

# CONSTRUCTION PLANS

for

# HOBART PARK BASEBALL FIELD IMPROVEMENTS

in

## INDIAN RIVER COUNTY, FLORIDA

## SEPTEMBER 2023

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### UTILITIES

LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM INFORMATION FURNISHED BY UTILITY COMPANIES AND ARE APPROXIMATE ONLY. CONTRACTOR IS TO FAMILIARIZE HIMSELF WITH, AND VERIFY CONDITIONS AT SITE. CONTRACTOR SHALL MAKE DILIGENT INQUIRY AT THE OFFICE OF THE UTILITY COMPANIES AND MUNICIPAL AUTHORITIES TO DETERMINE THE EXACT LOCATION OF UTILITY STRUCTURES. THE CONTRACTOR SHALL NOTIFY, IN WRITING, THE UTILITY COMPANIES, MUNICIPALITY AND OWNERS INVOLVED OF THE NATURE AND SCOPE OF THE PROJECT, AND OF HIS OPERATIONS THAT AFFECT THEIR FACILITIES OF PROPERTY.



## IRC PROJECT #1759

**DATUM**  
THE DATUM AND DESIGN GRADES SHOWN  
WITHIN THESE PLANS REFER TO THE  
NORTH AMERICAN VERTICAL DATUM OF 1988  
(NAVD 1988)

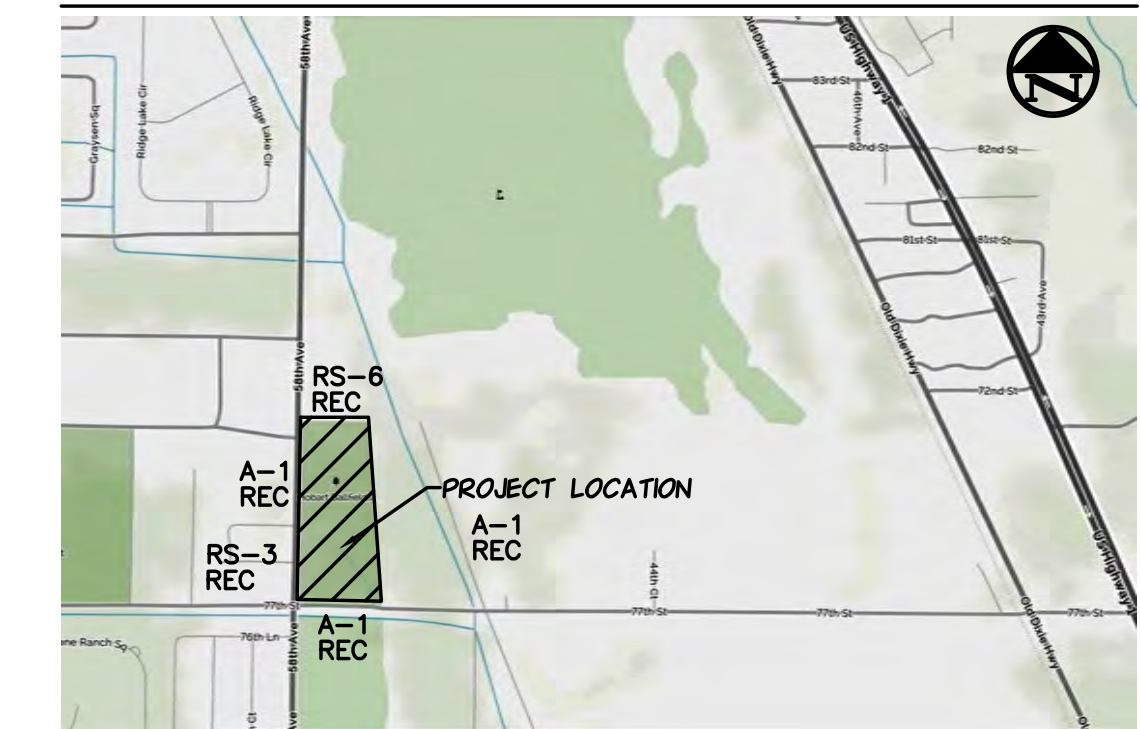
Call 48 hours before you dig in Florida



Sunshine State One Call of Florida, Inc.

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### VICINITY MAP (NOT TO SCALE)



### OWNER

INDIAN RIVER COUNTY  
1801 27th STREET  
VERO BEACH, FL 32960  
Phone: (772) 567-8000

### APPLICANT

INDIAN RIVER COUNTY  
1801 27th STREET  
VERO BEACH, FL 32960  
Phone: (772) 567-8000

### ENGINEER

MASTELLER AND MOLER, INC.  
1655 27TH STREET, SUITE 2  
VERO BEACH, FLORIDA 32960  
Phone: (772) 567-5300 / Fax: (772) 794-1106  
most.molr@bellsouth.net

### ARCHITECT

DONADIO & ASSOCIATES, ARCHITECTS, P.A.  
A SPIEZLE GROUP INC. COMPANY  
2001 9th AVENUE, SUITE 308  
VERO BEACH, FLORIDA 32960  
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### SURVEYOR

INDIAN RIVER COUNTY  
1801 27th STREET  
VERO BEACH, FL 32960  
Phone: (772) 226-1220

### STRUCTURAL ENGINEER

ML ENGINEERING, INC.  
2030 37th AVENUE  
VERO BEACH, FLORIDA 32960  
Phone: (772) 569-1257 / Fax: (772) 569-4041  
most.molr@bellsouth.net

### ELECTRICAL ENGINEER

TREASURE COAST ENGINEERING  
4925 13th LANE  
VERO BEACH, FLORIDA 32966  
Phone: (772) 567-1007

### LANDSCAPE ARCHITECT

SARTAIN ASSOCIATES  
5099 HIGHWAY A-1-A, SUITE 3  
VERO BEACH, FL 32966  
Phone: (772) 234-1133

### HOBART PARK BASEBALL FIELDS

### MASTELLER & MOLER, INC.

CONSULTING ENGINEERS  
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
(772) 567-5300 / FAX (772) 794-1106  
CERTIFICATE OF AUTHORIZATION NUMBER 4204

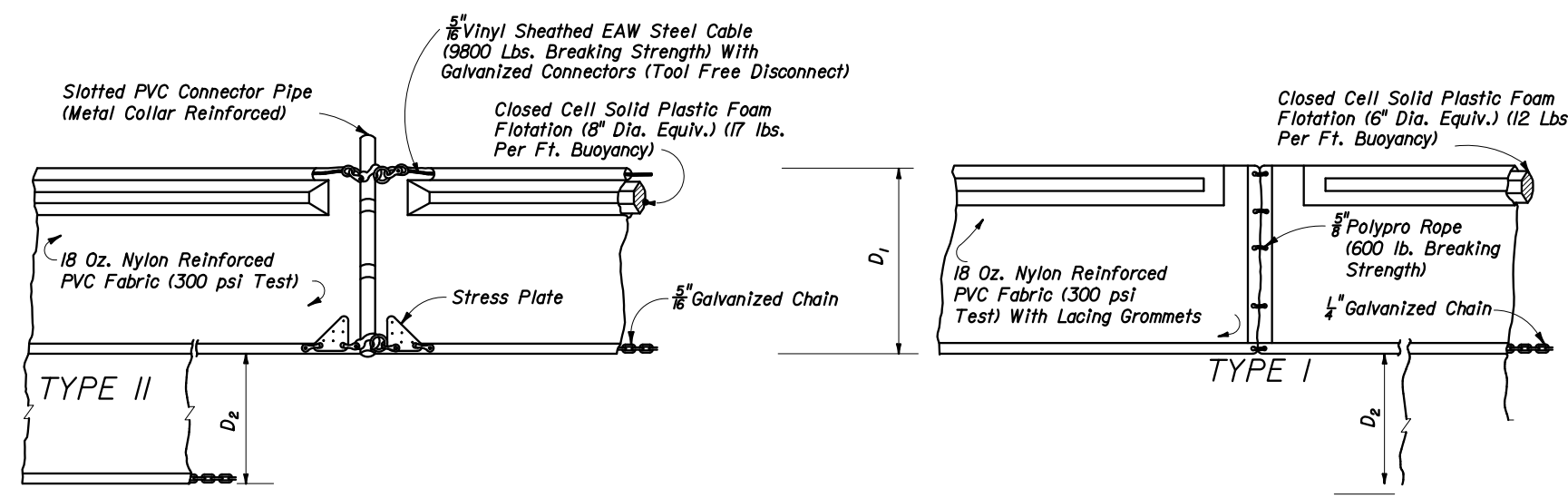
FOR BIDDING PURPOSES ONLY

STEPHEN E. MOLER, P.E. FL#33193

NO.	DATE	DESCRIPTION	SH/SEM
10.	10/20/23	DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS	SH/SEM
9	7/17/23	REMOVE PHASING; ADD RIP-RAP TO LATERAL G CANAL BANK	SH/SEM
8	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
7.	9/18/18	REVISED PER IRC COMMENTS 9/17/18	SH/SEM
6.	8/28/18	REVISED PER IRC UTIL MARKUPS	SH/SEM
5.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
4.	8/11/18	ADDED DATUM NOTE PER SURVWD	SH/SEM
3.	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS



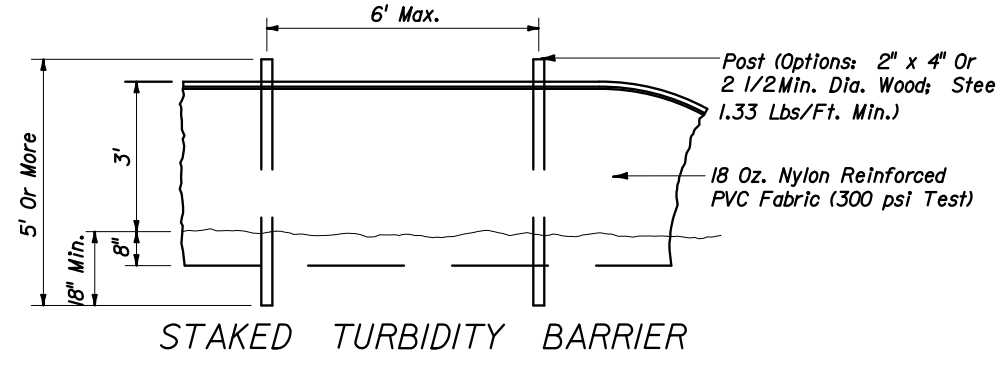


D = 5' Std. (Single Panel For Depths 5' or Less), D = 5' Std. (Additional Panel For Depths Greater Than 5').  
 Curtains To Float Bottom Up To Depths Of 10 Feet. Two (2) Panels To Be Used For Depths Greater Than 10 Feet Unless Special Depth Curtains Specifically Called For In The Plans Or As Determined By The Engineer.  
 NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER.  
 SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

**FLOATING TURBIDITY BARRIERS**

**NOTES:**

- Turbidity barriers are to be used in all permanent bodies of water regardless of water depth.
- Number and spacing of anchors dependent on current velocities.
- Deployment of barrier around pile locations may vary to accommodate construction operations.
- Navigation may require segmenting barrier during construction operations.
- For additional information see Section 104 of the Standard Specifications.



STAKED TURBIDITY BARRIER

**NPDES NOTES**

**NOTICE TO CONTRACTORS:**  
 THIS PROJECT IS REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AS ADMINISTERED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP).

THE CONTRACTOR SHALL THEREFORE COMPLY WITH THE REQUIREMENTS OF FDEP'S "GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" PER FDEP DOCUMENT NUMBER 62-621.300(4) (A). IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND MAINTAIN BMP'S AT THE SITE IN ACCORDANCE WITH THE CONDITIONS OF THE "GENERIC PERMIT". THE CONTRACTOR SHALL BE CONSIDERED TO BE THE "OPERATOR" AS DEFINED HEREIN.

THE OPERATOR IS DEFINED AS: THE LEGAL ENTITY THAT OWNS OR OPERATES THE CONSTRUCTION ACTIVITY AND THAT HAS THE AUTHORITY TO CONTROL THOSE ACTIVITIES AT THE PROJECT NECESSARY TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT. THE OPERATOR'S RESPONSIBILITIES ARE AS A MINIMUM AS FOLLOWS:

- PREPARE STORMWATER POLLUTION PREVENTION PLAN AND MAINTAIN THE SITE IN ACCORDANCE WITH THAT PLAN.
- FILE A "NOTICE OF INTENT", (DEP FORM 62-621.300(4) (D)), INCLUDING APPLICABLE PERMIT PROCESSING FEES 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A COPY OF THE "NOI" OR A LETTER FROM THE FDEP CONFIRMING COVERAGE UNDER THE PERMIT SHALL BE POSTED ON SITE FOR PUBLIC VIEWING.
- PROVIDE A "QUALIFIED INSPECTOR" TO PERFORM THE REQUIRED INSPECTIONS IN ACCORDANCE WITH THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. DEP DOC # 62-621(4) (A).
- BEFORE CONDUCTING ANY PROJECT ACTIVITIES THE OPERATOR AND ALL SUBCONTRACTORS SHALL SIGN AND PROVIDE TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE OWNER/DEVELOPER AND THE ENGINEER A COPY OF THE FOLLOWING:

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (FDEP DOC #62-621.300(4) (A)) AND THE STORM WATER POLLUTION PREVENTION PLAN."

THE CERTIFICATION MUST INCLUDE THE NAME AND TITLE OF THE PERSON PROVIDING THE SIGNATURE, THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE CONTACTING FIRM, AND THE DATE THE CERTIFICATION IS MADE.

5. WITHIN 14 DAYS OF A DIFFERENT OPERATOR TAKING RESPONSIBILITY OF THE CONSTRUCTION ACTIVITIES A "NOTICE OF TERMINATION" (DEP FORM 62-621-300(6)) SHALL BE SUBMITTED. IF A "N.O.T." IS SUBMITTED DUE TO A CHANGE OF OPERATOR, WITHIN 48 HOURS BEFORE ASSUMING CONTROL OF THE CONSTRUCTIONS ACTIVITIES, THE NEW OPERATOR SHALL FILE A SIGNED "N.O.I." IN ACCORDANCE WITH THIS PERMIT.

6. WITHIN 14 DAYS OF THE FINAL STABILIZATION OF THE SITE, OPERATOR SHALL FILE A "NOTICE OF TERMINATION" (DEP FORM 62-621-300(6)), TO THE F.D.E.P. WITH COPIES TO THE OWNER AND ENGINEER.

**EROSION CONTROL NOTES**

- CONTRACTOR SHALL OBTAIN FDEP NPDES (NOI) PERMIT. PROOF OF NOI SHALL BE PROVIDED TO ENGINEER PRIOR TO PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION CONTROL USING BEST MANAGEMENT PRACTICES FOR THE DURATION OF THE PROJECT UNTIL SUCH TIME AS THE PROJECT HAS BEEN CERTIFIED AS COMPLETE.
- ATTENTION IS DIRECTED TO THE FACT THAT BMP'S ARE PERFORMANCE-BASED. IN THE EVENT THAT INSTALLED BMP'S FAIL TO CONTROL EROSION AND/OR STORM - WATER POLLUTION ADDITIONAL BMP'S MAY BE REQUIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR NPDES PERMITTING, INSPECTION, REPORTING, AND COMPLIANCE.
- THE CONTRACTOR SHALL SOD ALL OPEN SPACE AREAS TO BE GRASSED IMMEDIATELY FOLLOWING FINAL GRADING AND COMPLETION OF ALL UNDERGROUND UTILITIES. HYDROSEED & MULCH MAY BE APPLIED IF APPROVED BY THE ENGINEER.
- SILT FENCE SHALL BE INSTALLED ALONG LIMITS OF CONSTRUCTION.
- SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IMMEDIATELY IF DAMAGED.
- ALL SIDE SLOPES OF STORMWATER MANAGEMENT AREAS SHALL BE SODDED ON COMPLETION OF FINAL GRADING.
- ALL INLETS SHALL BE PROTECTED FROM COLLECTION OF ERODED MATERIALS BY INSTALLATION OF TEMPORARY FILTER FABRIC AND/OR HAY BALES.
- FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED WITHIN ALL WATER BODIES DOWNSTREAM OF CONSTRUCTION ACTIVITIES WHERE TURBID WATERS DISCHARGE MAY OCCUR.
- THE CONTRACTOR SHALL PROVIDE DUST CONTROL, SUCH AS AN ONSITE WATER TRUCK.

**LAND CLEARING AND ENVIRONMENTAL NOTES**

GRUBBING, TREE REMOVAL AND LAND CLEARING SHALL BE CONDUCTED UNDER THE PROJECT'S ENVIRONMENTAL RESOURCE PERMIT AND IRC LAND CLEARING & TREE REMOVAL PERMIT. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE PERMITS AT THE SITE DURING LAND CLEARING AND TREE REMOVAL OPERATIONS.

PRIOR TO COMMENCING LAND CLEARING OPERATIONS THE ENGINEER, OWNER, AND CONTRACTOR SHALL INSPECT THE SITE TO IDENTIFY PRESERVATION TREES AND OTHER RESOURCES. CONTRACTOR SHALL INSTALL BMP'S PRIOR TO COMMENCEMENT.

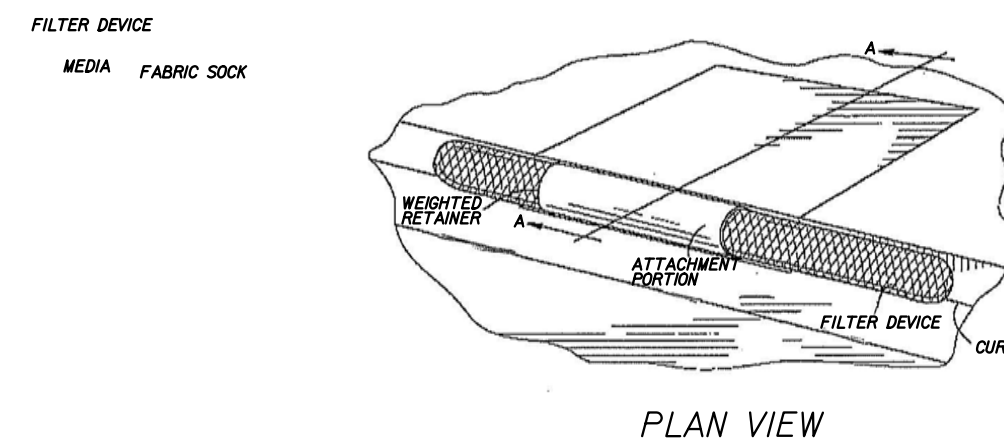
**PROTECTED/LISTED SPECIES**  
 PRIOR TO COMMENCEMENT OF LAND CLEARING THE OWNER SHALL CONDUCT A LISTED SPECIES SURVEY AND REMOVE ANY LISTED SPECIES FROM THE CONSTRUCTION AREA. THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS OF ALL ENVIRONMENTAL PERMITS.

IF PROTECTED/LISTED SPECIES ARE ENCOUNTERED IN THE DEVELOPMENT AREA AT ANY TIME DURING CONSTRUCTION THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

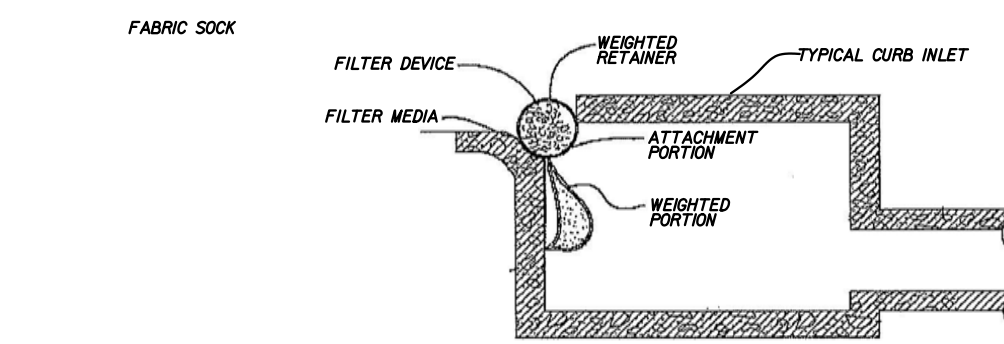
**PRESERVATION TREES**  
 EXISTING NATIVE VEGETATION TO BE SAVED IS INTENDED TO BE INCORPORATED INTO THE LANDSCAPE PLAN. PROTECTIVE BARRIERS SHALL BE INSTALLED PRIOR TO LAND CLEARING TO PREVENT DAMAGE TO VEGETATION TO BE SAVED.

**SPECIMEN TREES**  
 SPECIMEN TREES (IE: LARGE OAK TREES, ETC) SHALL NOT BE DISTURBED OR DAMAGED. CONTRACTOR SHALL BE LIABLE FOR FINES, MITIGATION AND OTHER PENALTIES INCURRED BY DAMAGE TO SPECIMEN TREES.

**PROHIBITED AND UNDESIRABLE EXOTIC VEGETATION**  
 ALL PROHIBITED AND UNDESIRABLE EXOTIC VEGETATION MUST BE REMOVED AT THE TIME OF CLEARING. PROHIBITED AND UNDESIRABLE EXOTIC VEGETATION SHALL NOT BE USED TO MEET THE TREE OR LANDSCAPING REQUIREMENTS OF THE LAND DEVELOPMENT CODE.

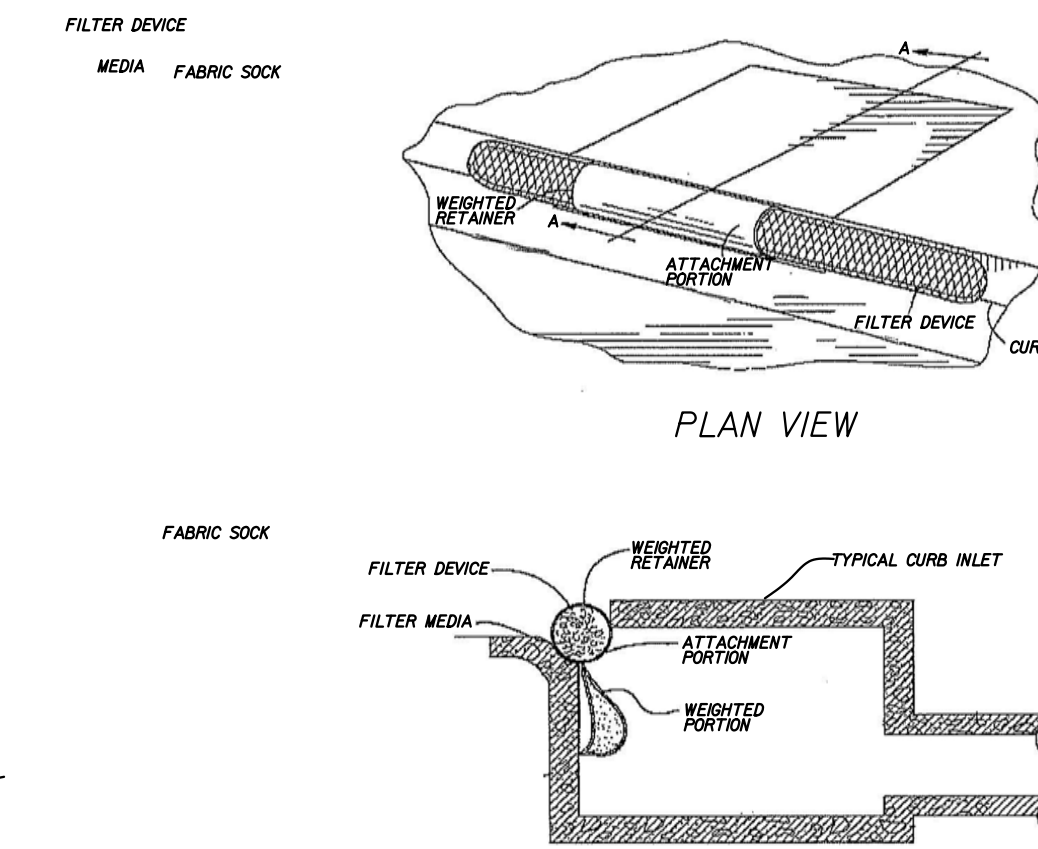


PLAN VIEW



SECTION "A-A"

**STORM INLET PROTECTION**



STORM INLET PROTECTION

**STORMWATER POLLUTION PREVENTION PLAN**

Nature of Construction Activity: CONSTRUCT BASEBALL/SOFTBALL FIELDS, CONCESSIONS, DUGOUTS/BLEACHERS, PAVEMENT, UTILITIES, AND DRY RETENTION POND

Sequence of Construction Events:

- Install silt fence and other erosion control devices.
- Clear and grub site.
- Rough grading.
- Construct stormwater management system.
- Construct underground utilities.
- Construct paved areas and structures
- Final grading/landscaping

Total Area of the Site: 22.73 acres

Area to be Disturbed: 14.21 acres

Soil Description: Pomello Sand  
 Eau Gallie Fine Sand  
 Myakka-Myakka Wet, Fine Sands

Drainage Area Size: 14.21 acres

**Best Management Practices (BMP's)**

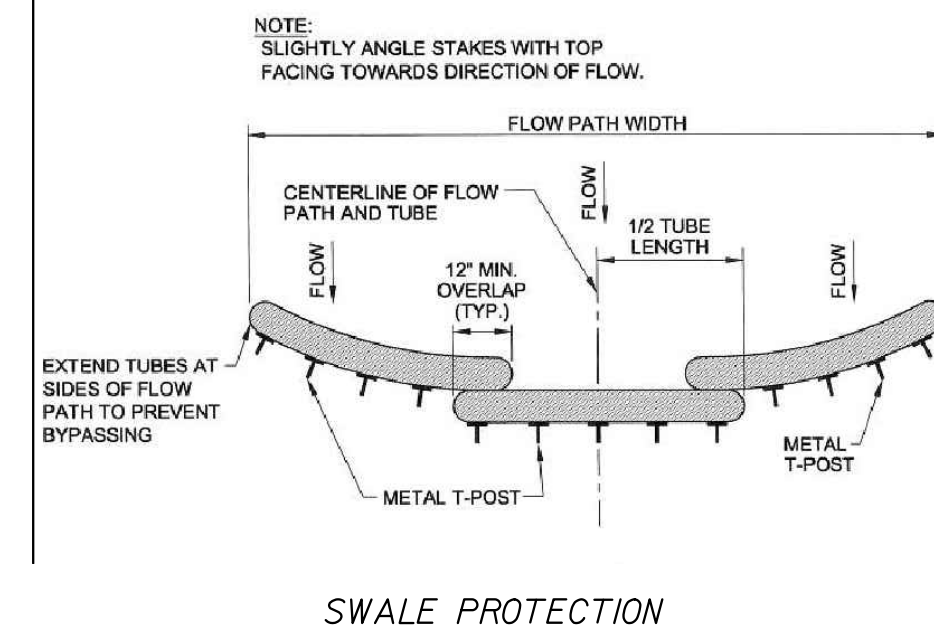
**Silt fence, Inlet protection.**  
 Construction sequence minimizes time for potential erosion, gravel entrance limits soil on adjacent paved roadways.

**Potential Pollutants:** Portable toilet chemicals will be properly handled and disposed.

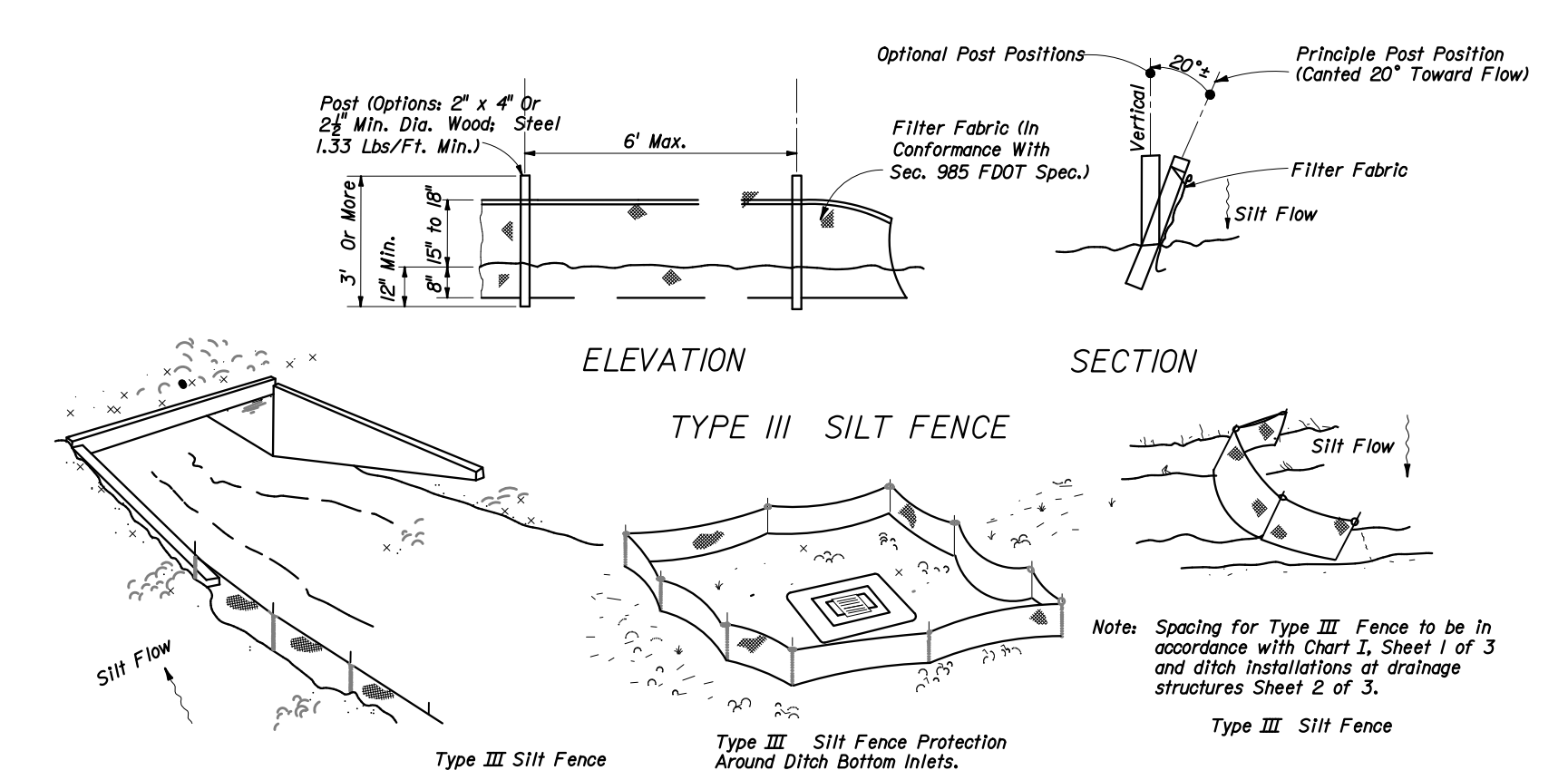
**Inspections:** Site will be inspected for erosion problems daily and after each rainfall event greater than 0.5 inches. A rain gage shall be installed on site to monitor rainfall.

Contractor is responsible for installing additional erosion control as necessary to meet State and Local requirements.

Operator/Responsible Authority: CONTRACTOR (T.B.D.)



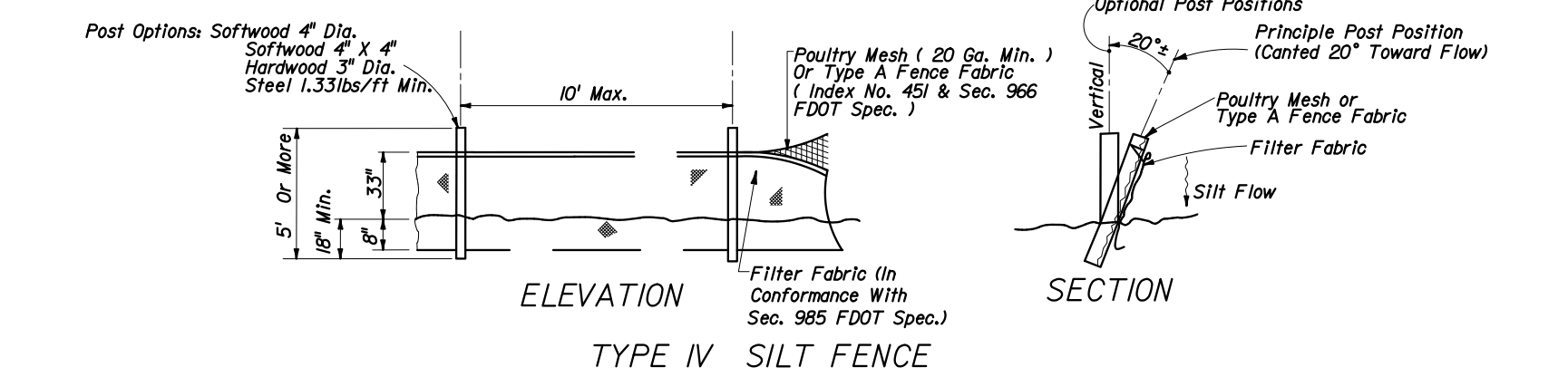
SWALE PROTECTION



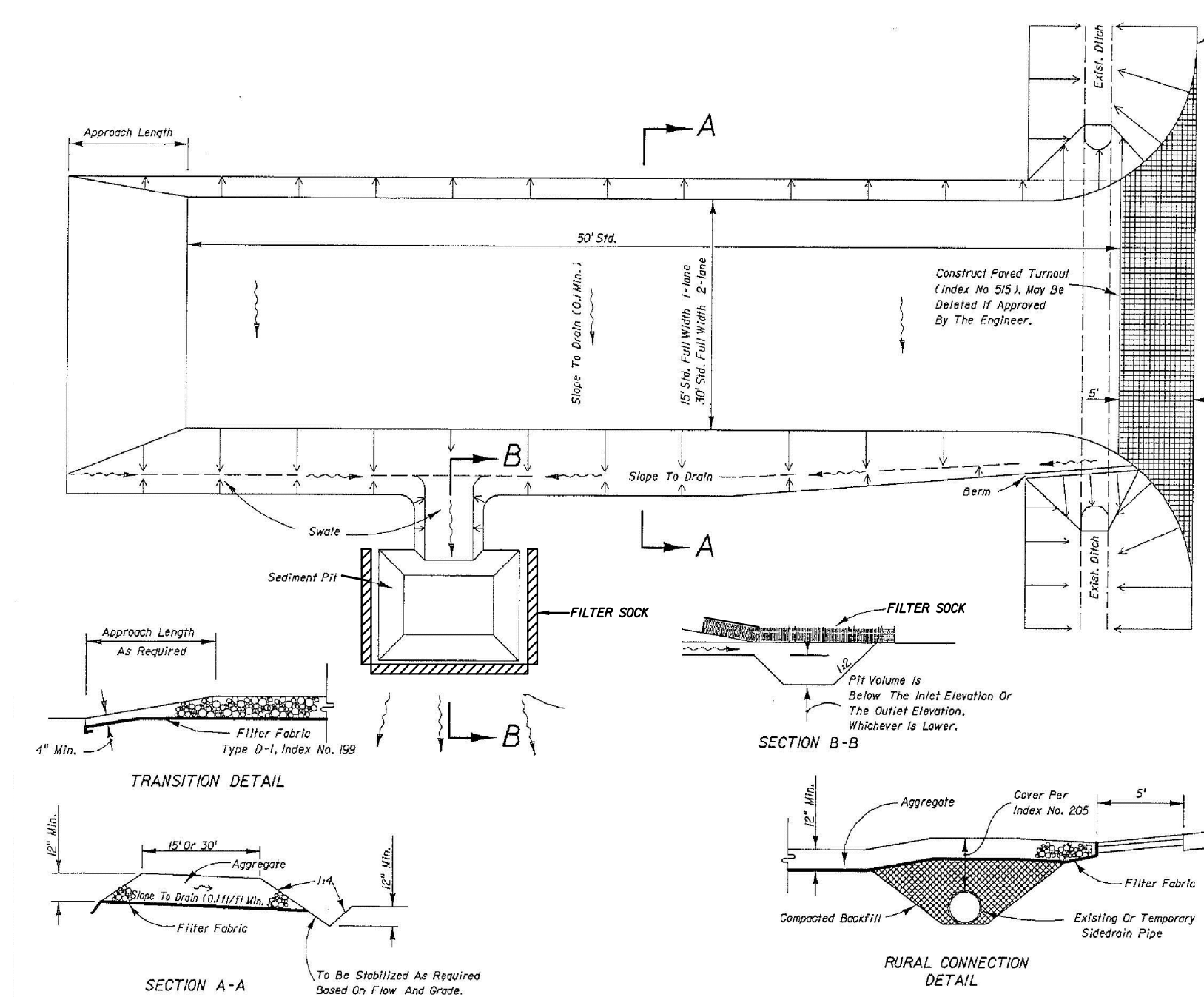
TYPE III SILT FENCE

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

**SILT FENCE APPLICATIONS**



TYPE IV SILT FENCE



**GENERAL NOTES**

- A Silt Trapping Prevention Device (STPD) shall be constructed of concrete or masonry. The engineer or owner shall be notified of any proposed material or construction details. The STPD shall be constructed in accordance with the specifications of the project and shall be installed in accordance with the specifications of the project. The STPD shall be installed in accordance with the specifications of the project and shall be installed in accordance with the specifications of the project.
- The contractor shall provide an alternative method to maintain effective tracking of sediment. The alternative must be reviewed and approved by the Engineer prior to its use.
- All materials shall be stored or placed on public roads.
- Appropriate shall be placed on the STPD to prevent the STPD from being damaged by vehicles. The STPD shall be installed in accordance with the specifications of the project and shall be installed in accordance with the specifications of the project.
- The sediment trap shall provide a retention volume of 5000 cubic feet of sediment. The retention volume shall be calculated based on the area of the sediment trap and the depth of the sediment trap. The retention volume shall be calculated based on the area of the sediment trap and the depth of the sediment trap.
- The sediment trap shall be installed in accordance with the specifications of the project and shall be installed in accordance with the specifications of the project.
- Filtered sediment shall not be disposed of on-site. The sediment shall be disposed of in accordance with the specifications of the project and shall be disposed of in accordance with the specifications of the project.
- The STPD shall be maintained in a condition that will allow it to perform its function. To prevent effective tracking, the STPD shall be checked daily when used to trap sediment and cleaned as needed. Additional stabilization of the sediment trap shall be provided to the STPD as required to trap the sediment.
- A STPD shall be used for the control of sediment for all construction activities. The STPD shall be installed in accordance with the specifications of the project and shall be installed in accordance with the specifications of the project.
- The minimum size of a standard STPD is 10' x 50' unless otherwise noted in the plans. The STPD shall be installed in accordance with the specifications of the project and shall be installed in accordance with the specifications of the project.

**STORMWATER POLLUTION PREVENTION PLAN**

NO.	DATE	DESCRIPTION	DR/APP
2.	7/17/23	REMOVE PHASING	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS

**M MASTELLER & MOLER, INC.**  
 CONSULTING ENGINEERS  
 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
 (772) 567-5300 / FAX (772) 794-1106  
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

**HOBART PARK**  
**BASEBALL FIELD IMPROVEMENTS**

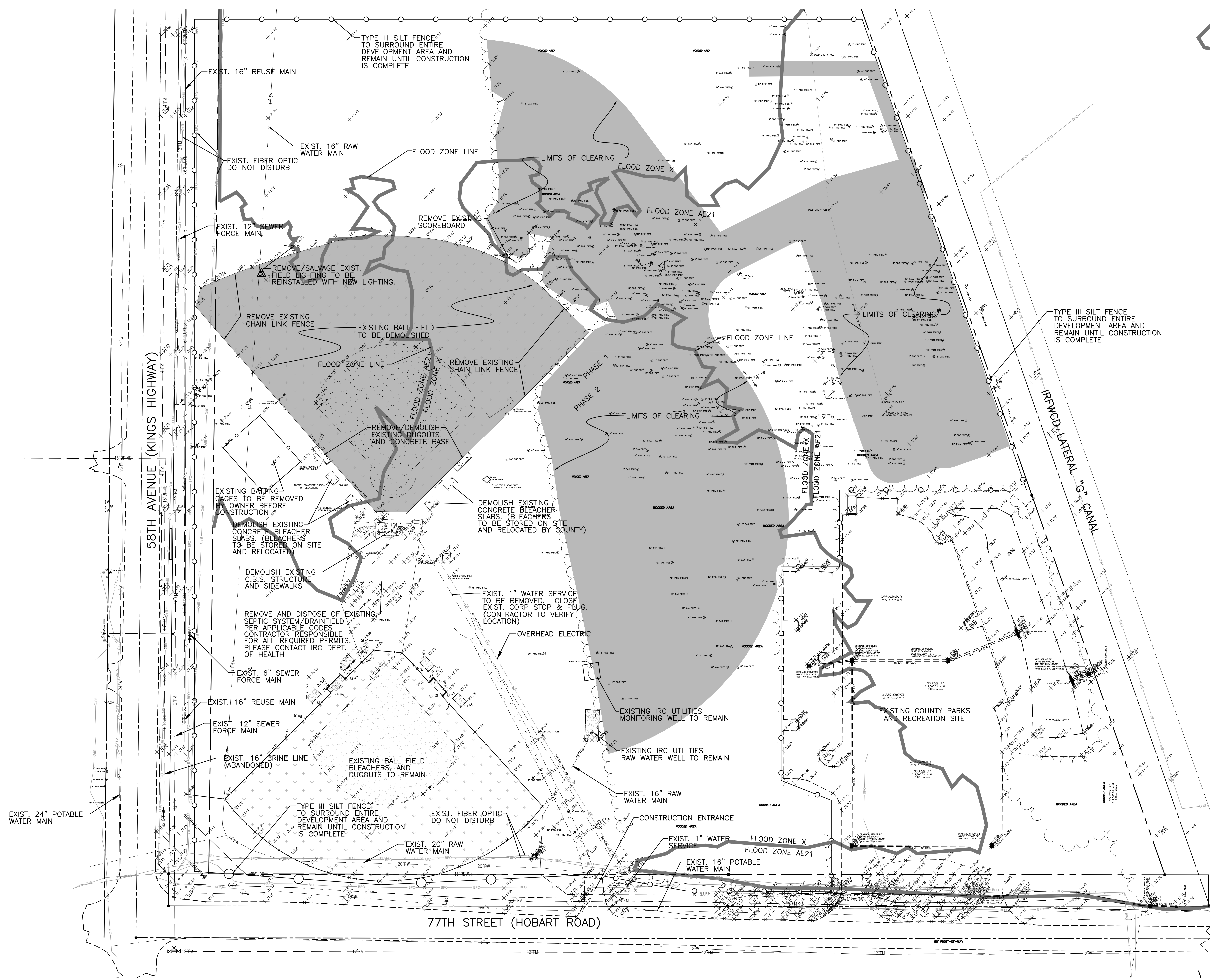
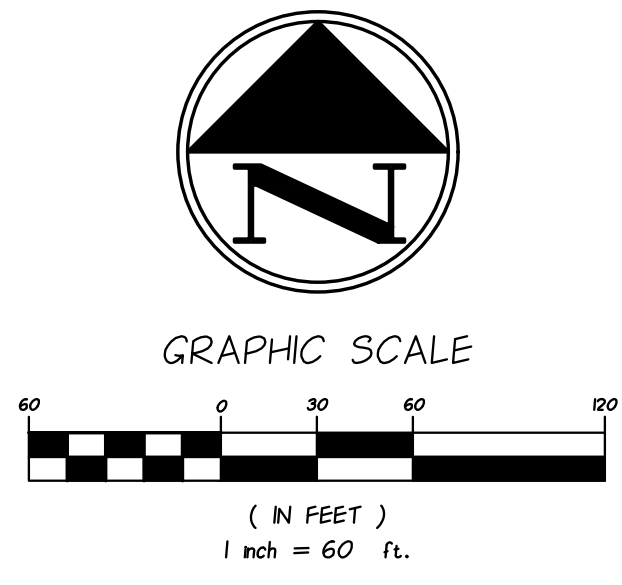
INDIAN RIVER COUNTY FLORIDA

**FOR BIDDING PURPOSES ONLY**

**STEPHEN E. MOLER, P.E. FL#33193**

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	3/18
SCALE	NTS
SHEET	3 OF 15
PROJECT NO.	1756

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**EXISTING CONDITIONS, DEMOLITION, & CLEARING PLAN**

NO.	DATE	DESCRIPTION	DR/APP
7.	7/17/23	REMOVE PHASING	SH/SEM
6.	9/24/19	ADD NOTES REGARDING EXISTING BATTING CAGES	SH/SEM
5.	9/18/19	ADD NOTES REGARDING EXISTING FIELD LIGHTING	SH/SEM
4.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
3.	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM
			DR/APP

REVISIONS

**M MASTELLER & MOLER, INC.**  
**CONSULTING ENGINEERS**  
 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
 (772) 567-5300 / FAX (772) 794-1106  
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

**HOBART PARK**  
**BASEBALL FIELD IMPROVEMENTS**

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FOR BIDDING PURPOSES ONLY

STEPHEN E. MOLER, P.E. FL#33193

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	11/17
SCALE	1"=60'
SHEET	4 OF 15
PROJECT NO.	1756

INDIAN RIVER COUNTY

FLORIDA

**SITE DATA**

**Owner / Applicant**  
 INDIAN RIVER COUNTY  
 1801 27TH STREET  
 VERO BEACH, FL 32960  
 TEL: (772) 567-8000

**Engineer**  
 MASTELLER & MOLER, INC.  
 1655 27TH STREET - SUITE 2  
 VERO BEACH, FL 32960  
 TEL: (772) 567-5300

**Surveyor**  
 INDIAN RIVER COUNTY  
 1801 27TH STREET  
 VERO BEACH, FL 32960  
 TEL: (772) 226-1220

**Construction Schedule**  
 START DATE: JANUARY 2024 COMPLETION DATE: MAY 2024

**Site Information**  
 SITE ADDRESS: 5790 7TH STREET  
 TAX ID #: 31 39 33 00000 5000 00003.0  
 PARCEL AREA: 84.52 AC  
 SITE AREA: 27.73 AC  
 LESS UNDISTURBED NORTH AREA: 5.49 AC  
 LESS UNDISTURBED SOUTH AREA: 8.03 AC  
 EXIST. PARKS & REC. SITE: = 14.21 AC  
 DEVELOPMENT AREA:  
 FEMA FLOOD ZONE: ZONE X and ZONE "AE 21" Ref. FIRM 12061C0087F DATED 12/4/12 (AREA CURRENTLY IN DISPUTE)  
 POTABLE WATER: INDIAN RIVER COUNTY UTILITIES  
 WASTEWATER: INDIAN RIVER COUNTY UTILITIES  
 LEGAL DESCRIPTION: (See Survey for Full Legal Description of Parcels)

Zoning Criteria (A-1)		Zoning Criteria (RS-6)	
REQUIRED	PROPOSED	REQUIRED	PROPOSED
DENSITY (MAX): 0.2 D.U./AC	N/A	DENSITY (MAX): 6 D.U./AC	N/A
LOT SIZE (MIN): 200,000 SF	959,932 SF	LOT SIZE (MIN): 7,000 SF	247,967 SF
LOT WIDTH: 150'	463.91'	LOT WIDTH: 70'	310.97'
FRONT YARD SETBACK: 30'	30'	FRONT YARD SETBACK: 20'	20'
SIDE YARD SETBACK: 30'	30'	SIDE YARD SETBACK: 10'	10'
REAR YARD SETBACK: 30'	30'	REAR YARD SETBACK: 20'	20'
BUILDING HEIGHT: 35' (MAX)	9'-4"	BUILDING HEIGHT: 35' (MAX)	N/A
BUILDING COVERAGE: 20% (MAX)	0.05%	BUILDING COVERAGE: 30% (MAX)	0%
OPEN SPACE: 60%	88.0%	OPEN SPACE: 40%	99.6%

**Open Space Computations**

**Required:**  
 A-1 ZONING: 22.04 Acres X 60% = 13.22 Acres  
 RS-6 ZONING: 5.69 Acres X 25% = 1.42 Acres

**Proposed:**  
 A-1 ZONING: 19.31 Acres = 87.6%  
 RS-6 ZONING: 5.69 Acres = 99.6%

**Site Improvements Coverage Summary** (Includes Exist. Parks / Rec Development)

PHASE 1:	REQUIRED	PROPOSED
SITE AREA:	1,207,899 SF	27.73 AC (100%)
EXISTING BUILDING AREA:	5,513 SF	0.13 AC (0.46%)
EXISTING CONCRETE / PAVED AREA:	74,952 SF	1.72 AC (6.21%)
PROPOSED BUILDING FLOOR AREA:	1,056 SF	0.02 AC (0.09%)
PROPOSED PAVING & CONCRETE:	34,779 SF	0.80 AC (2.88%)
EXISTING BUILDING/CONCRETE TO BE REMOVED:	1,988 SF	0.05 AC (0.16%)
TOTAL PHASE 1 IMPERVIOUS:	118,288 SF	2.72 AC (9.80%)
PHASE 2:	REQUIRED	PROPOSED
PROPOSED PAVING & CONCRETE:	4,693 SF	0.11 AC (0.39%)
TOTAL SITE IMPERVIOUS:	122,981 SF	2.82 AC (10.18%)

**Development Area Improvements Coverage Summary**

DEVELOPMENT AREA:	REQUIRED	PROPOSED
BUILDING FLOOR AREA:	619,081 SF	14.21 AC
PAVING & CONCRETE:	1,056 SF	0.02 AC
EXISTING BUILDING/CONCRETE TO BE REMOVED:	38,472 SF	0.91 AC
EXISTING BUILDING/CONCRETE TO BE REMOVED:	1,988 SF	0.05 AC
TOTAL IMPERVIOUS:	38,540 SF	0.88 AC

**Parking Calculations**

**Required:**  
 STADIUMS: ONE (1) SPACE PER THREE (3) SEATS OF THE SEATING CAPACITY = 300 SEATS X 1 SPACE / 3 SEATS = 100 SPACES\*

**Required:**  
 PUBLIC PARKS: TWO (2) SPACES PER ACRE OF REMAINING AVAILABLE OPEN SPACE = 1.39 AC X 2 SPACES = 3 SPACES  
 PUBLIC PARKS: ONE (1) SPACE PER 300 SF OF GROSS BUILDING AREA = 1,056 SF X 1 SPACE / 300 = 4 SPACES

**Required Total:** 107 SPACES

**Proposed:**  
 STANDARD PAVED = 42  
 HANDICAP PAVED = 8  
 STANDARD GRASS = 60  
 TOTAL = 110

\* AS NO MORE THAN ONE BALL FIELD WILL BE USED AT ONE TIME, PARKING WAS BASED ON SEATING CAPACITY FOR THE LARGEST STADIUM

**Site Plan Notes:**

- NO WETLANDS EXIST WITHIN DEVELOPMENT AREA.
- ALL OUTDOOR LIGHTING SHALL BE SHIELDED FROM ADJACENT PROPERTIES AND ROADWAYS.
- ALL NUISANCE EXOTIC VEGETATION SHALL BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.
- SURVEY DATA IS PROVIDED BY INDIAN RIVER COUNTY.
- CONTRACTOR SHALL COORDINATE WITH IRC TELECOMMUNICATIONS (772-226-1318) DIVISION TO LOCATE AND MARK EXISTING IRC FIBER-OPTIC CABLE PRIOR TO CONSTRUCTION.
- STREET DESIGNATION SIGNS SHALL BE 8" IN HEIGHT WITH 6" LETTERS.

**General Notes:**

- ALL SOLID NON BREAKAWAY OBJECTS (RAILINGS, POSTS, COLUMNS, BOLLARDS, LIGHT POLES, ETC.) ALONGSIDE INTERIOR STREETS AND DRIVING AISLES SHALL BE LOCATED OUTSIDE THE CLEAR ZONE. FOR STREETS/DRIVING AISLES WITH A DESIGN SPEED OF 45 MPH AND AN ADT > 1500, THE MINIMUM CLEAR ZONE IS 14 FEET FROM THE EDGE OF THE OUTSIDE MOTOR VEHICULAR TRAVELED WAY. THIS APPLIES TO PUBLIC AND PRIVATE PROPERTY.
- ALL SOLID NON BREAKAWAY OBJECTS (RAILINGS, POSTS, COLUMNS, BOLLARDS, LIGHT POLES, ETC.) ALONGSIDE INTERIOR STREETS AND DRIVING AISLES, SHALL BE LOCATED OUTSIDE THE CLEAR ZONE. FOR STREETS/DRIVING AISLES WITH A DESIGN SPEED OF 25 MPH OR LESS, THE MINIMUM CLEAR ZONE IS 15 FEET FROM THE FACE OF CURB (TYPE D OR F) OR 6 FEET FROM THE EDGE OF THE TRAVEL LANE. THIS APPLIES TO PUBLIC AND PRIVATE PROPERTY.

**Specific Land Use Criteria:**

- NO OFF-STREET PARKING OR LOADING AREAS OF BUILDINGS AND STRUCTURES ARE DESIGNED BE LOCATED CLOSER THAN 20' TO ANY PROPERTY LINE ABUTTING A RESIDENTIALLY DESIGNATED DISTRICT. (NOT APPLICABLE TO THIS PROJECT AS ALL PROPERTY LINES ABUT EITHER CANAL OR ROAD RIGHTS OF WAY.)
- ANY RECREATIONAL USE IS EQUIPPED WITH LIGHTING TO ALLOW THE USE OF THE FACILITY AFTER SUNSET AND IS DESIGNED SUCH THAT:
  - ALL LIGHTS DEPICTED ARE SHIELDED FROM SHINING INTO RESIDENTIALLY DESIGNATED ADJACENT PROPERTIES. (OUTDOOR LIGHTING FOR THIS PROJECT HAS BEEN DESIGNED SO THAT LIGHTING WILL BE SHIELDED AND DIRECTED AWAY FROM ANY RESIDENTIALLY DESIGNATED AREAS AS DEPICTED ON THE ILLUMINATION GRID SUMMARY PROVIDED BY MUSCO LIGHTING. DETAILS OF THE LIGHT POLES, LAMP STYLES, AND SHIELDS ARE SUBMITTED SEPARATELY).
  - HOURS OF OPERATION AND/OR SPECIAL DESIGN TECHNIQUES ARE TO BE USED TO MITIGATE NOISE IMPACTS, ESPECIALLY DURING EVENING AND NIGHTTIME HOURS. (THIS IS AN BASEBALL / SOFTBALL PARK WITH AN EXISTING PRESSBOX. THE NEW PRESSBOX SHALL BE OVER 100 FEET AWAY FROM THE NEAREST RESIDENCE AND PRESSBOX SPEAKERS WILL BE DIRECTED AWAY FROM THAT AREA.)
- BUFFERING OF THE PROJECT SHALL BE SUFFICIENT TO NOT ADVERSELY AFFECT ADJACENT PROPERTY. (THIS IS AN EXISTING BASEBALL / SOFTBALL PARK WITH NO EXISTING SIGNIFICANT LANDSCAPE BUFFERING. THE DESIGN OF THE PROJECT IMPROVEMENTS INCLUDES LANDSCAPE BUFFERINGS PER IRC CODE WHICH IS EXPECTED TO IMPROVE THE SITE BUFFERING FOR AESTHETICS, LIGHTING, AND NOISE IMPACTS OFFSITE.)

**Jurisdictional Permitting Requirements**

INDIAN RIVER COUNTY:	SITE PLAN APPROVAL
INDIAN RIVER COUNTY:	TYPE "B" STORMWATER PERMIT
INDIAN RIVER COUNTY:	CONCURRENCY CERTIFICATE
INDIAN RIVER COUNTY:	LAND CLEARING
INDIAN RIVER COUNTY:	TREE REMOVAL
INDIAN RIVER COUNTY:	RIGHT OF WAY (UTILITIES)
INDIAN RIVER COUNTY:	UTILITIES CONSTRUCTION PERMIT
SURVIMD:	ENVIRONMENTAL RESOURCE PERMIT
FI&P:	SEWER MAIN EXTENSION GENERAL PERMIT
IRVWCD:	CULVERT CONNECTION PERMIT

NO.	DATE	DESCRIPTION	BY
8.	10/20/23	DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS	SH/SEM
7.	7/17/23	REMOVE PHASING	SH/SEM
6.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
5.	8/28/18	REMOVE BATTING CAGES AND ADD SOD NOTE	SH/SEM
4.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
3.	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

**REVISIONS**

Miscellaneous Work: Any work depicted on these construction plans not specifically described in the bid form line items shall be priced under bid form line item "Miscellaneous".

