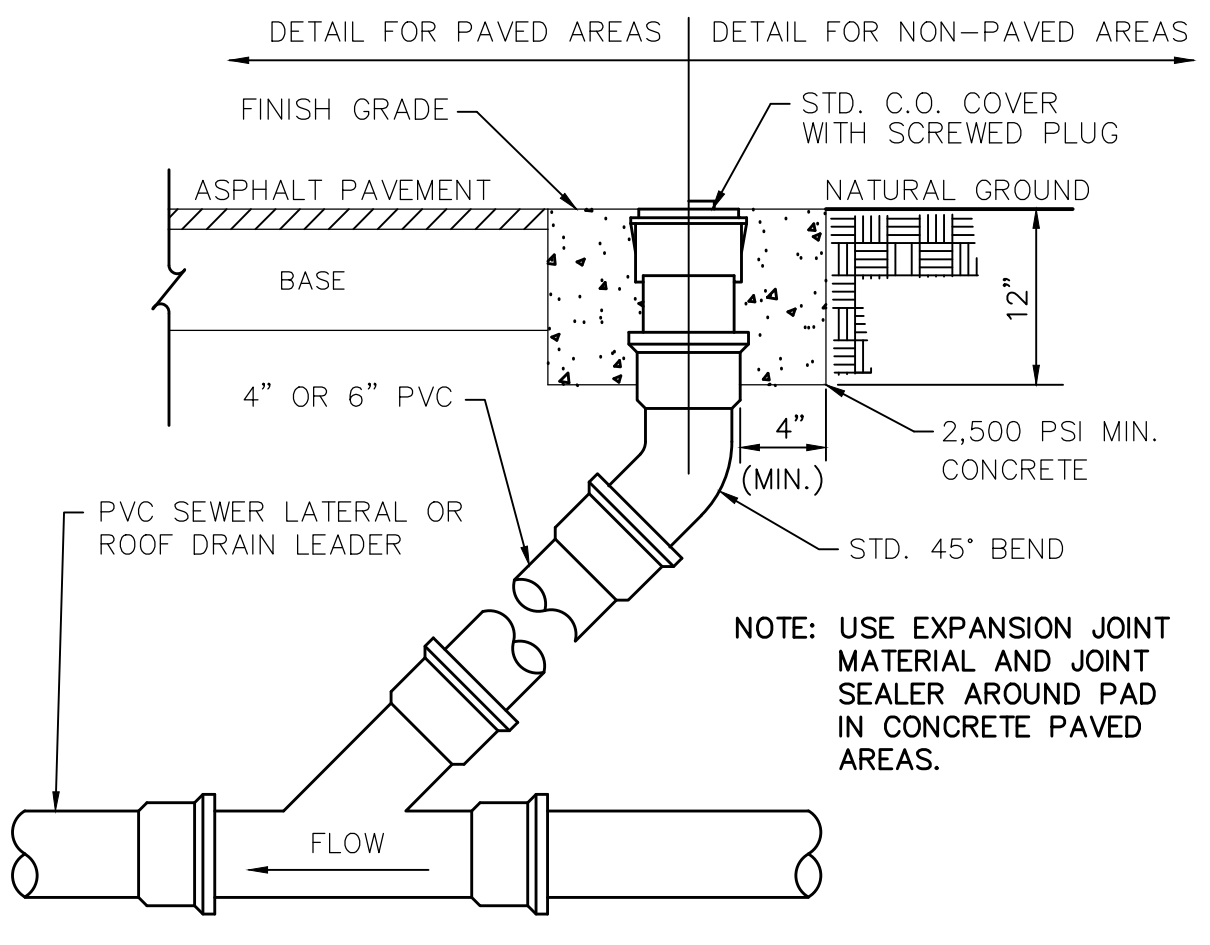


- NOTES:
1. EACH LIFT TO BE COMPLETELY COMPACTED TO REQUIRED DENSITY BEFORE STARTING NEXT LIFT. NO LIFT SHALL EXCEED 6" WHEN COMPACTED.
 2. A CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND PIPE AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES SHALL BE REMOVED FOR A DEPTH OF AT LEAST 6" BELOW THE BOTTOM OF THE PIPE.

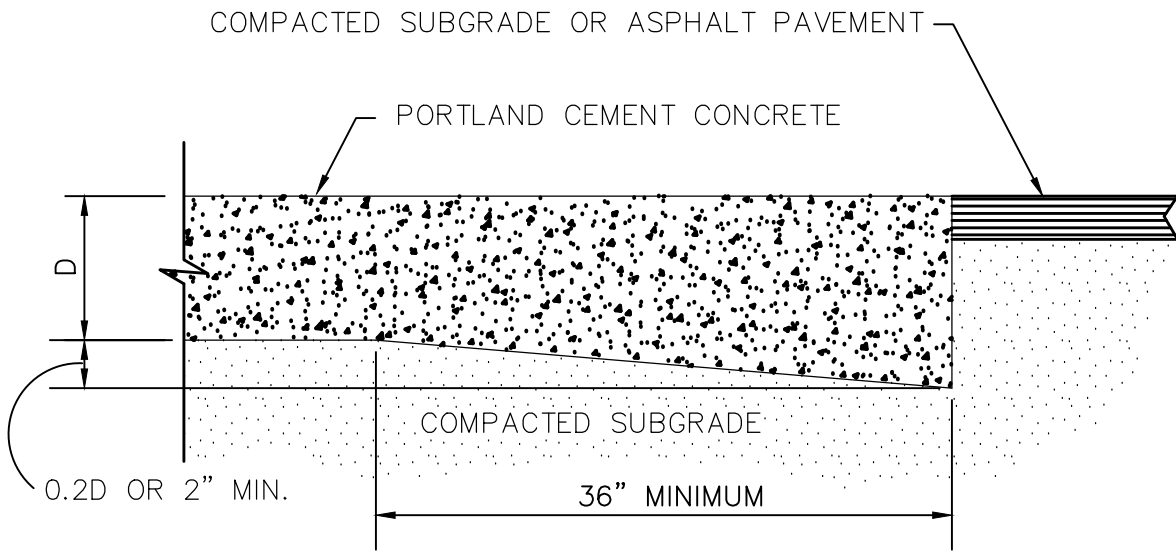
PIPE BEDDING



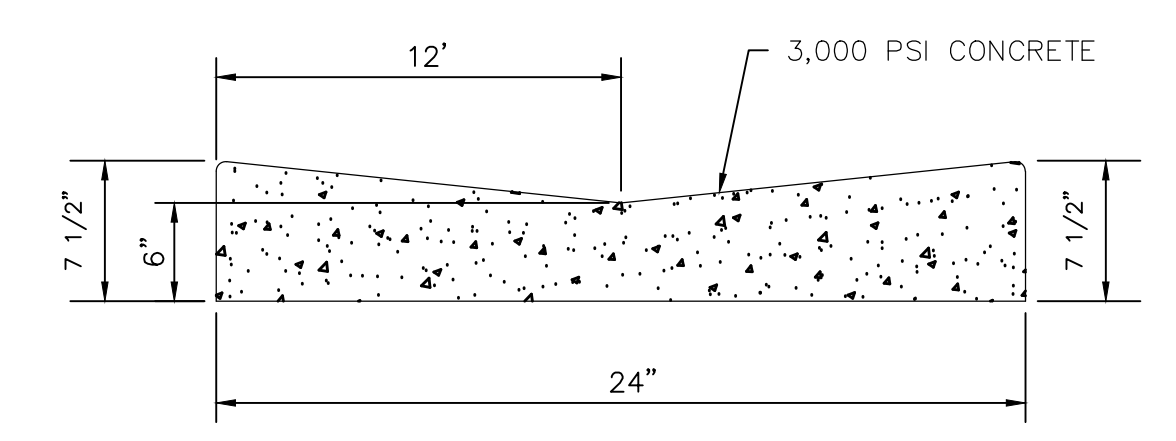
18" CURB AND GUTTER



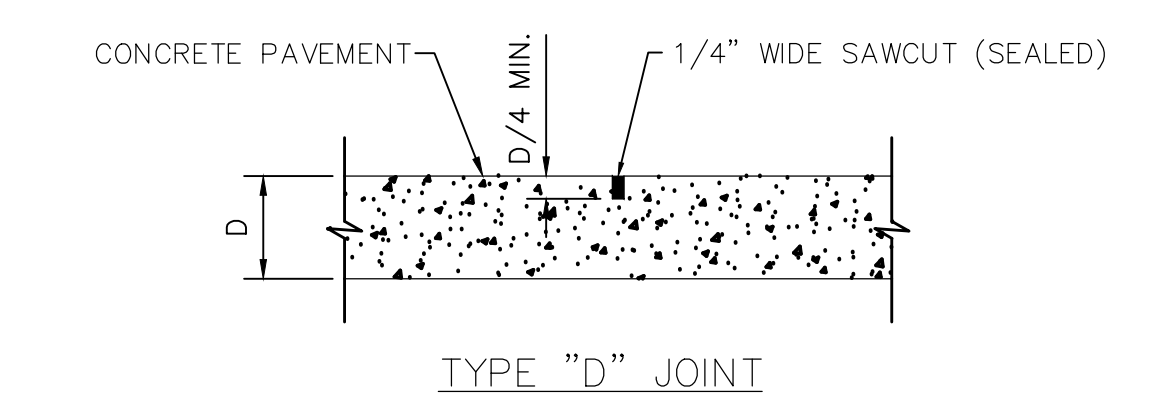
CLEANOUT



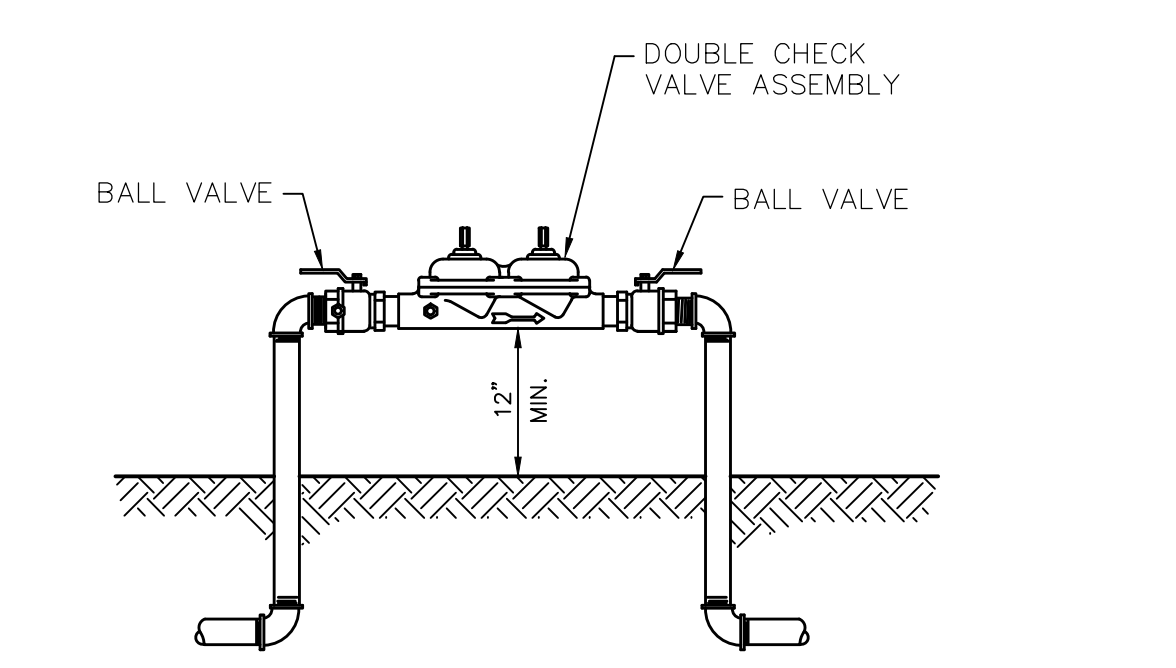
CONCRETE THICKENED EDGE



VALLEY GUTTER

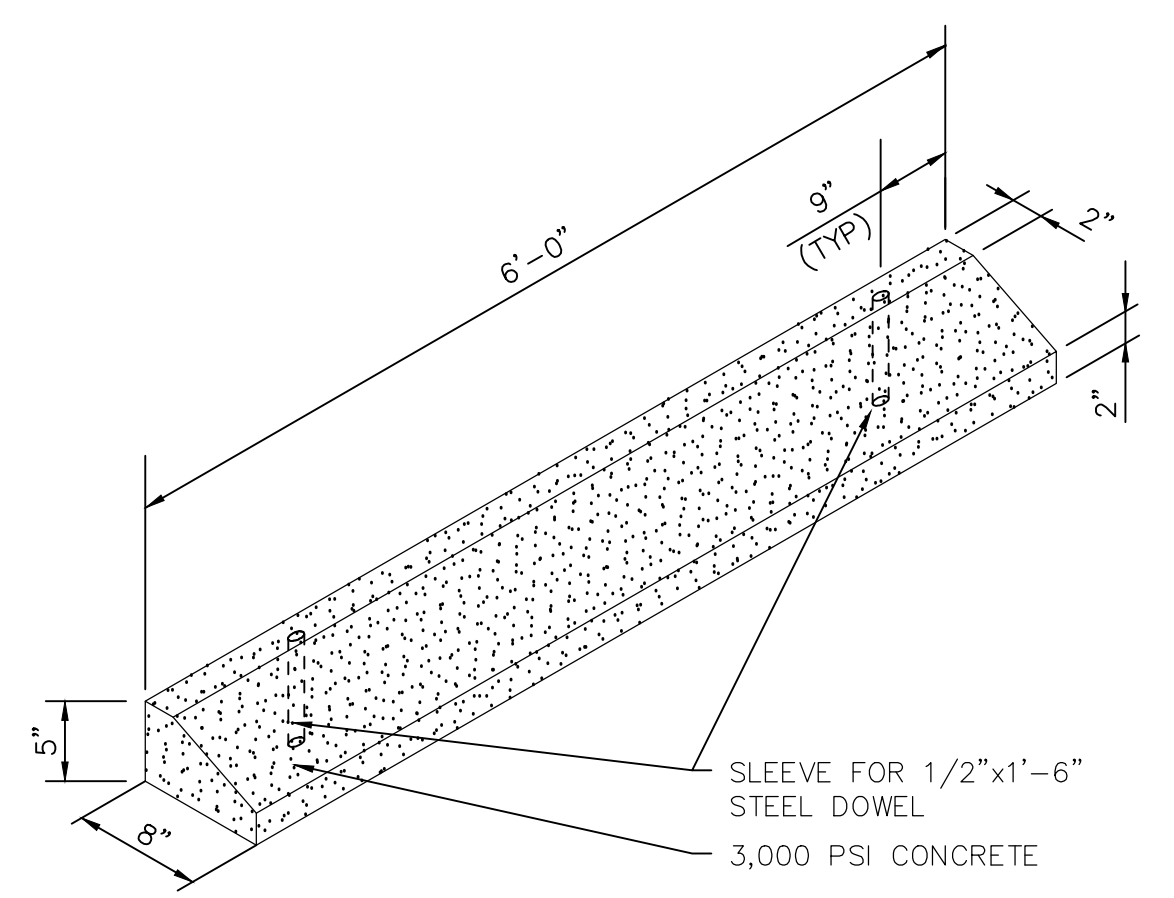


TYPE 'D' CONTROL JOINT

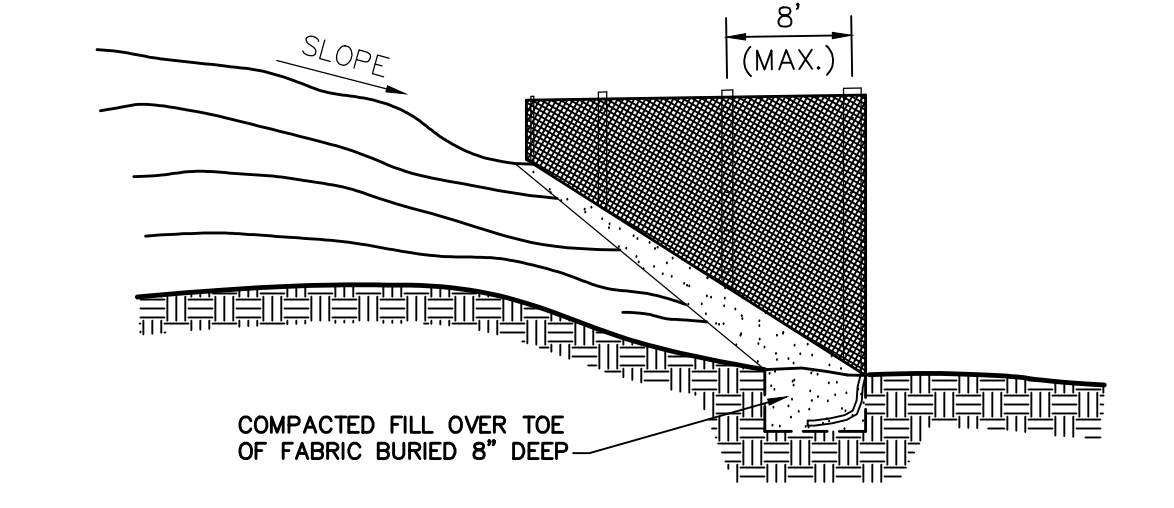


NOTE: INSULATE ALL ABOVE GROUND FITTINGS FOR COMPLETE INSTALLATION.

DOUBLE CHECK VALVE ASSEMBLY

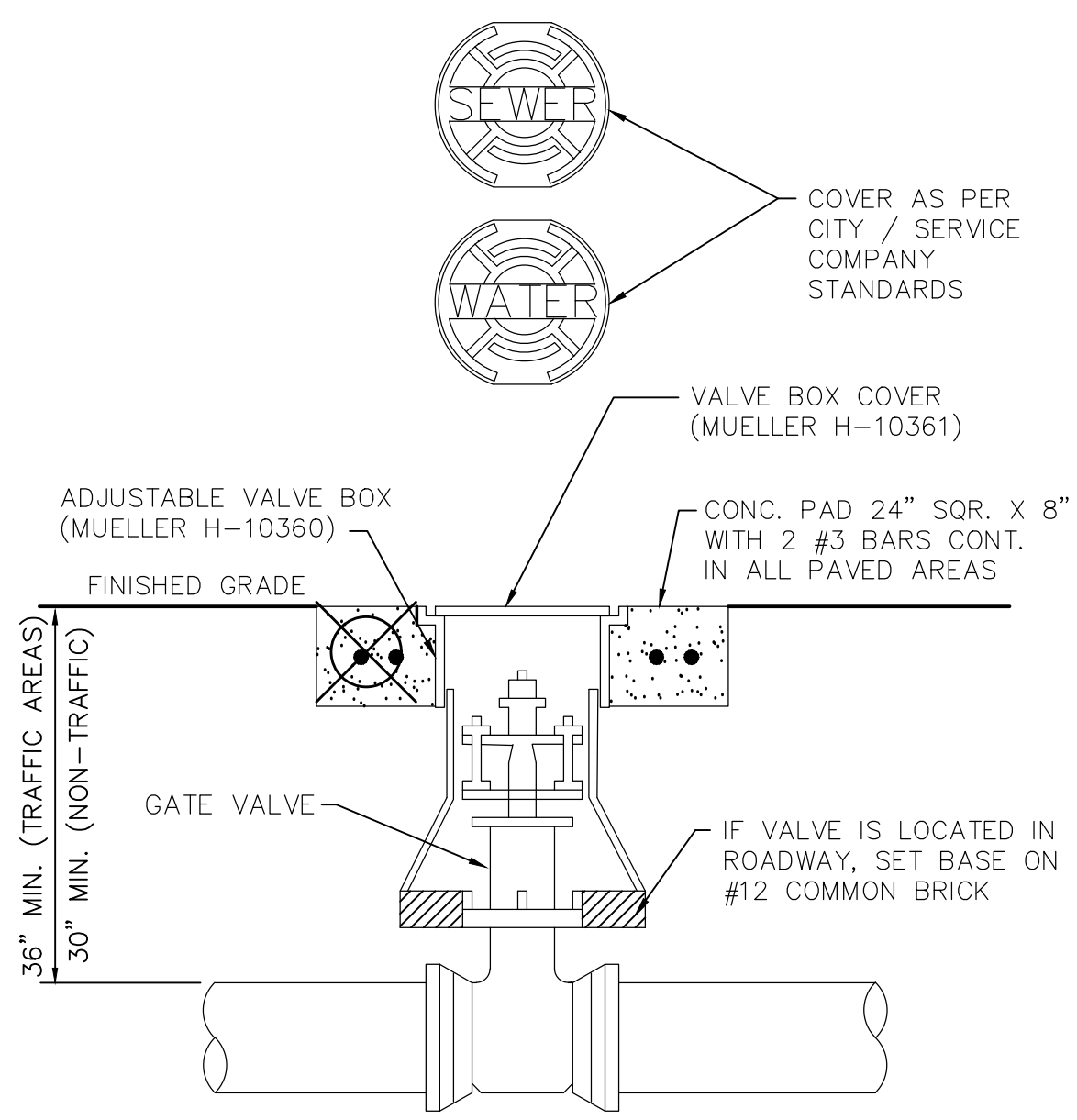


WHEEL STOP



- NOTES:
1. POSTS TO BE 1 inch x 2 inch PINE WITH A MINIMUM LENGTH OF 4 FEET; LOCATE POSTS ON DOWNSLOPE SIDE OF FILTER FABRIC.
 2. BURY TOE OF FENCE APPROXIMATELY 8" DEEP TO PREVENT UNDERCUTTING.
 3. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FABRIC AT A SUPPORT POST WITH OVERLAP TO THE NEXT POST.
 4. FILTER FABRIC TO BE NYLON, POLYESTER, PROPYLENE OR ETHYLENE YARN WITH EXTRA STRENGTH - 50LB/LIN. IN. (MINIMUM) AND WITH A FLOW RATE OF AT LEAST 0.3 GAL./SQ. FT./MINUTE. FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS.

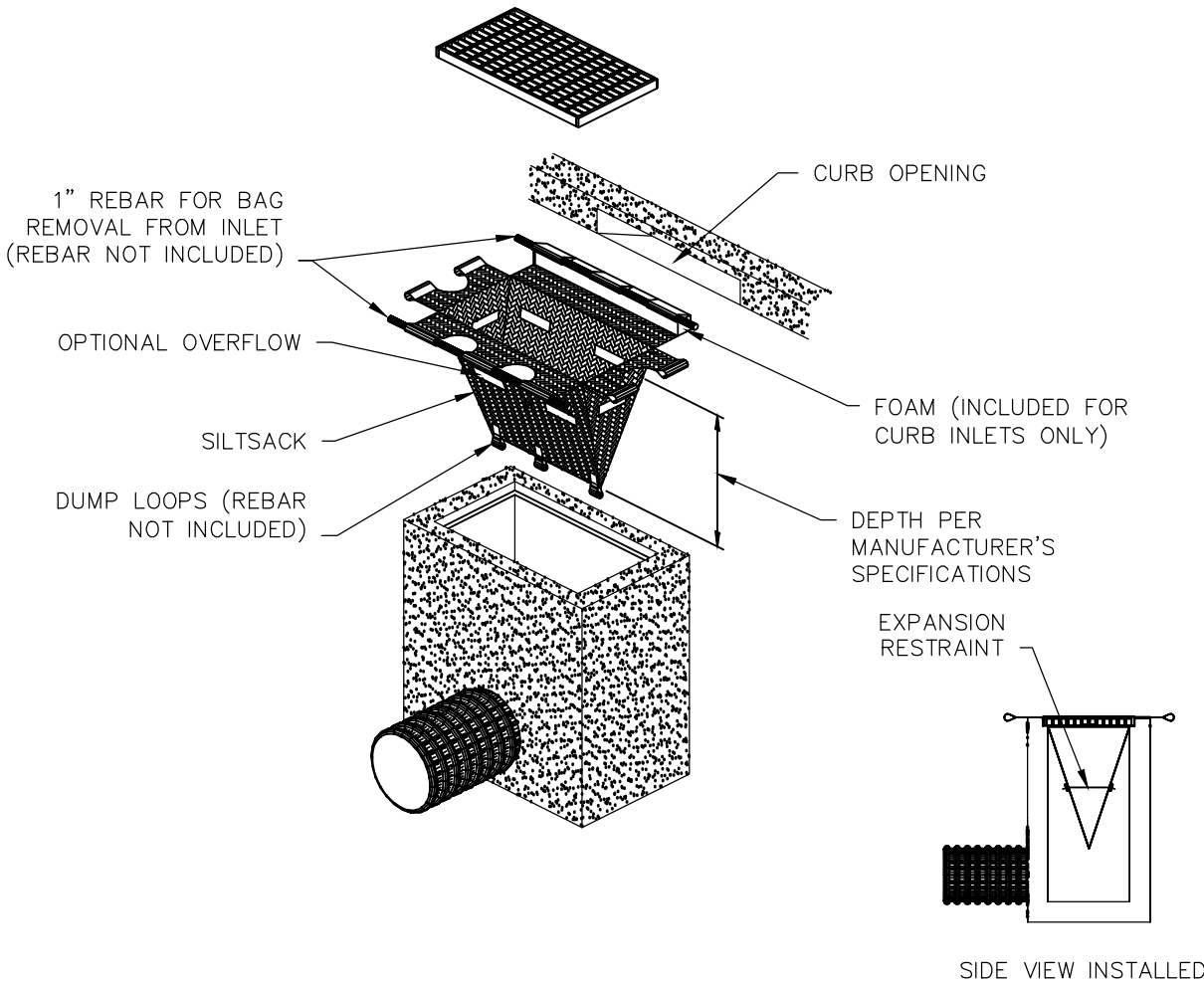
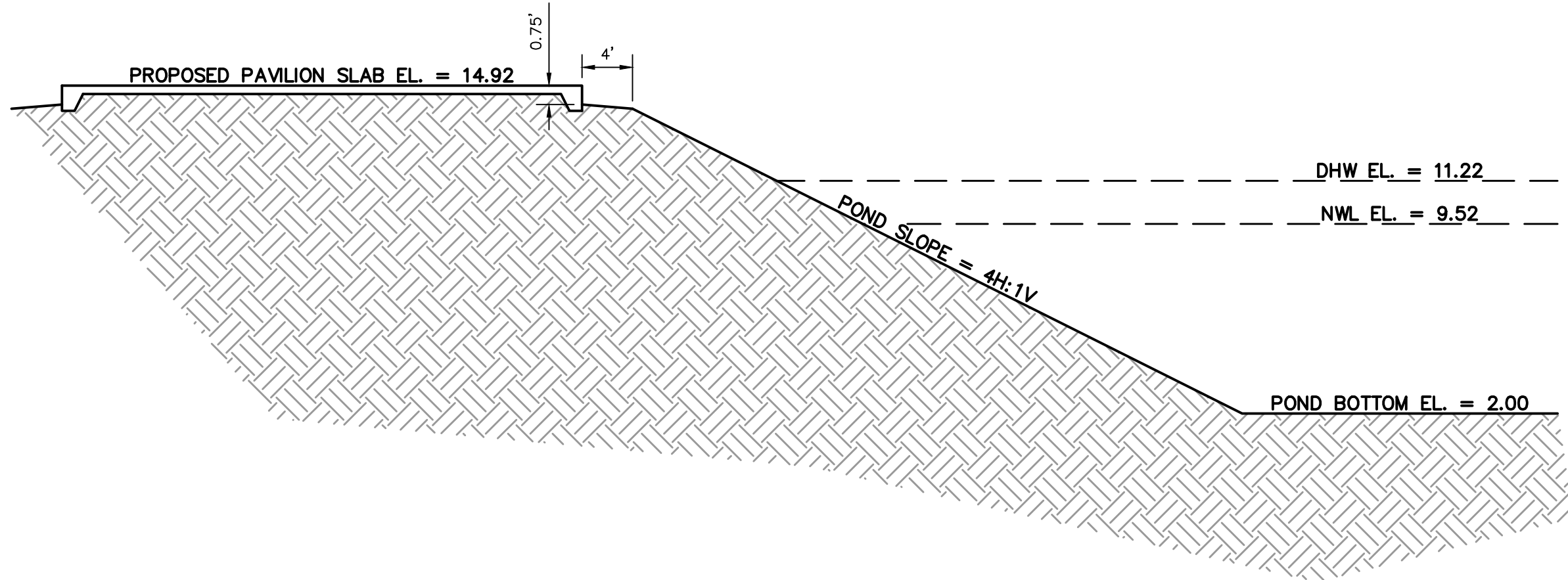
SILT FENCE



- NOTES:
1. ALL BURIED GATE VALVES SHALL BE PROVIDED WITH A 2" SQUARE OPERATING NUT.
 2. GATE VALVES SHALL BE OF THE NON-RISING STEM TYPE AND SHALL BE SUITABLE FOR A MINIMUM WORKING PRESSURE OF 150 PSI. GATE VALVES SHALL HAVE JOINTS AS REQUIRED FOR THE LINE IN WHICH THEY ARE INSTALLED. CAST IRON VALVE BOXES OF THE ADJUSTABLE ROADWAY TYPE SHALL BE FURNISHED FOR EACH VALVE. VALVES SHALL BE PROVIDED WITH OPERATION NUTS, AND SHALL OPEN TO THE RIGHT.