**M MASTELLER & MOLER, INC.**  
 CONSULTING ENGINEERS  
 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
 (772) 567-5300 / FAX (772) 794-1106  
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

**SITE PLAN A**  
**HOBART PARK**  
**BASEBALL FIELD IMPROVEMENTS**

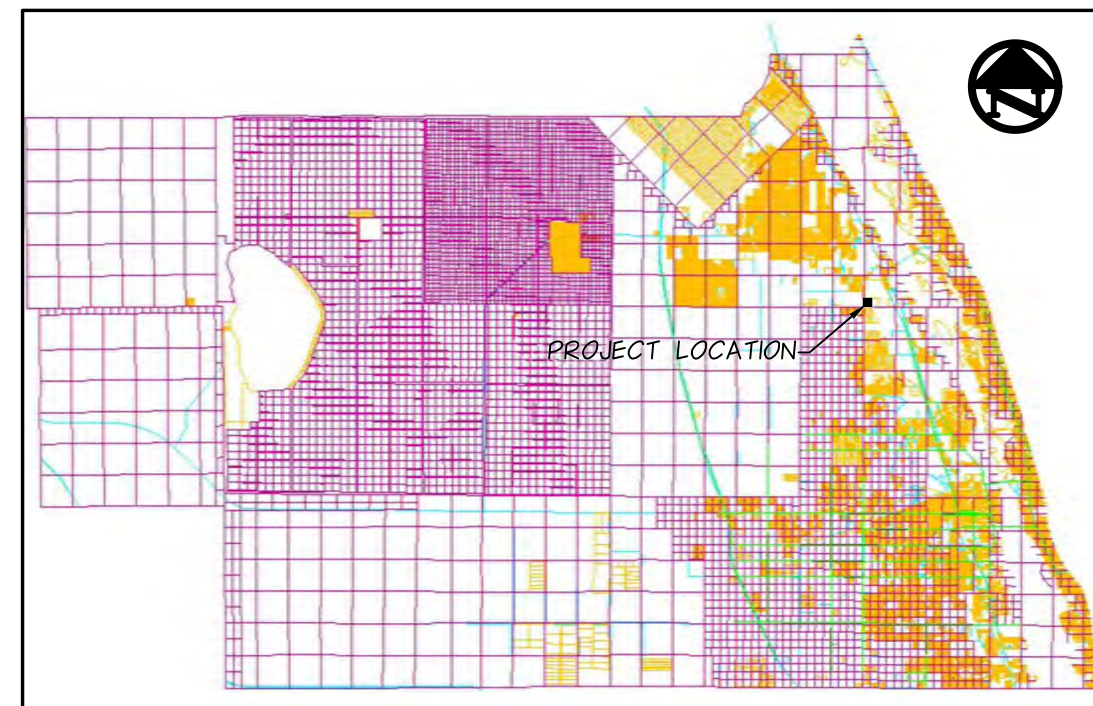
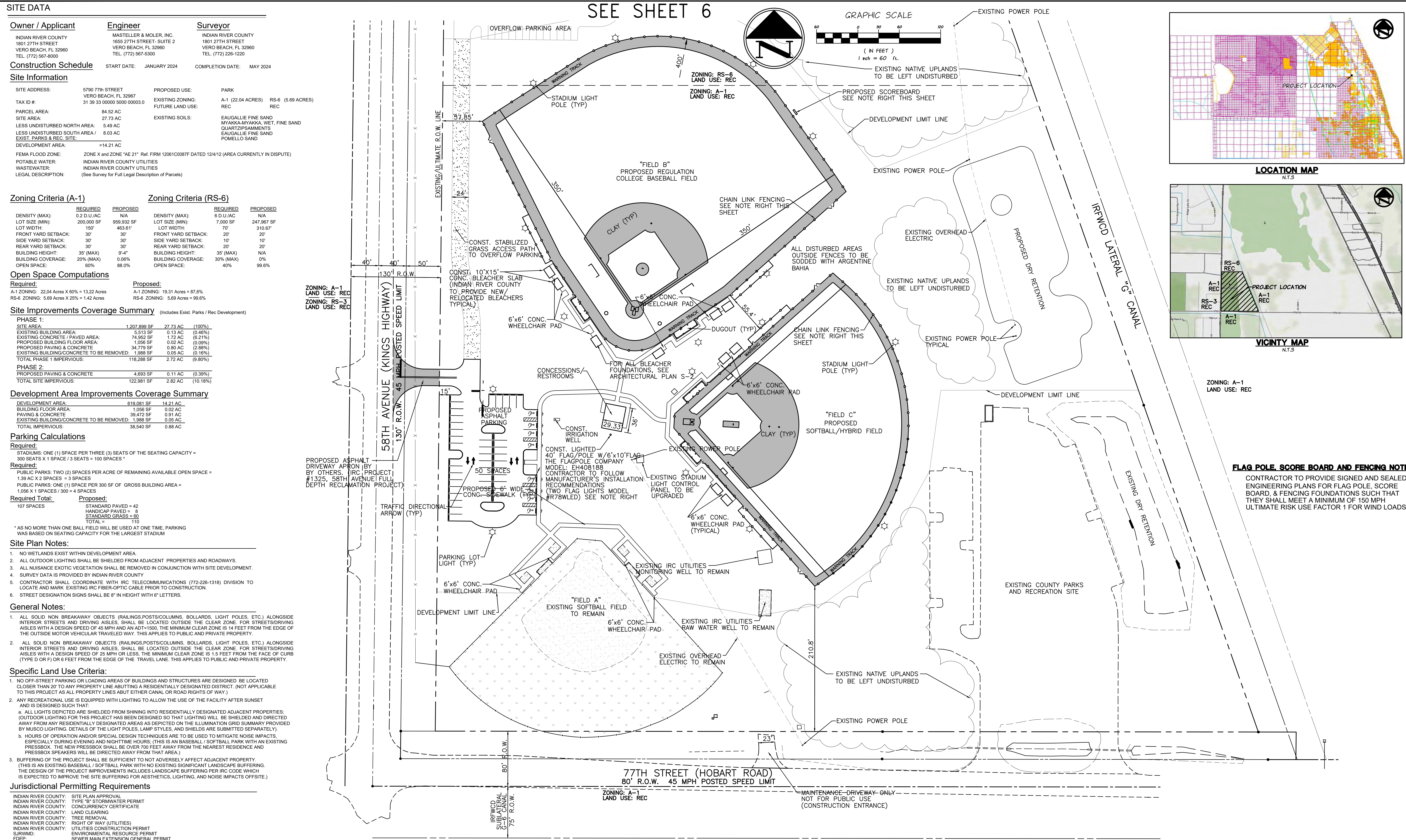
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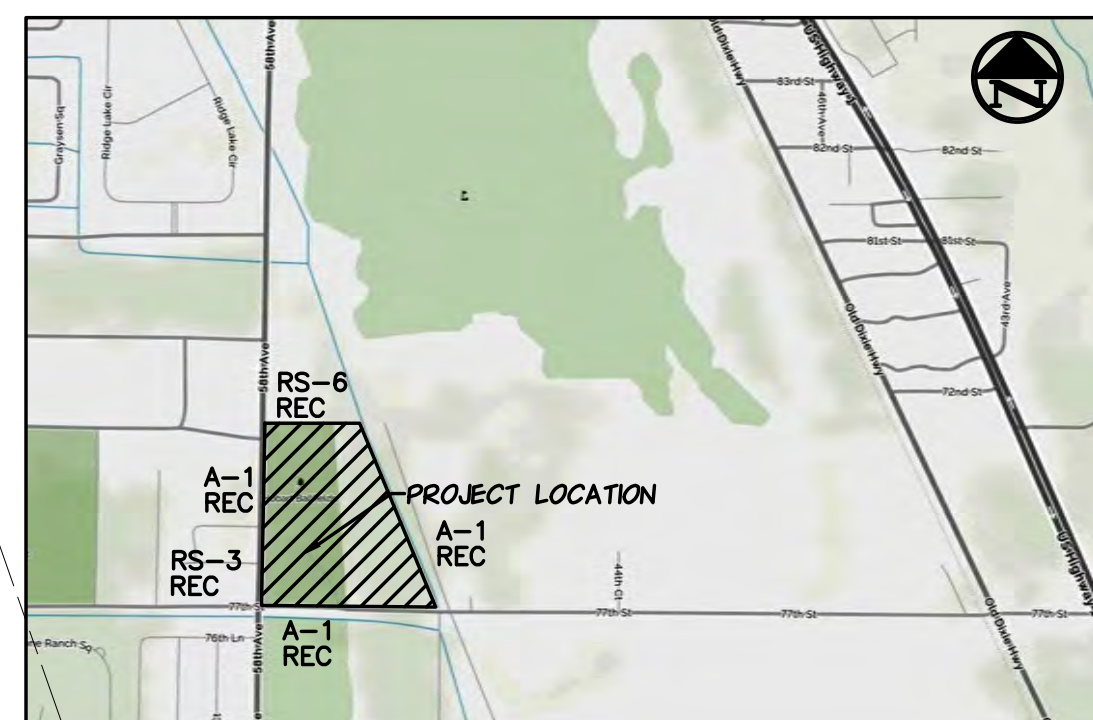
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**STEPHEN E. MOLER, P.E. FL#33193**

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	9/23
SCALE	1"=60'
SHEET	5 of 15
PROJECT NO.	1756



**LOCATION MAP**  
N.T.S.

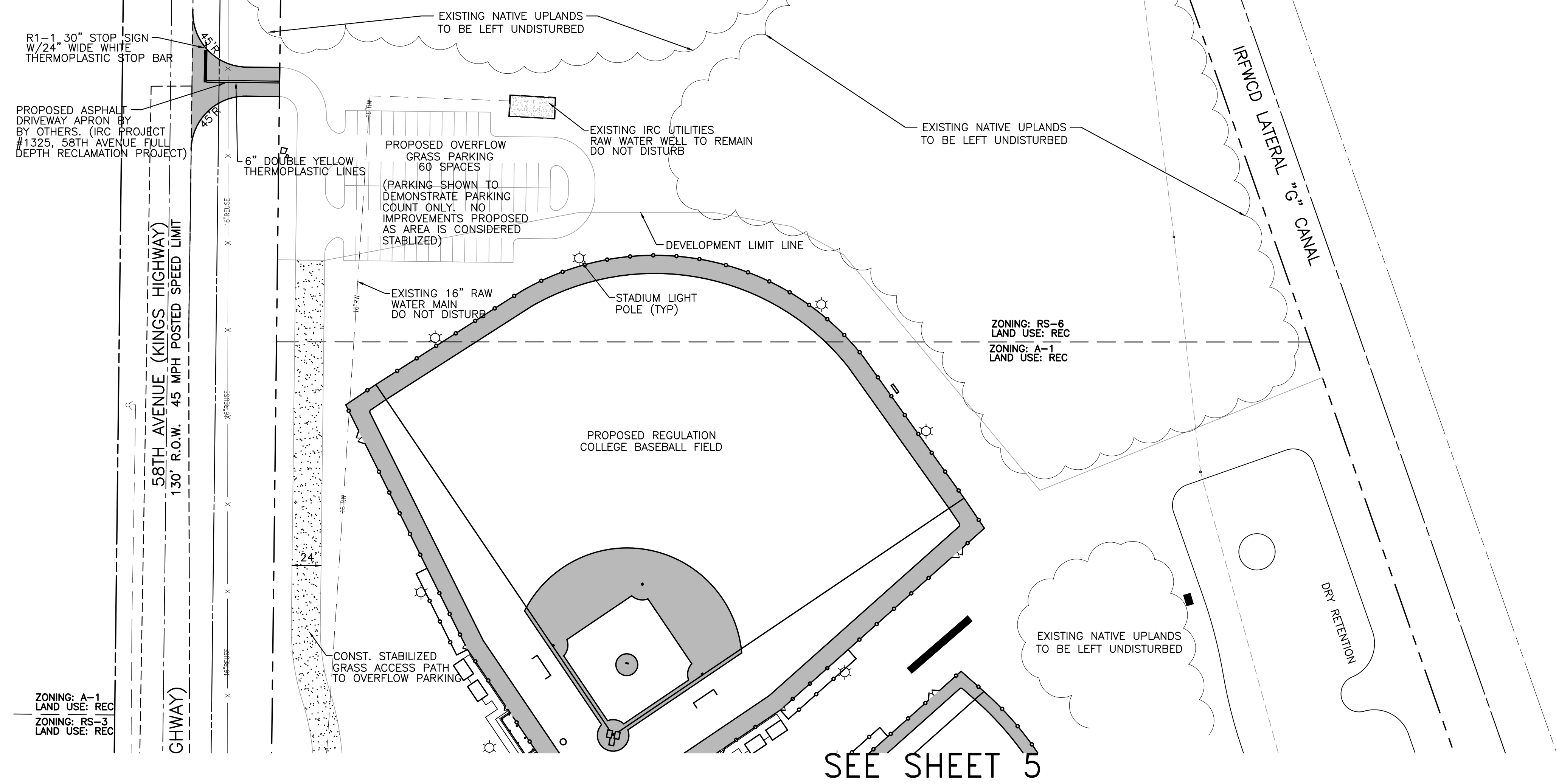
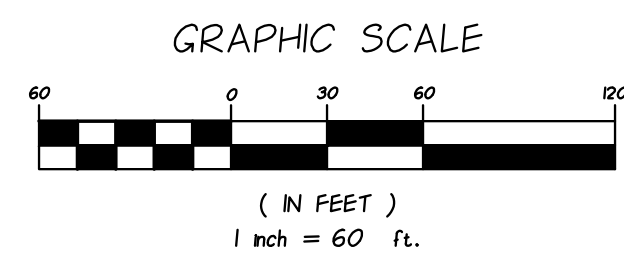
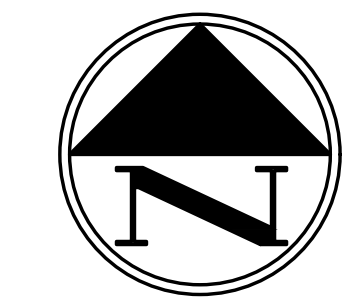


**VICINITY MAP**  
N.T.S.

ZONING: A-1  
 LAND USE: REC

**FLAG POLE, SCORE BOARD AND FENCING NOTE:**

CONTRACTOR TO PROVIDE SIGNED AND SEALED ENGINEERING PLANS FOR FLAG POLE, SCORE BOARD, & FENCING FOUNDATIONS SUCH THAT THEY SHALL MEET A MINIMUM OF 150 MPH ULTIMATE RISK USE FACTOR 1 FOR WIND LOADS.



SEE SHEET 5

NO.	DATE	DESCRIPTION	DR/APP
7.	10/20/23	DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS	SH/SEM
6.	7/17/23	REMOVE PHASING	SH/SEM
5.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
4.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
3.	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM
			DR/APP

REVISIONS

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 (772) 567-5300 / FAX (772) 794-1106  
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**SITE PLAN B**

**HOBART PARK**

**BASEBALL FIELD IMPROVEMENTS**

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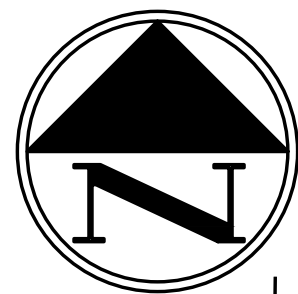
**FOR BIDDING PURPOSES ONLY**

**STEPHEN E. MOLER, P.E. FL#33193**

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	11/17
SCALE	1"=60'
SHEET	6 of 15
PROJECT NO.	1756

INDIAN RIVER COUNTY

FLORIDA



GRAPHIC SCALE

( IN FEET )  
1 inch = 30 ft.

To be completed with IRC 58th Ave Project      To be completed with Hobart Ballpark Project

SECTION "A-A"  
(NTS)

SEE SHEET 8

SEE SHEET 9 FOR  
FIELD GRADING

SEE SHEET 10 FOR  
FIELD GRADING

58TH AVENUE (KINGS HIGHWAY)

PROPOSED ASPHALT  
DRIVEWAY APRON BY  
OTHERS. (IRC PROJECT  
#1325, 58TH AVENUE FULL  
DEPTH RECLAMATION PROJECT)

NO.	DATE	DESCRIPTION	DR/APP
6.	7/17/23	REMOVE PHASING FROM PROJECT	SH/SEM
5.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
4.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
3.	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS

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**SITE GRADING AND SIGNAGE PLAN "A"**

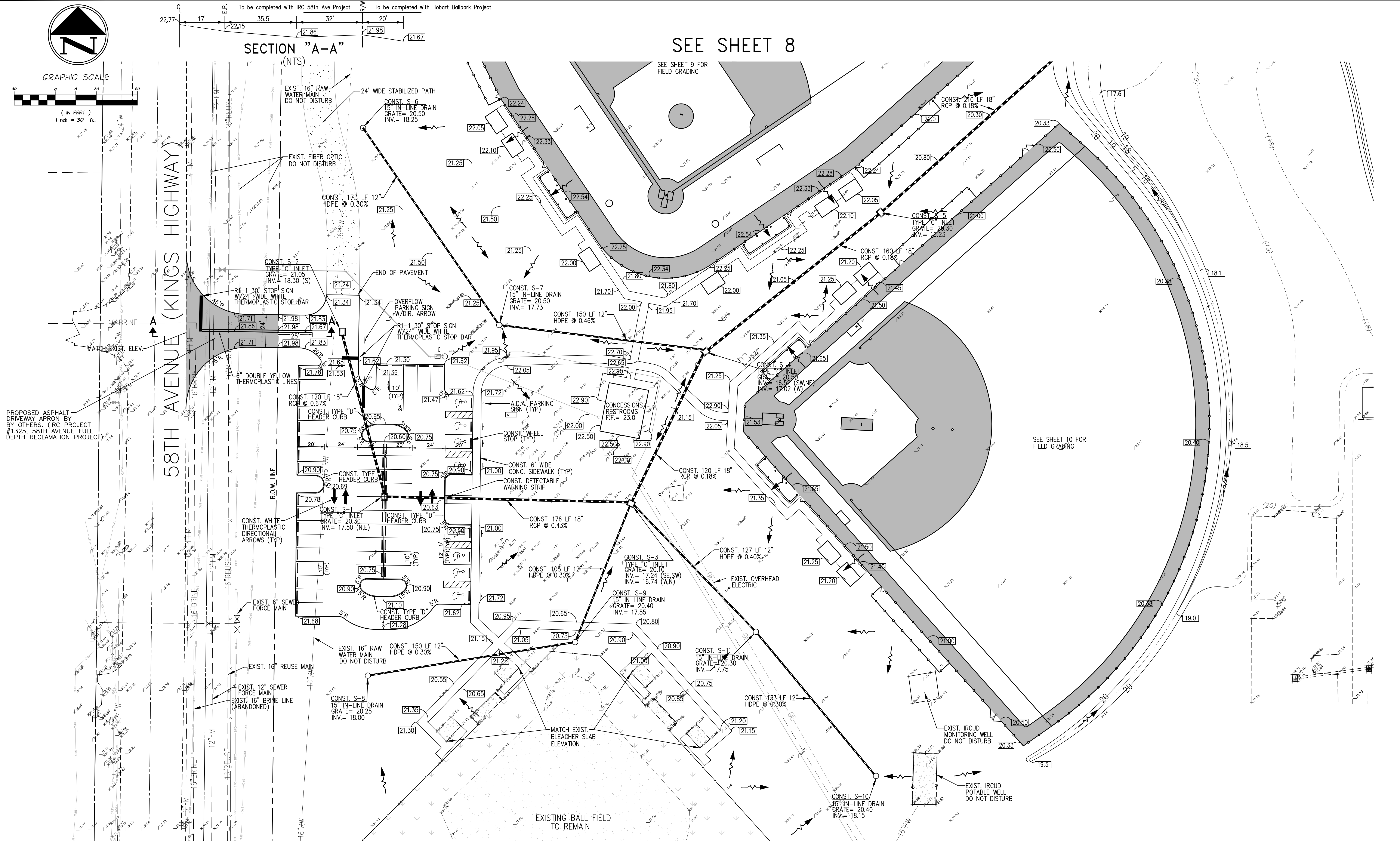
**HOBART PARK  
BASEBALL FIELD IMPROVEMENTS**

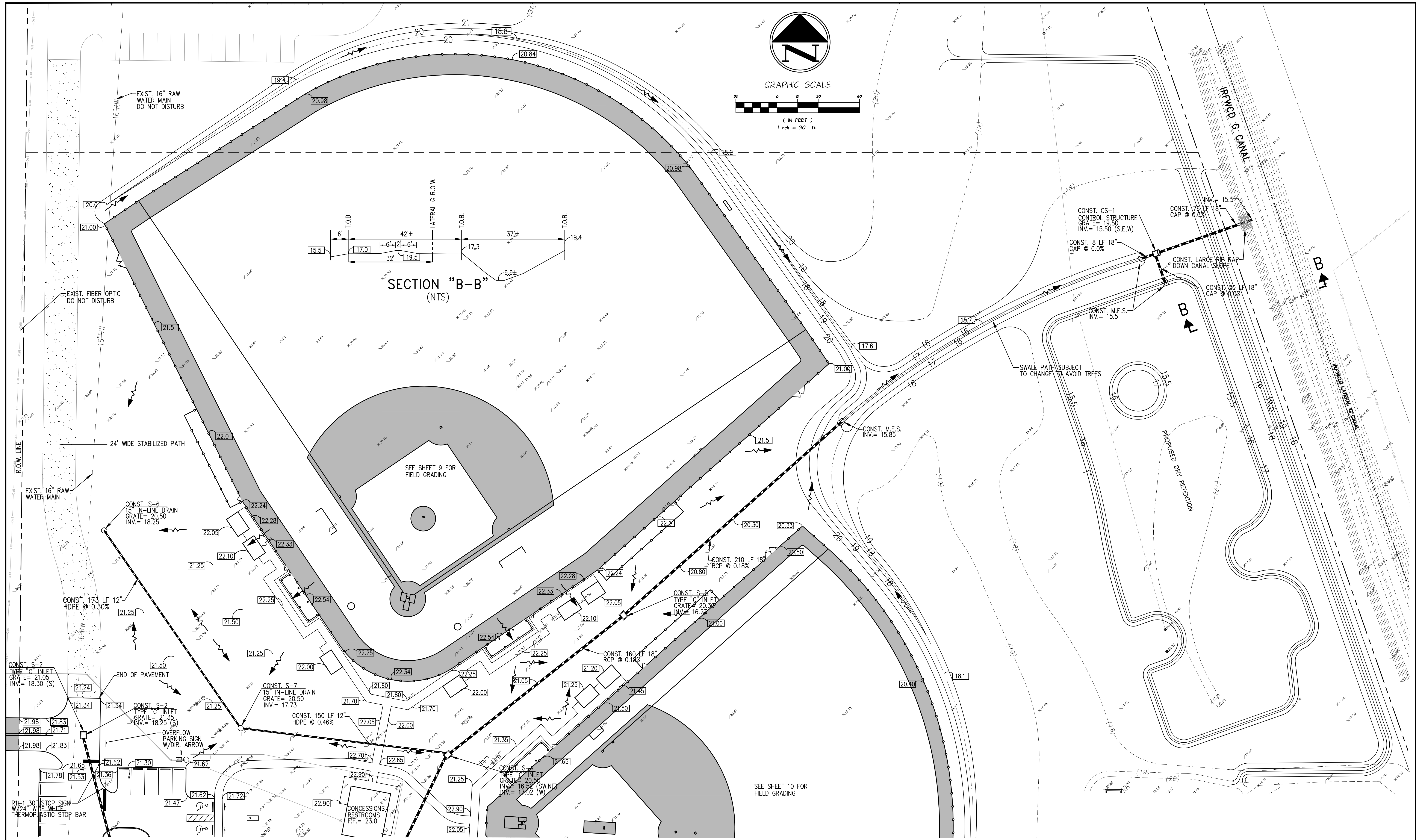
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STEPHEN E. MOLER, P.E. FL#33193

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	11/17
SCALE	1"=30'
SHEET	7 of 15
PROJECT NO.	1756





SEE SHEET 7

**SITE GRADING PLAN 'B'**

**HOBART PARK  
BASEBALL FIELD IMPROVEMENTS**

NO.	DATE	DESCRIPTION	DR/APP
6.	7/17/23	REMOVE PHASING; ADD RIP RAP TO LATERAL G CANAL BANK	SH/SEM
5.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
4.	8/28/18	REVISED PER RC COMMENTS EMAILED ON 7/31/18	SH/SEM
3.	7/31/18	REVISED PER RC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM
NO.	DATE	DESCRIPTION	DR/APP

REVISIONS

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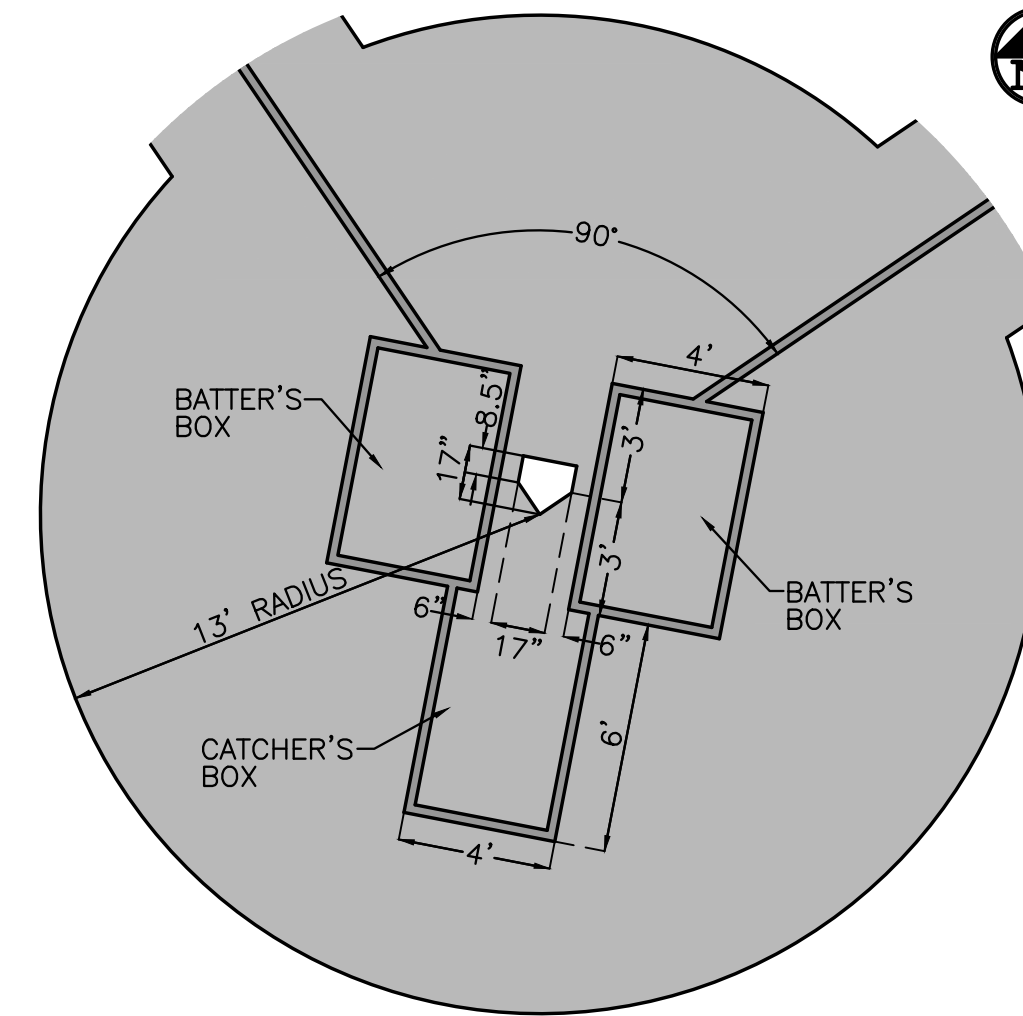
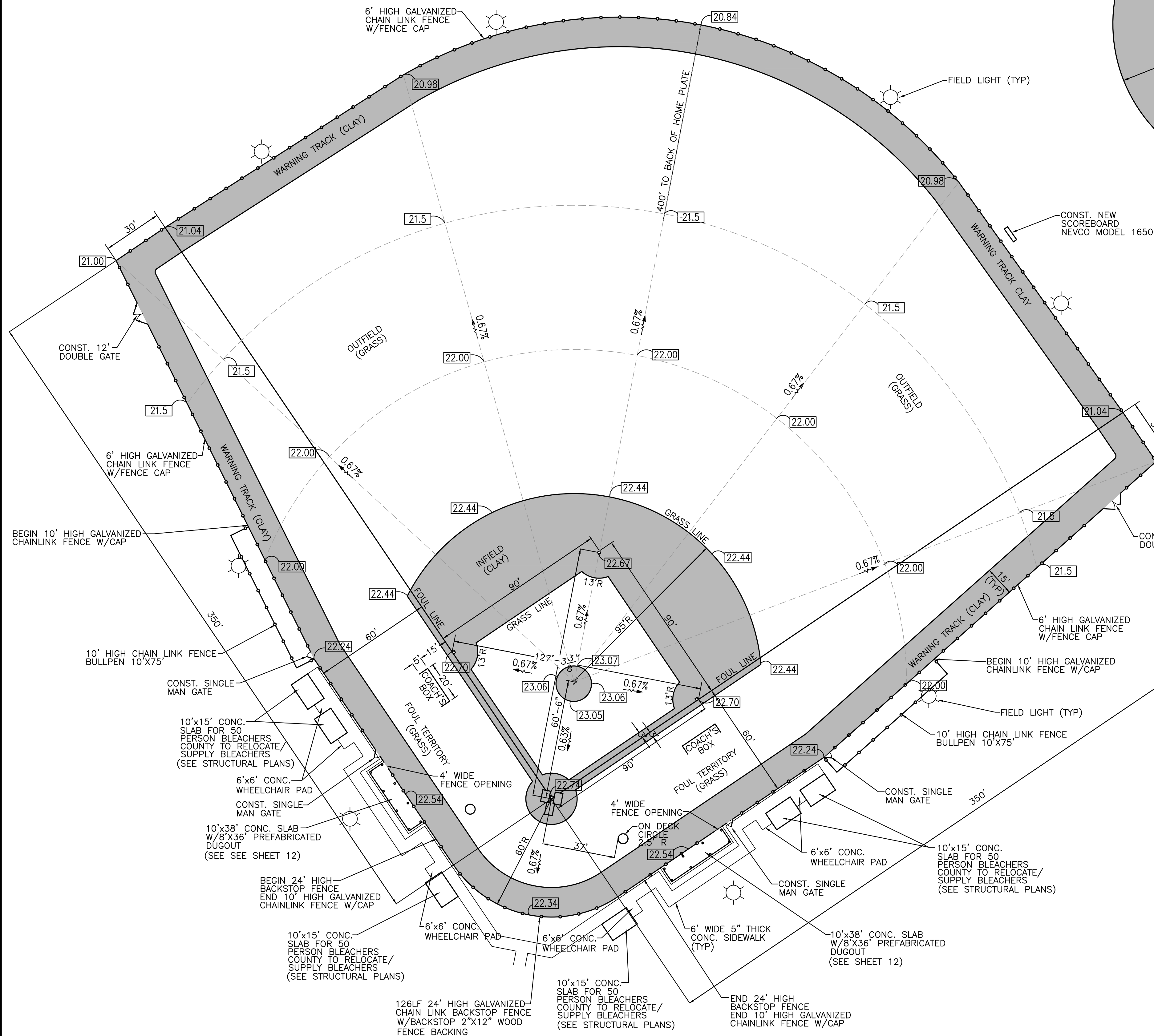
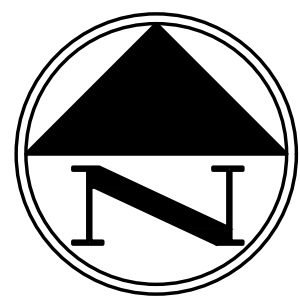
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**STEPHEN E. MOLER, P.E. FL#33193**

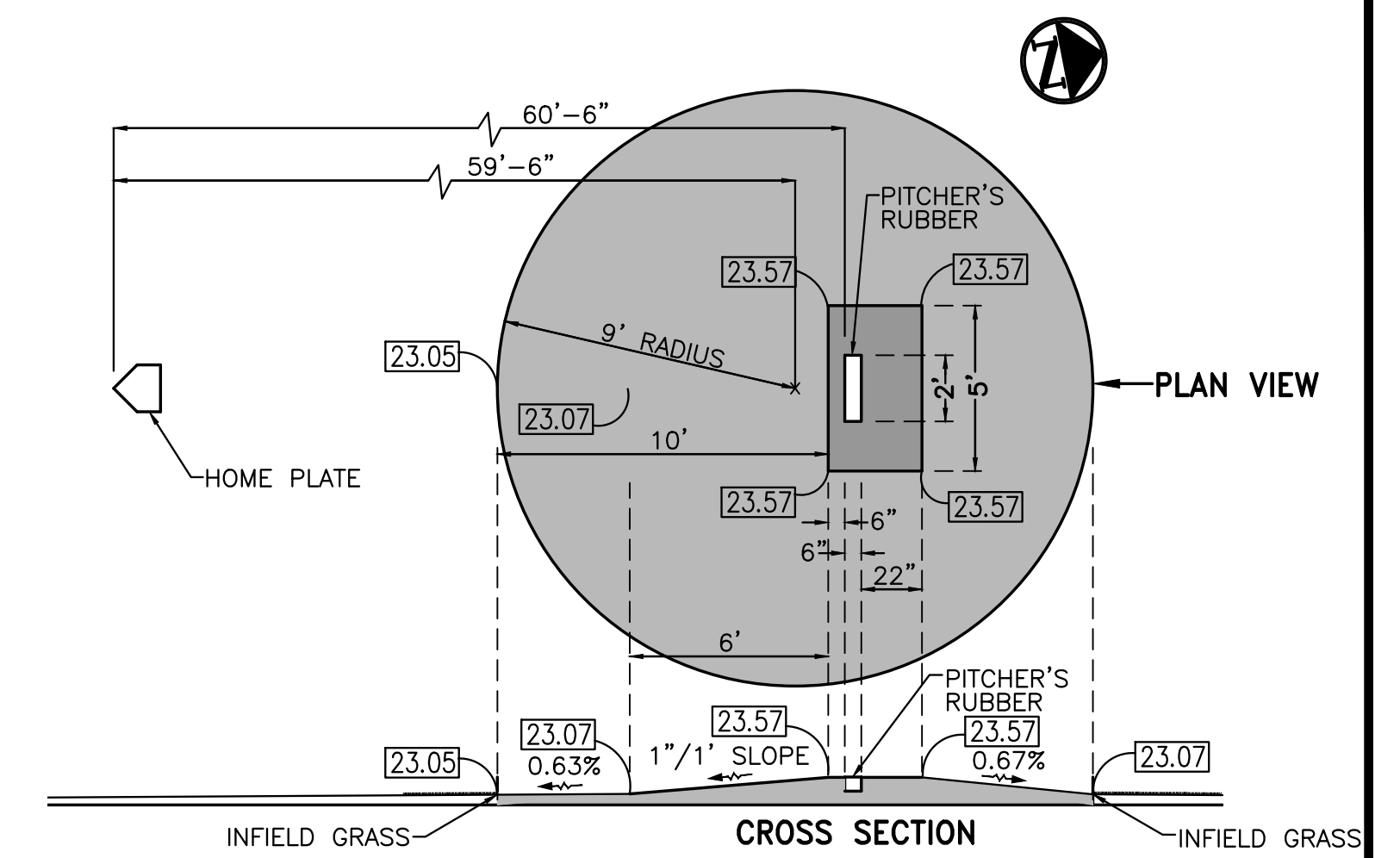
DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	11/17
SCALE	1"=30'
SHEET	8 of 15
PROJECT NO.	1756

FLORIDA





HOME PLATE DETAILS  
SCALE: 1"=5'



PITCHER'S MOUND DETAILS  
SCALE: 1"=5'



BACKSTOP WOODEN FENCE BACKING

**Sod Alternate Option**  
Bermuda grass sod may be proposed by the contractor after the bid award for the County to consider. Bermudagrass sod, cultivar 'Celebration', must be certified by either the Southern Seed Certification Association of Auburn, Alabama, or the Georgia Crop Improvement Association or the Georgia Crop Improvement Association of Athens, Georgia. Sod must be healthy and free of weeds or other pests and must be produced on sand soil with less than 5% soil organic matter by weight. Contractor must provide the name, address, and block of the farm area where the Celebration bermudagrass sod is intended to be obtained, within 2 weeks before the sod will be cut. The County may reject the proposed sod if it is not certified, if it is not mature enough to hold together when picked up by end, if it appears unhealthy, if it contains weeds or other pests, or is otherwise unsuitable for play.

**Sod Installation**  
Big Roll Sod pieces must be placed to completely cover the soil with no gaps or cracks between sod pieces. All portions of the top of each sod piece must be uniformly green and there may be no areas that are brown or yellow. Sod must be rolled after planting to improve the smoothness of the surface. If there is subsidence or dips following rolling, the low areas must be dug up, backfilled with sand rootzone mix, and the sod in those areas replanted.

**Warranty**  
Contractor will be responsible for irrigating, mowing, fertilizing, pest control, and all other turf maintenance practices for 8 weeks after the final completion involving grading, capping, sodding, and replacement of irrigation. Contractor will inform the County on the date of final completion when grading, capping, addition of sand rootzone and sodding have been completed, and the County will within 14 days inform the contractor whether these steps have been completed satisfactorily, and if they have not been completed, what if any deficiency(ies) must be corrected before the 8-week warranty period will begin. If problems arise during the warranty period, the project will be deemed to be incomplete. Problems may include but are not restricted to failure of the sod to root enough to prevent it from being pulled out by hand, noticeable weeds including weeds that were present before sodding, insect or disease damage, conspicuous discoloration, cracks between sod pieces, and irregularities in grade or slope that exceed 1/2 inch elevation within any 100 square foot area or that cause scalping to occur when mowed with a suitably adjusted riding mower.

**CLAY AREA BOTH FIELDS**

INFIELD MIX (70/30 SAND/CLAY) 4" DEEP. WARNING TRACK MATERIAL 3" DEEP CRIMSON AGGREGATE. HILLTOPPER PACKING CLAY FOR BATTER'S BOXES & PITCHING LANDING ZONE

**BULLPENS BOTH FIELDS**

BULLPEN SURFACE MATERIAL SHALL BE FIFTEEN (15) FEET OF INFIELD CLAY AT EACH END WITH WARNING TRACK MATERIAL IN THE MIDDLE. ALL TO BE 4" DEEP.

**GRADING NOTES (BOTH FIELDS)**

SUBGRADE SHALL BE LASER GRADED PRIOR TO INSTALLATION OF CLAY OR ROOT ZONE MIX. LASER GRADING SHALL BE DONE USING LASER GRADING MACHINERY SUCH AS A TRACTOR MOUNTED BLADE AND LASER. ENGINEER TO INSPECT SUBGRADE GRADING PRIOR TO INSTALLATION OF CLAY OR ROOT ZONE MIX.

**BASES BOTH FIELDS**

BASES NOT INCLUDED IN THIS BID.

**Two Alternate Pricing for Turf Application**

**Rootzone Mix**

Sand rootzone mix components must be well mixed off-site and measured by weight unless otherwise stated and will have the following characteristics as determined by a Physical Soil Testing Laboratory accredited by the American Association for Laboratory Accreditation (A2LA) as listed by the United States Golf Association for testing materials specified in the USGA's Recommendations for Putting Green Construction:

- (a) primarily of mineral components that are silica and not calcareous and have pH less than 7.0;
- (b) at least 30% medium sand, particles between 0.25 mm and 0.50 mm in diameter;
- (c) at least 80% fine plus medium plus coarse sand, particles between 0.10 and 1.00 mm in diameter;
- (d) not more than 10% very fine sand plus silt plus clay, particles less than 0.10 mm in diameter;
- (f) not more than 10% fine sand, particles less than 0.25 mm and more than 0.10 mm in diameter;
- (g) not more than 10% very coarse sand plus gravel, particles more than 1.00 mm in diameter;
- (h) have at least 10% and not more than 15% by volume Canadian sphagnum peat moss or other fibrous peat;
- (i) have less than 2% organic matter by weight except for added Canadian sphagnum peat moss or other fibrous peat;
- (j) have saturated hydraulic conductivity as determined after off-site mixing of at least 6 inches / hour;
- (k) have at least 15% by volume large (air-filled) porosity after off-site mixing; and
- (l) have no deleterious chemical or physical property.

Before shipping the sand rootzone to the Project site, contractor must provide a copy of the physical analysis from an accredited laboratory using ASTM methods showing that the intended sand rootzone mix meets or exceeds the specifications. Based on the analysis, the County has the right within 7 days to accept or reject the sand rootzone mix. The County again has the right to resample and retest and accept or reject the sand rootzone mix within 14 days after it is delivered on County property.

**Bermudagrass Celebration Sprigging**

Bermudagrass, cultivar 'Celebration' Sprigs must be certified by either the Southern Seed Certification Association of Auburn, Alabama, or the Georgia Crop Improvement Association or the Georgia Crop Improvement Association of Athens, Georgia. Contractor must follow the specifications above for the **Rootzone Mix (type and certification)**. The contractor will present to the County their proposed number of USDA Bushels of Bermudagrass Celebration Sprigs to be applied and the application method.

**Warranty**

The Warranty conditions for the sprigging shall be as follows: The acceptance period of the sprigging will be 21 days after the last sprigs where planted and the County will within 14 days inform the contractor whether these steps have been completed satisfactorily, and if they have not been completed, what if any deficiency(ies) must be corrected before the 26 week warranty period will begin. The Contractor will be responsible for irrigating, mowing, fertilizing, pest control, and all other turf maintenance practices for the 26 week warranty period or until the Contractor is informed by the County Project Manager in writing that the County will assume maintenance responsibilities for the turf.

NO.	DATE	DESCRIPTION	DR/APP
7.	10/20/23	DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS	SH/SEM
6.	7/17/23	REMOVE PHASING FROM PROJECT	SH/SEM
5.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
4.	4/6/20	CHANGE WARNING TRACK, BULLPEN, & SOD MATERIAL	SH/SEM
3.	9/11/19	REVISED CHAIN LINK FENCE HEIGHT	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM
NO.	DATE	DESCRIPTION	DR/APP

REVISIONS

**M MASTELLER & MOLER, INC.**  
CONSULTING ENGINEERS  
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
(772) 567-5300 / FAX (772) 794-1106  
CERTIFICATE OF AUTHORIZATION NUMBER 4204

**COLLEGE BASEBALL FIELD DETAILS & GRADING**

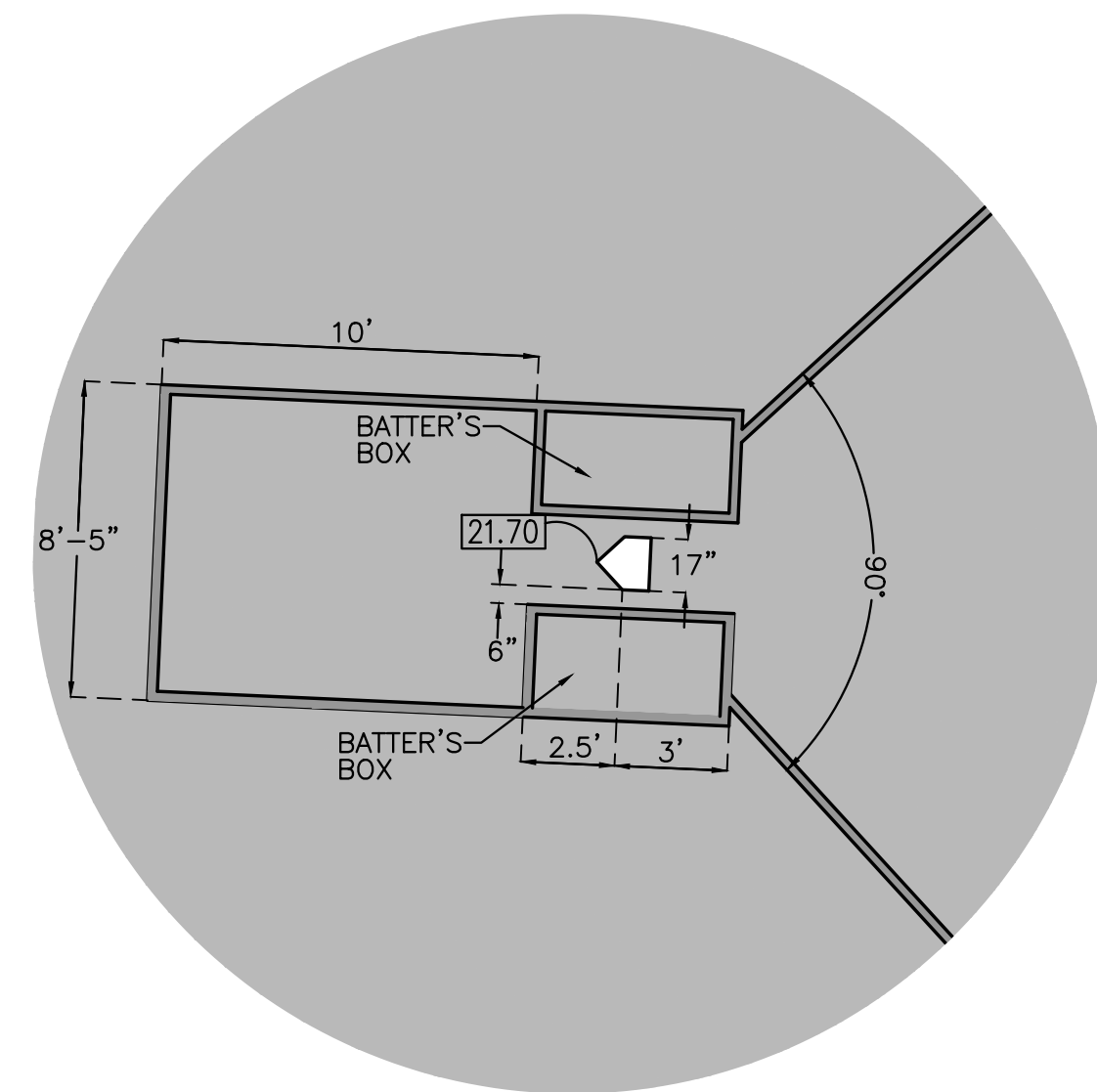
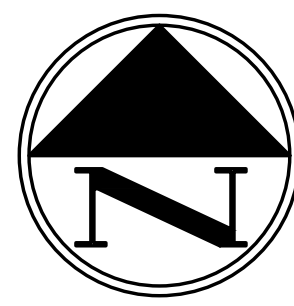
**HOBART PARK  
BASEBALL FIELD IMPROVEMENTS**

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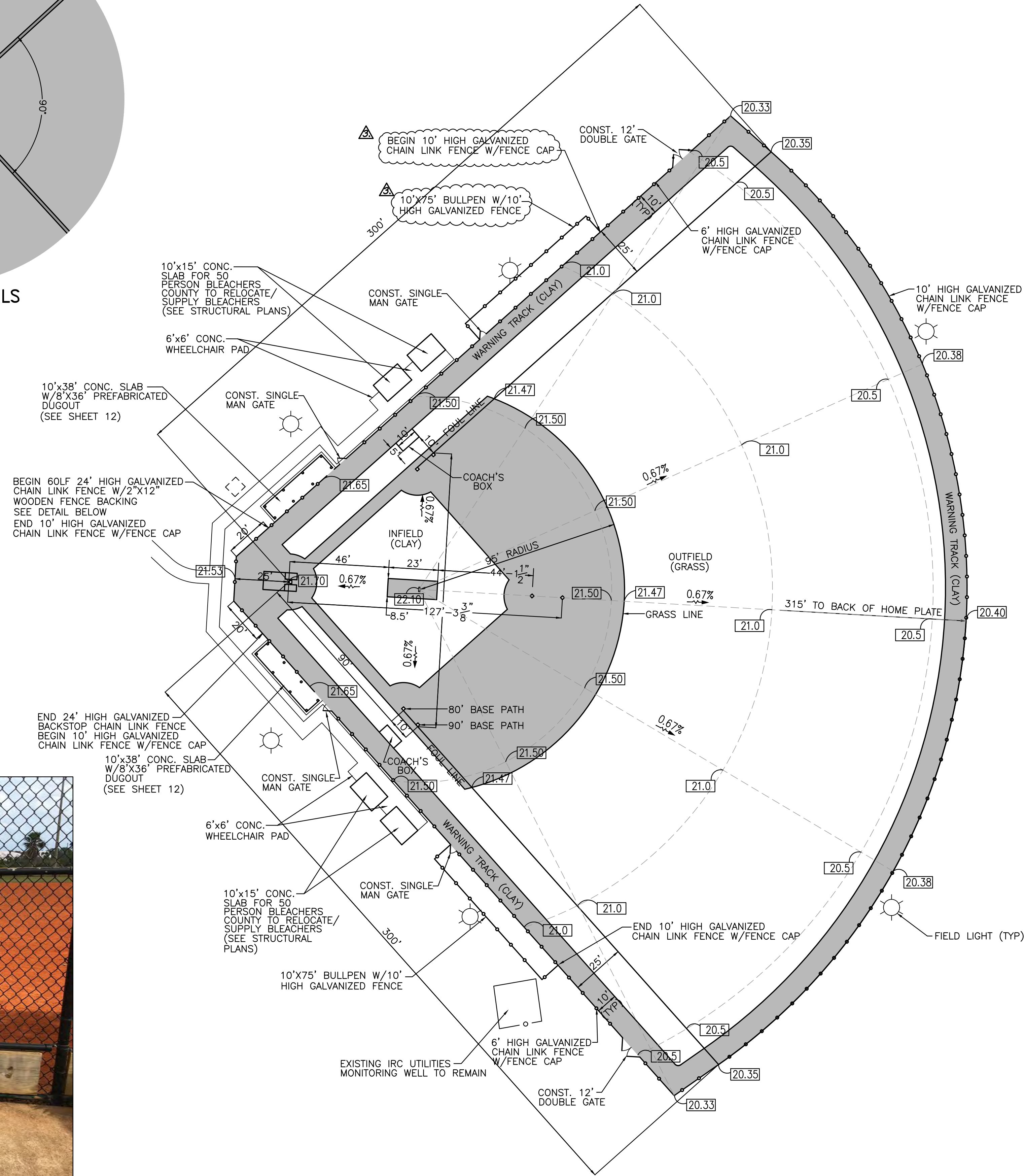
FOR BIDDING PURPOSES ONLY

STEPHEN E. MOLER, P.E. FL#33193

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	11/17
SCALE	1"=30'
SHEET	9 OF 15
PROJECT NO.	1756



HOME PLATE DETAILS  
SCALE: 1"=5'



2"x12" WOOD BACKING TO BE  
CONSTRUCTED AND FASTENED AS SHOWN

BACKSTOP WOODEN FENCE BACKING

**SOFTBALL/HYBRID FIELD DETAILS & GRADING**

NO.	DATE	DESCRIPTION	DR/APP
6.	10/20/23	DEPICT ADDITIONAL WHEELCHAIR VIEWING PADS	SH/SEM
5.	7/17/23	REMOVE PHASING FROM PROJECT	SH/SEM
4.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
3.	9/11/19	REVISED CHAIN LINK FENCE HEIGHT	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS

**M MASTELLER & MOLER, INC.**  
CONSULTING ENGINEERS  
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
(772) 567-5300 / FAX (772) 794-1106  
CERTIFICATE OF AUTHORIZATION NUMBER 4204

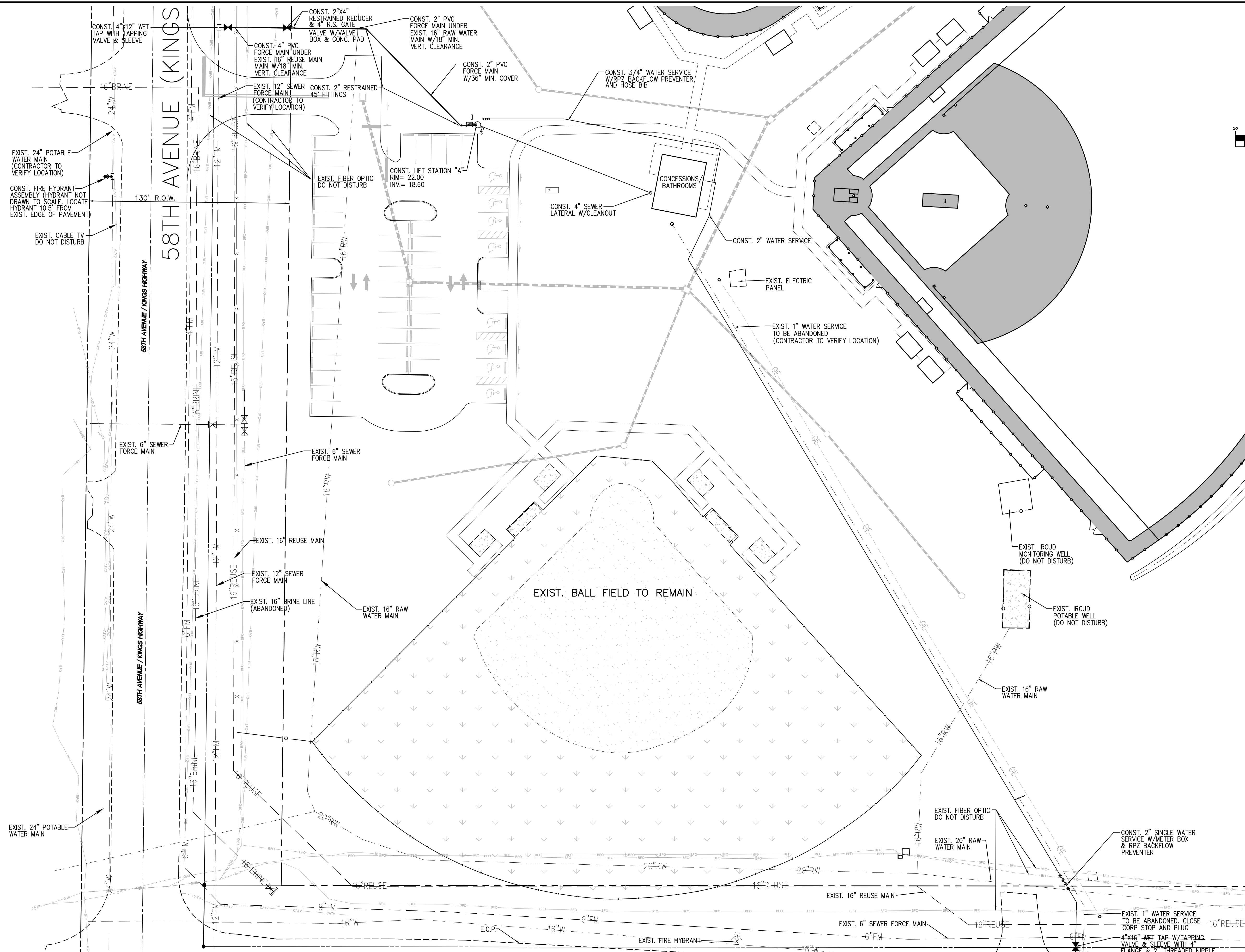
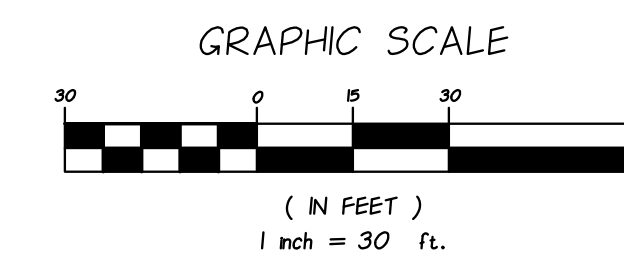
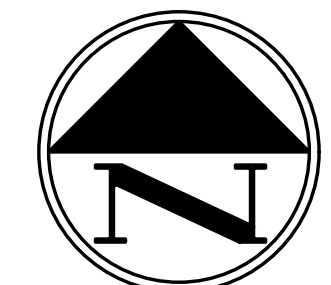
**HOBART PARK**  
**BASEBALL FIELD IMPROVEMENTS**

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STEPHEN E. MOLER, P.E. FL#33193

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	11/17
SCALE	1"=30'
SHEET	10 OF 15
PROJECT NO.	1756



### UTILITY PLAN

NO.	DATE	DESCRIPTION	DR/APP
6.	7/17/23	REMOVE PHASING FROM PROJECT	SH/SEM
5.	4/6/20	A.A. REQUEST TO PHASE PROJECT	SH/SEM
4.	8/28/18	REVISED PER IRC UTIL MARKUPS	SH/SEM
3.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS

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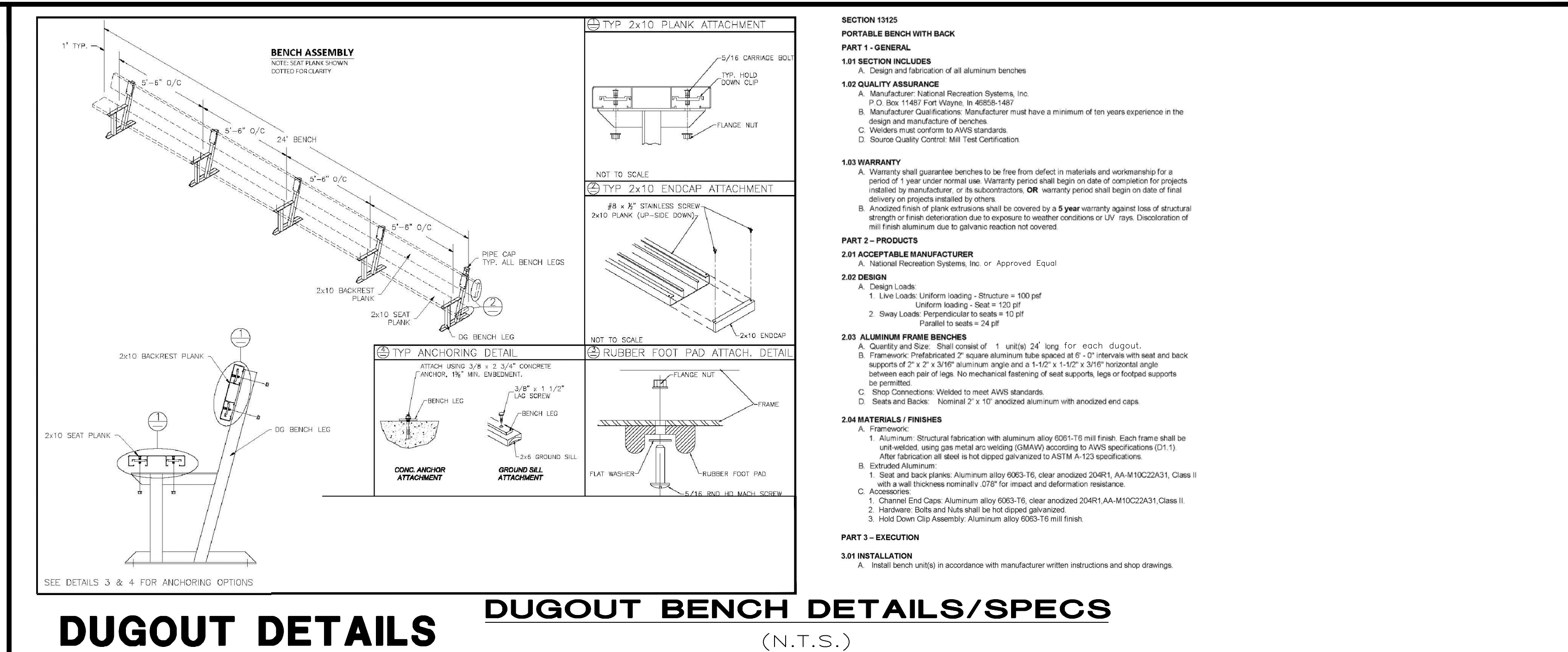
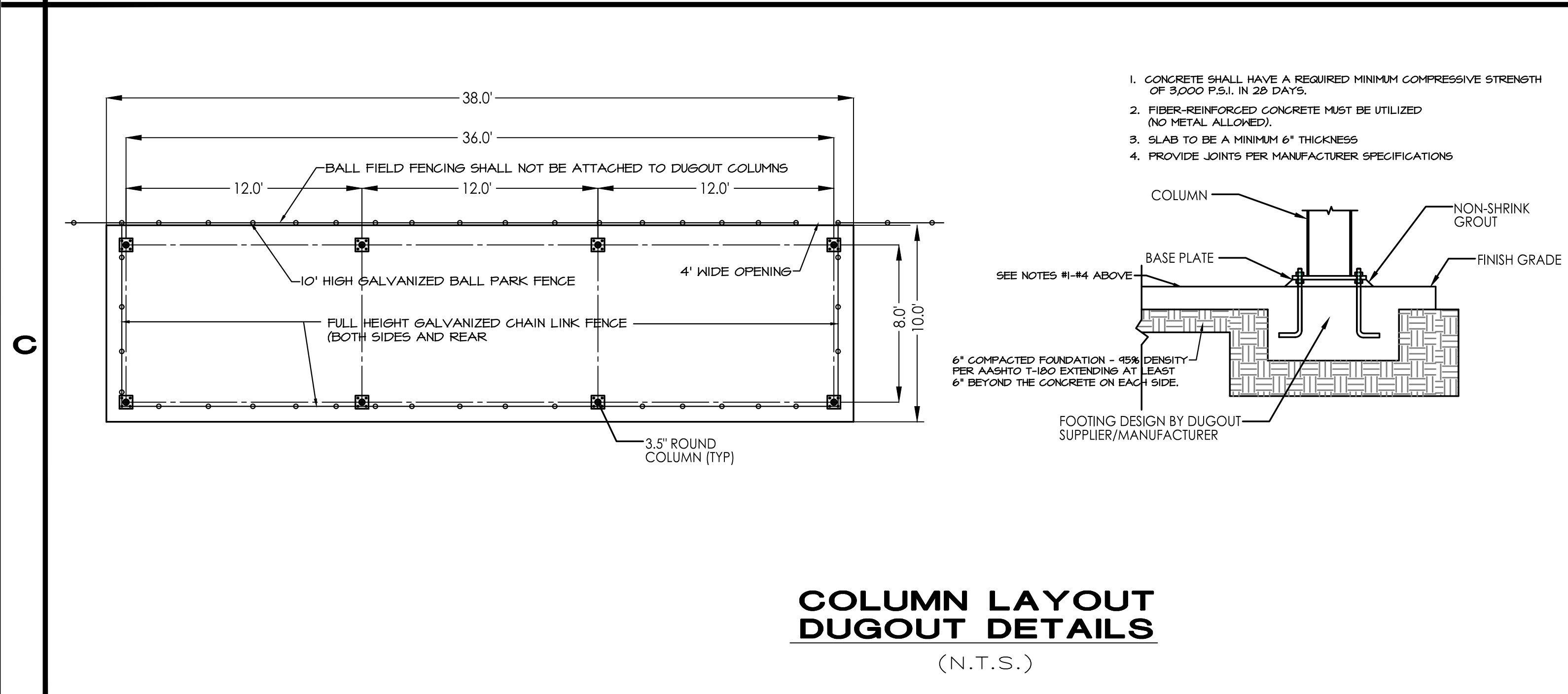
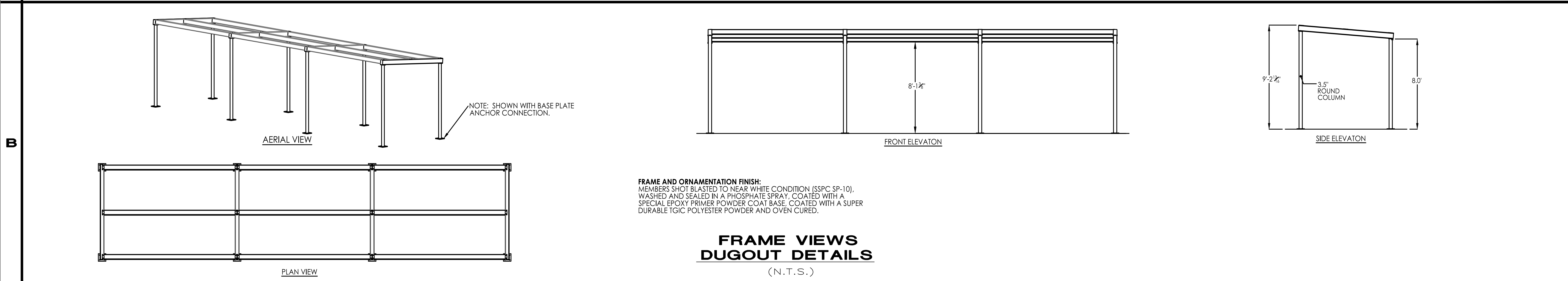
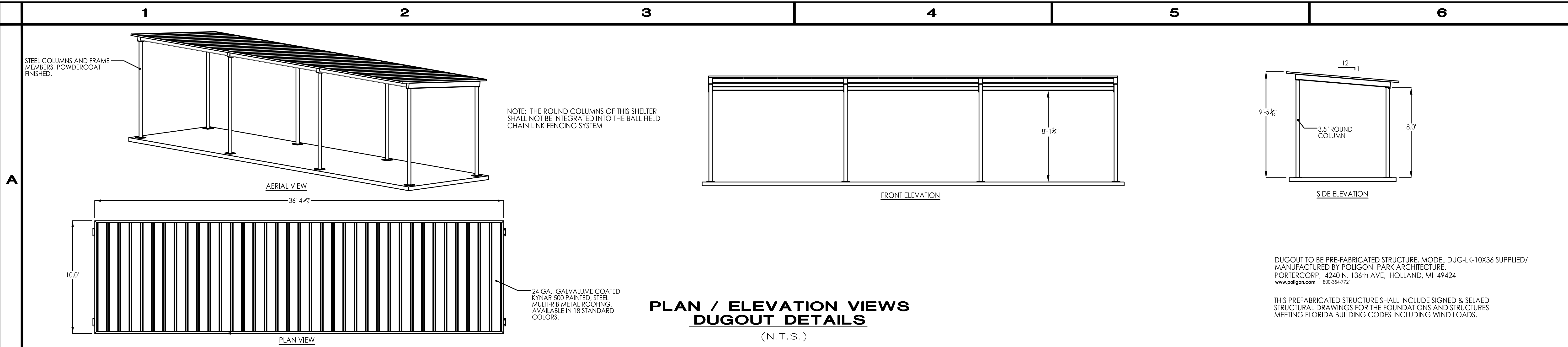
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**STEPHEN E. MOLER, P.E. FL#33193**

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	9/23
SCALE	1"=30'
SHEET	11 OF 15
PROJECT NO.	1756

INDIAN RIVER COUNTY

FLORIDA



NO.	DATE	DESCRIPTION	DR/APP
3.	9/11/19	REVISED CHAIN LINK FENCING	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS

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CERTIFICATE OF AUTHORIZATION NUMBER 4204

**HOBART PARK  
BASEBALL FIELD IMPROVEMENTS**

INDIAN RIVER COUNTY FLORIDA

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STEPHEN E. MOLER, P.E. FL#33193

DRAWN	SH
DESIGNED	
CHECKED	SEM
DATE	3/18
SCALE	NTS
SHEET	12 OF 15
PROJECT NO.	1756

SECTION 26 56 68 – EXTERIOR ATHLETIC LIGHTING

Lighting System with LED Light Source

PART 1 – GENERAL

1.1 SUMMARY

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
B. The purpose of these specifications is to define the lighting system performance and design standards for Hobart Baseball Field using an LED Lighting source.
C. The sports lighting will be for the following venues:
1. Baseball
D. The primary goals of this sports lighting project are:
1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators.
2. Environmental Light Control: It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors.
3. Cost of Ownership: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate.
4. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system.

1.2 LIGHTING PERFORMANCE

- A. Illumination Levels and Design Factors: Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below.
B. Color: The lighting system shall have a minimum color temperature of <5700K and a CRI of 75.
C. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, minimum mounting heights shall be as described below.

Table with 5 columns: Area of Lighting, Average Target Illumination Levels, Maximum to Minimum Uniformity Ratio, Grid Points, Grid Spacing. Rows include Infield and Outfield.

Table with 3 columns: # of Poles, Pole Designation, Pole Height. Rows show 6 poles at 70' and 2 poles at 80'.

1.1 ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields.
B. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.
C. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines.
D. The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance.

Table with 3 columns: Measurement, Average, Maximum. Rows include Horizontal Footcandles 150' offset, Vertical Footcandles 150' offset, and Candela - 150' offset.

1.4 Cost of Ownership

- A. Manufacturer shall submit a 10-year Cost of Ownership summary that includes energy consumption, anticipated maintenance costs, and control costs.

PART 2 – PRODUCT

2.2 SPORTS LIGHTING SYSTEM CONSTRUCTION

- A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.
B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion.
C. System Description: Lighting system shall consist of the following:
1. Galvanized steel poles and cross-arm assembly.

- 1. Non-approved pole technology:
a. Square static cast concrete poles will not be accepted.
b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long term performance concerns.
2. Lighting systems shall use concrete foundations. See Section 2.4 for details.
3. Manufacturer will supply all drivers and supporting electrical equipment
4. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures.
5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
7. Contactor cabinet to provide on-off control.
8. Contactor cabinet to provide on-off control.
9. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.

2.1 ELECTRICAL

- A. Electric Power Requirements for the Sports Lighting Equipment:
1. Electric power: 480 Volt, 1 Phase
2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.
B. Energy Consumption: The kW consumption for the field lighting system shall be 57.84.

2.3 CONTROL

- A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.
B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design.
C. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via scheduling options (Website, app, phone, fax, email)
D. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance.
E. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled.
F. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group.

2.4 STRUCTURAL PARAMETERS

- A. Wind Loads: Wind loads shall be based on the 2020 Florida Building Code. Wind loads to be calculated using ASCE 7-10, an ultimate design wind speed of 160 (nominal design wind speed of 160).
B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to AASHTO 2013 Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).

- C. Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report. Keller, Schleicher & MacWilliam Engineering and Testing, dated June 5, 2018.
D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

PART 3 – EXECUTION

3.1 SOIL QUALITY CONTROL

- A. It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs associated with:
1. Providing engineered foundation embedment design by a registered engineer in the State of Florida for soils other than specified soil conditions;
2. Additional materials required to achieve alternate foundation;
3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.2 DELIVERY TIMING

- A. Delivery Timing Equipment On-Site: The equipment must be on-site 6 – 8 weeks from receipt of approved submittals and receipt of complete order information.

3.3 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified.
B. Field Light Level Accountability
1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 10 years.
2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities.
C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles and uniformity ratios are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.4 WARRANTY AND GUARANTEE

- A. 10-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 10 years from the date of shipment.
Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 10 years from the date of equipment shipment.

NOTE:

THE LIGHTING VENDOR SHALL, TO SUPPORT ISSUANCE OF A BUILDING PERMIT FOR THIS PROJECT, SUBMIT WITH SHOP DRAWINGS, THE DESIGN OF THE LIGHTING SYSTEM INCLUDING STRUCTURAL ENGINEERING SIGNED AND SEALED BY A FLORIDA LICENSED ENGINEER.

COLLEGE FIELD LIGHTING SPECIFICATIONS

HOBART PARK

BASEBALL FIELD IMPROVEMENTS

INDIAN RIVER COUNTY

FLORIDA

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FOR BIDDING PURPOSES ONLY

STEPHEN E. MOLER, P.E. FL#33193

Table with 4 columns: NO., DATE, DESCRIPTION, DR/APP. Includes revision history for phasing and lighting specifications.

Table with 2 columns: Field, Value. Includes fields for DRAWN, DESIGNED, CHECKED, DATE, SCALE, SHEET, and PROJECT.

PART 1 - GENERAL

1.1 SUMMARY

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the performance and design standards for Hobart Park Softball Field. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
- C. The sports lighting will be for the following fields:
  1. Softball Field
- D. The primary goals of this sports lighting project are:
  1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed for a period of 10 years.
  2. Environmental Light Control: It is the primary goal of this project to minimize spill light and glare.
  3. Life-cycle Cost: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate.
  4. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Field(s) should be proactively monitored to detect fixture outages over a 10 year life-cycle.

1.2 LIGHTING PERFORMANCE

- A. Performance Requirements: Playing surfaces shall be lit to an average constant light level and uniformity as specified in the chart below. Light levels shall be held constant for 10 years. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Average illumination level shall be measured in accordance with the IESNA LM-5-04. Light levels shall be guaranteed from the first 100 hours of operation for the maximum warranty period.

Area of Lighting	Average Constant Light Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Infield	50 footcandles	2.0:1.0	25	30' x 30'
Outfield	30 footcandles	2.5:1.0	77	30' x 30'
Right Bullpen	23 footcandles	1.27:1.0	8	10' x 10'
Left Bullpen	23 footcandles	1.26:1.0	8	10' x 10'

1. Lumen maintenance control strategy: A constant light system shall use automatic power adjustments to achieve a lumen maintenance control strategy as described in the IESNA Lighting Handbook 10th Edition, Lighting Controls Section, page 16-8: "Lumen maintenance involves adjusting lamp output over time to maintain constant light output as lamps age, and dirt accumulation reduces luminaire output. With lumen maintenance control, either lamps are dimmed when new, or the lamp's current is increased as the system ages."
  2. Independent Test Report: Manufacturers bidding any form of a constant light system must provide an independent test report certifying the system meets the lumen maintenance control strategy above and verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience. If report is not provided at least 10 days prior to bid opening, the manufacturer shall provide the initial and maintained designs called for in this specification under Alternate Manufacturers, section 1.8.
  3. Project References: Manufacturers bidding any form of a constant light system must provide a minimum of five (5) project references within the state of FL that have been completed within the last calendar year utilizing this exact technology. Manufacturer will include project name, project city, and if requested, contact name and contact phone number for each reference.
- A. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, the pole mounting heights from the playing field surface shall be as follows:

# of Poles	Pole Designation	Pole Height
2	A3, A4	60'
4	B3, B4, C3, C4	70'

1.1 ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers, and external shields. No symmetrical beam patterns are accepted.
- B. No one Nema type at 19 degrees in the vertical plane, will exceed 3,000 candela. Independent laboratory report must be submitted with the bid to validate the above requirements.

1.2 LIFE-CYCLE COSTS

- A. Energy Consumption: The average kW consumption for the field lighting system shall be 59.43 or less.
- B. Complete Lamp Replacement: Manufacturer shall include all group lamp replacements required to provide 10 years of operation based upon 500 usage hours per year.
- C. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 10 years from the date of equipment shipment. Individual lamp outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.
- D. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (Manual or Auto) and contactor status (open or closed).
- E. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields, to only having permission to execute "early off" commands by phone.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

- F. Management Tools: Manufacturer shall provide a web-based database of actual field usage and provide reports by facility and user group.
  - a. Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.
    - i. Cumulative hours: shall be tracked to show the total hours used by the facility
    - ii. Current lamp hours: shall be tracked separately to reflect the amount of hours on the current set of lamps being used, so relamping can be scheduled accurately
- G. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 10 years.
- H. 10-Year Life-cycle Cost: Manufacturer shall submit 10-year life-cycle cost calculations as follows. Equipment price and total life-cycle cost shall be entered separately on bid form.

Luminaire energy consumption			
a.	# luminaires x __kW demand per luminaire x __ kWh rate x 500 annual usage hours x 10 years		
b.	Demand charges, if applicable]	+	
c.	Cost for spot relamping and maintenance over 10 years Assume ____ repairs at \$ ____ each if not included with the bid	+	
d.	Cost to relamp all luminaires during 10 years ____ annual usage hours x 10 years / ____ hours x \$125 lamp & labor x ____ fixtures if not included with the bid	+	
e.	Extra energy used without base bid automated control system \$ Energy consumption in item a. x ____% if control system not included with the bid	+	
f.	Extra labor without base bid automated on/off operation \$ ____ per hour x ____ hours per on/off cycle x ____ cycles over 10 years if control system not included with the bid	+	
TOTAL 10-Year Life-cycle Operating Cost		=	

1.1 WARRANTY AND GUARANTEE

- A. 10-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 10 years OR for the maximum hours of coverage based on the estimated annual usage, whichever occurs first. Warranty shall guarantee light levels; lamp replacements; system energy consumption; monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty may exclude fuses, storm damage, vandalism, abuse and unauthorized repairs or alterations. Group lamp replacements for constant light systems must occur in accordance with the independent test report provided by the manufacturer; alternate systems must relamp every 3,000 hours.

1.2 DELIVERY TIMING

- A. Equipment On-Site: The equipment must be on-site 4 – 6 weeks from receipt of approved submittals and receipt of complete order information.

1.3 PRE-BID SUBMITTAL REQUIREMENTS

- A. Approved Product: Musco's Green Generation Lighting® sports lighting system is the approved product.

Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.

NOTE:

THE LIGHTING VENDOR SHALL, TO SUPPORT ISSUANCE OF A BUILDING PERMIT FOR THIS PROJECT, SUBMIT WITH SHOP DRAWINGS, THE DESIGN OF THE LIGHTING SYSTEM INCLUDING STRUCTURAL ENGINEERING SIGNED AND SEALED BY A FLORIDA LICENSED ENGINEER.

SOFTBALL/HYBRID FIELD LIGHTING SPECIFICATIONS

NO.	DATE	DESCRIPTION	DR/APP
6.	7/17/23	REMOVE PHASING FROM PROJECT	SH/SEM
5.	4/6/20	REVISED LIGHTING SPECIFICATIONS	SH/SEM
4.	9/18/18	REVISED PER IRC COMMENTS EMAILED 9/17/18	SH/SEM
3.	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS

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 CERTIFICATE OF AUTHORIZATION NUMBER 4204

**HOBART PARK**  
**BASEBALL FIELD IMPROVEMENTS**

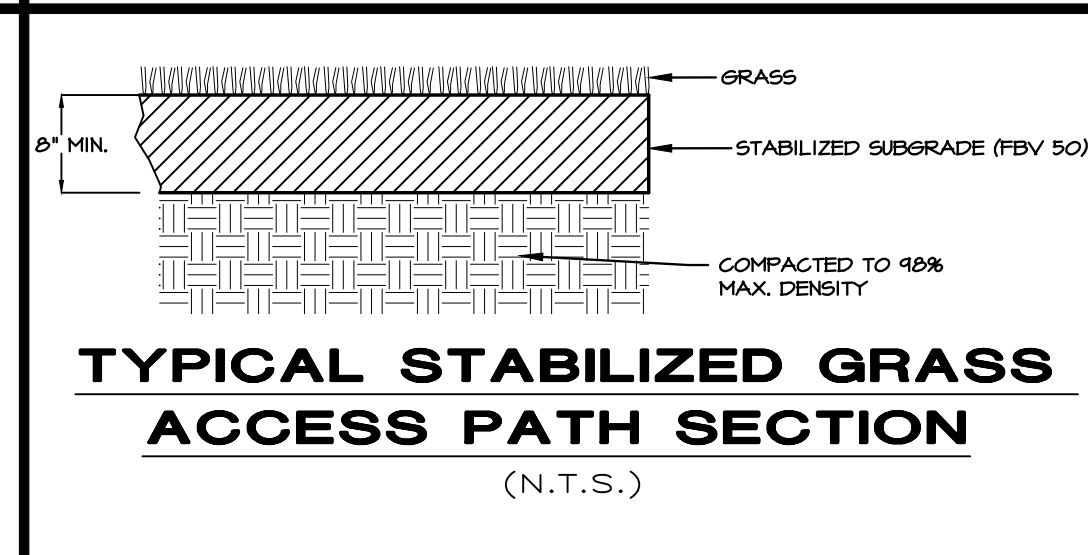
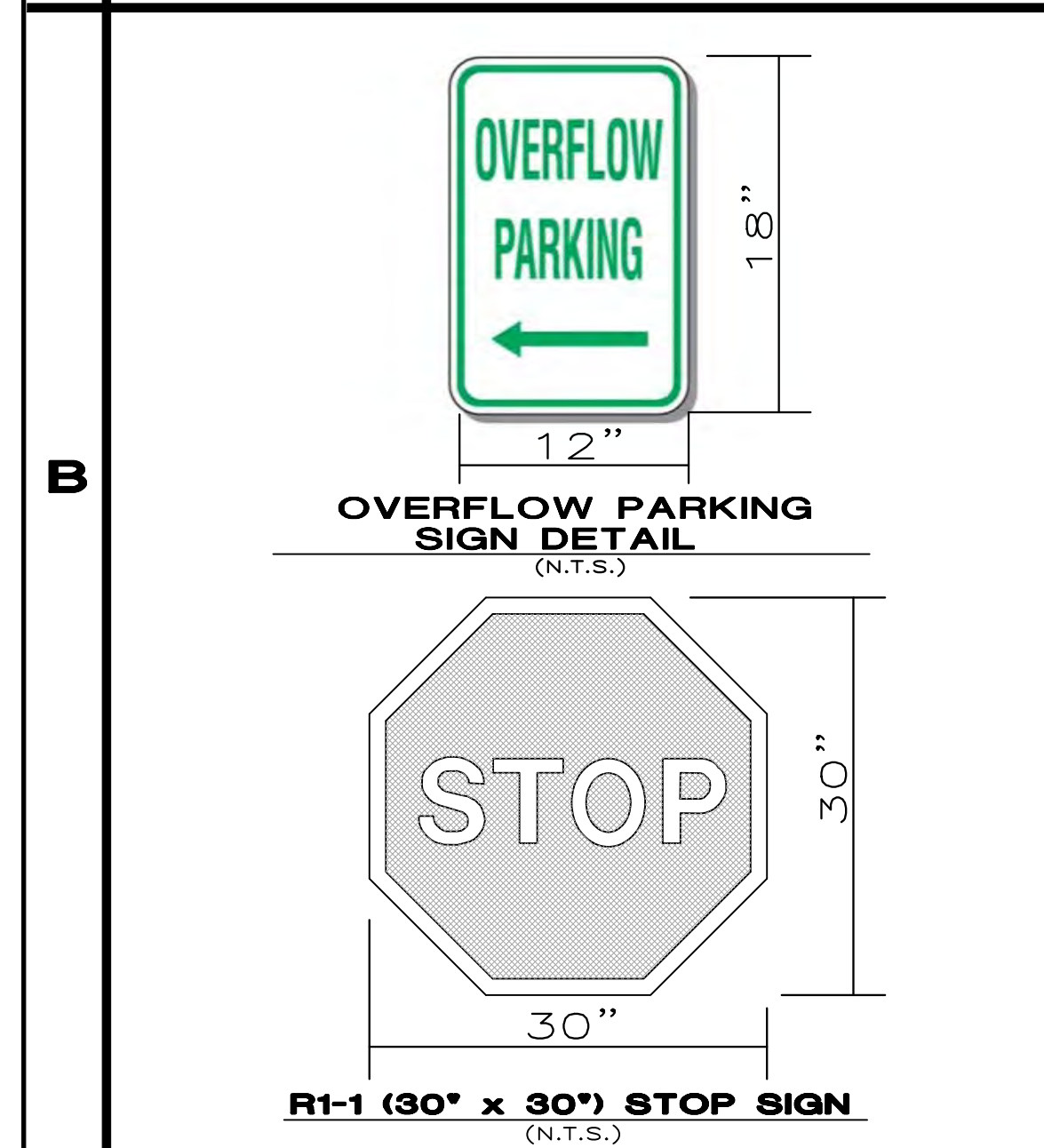
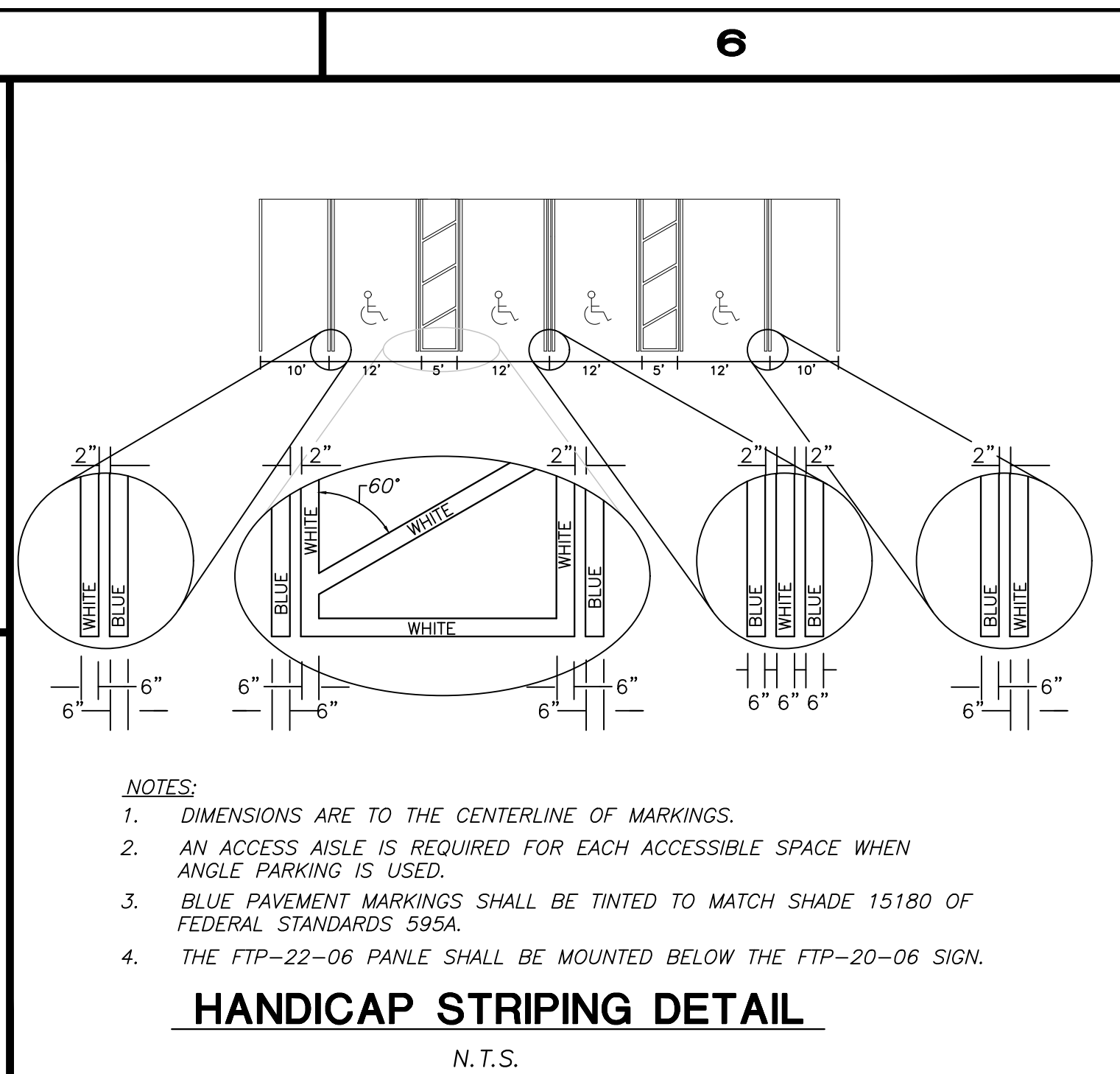
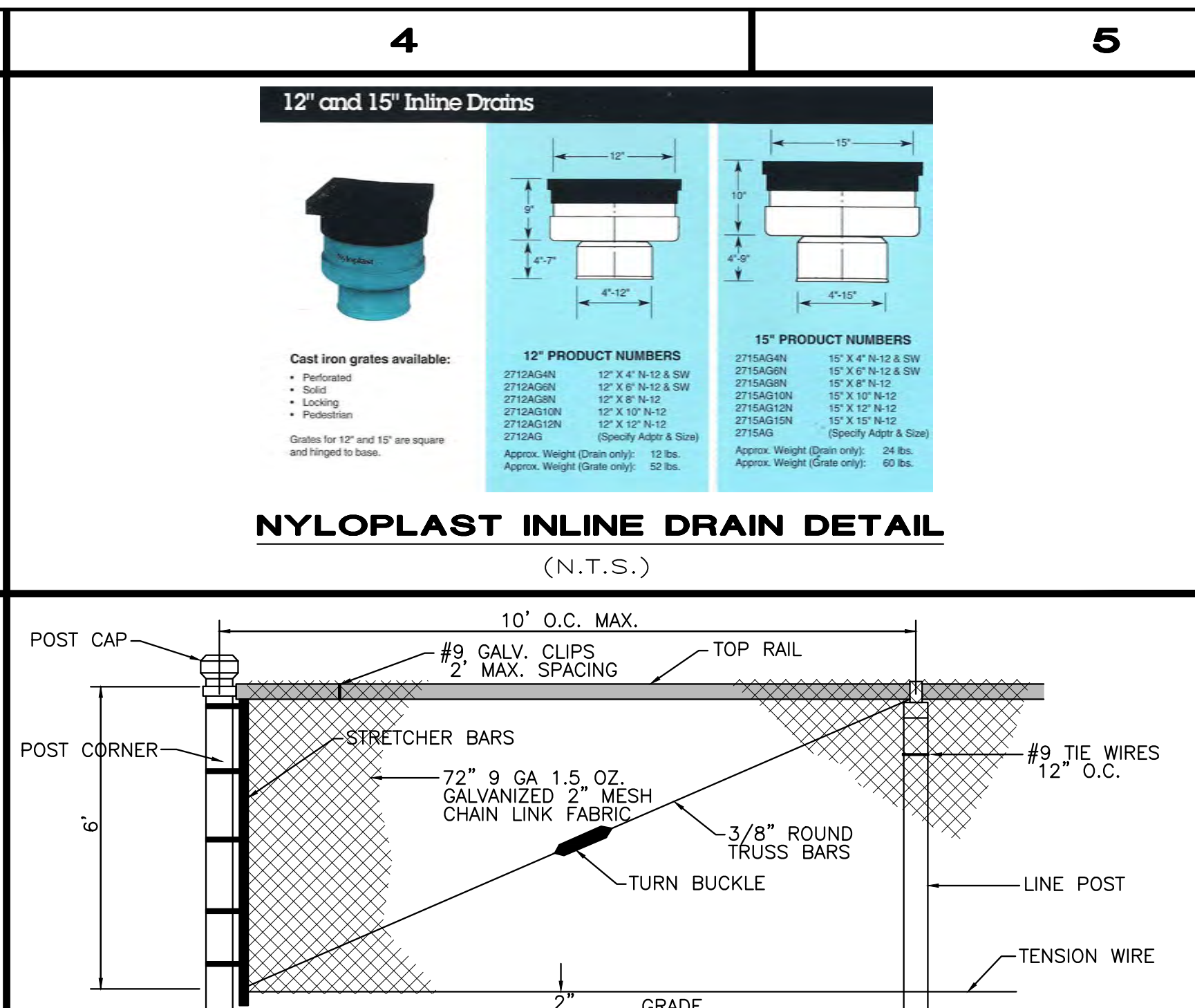
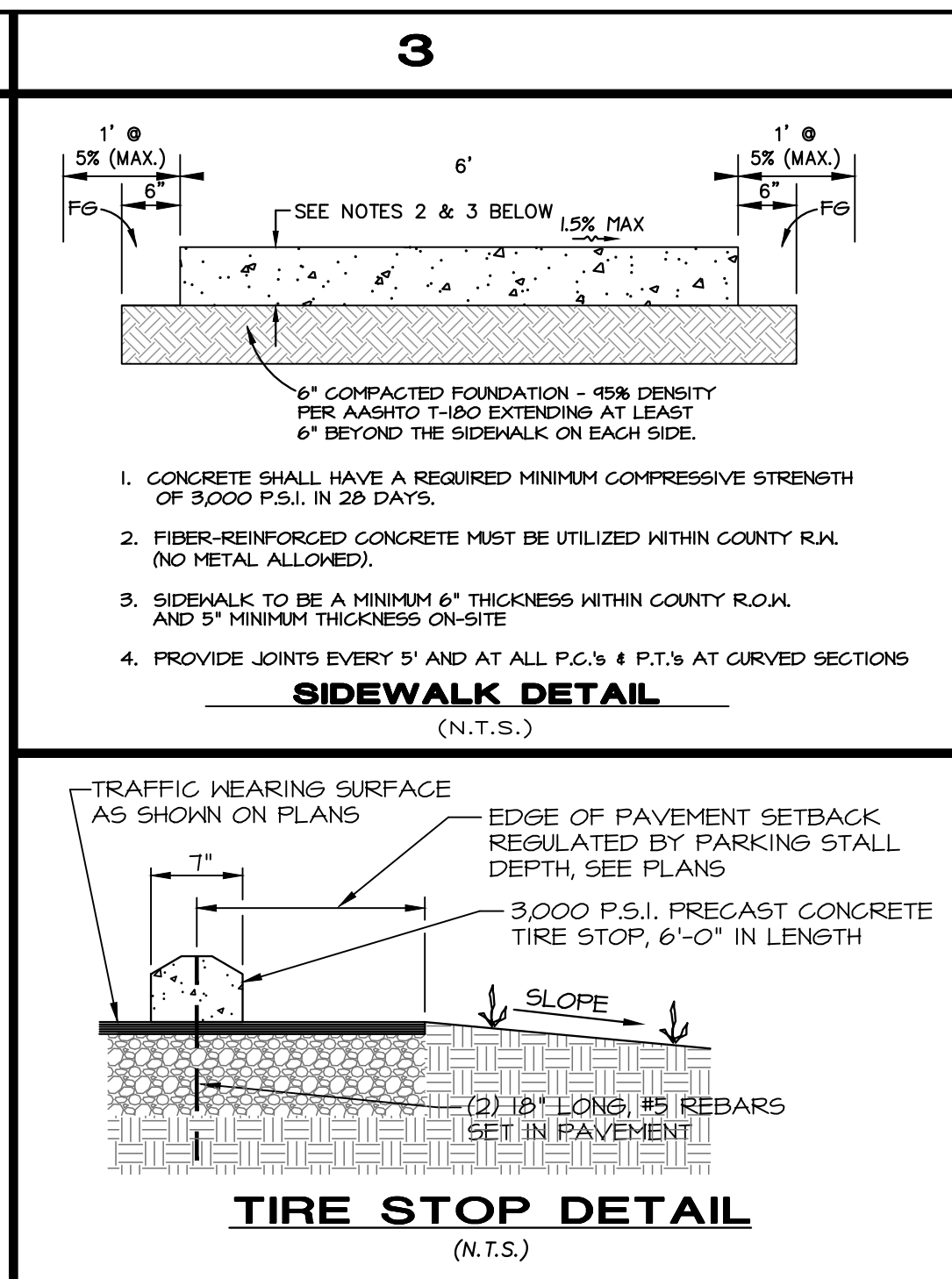
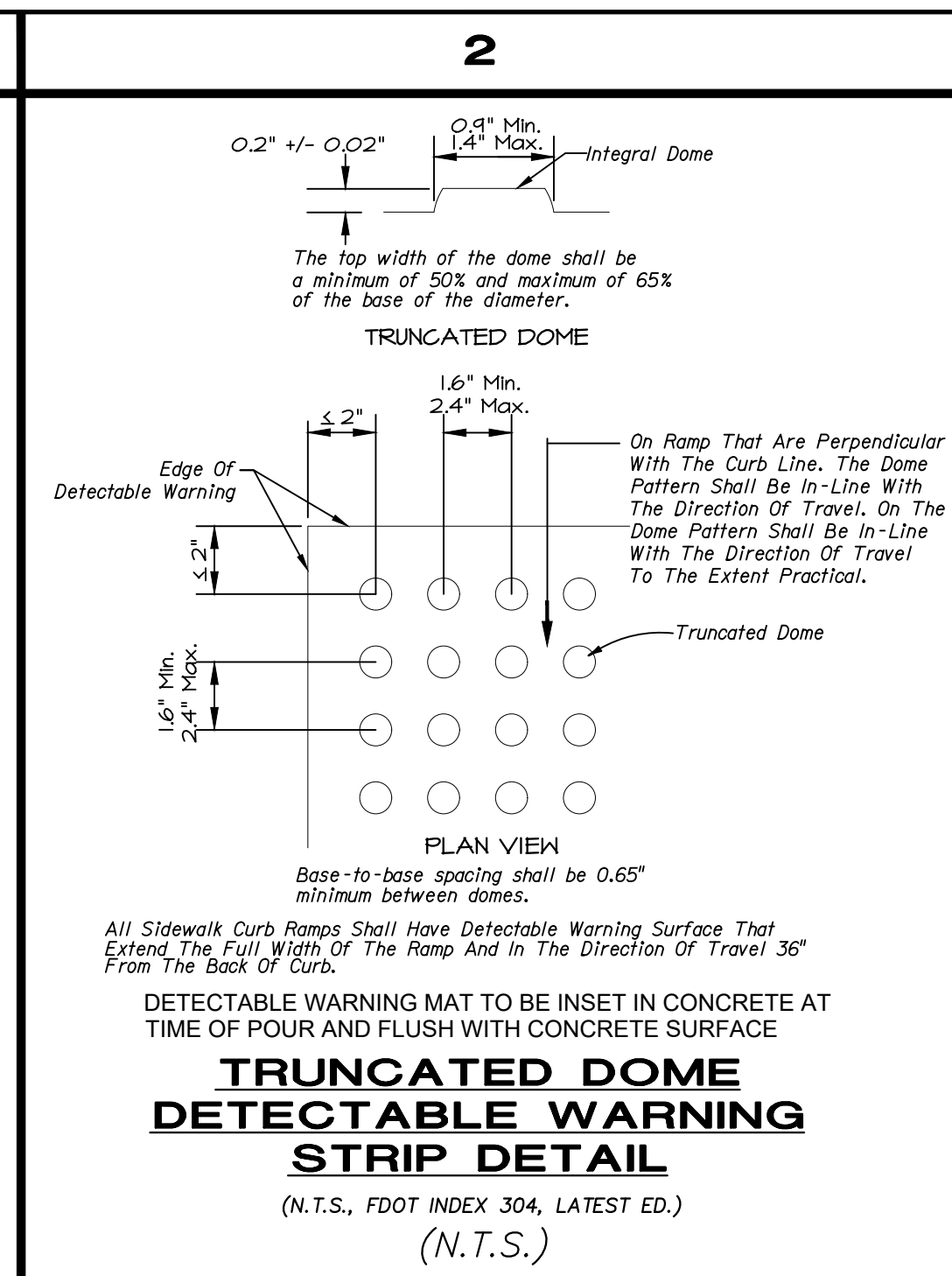
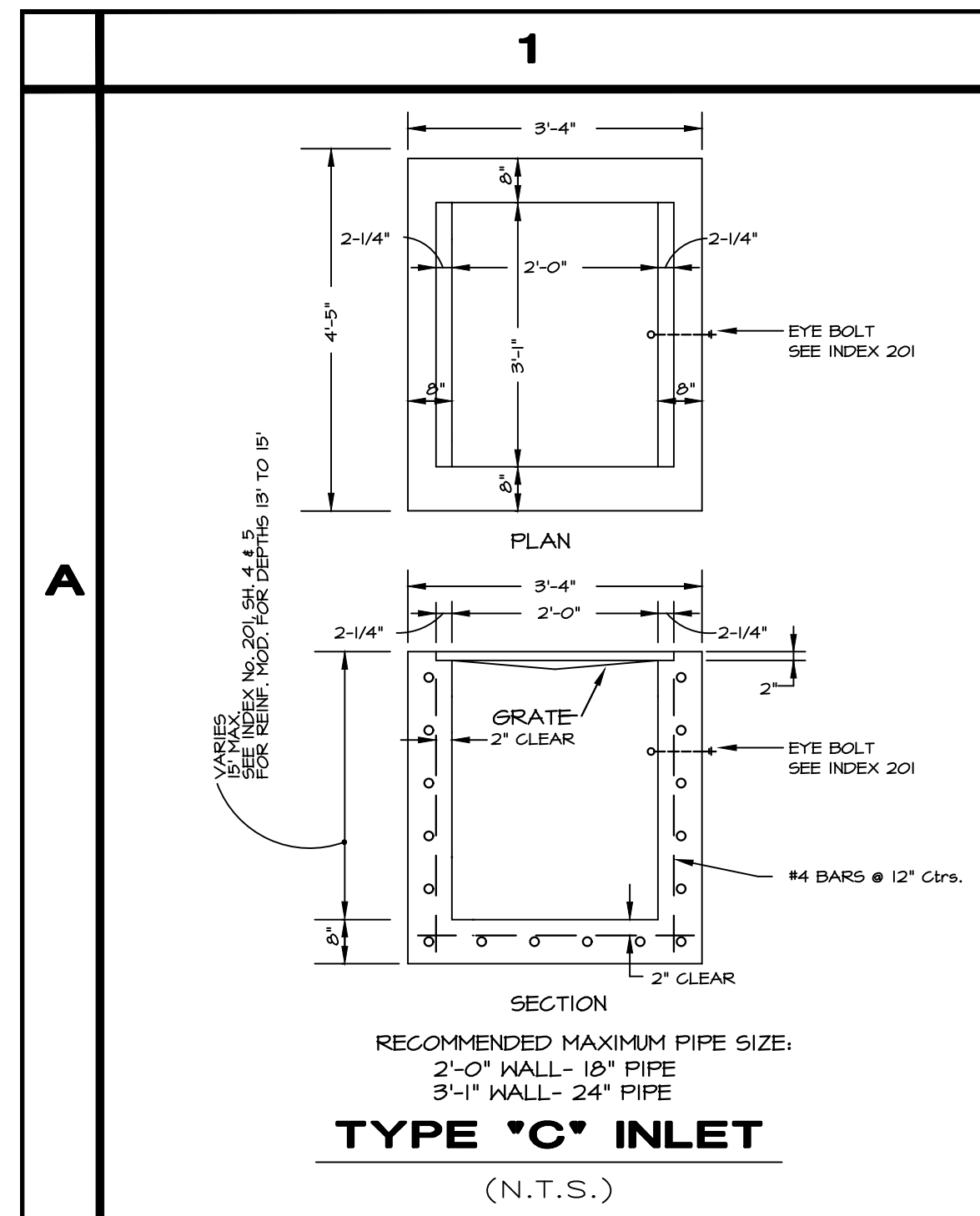
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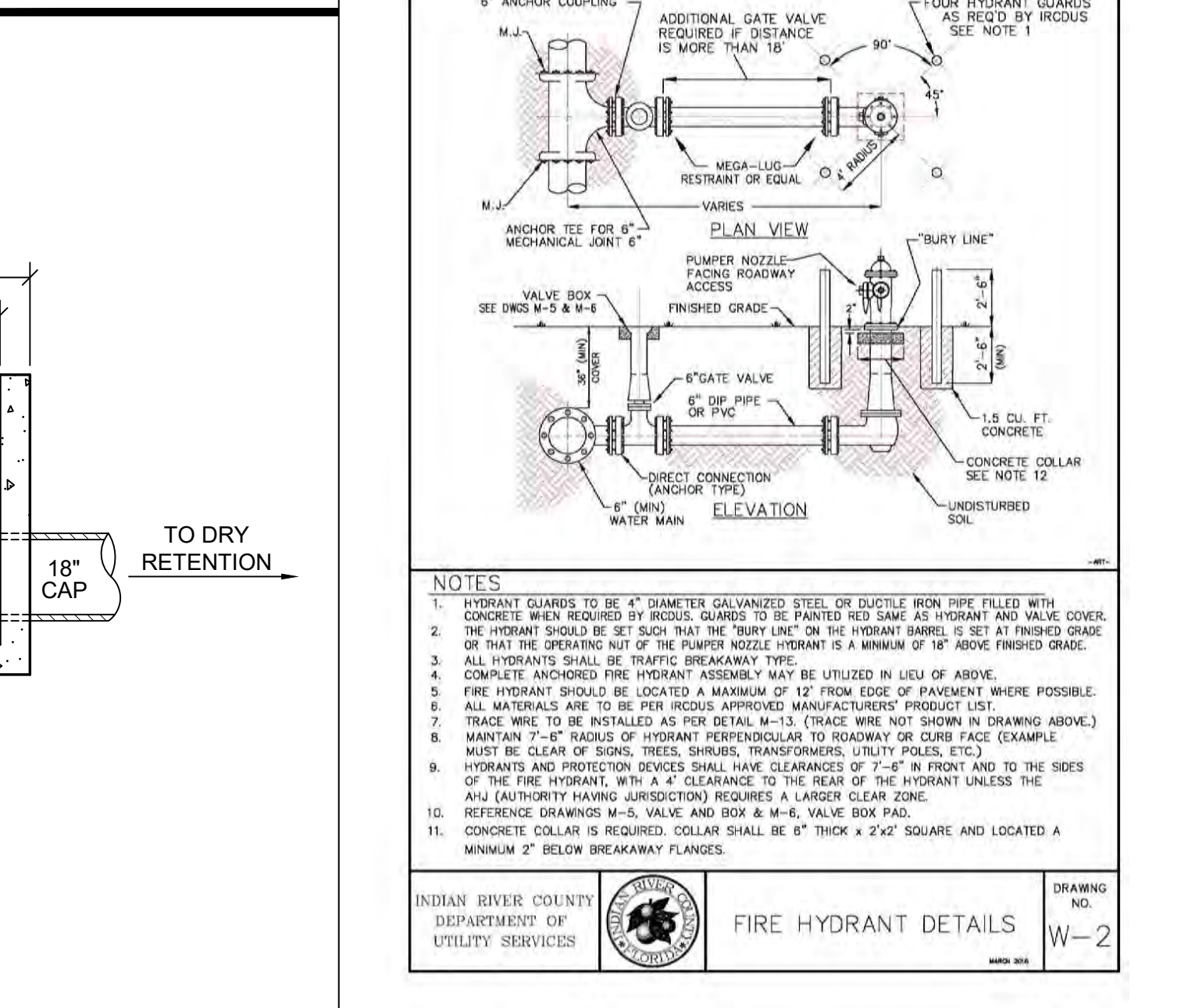
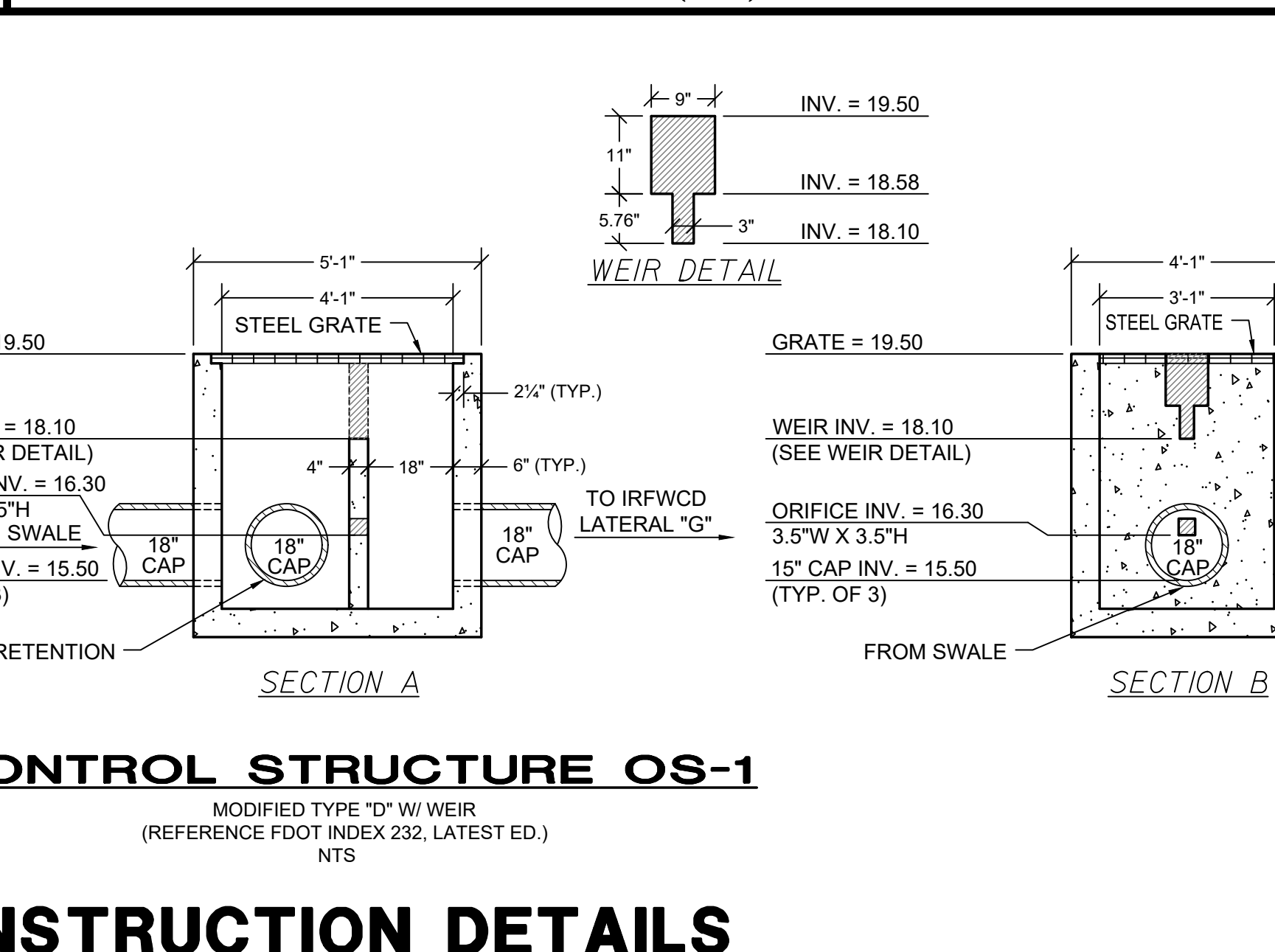
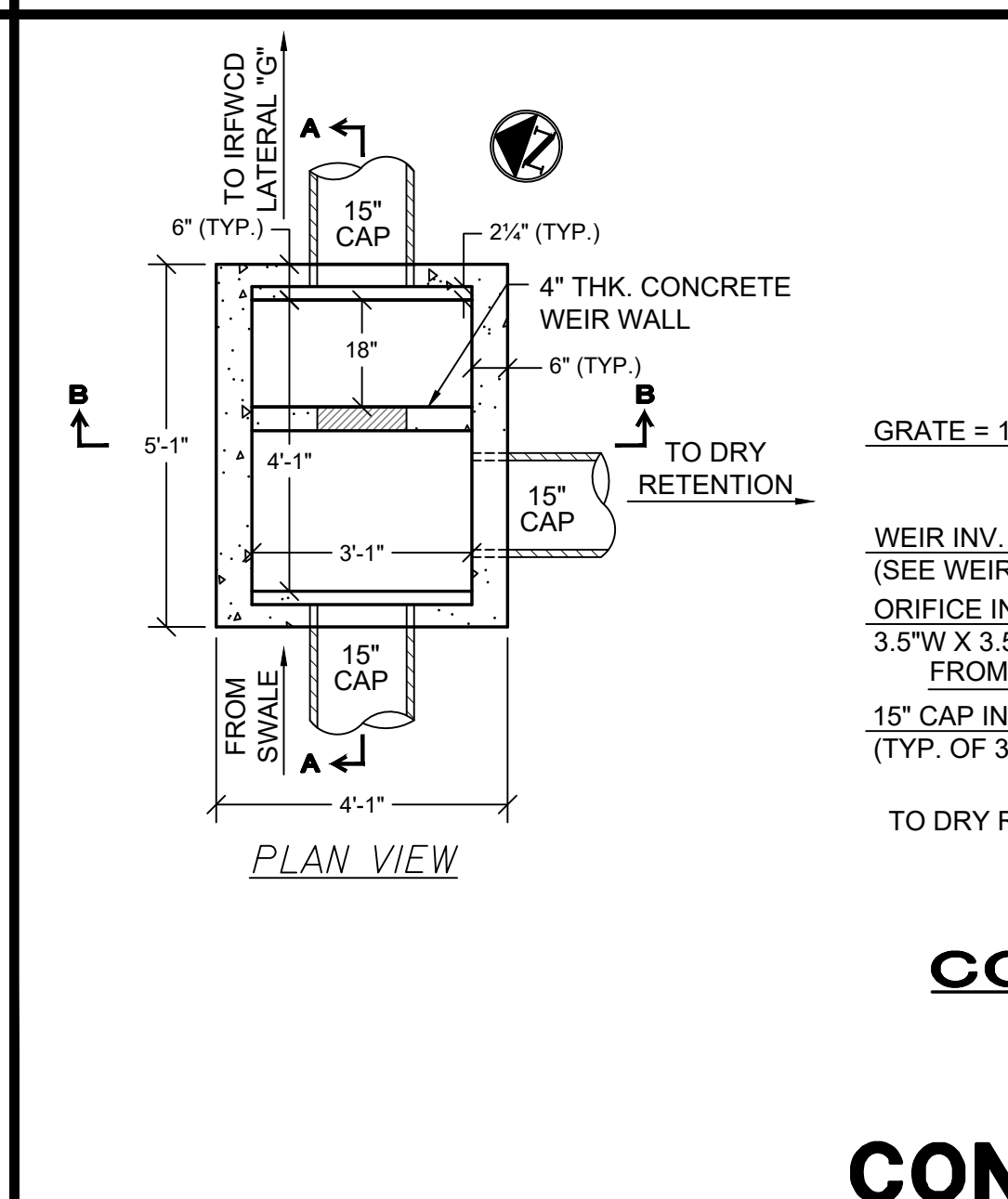
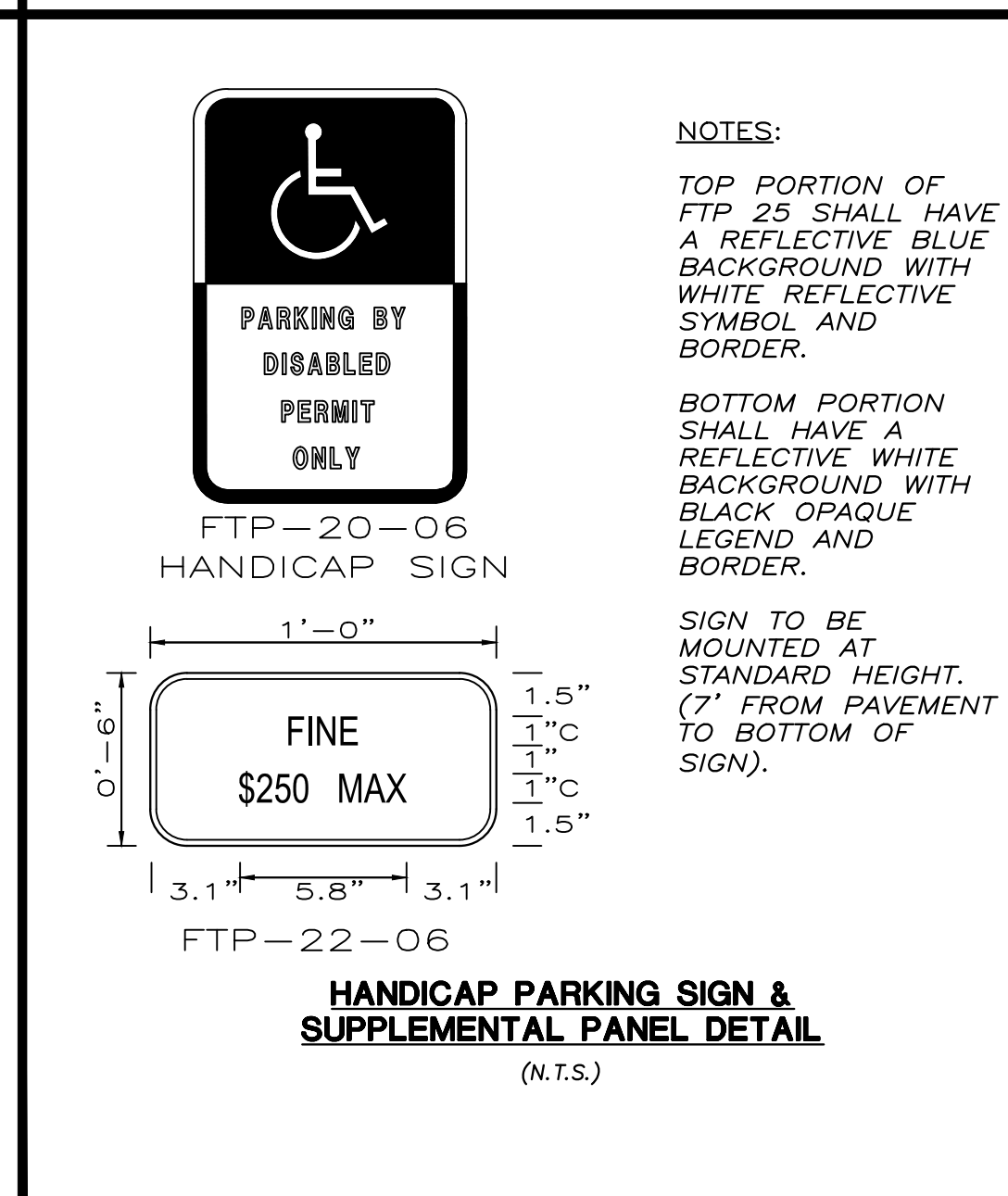
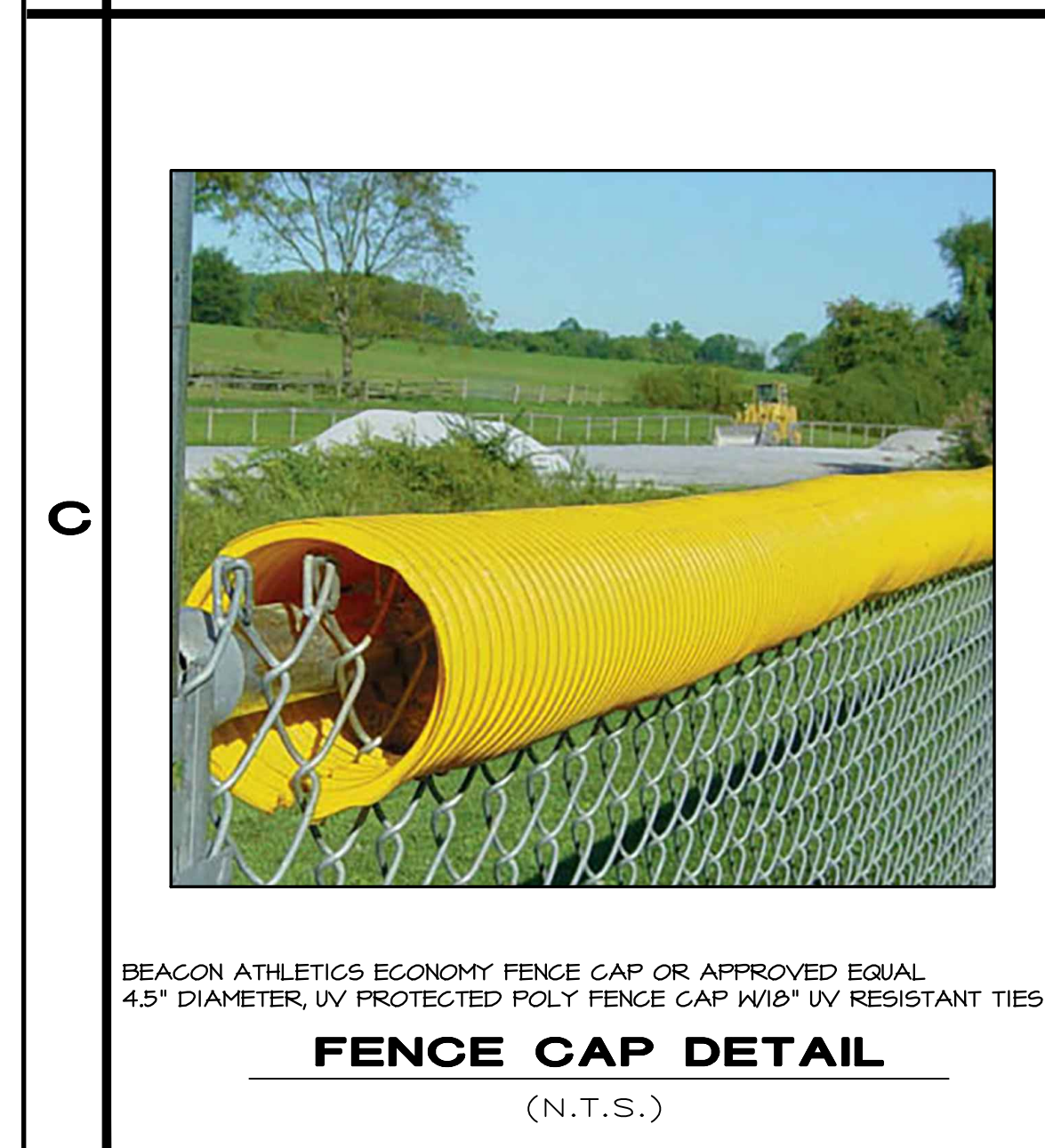
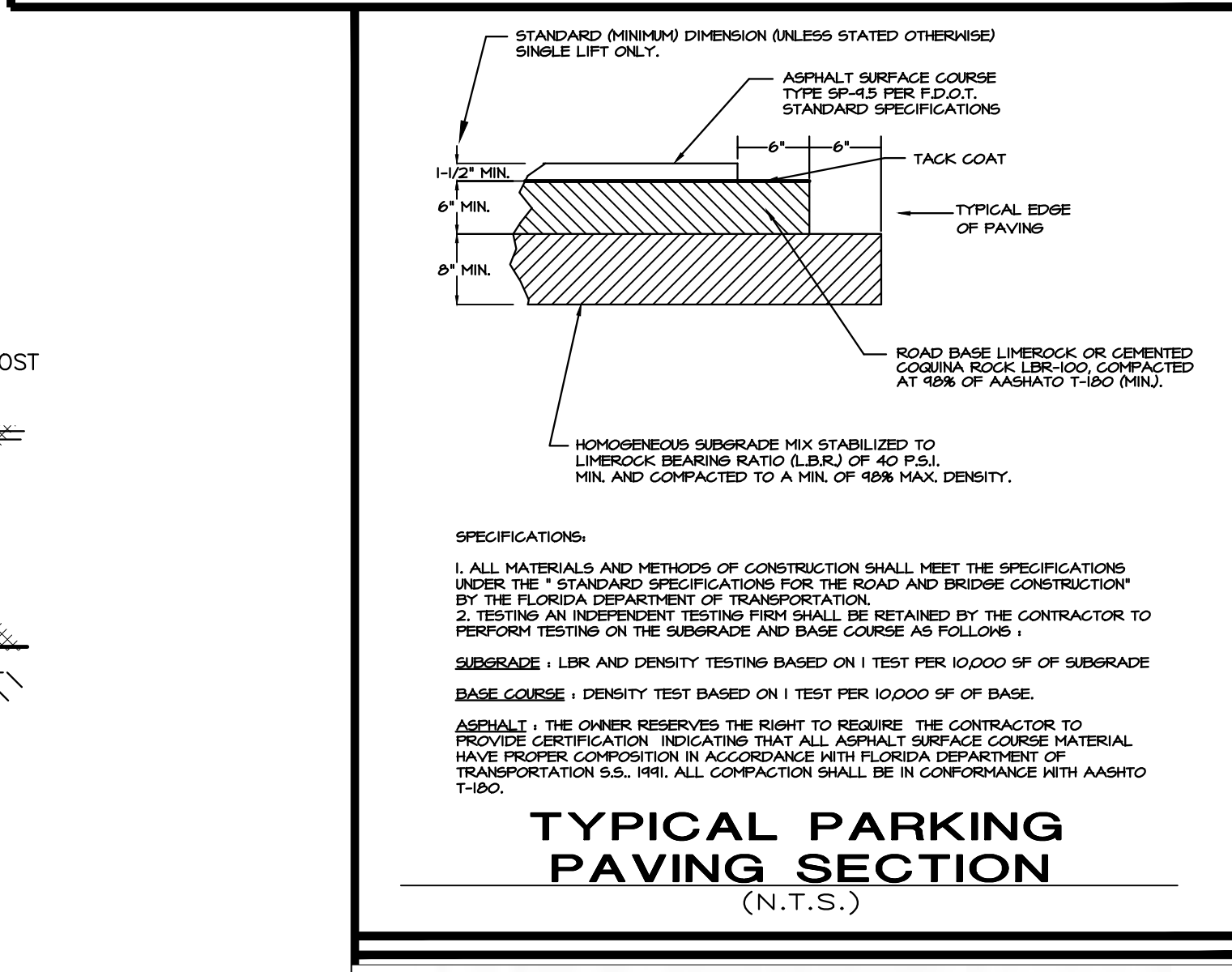
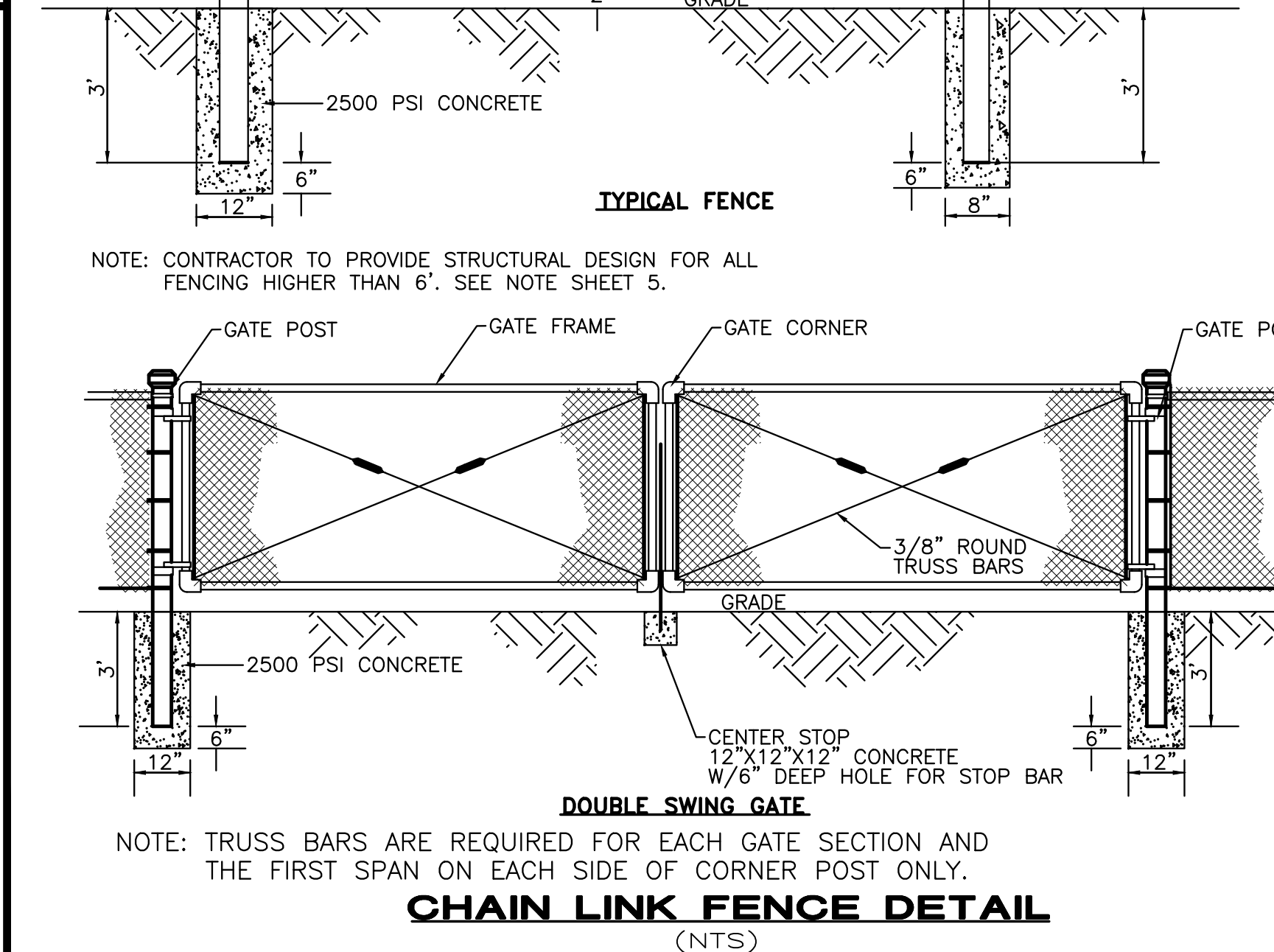
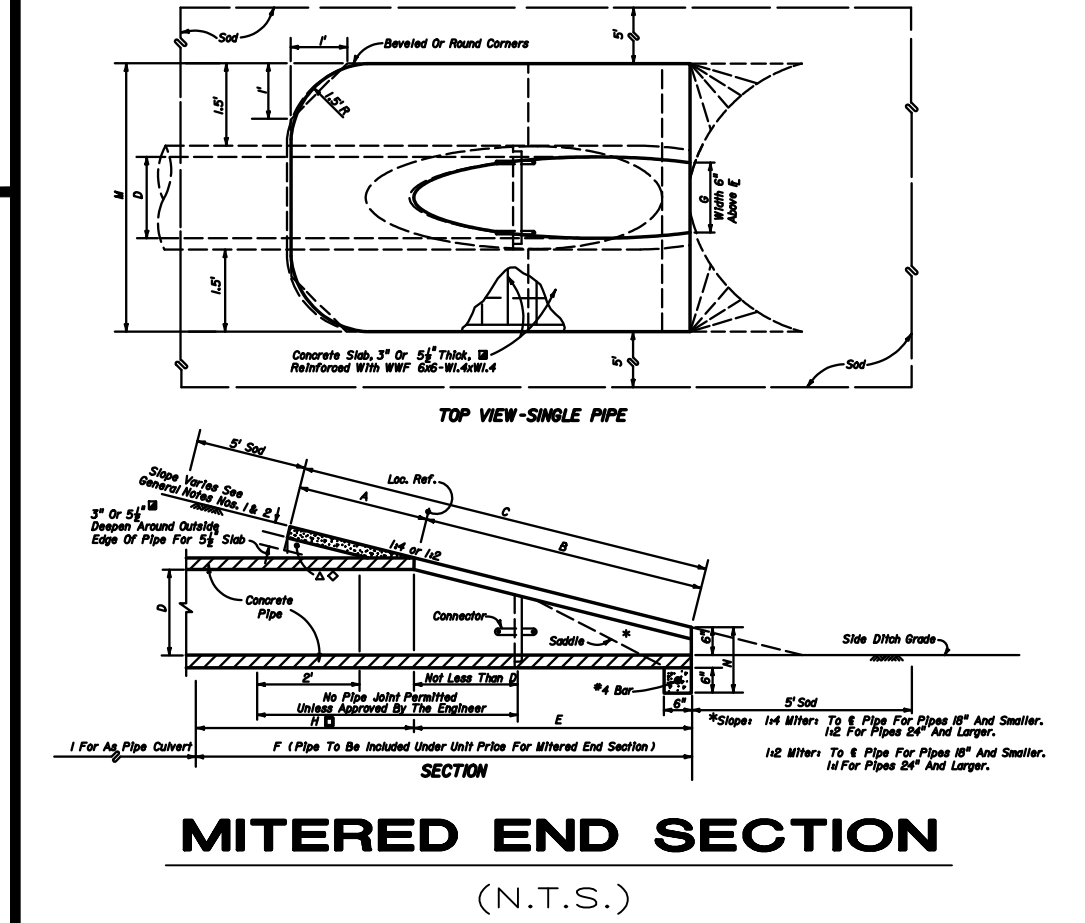
**STEPHEN E. MOLER, P.E. FL#33193**

DRAWN	SH
DESIGNED	SH
CHECKED	SEM
DATE	3/18
SCALE	NTS
SHEET	13B OF 15
PROJECT NO.	1756

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DESCRIPTION	AMOUNT	UNIT	QUANTITY
CONCRETE	1.00	CY	1.00
REBAR	1.00	TON	1.00
GRASS	1.00	SQ YD	1.00



NO.	DATE	DESCRIPTION	DR/APP
5.	8/28/18	REVISED PER IRC UTIL MARKUPS	SH/SEM
4.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
3.	7/31/18	REVISED PER IRC COMMENT LETTERS OF 6/20 & 6/30/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
1.	5/10/18	REVISED PER IRC PRE-APP COMMENTS	SH/SEM