PRIVATE GATE VALVE BOX

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SILTSACK SPECIFICATIONS				
NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.				
REGULAR FLOW SILTSACK: FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUNOFF.				
HI-FLOW SILTSACK: FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUNOFF.				
OIL-ABSORBANT SILTSACK: FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUNOFF OR SPILLS.				
PROPERTY	TEST METHOD	UNITS	REGULAR	HI-FLOW
GRAB TENSILE STRENGTH	ASTM D-4632	LBS	300	265
GRAB TENSILE ELONGATION	ASTM D-4632	%	20	20
PUNCTURE	ASTM D-4833	LBS	120	135
MULLEN BURST	ASTM D-3786	PSI	800	420
TRAPEZOID TEAR	ASTM D-4533	LBS	120	45
UV RESISTANCE	ASTM D-4355	%	80	90
APPARENT OPENING SIZE	ASTM D-4751	US SIEVE	40	20
FLOW RATE	ASTM D-4491	GAL/MIN/SQ FT	40	200
PERMITTIVITY	ASTM D-4491	SEC -1	0.55	1.5

POND SECTION (1" = 10' HORIZ., 1" = 5' VERT.)

SILT SACK INLET PROTECTION

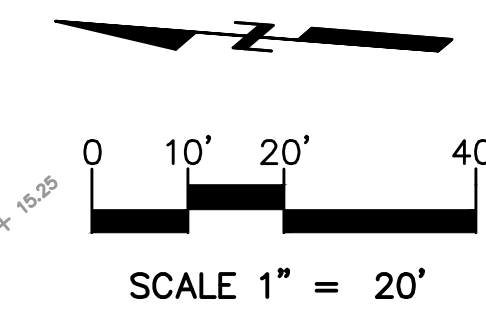
MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

SITE
DETAILS
III

JOB NO.		22ENG017
DRAWN:		MJP
CHECKED:		MJP
SCALE:		AS NOTED

C530
DRAWING NO.

REV	DATE	BY	DESCRIPTION
B	1-26-23	MJP	REVISED PERMIT ISSUE
A	1-17-23	MJP	REVISED PERMIT ISSUE



MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
 1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

DRAINAGE
AREA
MAP

REV.	DATE	BY	MJP	PERMIT ISSUE	DESCRIPTION
B	11-17-23				
A	11-10-22				

STORMWATER MANAGEMENT REPORT

PREPARED FOR

MEMORIAL PARK NASSAU COUNTY COUNCIL ON AGING

PREPARED BY



11235 ST. JOHNS INDUSTRIAL PARKWAY NORTH, SUITE 4 • JACKSONVILLE, FLORIDA 32246
(904) 619-3400 • WWW.SOUTHEASTENGINEERS.COM

ISSUE A: November 10, 2022
ISSUE B: January 26, 2023

Matthew
Phillips Digitally signed by
Matthew Phillips
Date: 2023.01.26
16:12:29 -05'00'

Matthew J. Phillips, State of Florida, Professional Engineer, License No. 58733

This item has been digitally signed and sealed by Matthew J. Phillips, PE, on 01/26/2023. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

INTRODUCTION

Memorial Park at Nassau County Council on Aging (NCCOA) consists of proposed sidewalks, seating areas, a pavilion, and an elevated observation deck adjacent to the existing wet detention pond located at the north end of the NCCOA property, 1901 Island Walk Way, Fernandina Beach. 10 new parking spaces will also be constructed within the existing parking lot as part of this project.

The existing wet detention pond was permitted in 1999 as “Magnolia Point” under permit no. 76579-1. Additional impervious area was added to the site in 2011 under permit no. 76579-2, however, the additional impervious area was so minor (1,944 SF) that it did not require any modifications to the existing stormwater pond.

POND DRAINAGE AREA

The proposed parking and hardscape improvements occur mostly around the perimeter of the site. This results in some of the improved areas being located outside the boundaries of the original drainage area to the pond. The drainage area to the pond is being increased in seven locations as identified on the Drainage Area Map, and summarized below:

<u>Drainage Area Description</u>	<u>Drainage Area Increase</u>
South Parking	14 SF
Pavilion	1,173 SF
Northwest Sidewalk	165 SF
North Sidewalk	114 SF
Northeast Sidewalk	228 SF
Northeast Parking	378 SF
<u>East Parking</u>	<u>602 SF</u>
Total	2,674 SF (0.06 AC)

The existing drainage area to the pond is 4.23 acres, per the original design calculations. The increase in drainage area results in a new drainage area to the pond of (4.23 AC) + (0.06 AC) = 4.29 acres.

IMPERVIOUS AREA SUMMARY

The original pond design included 2.81 acres of impervious area. The 2011 parking addition added 1,944 SF (0.04 AC) of new impervious area. The proposed Memorial Park improvements will add 8,482 SF (0.19 AC) of new impervious areas to the site. This results in a total impervious area as shown below:

Original Impervious Area:	2.81 AC
2011 Parking Addition:	0.04 AC

<u>Memorial Park Impervious:</u>	<u>0.19 AC</u>
Total Impervious to Pond:	3.04 AC

WATER QUALITY CALCULATIONS

The stage-area data for the existing pond has been taken from the 1999 drainage calculations. The 1999 data was based on the NGVD '29 vertical datum. The pond elevations have been converted to the NAVD '88 vertical datum by reducing them by one foot, and the volumes adjusted by adding the proposed cut areas and subtracting the proposed fill areas. The pond volumes have also considered an additional two feet of pond depth that was revealed in a bathymetric survey, that was not included in the original pond design. The new stage-storage table is shown in the Water Quality Calculations.

The water quality calculations have been performed using the pond control structure as-built conditions. The control elevation has been set at 9.52' in the calculations to agree with the control structure configuration. The control structure will be modified to eliminate orifices and weirs below the treatment volume elevation, and the overflow weirs will be modified to contain the treatment volume and continue to meet pre/post rate attenuation.

WEIGHTED RUNOFF CURVE NUMBER

The curve numbers (CN) for the paved and grassed areas are taken from the 1999 approved design calculations as 60 and 90, respectively. The weighted runoff curve number is calculated for the new pond and impervious areas as follows:

New Total Drainage Area: 4.29 AC

	<u>Area</u>	<u>CN</u>	<u>(Area)x(CN)</u>
New Impervious Area:	3.04 AC	90	273.6
New Pond NWL Area:	0.52 AC	100	52.0
New Pervious Area:	0.73 AC	60	43.8
			<u>333.4</u>

$$\text{Weighted CN} = (333.4) / (4.29 \text{ AC}) = 78$$

HYDROCAD POND MODELING INPUT PARAMETERS

The following information has been taken from the approved 1999 drainage report for use in creating the HydroCAD drainage models for pond routings:

- Pre-developed time of concentration = 30 minutes
- Pre-developed unit hydrograph peaking factor = 323
- Pre-developed drainage area = 4.23 acres
- Pre-developed curve number = 60

- Post-developed time of concentration = 13 minutes
- Peak tailwater elevation in receiving ditch = 7.5' (free discharge)
- Post-developed unit hydrograph peaking factor = 323

- Five-year, 24-hour rainfall depth = 6.24"
- 10-year, 24-hour rainfall depth = 7.44"
- 25-year, 24-hour rainfall depth = 8.64"

Because ICPR was used in the 1999 modeling and HydroCAD is being used in these calculations, the pre-developed routings have been modeled again in HydroCAD to compare them to the 1999 results. The comparison is shown in the HydroCAD Modeling Results section at the end of this narrative.

EXISTING DESIGN HIGH WATER ELEVATIONS

The pond modifications have been made to not increase the design high water elevations from the original pond design. This has been done to ensure that no flooding issues will occur upstream at parking lot inlets due to increased tailwater conditions in the pond. The 1999 design high water elevations, converted to the NAVD '88 datum, are shown below:

- Five-year DHW Elevation = 11.50'
- 10-year DWH Elevation = 11.81'
- 25-year DHW Elevation = 12.12'

It is noted that the 25-year, 24-hour DHW elevation is above the pond's top of bank elevation in the approved pond design. For the pond modifications, the DHW elevations will be kept below the top of bank elevation of 12'.

HYDROCAD MODELING RESULTS

The results from the HydroCAD routings are summarized below:

<u>Storm</u>	<u>1999 Pre-Q</u>	<u>Pre-Dev. Q</u>	<u>Post Dev. Q</u>
Five-Year, 24-Hour	3.98 CFS	3.94 CFS	2.37 CFS
10-Year, 24-Hour	5.79 CFS	5.68 CFS	4.91 CFS
25-Year, 24-Hour	7.73 CFS	7.54 CFS	7.48 CFS

<u>Storm</u>	<u>1999 DHW</u>	<u>Peak Stage</u>	<u>Top of Bank</u>
Five-Year, 24-Hour	11.50'	10.89'	12.00'
10-Year, 24-Hour	11.81'	11.07'	12.00'
25-Year, 24-Hour	12.12'	11.22'	12.00'

**Memorial Park at Nassau County Council on Aging
Proposed Pavilion and Hardscape Improvements**

Water Quality Calculations

The calculations below follow the criteria and methodology set forth in the St. John's River Water Management District's Applicant's Handbook: Regulation of Stormwater Management Systems, Chapter 40C-42, F.A.C., for wet detention systems.

Total drainage area to pond (DA): 4.29 acres
Total impervious area to pond (IA): 3.04 acres

Pond area at normal water level elevation, A_p : 0.48 acres
Non-littoral zone option

The proposed wet pond has the following stage-storage relationship below the normal water elevation:

<u>Stage (ft)</u>	<u>Vol. (ac-ft)</u>
2.00	0.00
3.00	0.04
4.00	0.13
5.00	0.26
6.00	0.44
7.00	0.69
8.00	1.00
9.00	1.40
9.52	1.63

The proposed wet pond has the following stage-storage relationship above the normal water elevation:

<u>Stage (ft)</u>	<u>Vol. (ac-ft)</u>
9.52	0.00
10.00	0.24
11.00	0.81
12.00	1.48

Calculate the required treatment volume. The district requires a treatment volume of either 1 inch of runoff or 2.5 inches times the impervious area, whichever is greater.

Treatment volume required (one inch of runoff) =	0.36	ac-ft
Treatment volume required (2.5" times % imp.) =	0.63	ac-ft
Treatment volume, TV =	0.63	ac-ft
1/2 treatment volume =	0.32	ac-ft

Set the elevation of the control structure.

Orifice control elevation (NWL) = **9.52** ft

Set an overflow weir at the top of the treatment volume storage to discharge runoff volumes greater than the treatment volumes. The top of the treatment volume storage can be found using the above stage-storage relationship and linear interpolation.

$$\text{Weir invert elevation} = 10.69 \text{ ft}$$

Calculate the minimum permanent pool volume that will provide the required residence time. Since the non-littoral zone option is being utilized, the permanent pool must be sized to provide a residence time of at least 21 days (i.e. 14 days plus an additional 50%) during the wet season (June - October).

The length of the wet season (WS) =	153	days
From figure 29-1 of the Handbook, the wet season rainfall depth (R) for the site =	28	inches
For a non-littoral zone option, the minimum residence time (RT) =	21	days
The runoff coefficient (C) for the drainage area to the wet pond =	0.81	

Utilizing Equation 29-4 of the Handbook, Permanent Pool Volume (PPV),

$$PPV_1 = \frac{(DA)(C)(R)(RT)}{(WS)(12 \text{ in/ft})} = 1.12 \text{ ac-ft}$$

The pond volume below the normal water elevation is 1.63 ac-ft.
Therefore, adequate storage is provided to satisfy the permanent pool criteria.

Size a circular orifice to recover one-half the treatment volume in $t = 24$ to 30 hours. Since the size of the orifice has yet to be determined, use the invert elevation of the orifice as an approximation of the flow line (center) of the orifice. After calculating the orifice size, adjust the flow line elevation and calculate the orifice size again.

Treatment volume depth, h_1 =	1.17	ft
Stage at half the treatment volume =	10.13	ft
Half treatment volume depth, h_2 =	0.61	ft

From Equation 29-7 of the Handbook,

$$\text{Average depth, } h = (h_1 + h_2) / 2 = 0.89 \text{ ft}$$

The average flow rate (Q) required to drawdown one-half the treatment volume is found from Equation 29-6 of the Handbook:

$$Q = \frac{TV}{2(t)(3,600 \text{ sec/hr})} = 0.16 \text{ cfs}$$

Find the area (A) of the orifice utilizing Equation 29-8 of the Handbook, with $C = 0.6$:

$$A = \frac{Q}{C(2gh)^{1/2}} = 0.04 \text{ sf}$$

From Equation 29-9 of the Handbook, the orifice diameter (D) is:

$$\begin{aligned} D &= (4A/\pi)^{1/2} = 0.21 \text{ ft} \\ &= 2.54 \text{ inches, say } 2.50 \text{ inches} \end{aligned}$$

Adjust the treatment volume depths and the orifice diameter to the flow line of the orifice.

$$\begin{aligned} \text{Flow line elevation} &= 9.62 \text{ ft} \\ \text{Treatment volume depth, } h_1 &= 1.07 \text{ ft} \\ \text{Half treatment volume depth, } h_2 &= 0.51 \text{ ft} \end{aligned}$$

From Equation 29-7 of the Handbook,

$$\text{Average depth, } h = (h_1 + h_2) / 2 = 0.79 \text{ ft}$$

Find the area (A) of the orifice utilizing Equation 29-8 of the Handbook, with C = 0.6:

$$A = \frac{Q}{C(2gh)^{1/2}} = 0.04 \text{ sf}$$

From Equation 29-9 of the Handbook, the orifice diameter (D) is:

$$\begin{aligned} D &= (4A/\pi)^{1/2} = 0.22 \text{ ft} \\ &= 2.62 \text{ inches, say } 2.50 \text{ inches} \end{aligned}$$

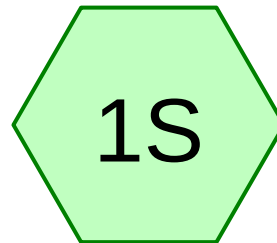
$$\begin{aligned} \text{Flow line elevation} &= 9.62 \text{ ft} \\ 9.62 \text{ ft vs } 9.62 \text{ ft} &= 0.00 \text{ ft difference which is acceptable} \end{aligned}$$

$$\begin{aligned} \text{Actual flow rate} &= 0.15 \text{ cfs} \\ \text{Recovery time} &= 26.29 \text{ hours} \end{aligned}$$

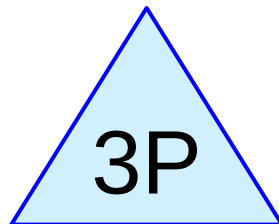
Check the mean depth (MD) of the pond. The mean depth of the permanent pool must be between 2 and 8 feet. From Equation 29-15 of the Handbook:

$$MD = PPV/A_p = 3.41 \text{ ft, which is consistent with the mean depth criteria}$$

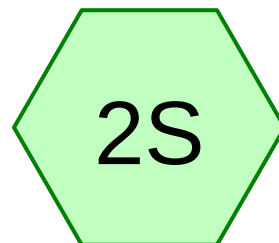
		Original	Fill	Cut	Net	New	Average		Increment.	Cummul.
	Elevation	Area (ac)	Area (sf)	Area (sf)	Change (sf)	Area (ac)	Area (ac)	Depth (ft)	Vol. (ac-ft)	Vol. (ac-ft)
Bottom	2.00	0.00	0	788	788	0.02	0.00	0.00	0.00	0.00
	3.00	0.00	0	2,967	2,967	0.07	0.04	1.00	0.04	0.04
	4.00	0.14	1,764	532	-1,232	0.11	0.09	1.00	0.09	0.13
	5.00	0.19	2,281	528	-1,753	0.15	0.13	1.00	0.13	0.26
	6.00	0.25	2,382	584	-1,798	0.21	0.18	1.00	0.18	0.44
	7.00	0.32	2,422	663	-1,759	0.28	0.24	1.00	0.24	0.69
	8.00	0.39	2,424	791	-1,633	0.35	0.32	1.00	0.32	1.00
	9.00	0.47	2,556	869	-1,687	0.43	0.39	1.00	0.39	1.40
NWL	9.52	0.52	2,588	929	-1,659	0.48	0.45	0.52	0.24	1.63
	Elevation	Original	Fill	Cut	Net	New	Average		Increment.	Cummul.
	Elevation	Area (ac)	Area (sf)	Area (sf)	Change (sf)	Area (ac)	Area (ac)	Depth (ft)	Vol. (ac-ft)	Vol. (ac-ft)
NWL	9.52	0.52	2,588	929	-1,659	0.48	0.00	0.00	0.00	0.00
	10.00	0.56	2,617	984	-1,633	0.52	0.50	0.48	0.24	0.24
	11.00	0.65	2,628	1,118	-1,510	0.62	0.57	1.00	0.57	0.81
TOB	12.00	0.75	2,599	1,267	-1,332	0.72	0.67	1.00	0.67	1.48



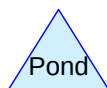
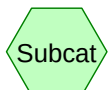
PRE



(new Pond)



POST



Memorial Park Attenuation 1.1

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Type II FL 24-hr Five Year Rainfall=6.24"

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Page 2

Summary for Subcatchment 1S: PRE

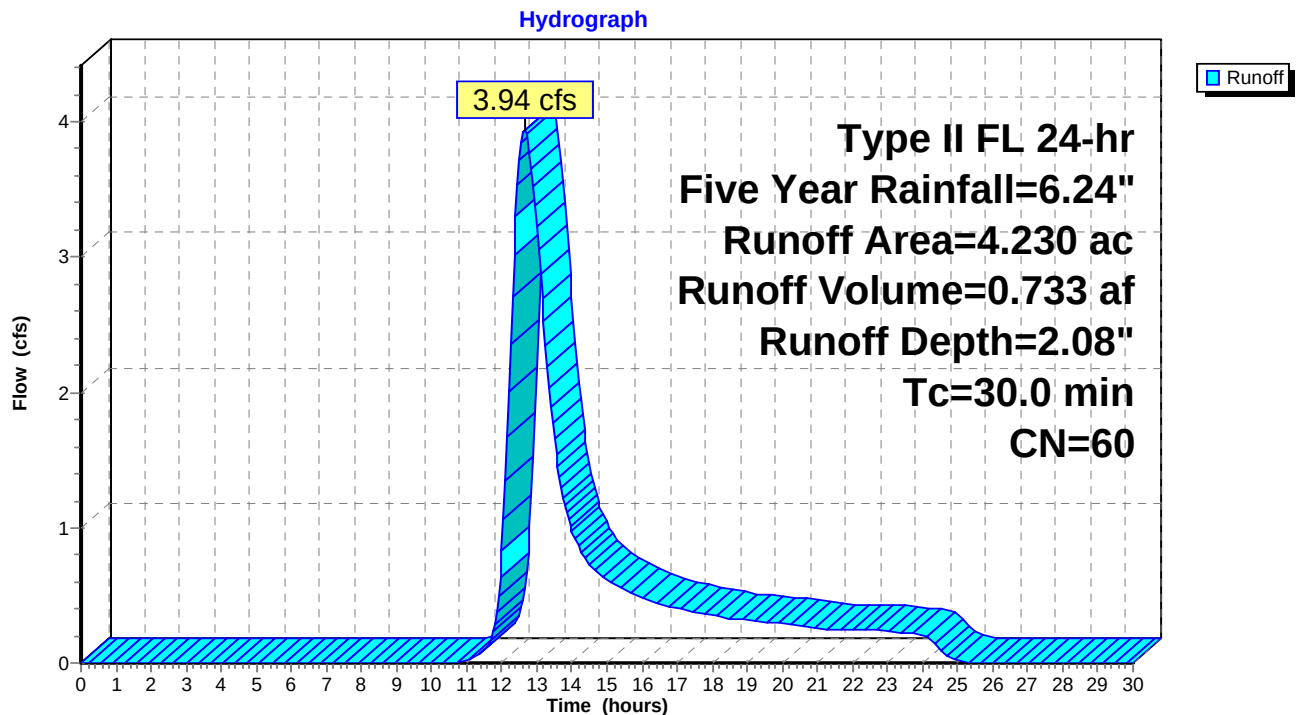
Runoff = 3.94 cfs @ 12.65 hrs, Volume= 0.733 af, Depth= 2.08"

Runoff by SCS TR-20 method, UH=Georgia-323, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II FL 24-hr Five Year Rainfall=6.24"

Area (ac)	CN	Description
* 4.230	60	
4.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.0					Direct Entry,

Subcatchment 1S: PRE



Memorial Park Attenuation 1.1

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Type II FL 24-hr Five Year Rainfall=6.24"

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Summary for Subcatchment 2S: POST