REVISIONS

**M MASTELLER & MOLER, INC.**  
CONSULTING ENGINEERS  
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
(772) 567-5300 / FAX (772) 794-1106  
CERTIFICATE OF AUTHORIZATION NUMBER 4204

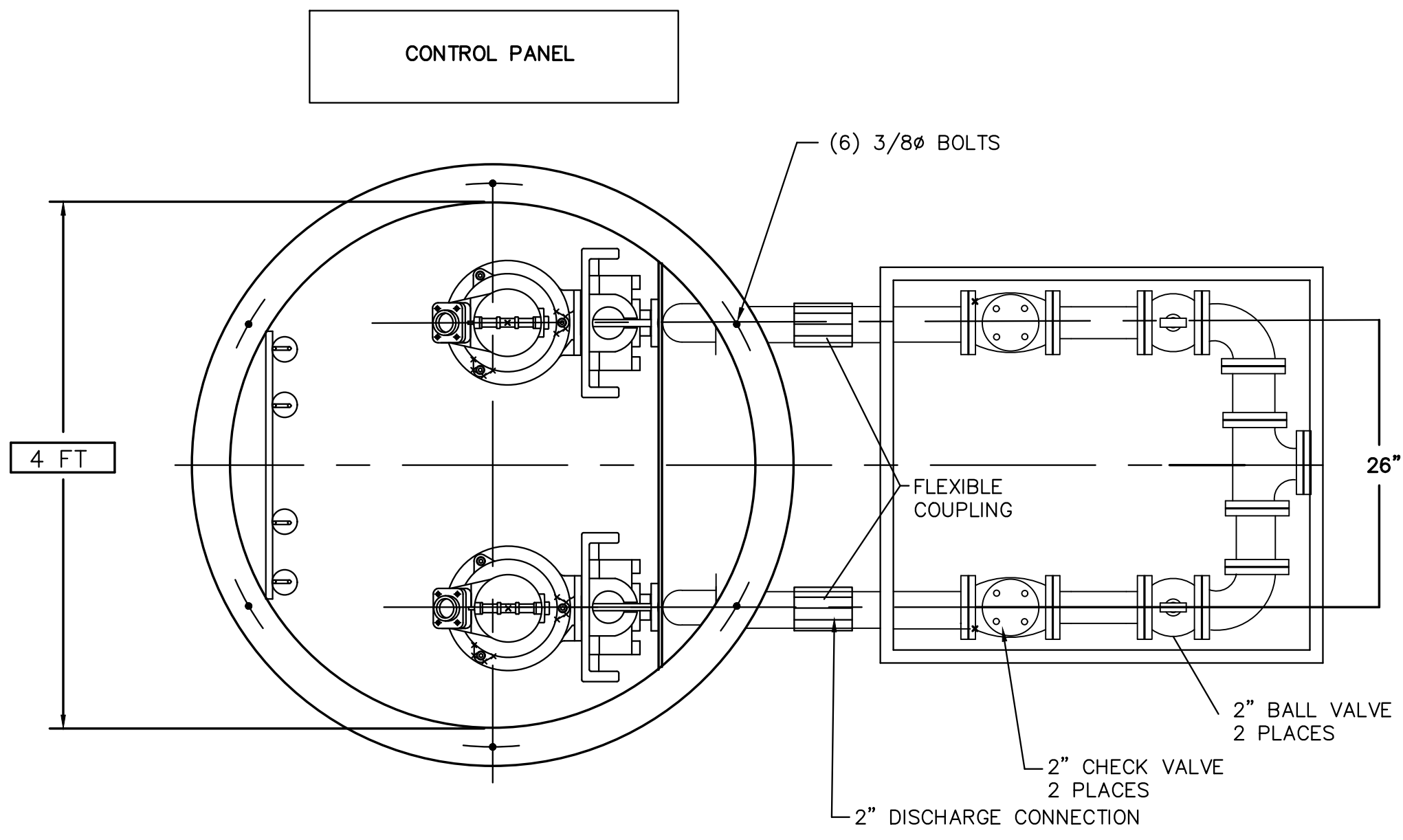
**HOBART PARK  
BASEBALL FIELD IMPROVEMENTS**

INDIAN RIVER COUNTY FLORIDA

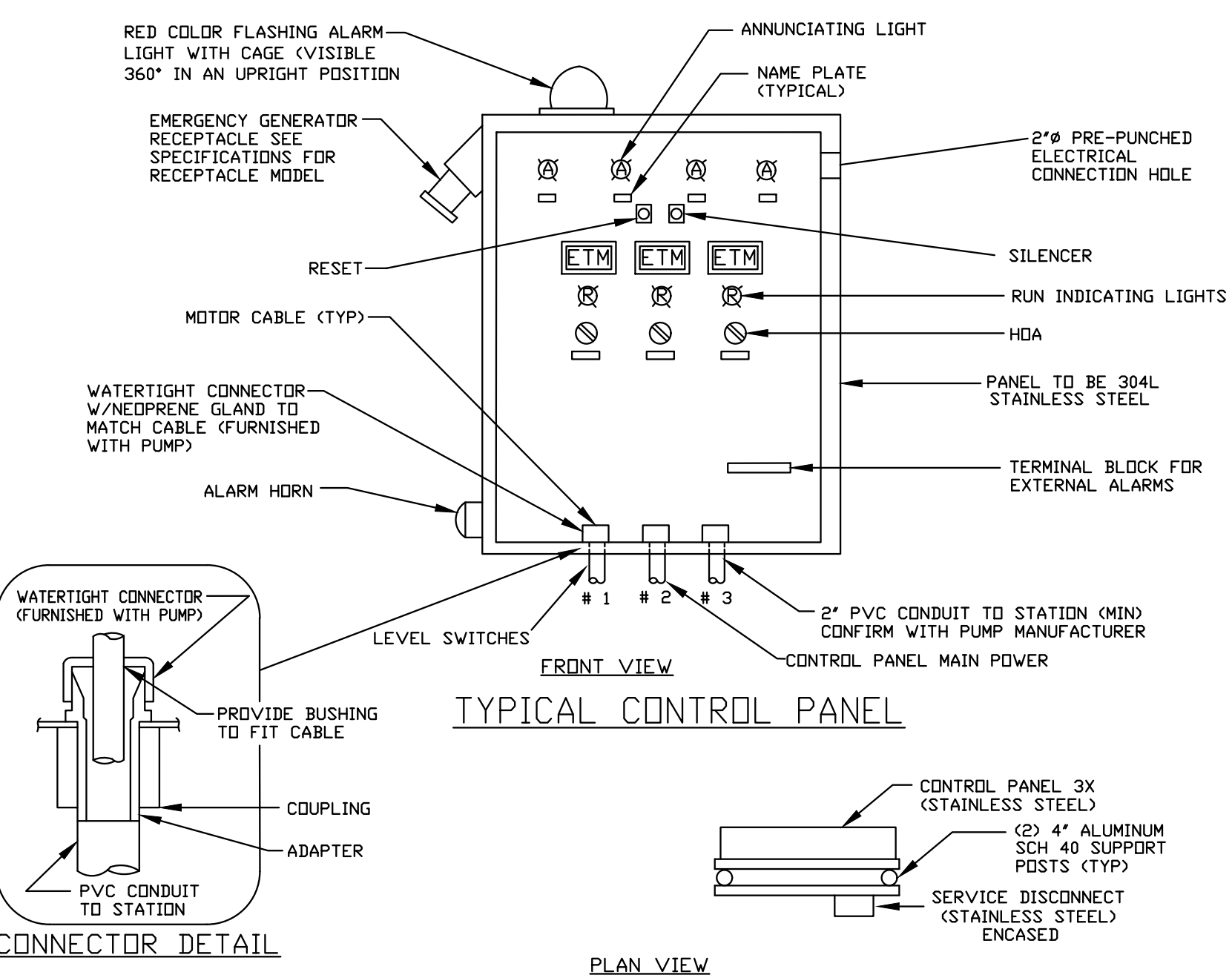
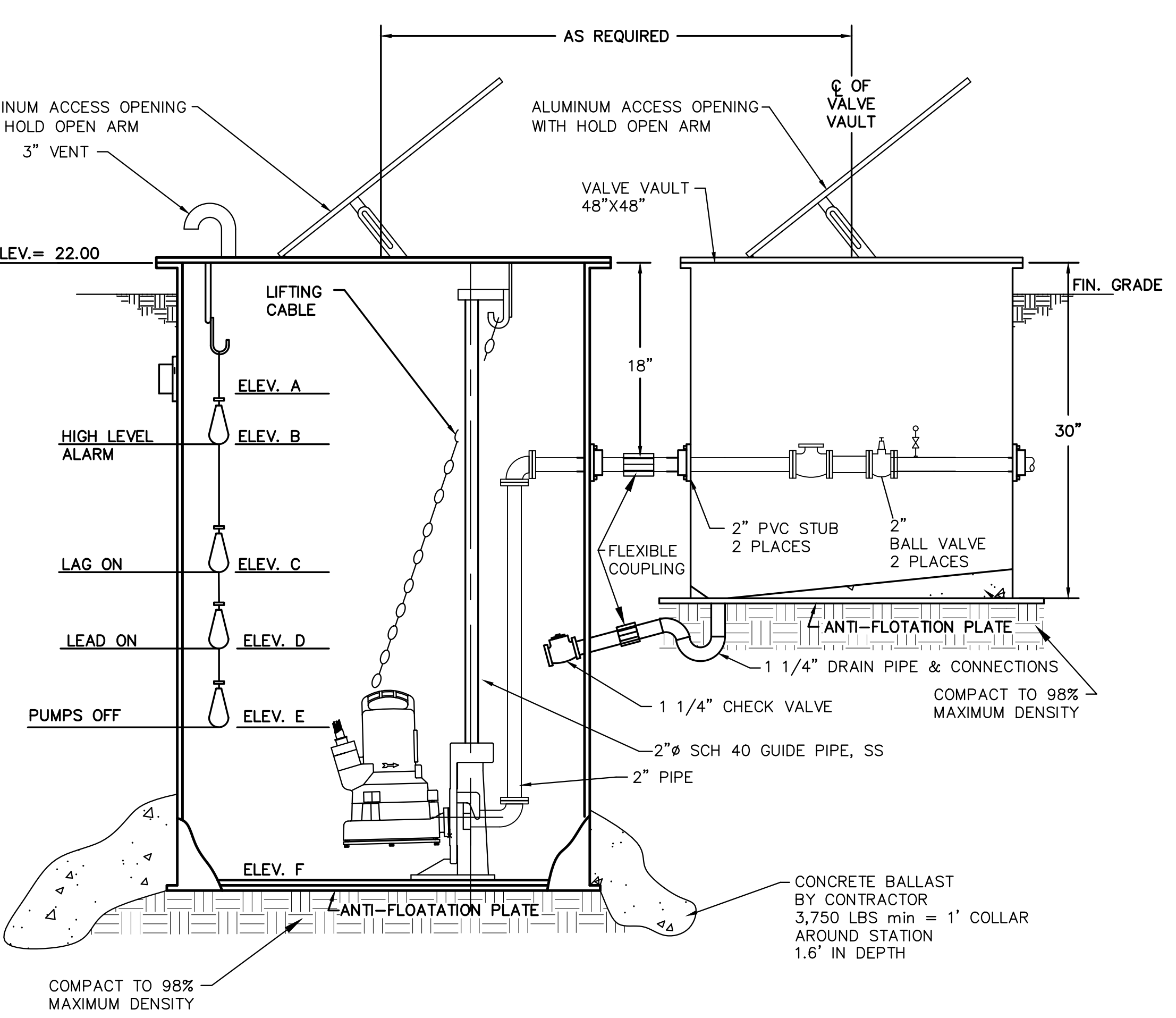
**FOR BIDDING PURPOSES ONLY**

STEPHEN E. MOLER, P.E. FL#33193

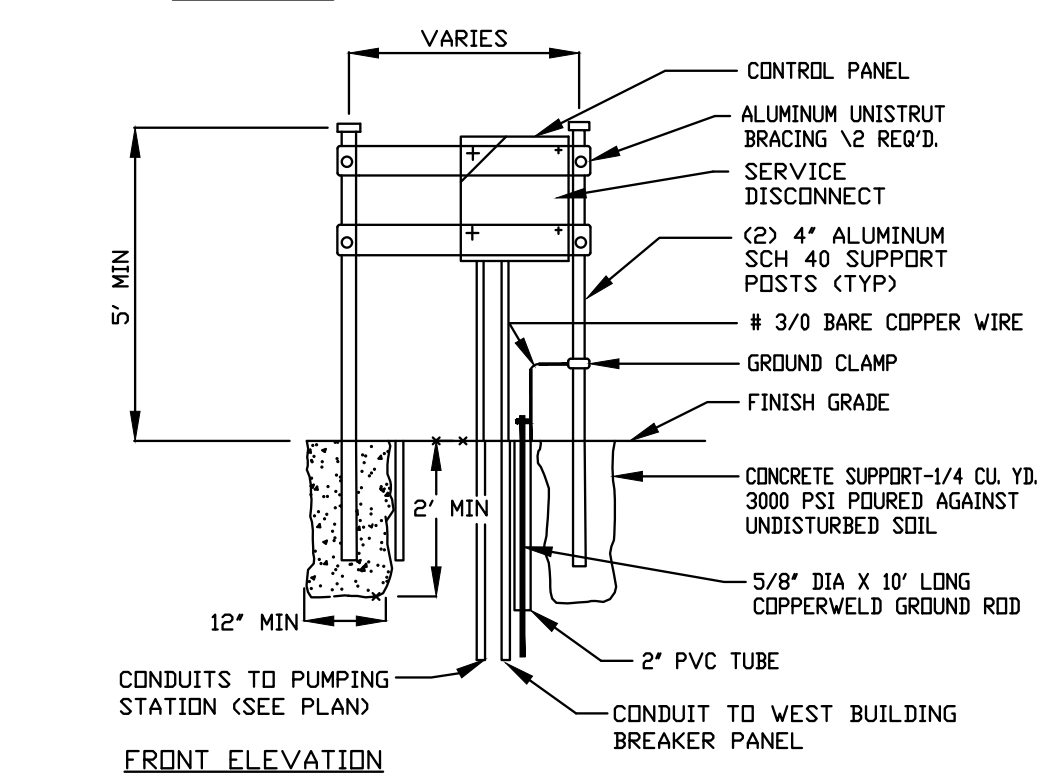
DRAWN: SH  
DESIGNED: SH  
CHECKED: SEM  
DATE: 3/18  
SCALE: NTS  
SHEET: 14 OF 15  
PROJECT NO.: 1756



LIFT STATION NUMBER- PUMP STATION 'A'	
PUMPING CAPACITY G.P.M.	39
TOTAL HEAD (±) FEET	41
MIN. SOLIDS PASS. IMPELLER INCHES	GRINDER
PUMP MODEL NUMBER	S2072
PUMP IMPELLER	143
PUMP SPEED (DESIGN) R.P.M.	3450
VOLTAGES	230 1 PHASE
MOTOR NAMEPLATE H.P.	H.P. 2.1
MAX. PUMP BRAKE H.P.	H.P. --
MAX. NPSHR @ SECONDARY FEET	--
MAX. MOTOR SPEED R.P.M.	--
AVG. INFLUENT FLOW G.P.M.	5
MIN. PUMP CYCLE TIME MINS.	10
INFLUENT PIPE INV. ELEV. ELEV. 'A'	18.50
ALARM SIGNAL ON ELEV. ELEV. 'B'	18.15
LAG PUMP ON ELEV. ELEV. 'C'	17.80
LEAD PUMP ON ELEV. ELEV. 'D'	17.30
PUMPS OFF ELEVATION ELEV. 'E'	15.80
BOTTOM OF WET WELL ELEV. 'F'	15.80
PUMP MANUFACTURER	SULZER
* CONTRACTOR TO VERIFY ELECTRICAL SERVICE	



- NOTES**
- ALARM HORN SHALL BE SEALED TO PREVENT LEAKAGE.
  - BOTTOM OF PANEL TO BE 28" TO 34" ABOVE GROUND.
  - DISCONNECT BETWEEN METER AND PANEL TO BE STAINLESS STEEL NON FUSABLE.
  - ALL HARDWARE AND FASTENERS TO BE STAINLESS STEEL.
  - CONTROL PANEL SHALL MEET THE REQUIREMENTS OF SERVICE ENTRANCE BY PROPERLY BONDING OR SHALL BE UL SERVICE ENTRANCE RATED.



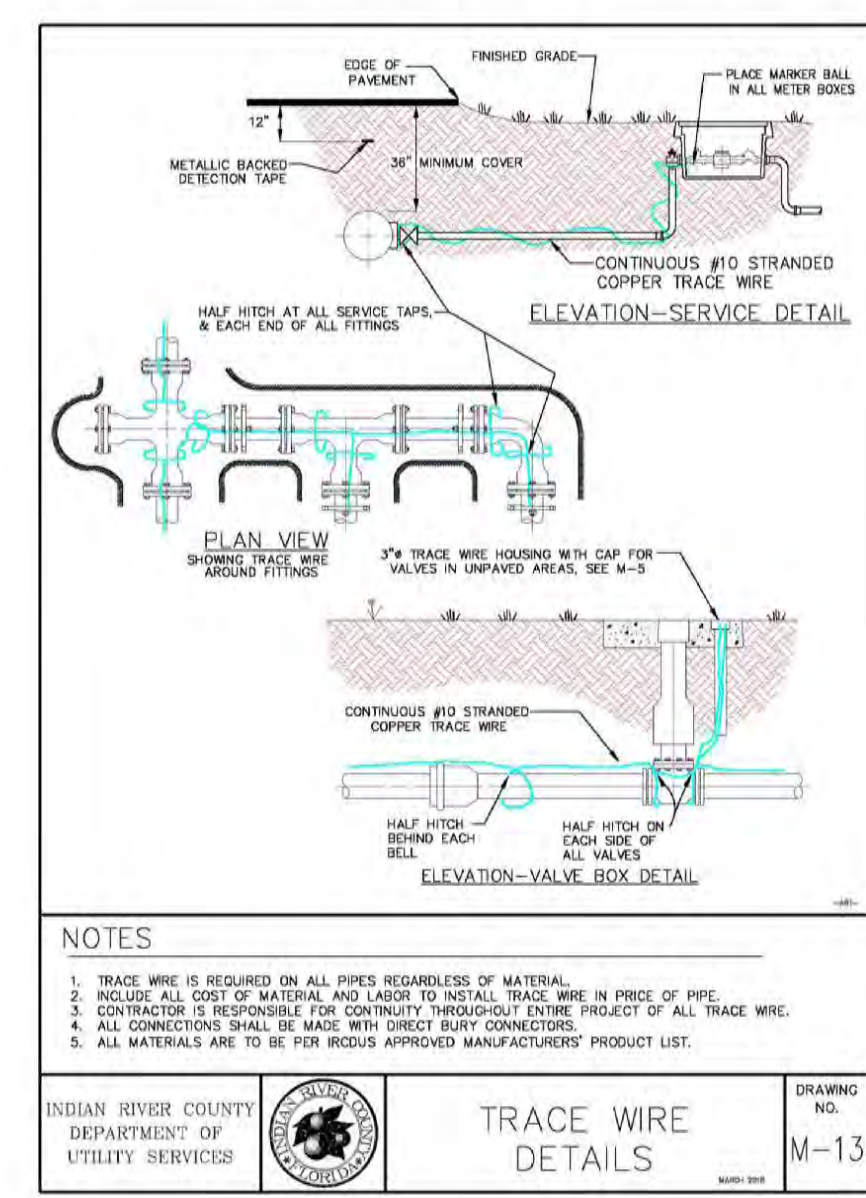
## PUMP STATION 'A' DETAILS

(N.T.S.)

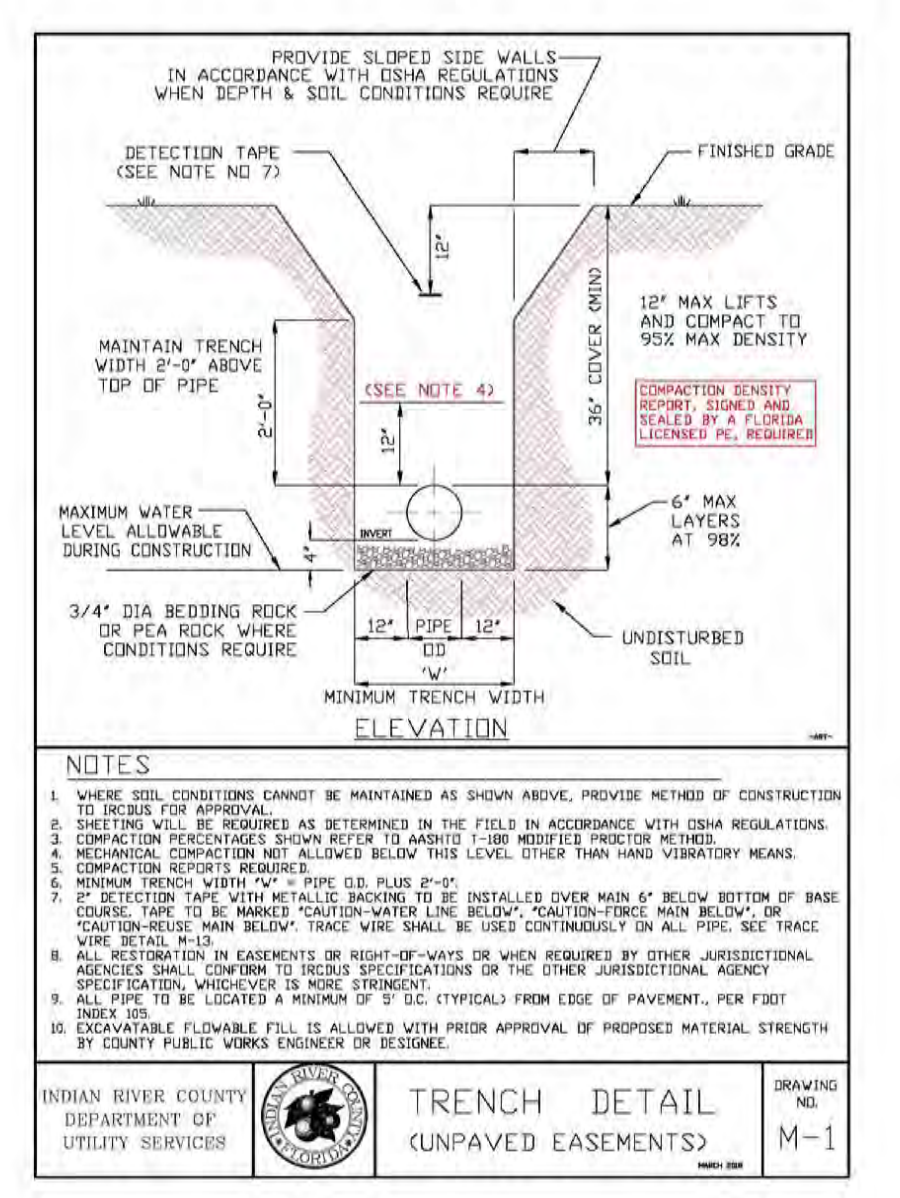
\* DISCLAIMER \*  
THE ENGINEER'S CERTIFICATION BELOW PERTAINS ONLY TO THE INFORMATION PRESENTED IN THE PUMPING STATION DATA TABLE AND THE ELEVATIONS AND PIPE SIZES DETAILED IN THE CROSS SECTION AND PLAN VIEWS. ALL ELECTRICAL DETAILS AND SCHEMATICS HAVE BEEN SHOWN FOR INFORMATIONAL PURPOSES ONLY.

## PUMP STATION GENERAL NOTES

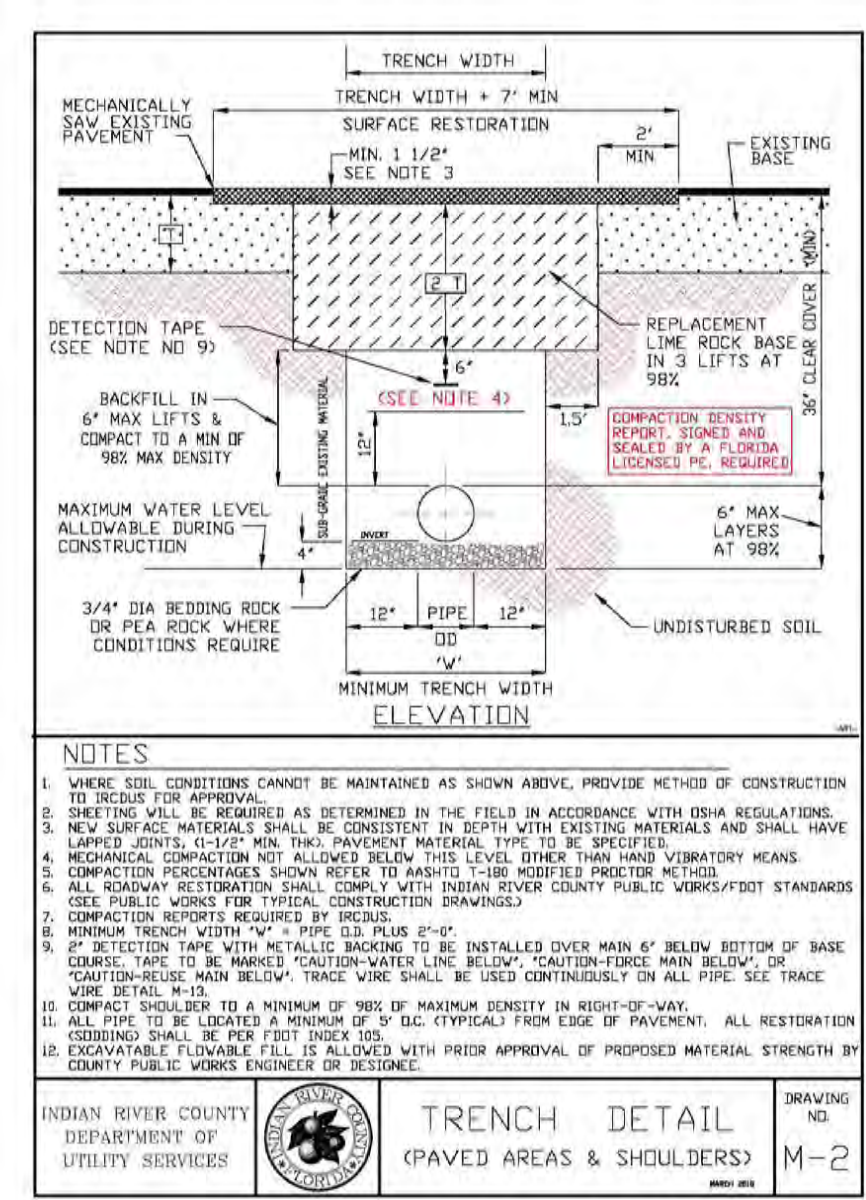
- CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS AGAINST FLOATION OF WET WELL UNTIL ALL BACK FILL IS IN PLACE.
- ALL BACKFILL AROUND THE PUMP STATION SITE SHALL BE COMPACTED @ 98% DENSITY.
- WET WELL WALL SHALL CONTAIN A MIN. OF 0.22 SQ.IN./LINEAR FOOT REINFORCEMENT, IN THE VERTICAL AND HORIZONTAL DIRECTIONS.
- ALL PIPING AT THE PUMP STATION SITE SHALL BE RESTRAINED.
- PUMPS SHALL BE SULZER, S 20/2 PIRANNA GRINDER PUMPS.
- STAINLESS STEEL CABLE HOLDER SHALL BE LOCATED ON OPPOSITE SIDE OF WET WELL FROM THE INFLUENT PIPE.
- BUDYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL PUMP STATIONS ALONG WITH THE REQUIRED PUMP STATION CALCULATIONS.
- NO UNI-FLANGE PIPE CONNECTIONS ALLOWED.
- MAINTAIN MINIMUM OF 6' BETWEEN ANY PIPING, FITTINGS, ETC. AND PRECAST CONCRETE.
- PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTING ARRESTOR. VERIFY ALL DRIVER GROUNDS PER N.E.S.C.
- PUMP STATION AND VALVE BOX HATCHES TO BE PROVIDED WITH LOCKABLE HASPS.
- CONTROL PANEL TO HAVE DURABLE WEATHER RESISTANT SIGN POSTING EMERGENCY CONTACT NUMBER.



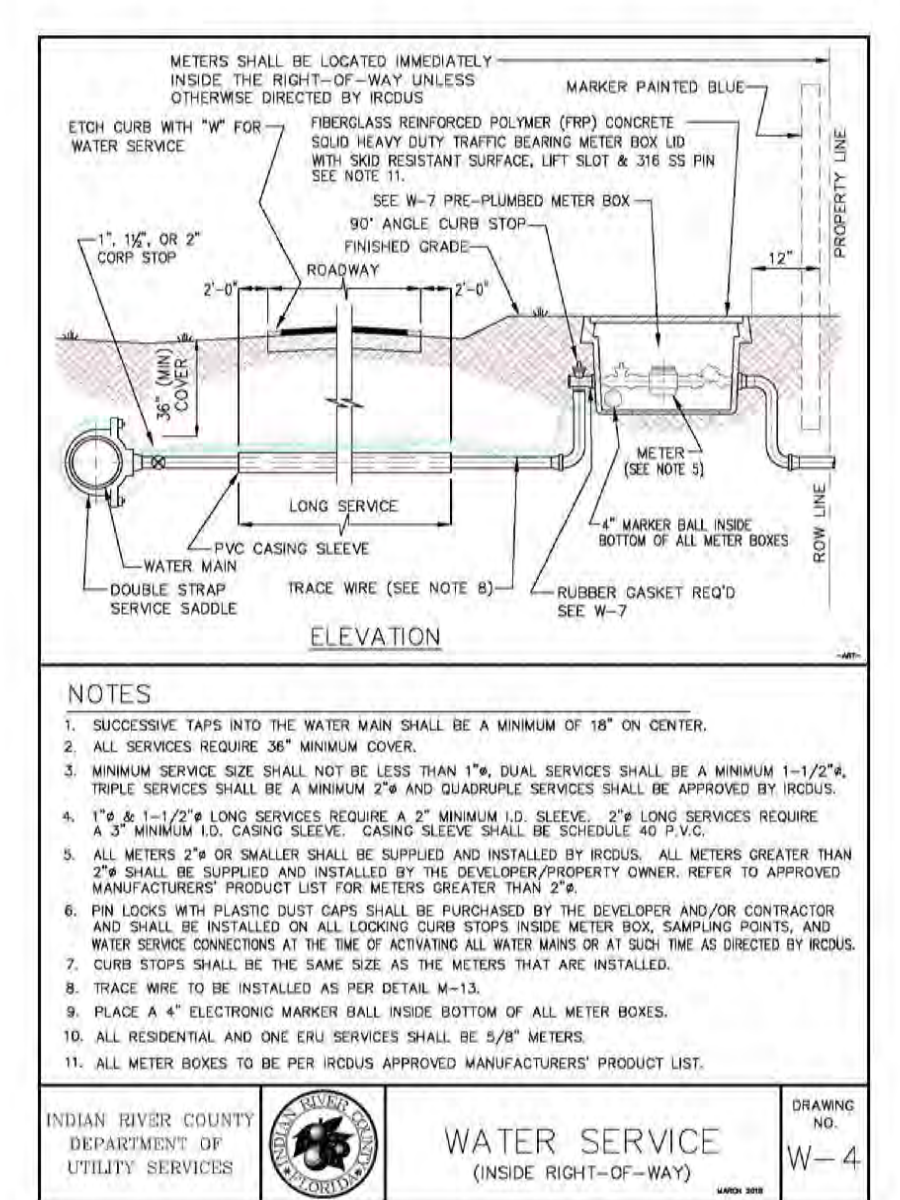
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES  
**TRACE WIRE DETAILS**  
DRAWING NO. M-13



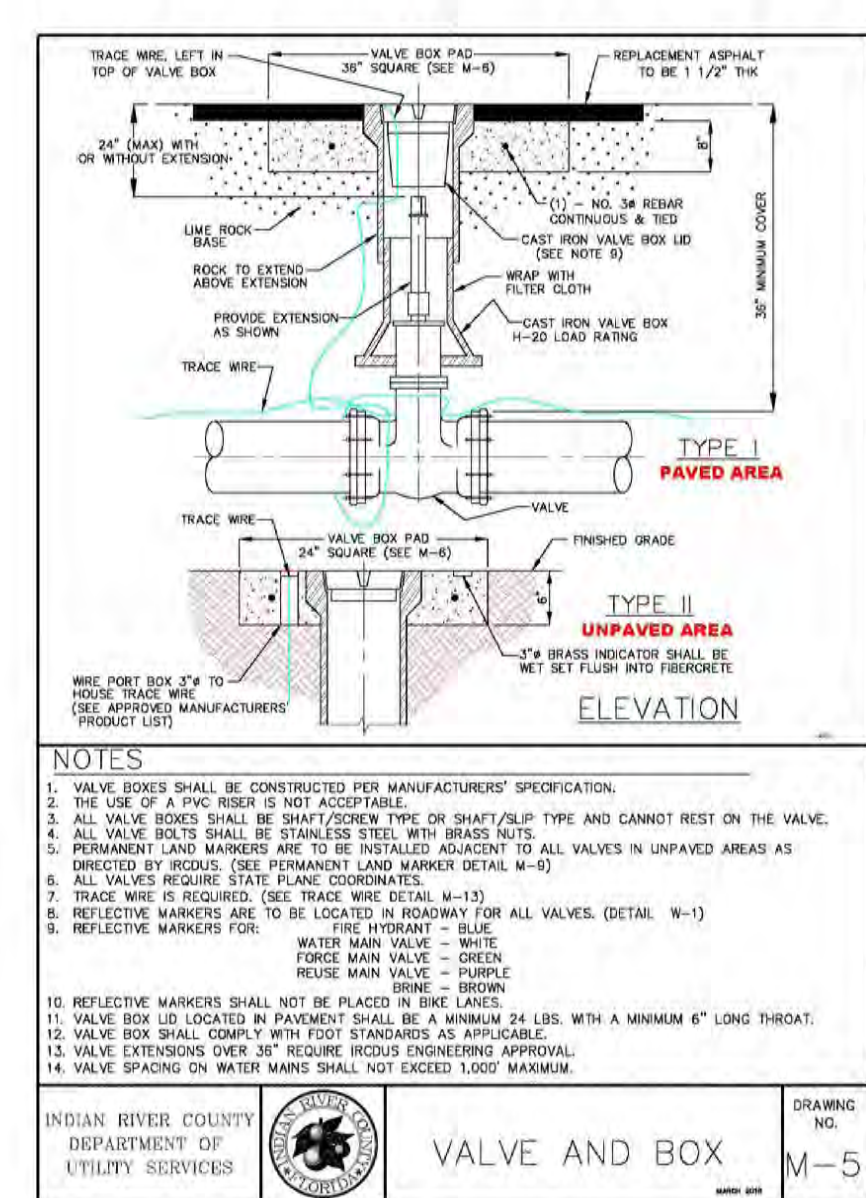
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES  
**TRENCH DETAIL (UNPAVED EASEMENTS)**  
DRAWING NO. M-1



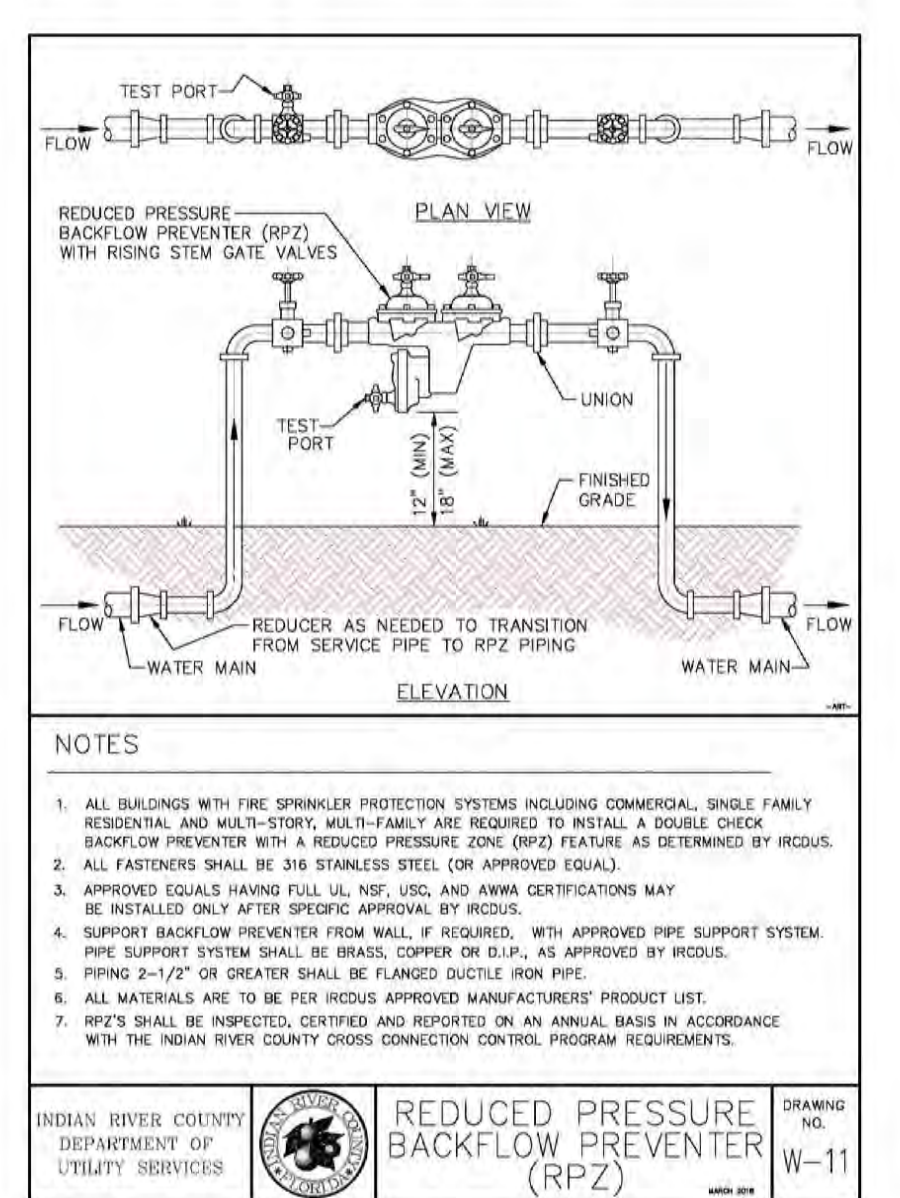
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES  
**TRENCH DETAIL (PAVED AREAS & SHOULDERS)**  
DRAWING NO. M-2



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES  
**WATER SERVICE (INSIDE RIGHT-OF-WAY)**  
DRAWING NO. W-4



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES  
**VALVE AND BOX**  
DRAWING NO. M-5



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES  
**REDUCED PRESSURE BACKFLOW PREVENTER (RPZ)**  
DRAWING NO. W-11

NO.	DATE	DESCRIPTION	DR/APP
4.	8/28/18	REVISED PER IRC UTIL MARKUPS	SH/SEM
3.	8/28/18	REVISED PER IRC COMMENTS EMAILED ON 7/31/18	SH/SEM
2.	6/11/18	REVISED PER IRC TRC COMMENT LETTER OF 6/14/18	SH/SEM
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REVISIONS

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CERTIFICATE OF AUTHORIZATION NUMBER 4204

**HOBART PARK**  
**BASEBALL FIELD IMPROVEMENTS**  
INDIAN RIVER COUNTY  
FLORIDA

**FOR BIDDING PURPOSES ONLY**  
STEPHEN E. MOLER, P.E. FL#33193  
DRAWN: SH  
DESIGNED: SH  
CHECKED: SEM  
DATE: 9/23  
SCALE: NTS  
SHEET: 15 OF 15  
PROJECT NO: 1756



Project:  
**HOBART PARK**  
**CONCESSION & RESTROOM BUILDING**

INDIAN RIVER COUNTY, FLORIDA  
 Key Plan:

Issues:

No.:	Date:	Description:
A.	03/11/24	Bid Set

PREPARED FOR

**M M** MASTELLER & MOLER, INC.  
 CONSULTING ENGINEERS  
 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
 (772) 567-5300 / FAX (772) 794-1106  
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

Consultant:

**TREASURE COAST ENGINEERING**  
 Your MEP Design Consultant  
 Treasure Coast Engineering, Inc.  
 CA# 27181  
 4925 13th Lane, Vero Beach, FL 32966  
 772-567-1007 www.tce.eng.pro

Drawing Title:  
**SITE LIGHTING PLAN & LIGHTING SCHEDULES**

Reference North

DATE: 03/11/24

Dr: ABJ  
 Dwg. File:  
 No. 65050  
 License: A.J.D.  
 Project No.: 2018-04  
 Plot File:  
 Sheet No.:  
 Date Signed: E0.1

**MUSCO LIGHTING EQUIPMENT SCHEDULE**

CALLOUT	SYMBOL	DESCRIPTION	VOLTS	AMPS	KVA	CIRCUIT	WIRE CALLOUT	POLE
C1	○	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-1,3	1"C,2#10,#10G	A1
C2	○	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-5,7	1"C,2#10,#10G	A2
C3	○	BASEBALL FIELD LIGHTING	480V 2P 2W	44.4	21.31	P2-9,11	1"C,2#6,#10G	E1
C4	○	BASEBALL FIELD LIGHTING	480V 2P 2W	44.4	21.31	P2-13,15	1"C,2#6,#10G	E2
C5	○	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-17,19	1"C,2#6,#6G	C1
C6	○	BASEBALL FIELD LIGHTING	480V 2P 2W	18.5	8.88	P2-21,23	1"C,2#6,#6G	C2
C7	○	BASEBALL FIELD LIGHTING	480V 2P 2W	25.9	12.43	P2-25,27	1"C,2#6,#8G	B1
C8	○	BASEBALL FIELD LIGHTING	480V 2P 2W	25.9	12.43	P2-29,31	1"C,2#6,#8G	D2
C9	○	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	22.2	10.66	P2-2,4	1"C,2#10,#10G	A3
C10	○	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	22.2	10.66	P2-6,8	1"C,2#10,#10G	A4
C11	○	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	29.6	14.21	P2-10,12	1"C,2#8,#10G	B3
C12	○	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	29.6	14.21	P2-14,16	1"C,2#8,#10G	B4
C13	○	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	18.5	8.88	P2-18,20	1"C,2#10,#10G	C3
C14	○	SOFTBALL FIELD LIGHTING (PH 2)	480V 2P 2W	18.5	8.88	P2-22,24	1"C,2#10,#10G	C4
C15	○	PARKING LOT LIGHTING	480V 2P 2W	2	0.96	P2-26,28	1"C,2#10,#10G	P1
C16	○	PARKING LOT LIGHTING	480V 2P 2W	2	0.96	P2-26,28	1"C,2#10,#10G	P2

SEE MUSCO LIGHTING SCHEDULE FOR EXACT DESCRIPTION AND REQUIREMENTS. MANY OF THE CIRCUIT CONDUCTORS HAVE BEEN UPSIZED FOR VOLTAGE DROP. BOTH HOT CONDUCTORS FROM THE POLE HAND HOLE TAP TO POLE DISCONNECT CAN BE REDUCED TO BREAKER RATING IF DESIRED. PLANVIEW CALLOUT TOP LABEL IS THE RELAY WHILE THE BOTTOM IS THE POLE.

**VOLTAGE DROP SCHEDULE**

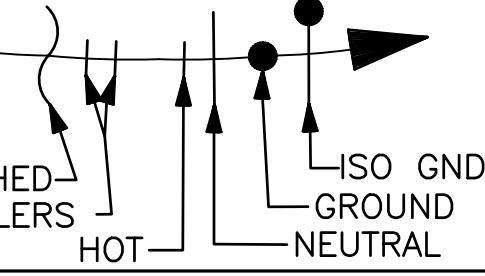
DEVICE	FEEDER		BRANCH CIRCUIT			FEEDER VOLTAGE DROP	TOTAL VOLTAGE DROP
	VOLTAGE DROP	WIRE SIZE	MAX VOLTAGE DROP	WIRE SIZE	LENGTH		
TXH	0%		-	-	-	0%	0%
P2	0.28%	(2)#350kcmil	14.28% (CKT 18,20)	#10	531'	0.28%	4.57%
			P2-1,3: 1.89%	#10	234'		
			P2-5,7: 1.24%	#10	154'		
			P2-9,11: 3.09%	#6	377'		
			P2-13,15: 2.46%	#6	300'		
			P2-17,19: 2.29%	#6	670'		
			P2-21,23: 1.99%	#6	582'		
			P2-25,27: 4.01%	#6	848'		
			P2-29,31: 3.4%	#6	720'		
			P2-2,4: 1.21%	#10	125'		
			P2-6,8: 0.69%	#10	71'		
			P2-10,12: 2.12%	#8	249'		
			P2-14,16: 1.59%	#8	187'		
			P2-18,20: 4.28%	#10	531'		
			P2-22,24: 3.93%	#10	487'		
			P2-26,28: 0.74%	#10	538'		
LS	2.64%	#4	0.31% (CKT 6,8)	#10	30'	1.24%	2.94%
			LS-5,7: 0.22%	#10	22'		
			LS-6,8: 0.31%	#10	30'		

THREE-PHASE % VOLTAGE DROP = CALCULATED CURRENT IN AMPS \* EFFECTIVE Z \* (FEEDER LENGTH / 1,000) \* 100 / LINE-TO-NEUTRAL VOLTAGE.  
 SINGLE-PHASE % VOLTAGE DROP = CALCULATED CURRENT IN AMPS \* EFFECTIVE Z \* (FEEDER LENGTH / 1,000) \* 100 \* 2 / LINE-TO-NEUTRAL VOLTAGE.  
 CALCULATED CURRENT IN AMPS IS BASED UPON THE TOTAL DEMAND CALCULATED CURRENT ASSUMING A BALANCED LOAD FOR THE FEEDER AND THE ACTUAL CURRENT FOR THE BRANCH CIRCUIT. TOTAL VOLTAGE DROP SHOWN IS THE MAX BETWEEN 2 SOURCES STARTING AT ANY ATS SWITCH.  
 EFFECTIVE Z = R COS(THETA) + X SIN (THETA), WHERE THETA IS THE POWER FACTOR AND EQUALS 0.85 (NEC TABLE 9 NOTE 2)  
 TRANSFORMERS VOLTAGE DROP CALCULATIONS ARE INCLUDED USING THE TRANSFORMERS %Z AND X/R RATIO.

**CONDUIT LEGEND**

- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- ] CONDUIT STUB
- } CONDUIT CONTINUED
- ~ FLEXIBLE CONDUIT
- UE- UNDERGROUND ELECTRICAL
- OE- OVERHEAD ELECTRICAL
- UC- UNDERGROUND CONDUIT
- T- UNDERGROUND TELEPHONE
- G- GROUNDING CONDUCTOR

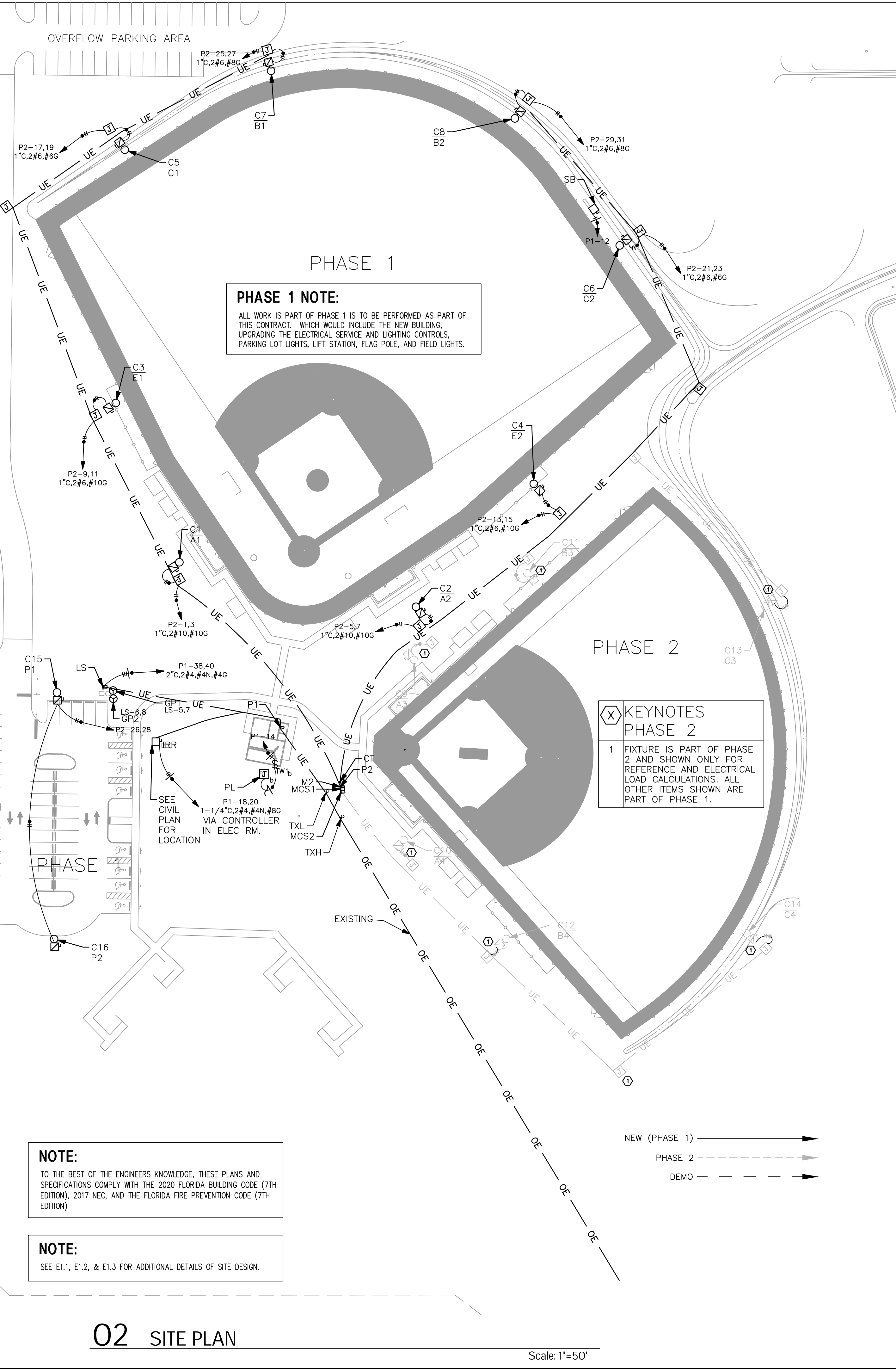
**CIRCUITING LEGEND**



**JUNCTION BOX SCHEDULE**

CALLOUT	SYMBOL	NOTE 1
JUNCTION BOX	□	FLUSH IN-GROUND CHRISTY #N16 BOX WITH LABEL "LIGHTING". TO BE LOCATED ADJACENT TO SPORTS LIGHTING POLE ASSEMBLY. FIELD VERIFY EXACT LOCATION FOR BEST SITE COORDINATED LOCATION WITH RESPECT TO SPORTS LIGHTING POLE. BOTH HOT CONDUCTORS FROM TAP TO POLE DISCONNECT CAN BE REDUCED TO BREAKER RATING IF DESIRED.

SUNSHINE STATE ONE CALL OF FLORIDA (SSOCOF)  
 CALL BEFORE DIGGING: CONTRACTOR MUST CALL 811, (800) 432-4770 OR (386) 575-2025 BEFORE BEGINNING ANY EXCAVATION OR DEMOLITION SO SSOCOF CAN NOTIFY ITS MEMBERS WITH UNDERGROUND FACILITIES NEAR THE JOB SITE TO MARK OFF THE AREA OF WORK.



**NOTE:**  
 TO THE BEST OF THE ENGINEERS KNOWLEDGE, THESE PLANS AND SPECIFICATIONS COMPLY WITH THE 2020 FLORIDA BUILDING CODE (7TH EDITION), 2017 NEC, AND THE FLORIDA FIRE PREVENTION CODE (7TH EDITION)

**NOTE:**  
 SEE E1.1, E1.2, & E1.3 FOR ADDITIONAL DETAILS OF SITE DESIGN.

**02 SITE PLAN**

Scale: 1"=50'

### SITE EQUIPMENT SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	VOLTS	AMPS	KVA	HP	CIRCUIT	WIRE CALLOUT	NOTES
GP1	⊕	GRINDER PUMP 1	240	12	2.88	2 HP	LS-5,7	1/2"C,2#10,#10G	SEE CIVIL DRAWINGS FOR EXACT DETAILS
GP2	⊕	GRINDER PUMP 2	240	12	2.88	2 HP	LS-6,8	1/2"C,2#10,#10G	SEE CIVIL DRAWINGS FOR EXACT DETAILS
IRR	⊞	IRRIGATION EQUIPMENT (SEE CIVIL)	240/120	40	9.6	7.5 HP	P1-18,20	1-1/4"C,2#4,#4N,#8G	RAN THROUGH IRRIGATION CONTROLLER IN ELECTRICAL ROOM
PL	⊞	QUANTITY TWO (2) OF THE FLAG POLE COMPANY R78WLED NEMA BEAM SPREAD OF 3H X 3V NARROW BEAM.	120	0.75	0.09		P1-14	1#12,#12N,#12G	SPACE QUANTITY TWO (2) FIXTURES OPPOSITE OF EACH EQUALLY SPACED FROM THE POLE.
PL	⊞	QUANTITY TWO (2) OF THE FLAG POLE COMPANY R78WLED NEMA BEAM SPREAD OF 3H X 3V NARROW BEAM.	120	1.48	0.18		P1-14	1#12,#12N,#12G	SPACE QUANTITY TWO (2) FIXTURES OPPOSITE OF EACH EQUALLY SPACED FROM THE POLE.
SB	⊞	NEVCO MODEL 1650 (OUTDOOR) BASEBALL/SOFTBALL SCOREBOARD W/ MPCX2 CONTROL	120	0.7	0.08		P1-12	1#10,#10N,#10G	SCOREBOARD IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NEC. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SCOREBOARD.

SEE CIVIL SCHEDULE FOR EXACT DESCRIPTION AND REQUIREMENTS.

### P2

ROOM	SITE ELECTRIC CAGE	VOLTS	480/240V 2P 3W	AIC	22,000		
MOUNTING	SURFACE	BUS AMPS	600	MAIN BKR	600		
FED FROM	TXH	NEUTRAL	100%	LUGS	STANDARD		
NOTE: EATON SP ORDER P23E600BT32CD3R.							
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	30/2	8.88	C1	a 2	30/2	10.7	C9 (PH 2)
3				b 4			
5	30/2	8.88	C2	a 6	30/2	10.7	C10 (PH 2)
7				b 8			
9	60/2	21.3	C3	a 10	40/2	14.2	C11 (PH 2)
11				b 12			
13	60/2	21.3	C4	a 14	40/2	14.2	C12 (PH 2)
15				b 16			
17	30/2	8.88	C5	a 18	30/2	8.88	C13 (PH 2)
19				b 20			
21	30/2	8.88	C6	a 22	30/2	8.88	C14 (PH 2)
23				b 24			
25	40/2	12.4	C7	a 26	20/2	1.92	C15, C16
27				b 28			
29	40/2	12.4	C8	a 30	20/2	1	XFMR CT
31				b 32			
		CONN KVA	CALC KVA			CONN KVA	CALC KVA
LIGHTING		172	216 (125%)	TOTAL LOAD		217	
CONTINUOUS		1	1.25 (125%)	BALANCED LOAD		452 A	
				PHASE A		101%	
				PHASE B		99.4%	

IN 72"H NEMA 3R W/ PDG33G0600 BKR

### ONE-LINE NOTES

REPRESENT A N-G BONDED GROUNDING ELECTRODE CONDUCTOR. TYPICALLY SHOWN AT SERVICE ENTRANCES OR OUTPUT OF A SEPARATELY DERIVED SYSTEM SUCH AS AN ISOLATION TRANSFORMER. SEE GROUNDING DETAIL FOR CONDUCTOR SIZING. IF MORE THAN ONE SYMBOL IS SHOWN THEN THE SYMBOL WILL ALSO SHOW THE GEC SIZED SPECIFICALLY FOR THAT DEVICE.

REPRESENT AN ISOLATED N-G BONDED GROUNDING ELECTRODE CONDUCTOR. TYPICALLY SHOWN AT SEPARATE STRUCTURES. SEE GROUNDING DETAIL FOR CONDUCTOR SIZING.

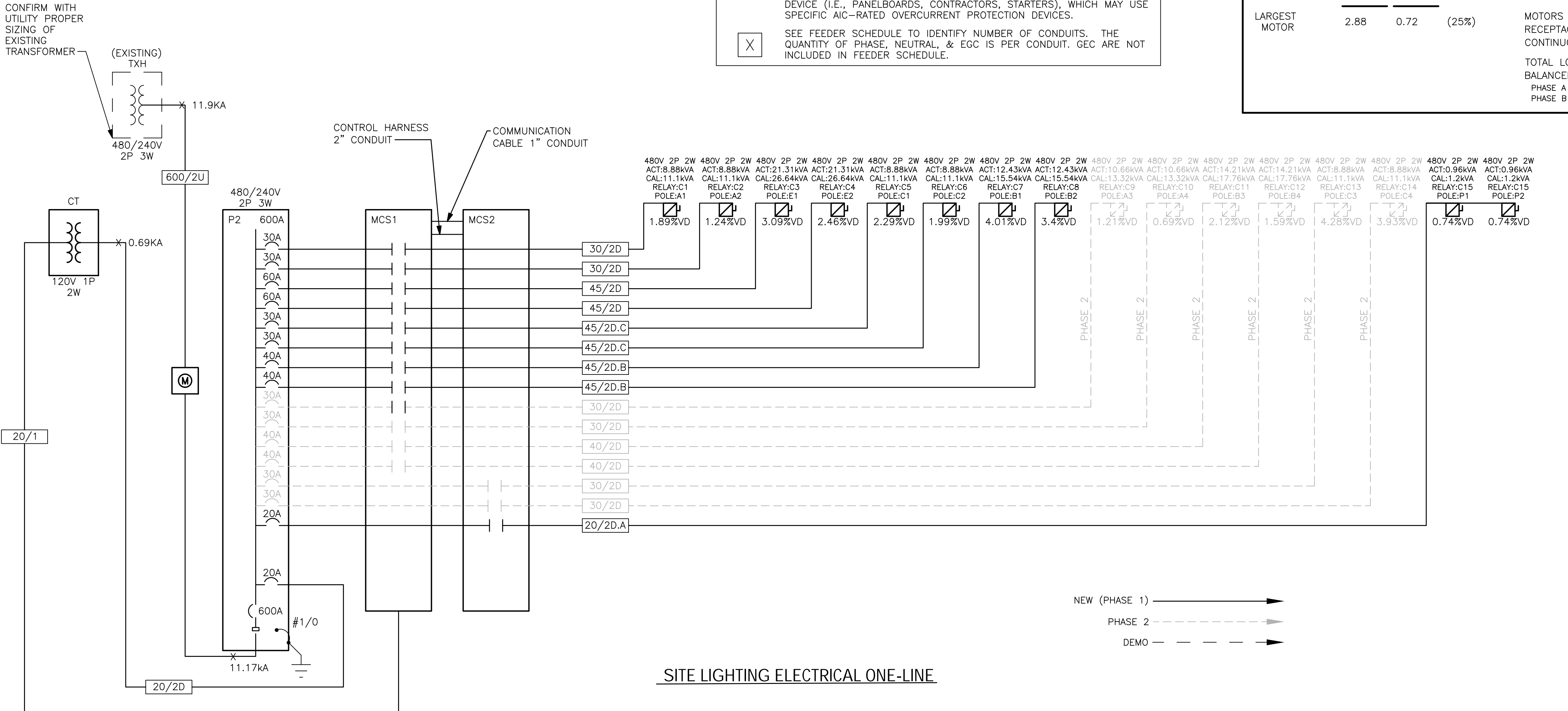
"X" ---KA INDICATE THE AVAILABLE SHORT-CIRCUIT CURRENT LEVELS AT THE LOCATION SHOWN. FAULT CALCULATIONS ARE BASED ON "IEEE STD 242-1975 RECOMMENDED PRACTICE FOR PROTECTION AND COORDINATION OF INDUSTRIAL AND COMMERCIAL POWER SYSTEMS". THE SHORT-CIRCUIT CALCULATIONS INCLUDES MOTOR CONTRIBUTIONS EQUAL TO 4 TIMES THE RATED CURRENT OF THE MOTOR AND AN X/R RATIO OF 4.

AIC AIC RATINGS SHOWN AT THE EQUIPMENT WILL BE BASED ON THE SUPPLY VOLTAGE, AVAILABLE FAULT CURRENT AND THE OVER CURRENT DEVICE PROTECTING THE EQUIPMENT. THE SSCR OF ALL EQUIPMENT SHALL MEET OR EXCEED THE AIC RATING SHOWN. PLEASE NOTE THAT AIC APPLIES ONLY TO OVERCURRENT PROTECTION DEVICES (CIRCUIT BREAKERS, FUSES, ETC.) AND SCRR APPLIES TO A FULLY ASSEMBLED DEVICE (I.E., PANELBOARDS, CONTRACTORS, STARTERS), WHICH MAY USE SPECIFIC AIC-RATED OVERCURRENT PROTECTION DEVICES.

X SEE FEEDER SCHEDULE TO IDENTIFY NUMBER OF CONDUITS. THE QUANTITY OF PHASE, NEUTRAL, & EGC IS PER CONDUIT. GEC ARE NOT INCLUDED IN FEEDER SCHEDULE.