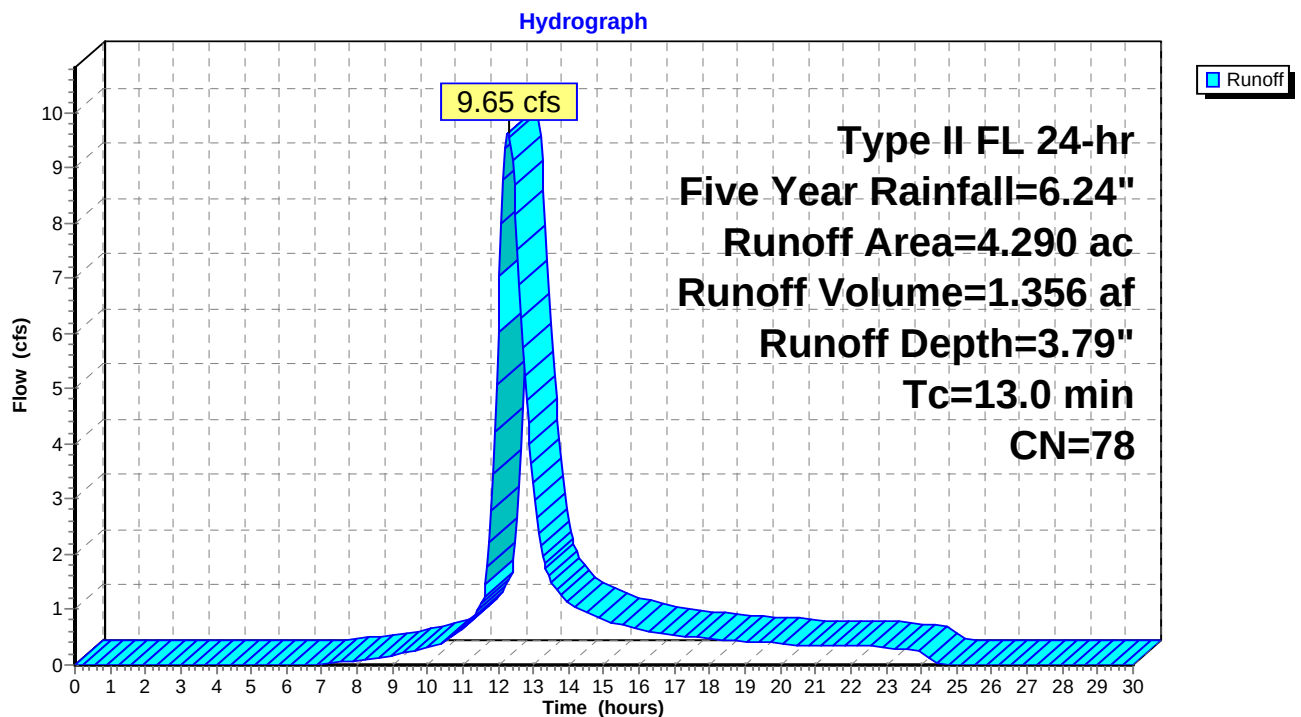
Runoff = 9.65 cfs @ 12.28 hrs, Volume= 1.356 af, Depth= 3.79"

Runoff by SCS TR-20 method, UH=Georgia-323, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II FL 24-hr Five Year Rainfall=6.24"

Area (ac)	CN	Description
* 4.290	78	
4.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0					Direct Entry,

Subcatchment 2S: POST



Memorial Park Attenuation 1.1

Type II FL 24-hr Five Year Rainfall=6.24"

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Page 4

Summary for Pond 3P: (new Pond)

Inflow Area = 4.290 ac, 0.00% Impervious, Inflow Depth = 3.79" for Five Year event
 Inflow = 9.65 cfs @ 12.28 hrs, Volume= 1.356 af
 Outflow = 2.37 cfs @ 13.16 hrs, Volume= 0.811 af, Atten= 75%, Lag= 52.4 min
 Primary = 2.37 cfs @ 13.16 hrs, Volume= 0.811 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Starting Elev= 9.52' Surf.Area= 0.477 ac Storage= 1.631 af
 Peak Elev= 10.89' @ 13.16 hrs Surf.Area= 0.609 ac Storage= 2.371 af (0.740 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 200.5 min (1,041.7 - 841.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3.110 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
2.00	0.020	0.000	0.000
3.00	0.070	0.045	0.045
4.00	0.110	0.090	0.135
5.00	0.150	0.130	0.265
6.00	0.210	0.180	0.445
7.00	0.280	0.245	0.690
8.00	0.350	0.315	1.005
9.00	0.430	0.390	1.395
10.00	0.520	0.475	1.870
11.00	0.620	0.570	2.440
12.00	0.720	0.670	3.110

Device	Routing	Invert	Outlet Devices
#1	Primary	6.77'	15.0" Round Culvert L= 48.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 6.60' / 6.77' S= -0.0035 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	9.52'	4.0" Vert. Orifice/Grate C= 0.600
#3	Device 2	9.02'	2.5" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	10.69'	74.0" W x 999.0" H Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=1.93 cfs @ 13.16 hrs HW=10.89' (Free Discharge)

1=Culvert (Passes 1.93 cfs of 10.94 cfs potential flow)
 2=Orifice/Grate (Passes 0.19 cfs of 0.46 cfs potential flow)
 3=Orifice/Grate (Orifice Controls 0.19 cfs @ 5.63 fps)
 4=Orifice/Grate (Orifice Controls 1.74 cfs @ 1.43 fps)

Memorial Park Attenuation 1.1

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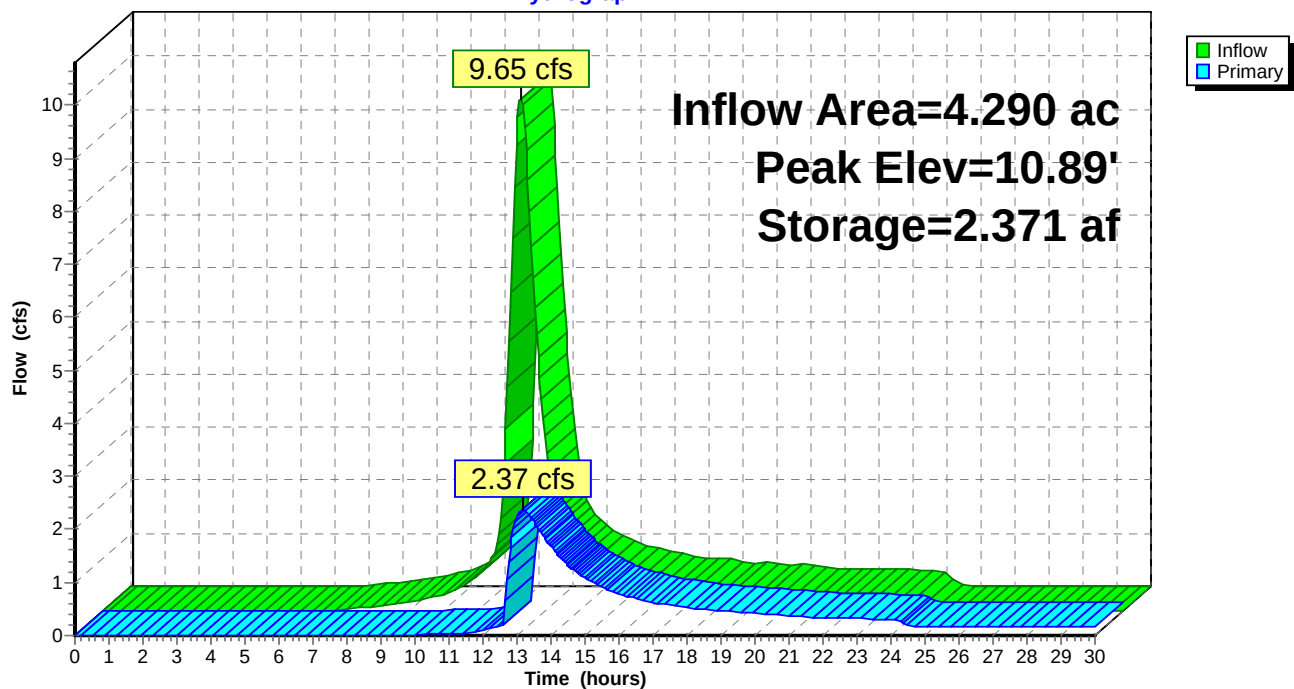
Type II FL 24-hr Five Year Rainfall=6.24"

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Pond 3P: (new Pond)

Hydrograph



Memorial Park Attenuation 1.1

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Type II FL 24-hr 10 Year Rainfall=7.44"

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Summary for Subcatchment 1S: PRE

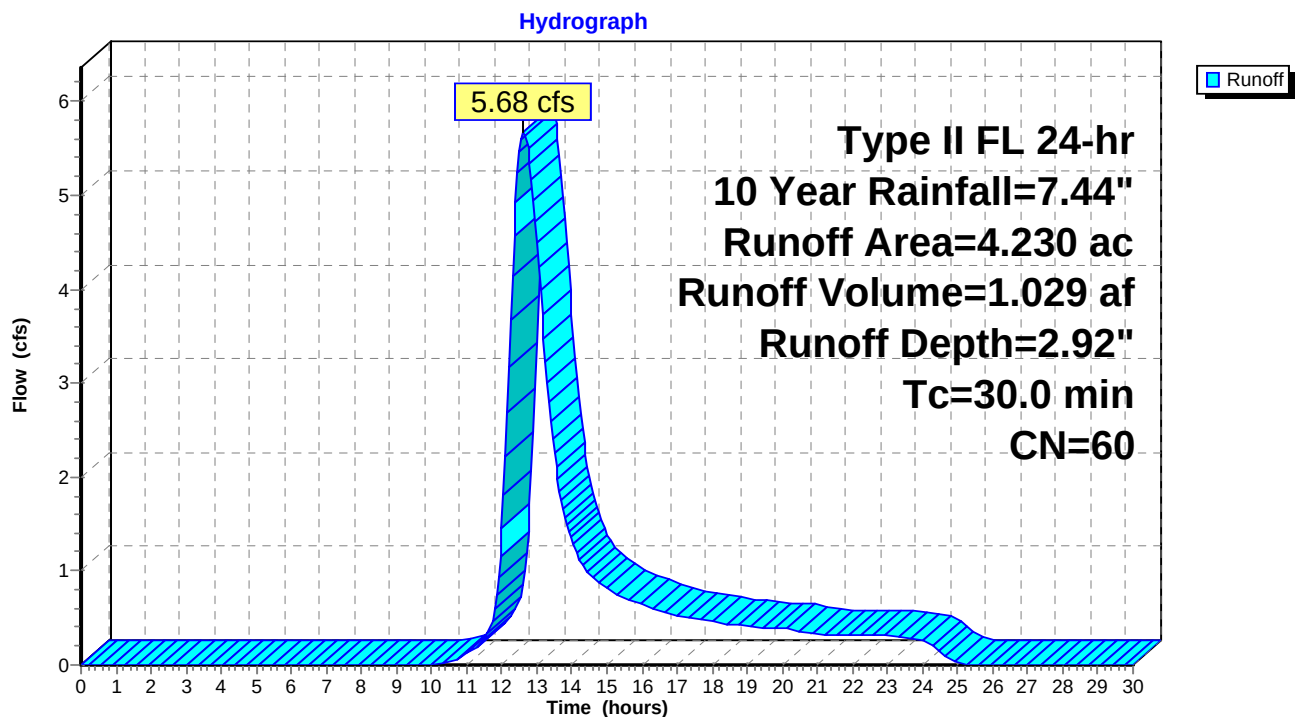
Runoff = 5.68 cfs @ 12.62 hrs, Volume= 1.029 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=Georgia-323, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II FL 24-hr 10 Year Rainfall=7.44"

Area (ac)	CN	Description
* 4.230	60	
4.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.0					Direct Entry,

Subcatchment 1S: PRE



Memorial Park Attenuation 1.1

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Type II FL 24-hr 10 Year Rainfall=7.44"

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Summary for Subcatchment 2S: POST

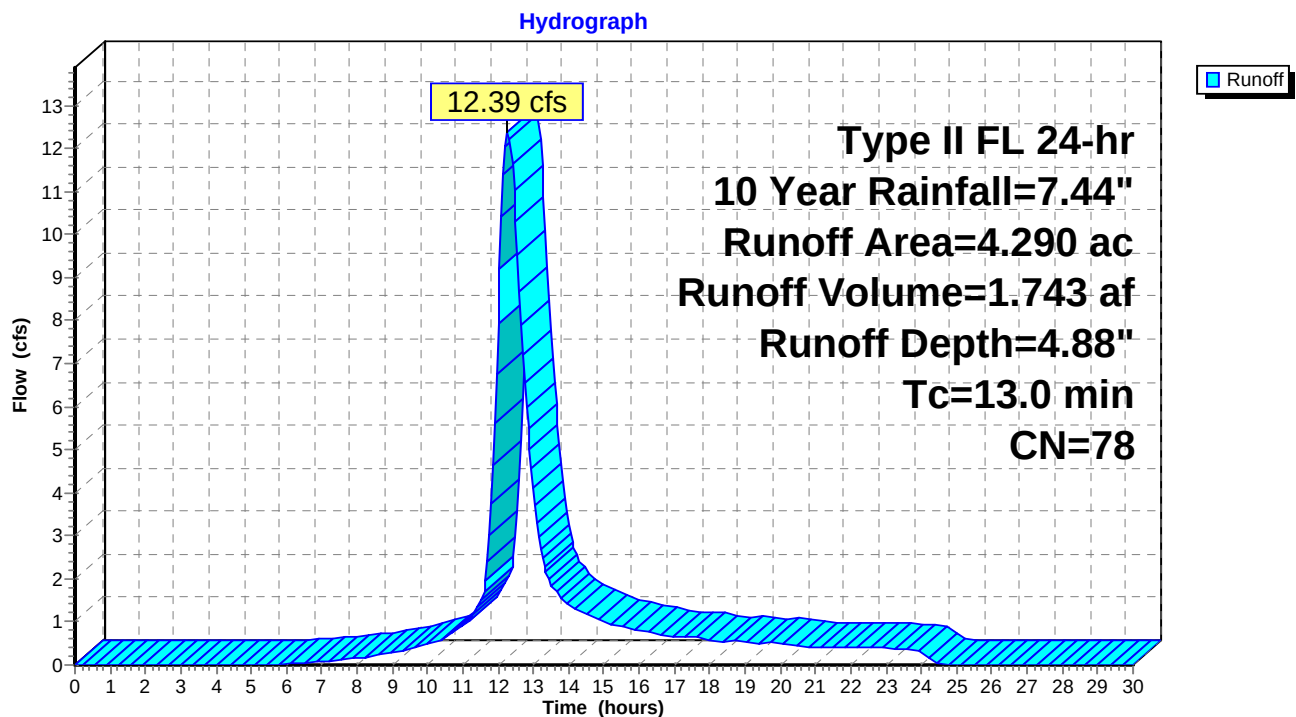
Runoff = 12.39 cfs @ 12.27 hrs, Volume= 1.743 af, Depth= 4.88"

Runoff by SCS TR-20 method, UH=Georgia-323, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II FL 24-hr 10 Year Rainfall=7.44"

Area (ac)	CN	Description
* 4.290	78	
4.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0					Direct Entry,

Subcatchment 2S: POST



Memorial Park Attenuation 1.1

Type II FL 24-hr 10 Year Rainfall=7.44"

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Page 8

Summary for Pond 3P: (new Pond)

Inflow Area = 4.290 ac, 0.00% Impervious, Inflow Depth = 4.88" for 10 Year event
Inflow = 12.39 cfs @ 12.27 hrs, Volume= 1.743 af
Outflow = 4.91 cfs @ 12.91 hrs, Volume= 1.197 af, Atten= 60%, Lag= 38.3 min
Primary = 4.91 cfs @ 12.91 hrs, Volume= 1.197 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Starting Elev= 9.52' Surf.Area= 0.477 ac Storage= 1.631 af
Peak Elev= 11.07' @ 12.91 hrs Surf.Area= 0.627 ac Storage= 2.483 af (0.852 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 152.9 min (986.1 - 833.2)

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3.110 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
2.00	0.020	0.000	0.000
3.00	0.070	0.045	0.045
4.00	0.110	0.090	0.135
5.00	0.150	0.130	0.265
6.00	0.210	0.180	0.445
7.00	0.280	0.245	0.690
8.00	0.350	0.315	1.005
9.00	0.430	0.390	1.395
10.00	0.520	0.475	1.870
11.00	0.620	0.570	2.440
12.00	0.720	0.670	3.110

Device	Routing	Invert	Outlet Devices
#1	Primary	6.77'	15.0" Round Culvert L= 48.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 6.60' / 6.77' S= -0.0035 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	9.52'	4.0" Vert. Orifice/Grate C= 0.600
#3	Device 2	9.02'	2.5" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	10.69'	74.0" W x 999.0" H Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=4.81 cfs @ 12.91 hrs HW=11.07' (Free Discharge)

- 1=Culvert (Passes 4.81 cfs of 11.26 cfs potential flow)
- 2=Orifice/Grate (Passes 0.20 cfs of 0.49 cfs potential flow)
- 3=Orifice/Grate (Orifice Controls 0.20 cfs @ 5.99 fps)
- 4=Orifice/Grate (Orifice Controls 4.60 cfs @ 1.97 fps)

Memorial Park Attenuation 1.1

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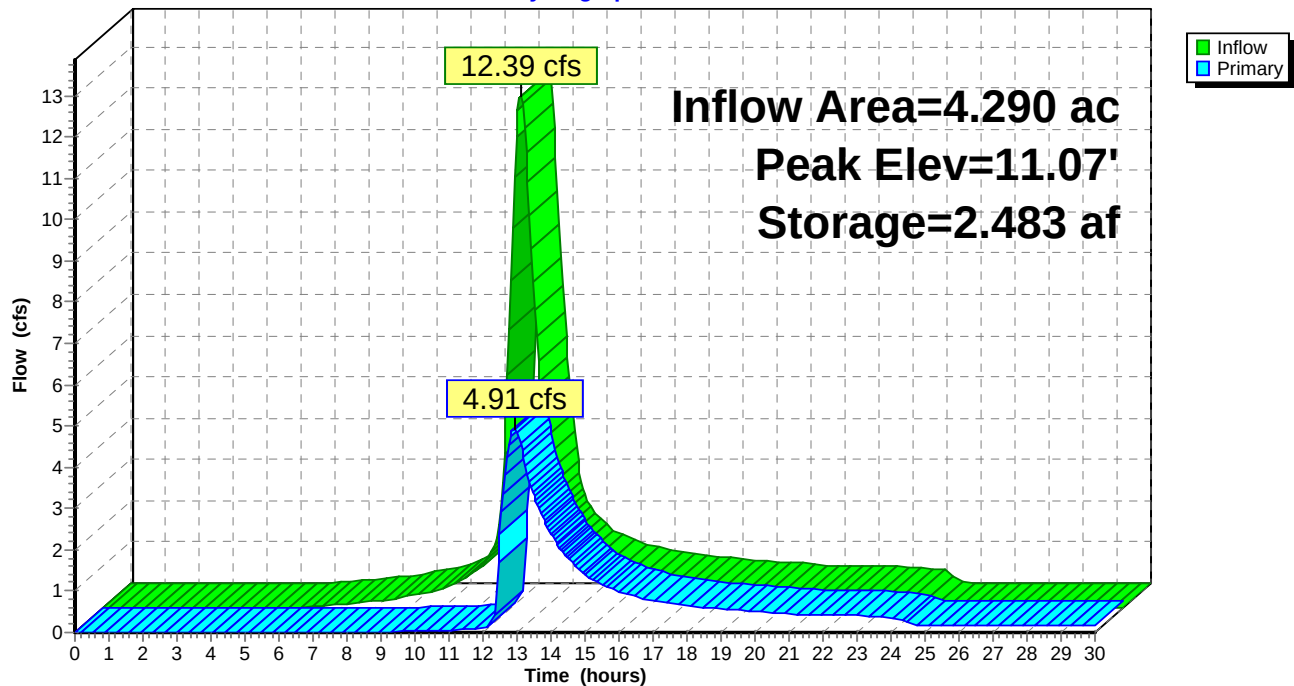
Type II FL 24-hr 10 Year Rainfall=7.44"

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Pond 3P: (new Pond)

Hydrograph



Memorial Park Attenuation 1.1

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Type II FL 24-hr 25 Year Rainfall=8.64"

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Summary for Subcatchment 1S: PRE

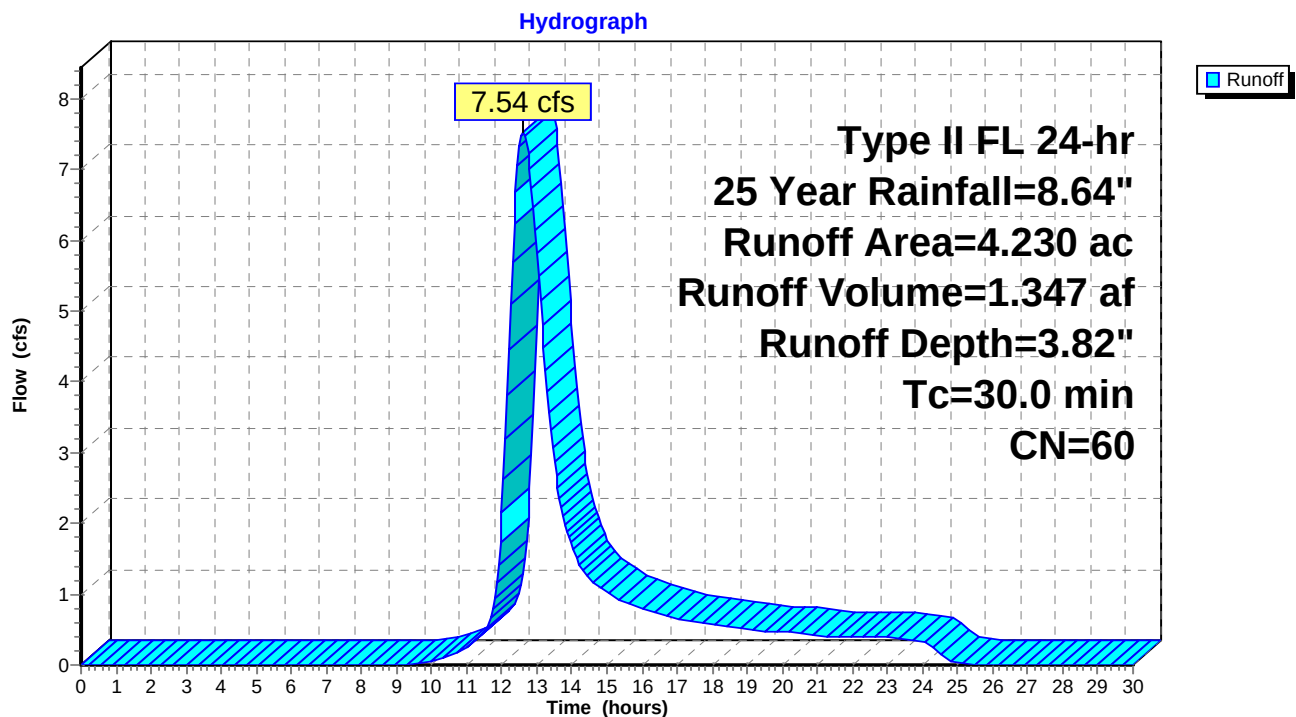
Runoff = 7.54 cfs @ 12.61 hrs, Volume= 1.347 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=Georgia-323, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II FL 24-hr 25 Year Rainfall=8.64"

Area (ac)	CN	Description
* 4.230	60	
4.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.0					Direct Entry,

Subcatchment 1S: PRE



Memorial Park Attenuation 1.1

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Type II FL 24-hr 25 Year Rainfall=8.64"

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Summary for Subcatchment 2S: POST

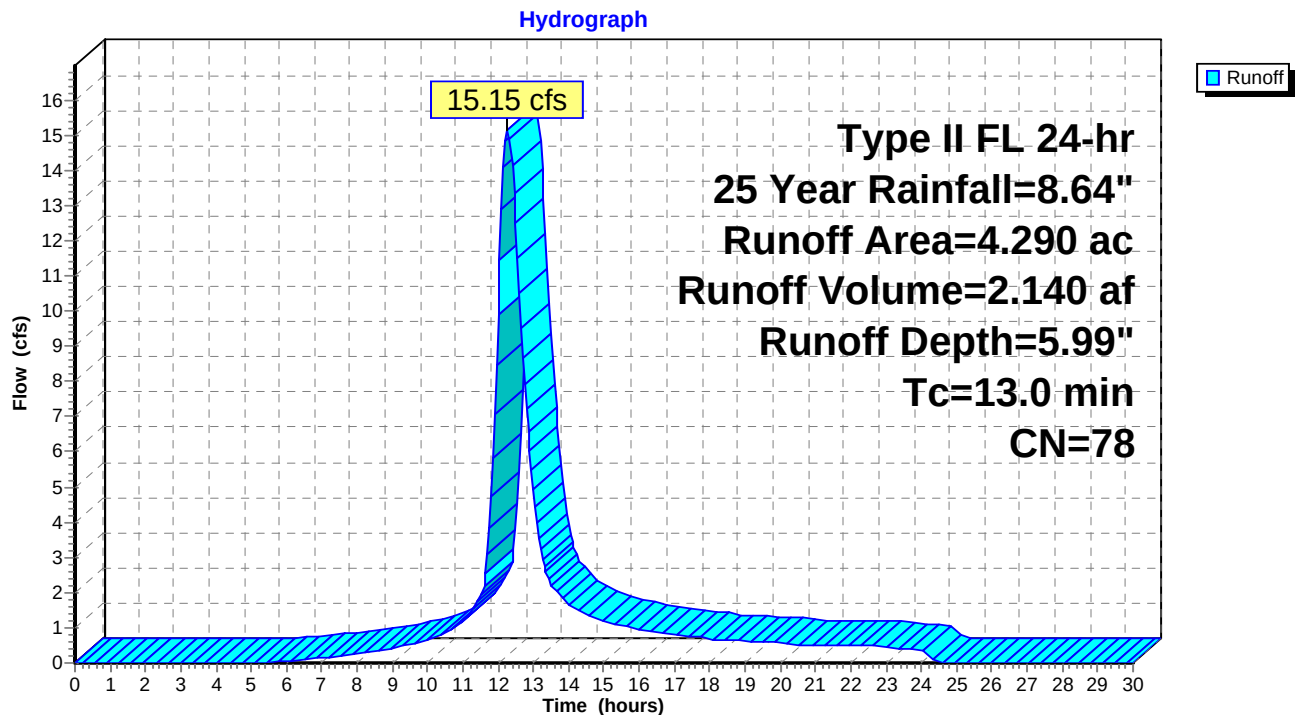
Runoff = 15.15 cfs @ 12.27 hrs, Volume= 2.140 af, Depth= 5.99"

Runoff by SCS TR-20 method, UH=Georgia-323, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II FL 24-hr 25 Year Rainfall=8.64"

Area (ac)	CN	Description
* 4.290	78	
4.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0					Direct Entry,