### LS

ROOM	SURFACE	VOLTS	240/120V 2P 3W	AIC	22,000		
MOUNTING	P1	BUS AMPS	60	MAIN BKR	MLO		
FED FROM		NEUTRAL	100%	LUGS	STANDARD		
NOTE: INSTALL GENERATOR BACKFEED BREAKER WITH INTERLOCK							
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	50/2	0	BACKFEED	a 2	50/2	0	MAIN
3				b 4			
5	30/2	2.88	PUMP 1	a 6	30/2	2.88	PUMP 2
7				b 8			
9	15/1	0.5	CONTROL	a 10	15/1	0.36	GFCI REC
		CONN KVA	CALC KVA			CONN KVA	CALC KVA
LARGEST MOTOR		2.88	0.72 (25%)	MOTORS		5.76	5.76 (100%)
				RECEPTACLES		0.36	0.36 (50%>10)
				CONTINUOUS		0.5	0.625 (125%)
				TOTAL LOAD		7.47	
				BALANCED LOAD		31.1 A	
				PHASE A		113%	
				PHASE B		87%	



SITE LIGHTING ELECTRICAL ONE-LINE

### FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
20/1	1#12,#12N,#12G
20/2D	2#12,#12G
20/2D.A	1"C,2#12,#12G
30/2D	1"C,2#10,#10G
30/2D.A	1/2"C,2#10,#10G
40/2D	1"C,2#8,#10G
45/2D	1"C,2#6,#10G
45/2D.B	1"C,2#6,#8G
45/2D.C	1"C,2#6,#6G
60/2D	2"C,2#4,#4N,#4G
200/2D	2"C,2#3/0,#3/0N
600/2U	(2)2-1/2"C,2#350kcmil,#350kcmil N

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE PVC (EXCEPT WHERE NOTED)

Project:  
**HOBART PARK**  
**CONCESSION & RESTROOM BUILDING**

INDIAN RIVER COUNTY, FLORIDA  
Key Plan:

Issues:

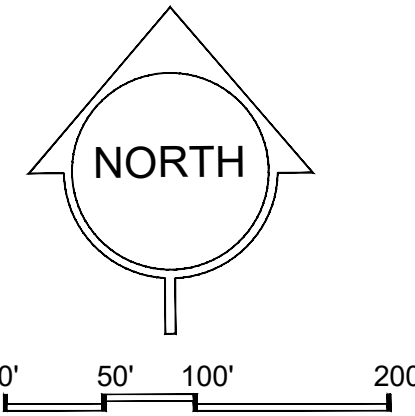
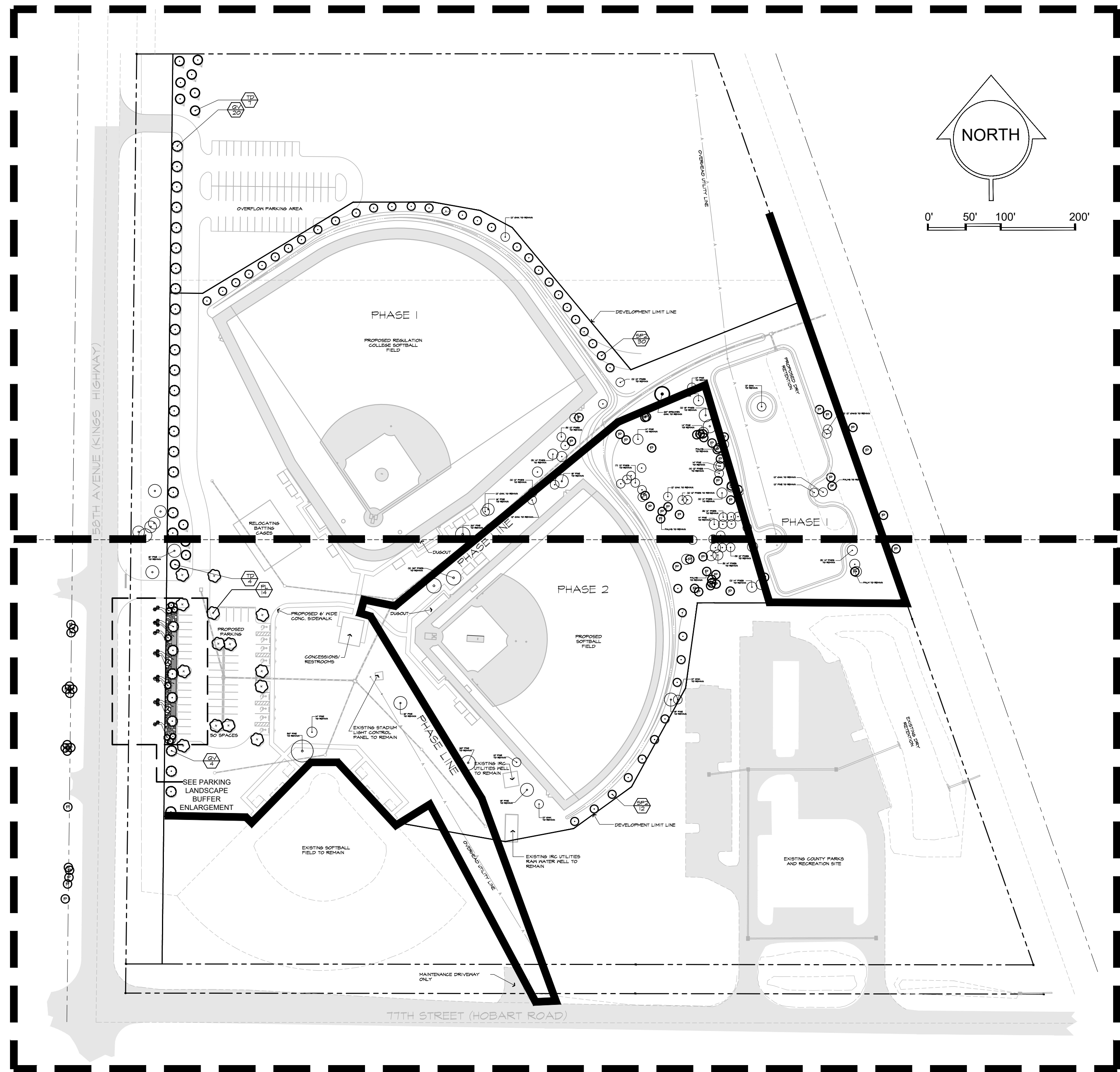
No.	Date	Description
A.	03/11/24	Bid Set

PREPARED FOR  
**M M MASTELLER & MOLER, INC.**  
CONSULTING ENGINEERS  
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
(772) 567-5300 / FAX (772) 794-1106  
CERTIFICATE OF AUTHORIZATION NUMBER 4204

Consultant:  
**TREASURE COAST ENGINEERING**  
Your MEP Design Consultant  
Treasure Coast Engineering, Inc.  
CA# 27181  
4925 13th Lane, Vero Beach, FL 32966  
772-567-1007 www.tce-eng.pro

Drawing Title:  
**ELECTRICAL ONE-LINES & SITE LIGHTING PANEL SCHEDULE**

Reference North  
N  
STATE OF FLORIDA  
Professional Engineer  
No. 65050  
A.J.D.  
Project No.: 2018-04  
Sheet No.:  
Date Signed:  
Dwg. File: ABJ  
XREF File:  
Plot File:  
E0.2



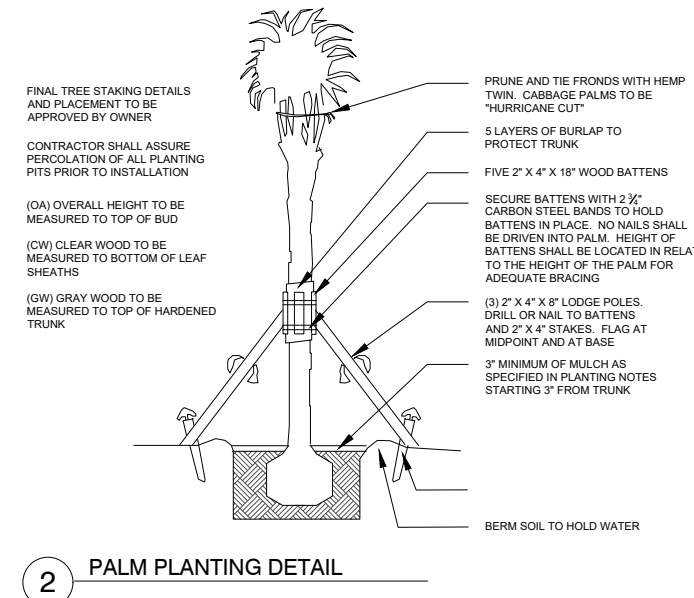
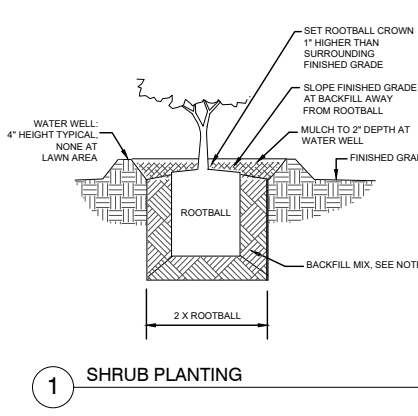
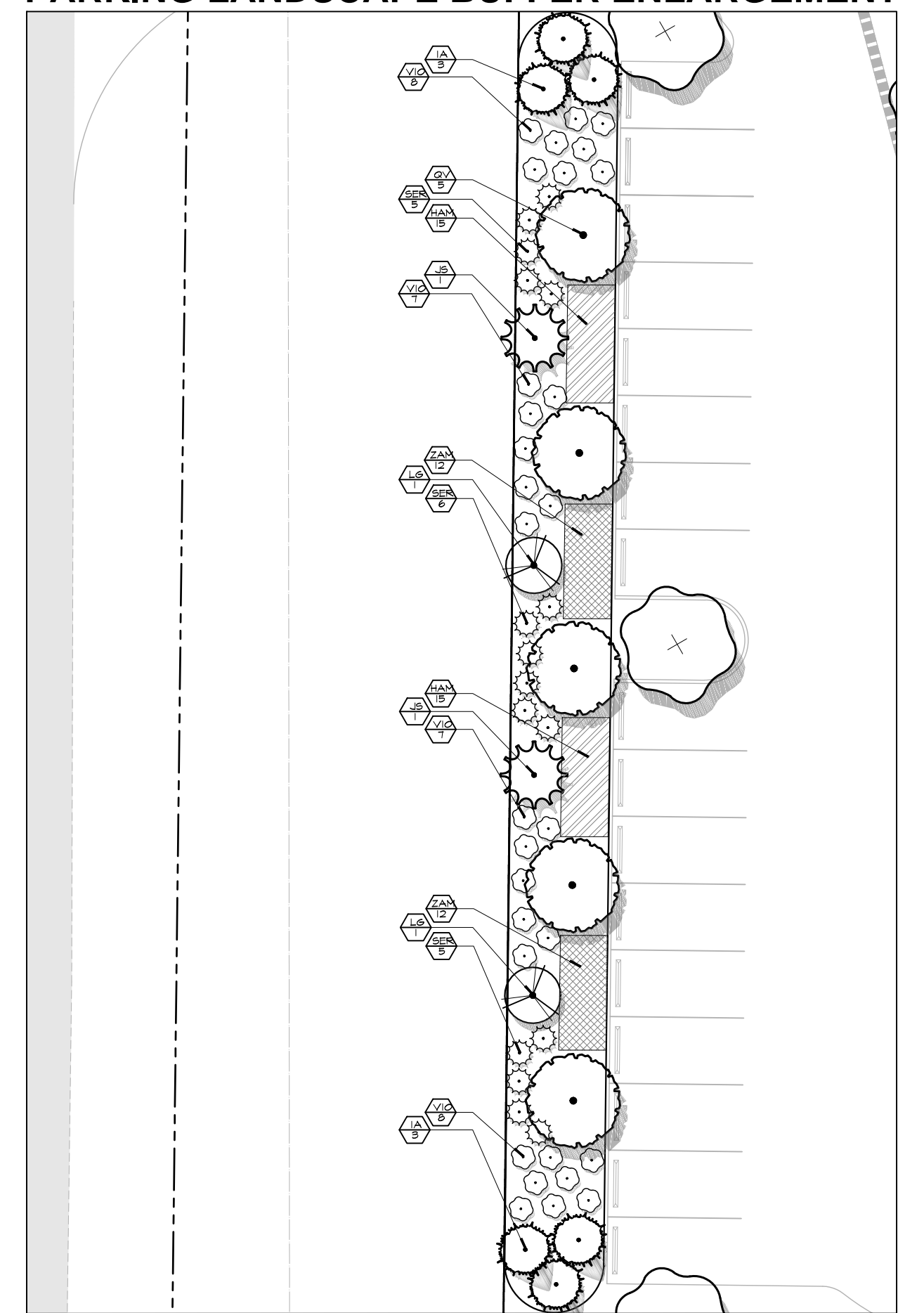
**LANDSCAPE NOTES:**

1. ALL PROPOSED PLANT MATERIAL USED ON SITE SHALL BE FLORIDA GRADE A NUMBER 1 OR BETTER, IN ACCORDANCE WITH "GRADES AND STANDARDS FOR NURSERY PLANTS" PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE. ALL PLANT MATERIAL ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE DURING AND AFTER INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING AND PERFORMING THE WORK.
2. SOD AREAS PROPOSED FOR THIS SITE SHALL BE STENOTAPHRUM SECUNDATUM / ST. AUGUSTINE FLORITAM. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT QUANTITY.
3. ALL PROPOSED LANDSCAPE PLANTING AREAS SHALL RECEIVE AN APPROVED MIX OF SUPPLEMENTAL PLANTING SOIL. A MINIMUM OF 1/2 CUBIC YARDS ARE REQUIRED FOR EACH TREE, 1/4 CUBIC YARDS FOR EACH LARGE SHRUB, AND 1 CUBIC YARD PER 50 SMALL SHRUBS OR GROUNDCOVERS.
4. THE CONTRACTOR SHALL ENSURE THAT ALL PLANTINGS RECEIVE ADEQUATE WATER DURING INSTALLATION AND DURING THE WARRANTY PERIOD. DEEP WATERING IS REQUIRED FOR ALL TREES AND PALMS. SUPPLEMENTAL WATERING MAY BE NEEDED IN ADDITION TO IRRIGATION AND RAINFALL TO ENSURE HEALTHY PLANT ESTABLISHMENT.
5. TABLETIZED FERTILIZER EQUAL TO AGRIFORM PLANTING TABLETS (20-10-15) 21 GRAM, SHALL BE PROVIDED FOR ALL PLANT MATERIAL. APPLICATION RATES AND INSTALLATION PROCEDURES SHALL BE IN CONFORMANCE WITH MANUFACTURERS MINIMUM RECOMMENDATIONS.
6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT OF ALL UTILITIES AND TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
8. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE MEETING ALL PLANT LIST SPECIFICATIONS.
9. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A MINIMUM PERIOD OF 90 DAYS FOLLOWING SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS DURING THE NORMAL PLANTING SEASON.
10. WHERE SHOWN ON THE PLANS AND DETAILS, PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH NATURAL MULCH FROM A LOCAL SOURCE HARVESTED IN A SUSTAINABLE MANNER TO A MINIMUM DEPTH OF THREE (3) INCHES.

**IRRIGATION NOTES:**

1. ALL LANDSCAPE AREAS ARE TO RECEIVE IRRIGATION FROM AN AUTOMATIC SYSTEM THAT PROVIDES 100% COVERAGE, WITH 20% MINIMUM OVERLAP IN GROUNDCOVER AND SHRUB AREAS. A WIRELESS RAINSWITCH MUST BE INCLUDED WITH THE SYSTEM, INSTALLED AT ROOF OF BUILDING (PLACE WITH NO OVERHEAD OBSTRUCTION INCLUDING TREES).
2. THE CONTRACTOR MUST VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO PERFORMING ANY WORK ON THE SYSTEM. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT OF ALL UTILITIES AND TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
3. IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR. WORK IN THE R.O.W. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE JURISDICTION.
4. THE IRRIGATION SYSTEM SHALL BE DESIGNED TO CONFORM TO THE REQUIREMENTS OF INDIAN RIVER COUNTY AND THE RESTRICTIONS ON IRRIGATION USE AS SPECIFIED BY THE ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT.

**PARKING LANDSCAPE BUFFER ENLARGEMENT**



**PLANT SCHEDULE**

CANOPY TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	SIZE
	PL	14	Platanus occidentalis / American Sycamore Straight Trunk, Uniform Branching, Dense Canopy	12' Ht. X 4.5' Spr.	2' Cal
	QV	24	Quercus virginiana / Live Oak Straight Trunk, Uniform Branching, Dense Canopy	18'-20' H X 7'-8' W	2' Cal
	TD	11	Taxodium distichum / Bald Cypress Straight Trunk, Uniform Branching, Dense Canopy	12' Ht. X 4.5' Spr.	2' Cal
PALM TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	SIZE
	SP2	42	Relocated Sabal palmetto / Cabbage Palmetto On-Site Relocation	F6	
UNDERSTORY TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	SIZE
	IA	6	Ilex x attenuata 'East Palatka' / East Palatka Holly Straight Trunk, Uniform Branching, Dense Canopy	6' Ht. Min.	1.5' Cal
	JS	2	Juniperus silicicola / Southern Red Cedar Straight Trunk, Uniform Branching, Dense Canopy	6' Ht. Min.	1.5' Cal
	L6	2	Ligustrum japonicum / Tree Form Ligustrum Multi-Trunk Specimen, Dense Canopy	7' Ht. X 7' Spr.	1.5' Cal Combined
SHRUBS	CODE	QTY	BOTANICAL NAME / COMMON NAME	SIZE	FIELD2
	SER	16	Serenca repens / Saw Palmetto Dense, Full to Base	7 Gal Min.	20" x 20" Min
	VIO	30	Viburnum odoratissimum / Sweet Viburnum	7 Gal Min.	36" Ht
SHRUB AREAS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	FIELD2
	HAM	30	Hamelia patens / Fire Bush Dense, Full to Base	3 Gal Min.	20" x 20" Min.
	ZAM	24	Zamia pumila / Coontie	3 Gal Min.	20" x 20" Min.

**LANDSCAPE REQUIREMENTS**

**WEST PERIMETER - 58TH AVE - 15' WIDTH - 997' LINEAL FEET \*USING 20' WIDTH BUFFER REQUIREMENTS PER IRC**  
Excludes Driveways and Walkways

REQUIRED	PROPOSED
4 CANOPY TREES PER 100' = 40	** 29 LIVE OAK ** 11 BALD CYPRESS

\* NATIVE PLANT MATERIAL  
^ DROUGHT TOLERANT PLANT MATERIAL

**WEST PERIMETER LANDSCAPE BUFFER AT PARKING - 58TH AVE 15' WIDTH - 200' LINEAL FEET \*USING 20' WIDTH BUFFER REQUIREMENTS PER IRC**

REQUIRED	PROPOSED
5 UNDERSTORY TREES PER 100' = 10	** 6 EAST PALATKA HOLLY ** 2 SOUTHERN RED CEDAR ** 2 LIGUSTRUM
50 SHRUBS PER 100' = 100	** 16 SAW PALMETTO ** 30 SWEET VIBURNUM ** 30 FIRE BUSH ** 24 COONTIE

\* NATIVE PLANT MATERIAL  
^ DROUGHT TOLERANT PLANT MATERIAL

**NON-VEHICULAR AREA LANDSCAPE**  
254,750 sf of NVU AREA (Development Area: 618,987 sf - 364,237 sf = 254,750 sf)

Excludes:  
RS-6 Zoning - 33,594 sf  
Impervious - 39,540 sf  
Baseball Fields - 239,017 sf  
Landscape Buffer - 19,940 sf (997 LF X 20')  
Parking Interior Landscape - 33,146 sf  
Total Excluded: 364,237 sf

REQUIRED	PROPOSED
1 CANOPY TREE PER 3000' = 85	422 TREE CREDITS APPLIED TO NVU +

\* NATIVE PLANT MATERIAL  
^ DROUGHT TOLERANT PLANT MATERIAL

**PARKING INTERIOR LANDSCAPE - 33,146 sf**  
Driving Aisles: 8,193 sf, Driveway: 14,007 sf, Parking Spaces: 10,946 sf

REQUIRED	PROPOSED
12% X IMPERVIOUS AREA = 3,978 SQ FT LANDSCAPE AREA	** 14 AMERICAN SYCAMORE
1 CANOPY TREE PER 300' = 14	

\* NATIVE PLANT MATERIAL  
^ DROUGHT TOLERANT PLANT MATERIAL

**TREE CREDITS**

**CANOPY TREES:**  
(8) 12" DBH OAK TREE PRESERVED X 4 CREDITS = 32 CREDITS  
(1) 20" DBH SPECIMEN OAK TREE PRESERVED X 8 CREDITS = 8 CREDITS  
(35) 12" DBH PINE TREES PRESERVED X 4 CREDITS = 140 CREDITS  
(21) 14" DBH PINE TREES PRESERVED X 6 CREDITS = 126 CREDITS  
(1) 16" DBH PINE TREE PRESERVED X 6 CREDITS = 6 CREDITS  
(7) 18" DBH PINE TREES PRESERVED X 6 CREDITS = 42 CREDITS  
(4) 20" DBH PINE TREES PRESERVED X 8 CREDITS = 32 CREDITS  
(1) 30" DBH PINE TREE PRESERVED X 8 CREDITS = 8 CREDITS

(44) PALM TREES PRESERVED (3 PALMS = 1 CREDIT) = 14 CREDITS  
(42) RELOCATED PALMS PRESERVED (3 PALMS = 1 CREDIT) = 14 CREDITS

TOTAL CREDITS = 422 CREDITS

TOTAL LANDSCAPE	REQUIRED	PROPOSED
CANOPY TREES	111	54 + 422 CREDITS
UNDERSTORY TREES	10	
SHRUBS	100	100

LANDSCAPE POINT SYSTEM OPTION	POINTS
MOISTURE SENSING CONTROLLER	5
WATER USAGE ZONES INDICATED	5
76% to 100% DROUGHT TOLERANT SHRUBS	10
76% to 100% DROUGHT TOLERANT TREES	10

**MITIGATION REQUIREMENTS**

REMOVED	PROPOSED
(3) 18" DBH OAKS = 54 DBH	78" DBH REMOVED
(1) 24" DBH OAKS = 24 DBH	FEE ASSESSMENT
	78" DBH x \$100 PER INCH = \$7,800 PAYABLE TO INDIAN RIVER COUNTY
42 PALMS REMOVED	42 PALMS RELOCATED

COMBINED FEE ASSESSMENT = \$7,800

DATE: \_\_\_\_\_

REVISIONS: \_\_\_\_\_

NO. \_\_\_\_\_

SARTAIN AND ASSOCIATES LLC  
VERO BEACH, FL 32983  
772.257.1387  
REGISTRATION # LC2600075

**SARTAIN**  
ASSOCIATES

LICENSED LANDSCAPE ARCHITECT  
MARK P. SARTAIN  
LICENSE NUMBER 6667134

DATE: \_\_\_\_\_

DRAWN BY: \_\_\_\_\_

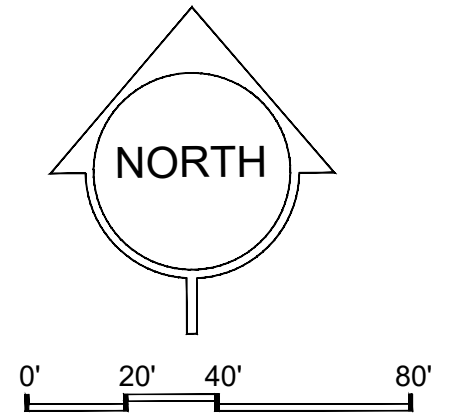
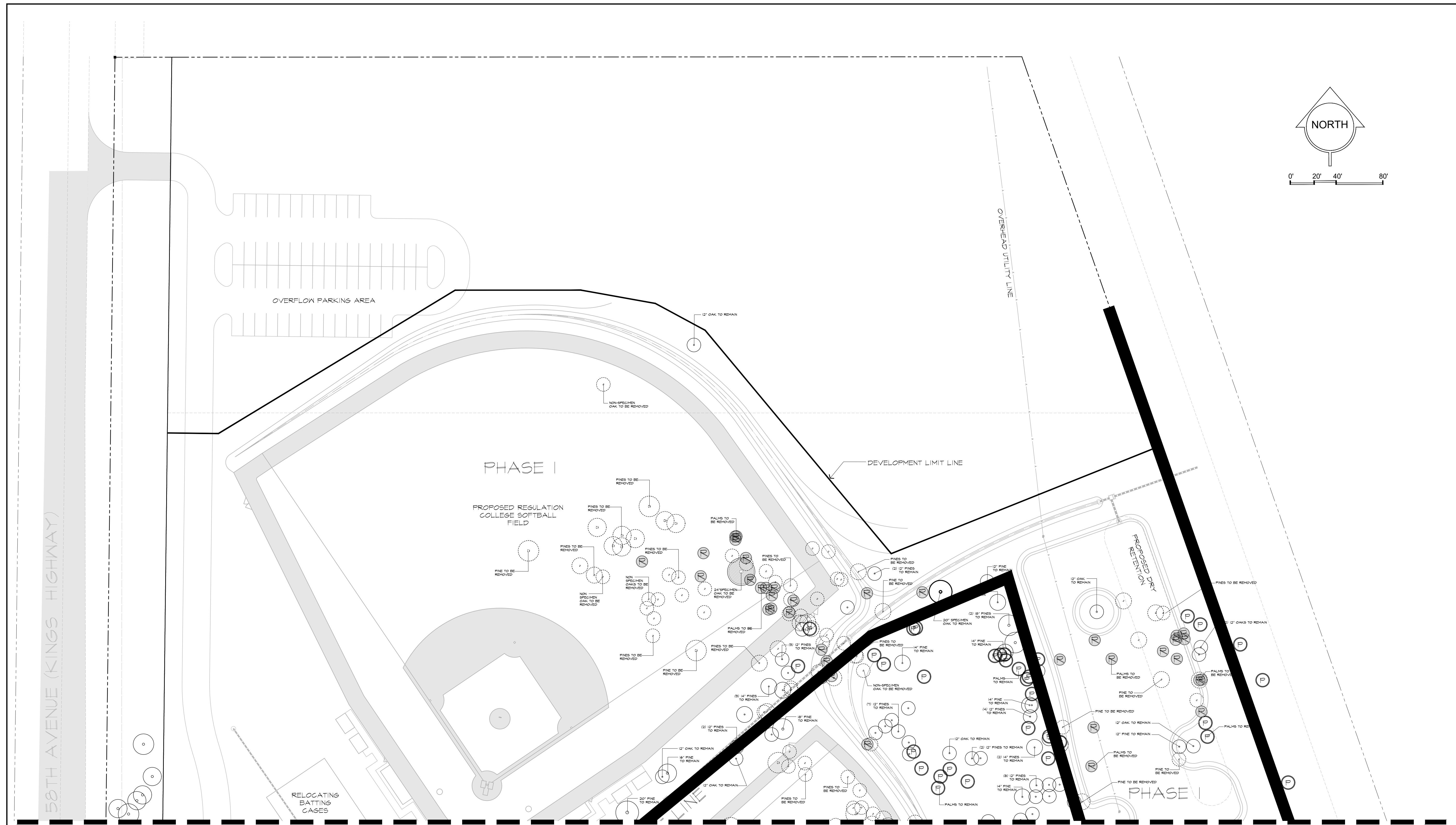
MPS

**LANDSCAPE PLAN**

**Hobart Park**  
Baseball Field Improvements  
VERO BEACH  
FLORIDA

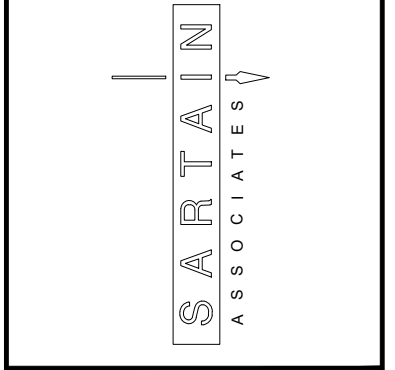
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**LC-1**





NO.	REVISIONS	DATE

SARTAIN AND ASSOCIATES LLC  
 VERO BEACH, FL 32903  
 772.221.3870  
 REGISTRATION # LC26000475



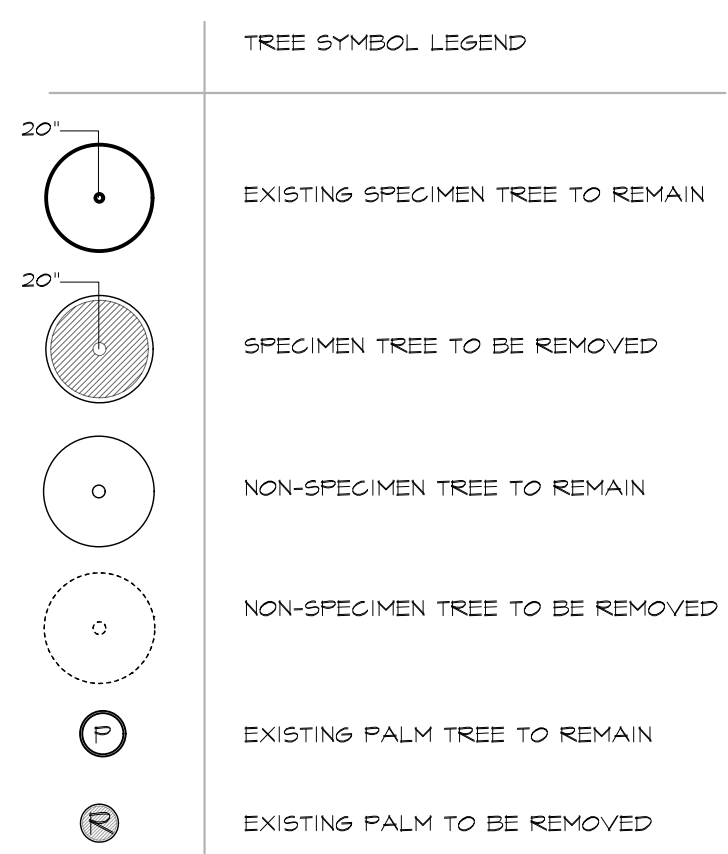
LICENSED LANDSCAPE ARCHITECT  
 MARK P. SARTAIN  
 LICENSE NUMBER 6667134  
 DATE: \_\_\_\_\_

NUMBER 16\_09  
 DATE 06/19/20  
 DRAWN BY MPS

# TREE PLAN

**Hobart Park**  
 Baseball Field Improvements  
 VERO BEACH  
 FLORIDA

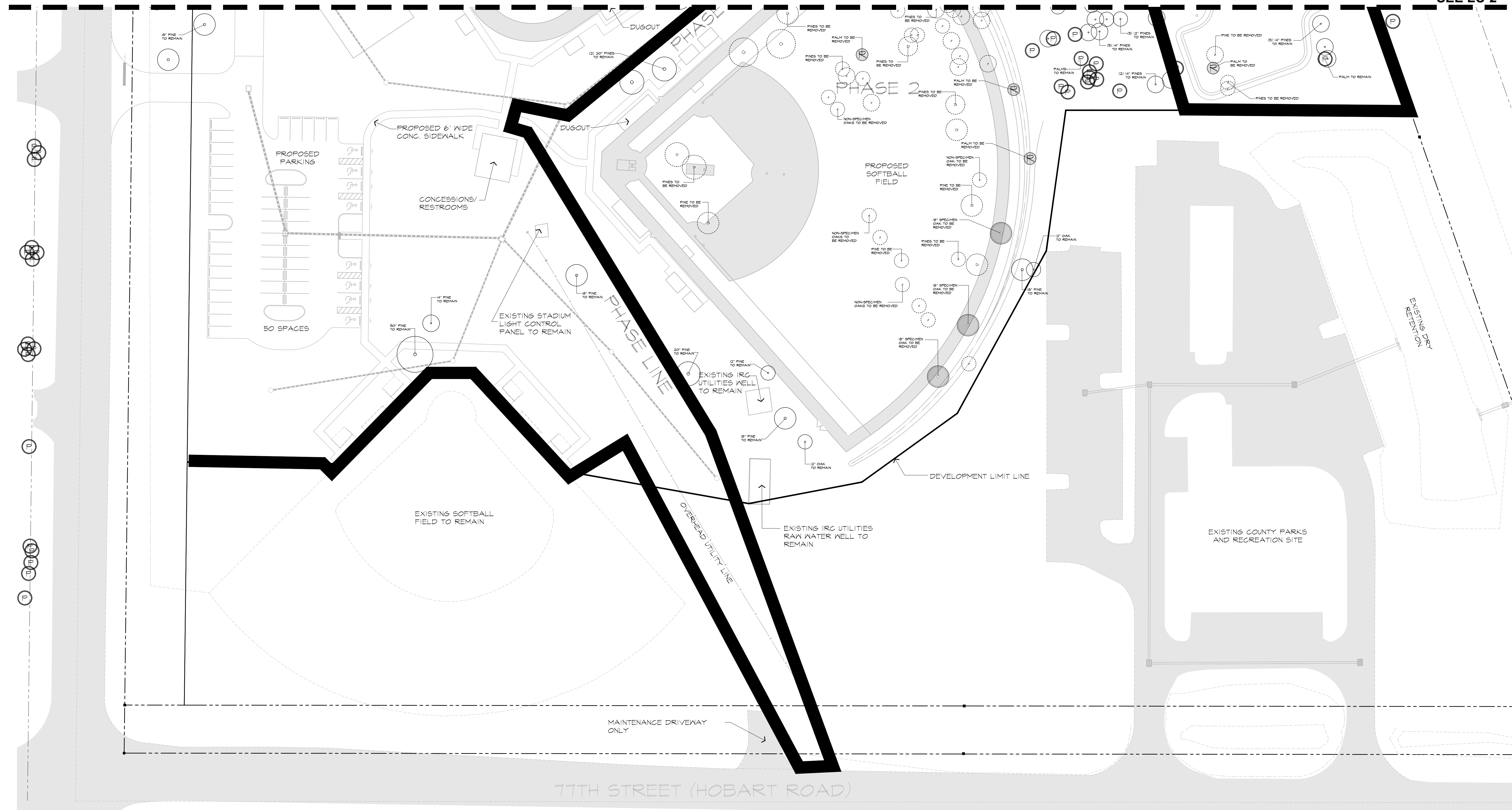
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SEE LC-3

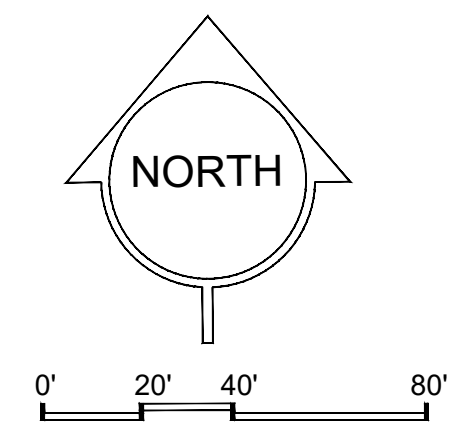


SEE LC-2



TREE SYMBOL LEGEND

	EXISTING SPECIMEN TREE TO REMAIN
	SPECIMEN TREE TO BE REMOVED
	NON-SPECIMEN TREE TO REMAIN
	NON-SPECIMEN TREE TO BE REMOVED
	EXISTING PALM TREE TO REMAIN
	EXISTING PALM TO BE REMOVED



Always call 811 two full business days before you dig  
**Sunshine811.com**

NO.	REVISIONS	DATE:

SARTAIN AND ASSOCIATES LLC  
 VERO BEACH, FL 32983  
 772.221.3870  
 REGISTRATION # LC2600075

**SARTAIN**  
 ASSOCIATES

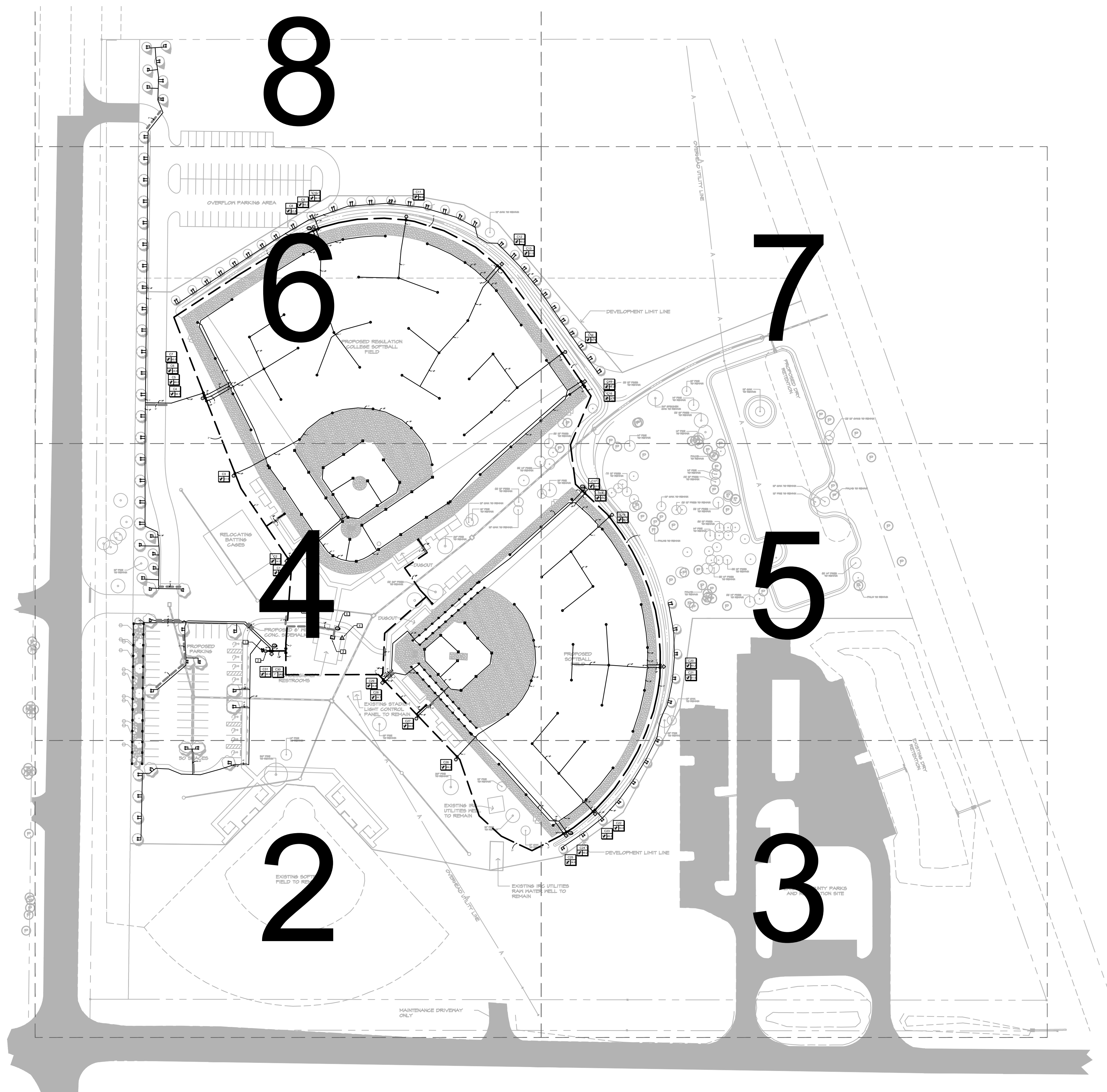
LICENSED LANDSCAPE ARCHITECT  
**MARK P. SARTAIN**  
 LICENSE NUMBER 6687134  
 DATE: \_\_\_\_\_

NUMBER 18_09	DATE 06/19/20	MPS

**TREE PLAN**

**Hobart Park**  
 Baseball Field Improvements  
 VERO BEACH  
 FLORIDA

SHEET NUMBER  
**LC-3**

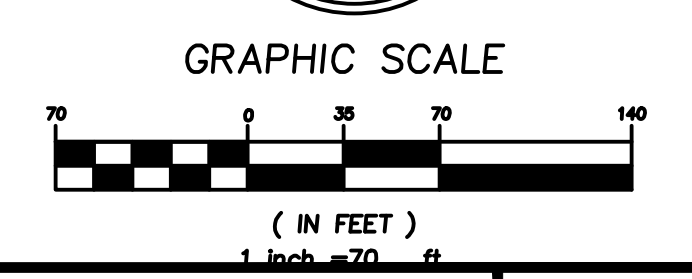
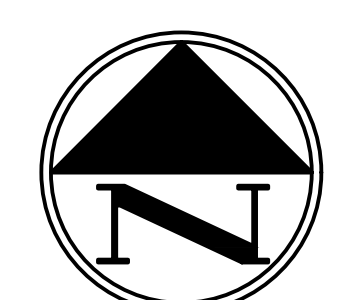


**IRRIGATION SCHEDULE**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
Q T H TT TO F	Hunter PROS-06-PRS30-CV 12' radius Turf Spray, 30 psi regulated 6.0" Pop-Up. With factory installed Drain Check Valve. Co-molded wiper seal with UV Resistant Material.	
Q T H TT TO F	Hunter PROS-06-PRS30-CV ADJ Turf Spray, 30 psi regulated 6.0" Pop-Up. With factory installed Drain Check Valve. Co-molded wiper seal with UV Resistant Material.	
Q T H TT TO F	Hunter MP2000 PROS-12-PRS40-CV Shrub Rotator, 12" pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	
25Q 50Q 50H 10H 10F 20F	Hunter PROS-06-CV-MSBN Multi-Stream Bubbler, 6" pop-up, factory installed drain check valve, 25= 25gpm, 50=50gpm, 10=1.0gpm, 20=2.0gpm.	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
2.0	Hunter I-20-06-SS-PRB Turf Rotor, 6.0" Pop-Up, Adjustable and Full Circle. Stainless Steel Riser. Drain Check Valve. Standard Nozzle.	
2.5	Hunter I-20-06-SS-PRB Turf Rotor, 6.0" Pop-Up, Adjustable and Full Circle. Stainless Steel Riser. Drain Check Valve. Standard Nozzle.	
3.0	Hunter I-20-06-SS-PRB Turf Rotor, 6.0" Pop-Up, Adjustable and Full Circle. Stainless Steel Riser. Drain Check Valve. Standard Nozzle.	
4.0	Hunter I-20-06-SS-PRB Turf Rotor, 6.0" Pop-Up, Adjustable and Full Circle. Stainless Steel Riser. Drain Check Valve. Standard Nozzle.	
10	Hunter I-25-06-SS Turf Rotor, 6.0" Pop-Up, Adjustable and Full Circle. Stainless Steel Riser. Drain Check Valve. Standard Nozzle.	
13	Hunter I-25-06-SS Turf Rotor, 6.0" Pop-Up, Adjustable and Full Circle. Stainless Steel Riser. Drain Check Valve. Standard Nozzle.	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
ICV-G-FS	1", 1-1/2", 2" and 3" Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use. With Filter Sentry.	
HQ-44RC-AW	Hunter HQ-44RC-AW Quick coupler valve, yellow rubber locking cover, red brass and stainless steel, with 1" NPT inlet, 2-piece body. Acme Key with Anti-Rotation Wings.	
ACC-99D	Hunter ACC-99D 2-Wire Decoder Controller with 99 station capacity, metal cabinet.	
ICD-100	Hunter ICD-100 Single Station Decoder w/Surge Suppression and Ground Wire	
ICD-200	Hunter ICD-200 2-Station Decoder with Surge Suppression and Ground Wire	
ICD-400	Hunter ICD-400 4-Station Decoder with Surge Suppression and Ground Wire	
WSS-SEN	Hunter WSS-SEN Wireless Solar, rain freeze sensor with outdoor interface, connects to Hunter X-Core and ACC Controllers, install as noted. Includes gutter mount bracket. Module not included.	
GP	2-Wire Grounding Point Install as per plan detail	
PC	Pump Control System Watertronics Model #WVMSTV-5000-2-7.5-230-1-65-80. See plan details and specifications.	
Well	Irrigation Well	
---	Irrigation Lateral Line: PVC Class 200 SDR 21	
---	Irrigation Mainline: PVC Class 200 SDR 21	
---	Pipe Sleeve: PVC Schedule 40	
---	Valve Callout	
#	Valve Number	
#	Valve Flow	
#	Valve Size	

**REFERENCE NOTES SCHEDULE**

SYMBOL	DESCRIPTION	QTY	DETAIL
1	Irrigation system water source to be a well and submersible pump. Well and pump to provide a minimum of 60 gpm at a discharge pressure of 80 psi.		
2	Pump control system. Install so inlet side of control enclosure is 3' from the well head. Install pump control system as per detail #12. Provide 230v 1 phase power to the pump control system.		
3	Coordinate the exact location of the controller with the owners representative. Provide 120v 10 amp power to the controller. Ground controller as per manufacturers instructions. Install controller as per plan notes, details and manufacturers instruct.		
4	Coordinate exact location of the climate sensor with the owners representative. Install and program as per plan detail and manufacturers instructions.		
5	2-Wire cable conduit. Sch 40 PVC electrical conduit from the controller to the mainline.		
6	Install 2-wire Grounding Point as per plan detail.		



**IRRIGATION SHEET LAYOUT PLAN AND SCHEDULES**

NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

**M M MASTELLER & MOLER, INC.**  
 CONSULTING ENGINEERS  
 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
 (772) 567-5300 / FAX (772) 794-1106  
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

**HOBART PARK  
 BASEBALL FIELD IMPROVEMENTS**

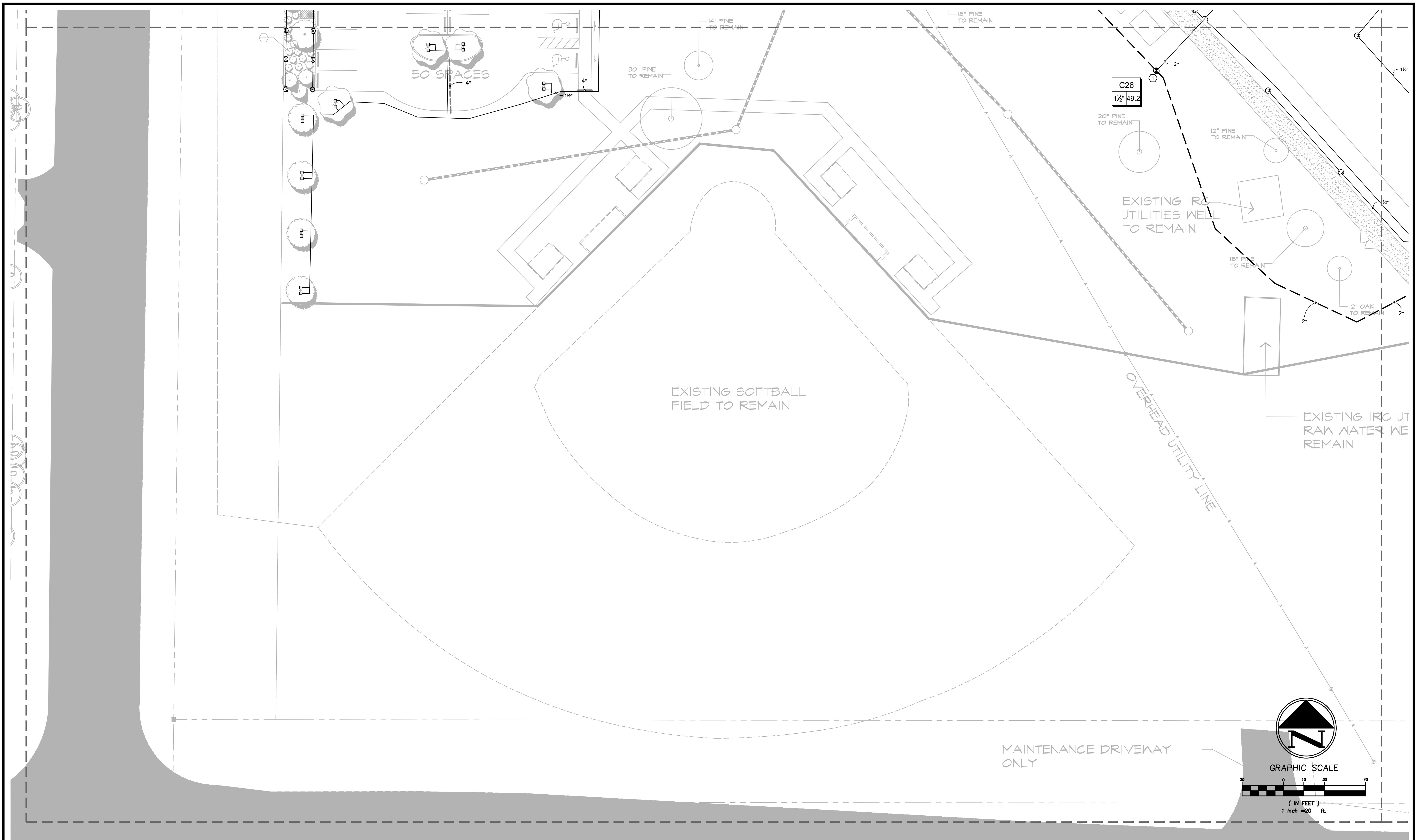
INDIAN RIVER COUNTY FLORIDA

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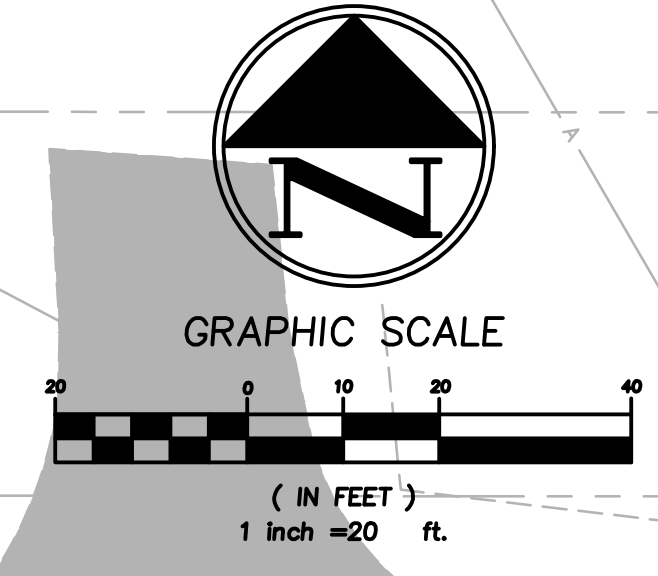
**Clark Irrigation Design & Consulting, Inc.**  
 Sustaining Landscapes. Conserving Water.  
 P.O. Box 693 Lavonia, Ga 30553  
 O: 706-356-0309 F: 706-356-1948

**STEPHEN E. MOLER, P.E. FL#33193**

DRAWN	MC
DESIGNED	MC
CHECKED	SEM
DATE	11/18
SCALE	1"=70'
SHEET	1 of 10
PROJECT NO.	1756



IRRIGATION PLAN  
 HOBART PARK  
 BASEBALL FIELD IMPROVEMENTS



NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

**M M** **MASTELLER & MOLER, INC.**  
 CONSULTING ENGINEERS  
 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
 (772) 567-5300 / FAX (772) 794-1106  
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

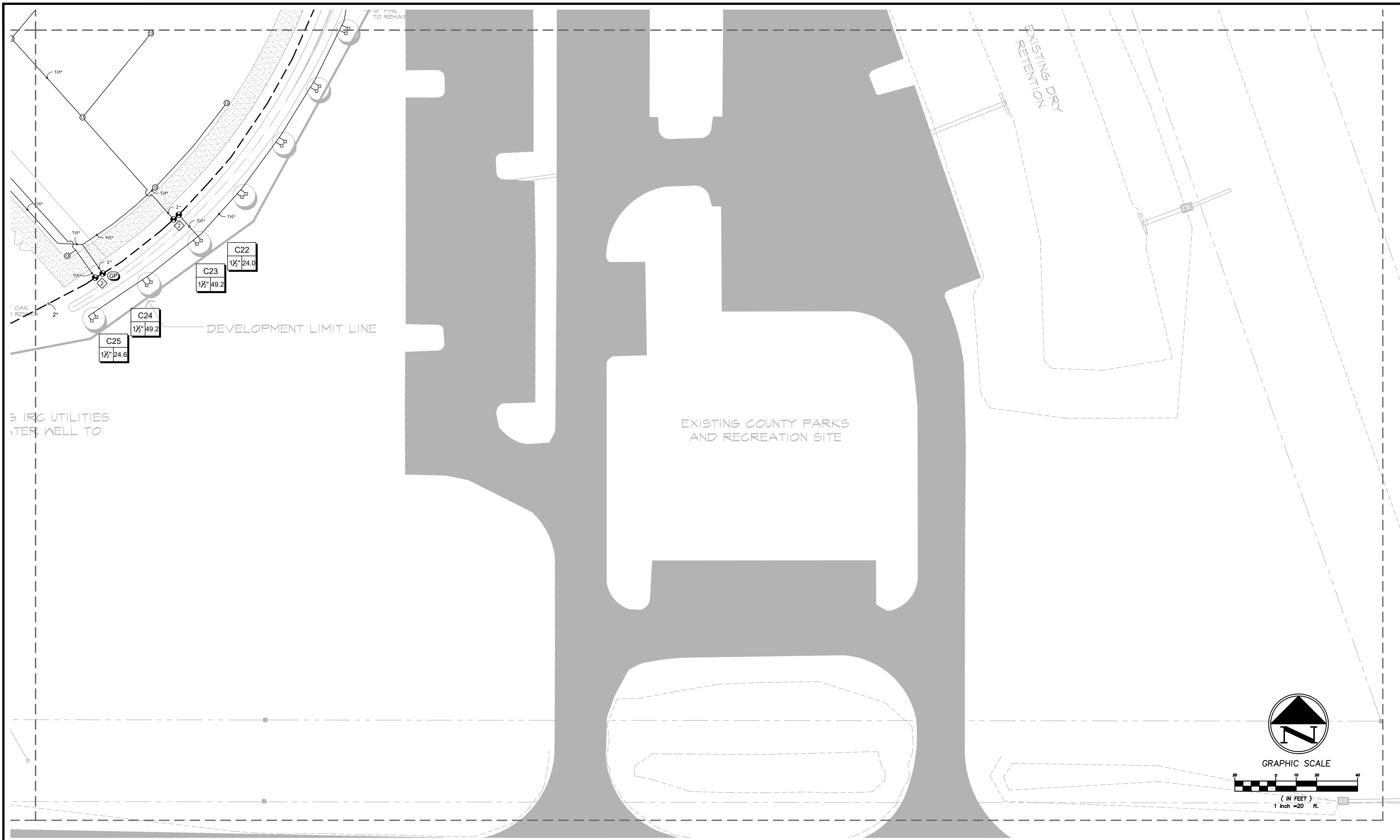
INDIAN RIVER COUNTY  
 FLORIDA

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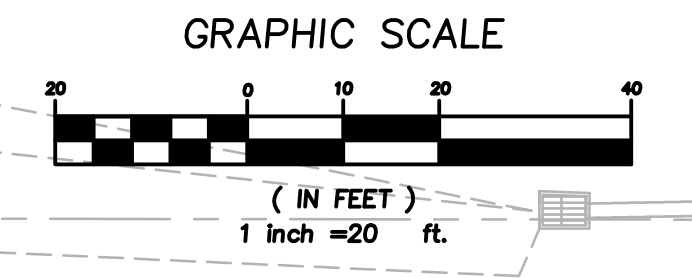
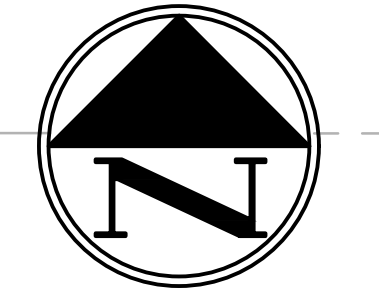
DRAWN	MC
DESIGNED	MC
CHECKED	SEM
DATE	11/18
SCALE	1"=20'
SHEET	2 OF 10
PROJECT NO.	1756

**STEPHEN E. MOLER, P.E. FL#33193**



IRRIGATION PLAN

HOBART PARK  
BASEBALL FIELD IMPROVEMENTS



NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

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CONSULTING ENGINEERS  
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
(772) 567-5300 / FAX (772) 794-1106  
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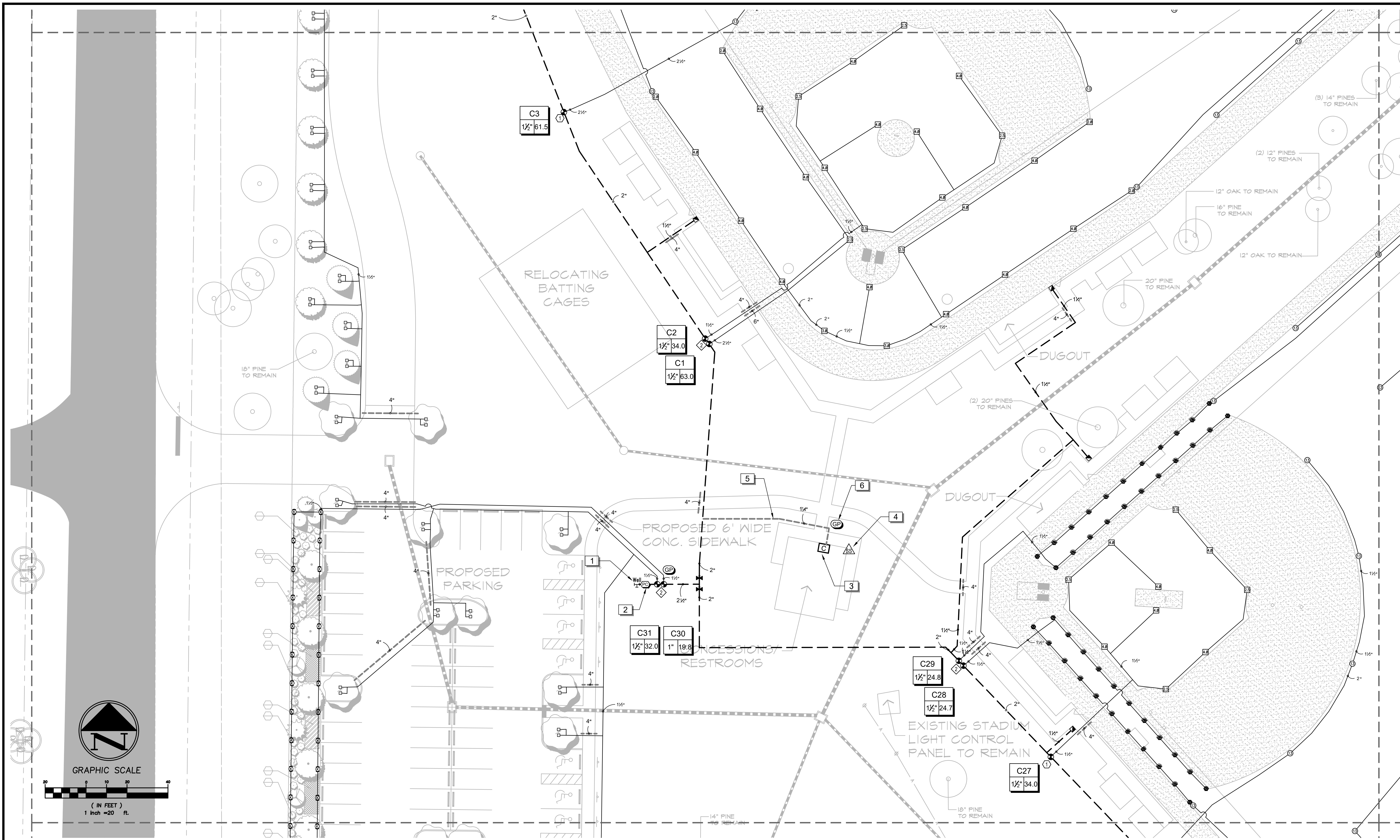
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SHEET	3 of 10
PROJECT NO.	1756

**STEPHEN E. MOLER, P.E. FL#33193**





IRRIGATION PLAN

HOBART PARK  
BASEBALL FIELD IMPROVEMENTS

NO.	DATE	DESCRIPTION	DR/APP
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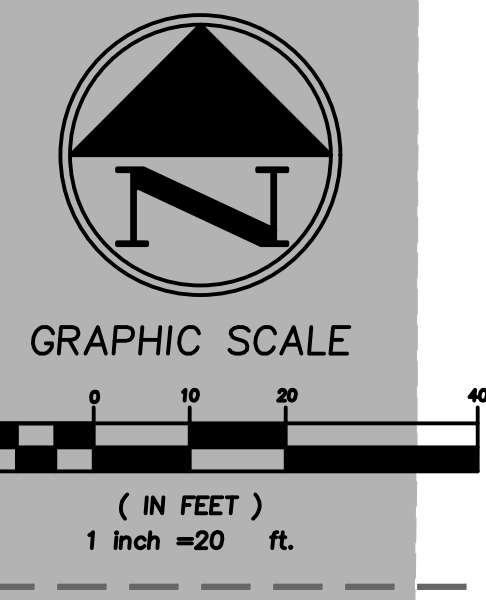
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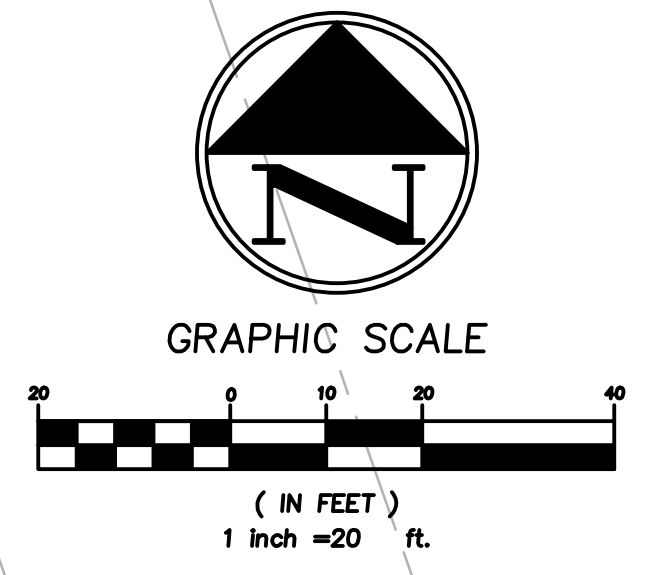
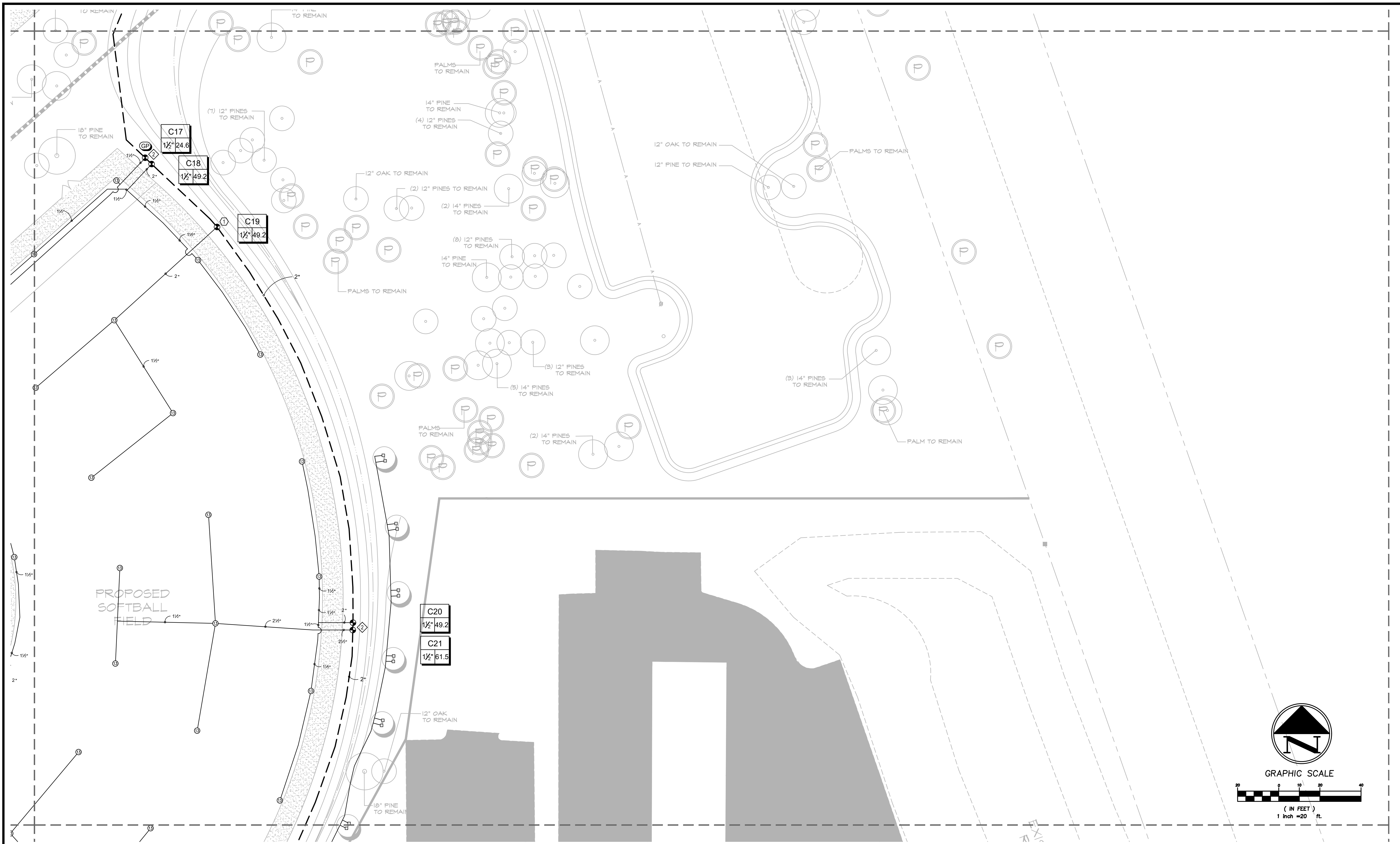
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SHEET	4 of 10
PROJECT NO.	1756





IRRIGATION PLAN

HOBART PARK  
BASEBALL FIELD IMPROVEMENTS

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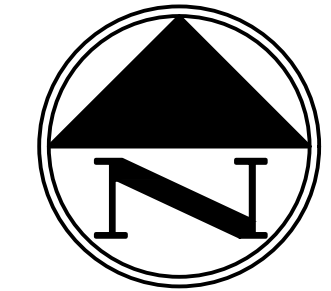
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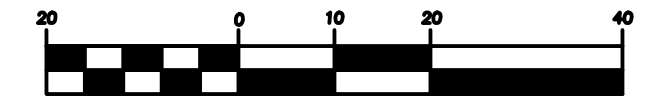
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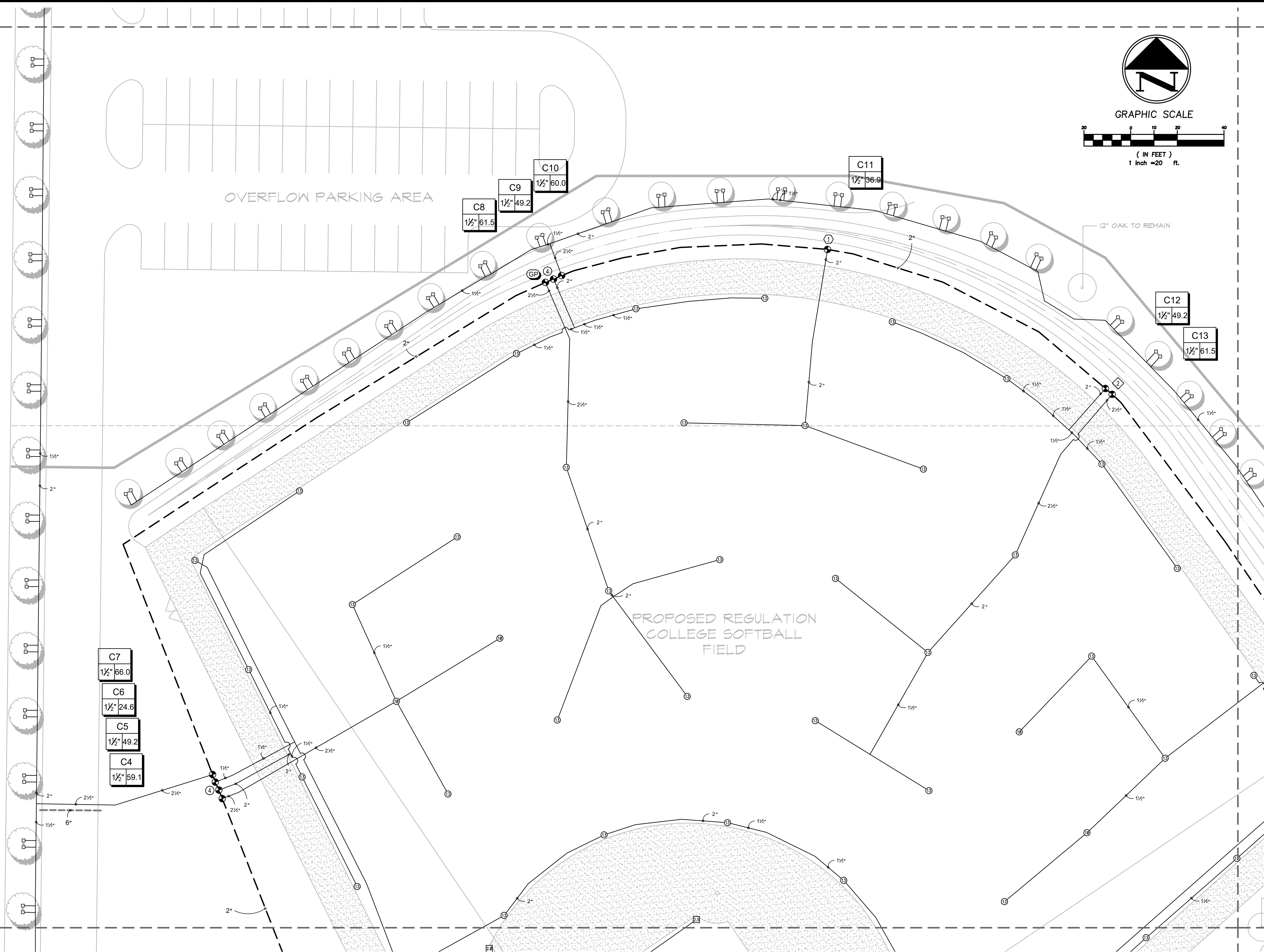
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GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.