Subcatchment 2S: POST



Memorial Park Attenuation 1.1

Type II FL 24-hr 25 Year Rainfall=8.64"

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Summary for Pond 3P: (new Pond)

Inflow Area = 4.290 ac, 0.00% Impervious, Inflow Depth = 5.99" for 25 Year event
Inflow = 15.15 cfs @ 12.27 hrs, Volume= 2.140 af
Outflow = 7.48 cfs @ 12.78 hrs, Volume= 1.592 af, Atten= 51%, Lag= 30.8 min
Primary = 7.48 cfs @ 12.78 hrs, Volume= 1.592 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Starting Elev= 9.52' Surf.Area= 0.477 ac Storage= 1.631 af
Peak Elev= 11.22' @ 12.78 hrs Surf.Area= 0.642 ac Storage= 2.580 af (0.949 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 127.3 min (954.0 - 826.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3.110 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
2.00	0.020	0.000	0.000
3.00	0.070	0.045	0.045
4.00	0.110	0.090	0.135
5.00	0.150	0.130	0.265
6.00	0.210	0.180	0.445
7.00	0.280	0.245	0.690
8.00	0.350	0.315	1.005
9.00	0.430	0.390	1.395
10.00	0.520	0.475	1.870
11.00	0.620	0.570	2.440
12.00	0.720	0.670	3.110

Device	Routing	Invert	Outlet Devices
#1	Primary	6.77'	15.0" Round Culvert L= 48.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 6.60' / 6.77' S= -0.0035 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	9.52'	4.0" Vert. Orifice/Grate C= 0.600
#3	Device 2	9.02'	2.5" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	10.69'	74.0" W x 999.0" H Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=7.87 cfs @ 12.78 hrs HW=11.22' (Free Discharge)

- 1=Culvert (Passes 7.87 cfs of 11.53 cfs potential flow)
- 2=Orifice/Grate (Passes 0.21 cfs of 0.52 cfs potential flow)
- 3=Orifice/Grate (Orifice Controls 0.21 cfs @ 6.28 fps)
- 4=Orifice/Grate (Orifice Controls 7.66 cfs @ 2.34 fps)

Memorial Park Attenuation 1.1

Prepared by {enter your company name here}

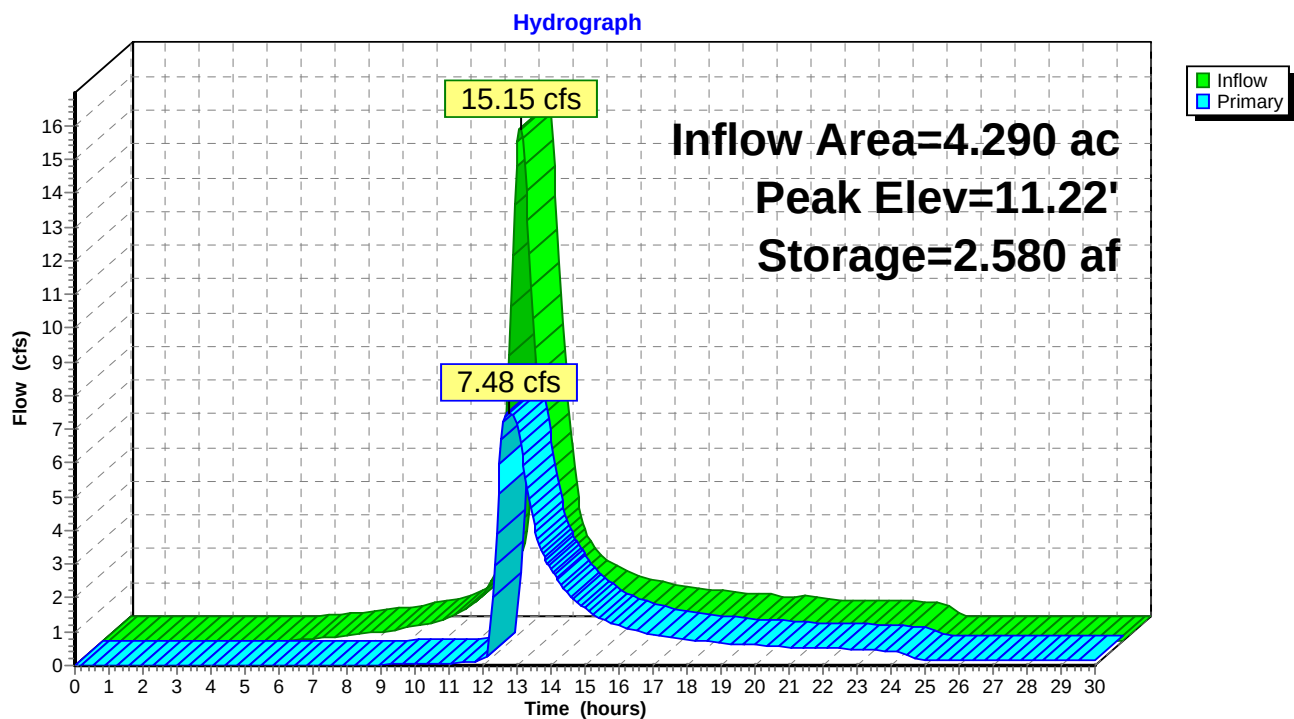
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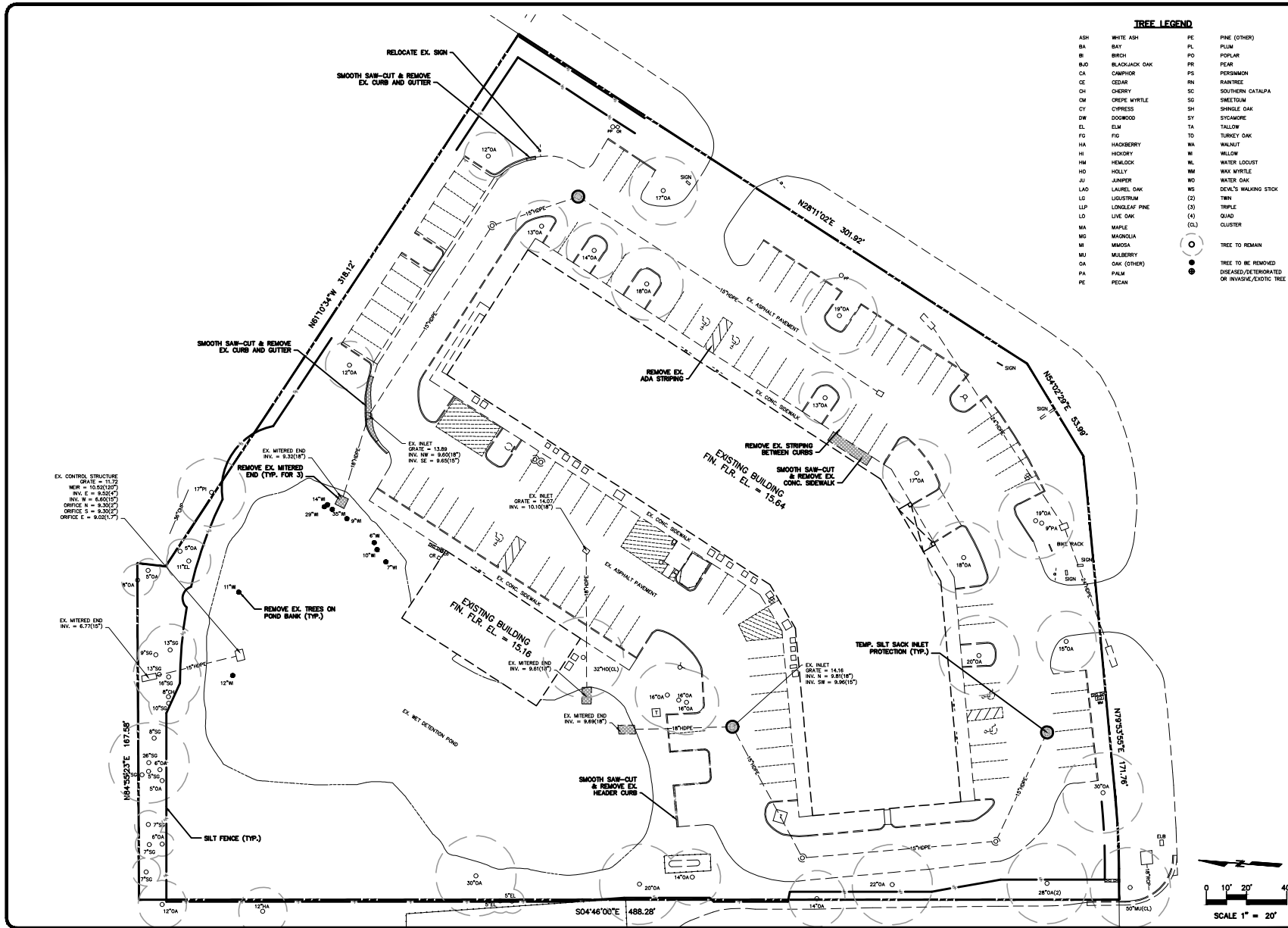
Type II FL 24-hr 25 Year Rainfall=8.64"

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Pond 3P: (new Pond)





TREE LEGEND

ASH	WHITE ASH	PE	PINE (OTHER)
BA	BAY	PL	PLUM
B	BIRCH	PO	POPLAR
B.O	BLACKJACK OAK	PR	PEAR
CA	CAMPBELL	PS	PERSEA
CE	CEDAR	RN	RANUNCULUS
CH	CHERRY	SC	SOUTHERN CATALPA
CM	CREPE MYRTLE	SG	SWEETGUM
CY	CYPRESS	SH	SHINGLE OAK
DW	DODGEWOOD	ST	SYCAMORE
EL	ELM	TA	TALLOW
FG	FIG	TD	TURKEY OAK
HA	HADSBERRY	WA	WALNUT
HI	HICKORY	WE	WELLS
HM	HEMLOCK	WL	WATER LOCUST
HO	HOLLY	WM	WAX MYRTLE
JU	JUNIPER	WO	WATER OAK
LAO	LAUREL OAK	WS	WILSON'S WALKING STICK
LG	LIGULSTRUM	(2)	TWIN
LPL	LONGLEAF PINE	(3)	TRIPLE
LO	LIVE OAK	(4)	QUAD
MA	MAPLE	(CL)	CLUSTER
MD	MAGNOLIA		
MI	MIMOSA		
MU	MULBERRY		
OA	OAK (OTHER)		
PA	PALE		
PE	PECAN		

○ TREE TO REMAIN
 ● TREE TO BE REMOVED
 ● DISEASED/DENOTED OR INVASIVE/EXOTIC TREE

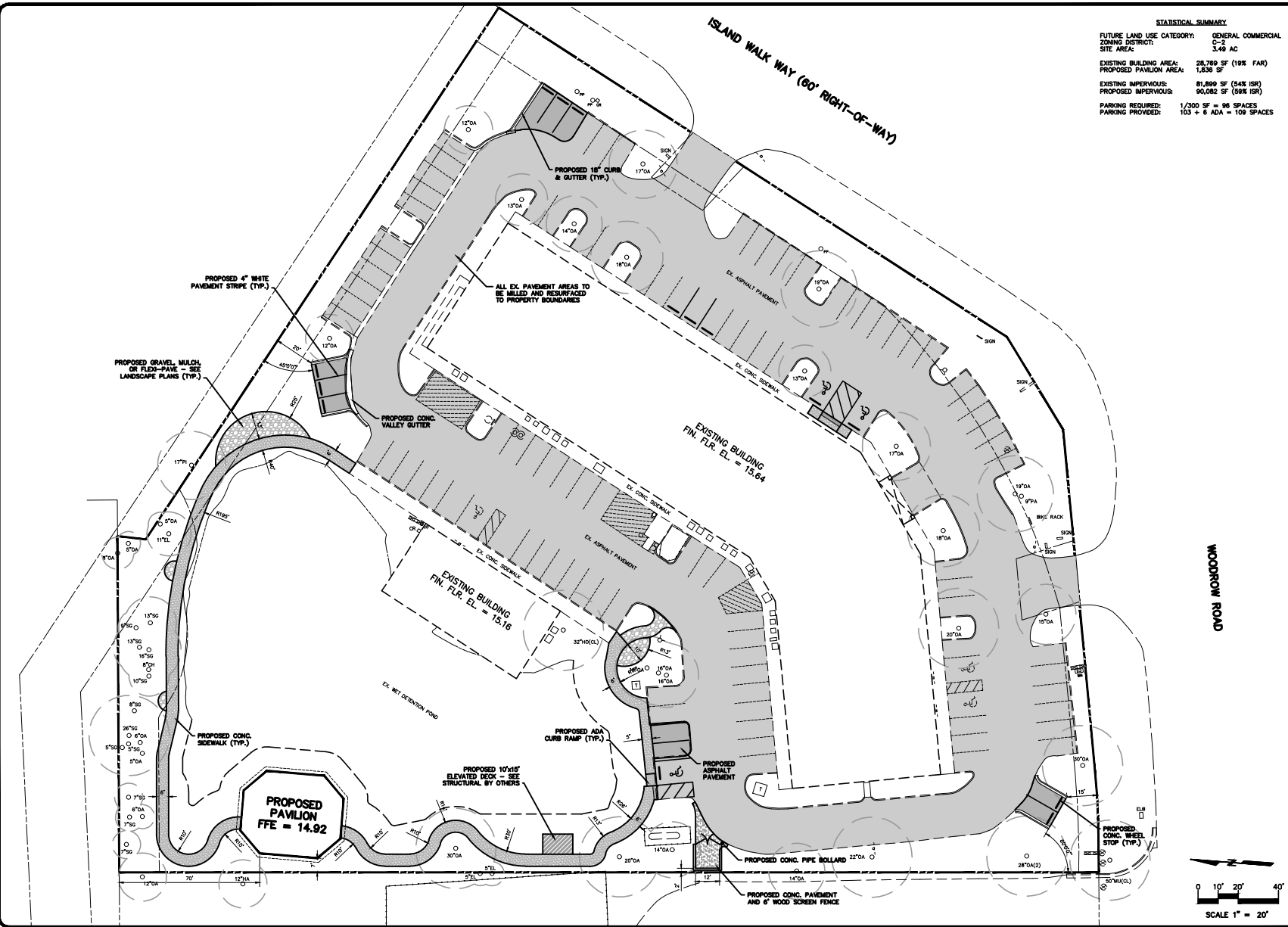


MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
 1901 ISLAND WALK WAT. FERNANDINA BEACH, FL 32034

SITE DEMOLITION PLAN

NO.	DATE	BY	REVISION
1	11/17/22	MJP	ISSUED FOR PERMIT
2	11/17/22	MJP	REVISED FOR PERMIT

JOB NO. 22EN0017
 DRAWN: MJP
 CHECKER: MJP
 SCALE: 1" = 20'
C100
 DRAWING NO.



STATISTICAL SUMMARY

FUTURE LAND USE CATEGORY:	GENERAL COMMERCIAL
ZONING DISTRICT:	C-2
SITE AREA:	3.49 AC
EXISTING BUILDING AREA:	28,789 SF (19% FAR)
PROPOSED PAVILION AREA:	1,836 SF
EXISTING IMPERVIOUS:	81,889 SF (54% ISR)
PROPOSED IMPERVIOUS:	90,082 SF (58% ISR)
PARKING REQUIRED:	1/300 SF = 96 SPACES
PARKING PROVIDED:	103 + 6 ADA = 109 SPACES

SOUTHEAST ENGINEERING GROUP

11255 ST. JOHN'S AVE. SUITE 100
JACKSONVILLE, FL 32256-1001
TEL: 904.764.0200
WWW.SSE-FL.COM

MEMORIAL PARK AT NCCOA

OUTDOOR PAVILION AND PARKING IMPROVEMENTS

1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

SITE

GEOMETRY

PLAN

NO.	DATE	BY	CHKD.	DESC.
1	11-15-23	MJP		ISSUED FOR PERMIT
2	11-15-23	MJP		REVISION
3	11-15-23	MJP		REVISION
4	11-15-23	MJP		REVISION

JOB NO. 22EN0017

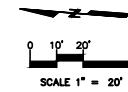
DRAWN: MJP

CHECKER: MJP

SCALE: 1" = 20'

C200

DRAWING NO.



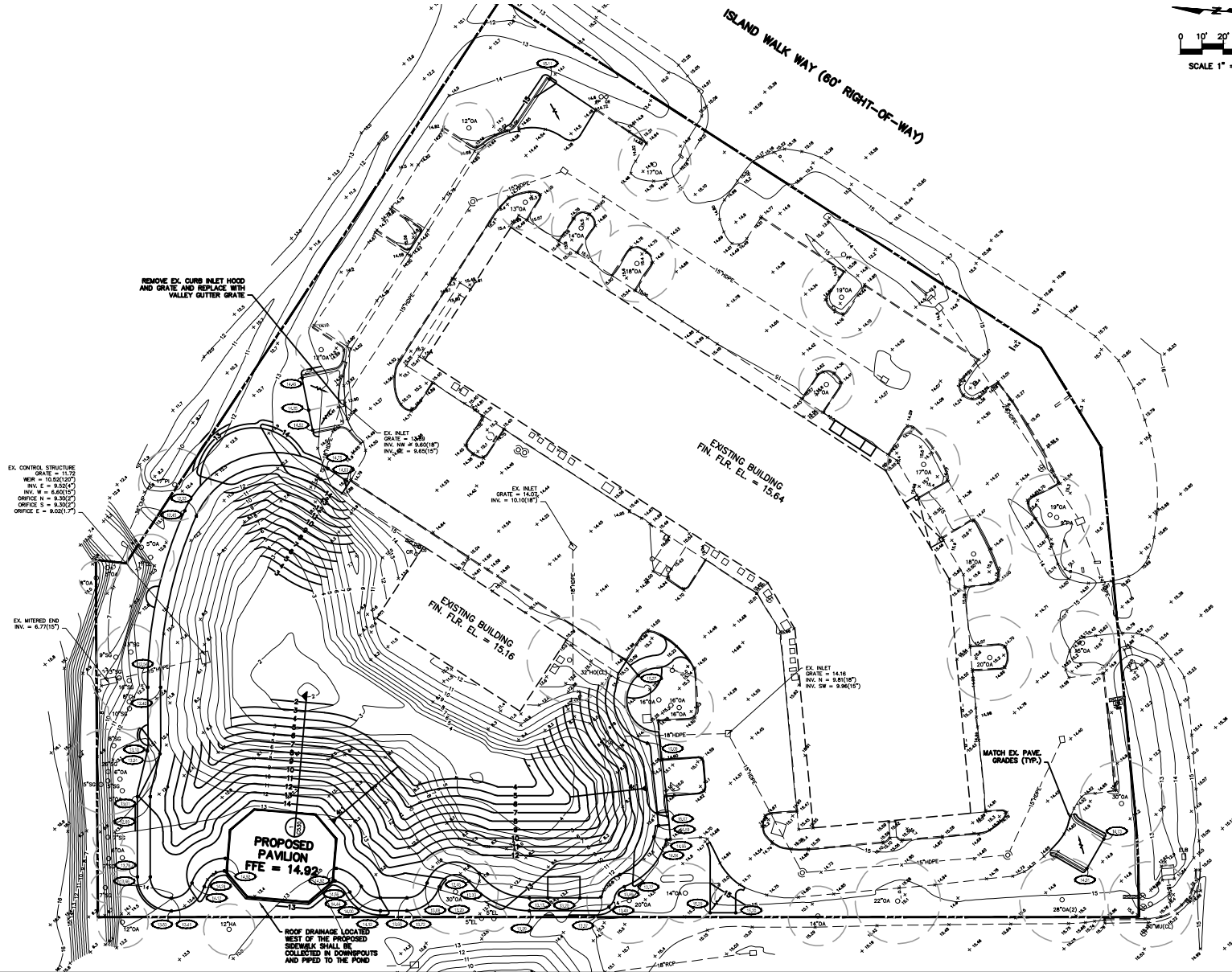
MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
 1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

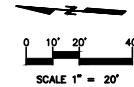
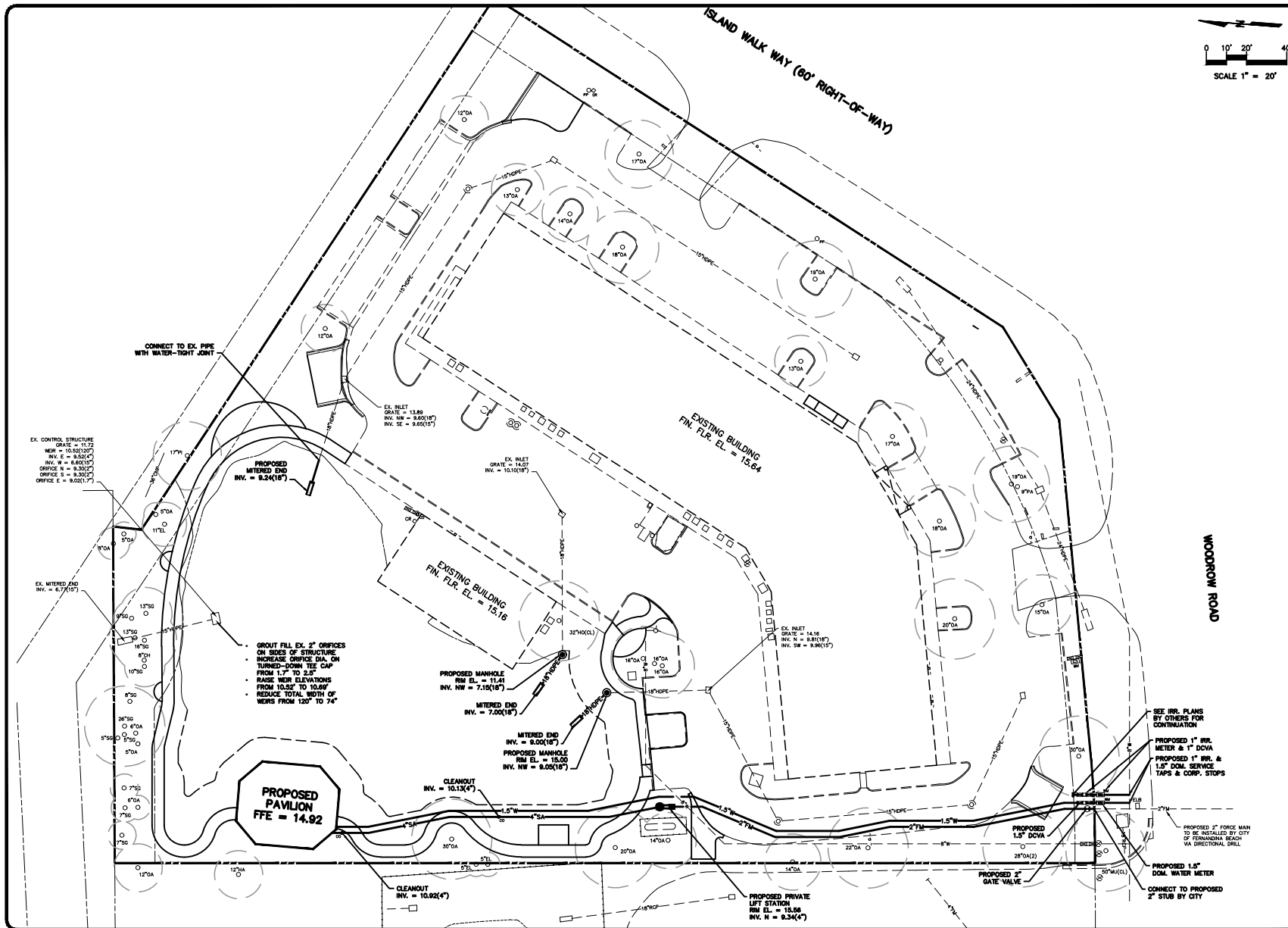
WOODROW ROAD

**SITE
GRADING
PLAN**

NO.	DATE	BY	CHKD.	APP'D.
1	11-20-23	MJP		
2	11-20-23	MJP		
3	11-20-23	MJP		
4	11-20-23	MJP		
5	11-20-23	MJP		

JOB NO. 22EN0017
 DRAWN: MJP
 CHECKER: MJP
 SCALE: 1" = 20'
C300
 DRAWING NO.



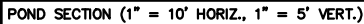


MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
 1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

SITE DRAINAGE AND UTILITIES PLAN

NO.	DATE	BY	CHKD.	REV.
1	11-28-23	MJP		
2	12-12-23	MJP		
3	01-10-24	MJP		
4	01-10-24	MJP		

JOB NO.	22EN0017
DRAWN:	MJP
CHECKER:	MJP
SCALE:	1" = 20'
C400	
DRAWING NO.	



②

**MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS**
1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

SITE DETAILS III

JOB NO.	22ENG017
DRAWN:	MJP
CHECKED:	MJP
SCALE:	AS NOTED

C530
DRAWING NO.



SOUTHEAST ENGINEERING GROUP

**11235 ST. JOHNS INDUSTRIAL PARKWAY NORTH, SUITE 4 • JACKSONVILLE, FLORIDA 32246
(904) 619-3400 • WWW.SOUTHEASTENGINEERS.COM**

January 26, 2023

Ms. Taylor Hartmann, City Planner
City of Fernandina Beach Planning Department
204 Ash Street
Fernandina Beach, Florida 32034

RE: Technical Review Committee (TRC) Application
Memorial Park at Nassau County Council on Aging (NCCOA)
1901 Island Walk Way, Fernandina Beach

Dear Taylor:

Memorial Park at NCCOA consists of a proposed pavilion and landscaping improvements adjacent to the existing wet detention pond on the north side of the NCCOA property. The project will also include the addition of 10 parking spaces to the existing parking lot, and water and sewer service lines to the pavilion restrooms.

The following items are being submitted via the TRC Application online form center for preliminary construction plan review of the Memorial Park project:

1. Civil plan set,
2. Topographic survey,
3. Soils report,
4. Architectural plan set including building elevations,
5. Landscape plan set,
6. Agent authorization for owner,
7. Stormwater Management Report (SWMR), and
8. Private Lift Station Analysis.

Portions of the existing pond will be regraded to accommodate the pavilion and sidewalk improvements. The provided SWMR demonstrates that the proposed pond volumes will still satisfy SJRWMD and City of Fernandina Beach attenuation and water quality requirements, without increasing the design high water elevations in the pond.

Water and sewer services will be extended to the proposed pavilion. The sewer service will include a private sewer lift station, with a force main connection to Woodrow Road. A

preapplication meeting was held with the City of Fernandina Beach Utilities Department, where it was determined that the city would extend a force main stub to the property for this connection, as shown on the civil plans.

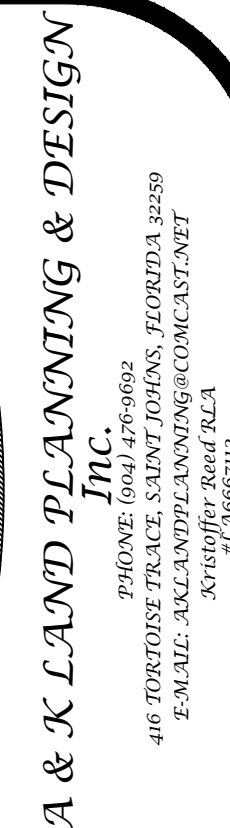
Please process the submitted items for the initial commercial plan review. If you have any questions or comments, or if you need any additional information, please contact me at the number above.

Sincerely,

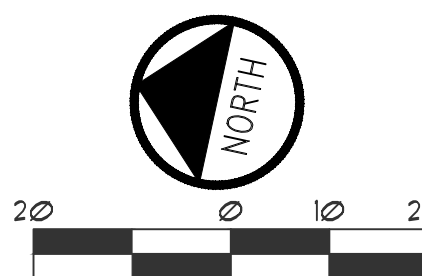


Matt Phillips, PE, LEED AP
VP of Civil Engineering and Design
Southeast Engineering Group, LLC

cc: Steve Wetherell
Janice Ancrum
Don Harley



MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
1901 ISLAND WALK WAY,
FERNANDINA BEACH, FL 32034



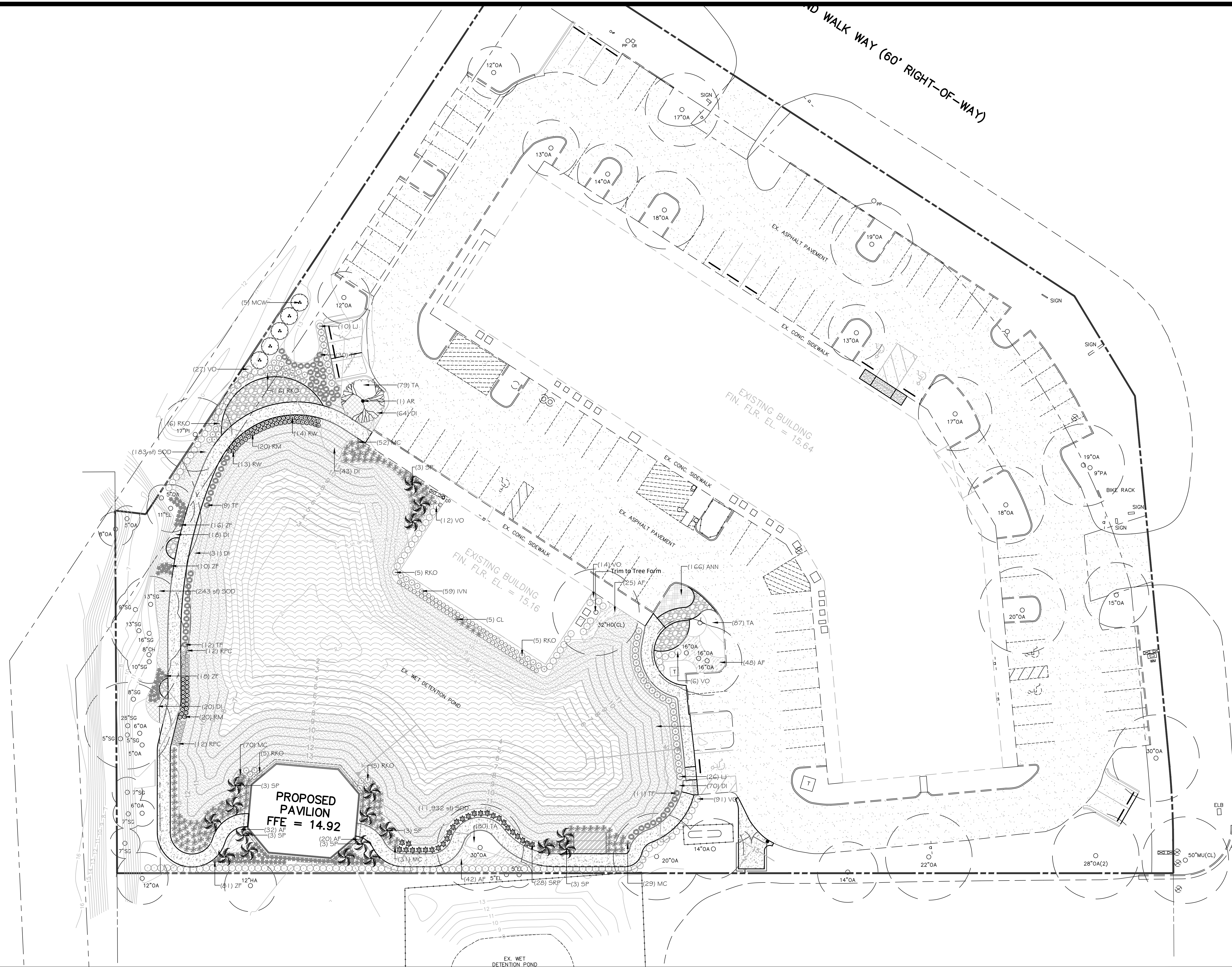
DATE : January 5, 2023
PROJECT NO. : 2022.122
DESIGNED BY : KSR
DRAWN BY : KSR
CHECKED BY : KSR
SCALE : 1" = 20'

SHEET TITLE

LANDSCAPE
PLAN

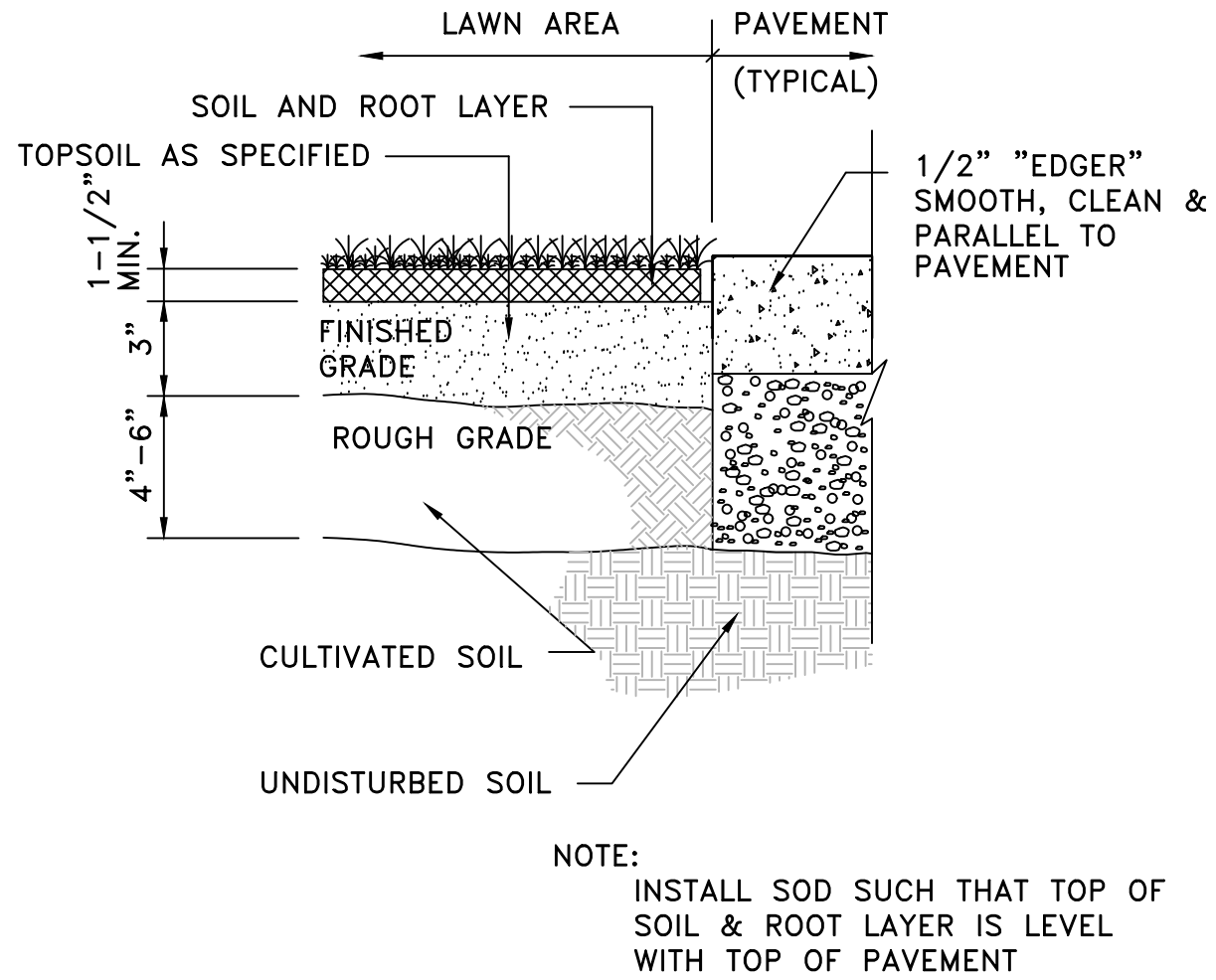
L-1
S H E E

MEMORIAL PARK AT NCCOA OUTDOOR PAVILION AND PARKING IMPROVEMENTS 1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034



General Notes and Specifications

1. Prior to construction the landscape contractor shall be responsible for locating all underground utilities and shall avoid damage to all utilities during the course of the work. The landscape contractor is responsible for repairing any and all damage to utilities, structures, site appurtenances, etc., which occurs as a result of the landscape construction.
2. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions or obstructions, notify owner's representative before planting.
3. All plants must be healthy, vigorous material, free of pests and disease.
4. All trees, palms, and shrubs shall be grade "Florida Fancy" per Grades and Standards For Nursery Plants (parts one and two), available through Florida Dept. of Agriculture and Consumer Services.
5. All plant material must be approved by the Landscape Architect before the plant material is installed.
6. Any changes to the plant material (size, type, etc.), irrigation or any other deviations from the plans must be approved by the Landscape Architect prior to the change being implemented by the contractor. The contractor must provide written proof of authorization for any changes.
7. All plants to be field grown or container grown as indicated on plant list. Store plants in shade and protect from weather. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or,in a manner acceptable to owner's rep. Do not remove container grown stock from containers until planting time. Protect roots of plant from drying or other possible injury. Keep plant ball moist at all times.
8. All plants shall be triangular spaced.
9. Obtain agronomic soils test for all planting areas and tree pits prior to excavation of tree pits. Tests shall be performed by an approved soils testing laboratory and shall include fertility and suitability analysis with written recommendations for soil amendments, fertilizer and chemical conditioner application rates for soil preparation, planting backfill mix, and post maintenance fertilization program. Submit a copy of soils report to owner's rep. and landscape architect.
10. Add soil amendments as recommended by soil test in quantities necessary to bring soil mixture to pH rating of between 5.5 and 6.0. Minerals used for pH correction shall be commercially produced for this purpose.
11. All plants and planting areas must be completely mulched as specified with three (3) inches of organic mulch. Provide 4" minimum clearance of mulch from all shrub trunks and 6" minimum clearance from all tree trunks.
12. The landscape contractor is responsible for verifying all quantities shown on these plans, before pricing the work.
13. The planting shall be done in accordance with acceptable horticultural practices. This is to include proper planting mix, plant and tree pit preparation, pruning, staking or guying, wrapping, spraying, fertilization, planting, and adequate maintenance throughout the required maintenance period.
14. The landscape contractor is responsible for fully maintaining all planting (including but not limited to: pruning, watering, fertilizing, cultivating, weeding, mowing, mulching, tightening and repairing of guys, resetting plants to proper grade or upright position, restoration of plant saucer, and furnishing and applying such sprays as necessary to keep free of insects and diseases. The landscape contractor's responsibility for maintenance (exclusive of replacement within the guarantee period) shall terminate one year from the date of final acceptance by owner and landscape architect.
15. All trees, palms, shrubs and plant material shall be warranted for a period of one year after date of completion and acceptance of the entire project. Final acceptance of all landscaping under this contract shall constitute the beginning of the guarantee period. Replace, in accordance with the drawings and specifications, all plants that are dead or, as determined by the owner's representative, are in an unhealthy or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the contractor's negligence. Furnish and plant replacements which comply with requirements shown and specified. Warrant all replacement plants for one year after installation. The cost of such replacement(s) is at the contractor's expense.
16. All plants are subject to approval by the owner's representative. Prior to planting, all trees and palms must be approved by the owner or owner's rep.
17. Standards set forth in "American Standard for Nursery Stock" represent guideline specifications only and shall constitute minimum quality requirements for plant material.
18. At the conclusion of this planting, if the owner's rep. or owner has reason to believe that the plants are not of the specified grade, he will request a re-grading or inspection, and such evidence will be the basis for requesting replacement of plants and for legal or other action according to law, should this become necessary.
19. All planting beds to be treated with pre-emergent weed control prior to planting.
20. Contractor is to check the site weekly to insure all plant material is healthy and well watered.
21. All disturbed areas to be sodded or seeded with Paspalum notatum as noted.

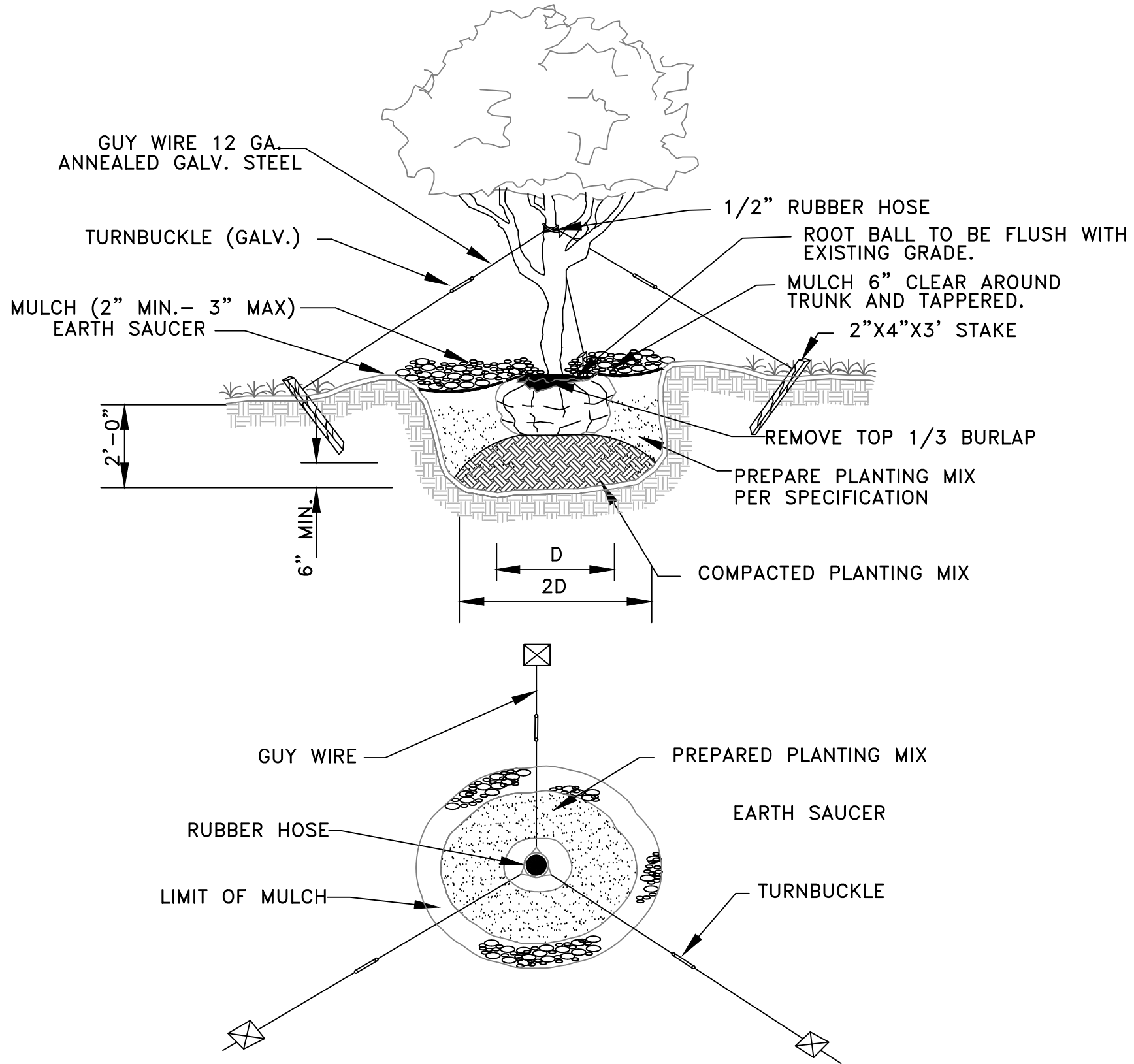


SOD DETAIL

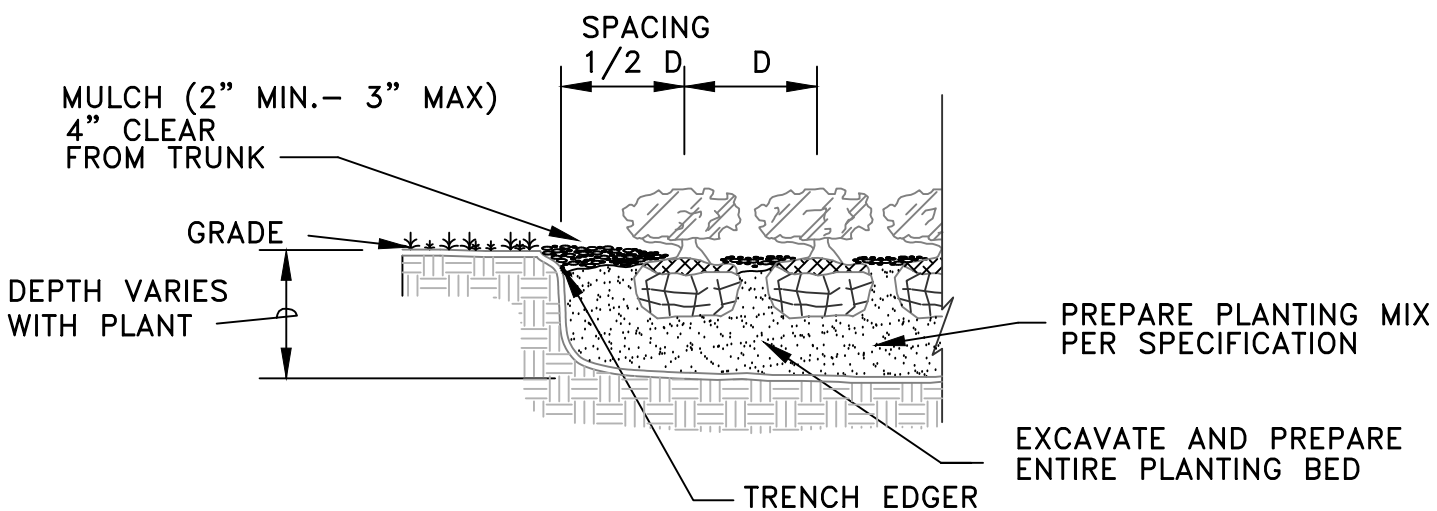
PLANT SCHEDULE MEMORIAL PARK AT NCCOA				
TREES	QTY	COMMON / BOTANICAL NAME	SPACING	SPECIFICATIONS
AR	1	Red Maple / <i>Acer rubrum</i>	AS SHOWN	12' - 14' Ht., 5' Clear Trunk, Standard, 4" caliper
MCN	5	Wax Myrtle / <i>Myrica cerifera</i>	AS SHOWN	10' - 12' Ht., Full to Ground
SP	18	Cabbage Palmetto / <i>Sabal palmetto</i>	AS SHOWN	12' - 14' Clear Trunk, No boots, Regenerated
SHRUBS	QTY	COMMON / BOTANICAL NAME	SPACING	
CL	5	Canna / <i>Canna x generalis</i>	36" o.c.	18" ht. x 18" spd. minimum full & dense
IVN	59	Dwarf Schillings Holly / <i>Ilex vomitoria</i> 'Schillings Dwarf'	24" o.c.	12" ht. x 12" spd. minimum full & dense
LJ	36	Japanese Privet / <i>Ligustrum japonicum</i>	36" o.c.	18" ht. x 18" spd. minimum full & dense
MC	182	Pink Muhly / <i>Muhlenbergia capillaris</i>	36" o.c.	18" ht. x 18" spd. minimum full & dense
RKO	42	Rose / <i>Rosa</i> x 'Knockout' TM	36" o.c.	18" ht. x 18" spd. minimum full & dense
RM	40	Coral Drift Rose / <i>Rosa</i> x 'Coral Drift'	24" o.c.	12" ht. x 12" spd. minimum full & dense
RPC	24	Popcorn Drift Rose / <i>Rosa</i> x 'Navarospop' TM	24" o.c.	12" ht. x 12" spd. minimum full & dense
RN	27	White Drift Groundcover Rose / <i>Rosa</i> x 'Meisiorland' TM	24" o.c.	12" ht. x 12" spd. minimum full & dense
SRP	28	Saw Palmetto / <i>Serenoa repens</i>	36" o.c.	18" ht. x 18" spd. minimum full & dense
TF	62	Fakahatchee Grass / <i>Tripsacum dactyloides</i>	36" o.c.	18" ht. x 18" spd. minimum full & dense
VO	150	Dwarf Walter's Viburnum / <i>Viburnum obovatum</i> 'Dwarf Walter's'	36" o.c.	18" ht. x 18" spd. minimum full & dense
ZF	125	Coontie Palm / <i>Zamia floridana</i>	24" o.c.	12" ht. x 12" spd. minimum full & dense
GROUND COVERS	QTY	COMMON / BOTANICAL NAME	SPACING	
AF	167	Foxtail Fern / <i>Asparagus aethiopicus</i>	24" o.c.	1 Gallon
ANN	166	Annuals / Annuals	12" o.c.	1 Gallon
DI	246	Fortnight Lily / <i>Dietes Iridioides</i>	24" o.c.	1 Gallon
SOD	12,358 sf	St. Augustine Seville / <i>Stenotaphrum secundatum</i> 'Seville'		
TA	246	Asian Jasmine / <i>Trachelospermum asiaticum</i>	18" o.c.	1 Gallon

NOTES:

1. MULCH ALL PLANTING BEDS WITH 2" MINIMUM AND 3" MAXIMUM ORGANIC MULCH.
2. ALL DISTURBED AREAS NOT OTHERWISE LANDSCAPED SHALL BE SODDED WITH BAHIA SOD (LOW MAINTENANCE ZONE)
3. ALL PLANT MATERIAL TO BE FLORIDA NO. 1 QUALITY OR BETTER.
4. NO SUBSTITUTIONS WITHOUT PRIOR WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT.
5. ALL TREES AND PLANTS SHALL MEET MINIMUM SPECIFIED SIZES IN INCHES AND FEET, REGARDLESS OF CONTAINER SIZE INDICATED. WHERE DIFFERENCES OCCUR, THE LARGER SPECIFICATION SHALL PREVAIL.
6. CONTRACTOR TO VERIFY ALL QUANTITIES



TREE PLANTING DETAIL



SHRUB & GROUNDCOVER PLANTING DETAIL

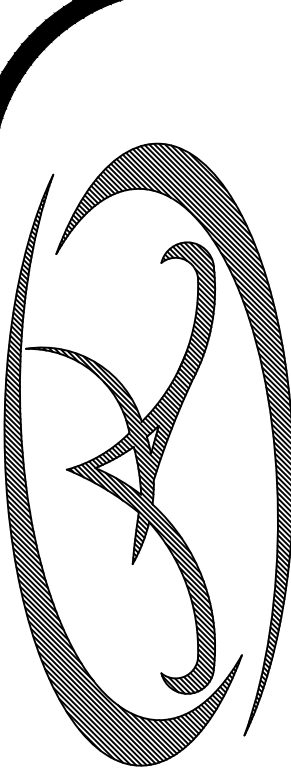
REVISIONS :

DATE : January 5, 2023
PROJECT NO. : 2022122
DESIGNED BY : KSR
DRAWN BY : KSR
CHECKED BY : KSR
SCALE : N.T.S.