IRRIGATION PLAN

HOBART PARK  
BASEBALL FIELD IMPROVEMENTS

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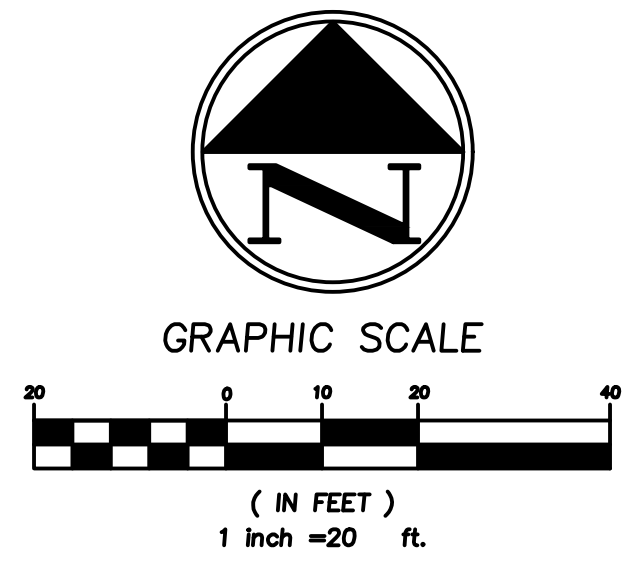
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FLORIDA

STEPHEN E. MOLER, P.E. FL#33193



**CRITICAL ANALYSIS**

Generated:	2018-11-15 07:44
P.O.C. NUMBER: 01	
Water Source Information:	Irrigation Well
<b>FLOW AVAILABLE</b>	
Custom Max Flow:	66.00 gpm
Flow Available:	66.00 gpm
<b>PRESSURE AVAILABLE</b>	
Static Pressure at POC:	80.00 psi
Pressure Available:	60.00 psi
<b>DESIGN ANALYSIS</b>	
Maximum Multi-valve Flow:	66.00 gpm
Flow Available at POC:	66.00 gpm
Residual Flow Available:	0.00 gpm
<b>Critical Station:</b>	C13
Design Pressure:	60.00 psi
Friction Loss:	2.61 psi
Fittings Loss:	0.26 psi
Elevation Loss:	0.00 psi
Loss through Valve:	3.09 psi
Pressure Req. at Critical Station:	65.96 psi
Loss for Fittings:	0.88 psi
Loss for Main Line:	8.85 psi
Loss for POC to Valve Elevation:	0.00 psi
Loss for Backflow:	0.00 psi
Critical Station Pressure at POC:	75.69 psi
Pressure Available:	80.00 psi
Residual Pressure Available:	4.31 psi

**VALVE SCHEDULE**

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC	PRECIP
C1	Hunter ICV-G-FS	1-1/2"	Turf Rotor	63.00	51.64	54.75	0.60 in/h
C2	Hunter ICV-G-FS	1-1/2"	Turf Rotor	34.00	50.80		0.60 in/h
C3	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	67.21	72.82	0.79 in/h
C4	Hunter ICV-G-FS	1-1/2"	Turf Rotor	59.10	65.96	72.45	0.43 in/h
C5	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	65.38	72.52	0.83 in/h
C6	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	64.51	71.70	2.03 in/h
C7	Hunter ICV-G-FS	1-1/2"	Bubbler	66.00	38.35	45.58	4.31 in/h
C8	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	65.97	75.64	0.42 in/h
C9	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.03	73.72	0.82 in/h
C10	Hunter ICV-G-FS	1-1/2"	Bubbler	60.00	38.56	48.26	4.35 in/h
C11	Hunter ICV-G-FS	1-1/2"	Turf Rotor	36.90	63.46	73.35	0.40 in/h
C12	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.12	73.86	0.82 in/h
C13	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	65.96	75.69	0.41 in/h
C14	Hunter ICV-G-FS	1-1/2"	Turf Rotor	59.10	65.96	74.26	0.43 in/h
C15	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.76	73.75	0.82 in/h
C16	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	66.22	75.19	2.61 in/h
C17	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	65.15	74.61	1.65 in/h
C18	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.29	73.77	0.83 in/h
C19	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.94	74.57	0.45 in/h
C20	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.01	73.88	0.86 in/h
C21	Hunter ICV-G-FS	1-1/2"	Turf Rotor	61.50	64.85	74.71	0.46 in/h
C22	Hunter ICV-G-FS	1-1/2"	Bubbler	24.00	35.92	44.80	4.39 in/h
C23	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.93	73.99	0.44 in/h
C24	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	64.27	73.02	0.85 in/h
C25	Hunter ICV-G-FS	1-1/2"	Turf Rotor	24.60	65.10	73.82	1.64 in/h
C26	Hunter ICV-G-FS	1-1/2"	Turf Rotor	49.20	65.79	72.13	0.71 in/h
C27	Hunter ICV-G-FS	1-1/2"	Turf Rotor	34.00	49.74		0.68 in/h
C28	Hunter ICV-G-FS	1-1/2"	Turf Spray	24.69	33.17	37.20	1.68 in/h
C29	Hunter ICV-G-FS	1-1/2"	Turf Spray	24.77	33.94	37.81	1.70 in/h
C30	Hunter ICV-G-FS	1"	Shrub Rotary	19.83	45.68	45.81	0.63 in/h
C31	Hunter ICV-G-FS	1-1/2"	Bubbler	32.00	35.84	35.94	4.31 in/h

**TWO WIRE CONTROL SYSTEM NOTES**

1. ALL DECODER WIRE SPLICE CONNECTORS TO BE 3M DBY-6 OR BETTER.
2. ALL DECODER TO VALVE SOLENOID SPLICE CONNECTORS TO BE 3M DBY-6 OR BETTER.
3. ALL GROUNDING POINTS TO BE INSTALLED AS PER DETAIL.
4. ALL CONTROL SYSTEM PRODUCTS TO BE INSTALLED AND OPERATED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND OR REQUIREMENTS.
5. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY MANUFACTURER'S INSTALLATION TRAINING PRIOR TO PROJECT START, NOTIFY IRRIGATION CONSULTANT WHEN TRAINING HAS BEEN COMPLETED.
6. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR TRAINING OWNERS STAFF, AS NEEDED, ON THE OPERATION AND MAINTENANCE OF THE CONTROL SYSTEM.
7. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR COMPLETE PROGRAMMING AND OPERATION OF THE CONTROL SYSTEM FOR 6 MONTHS FROM THE DAY THE CONTROLLER BECOMES FUNCTIONAL. CONTRACTOR TO PROVIDE THE OWNERS REPRESENTATIVE A COMPUTER SPREAD SHEET THAT SHOWS EACH PROGRAM, OPERATIONAL DAYS AND RUN TIMES PER ZONE.

**CONTROLLER INSTALLATION NOTES**

1. IRRIGATION CONTRACTOR TO COORDINATE EXACT LOCATION OF CONTROLLER WITH OWNER'S REPRESENTATIVE.
2. PROVIDE 120VAC 10 AMP POWER TO JUNCTION BOX AT CONTROLLER LOCATION.
3. IRRIGATION CONTRACTOR TO HARD WIRE CONTROLLER TO POWER SUPPLY AS PER PREVAILING CODE.
4. CONTROLLER TO BE SECURELY ATTACHED TO THE WALL USING METALLIC FASTENERS MADE FOR WALL TYPE.
5. ALL IRRIGATION CONTROL WIRE ABOVE GRADE TO BE ENCASED IN PVC ELECTRICAL CONDUIT.
6. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR ALL POTENTIAL WALL PENETRATIONS AND THE SEALING OF THOSE PENETRATIONS.
7. CONTROLLER TO BE GROUNDED AS PER MANUFACTURERS RECOMMENDATIONS.

**GENERAL NOTES**

1. ALL TRENCHING TO BE OUTSIDE OF TREE DRIP LINE
2. MAINLINE TO HAVE MINIMUM OF 24" OF COVER AND A MINIMUM OF 24" OFF OF THE HARDSCAPE
3. LATERALS TO HAVE MINIMUM OF 18" OF COVER IN SPORTS FIELDS AND A MINIMUM OF 12" IN GENERAL LANDSCAPE AREAS. ALL LATERALS ARE TO BE A MINIMUM OF 18" OFF OF THE HARDSCAPE EDGE.
4. NO ROCKS, BOULDERS OR SHARP OBJECTS TO BE IN TRENCH BACKFILL
5. ALL PIPE TO BE INSTALLED AS PER MANUFACTURES SPECIFICATIONS
6. SPRINKLERS AND RELATED EQUIPMENT TO BE INSTALLED AS PER DETAILS
7. TWO WIRE CONTROL WIRE TO BE 14 GA UL 2 CONDUCTOR, JACKETED AND APPROVED BY 2-WIRE CONTROLLER MANUFACTURER
8. WIRE SPLICES TO BE DONE AS PER DETAILS
9. ALL WIRE SPLICES OUTSIDE OF CONTROL VALVE BOX TO BE IN 10" VALVE BOX
10. TWO WIRE CONDUCTORS TO BE COLOR CODED
11. CONTRACTOR SHALL INSTALL MANUFACTURES GROUNDING EQUIPMENT ON BOTH THE POWER AND OUTPUT SIDES OF CONTROLLER, ALL GROUNDING POINTS TO BE INSTALLED AS PER PLANS AND DETAILS
12. AT EACH VALVE AND CHANGE IN MAINLINE DIRECTION CONTRACTOR TO INSTALL A 30" LOOP OF EXTRA WIRE
13. SPRINKLERS ARE TO BE ADJUSTED TO AVOID OVER-SPRAY INTO NON-IRRIGATED AREAS
14. ELECTRIC CONTROL VALVES ARE TO BE INSTALLED IN VALVE BOXES AS FOLLOWS  
14" RECTANGULAR MINIMUM FOR EACH ELECTRIC CONTROL VALVE
15. SPRINKLERS TO BE INSTALLED 12" FROM FOUNDATIONS AND 2" FROM HARDSCAPE
16. CONTRACTOR TO ADD RISER EXTENSIONS TO SPRINKLERS IF REQUIRED TO MAINTAIN PROPER COVERAGE
17. ALL PIPING TO BE FLUSHED PRIOR TO INSTALLATION OF SPRINKLERS
18. ALL VALVES, QUICK COUPLER VALVES, WIRE SPLICES TO BE IN LANDSCAPED BEDS WHEREVER POSSIBLE
19. CONTRACTOR IS RESPONSIBLE FOR OBTAINING PROPER COVERAGE OF AREA TO BE IRRIGATED, MAKE ADJUSTMENTS AS NECESSARY
20. CONTRACTOR SHALL EXERCISE CARE NOT TO DAMAGE EXISTING UTILITIES REPAIRING ANY DAMAGES AT HIS OWN COST
21. PLAN IS DIAGRAMMATIC TO IMPROVE CLARITY ALL IRRIGATION EQUIPMENT TO BE INSTALLED WITHIN PROPERTY LINES AND LANDSCAPED AREAS
22. ANY DISCREPANCIES BETWEEN THE PLAN AND THE SITE TO BE REFERRED TO THE OWNERS REPRESENTATIVE PRIOR TO CONSTRUCTION
23. CONTRACTOR TO PROVIDE 1 YEAR WARRANTIES OF ALL PRODUCTS AND WORKMANSHIP TO INCLUDE WINTERIZATION AND SPRING START-UP
24. CONTRACTOR TO PROVIDE OWNER AND OR LANDSCAPE ARCHITECT RECORD DRAWING PRIOR TO SUBSTANTIAL COMPLETION.
25. INSTALLATION OF IRRIGATION SLEEVES IS THE IRRIGATION CONTRACTORS RESPONSIBILITY IRRIGATION CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR SLEEVE INSTALLATION PRIOR TO PAVEMENT INSTALLATION
26. CLEANUP AND DISPOSE OF ALL DEBRIS, WASTE AND EXCESS CONSTRUCTION MATERIALS LEAVE AREA NEAT, CLEAN AND READY FOR OWNERS USE PROVIDE CLEAN PAVEMENT SURFACES INCLUDING AREAS OF PUBLIC R.O.W.

**IRRIGATION PLAN AND NOTES**

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**HOBART PARK  
 BASEBALL FIELD IMPROVEMENTS**

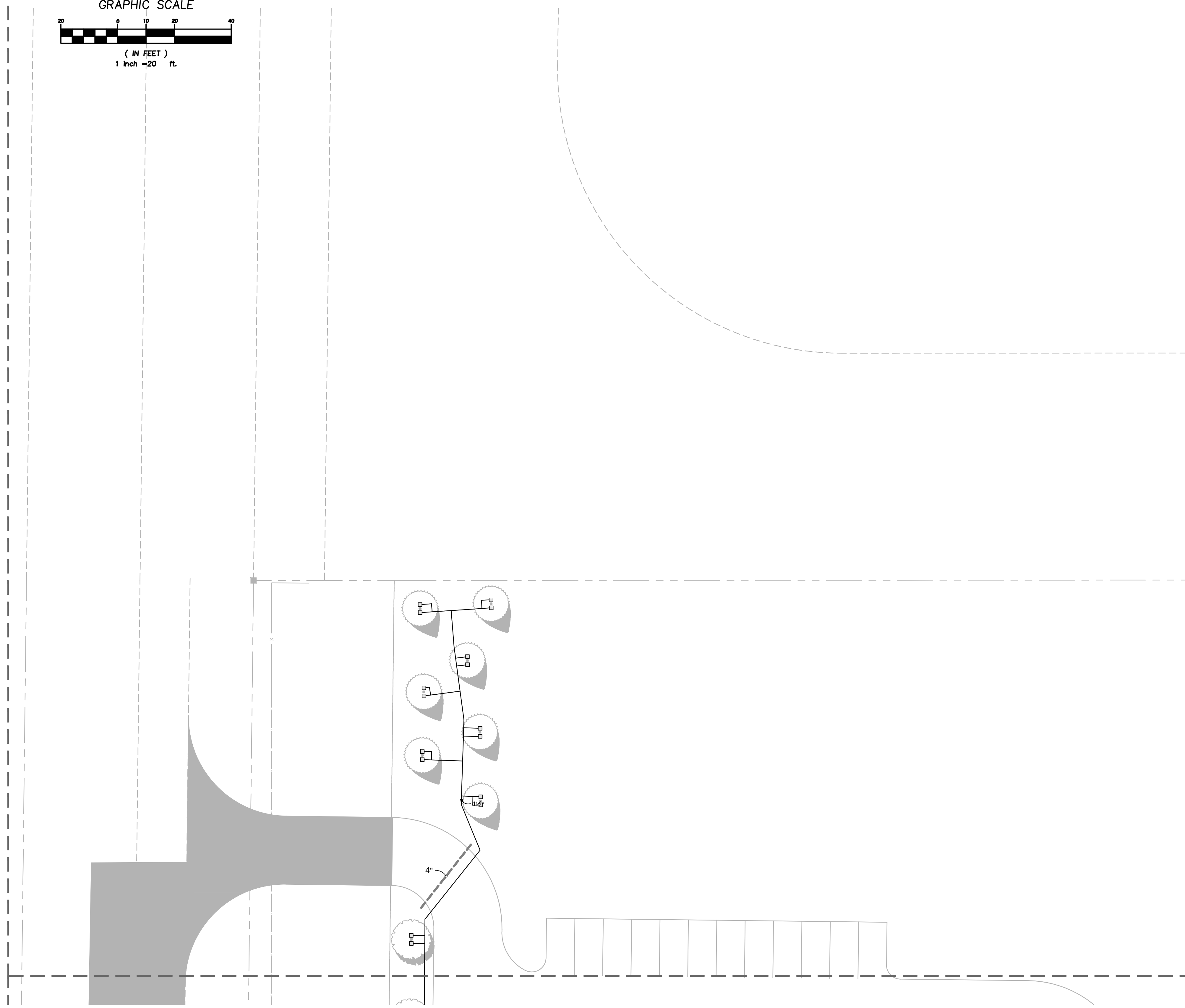
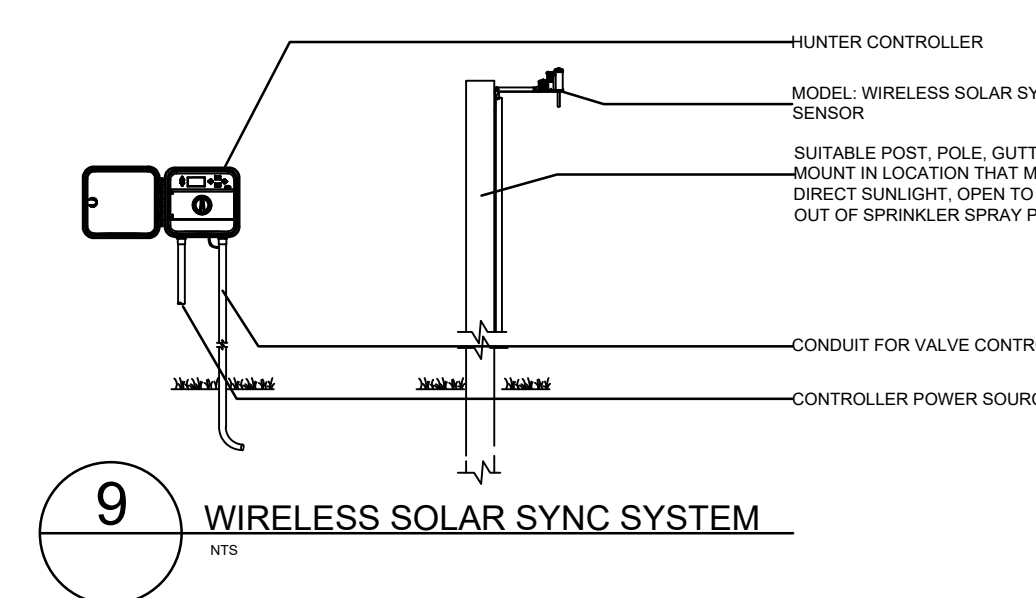
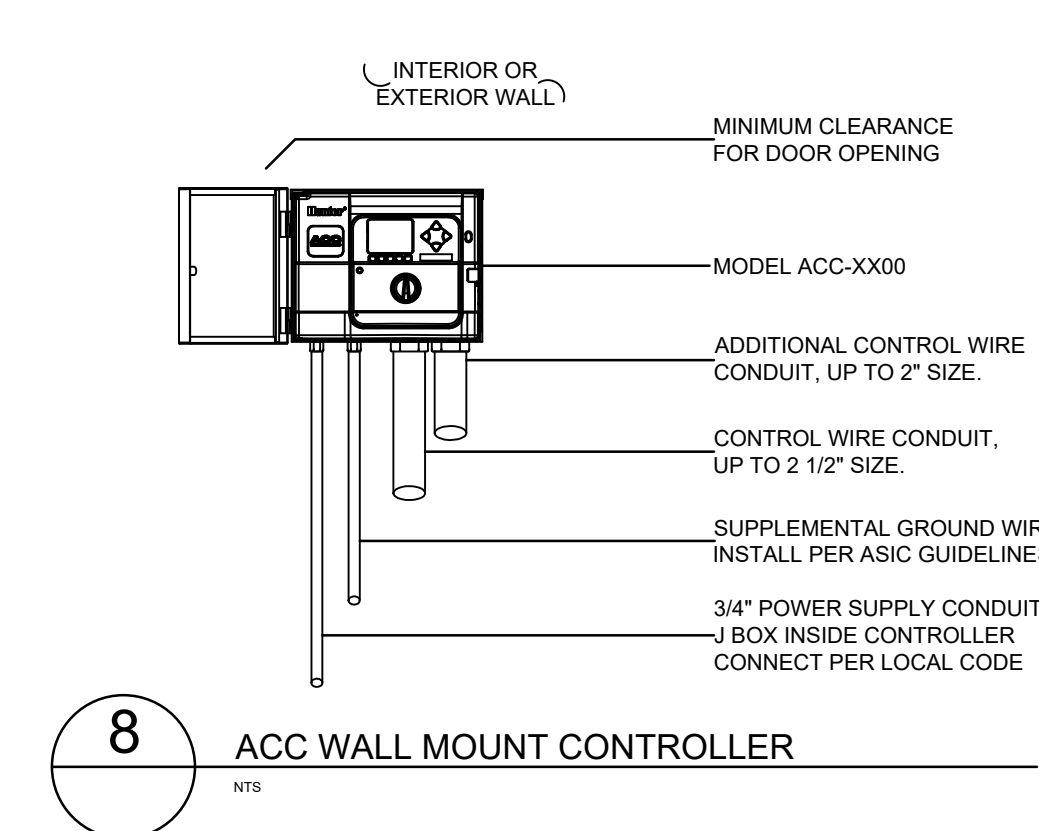
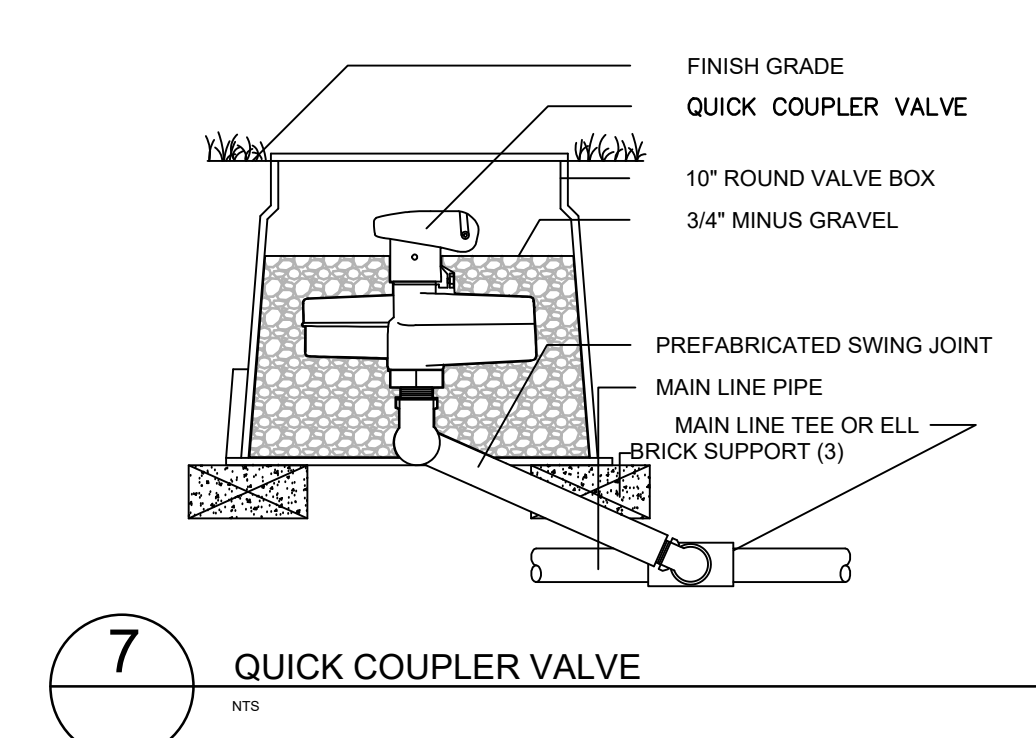
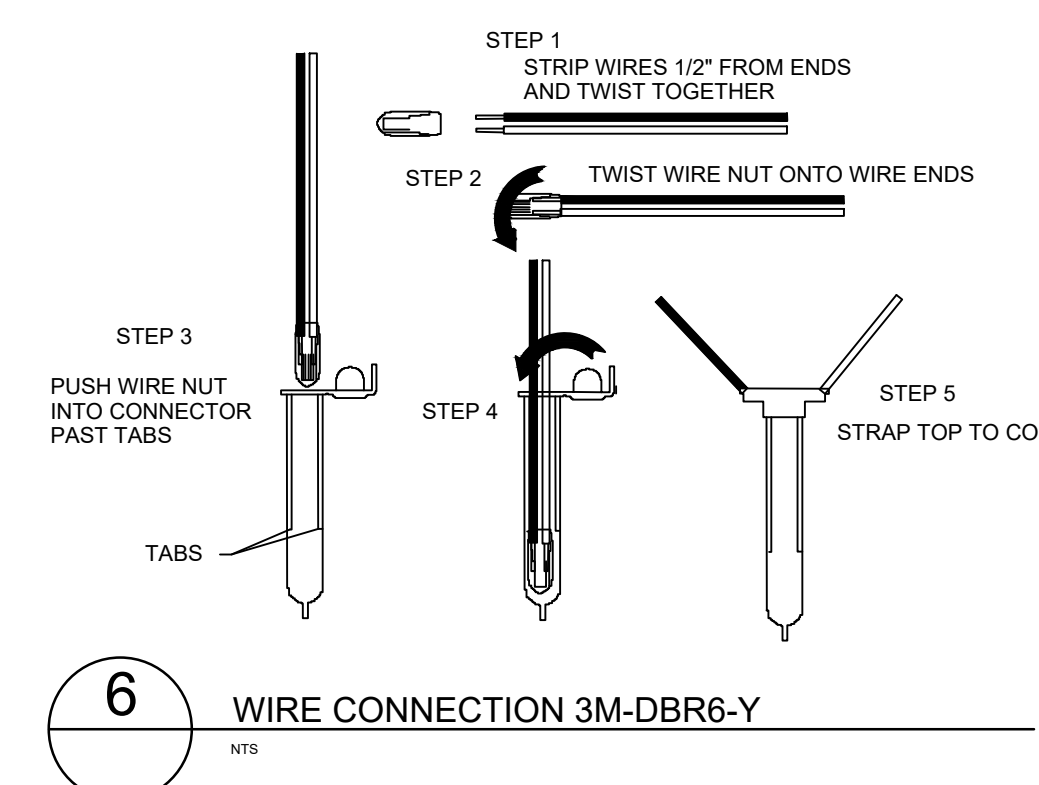
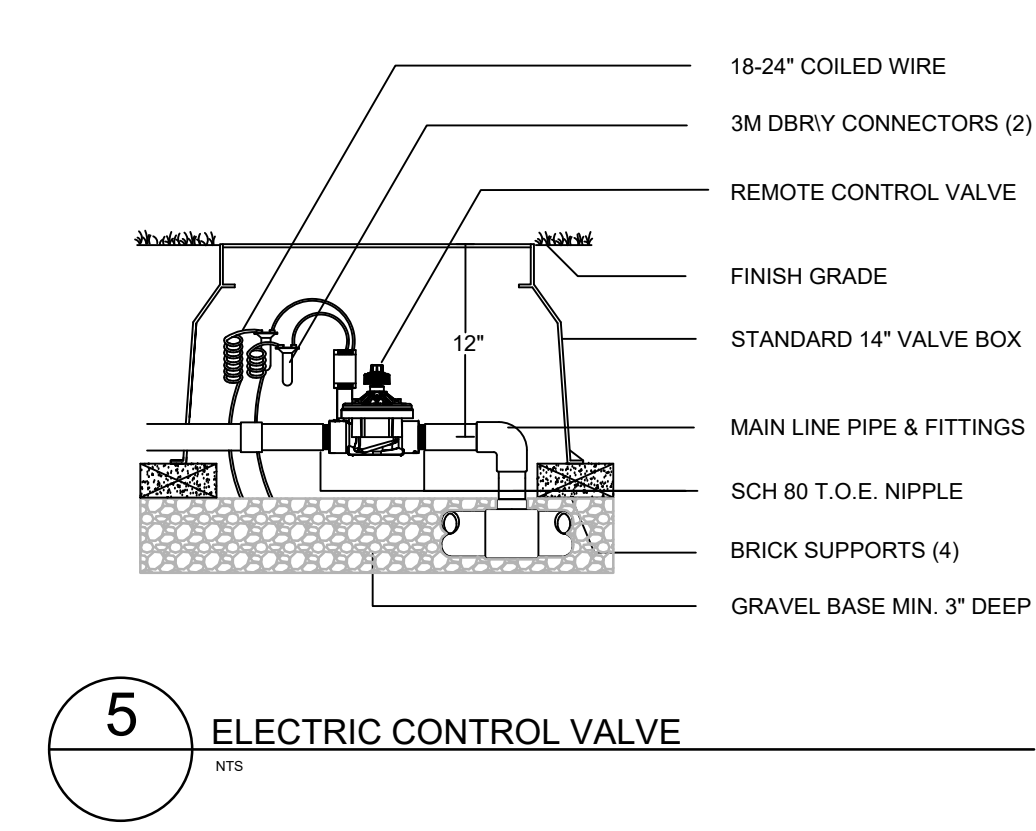
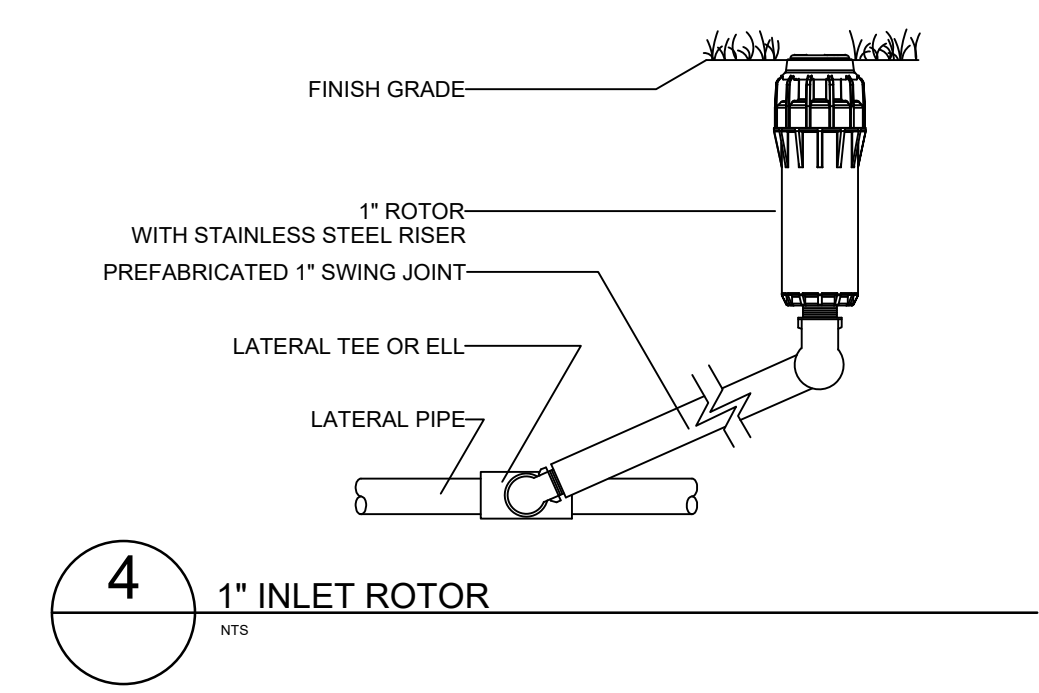
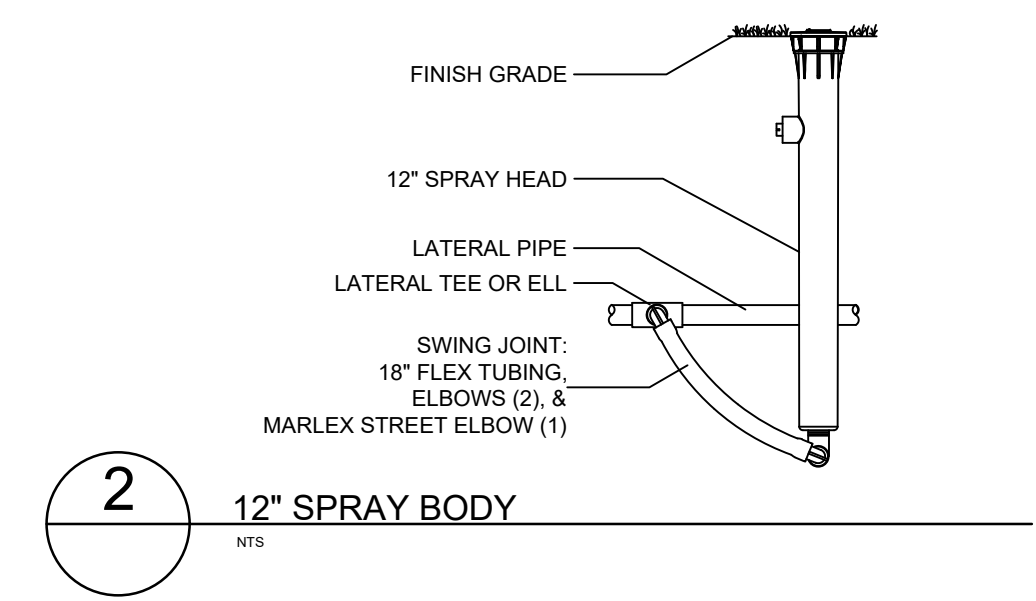
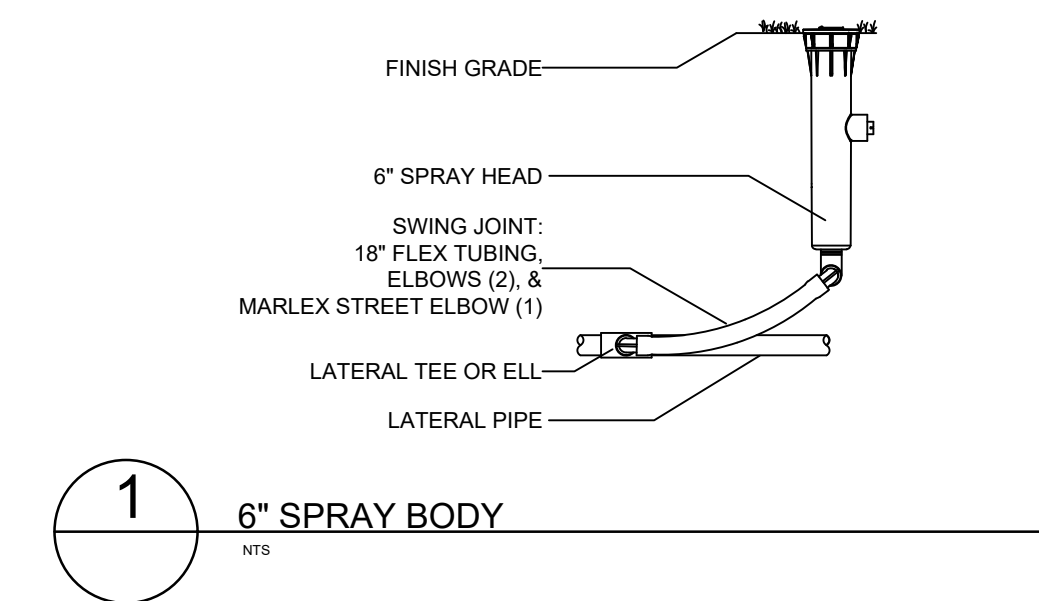
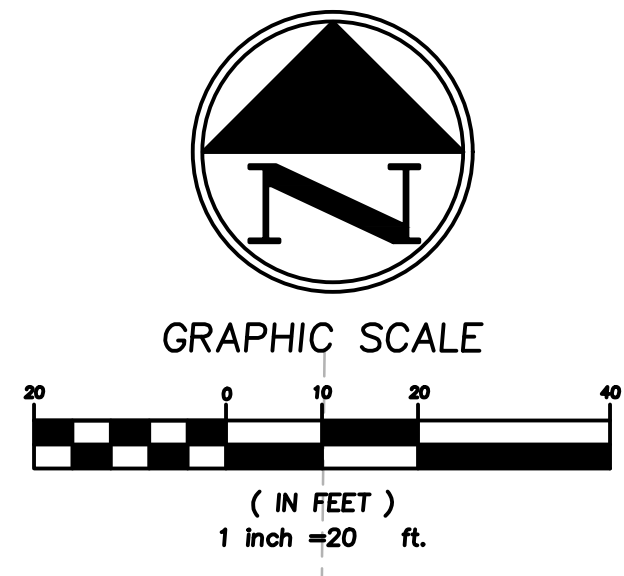
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**STEPHEN E. MOLER, P.E. FL#33193**



IRRIGATION PLAN AND DETAILS

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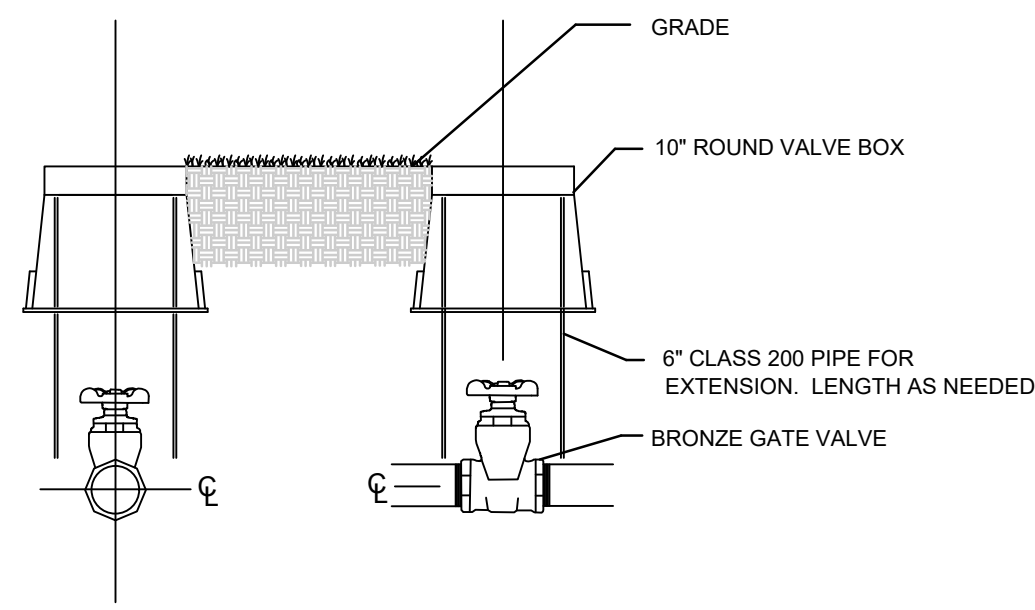
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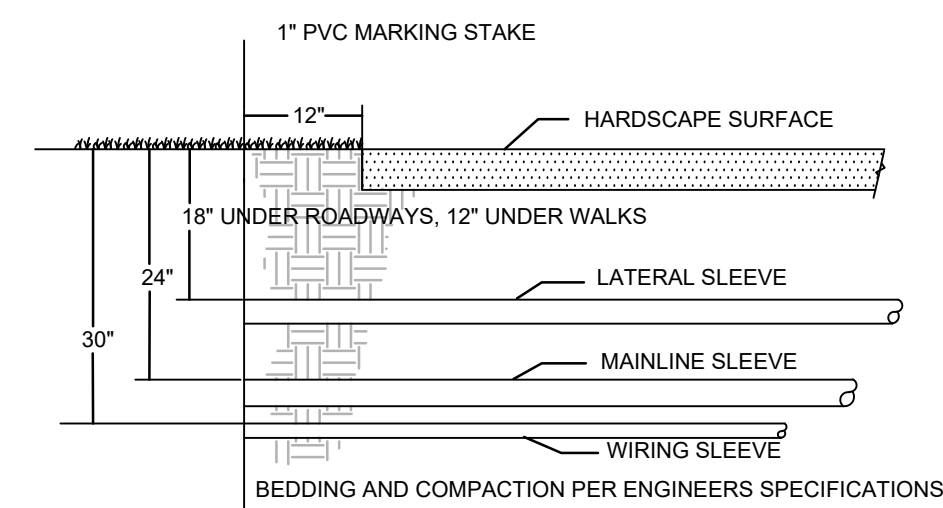
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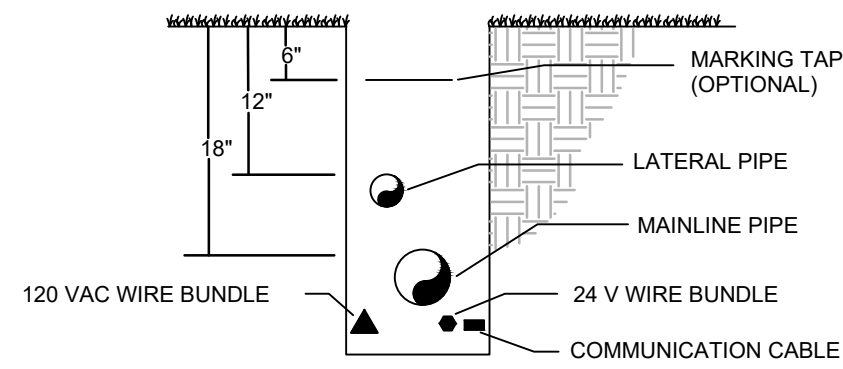
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10 ISOLATION VALVE DETAIL  
NTS

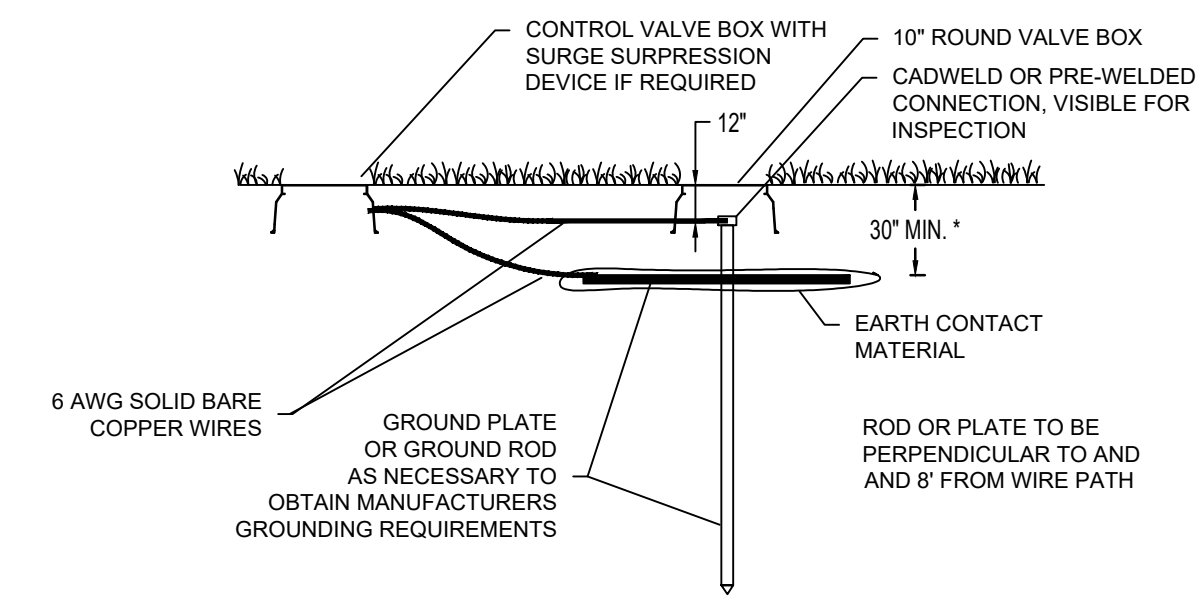


11 SLEEVING  
NTS



12 TRENCH, PIPE AND WIRE  
NTS

SIDE VIEW



13 TWO WIRE GROUNDING POINT DETAIL  
NTS

**PUMP STATION SPECIFICATIONS:**  
 NAME: HOBART PARK  
 STATION MODEL: WIMSTY-5000-2-7.5-230-1-65-80  
 STATION TOTAL PERFORMANCE: 65 GPM @ 80 PSI  
 REGULATE PSI: 80  
 PUMP HORSEPOWER:  
 PUMP NO. 1 7.5HP  
 CHECK VALVE SIZES:  
 PUMP NO. 1 2"  
 ISOLATION VALVE SIZES:  
 DISCHARGE ISOLATION VALVE SIZE: 2"  
 DISCHARGE MANIFOLD SIZE: 2"  
 EXHAUST FAN REQUIREMENTS: 240CFM  
 POWER REQUIREMENTS: 230 V, 60 HZ, 1 PHZ, 21 FLA

**STATION COMPONENTS:**  
 A. PUMP AND MOTOR  
 B. CHECK VALVE  
 C. PRESSURE TRANSDUCER WITH GAUGE  
 D. N/A  
 E. FLOW SENSOR  
 F. N/A  
 G. STATION FAN HOOD MOUNTED  
 H. DEAD-FRONT DISCONNECT PANEL  
 I. PAINTED STEEL ENCLOSURE (SANDSTONE)  
 J. PSI/VAC GAUGE LIQUID FILLED  
 K. PAINTED STEEL BASE (SANDSTONE)  
 L. LEVEL TRANSDUCER  
 M. STATION DISCHARGE ISOLATION VALVE

<input type="checkbox"/> APPROVED AS SUBMITTED	7					DRAWN BY: ESP	DATE: 11/14/18	TITLE: HOBART PARK
<input type="checkbox"/> APPROVED AS NOTED	6					CHECKED BY:	DATE:	IRRIGATION PUMP STATION
<input type="checkbox"/> REVISE AND RESUBMIT	5					THIS DRAWING AND DESIGN IS THE PROPERTY OF WATERTRONICS AND IS NOT TO BE REPRODUCED IN WHOLE OR PART, NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY WATERTRONICS. THIS DRAWING LOANED AND SUBJECT TO RETURN ON DEMAND.		
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NAME:	3					JOB NO.: DRAWING NO. PRSU10627		
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	1							
	NO.	DATE	BY	DESCRIPTION				

12 PUMP CONTROL SYSTEM  
NTS

IRRIGATION DETAILS  
 HOBART PARK  
 BASEBALL FIELD IMPROVEMENTS

**M M MASTELLER & MOLER, INC.**  
 CONSULTING ENGINEERS  
 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960  
 (772) 567-5300 / FAX (772) 794-1106  
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

INDIAN RIVER COUNTY FLORIDA

Clark Irrigation Design & Consulting, Inc.  
 Sustaining Landscapes. Conserving Water.  
 P.O. Box 693 Lavonia, Ga 30553  
 O: 706-356-0309 F: 706-356-1948

STEPHEN E. MOLER, P.E. FL#33193

FLORIDA

DRAWN	MC
DESIGNED	MC
CHECKED	SEM
DATE	11/18
SCALE	NO SCALE
SHEET	9 OF 10
PROJECT NO.	1756

NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

**WaterMax**

5000-2  
SUBMERSIBLE TURBINE  
GENERAL SPECIFICATIONS

**Project Name:** Hobart Park  
**Project Location:**  
**Pumping System Model #:** WMSTV-5000-2-7.5-230-1-65-80  
**Total Design Criteria:** Quantity of Pumps: 1  
**Station Design Capacity:** 65 GPM @ 80 PSI Discharge

SCOPE OF WORK

It is the intention of this specification to describe a self-enclosed, automatic SUBMERSIBLE pump station for a commercial turf irrigation system. This is to be accomplished by using a completely prefabricated pump station conforming to the following specifications.

The pumping station shall be model number WaterMax WMSTV-5000-3 as manufactured by WATERTRONICS, INC. 525 Industrial Drive, P.O. Box 530, Hartland, Wisconsin 53029-0530, [www.watertronics.com](http://www.watertronics.com).

For Pricing Contact:  
**John VanDerCruyssen 262-269-2440**  
[John.VanDerCruyssen@Watertronics.com](mailto:John.VanDerCruyssen@Watertronics.com)

MANUFACTURER REQUIREMENTS

The pump station shall be manufactured by Watertronics, Inc., Hartland, Wisconsin. The following information must be furnished by the contractor or manufacturer's representative within 10 days before bid date, to the Consultant/Engineer for consideration as an equal brand.

- a. A complete specification and submittal of all major components for the proposed pump station with individual pump performance verification.
- b. A detailed pumping station proposal drawing complete with component location, sizes and dimensions specific to the installation.
- c. A complete electrical schematic for all high and low voltage circuits showing breaker/ fuse sizing, wire numbering and color.
- d. Pump station manufacturers U.L. file number for the electrical controls and pump station.
- e. A copy of the manufacturer's certificate of insurance.
- f. Product support technicians shall be capable of accessing all information pertaining to the pumping equipment, e.g. electrical schematics, pump curves, program data, bill of materials, etc. The manufacturer shall have no less than two technicians on call seven days a week.
- g. The pump station manufacturer shall provide factory authorized or factory direct service personnel for the set, start-up, preventative maintenance and general service of the pump system. A factory authorized or factory direct service technician must be located within one-hundred (100) mile radius of the project site. The pump systems technician must have a minimum of 5 years experience. The pump station manufacturer shall provide technical phone support twenty-four hours a day seven days a week.

SECTION 1: GENERAL

- 1.1 The pump station performance at enclosure limits shall be as noted in the technical specifications. The capacity, discharge pressure, and discharge pipe dimensions shall be per the technical specifications. The pump shall operate at no more than 3600 RPM. The power supply to the station shall be as noted in the technical specifications.
- 1.2 The station shall be completely wired, piped, dynamically flow and pressure tested prior to shipment.
- 1.3 Operational sequence: The pump shall activate automatically upon a drop in manifold pressure to an adjustable set point. Operation shall be maintained at an adjustable minimum flow. The pump shall be automatically retired when system flow drops below the minimum adjustable set point and the pressure set point has been met for an adjustable time delay.
- 1.4 Construction shall be of modular form utilizing a steel base structurally adequate to support piping, and electrical equipment as a single integral assembly. All nuts, bolts washers, and fasteners shall be stainless steel, zinc or cadmium plated for corrosion resistance.

SECTION 2: PUMP AND MOTOR

2.1 PUMP

Pump shall be submersible type. Bowl assembly including suction case, intermediate bowls and discharge bowls shall be of cast iron. The impellers shall be of bronze, statically balanced. Each pump shaft is to be turned, ground and polished stainless steel having a chromium content of not less than 12%. It shall be supported by bearings above and below each impeller. The size of each shaft shall be appropriate to transmit the horsepower required by the pump. The pump shall have a corrosive resistant basket type strainer with an area no larger than 1/4".

2.2 MOTOR Submersible

Motor shall be submersible type and meet applicable NEMA standards. The motor shall be of corrosion resistant construction, 316 Stainless Steel shell, splined stainless steel shaft, cast iron end bells, hermetically sealed windings, Kingsbury-type thrust bearings, pressure equalizing diaphragm, removable "water-bloc" lead connector and U.L. 778 recognized.

SECTION 3: PIPING MANIFOLD, VALVES, GAUGES AND OTHER MECHANICAL EQUIPMENT

3.1 FABRICATED PIPING

All fabricated piping shall conform to ASTM specifications A53 for Grade B welded or seamless schedule 40 pipe. All welded flanges shall be forged steel, slip-on or weld neck type. All welded fittings shall be seamless, ASTM Specification A234, with pressure rating not less than 150 PSI.

3.2 CHECK VALVE

Pump check valve shall be of the silent operating type that begin to close as forward velocity diminishes and be fully closed at zero velocity preventing flow reversal. Valve bodies shall be cast from ASTM-126C cast-iron or better and shall be free from blow holes, sand holes, and other impurities. The valve design shall incorporate a center guided, spring loaded poppet, guided at opposite ends and having a short linear stroke that generates a flow area equal to the pipe diameter. Internals shall be machined bronze disc, seat, and stem guide. Valves shall be sized to permit full pump capacity to discharge through them without exceeding a pressure drop of 2.5 PSI. Valves 4" and smaller to be pressure rated for 250 PSI.

3.3 STATION DISCHARGE ISOLATION VALVE

Isolation valves shall be butterfly type with ten position lever for sizes 4" and smaller and gear operators for sizes above 4". All shall be rated at 200 psi WOG working pressure. Trim shall include stainless steel stem, bronze or nickel coated iron, streamlined disc, and full faced resilient seat designed to eliminate need for flange gaskets.

3.4 DRAIN VALVES

Drains are to be provided from any possible low point in the system and are to consist of 1/4" brass petcocks.

3.5 PRESSURE GAUGES

A compound pressure gauge shall be located on the pump suction and on the discharge manifold for easy reading of the suction vacuum and discharge pressure. Pressure gauges shall be 304 stainless steel case and bezel construction. Gauges shall be 2-1/2" diameter, liquid filled. Pressure sensing connection shall be 1/4" NPT lower gauge connection.

3.6 HYDRAULIC PRESSURE REDUCING VALVE (Must be call for in Technical Specification)

A hydraulic pressure-reducing valve shall provide constant discharge pressure to the irrigation system under varying flow requirements. The valve shall be hydraulically operated, diaphragm actuated, angle pattern. The valve shall be equipped with a strainer for protecting the pilot valve, valve chamber and tubing from debris. The valve shall be equipped with an opening speed adjustment.

3.7 VARIABLE FREQUENCY DRIVE PRESSURE REGULATION (Replaces Pressure Reducing Valve) (Option must be called out in the Technical Specifications)

The variable frequency drive shall be IGBT based with selectable carrier frequency up to 15 KHZ. The VFD shall include terminals for incoming power, motor output power and control terminals.

The VFD shall generate a sine-coded, variable voltage/ frequency, three phase output for optimum speed control. The VFD shall incorporate power loss ride-through for a minimum of 2 seconds. VFD protective features shall include current limit, auto restart, short circuit protection, electronic motor overload protection and ground fault protection. The VFD shall have a push button programming display for easy access to operation parameters. The VFD shall be protected on the primary side by fuses of the appropriate amperage. Overload capacity: 120% rated output current for one minute. Voltage Fluctuation: +10%, -15%. Sine wave PWM with full range, automatic torque boost. Frequency Control Range: 0.1 to 400Hz. Frequency Accuracy: Digital, 0.01Hz, Analog, -1%. Motor overload protection, Instantaneous Over current of 180% of rated output current. Over voltage at 820VDC of 460V input. Under voltage: user adjustable. Momentary Power Loss: up to 2 second ride through. Electronic Ground Fault. LED capacitor charge indicator. Input Phase loss alarm. Ambient temperature range of 0 to 50 degrees C. Humidity of 95% non-condensing.

3.8 PRESSURE TRANSDUCER (Required when the VFD option is selected)

A solid state pressure transducer shall provide a noise free, linear output proportional to discharge pressure. Transducer shall be solid-state, strain gauge type with integral voltage regulation and output accuracy not less than 0.25%. Transducer shall be constructed of stainless steel and rated for the pump station discharge pressure called out in the technical specifications.

SECTION 4: ELECTRICAL CONTROLS

4.1 GENERAL PANEL UL FILE NO. E142155

The complete control panel assembly shall be built in accordance with the provisions of the National Electrical Code and shall bear the U.L. listing mark for NEMA 1 industrial control panels along with the pump station manufacturers' U.L. panel shop file number.

4.2 MOTOR COMBINATION STARTER-BREAKER

Each motor shall be protected by a MSP combination starter and breaker. Device will be UL 508 Type F. Motor starter protector and contactor are electrically and mechanically linked by means of a link module and adapter plate. All starters are suitable for use in group installation applications according to NEC-430-53(c).

4.3 MAIN STATION DISCONNECT AND FUSING

A three-pole, service rated main station disconnect shall be mounted in a separate NEMA 4 enclosure outside the pump station enclosure to completely isolate the pump station electrical system from incoming power. The service disconnect shall not be located inside the pump enclosure.

4.4 PROGRAMMABLE LOGIC CONTROLLER

The pump sequence controller shall be an industrial grade PLC with diagnostic LED for monitoring of discrete inputs and outputs. Not less than two additional analog inputs and outputs shall be standard for monitoring and control purposes. The PLC shall contain two communication ports for monitoring and programming purposes. The PLC shall contain an EEPROM, battery backed RAM and non volatile memory for storage of critical configuration data.

4.5 VARIABLE FREQUENCY DRIVE (VFD)

The variable frequency drive shall be IGBT based with selectable carrier frequency up to 15 KHZ. The VFD shall include terminals for incoming power, motor output power and control terminals. The VFD shall generate a sine-coded, variable voltage/frequency, three-phase output for optimum speed control. The VFD shall incorporate power loss ride-through. VFD protective features shall include current limit, short circuit protection, electronic motor overload protection and ground fault protection. The VFD shall have push button programming display for easy access to operation parameters. VFD must be designed for operation in 50 degree C temperature condition.

4.6 SECONDARY CONTROL CIRCUIT FUSES

Single-pole secondary distribution fuses with appropriate ratings shall supply power to the pump starter coil circuit, the control system and to other circuits as specified.

4.7 FLOW SENSOR

The pump station discharge manifold shall incorporate an insertion type, pulse frequency output flow sensor for continuous output to the pump station controls. The flow sensor output pulse shall be conditioned and fed directly to the PLC interrupt input for conversion and display in Gallons Per Minute and totalize. For accuracy and security considerations, conversion to an analog signal prior to PLC input shall not be accepted. Flow sensor accuracy shall be no less than 2% for flow velocities ranging from 1-30 feet per second.