SHEET TITLE
LANDSCAPE
DETAILS

L-2
SHEET

MEMORIAL PARK AT NCCOA
OUTDOOR PAVILION AND PARKING IMPROVEMENTS
1901 ISLAND WALK WAY,
FERNANDINA BEACH, FL 32034



A & K LAND PLANNING & DESIGN
Inc.
PHONE: 684 476-9692
405 TURTLE TRACE, SAINT JOHNS, FLORIDA 32259
EMAIL: AKLANDPLANNING@COMCAST.NET
AKLANDPLANNING@GMAIL.COM
FL 066712

MEMORIAL PARK AT NCCOA OUTDOOR PAVILION AND PARKING IMPROVEMENTS 1901 ISLAND WALK WAY, FERNANDINA BEACH, FL 32034

30' EASEMENT
D BOOK 178, PG 80)

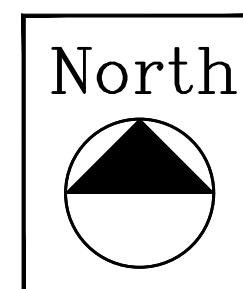
NOTE:
1. CIVIL AND LANDSCAPE DESIGN BY
OTHERS.

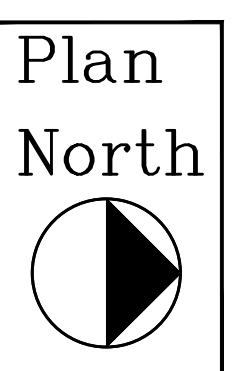
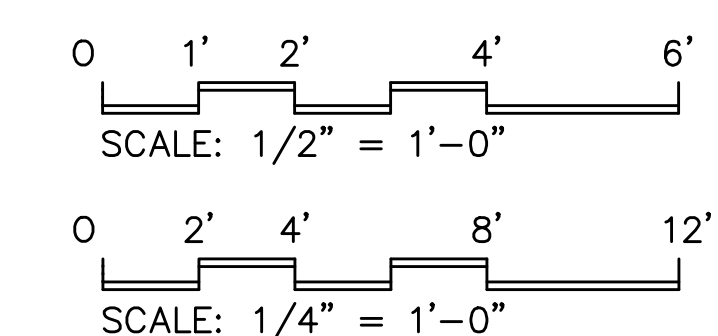
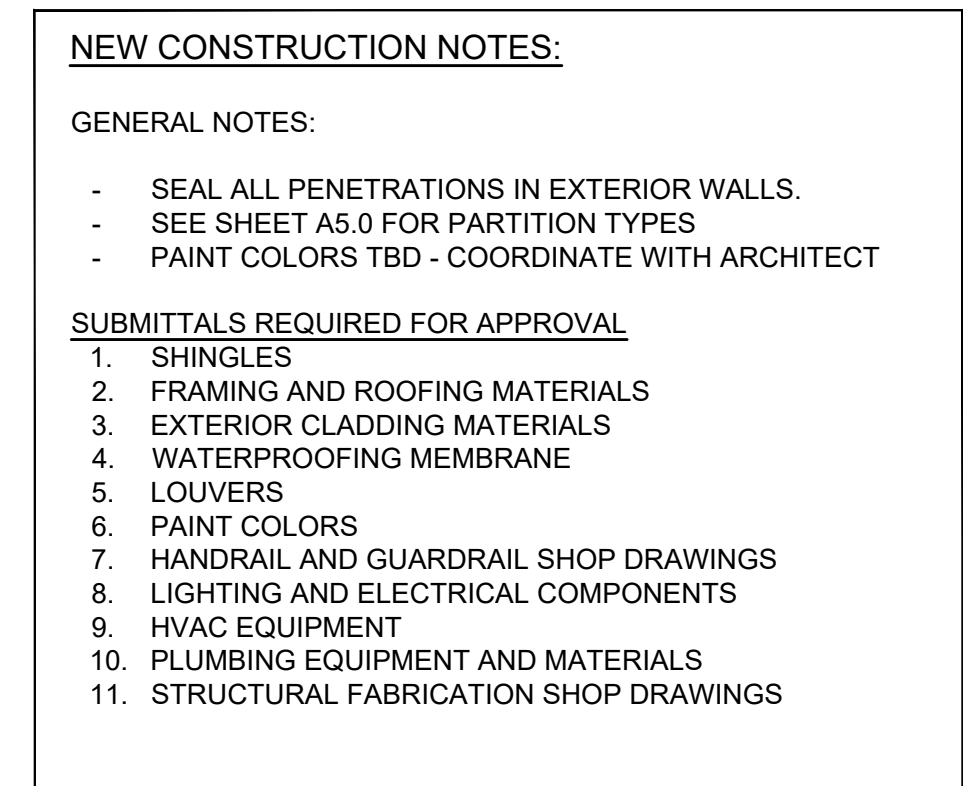
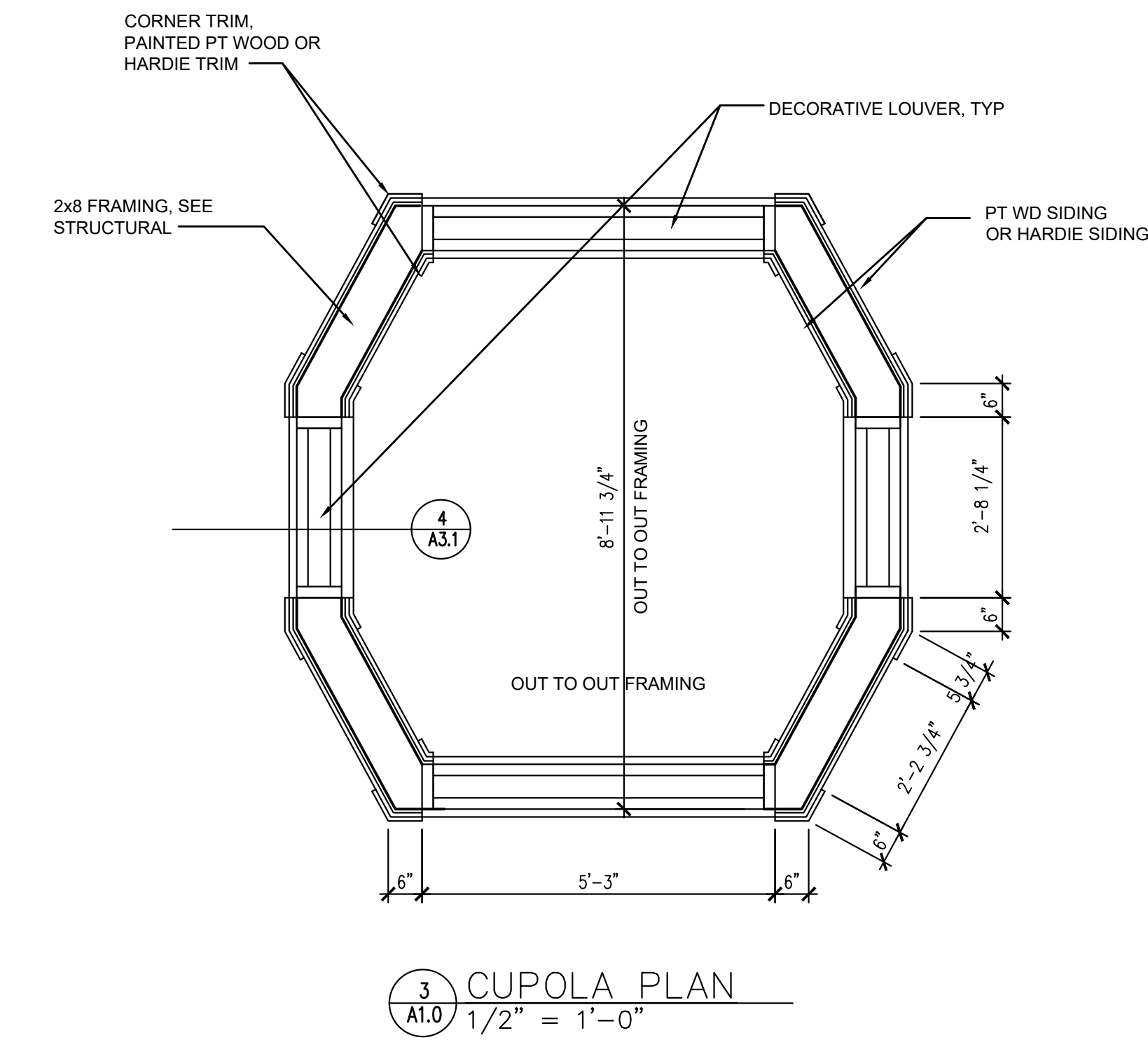
30' DRAINAGE
EASEMENT

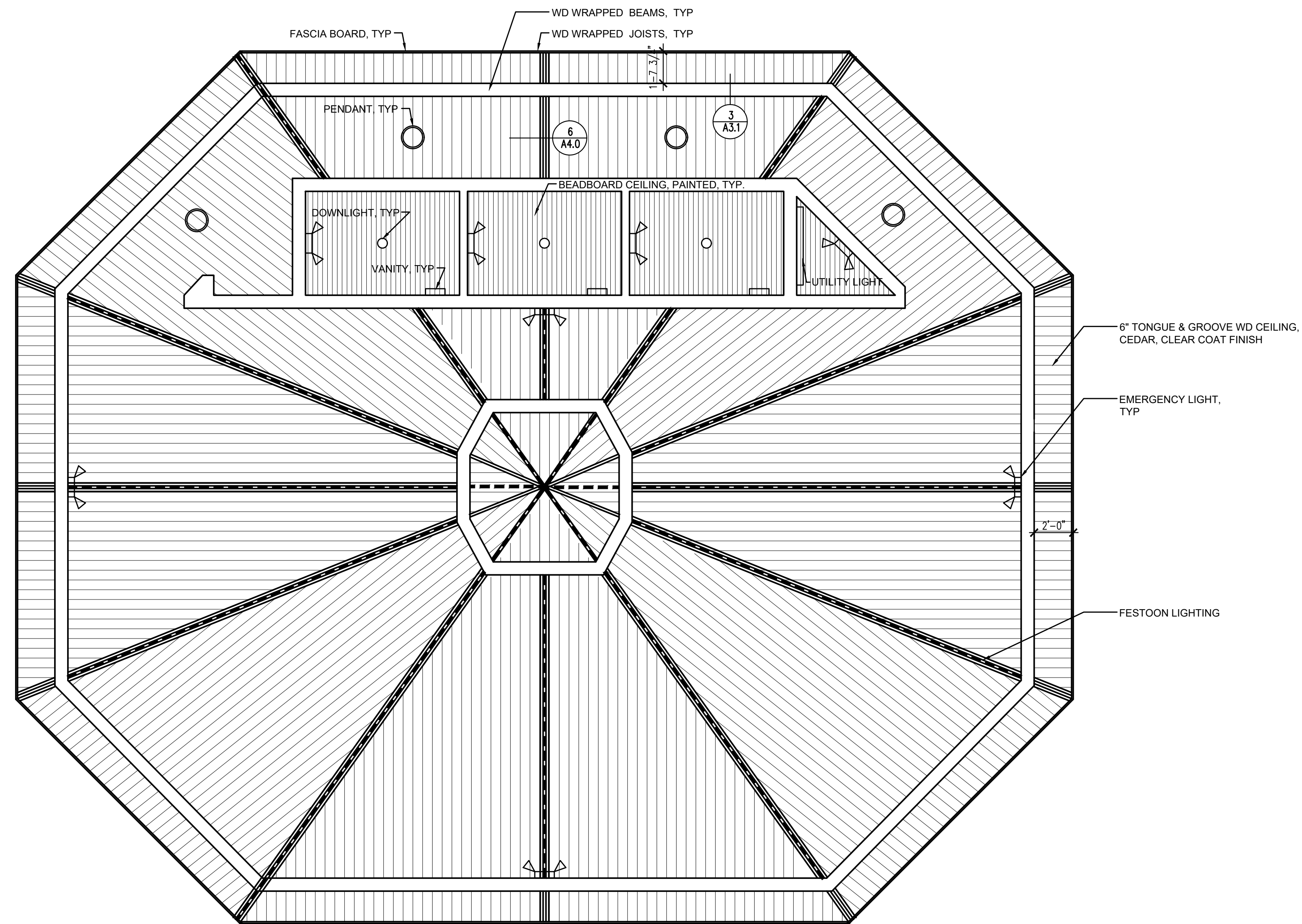
EASEMENT FOR DRAINAGE
SIDEWALKS AND UTILITIES

30'x30' JOINT
ACCESS EASEMENT

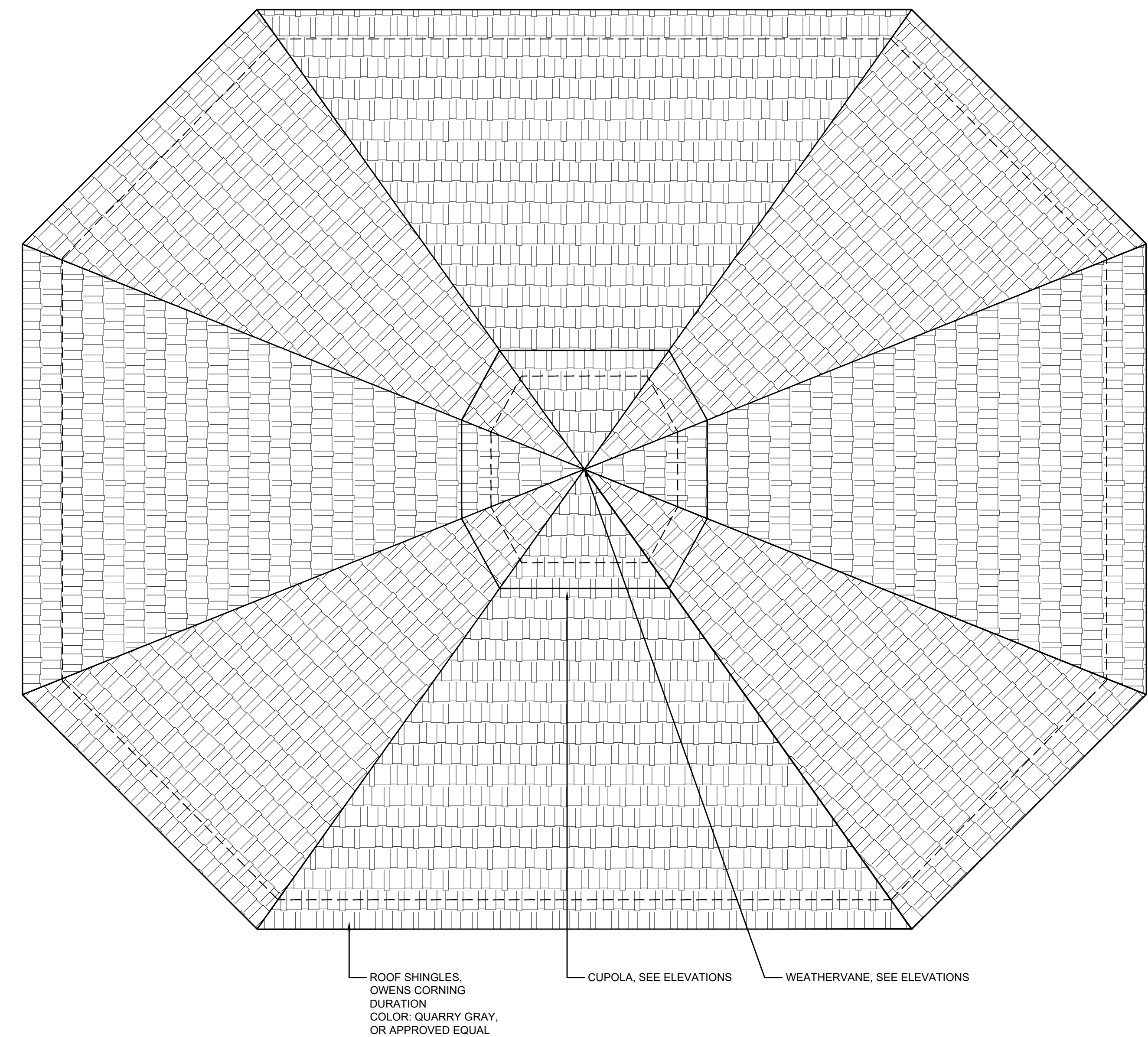
1 ARCHITECTURAL SITE PLAN
1/16" = 1'-0"



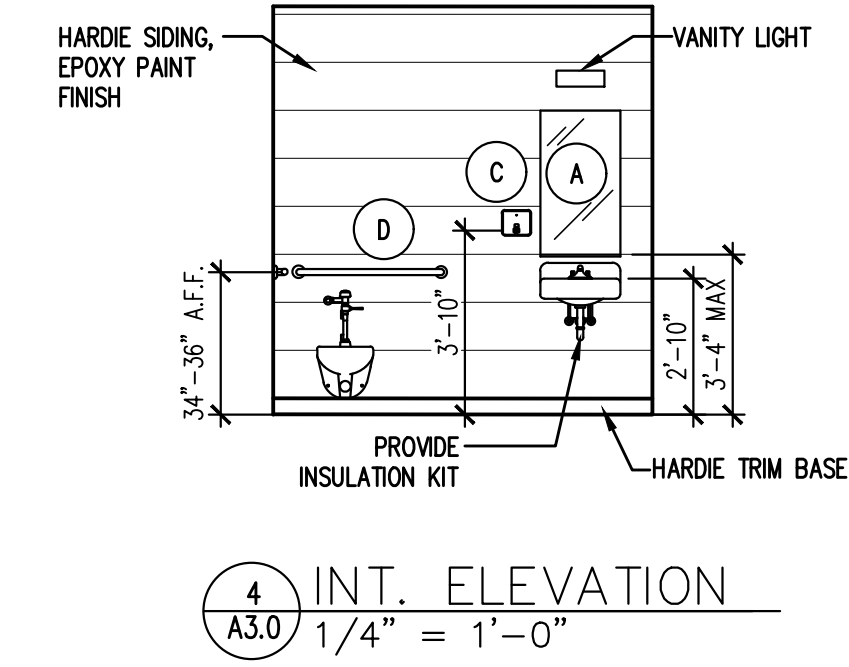




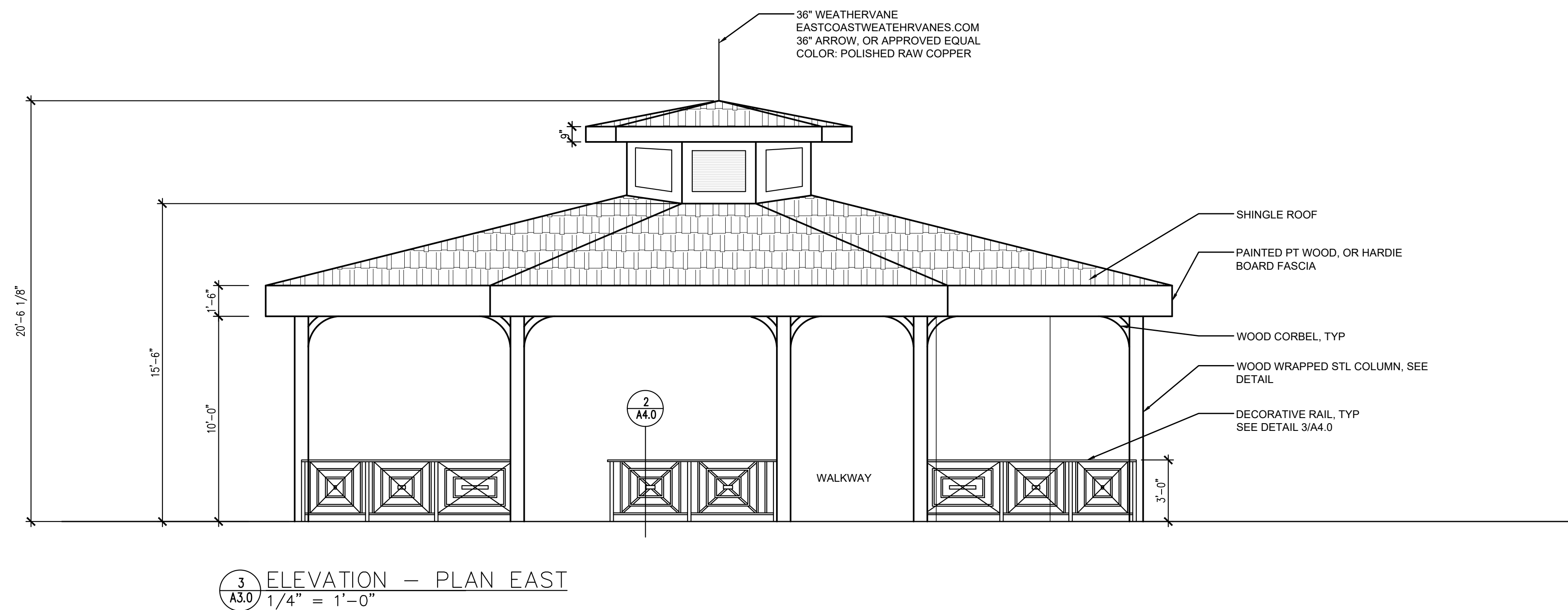
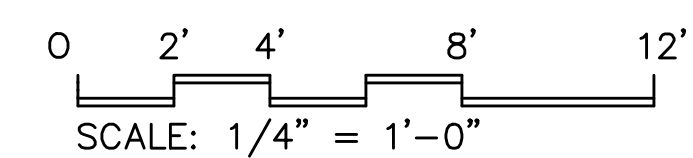
1 REFLECTED CEILING PLAN
A2.0 1/4" = 1'-0"

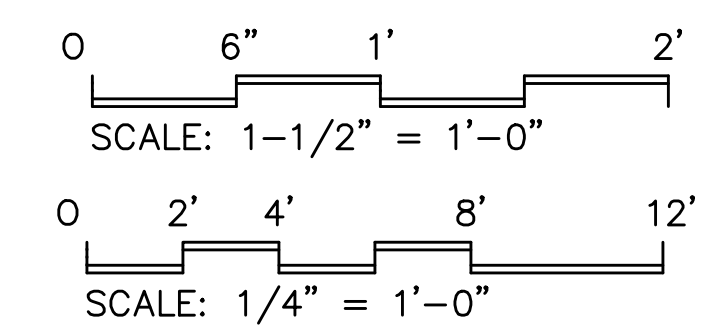
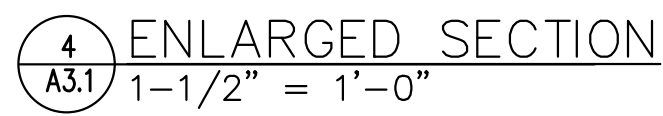
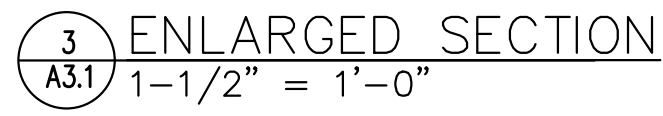


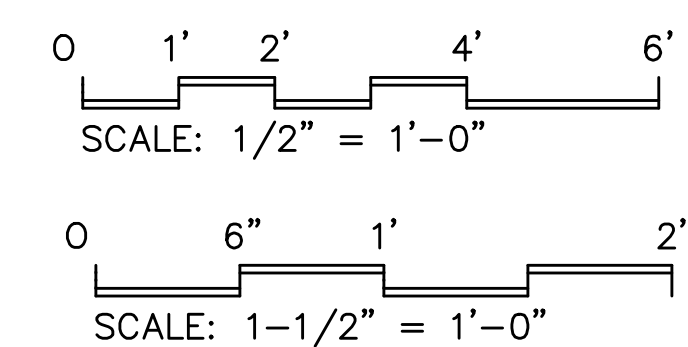
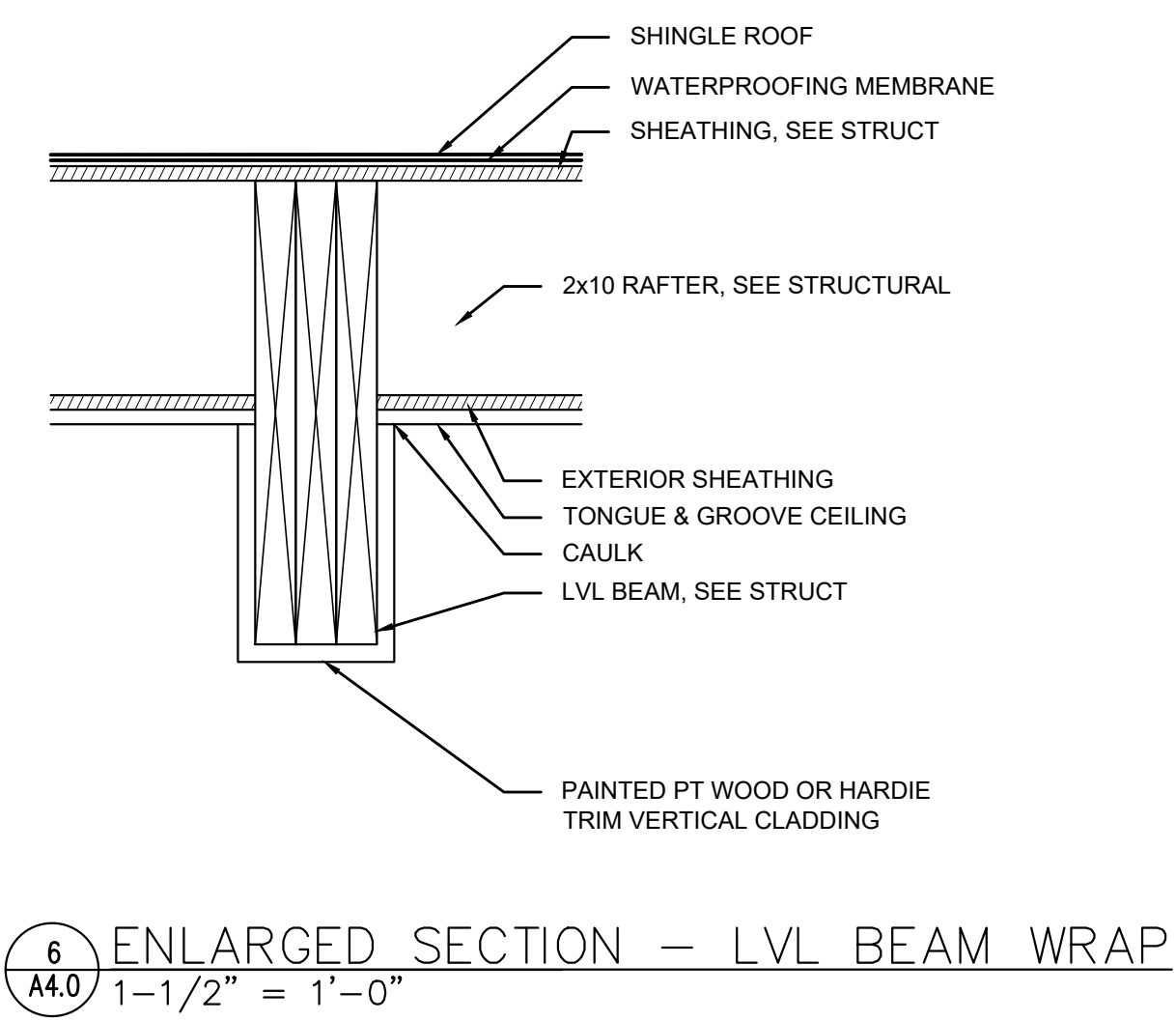
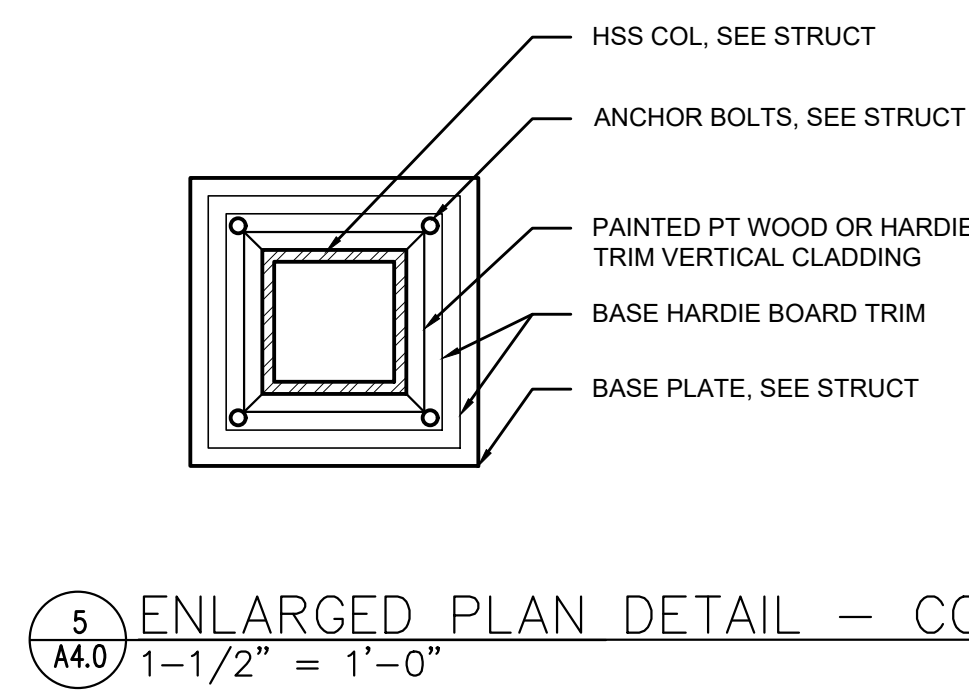
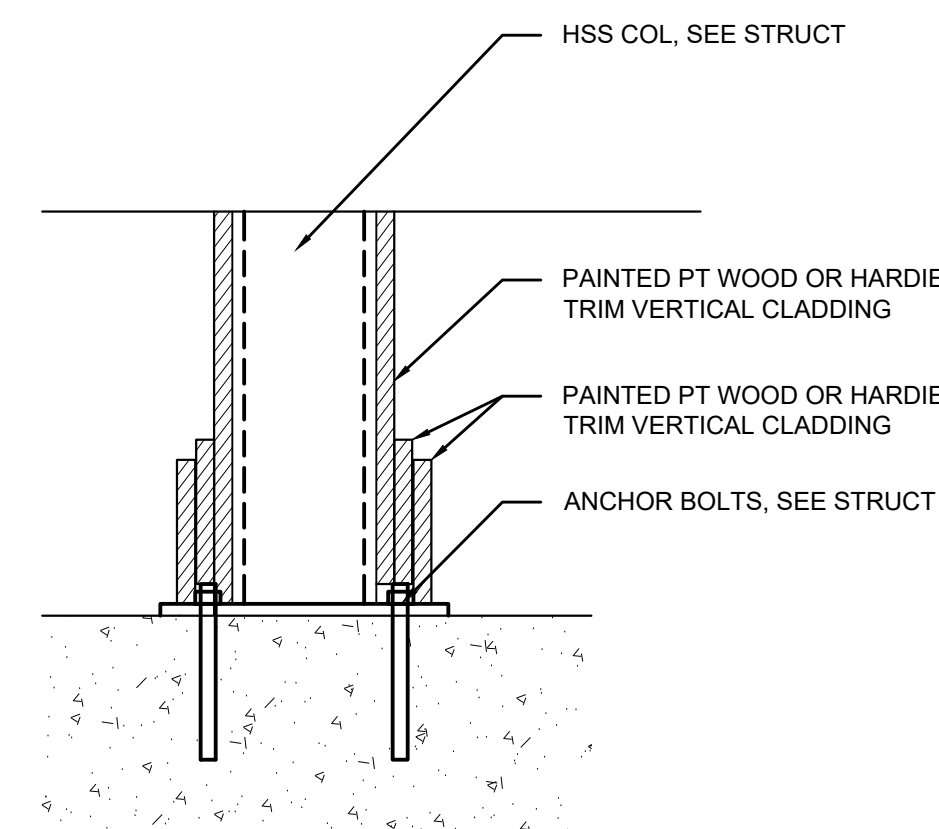
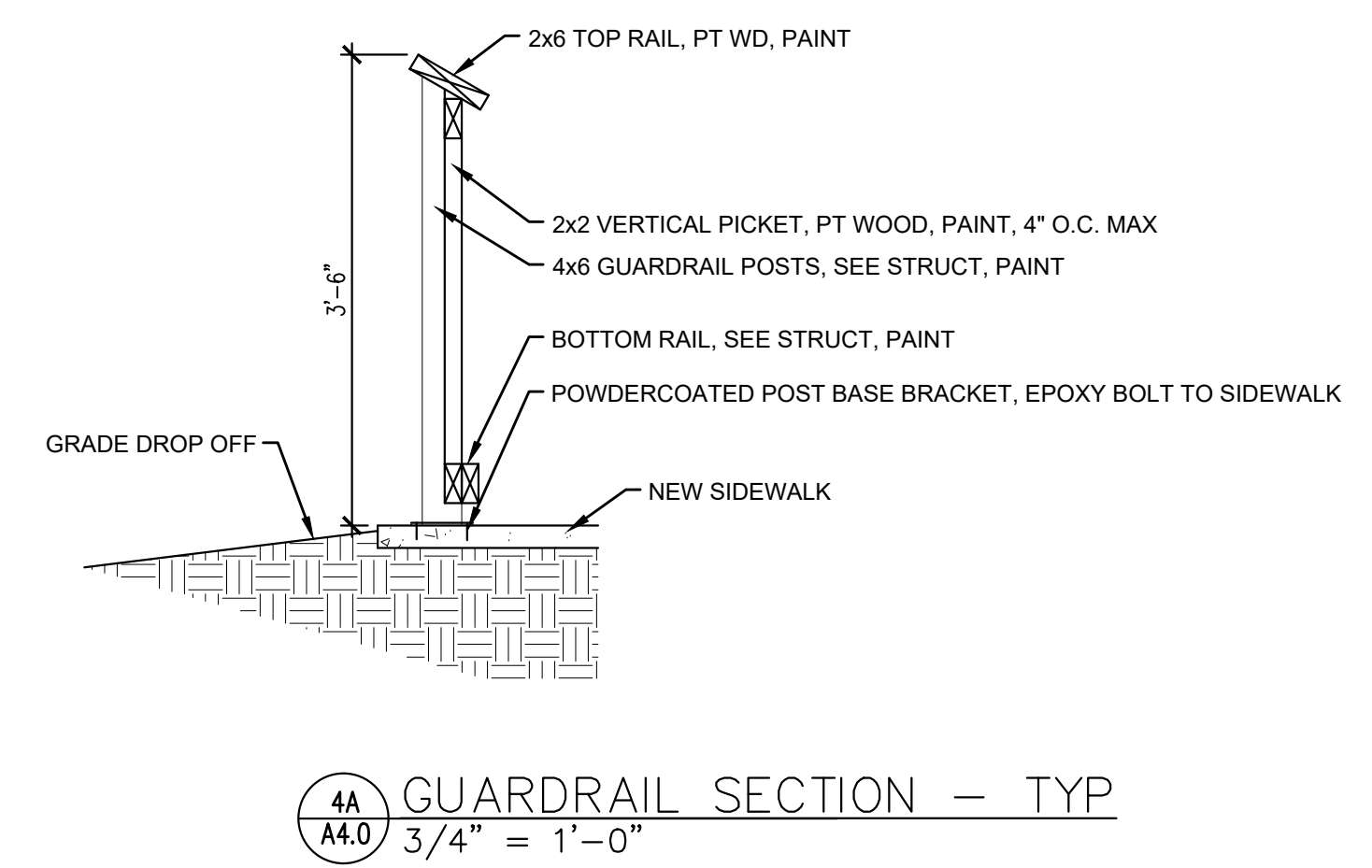
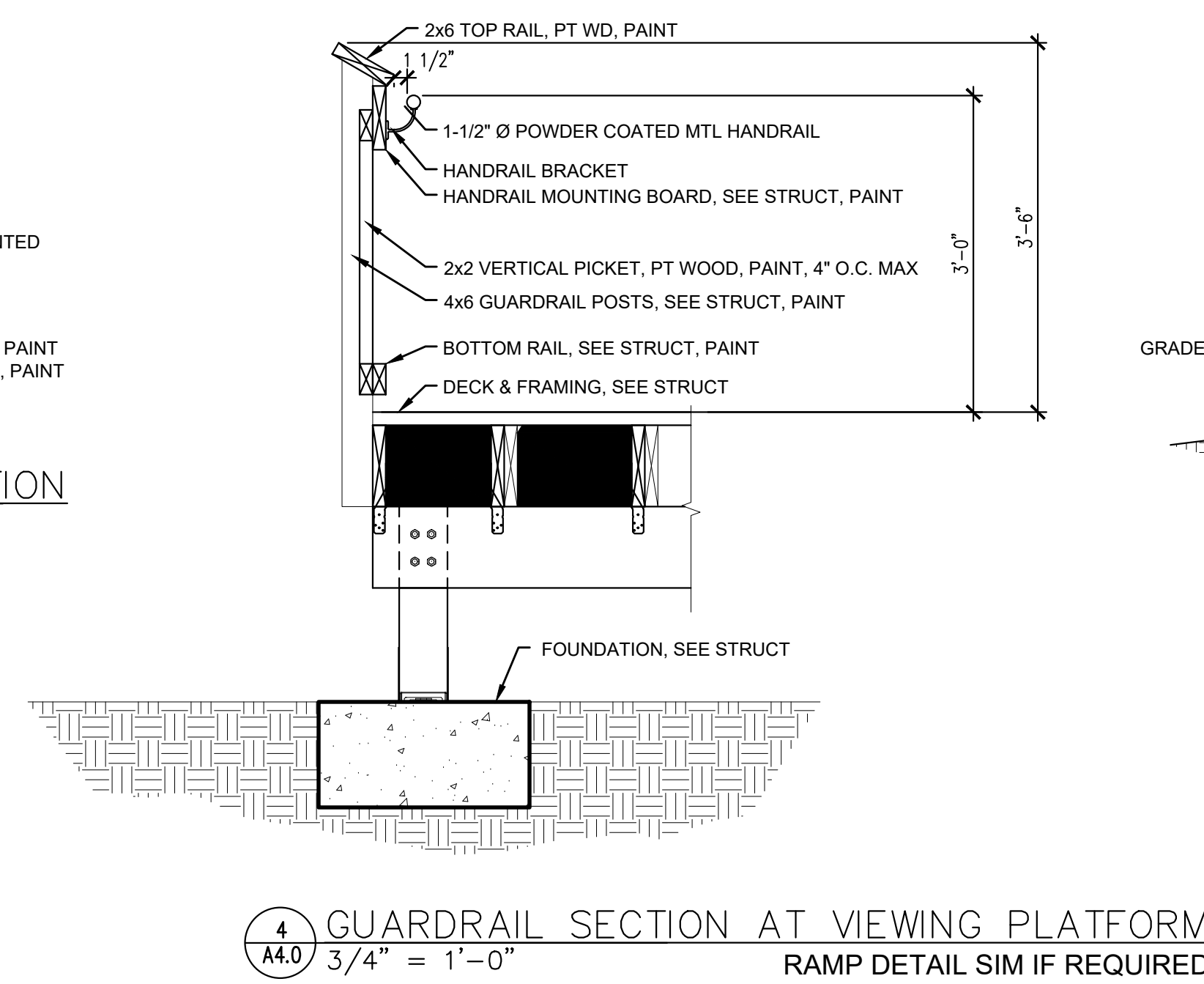
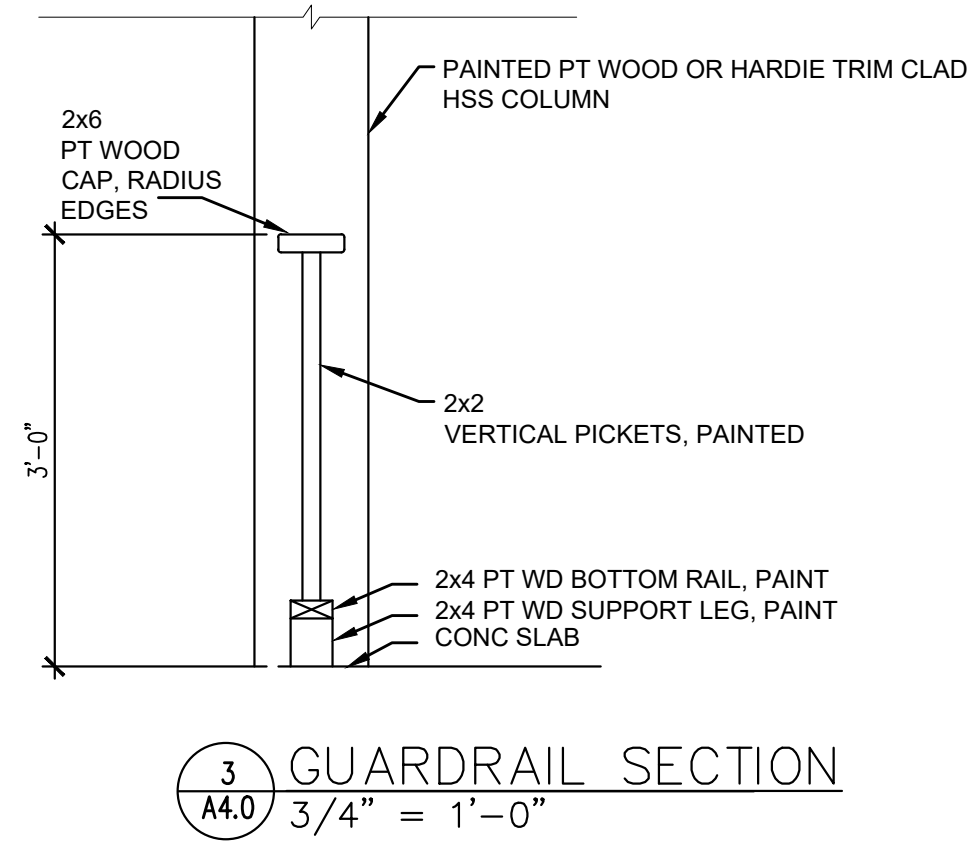
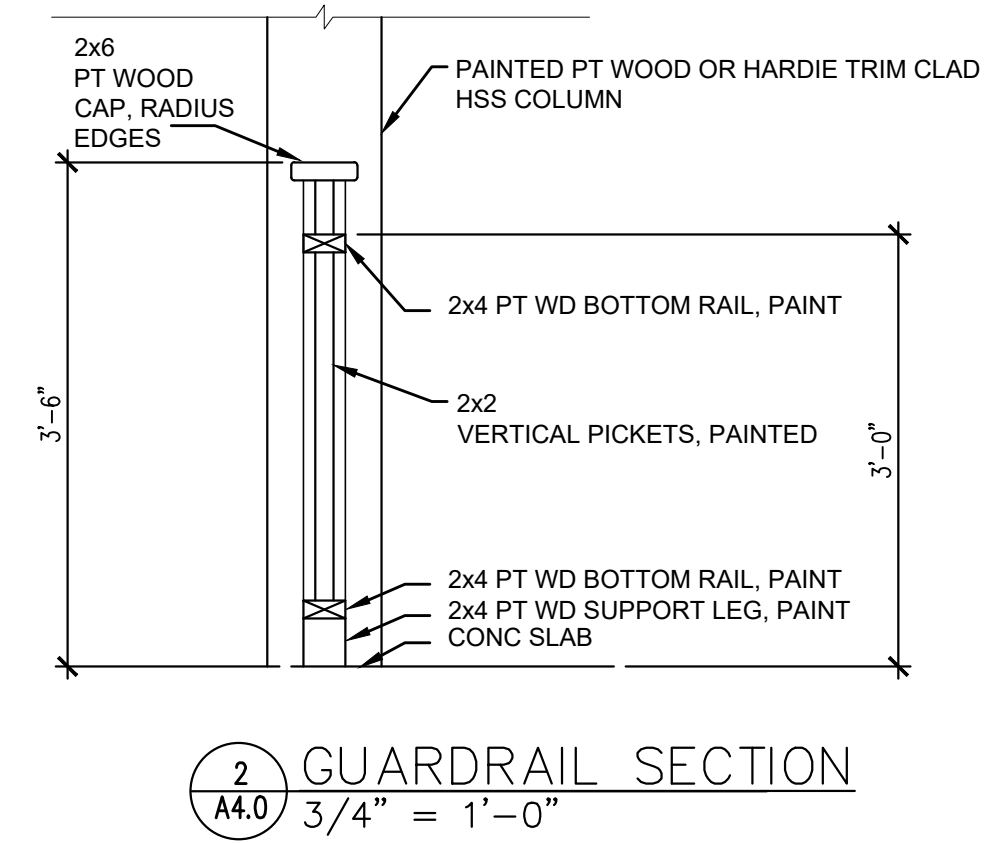
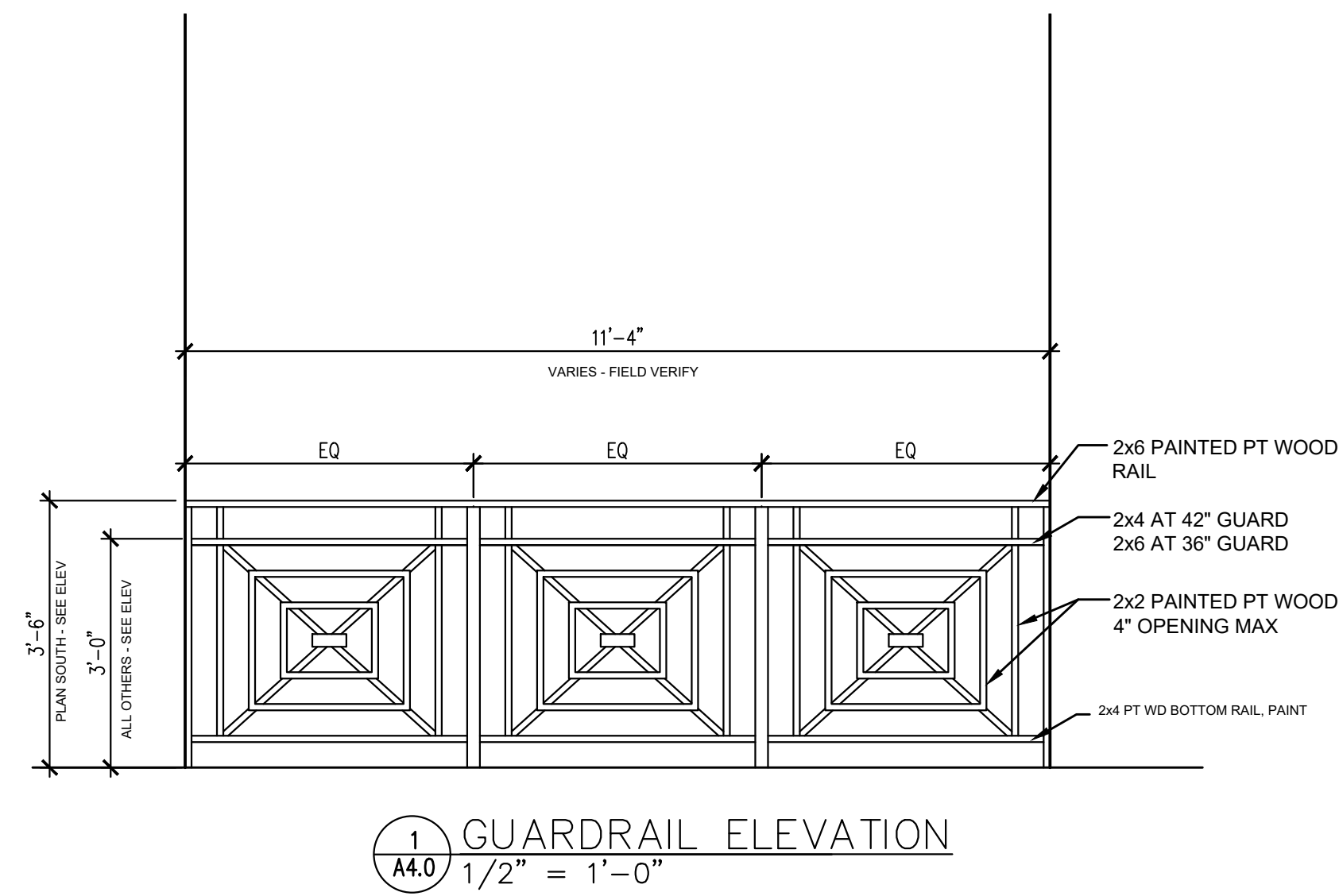
3 ROOF PLAN
A1.0 1/4" = 1'-0"

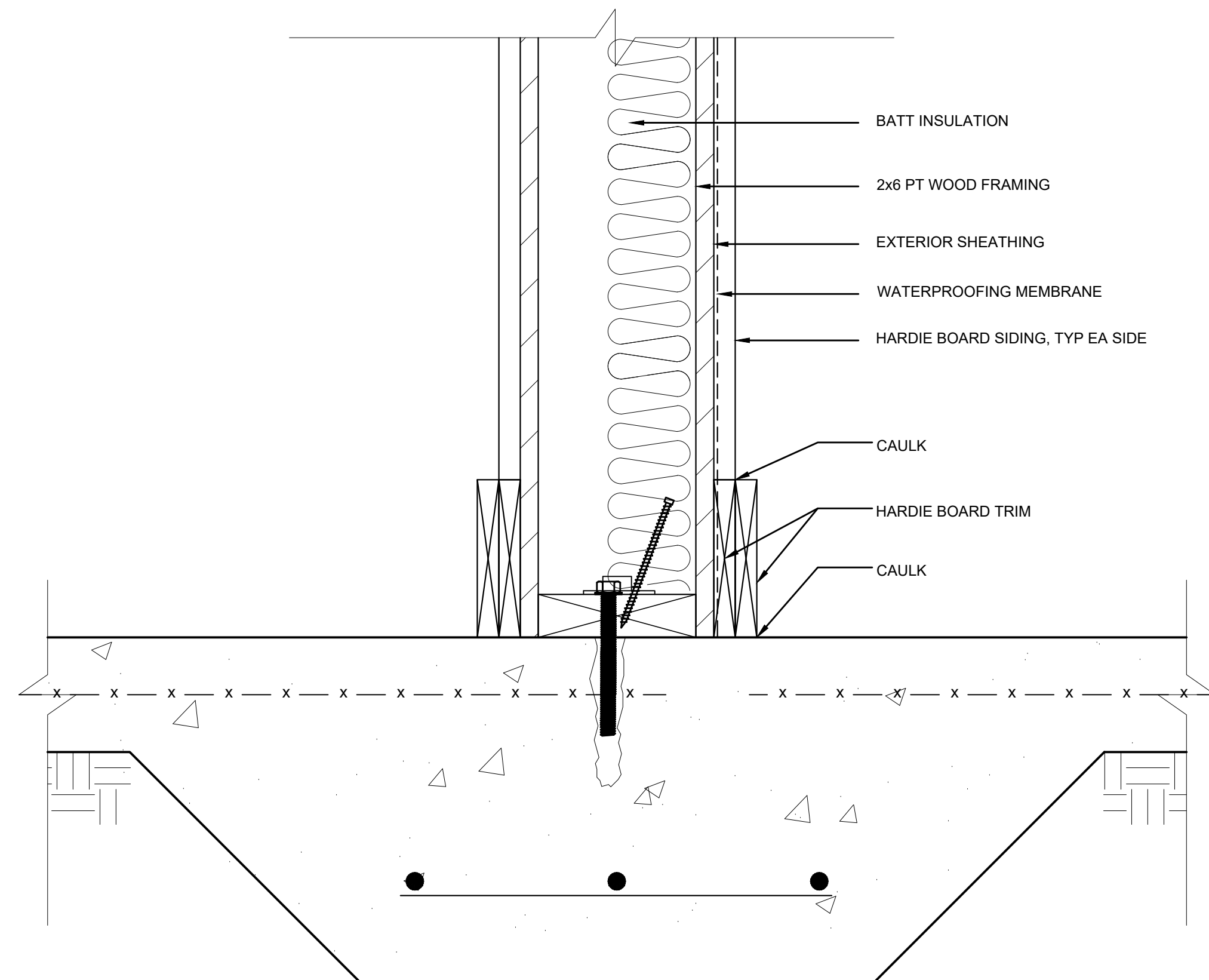


TOILET ACCESSORIES - COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION				
		<u>ITEM</u>	<u>LOCATION</u>	<u>MANUFACTURER / MODEL</u>
	A	MIRROR: 30"X36"	ALL RESTROOMS	BOBRICK: B290 SERIES
	B	PAPER TOWEL/WASTE RECEPTACLE ROLL PAPER TOWELS	ALL RESTROOMS	BOBRICK: B39617
	C	WALL MOUNTED SOAP DISPENSER	ALL RESTROOMS	BOBRICK: B-818615
	D	GRAB BARS: 36" & 42"	ALL RESTROOMS	BOBRICK: B5806-36, -42
	E	TOILET TISSUE DISPENSER - LARGE ROLLS	ALL RESTROOMS	BOBRICK: B2892
	F	BABY CHANGING STATION	UNISEX RESTROOM	KOALA KB110-SSRE