4.8 NATIONAL ELECTRICAL CODE STANDARDS

Electrical controls shall conform to National Electrical Code Standards and be U.L. listed

4.9 LIGHTNING ARRESTOR

The main power supply to the pump station shall be equipped with a secondary lightning arrester having a breakdown current rating of not less than 60,000 Amps at 14,000 Volts discharge. Power supplies 300 Volts and less shall use a 300 Volt arrester with an 800 Volt spark-over Voltage. Power supplies up to 600 Volts shall use a 600 Volt rated arrester with a 1,000 Volt spark-over Voltage.

4.10 CORROSION INHIBITING MODULES

Corrosion inhibiting modules shall be installed in the main electrical control enclosure in accordance with the manufacturer's recommendations.

CONTROL ALARMS:

4.11 LOW DISCHARGE PRESSURE SAFETY SHUTDOWN

Low discharge pressure is to be sensed by the pump starting set point. When the station discharge pressure decreases to this point and maintains a start signal for the time called out in the Technical Specifications, the pumps will be de-energized and remain so until the circuit is manually reset. The operator interface shall illuminate to indicate a low discharge pressure shutdown has occurred.

4.11(a) HIGH DISCHARGE PRESSURE SAFETY SHUTDOWN

High discharge pressure is to be sensed by the pump starting set point. When the station discharge pressure increases to this point and maintains a start signal for the time called out in the Technical Specifications, the pumps will be de-energized and remain so until the circuit is manually reset. The operator interface shall illuminate to indicate a high discharge pressure shutdown has occurred.

4.12 VFD FAULT ALARM (Option required with VFD control system)

The operator interface shall illuminate to indicate a VFD shut off fault. Manual reset required.

SECTION 5: MOUNTING BASE & ENCLOSURE

5.1 MOUNTING BASE

Construction shall include a fabricated steel base assembly to support all components during shipping and to serve as the installed mounting base. Pump station base shall be formed from a single sheet of 1/4" plate resulting in a seamless, one-piece base with rounded edges and corners. The base shall be strategically reinforced beneath as required to provide additional support and strength. Standard base dimensions are 50" long, 34" wide, 3 1/2" high. The base shall be drilled and tapped allowing the pump and manifold to be secured to the base. The exterior of the base will be drilled to accept anchoring bolts. The base shall be shot blasted to bare metal prior to the painting process.

NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

**M M MASTELLER & MOLER, INC.**  
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CERTIFICATE OF AUTHORIZATION NUMBER 4204


INDIAN RIVER COUNTY FLORIDA

# PUMP CONTROL SYSTEM SPECIFICATIONS

## HOBART PARK

## BASEBALL FIELD IMPROVEMENTS

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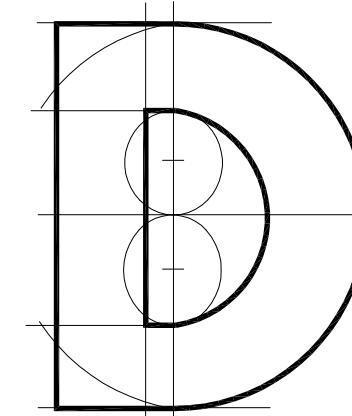
  
**Clark Irrigation Design & Consulting, Inc.**  
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O: 706-356-0309 F: 706-356-1948

DRAWN	MC
DESIGNED	MC
CHECKED	SEM
DATE	11/18
SCALE	NO SCALE
SHEET	10 OF 10
PROJECT NO.:	1756

**STEPHEN E. MOLER, P.E. FL#33193**

# PROPOSED CONCESSION & RESTROOM BUILDING HOBART PARK, INDIAN RIVER COUNTY, FLORIDA

March 11, 2024  
BID SET



**DONADIO**  
& Associates, Architects P.A.  
A Spiezle Group Inc. Company



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STRUCTURAL ENGINEER  
**M L ENGINEERING INC.**  
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Vero Beach, Florida 32960  
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MECH., ELEC. & PLUMBING ENGINEER  
**TREASURE COAST ENGINEERING**  
4925 13th Lane  
Vero Beach, FL 32966  
Tel.: 772/567-1007  
Fax.: 772/567-1084

## INDEX OF DRAWINGS

I/O	Dwg. No.	Drawing Name
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## ARCHITECTURAL DRAWINGS

I/O	Dwg. No.	Drawing Name
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<input checked="" type="checkbox"/>	A2.10	FLOOR PLAN & REFLECTED CEILING PLAN
<input checked="" type="checkbox"/>	A2.20	ROOF PLAN & ROOF DETAILS
<input checked="" type="checkbox"/>	A2.30	ENLARGED PLANS & INTERIOR ELEVATIONS
<input checked="" type="checkbox"/>	A3.10	EXTERIOR ELEVATIONS
<input checked="" type="checkbox"/>	A4.10	SECTIONS
<input checked="" type="checkbox"/>	A6.10	FINISH & DOOR SCHEDULES AND DOOR & WINDOW DETAILS

## STRUCTURAL DRAWINGS

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<input checked="" type="checkbox"/>	S-2	TYPICAL SECTIONS & DETAILS, SCHEDULES & GENERAL NOTES

## MECHANICAL DRAWINGS

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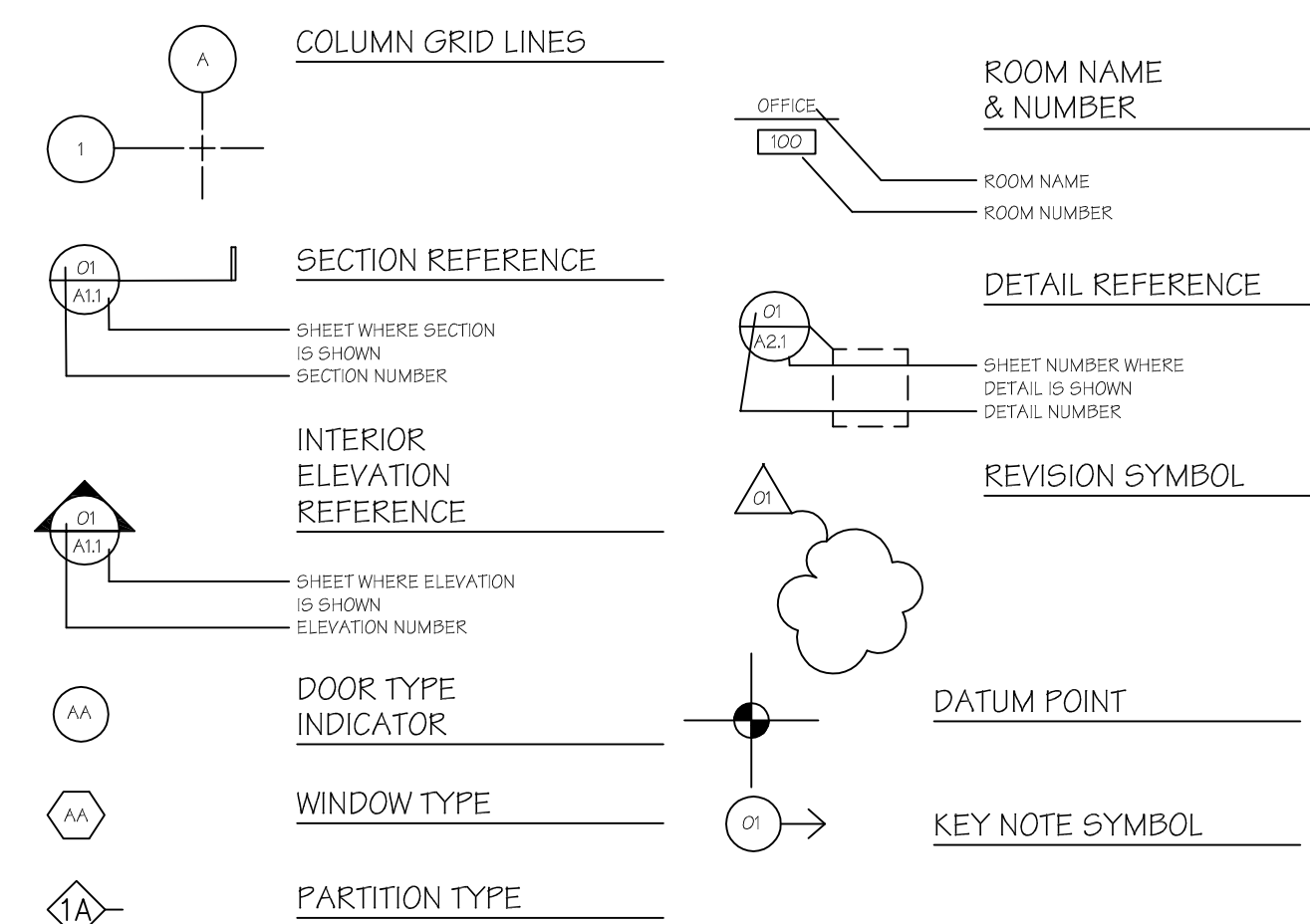
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## PLUMBING DRAWINGS

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## ARCHITECTURAL SYMBOLS







Project:  
**HOBART PARK**  
**CONCESSION & RESTROOM BUILDING**

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues:

No.	Date	Description
A.	01.30.18	CLIENT REVIEW
B.	02.20.18	CLIENT REVIEW
C.	02.22.18	CLIENT REVIEW
D.	05.15.18	SPA SUBMISSION
E.	12.04.18	FINAL DOCUMENTS
F.	3.26.21	PERMIT DOCUMENTS
G.	10.04.23	BLDG. PERMIT RESUBMITTAL
H.	10.24.23	B.DEPT. RESPONSE
I.	03.11.24	BID SET

Architect:

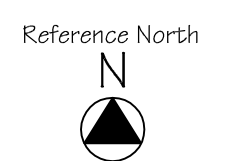


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 A Spieze Group Inc. Company

**spieze**  
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Consultant:


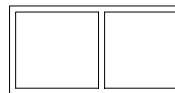

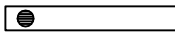


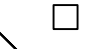
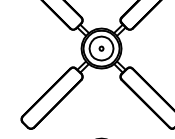

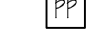
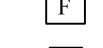


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**FLOOR PLAN & REFLECTED CEILING PLAN**



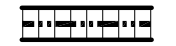

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 Chd: JEL  
 A.J.D.  
 Project No.:  
 2018-04  
 Sheet No.:

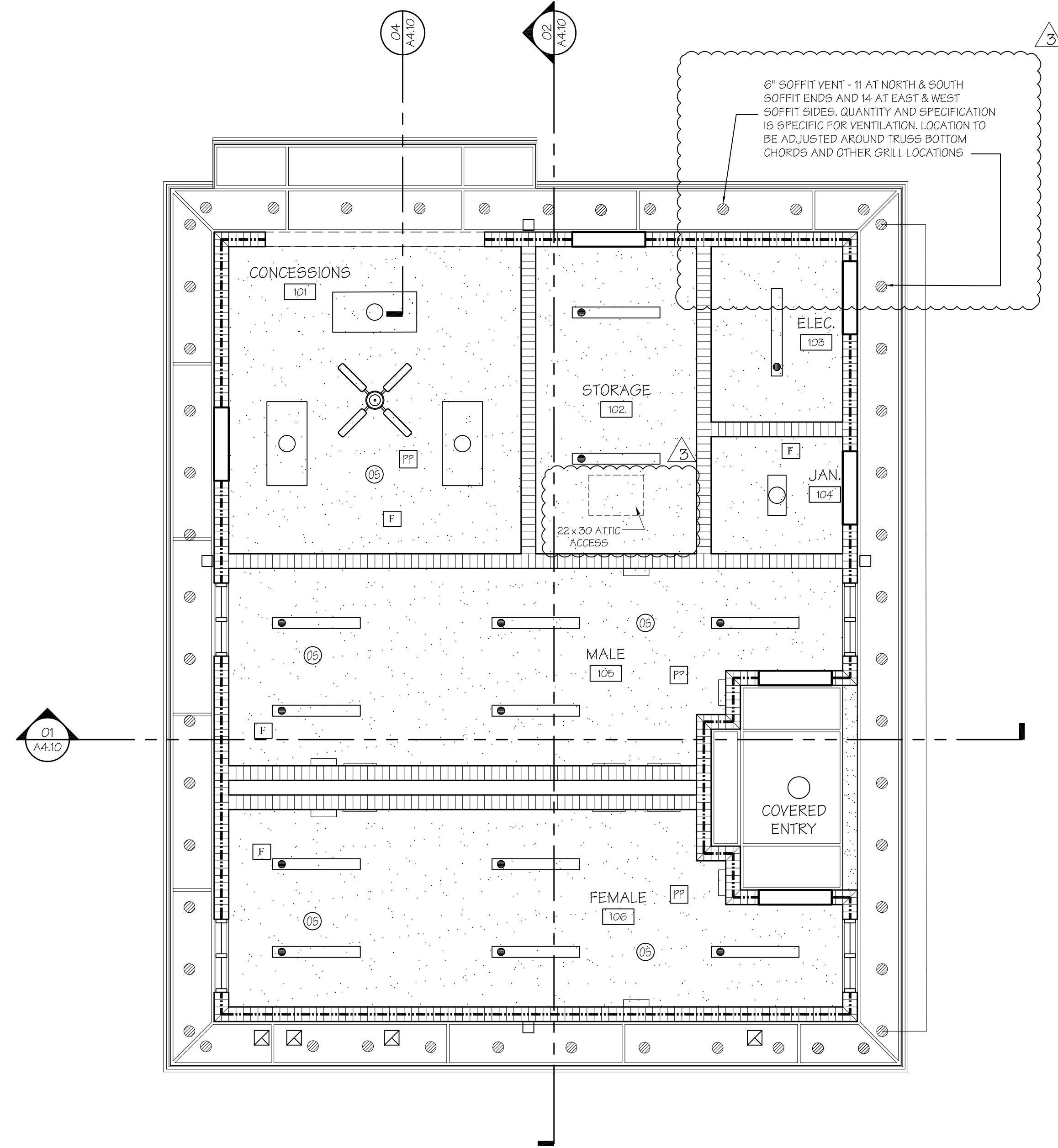
Cert. No.: 12,456  
 Date Signed: **A2.10**

**REFLECTED CEILING LEGEND**

-  GYPSUM WALLBOARD CEILING
-  FIBER CEMENT SOFFIT PANELS AND PAINTED WOOD BATTENS
-  SURFACE MOUNTED LED FIXTURE
-  SURFACE MOUNTED 1 X 4 LED FIXTURE
-  SURFACE MOUNTED 1 X 2 LED FIXTURE
-  SURFACE MOUNTED 2 X 4 LED FIXTURE
-  LED WALL PACK FIXTURE
-  CEILING FAN
-  CEILING MOUNTED SENSOR
-  POWER PACK
-  EXHAUST FAN
-  SOFFIT EXHAUST GRILLE
-  SOFFIT VENT

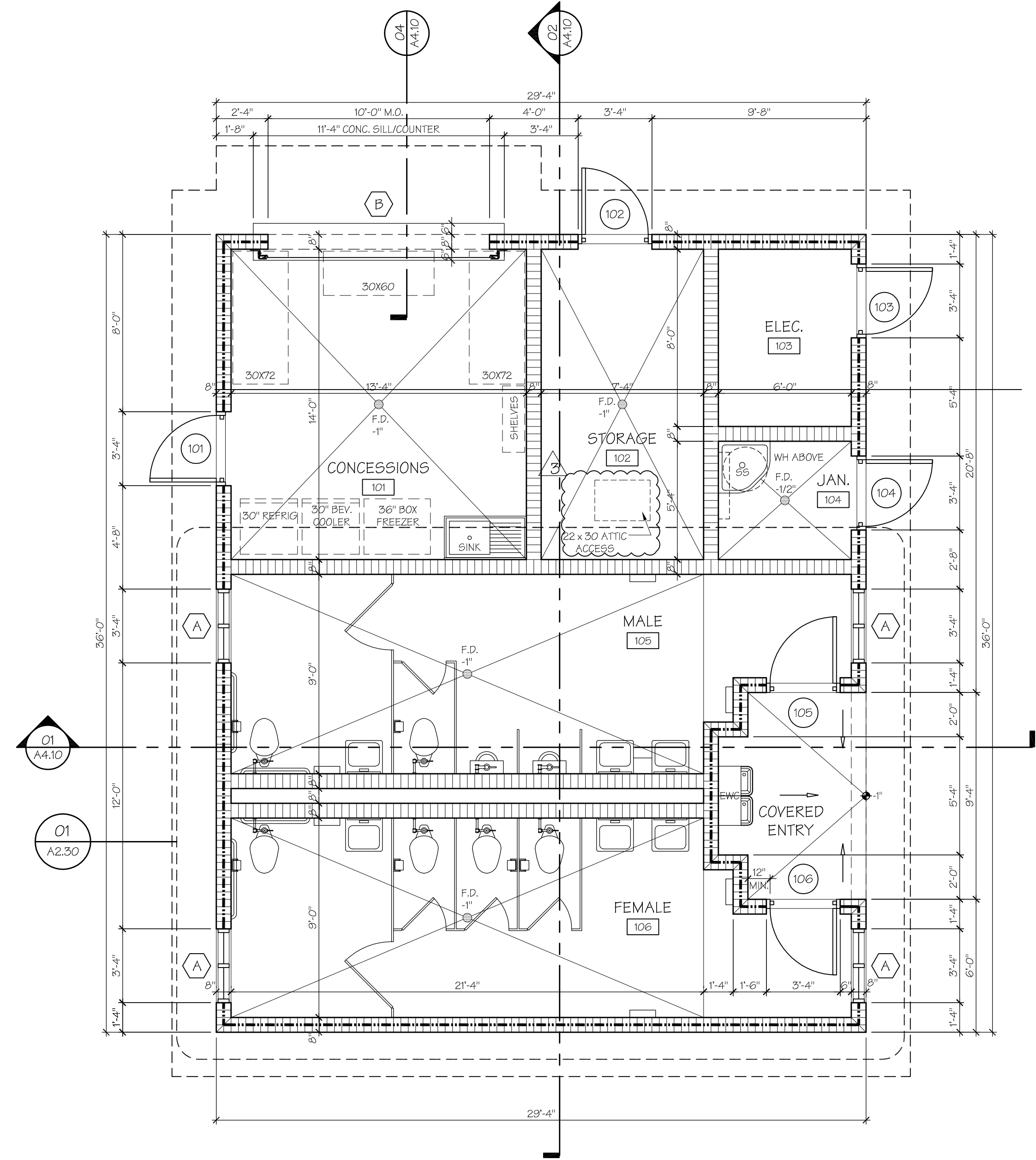
**WALL LEGEND**

-  EXTERIOR 2-HR FIRE-RATED MASONRY WALL  
 8" CMU WITH MIN. 5/8" EXTERIOR STUCCO AND FOAM-FILLED CELLS. (USE CMU WITH A D-2 CLASSIFICATION AND CONSTRUCT PER UL DESIGN U905 OR U906) - SEE STRUCT. DWGS. FOR MASONRY WALL REINFORCING & TIE REQUIREMENTS.
-  INTERIOR NON-RATED MASONRY WALL  
 8" CMU - SEE STRUCT. DWGS. FOR MASONRY WALL REINFORCING & TIE REQUIREMENTS.



**02 REFLECTED CEILING PLAN**

Scale: 1/4"=1'-0"



**01 FLOOR PLAN**

GROSS SQUARE FOOTAGE = 999 G.S.F.

Scale: 1/4"=1'-0"

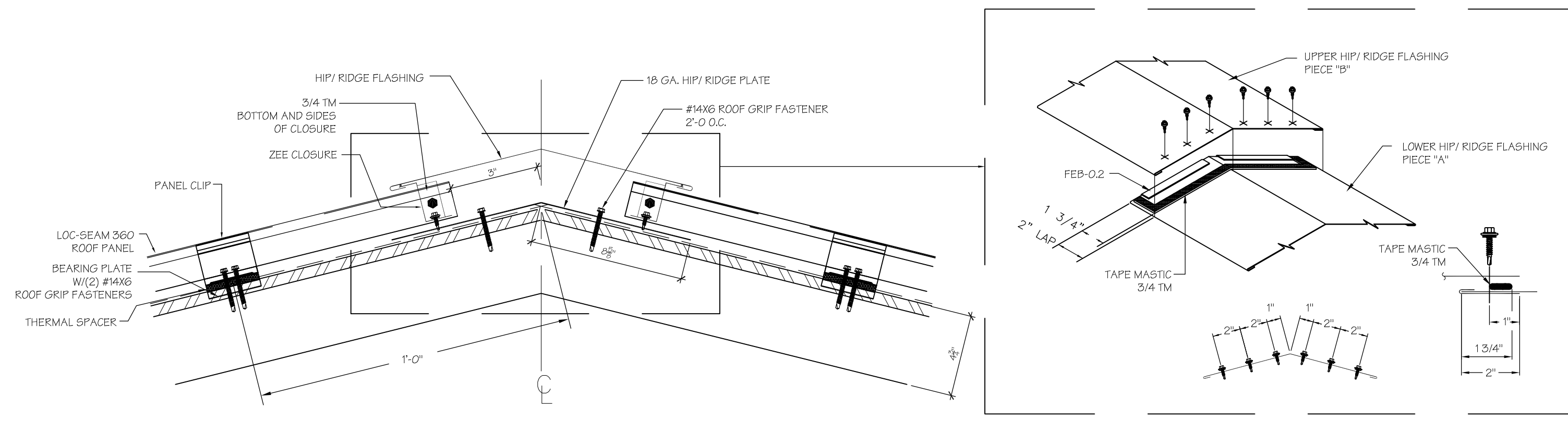
Project:  
**HOBART PARK**  
**CONCESSION & RESTROOM BUILDING**

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues:

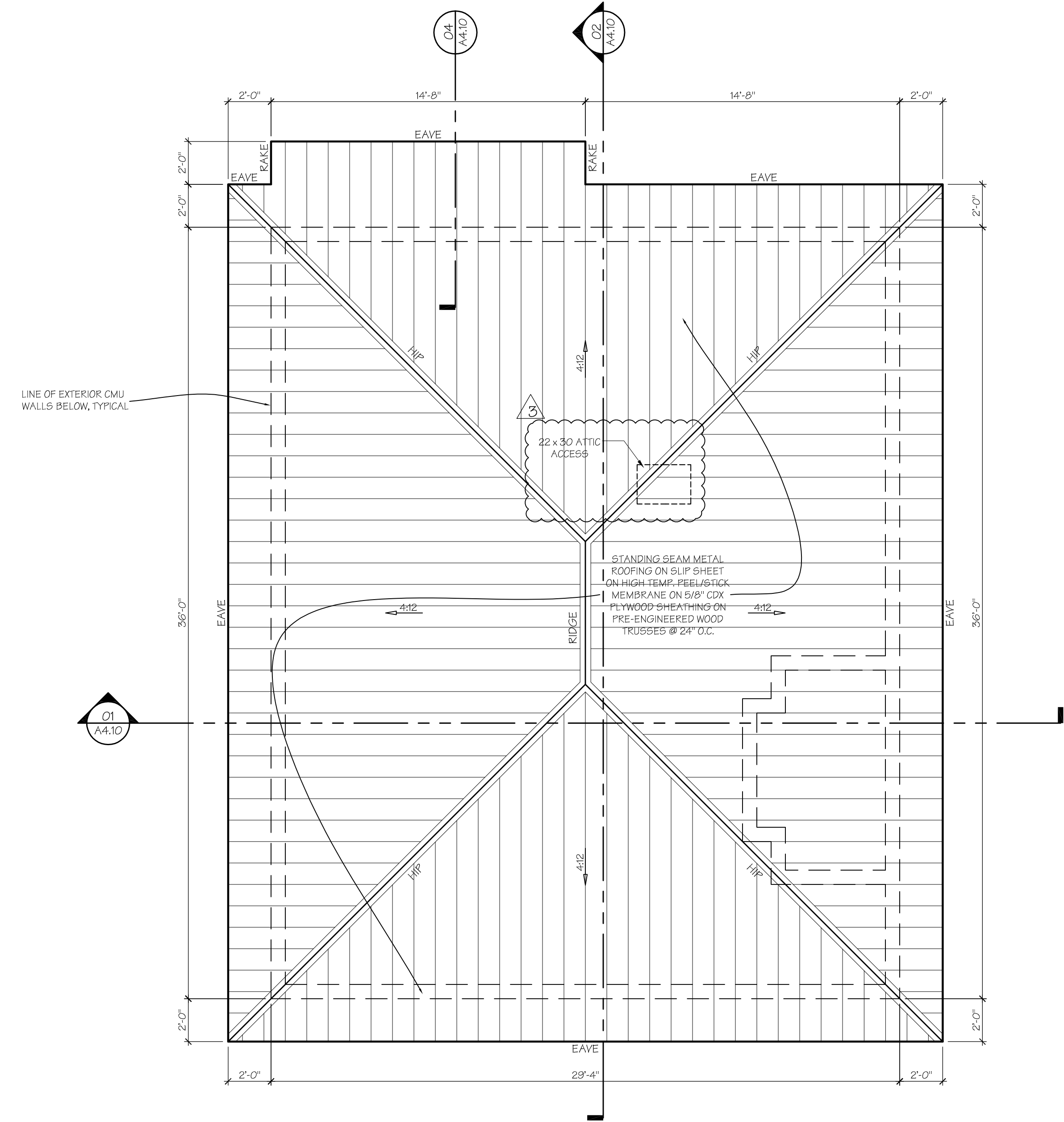
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B.	3.26.21	PERMIT DOCUMENTS
G.	10.03.23	PERMIT RE-SUBMITTAL
H.	10.24.23	B.DEPT. RESPONSE $\Delta$ 3
I.	03.11.24	BID SET



HOLES MUST BE DRILLED PRIOR TO APPLYING MASTIC. TEMPORARILY LAP PIECE 'B' OVER PIECE 'A'. PRE-DRILL THE REQUIRED NUMBER OF 1/4" HOLES THROUGH BOTH PIECES OF RIDGE FLASHING BUT NOT BACKUP FLASHING. SLIDE PIECE 'B' BACK AND APPLY TAPE MASTIC AND BACKUP FLASHING ON PIECE 'A' AS SHOWN. LAP PIECE 'B' OVER PIECE 'A' BEING CAREFUL TO ALIGN HOLES. INSTALL ROOF FASTENERS AS SHOWN. CONTINUE PROCESS ALONG HIP.

02 TYPICAL HIP/RIDGE DETAIL

SCALE: N.T.S.



01 ROOF PLAN

Scale: 1/4"=1'-0"

Architect:

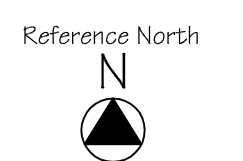
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 Fax: 772.262.6000  
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Consultant:

Drawing Title:

ROOF PLAN & ROOF DETAILS



Dwg. File:	Plot File:
Chd: S.M.	XREF File:
A.J.D.	
Project No.:	Plot File:
2019-04	
Sheet No.:	

Cert. No.: 12,456

Date Signed: **A2.20**

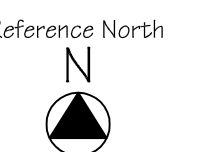
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B.	3.26.21	PERMIT DOCUMENTS
C.	03.11.24	BID SET



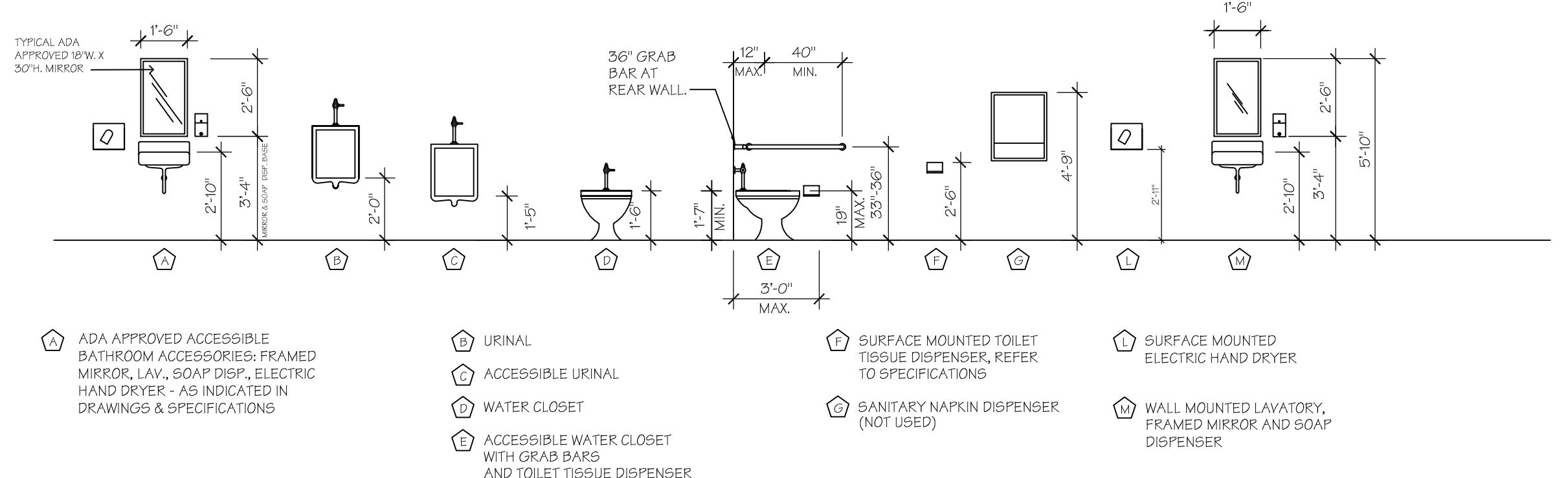
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& Associates, Architects P.A.  
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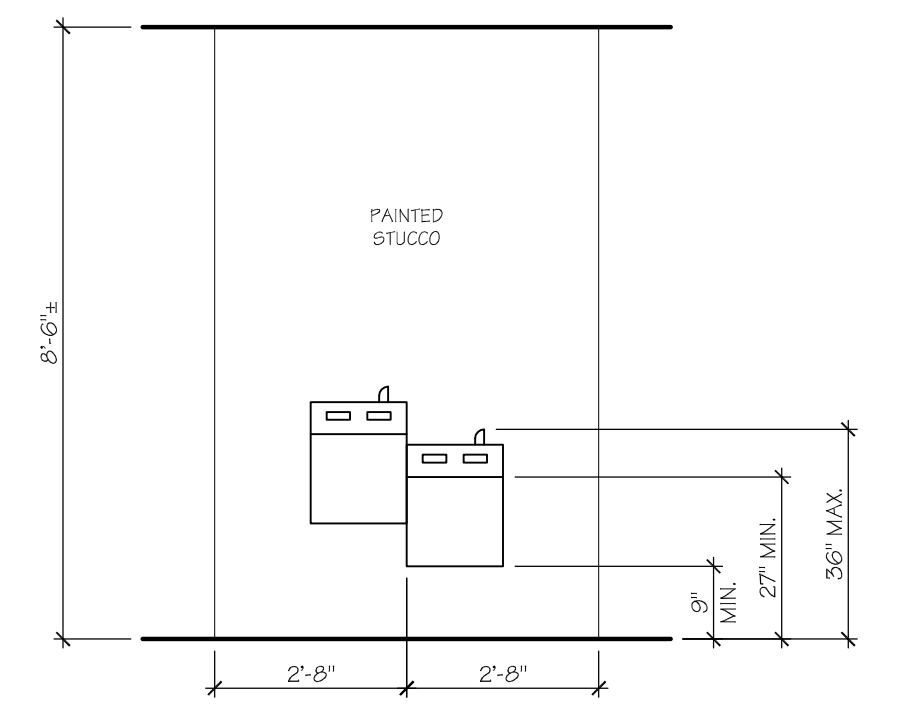
SPIEZIE ARCHITECTURAL GROUP INC.  
2001 9th Avenue, Suite 305  
Vero Beach, FL 32909  
Tel: 772-794-2393  
Fax: 772-562-2400  
License No. 14-00002258  
www.spiezie.com



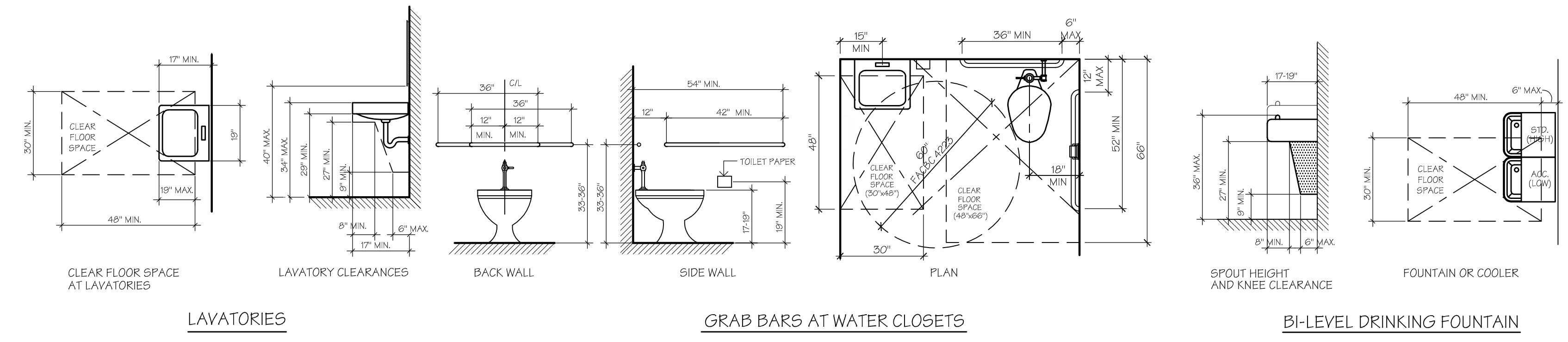
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Chub: 5.M.	A.1.D.
Project No.:	Plot File:
2018-04	
Sheet No.:	



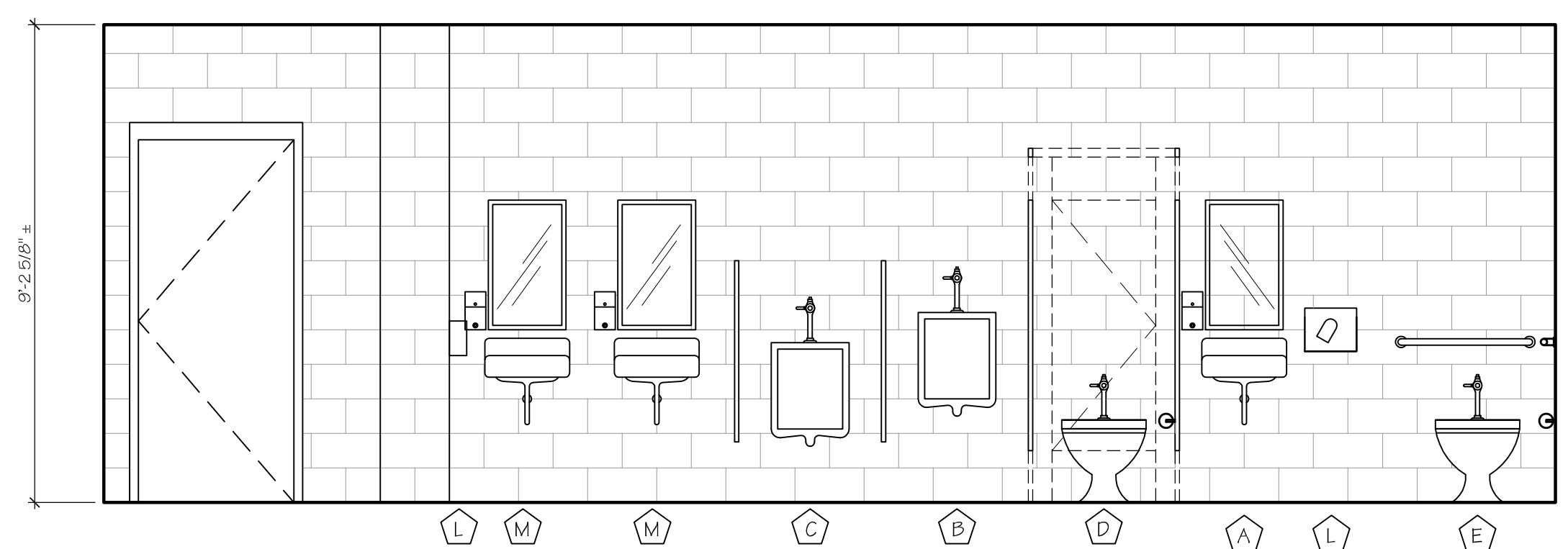
02 TYPICAL TOILET FIXTURE VERTICAL DIMENSIONS AND ACCESSORY LEGEND



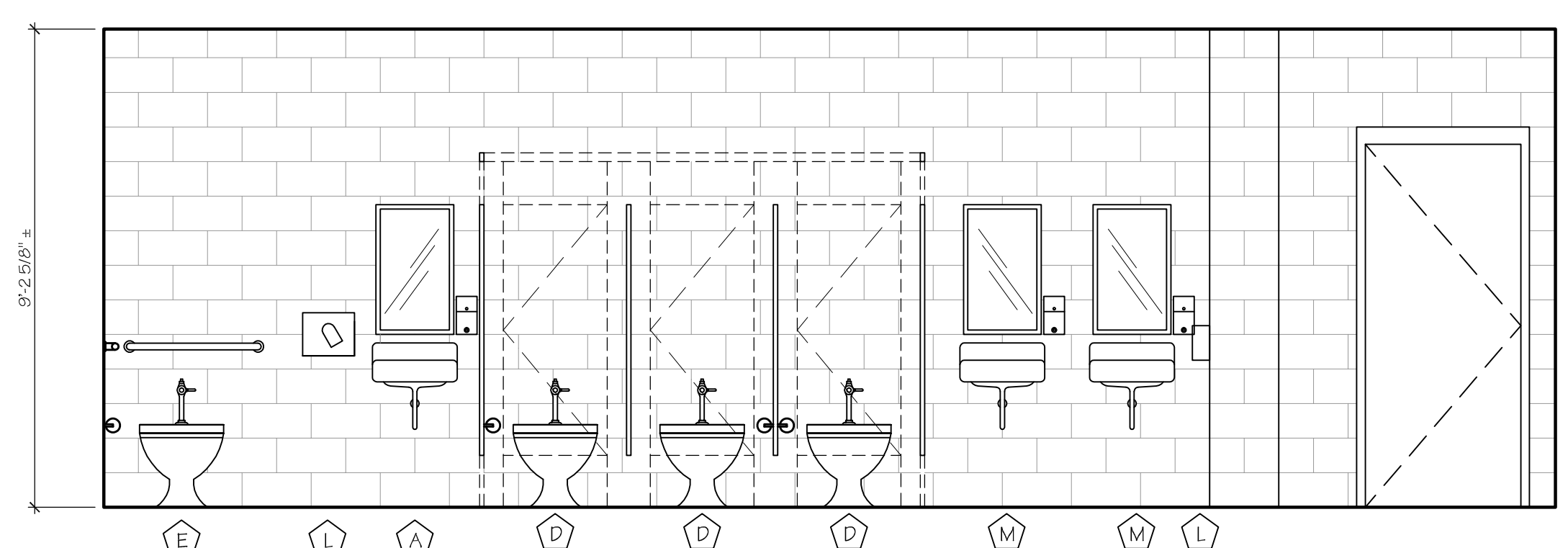
03 WATER COOLER ELEVATION  
Scale: 3/8"=1'-0"



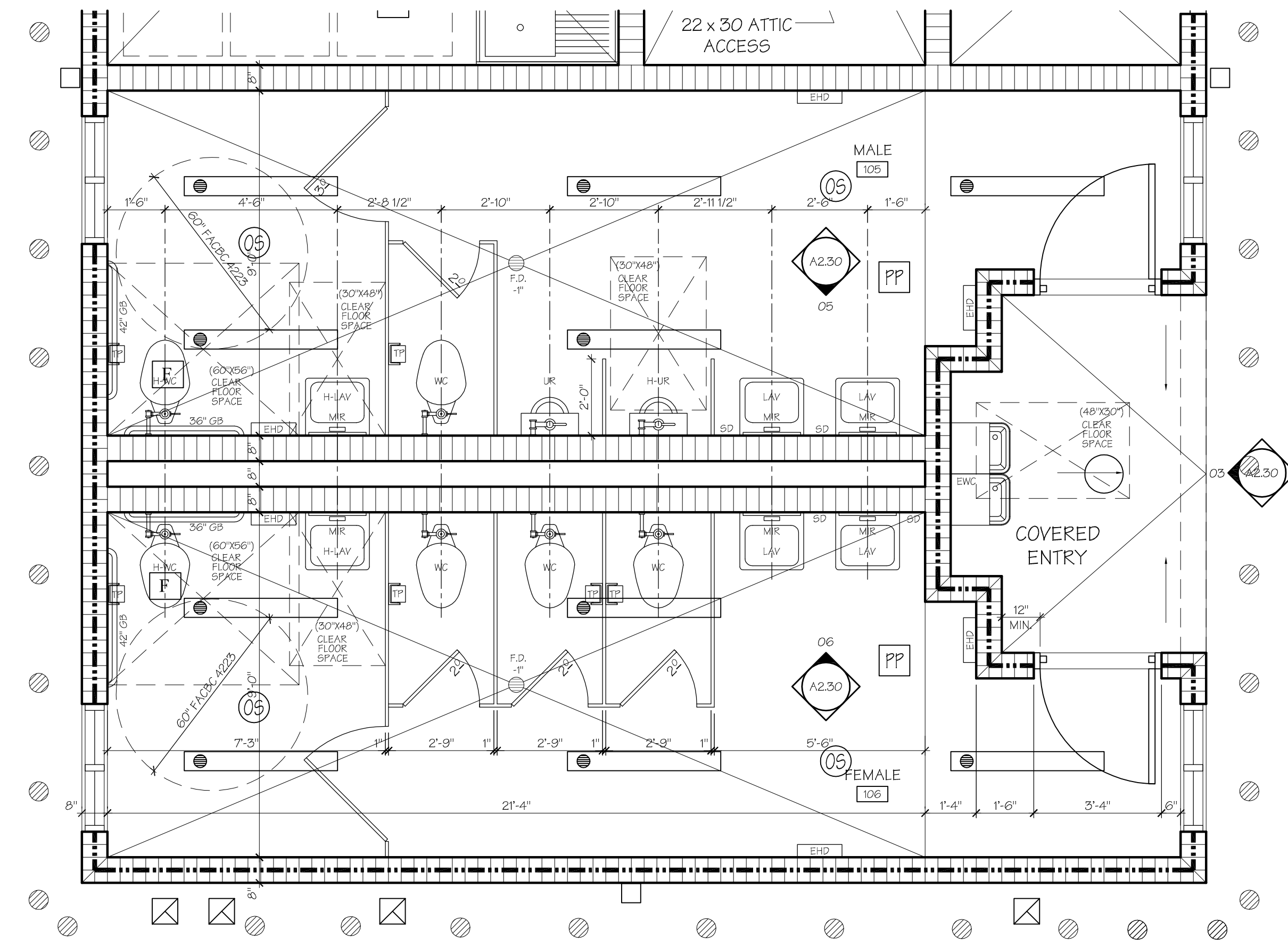
04 ADA DETAILS



05 MALE #105  
Scale: 3/8"=1'-0"



06 FEMALE #106  
Scale: 3/8"=1'-0"



01 ENLARGED PLAN - MALE #105 & FEMALE #106  
Scale: 3/8"=1'-0"

Project:

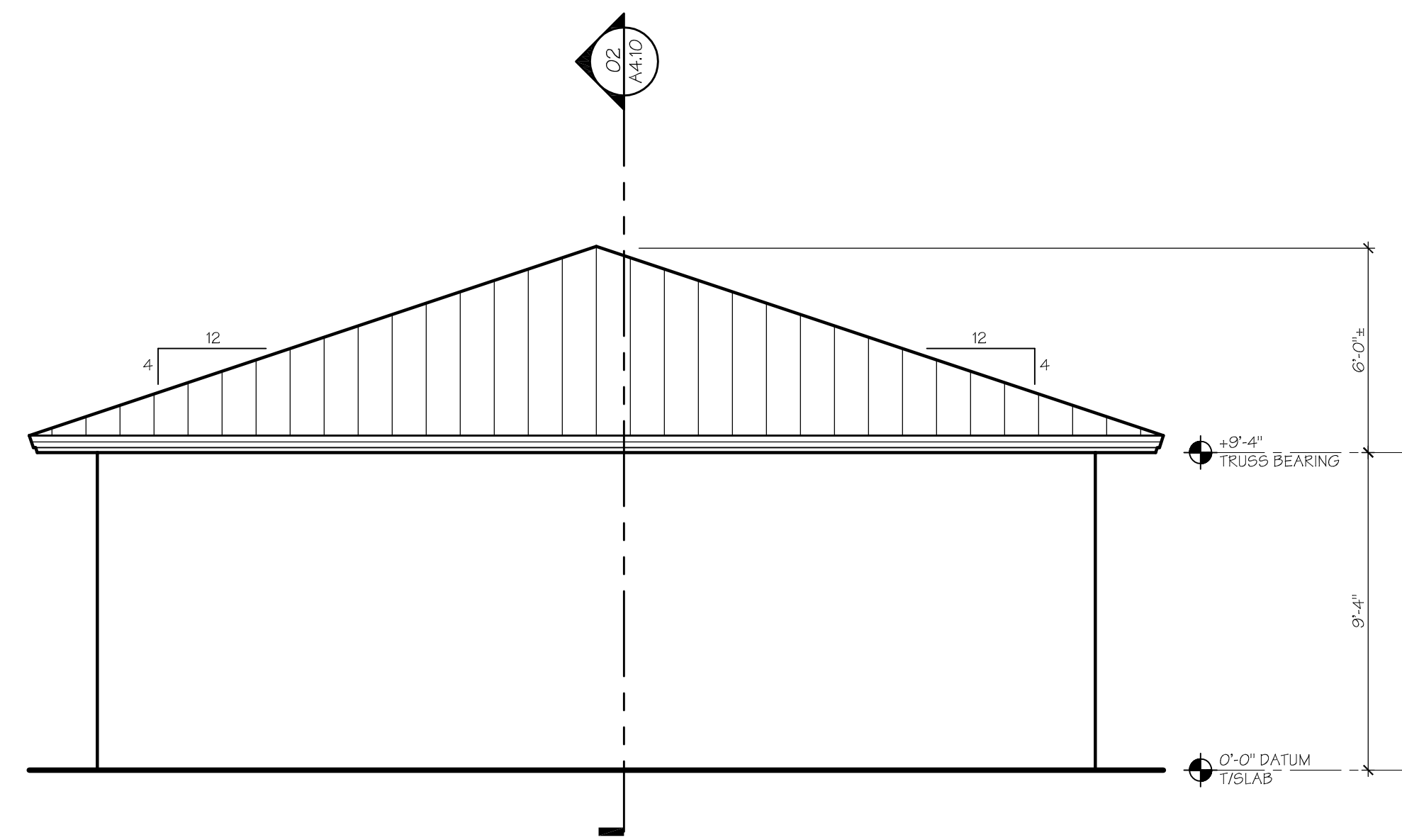
HOBART PARK

# CONCESSION & RESTROOM BUILDING

INDIAN RIVER COUNTY, FLORIDA

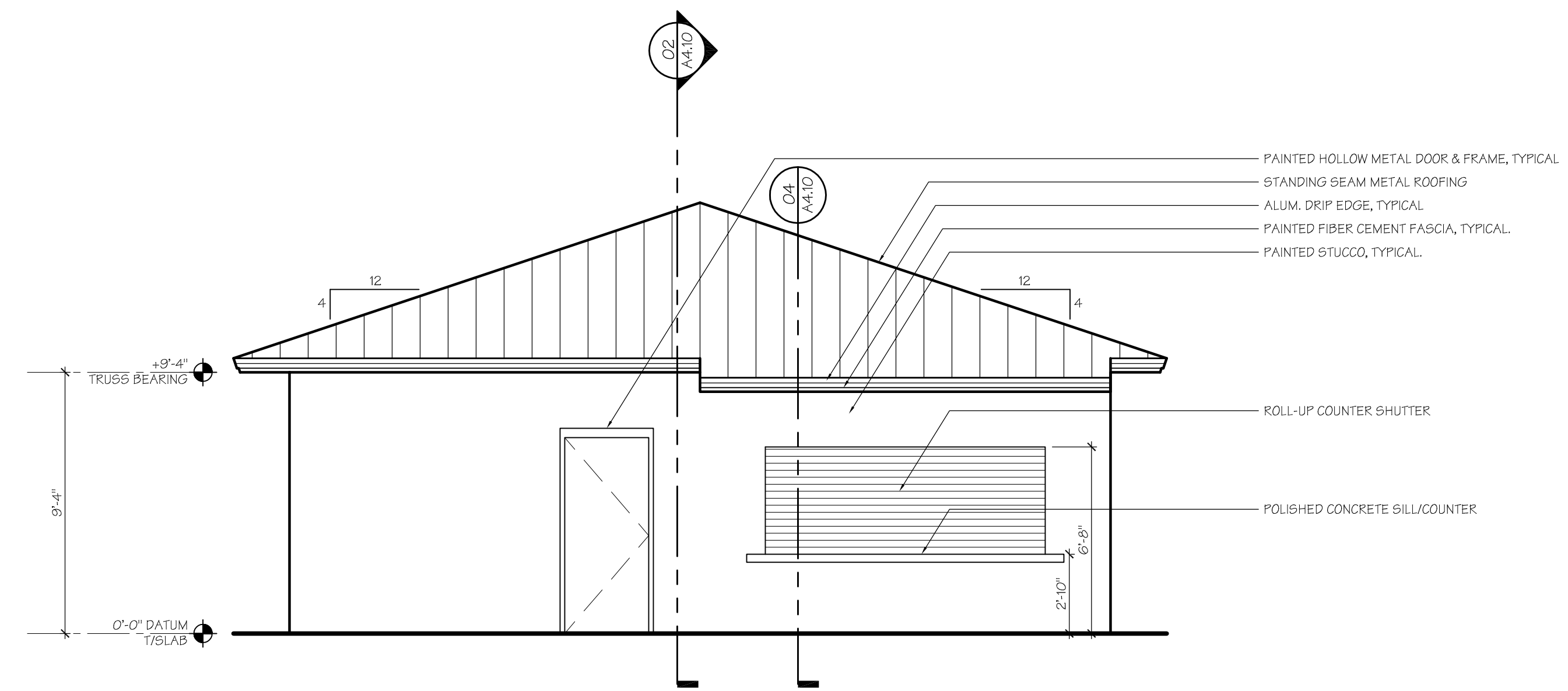
Key Plan:

Issues:		
No.:	Date:	Description:
A.	01.30.18	CLIENT REVIEW
B.	05.15.18	SPA SUBMISSION
C.	12.04.18	FINAL DOCUMENTS
D.	3.26.21	PERMIT DOCUMENTS
E.	03.11.24	BID SET



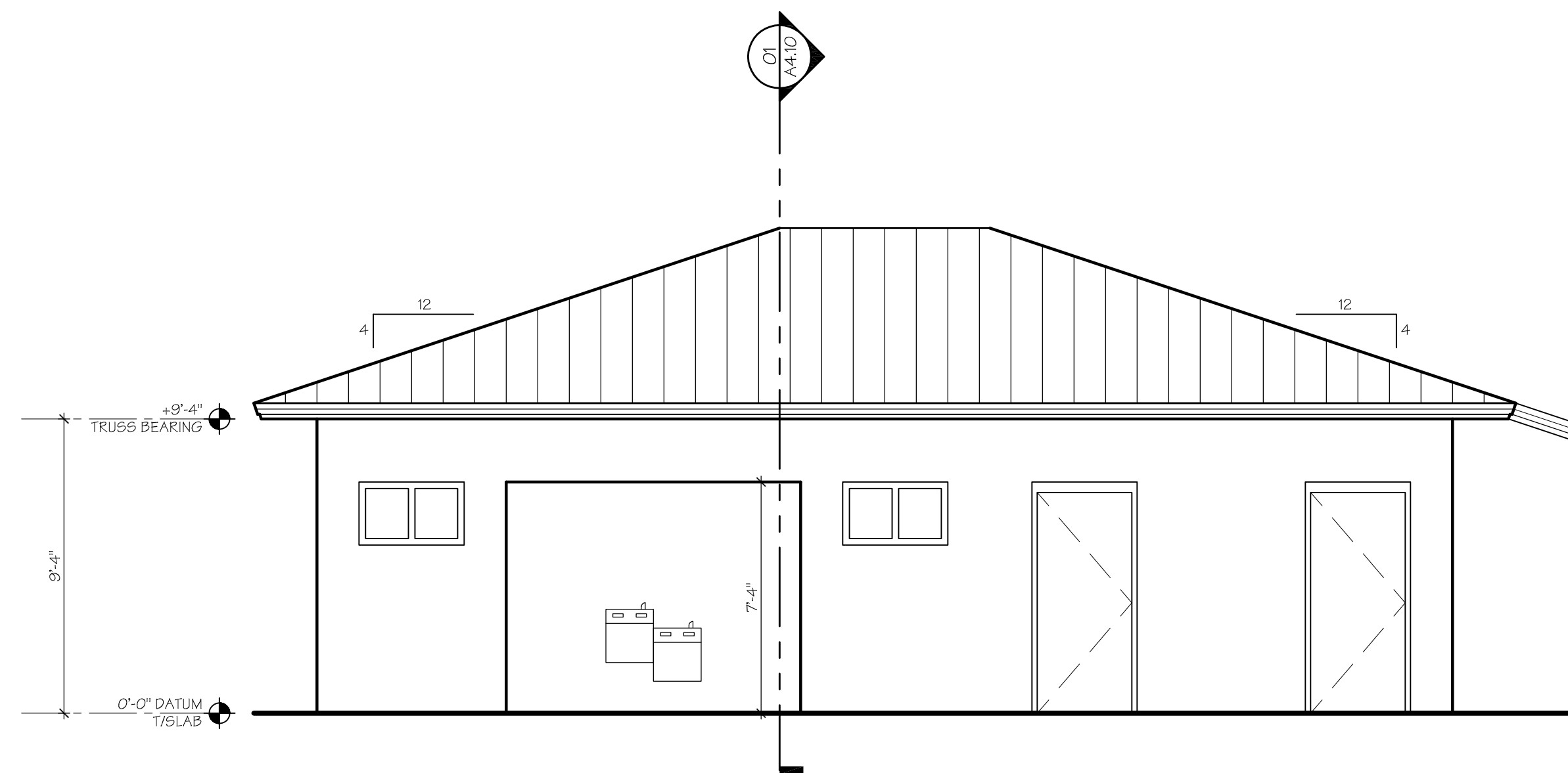
O1 SOUTH ELEVATION

1/4" = 1'-0"



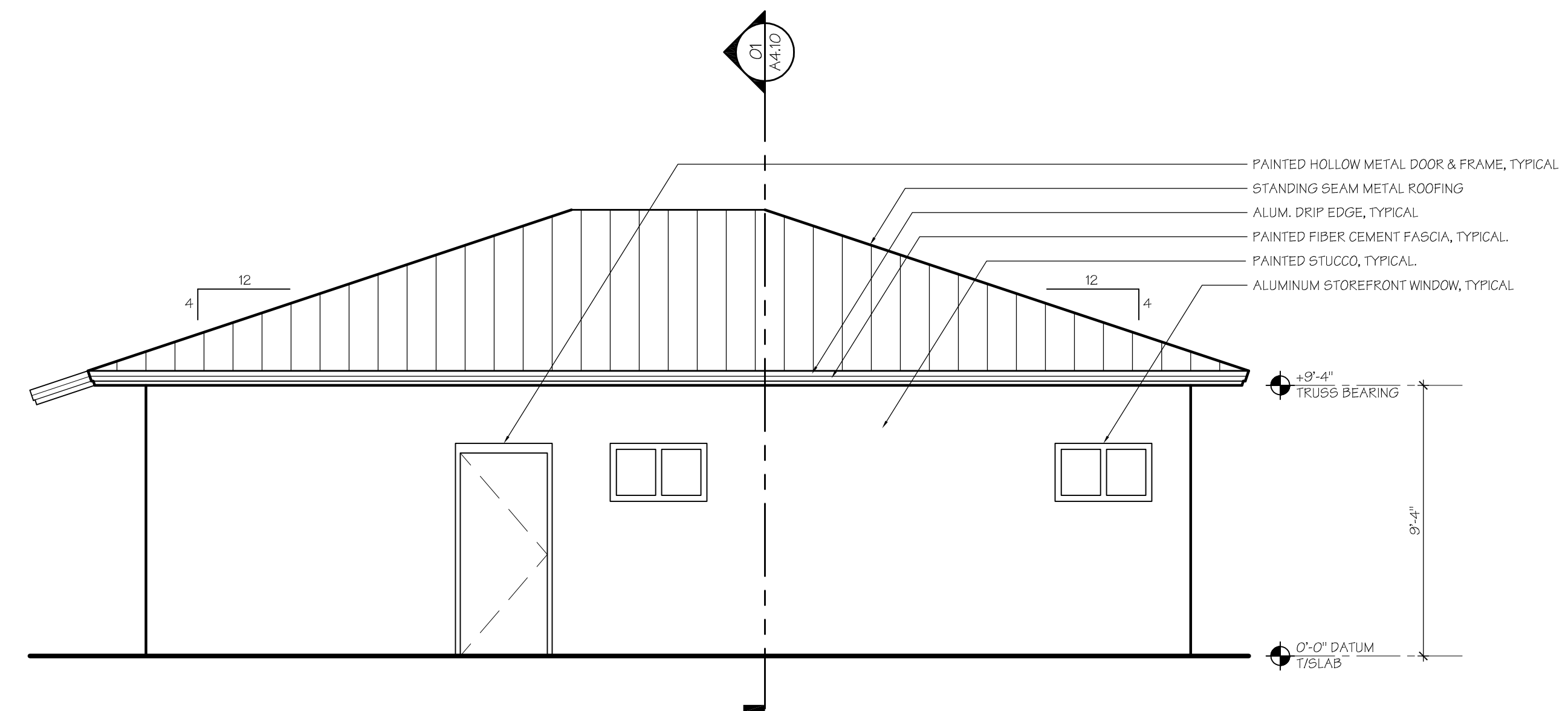
O2 NORTH ELEVATION

1/4" = 1'-0"



O3 EAST ELEVATION

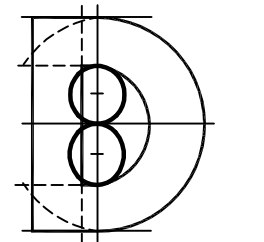
1/4" = 1'-0"



O4 WEST ELEVATION

1/4" = 1'-0"

Architect:



**DONADIO**  
& Associates, Architects P.A.

A Spiezie Group Inc. Company



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 Fax: 772.262.2000  
 License No. A-42052250  
 www.spiezie.com

Consultant:

Drawing Title:

EXTERIOR ELEVATIONS

Reference North



Dwg. File:

XREF File:

Plot File:

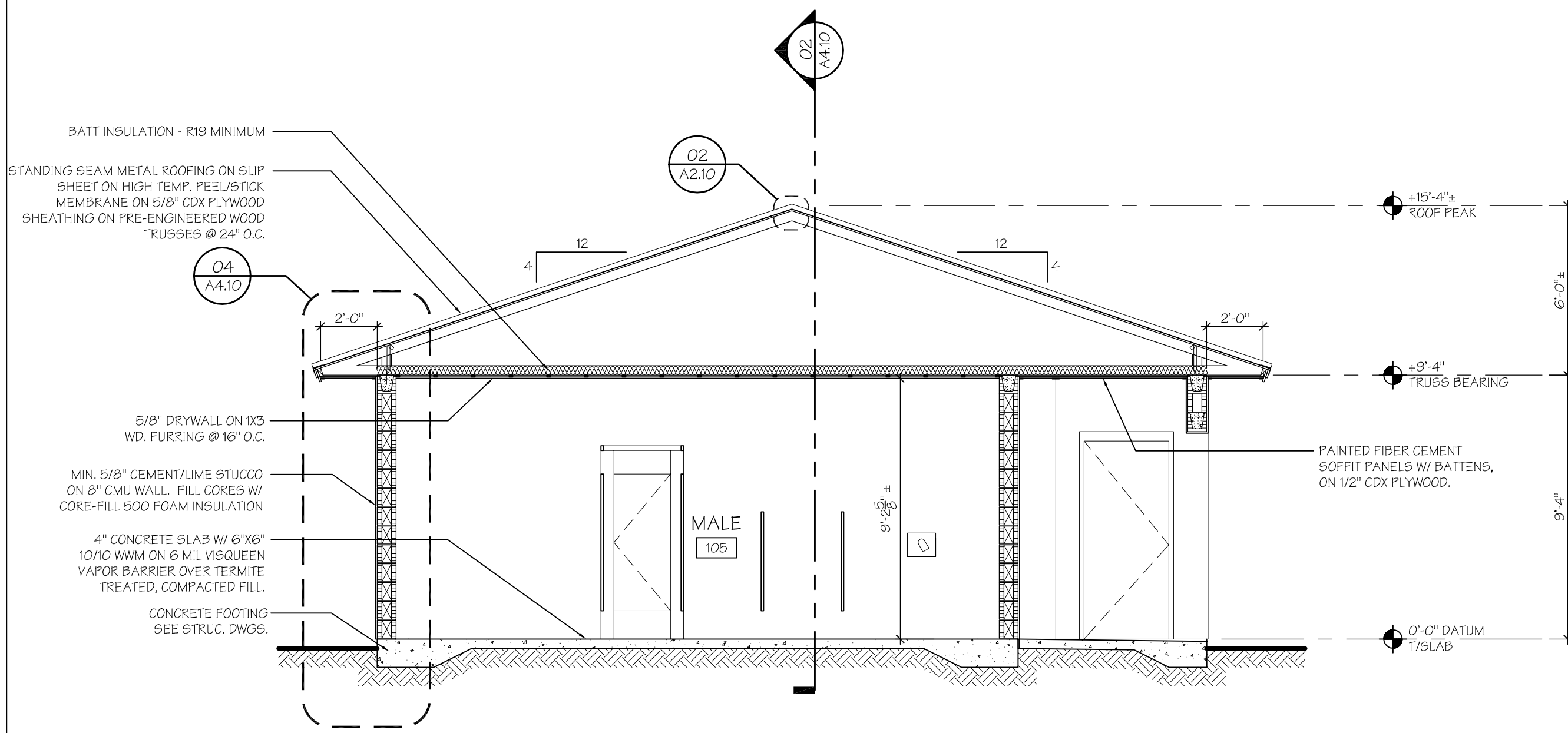
Sheet No.:

Cert. No.: 12,456

Date Signed:

A3.10

Issues:	No.:	Date:	Description:
	A.	12.04.18	FINAL DOCUMENTS
	B.	3.26.21	PERMIT DOCUMENTS
	G.	10.03.23	PERMIT RE-SUBMITTAL
	H.	10.24.23	B.DEPT RESPONSE
	I.	03.11.24	BID SET

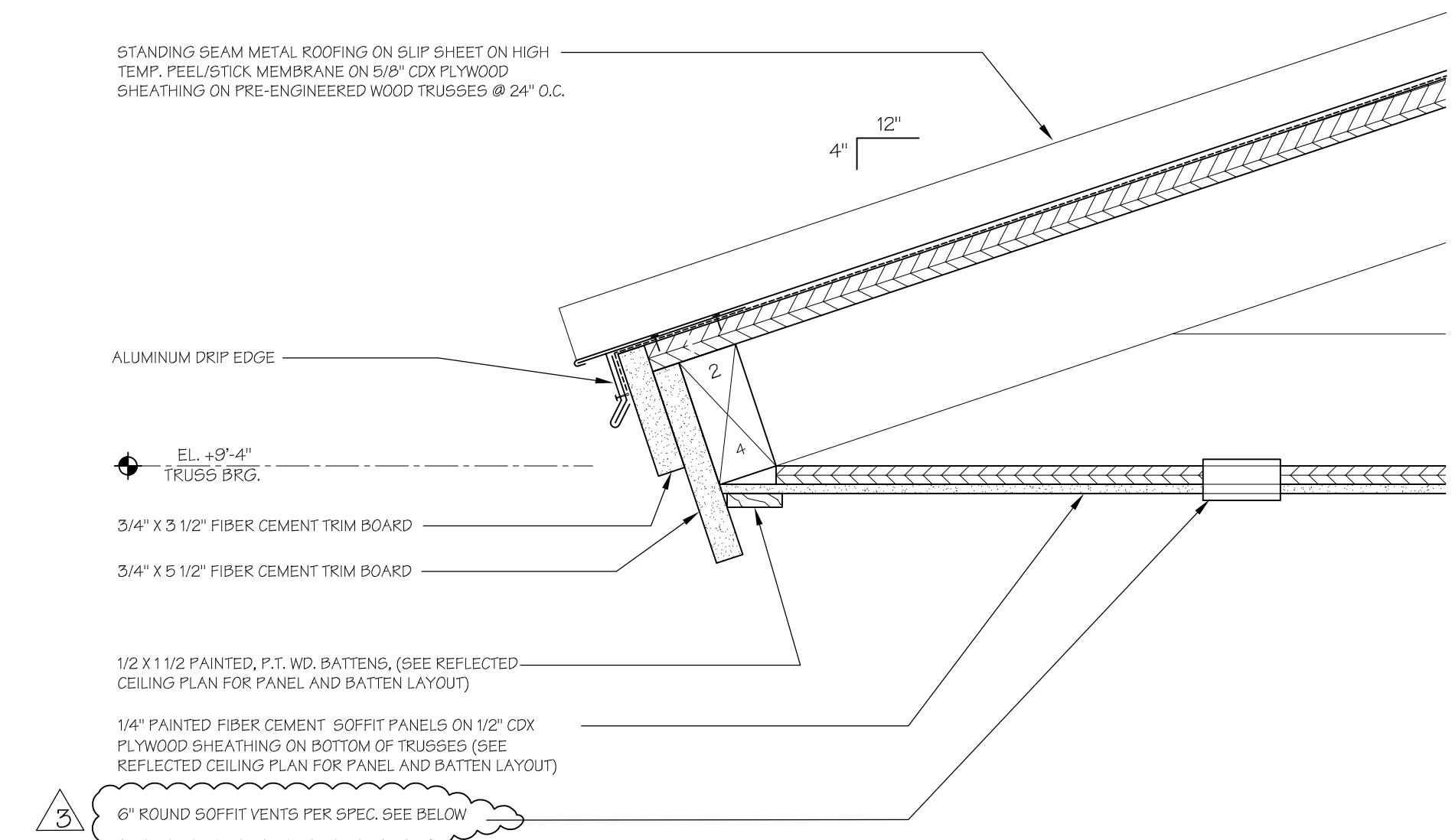


01 BUILDING SECTION

1/4" = 1'-0"

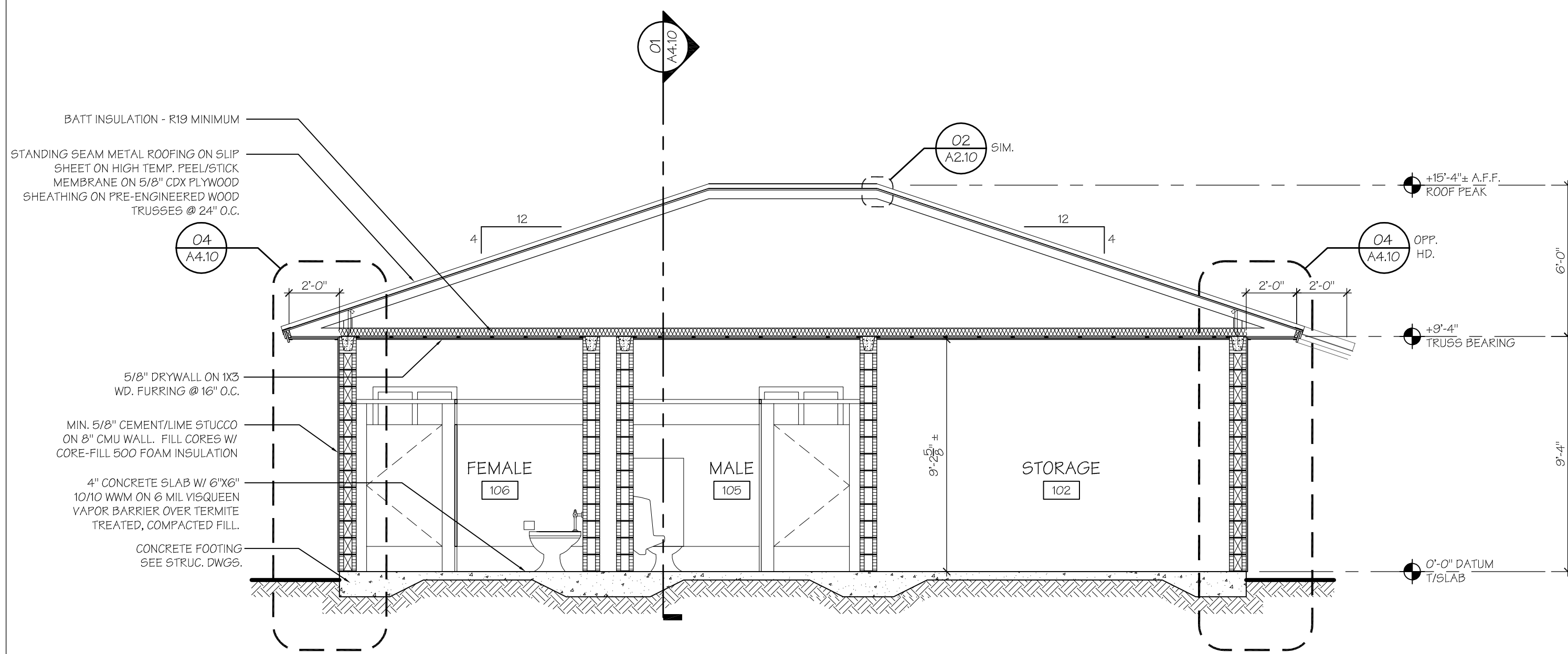
**ROOF ATTIC VENTILATION:**  
1 S.F. VENTILATION PER EA. 150 S.F. OF ATTIC AREA.  
ATTIC AREA = 1333 S.F. / 150 S.F. = 8.8 S.F.  
8.8 X 144 = 1268 SQ. INCHES  
6" Ø SOFFIT VENTS = 25.58 SQ. INCHES  
1268 / 25.58 = 50 VENTS TOTAL.