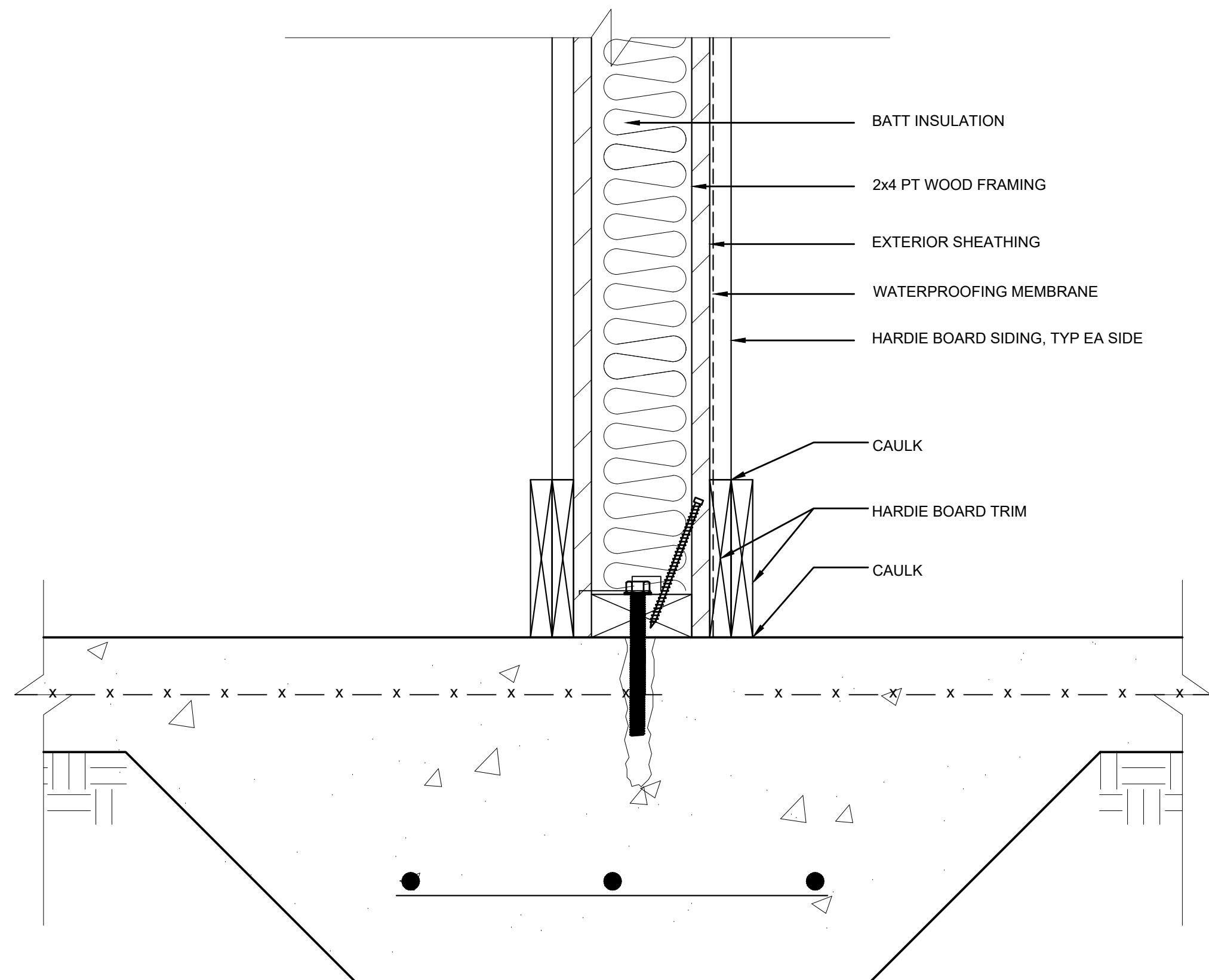








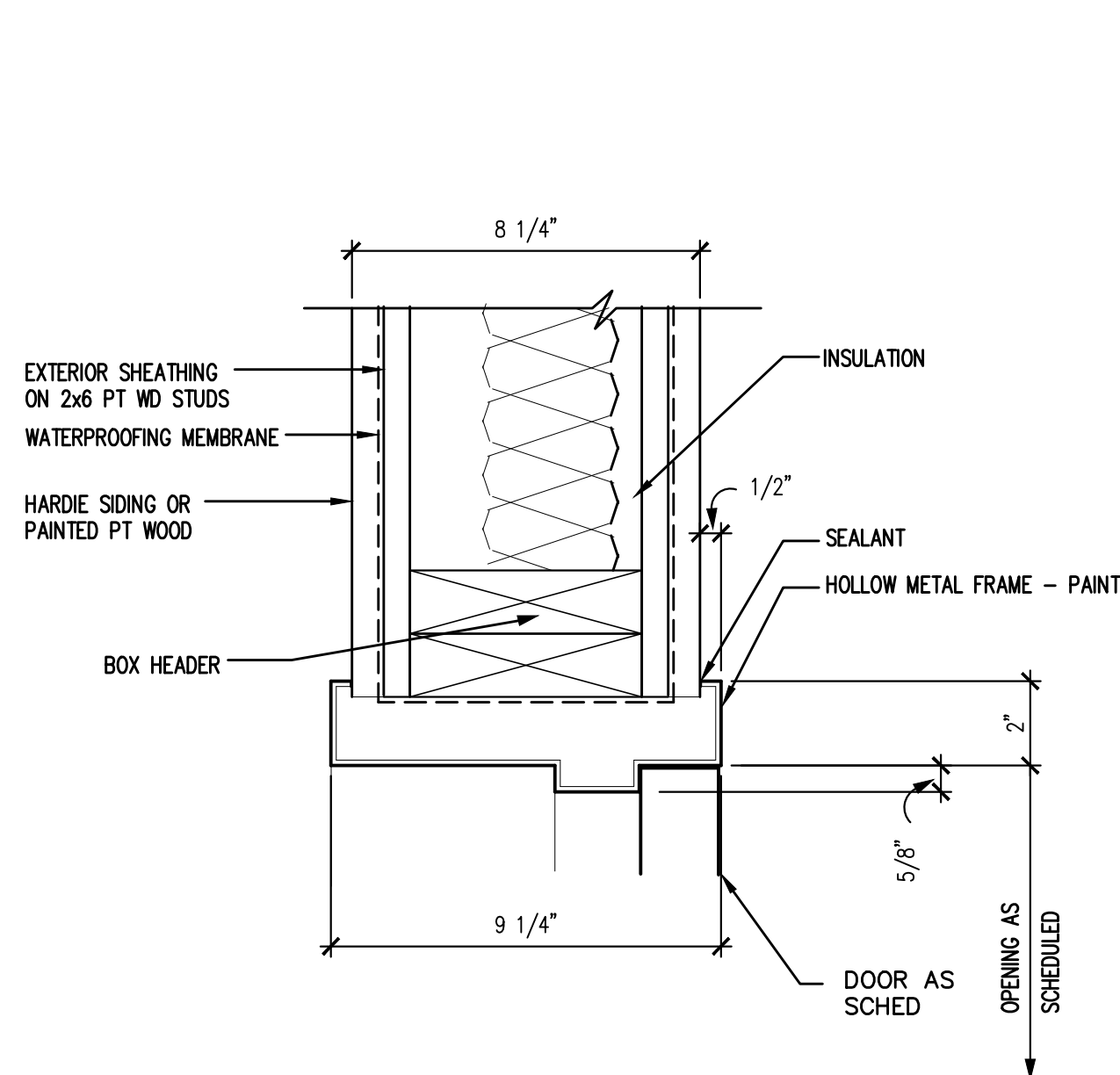
1 PART TYPE 1 – EXTERIOR WALL – 6” STUD
3" = 1'-0"



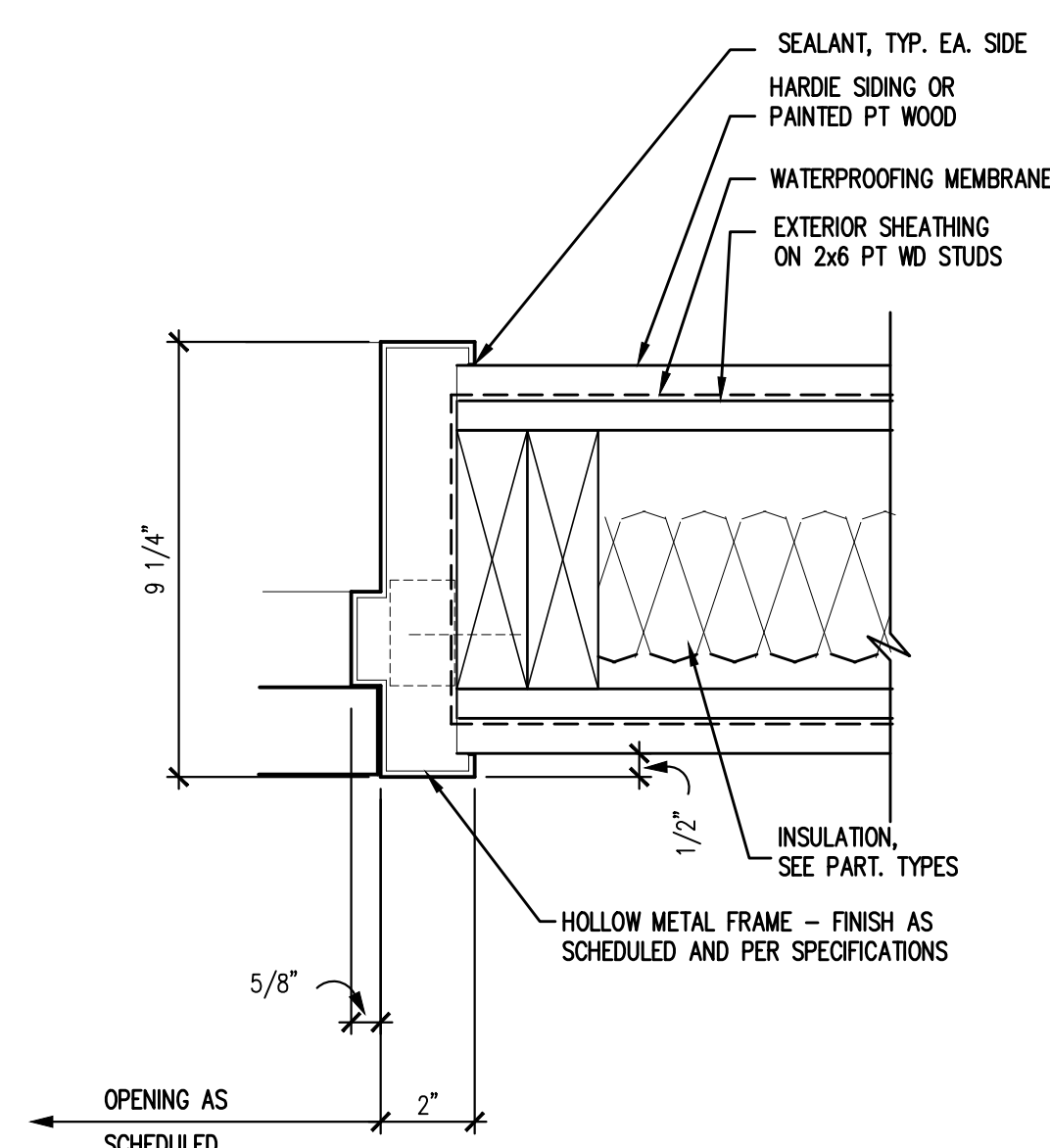
2 PART TYPE 1 – EXTERIOR WALL – 4” STUD
3" = 1'-0"

Door Schedule									
General					Door Elev	Frame Type	Frame Detail	Hardware Function	Notes
Door Mark	Room	Rating	Width	Height					
1	MEN'S RESTROOM	-	3'-0"	7'-0"	HM	HM	3/4/5/A5.0	F19-OCC, WS, TH, CL	-
2	WOMEN'S RESTROOM	-	3'-0"	7'-0"	HM	HM	3/4/5/A5.0	F19-OCC, WS, TH, CL	-
3	UNISEX RESTROOM	-	3'-0"	7'-0"	HM	HM	3/4/5/A5.0	F19-OCC, WS, TH, CL	-
4	JANITOR	-	3'-0"	7'-0"	HM	HM	3/4/5/A5.0	F07, CL WS, TH, KP	-

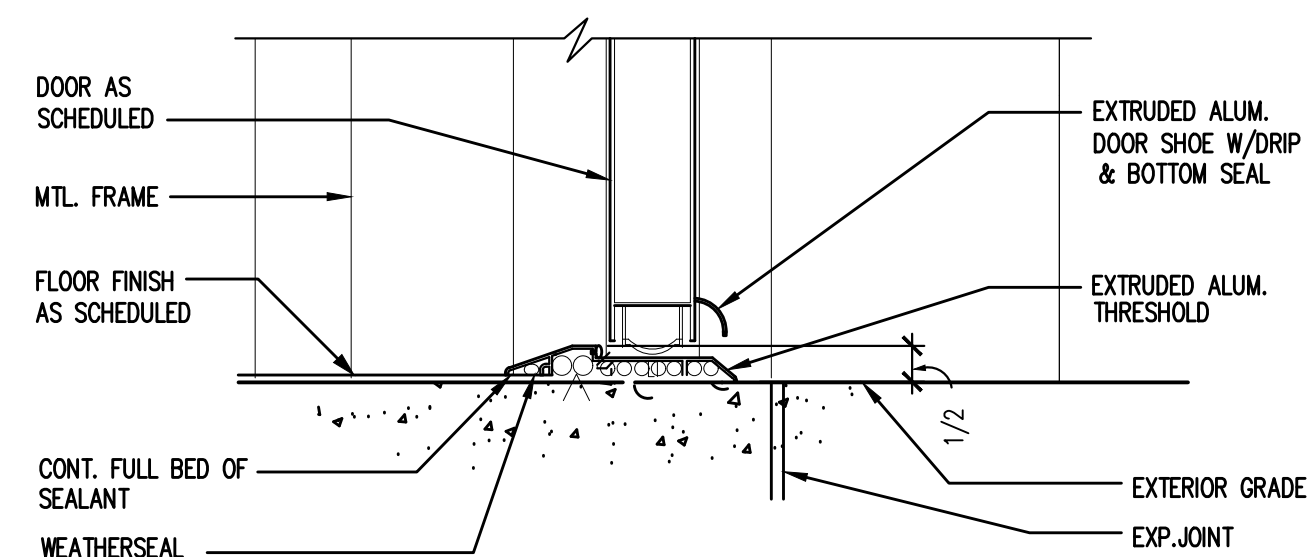
GENERAL NOTES:	
GN1	ALL DOOR FRAMES SHALL BE WELDED HOLLOW METAL, UNLESS OTHERWISE NOTED
GN2	ALL NEW DOORS TO BE HM DOORS - PAINT GRADE, HEAVY DUTY STEEL EXTERIOR DOORS
HARDWARE NOTES:	
HN1	HARDWARE FOR NEW DOORS: PROVIDE BRUSHED STAINLESS, SCHLAGE GRADE 2, AL SERIES, SATURN LEVER HANDLE LOCKSETS, PROVIDE 3 PASS KEYS FOR EACH LOCKSET, 3 MASTER KEYS (6 SETS), COORDINATE WITH OWNER FOR KEYING SYSTEM, PIN REQUIREMENTS.
HN2	ALL NEW DOORS SHALL RECEIVE 3 HINGES, WALL OR FLOOR STOP & SILENCERS, UNLESS NOTED OTHERWISE.
HARDWARE LOCK FUNCTIONS:	
F07	STORAGE
F19	PRIVACY WITH OCCUPANCY NOTIFICATION
DOOR/HARDWARE KEY ITEMS:	
CL	CLOSER
KP	KICK PLATE
TH	THRESHOLD
WS	WEATHERSTRIPPING



3 HEAD DETAIL
3" = 1'-0"



4 JAMB DETAIL
3" = 1'-0"



NOTE: PROVIDE SILENCERS AT ALL DOOR FRAMES.

5 SILL DETAIL
3" = 1'-0"

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PERMIT
DOCUMENTS

PARTITION
TYPES AND
DOOR DETAILS

NO : DATE : REVISION

COMMISSION NO.: 2022-10
ISSUE DATE: 11-14-22
DRAWN BY: BR
CHECKED BY: BR

A5.0

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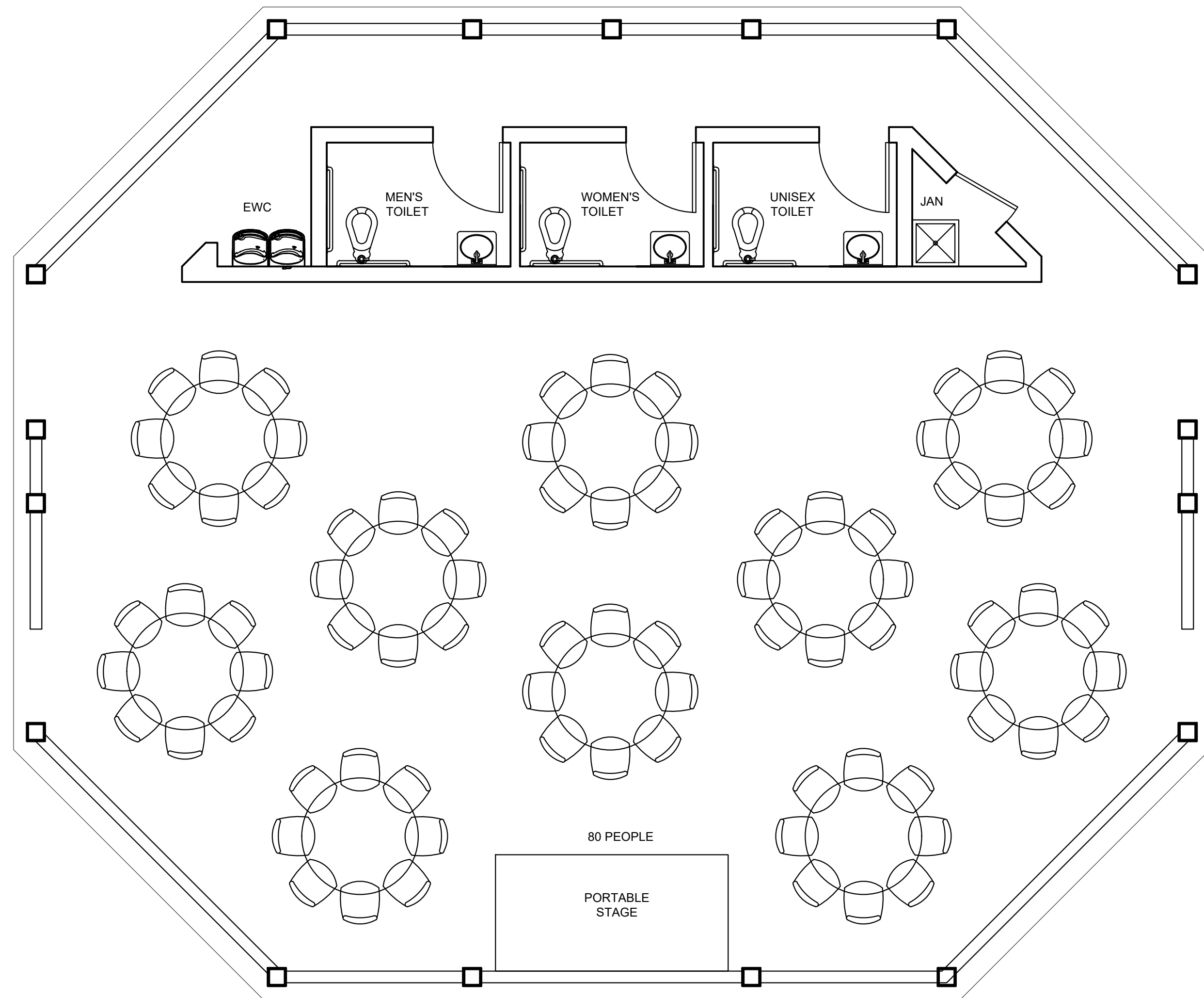
COMMISSION NO.: 2022-10

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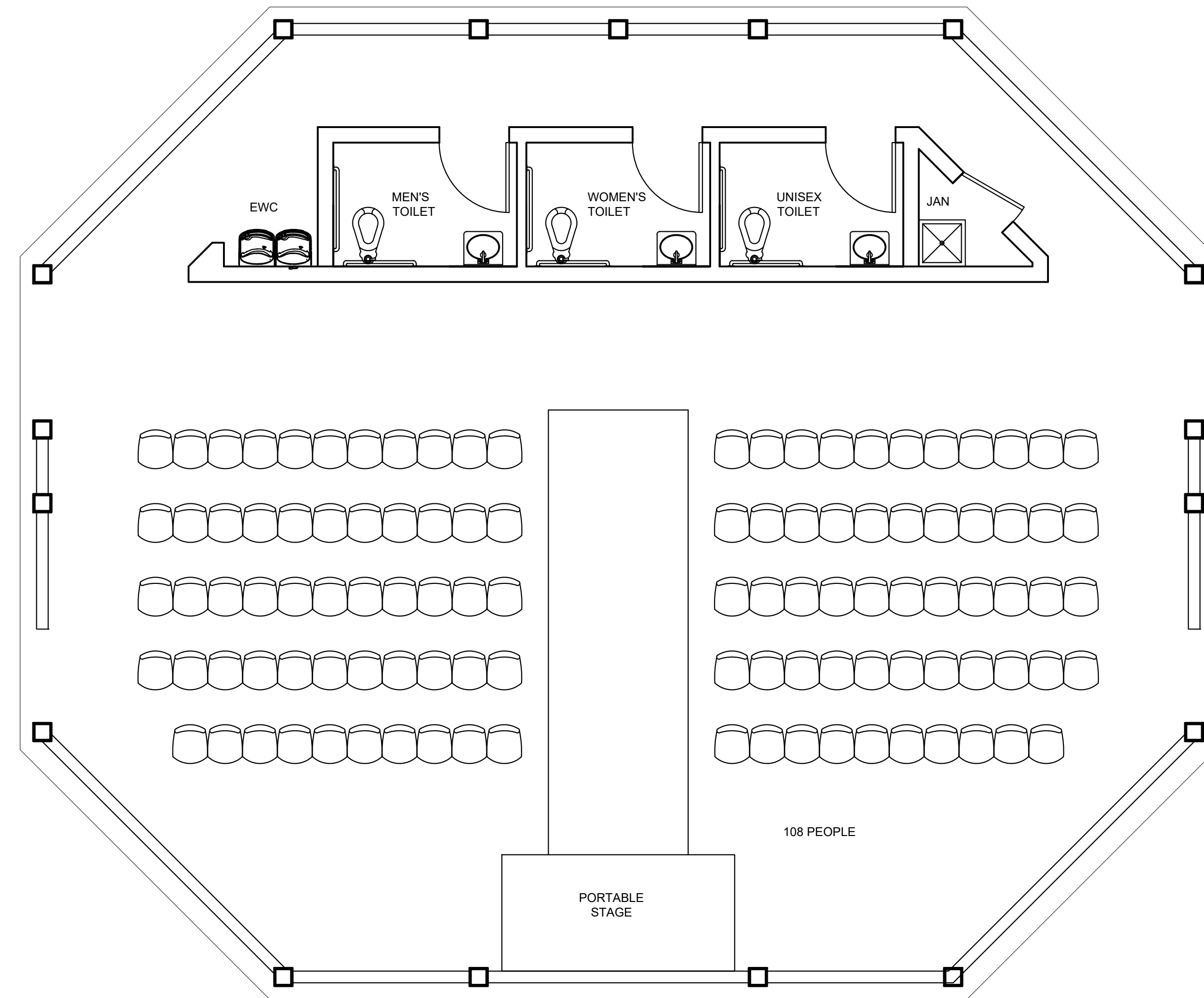
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IF1.0



1 FURNITURE PLAN — FOR REFERENCE ONLY, NIC
IF1.0 1/4" = 1'-0"



2 FURNITURE PLAN — FOR REFERENCE ONLY, NIC
IF1.0 1/4" = 1'-0"

0 2' 4' 8' 12'
SCALE: 1/4" = 1'-0"