**SOFFIT SPECS:**  
"FAMCO" UNDER EAVE VENTS- UEV6 - 6" ROUND POLYPROPYLENE VENT IN WHITE WITH 25.58 NET FREE AREA.  
ALSO SEE SHEET A2.10 REFLECTED CEILING PLAN



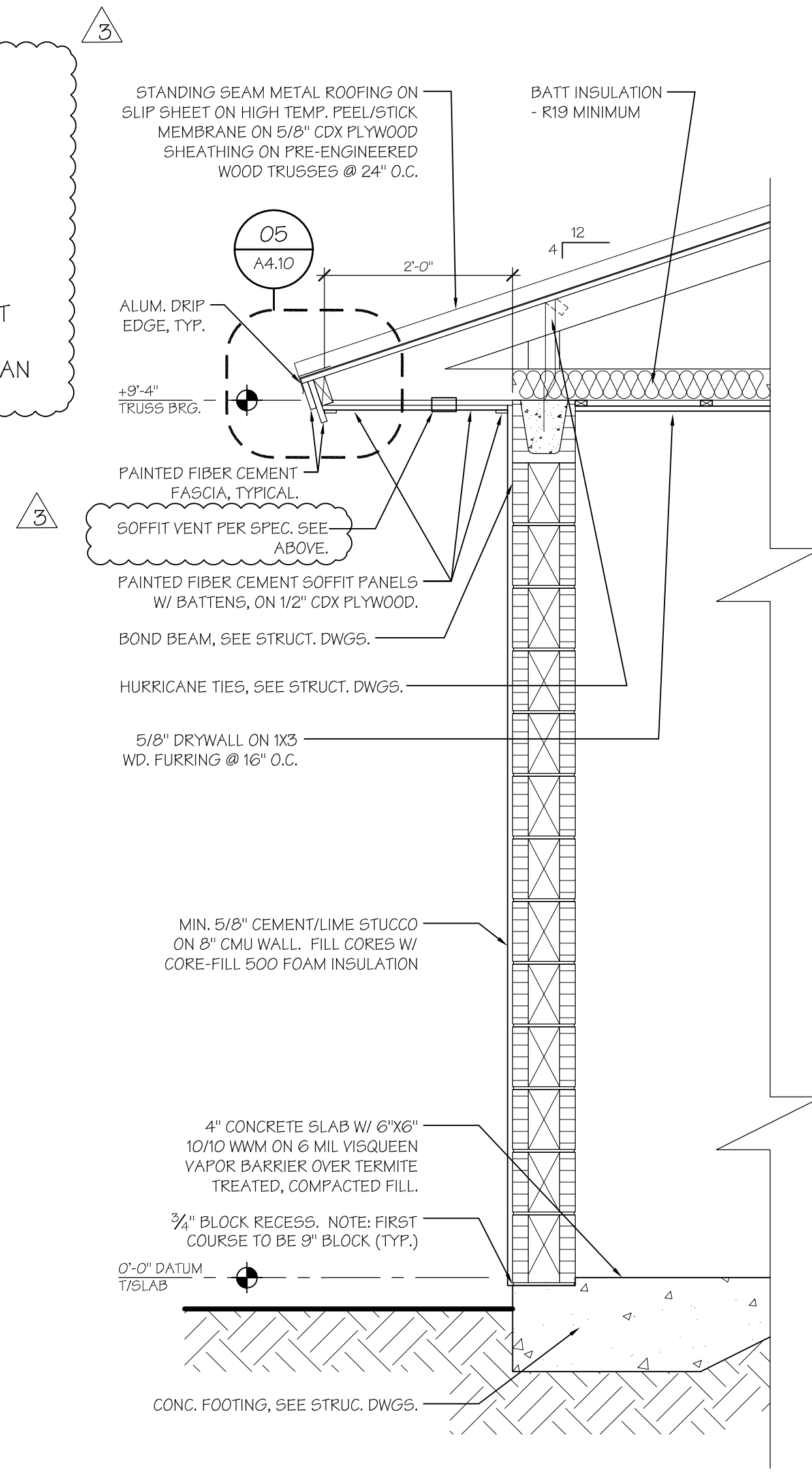
05 EAVE DETAIL

3" = 1'-0"



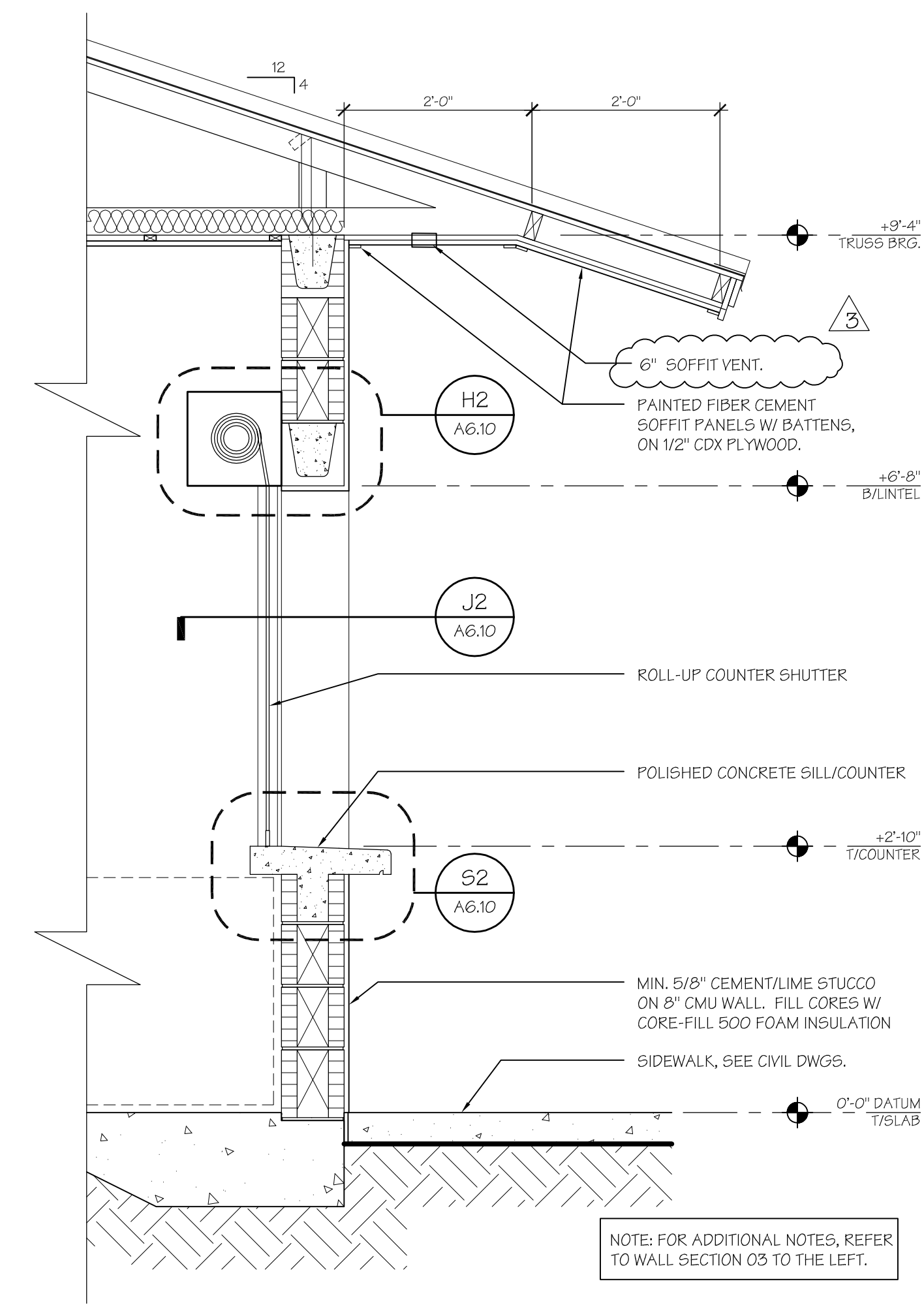
02 BUILDING SECTION

1/4" = 1'-0"



03 WALL SECTION

3/4" = 1'-0"



04 WALL SECTION

3/4" = 1'-0"

Architect:

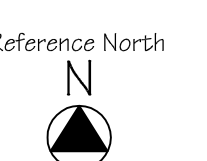
**DONADIO & Associates, Architects P.A.**  
A Spieze Group Inc. Company

**spieze**  
SPEIZE ARCHITECTURAL GROUP INC.  
2001 8th Avenue, Suite 305  
Vero Beach, FL 32960  
Tel: 772-794-2193  
Fax: 772-962-9600  
License No. A-140002238  
www.spieze.com

Consultant:

Drawing Title:

SECTIONS



Drawn:	Dwg. File:
Chd: S.M.	XREF File:
A.J.D.	Plot File:
Project No.:	2018-04
Sheet No.:	A4.10

Cert. No.: 12,456

Date Signed:

Key Plan:

Issues:

No.	Date:	Description:
A.	07.20.06	CLIENT REVIEW
B.	12.04.18	FINAL DOCUMENTS
C.	09/26/19	REVISIONS
D.	3.26.21	PERMIT DOCUMENTS
E.	4-16-21	BID SET
G.	10.04.23	PERMIT SUBMISSION
H.	03.11.24	BID SET

Architect:



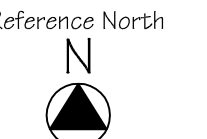
**DONADIO**  
 & Associates, Architects P.A.  
 A Spiezle Group Inc. Company



**spiezle**  
 SPIEZLE ARCHITECTURAL GROUP INC.  
 2007 9th Avenue, Suite 205  
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 14.722.794.2359  
 Fax 772.562.2600  
 License No. 14-0000230  
 www.spiezle.com

Consultant:

Drawing Title:  
**ROOM FINISH & DOOR SCHEDULES**  
**DOOR & WINDOW DETAILS**



Drawn:	Dwg. File:
Chd: JEL	XREF File:
Project No: A.J.D.	Plot File:
2018-04	Sheet No:

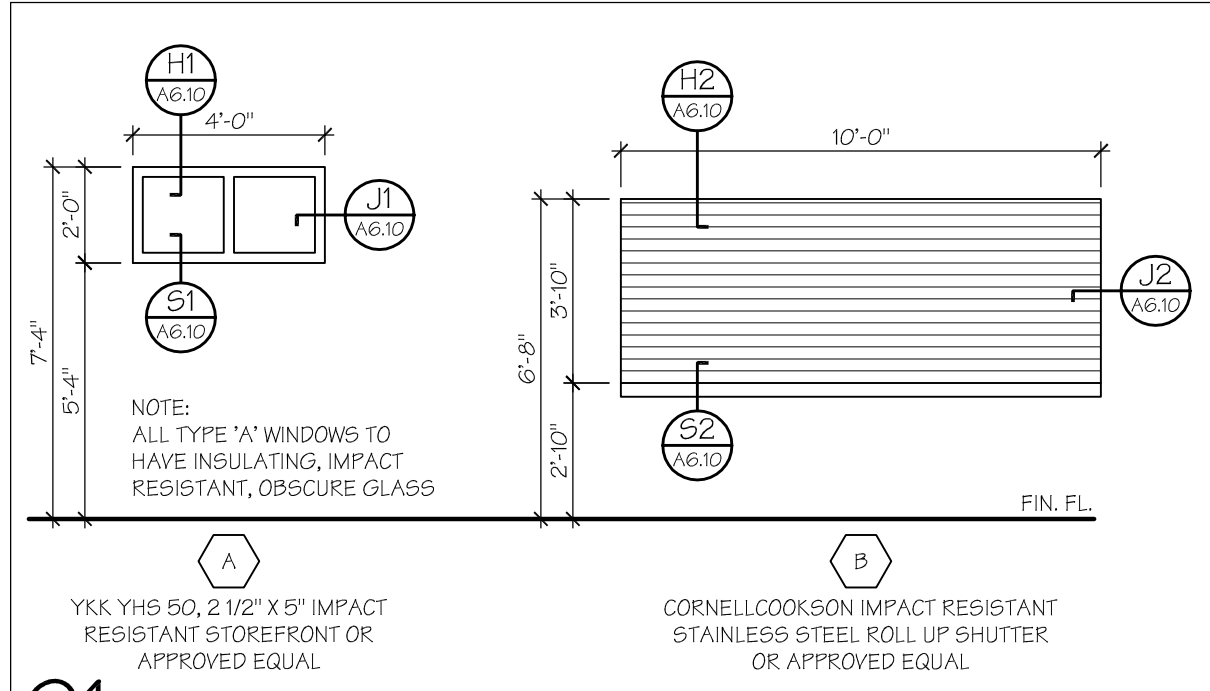
Cert. No.: 12,456  
 Date Signed: **A6.10**

ROOM NUMBER	ROOM NAME	ROOM FINISH SCHEDULE												REMARKS	ROOM NUMBER
		FLOOR/BASE		WALL				CEILING		FINISH					
		MATERIAL	MATERIAL	NORTH	SOUTH	EAST	WEST	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH		
<b>FIRST FLOOR</b>															
101	CONCESSION	EPF	EPB	CMU	EPF	CMU	EPF	CMU	EPF	CMU	EPF	GYF	PNT	8'-0"	101
102	STORAGE	EPF	EPB	CMU	EPF	CMU	EPF	CMU	EPF	CMU	EPF	GYF	PNT	8'-2 1/2"	102
103	ELECTRICAL ROOM	EPF	EPB	CMU	EPF	CMU	EPF	CMU	EPF	CMU	EPF	GYF	PNT	8'-2 1/2"	103
104	JANITOR	EPF	EPB	CMU	EPF	CMU	EPF	CMU	EPF	CMU	EPF	GYF	PNT	8'-2 1/2"	104
105	MALE	EPF	EPB	CMU	EPF	CMU	EPF	CMU	EPF	CMU	EPF	GYF	PNT	8'-2 1/2"	105
106	FEMALE	EPF	EPB	CMU	EPF	CMU	EPF	CMU	EPF	CMU	EPF	GYF	PNT	8'-2 1/2"	106

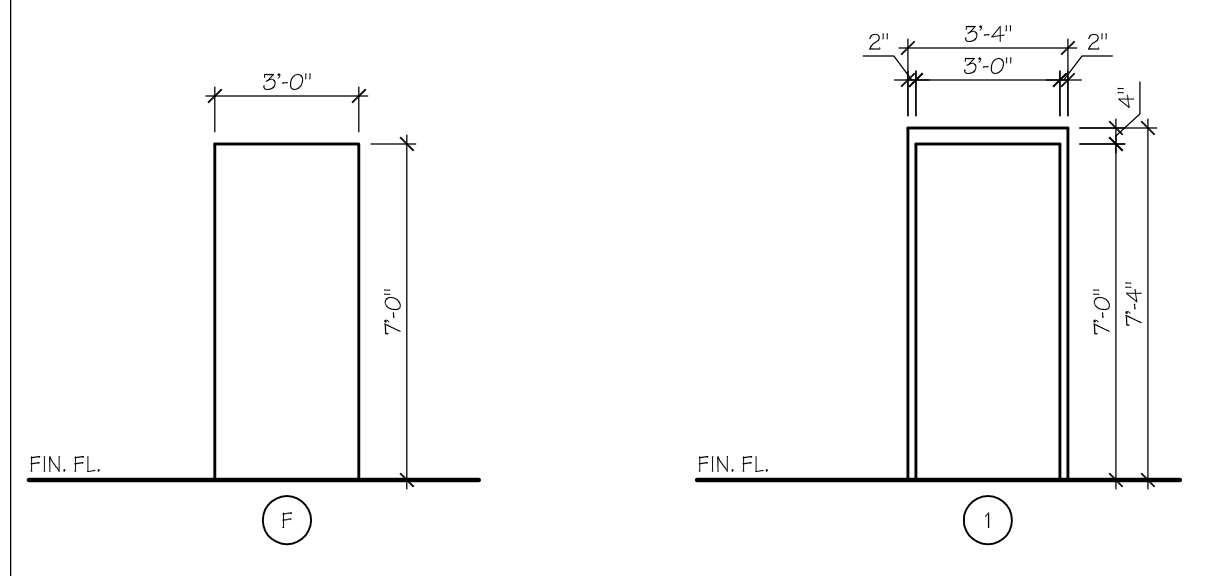
DOOR NUMBER	DOOR SIZE	DOOR SCHEDULE										REMARKS	DOOR NUMBER				
		DOOR		GLASS		FINISH		FRAME		DETAILS							
		DOOR TYPE	MATERIAL	MATERIAL	GLASS	MATERIAL	FINISH	MATERIAL	FINISH	SILL	JAMB			TRANSOM	HEAD		
<b>FIRST FLOOR</b>																	
101	3'-0" X 7'-0"	F	IHM	---	P	1	IHM	---	---	---	---	---	---	---	01	IMPACT RESISTANT	101
102	3'-0" X 7'-0"	F	IHM	---	P	1	IHM	---	---	---	---	---	---	---	02	IMPACT RESISTANT	102
103	3'-0" X 7'-0"	F	IHM	---	P	1	IHM	---	---	---	---	---	---	---	02	IMPACT RESISTANT	103
104	3'-0" X 7'-0"	F	IHM	---	P	1	IHM	---	---	---	---	---	---	---	02	IMPACT RESISTANT	104
105	3'-0" X 7'-0"	F	IHM	---	P	1	IHM	---	---	---	---	---	---	---	02	IMPACT RESISTANT	105
106	3'-0" X 7'-0"	F	IHM	---	P	1	IHM	---	---	---	---	---	---	---	02	IMPACT RESISTANT	106

FLOOR	BASE	WALL	CEILING	FINISH
LIN - LINOLEUM CT - CERAMIC TILE CMT - CERAMIC MOSAIC TILE CPT - CARPET SLC - SEALED CONCRETE WOF - WOOD FLOOR WCT - VINYL COMPOSITION TILE EPF - EPoxy FLOORING	RB - RUBBER BASE WB - WOOD BASE EPB - EPoxy BASE	GYW - GYPSUM BOARD MBS - MOISTURE RESISTANT BOARD EPW - EPoxy PAINT CMU - CONC. MAS. UNIT CB - CEMENT BLOCK CTW - CERAMIC TILE WALL STW - CEMENT / LIME STUCCO	GYC - GYPSUM BOARD ACT - ACOUSTICAL TILE VWP - VENEER PLASTER EXP - EXPOSED STRUCTURE WOC - WOOD CEILING STC - CEMENT / LIME STUCCO	PNT - PAINT F - FACTORY STN - STAIN --- = NO OR NONE

AL	HOM	IHM	SPG	PL	RG
AL = ALUMINUM ALG = ALUMINUM & GLASS LVR = FULL LOUVER MTL = METAL	HOM = HOLLOW CORE WOOD SOW = SOLID CORE WOOD LDF = LOW DENSITY FIBERBOARD IRG = IMPACT RESISTANT GLASS	IHM = HOLLOW METAL IHM = INSULATED HOLLOW METAL	SPG = SAFETY GLASS FRE = FRENCH SINGLE LITE WR = WIRE GLASS AN = ANODIZED	PL = PLASTIC LAMINATE SF = STOREFRONT V = VINYL VP = VAPOR PROOF	RG = RATED GLASS (FIRE LIGHT PLUS) F = FACTORY FINISH --- = NO OR NONE

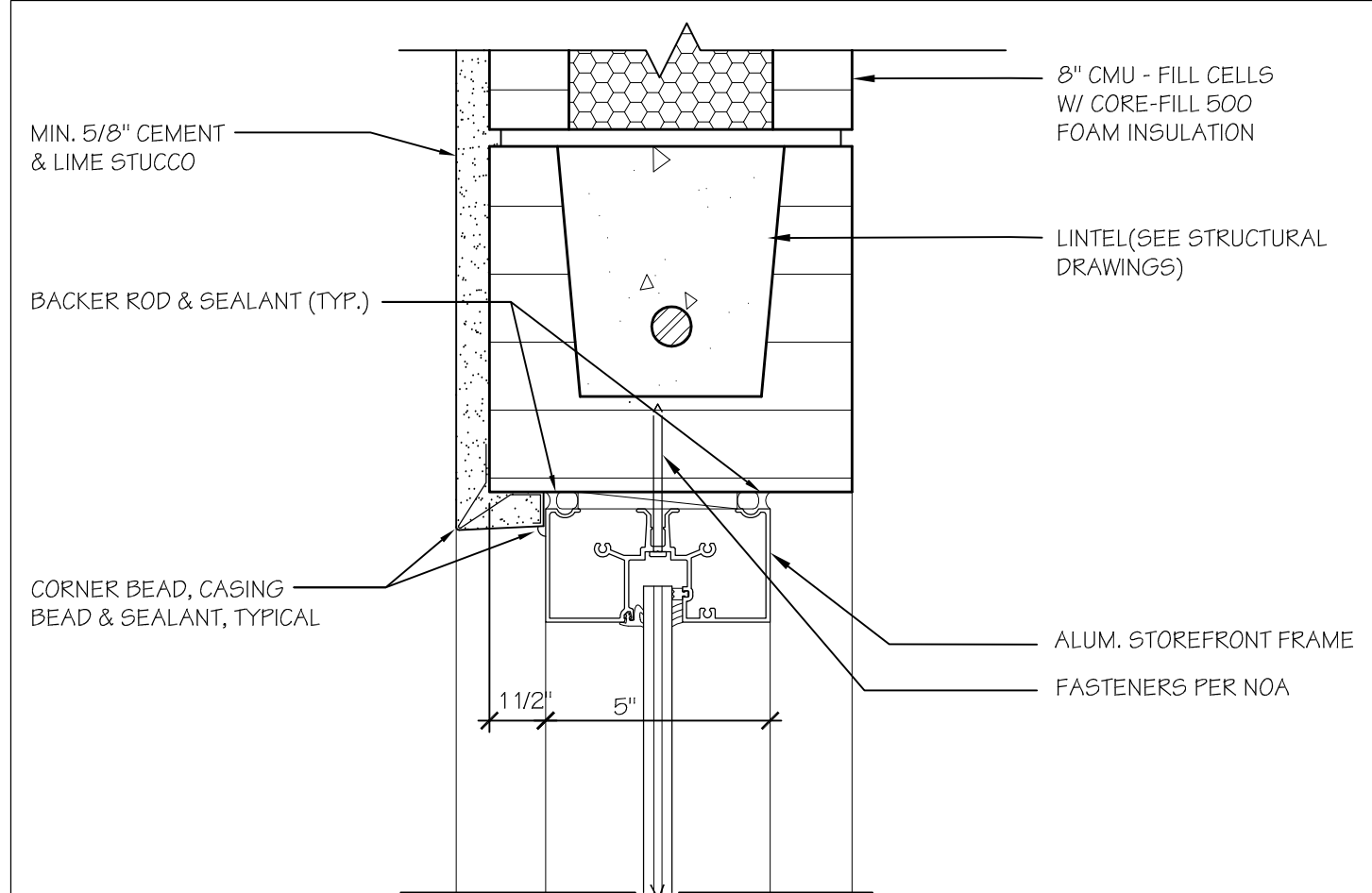


**01 WINDOW TYPES**  
 Scale: 1/4"=1'-0"

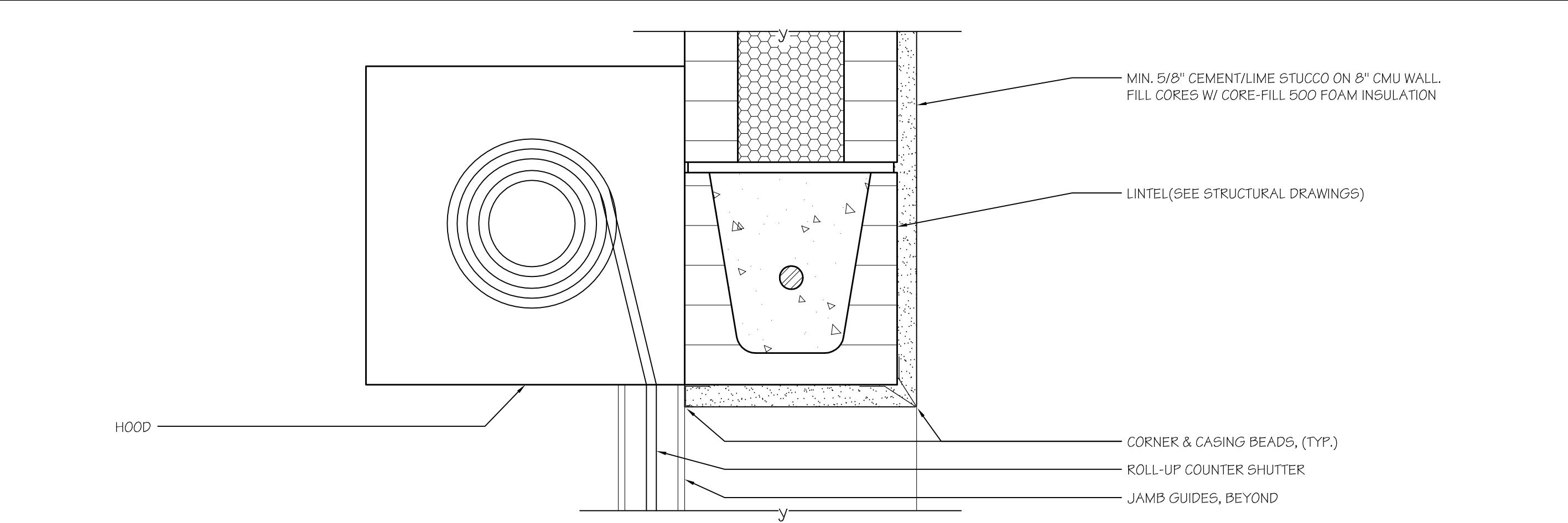


**02 DOOR TYPES**  
 Scale: 1/4"=1'-0"

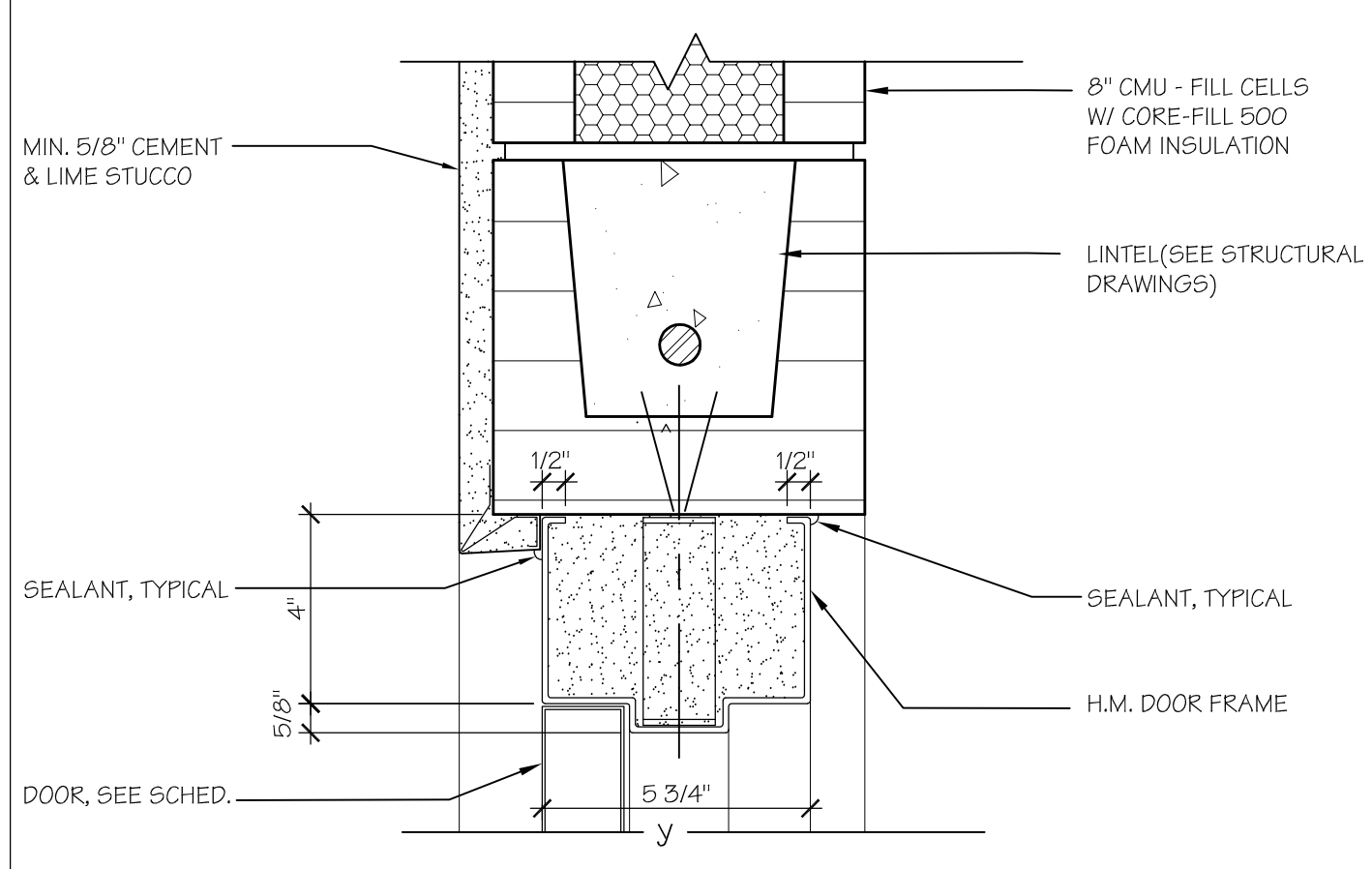
**03 FRAME TYPES**  
 Scale: 1/4"=1'-0"



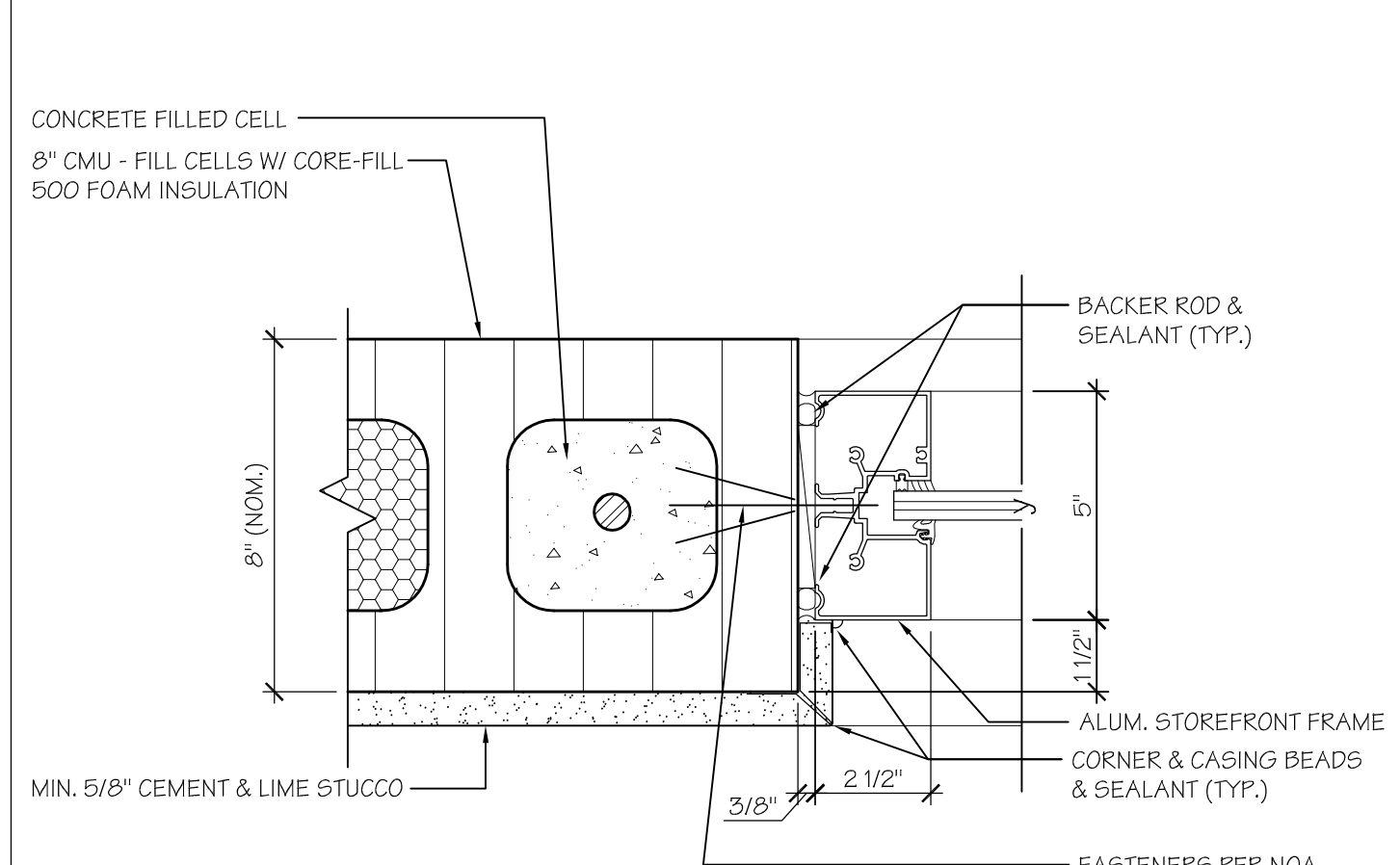
**H1 HEAD DETAIL**  
 Scale: 3"=1'-0"



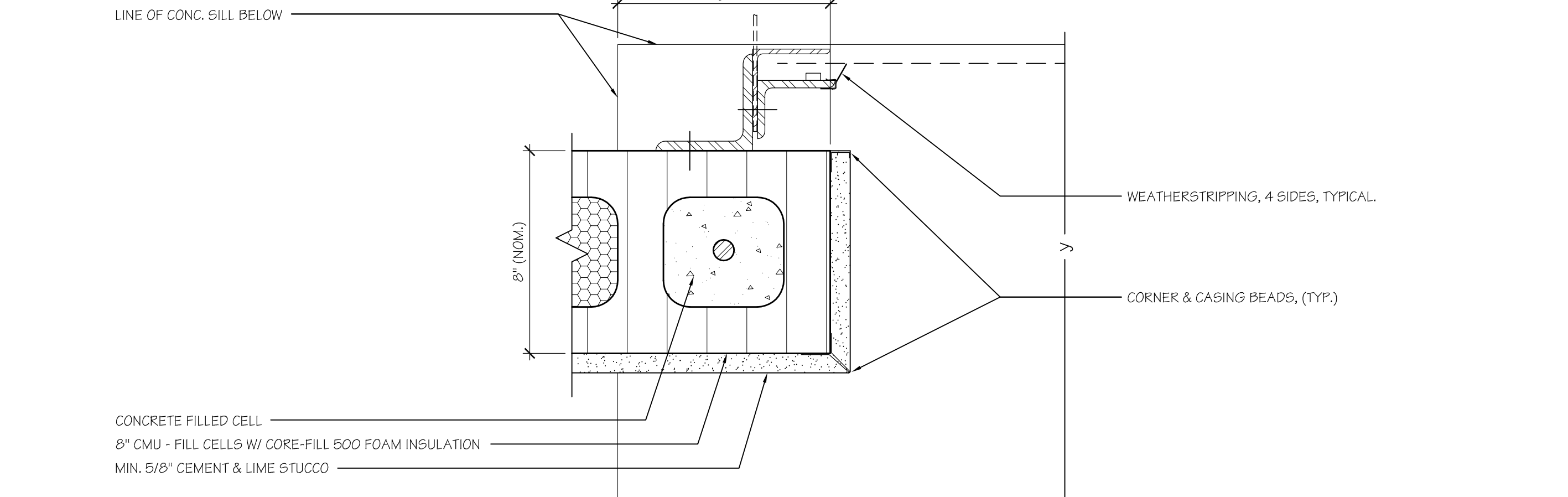
**H2 HEAD DETAIL**  
 Scale: 3"=1'-0"



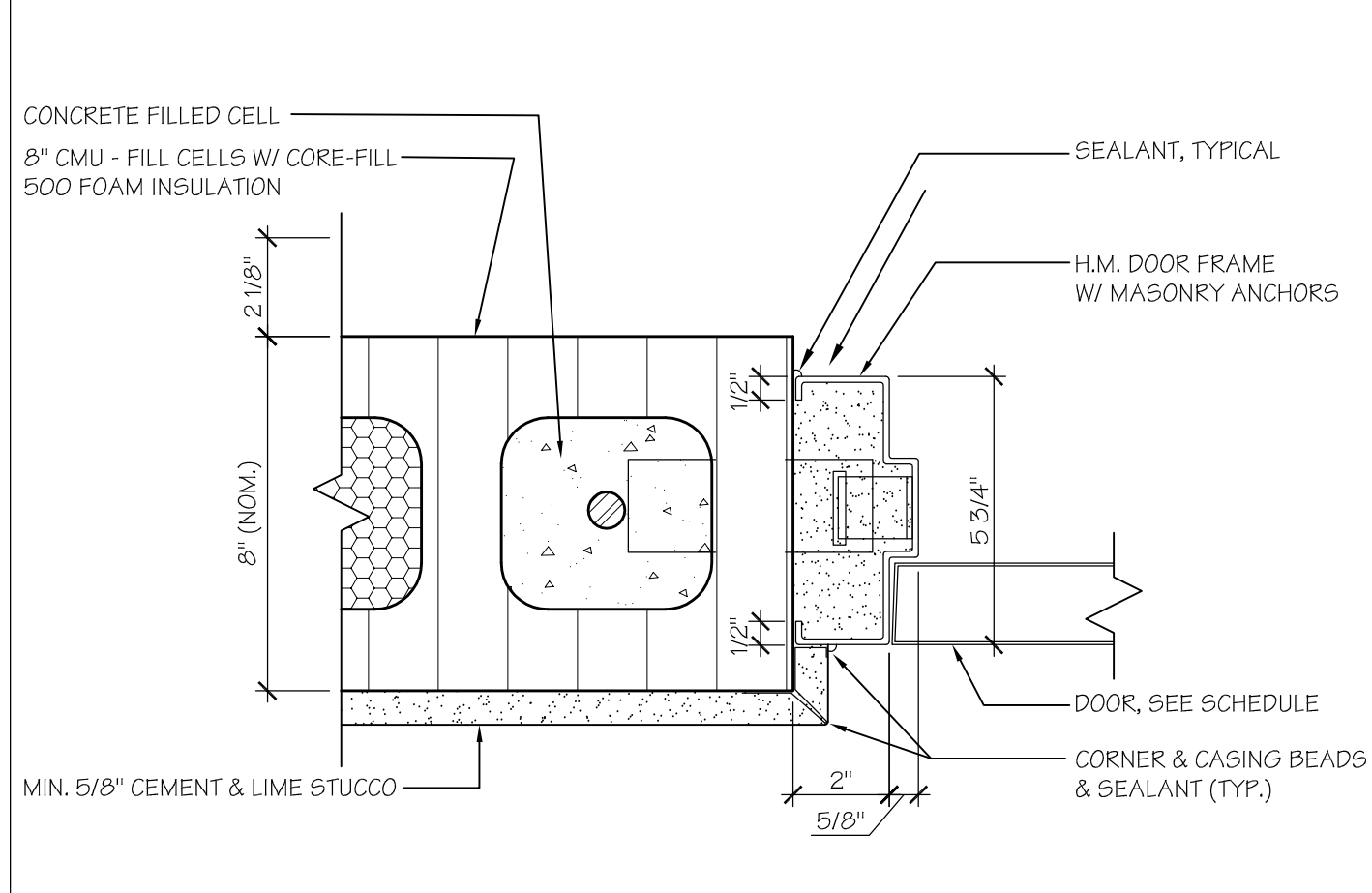
**H3 HEAD DETAIL**  
 Scale: 3"=1'-0"



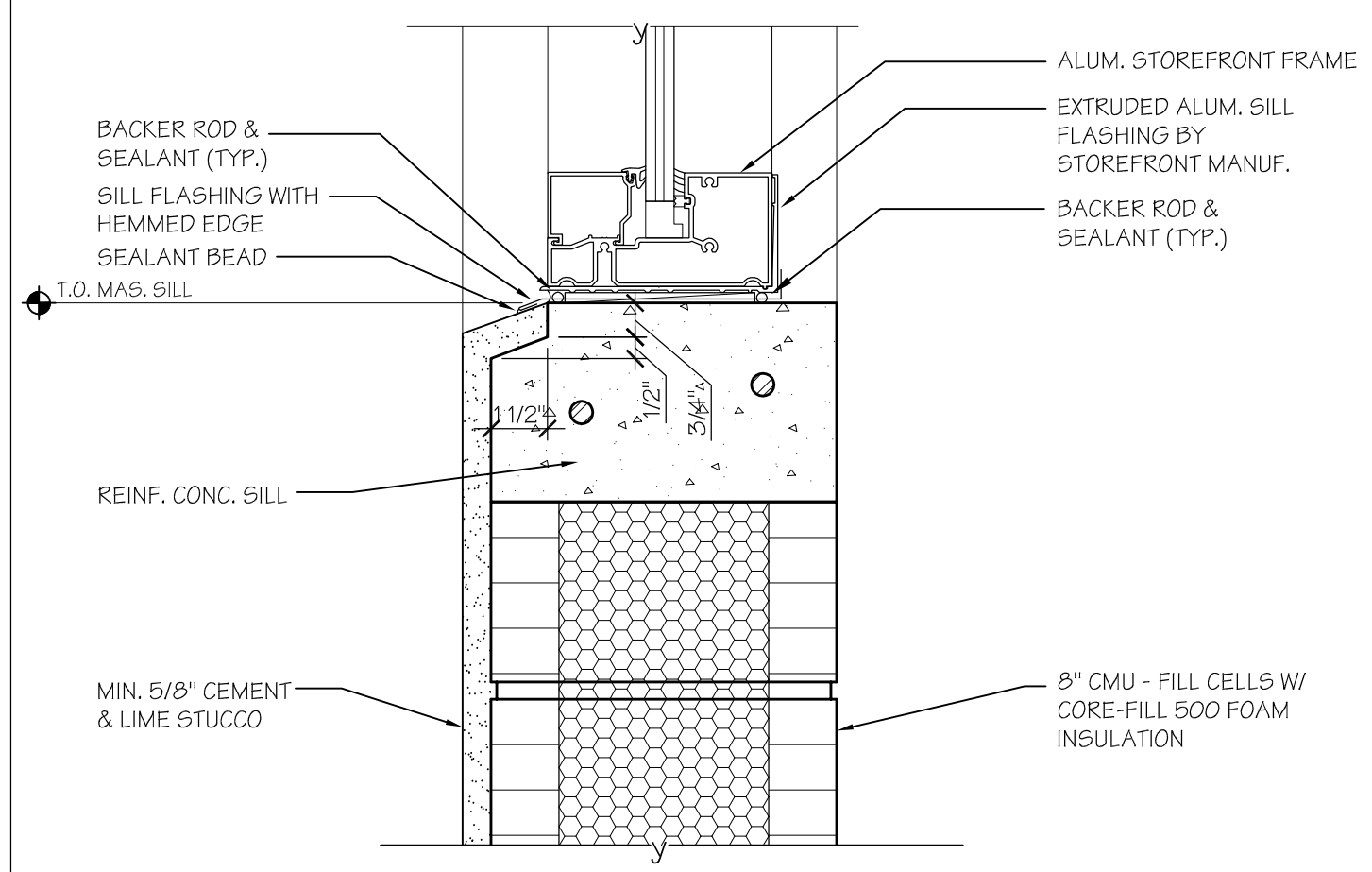
**J1 JAMB DETAIL**  
 Scale: 3"=1'-0"



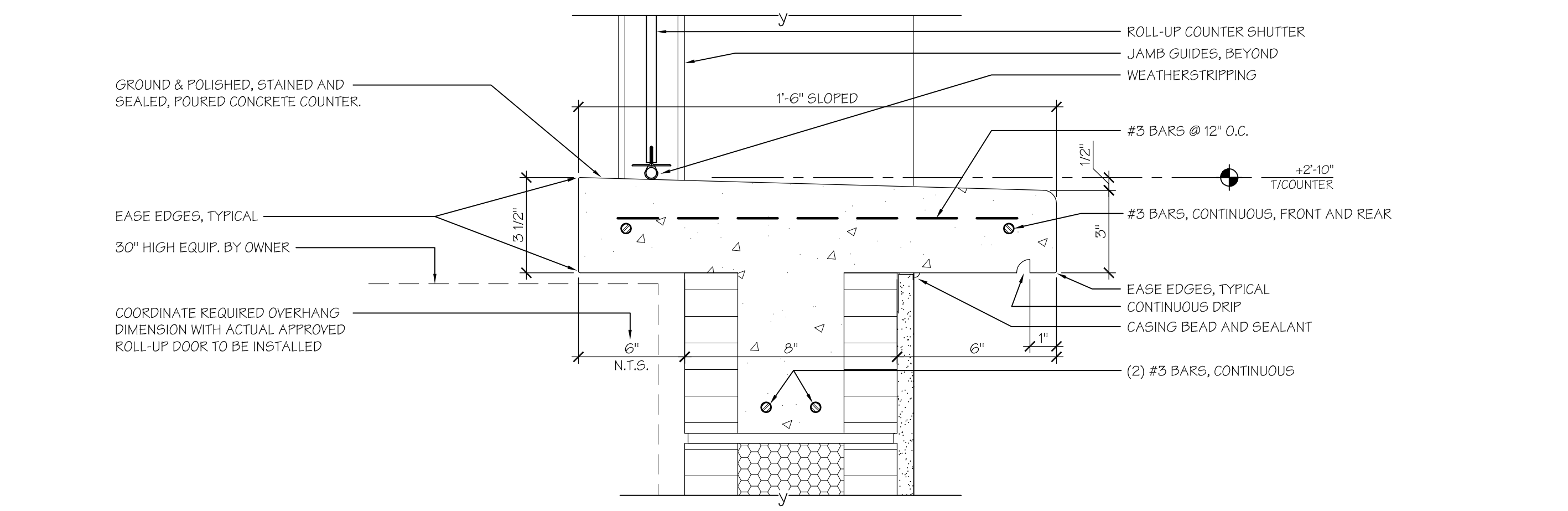
**J2 JAMB DETAIL**  
 Scale: 3"=1'-0"



**J3 JAMB DETAIL**  
 Scale: 3"=1'-0"



**S1 SILL DETAIL**  
 Scale: 3"=1'-0"



**S2 SILL DETAIL**  
 Scale: 3"=1'-0"

Project:  
**HOBART PARK**  
**CONCESSION & RESTROOM BUILDING**

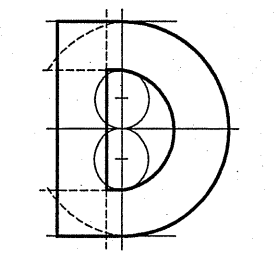
INDIAN RIVER COUNTY, FLORIDA

Key Plan

Issues:

No.	Date:	Description:
	12.04.2018	FINAL DOCUMENTS
△	03.19.2021	FBC 7TH EDITION UPDATE
	10.04.2023	PERMIT SUBMISSION
	03.11.2024	BID SET

Architect:



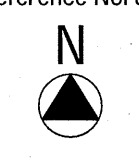
**DONADIO**  
 & Associates, Architects P.A.  
 6009 17th Street, Vero Beach, FL 32960  
 Tel: 772.704.2920 Fax: 772.569.2500  
 License No. AA0002238  
 www.donadio-arch.com

Consultant:

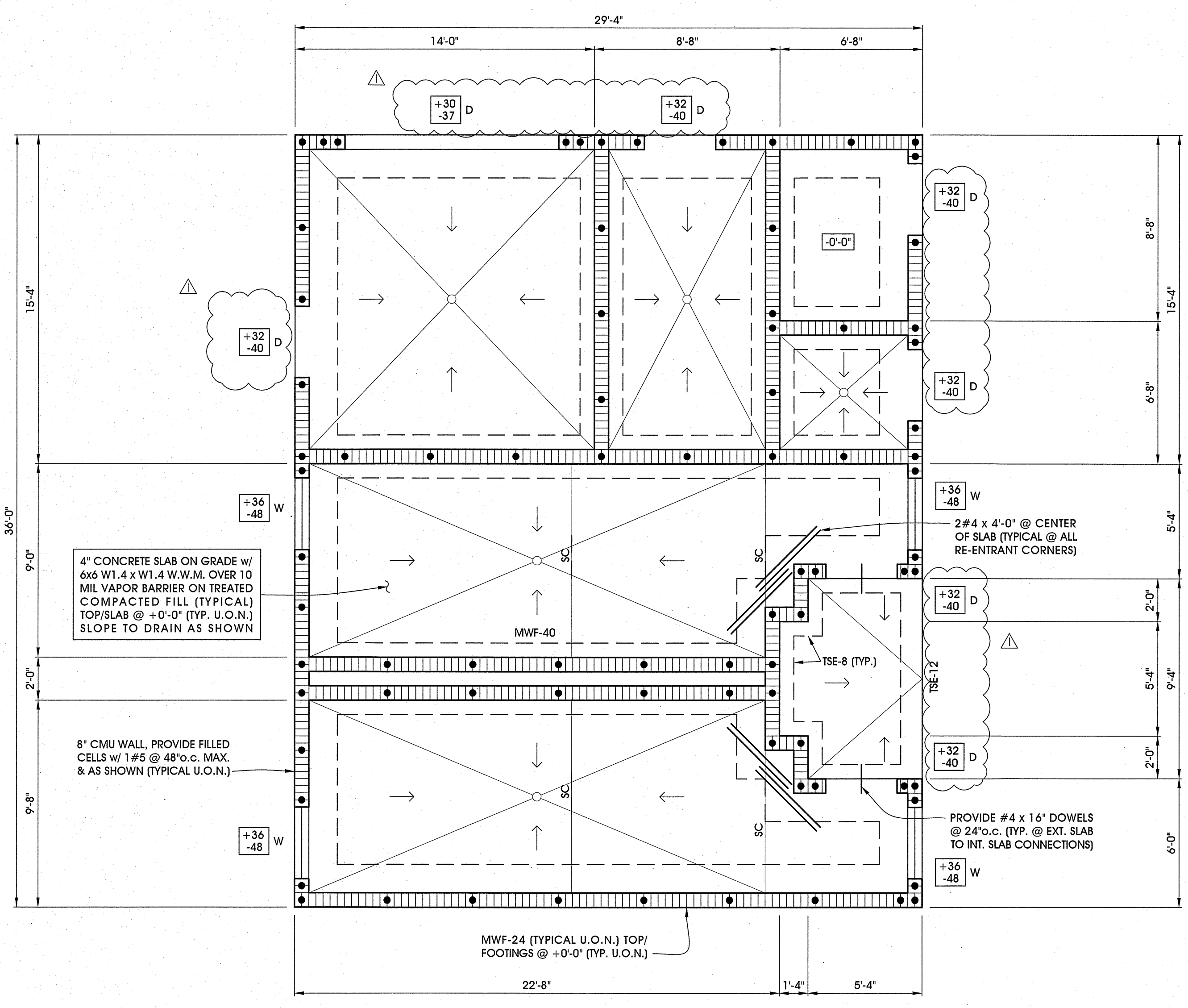
**ML ENGINEERING, INC.**  
 Consulting Structural Engineer  
 2030 37th Avenue  
 Vero Beach, Florida 32960  
 Phone: 772.569.1257 Fax: 772.569.4041

Drawing Title:  
**FOUNDATION & ROOF FRAMING PLANS, SECTIONS & DETAILS**

Reference North

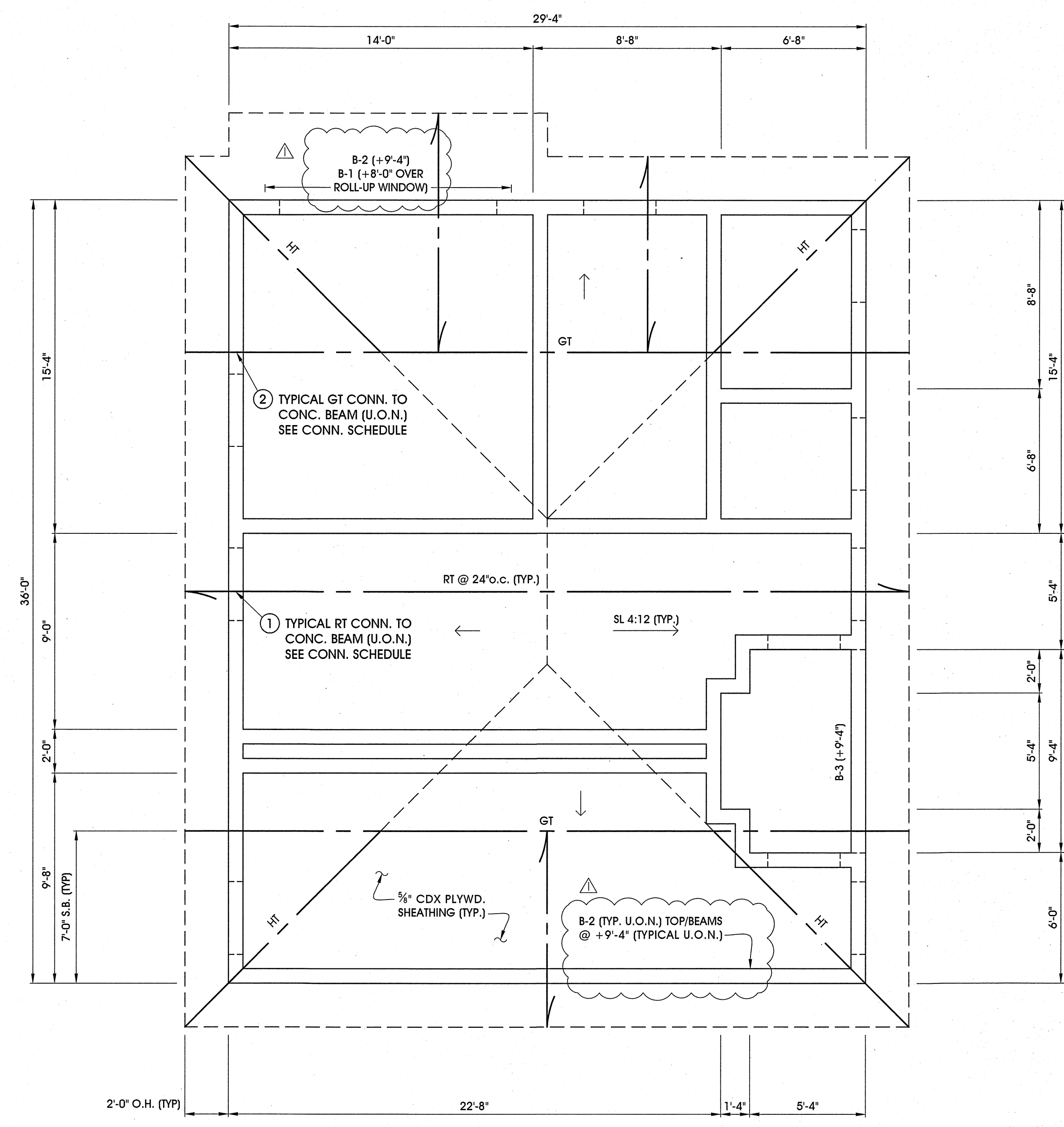


Drn: S.C. Baker  
 Chd: XREF File:  
 Mike Lue  
 Project No.: 18-137  
 Plot File:  
 18-137  
 Sheet No.: S-1



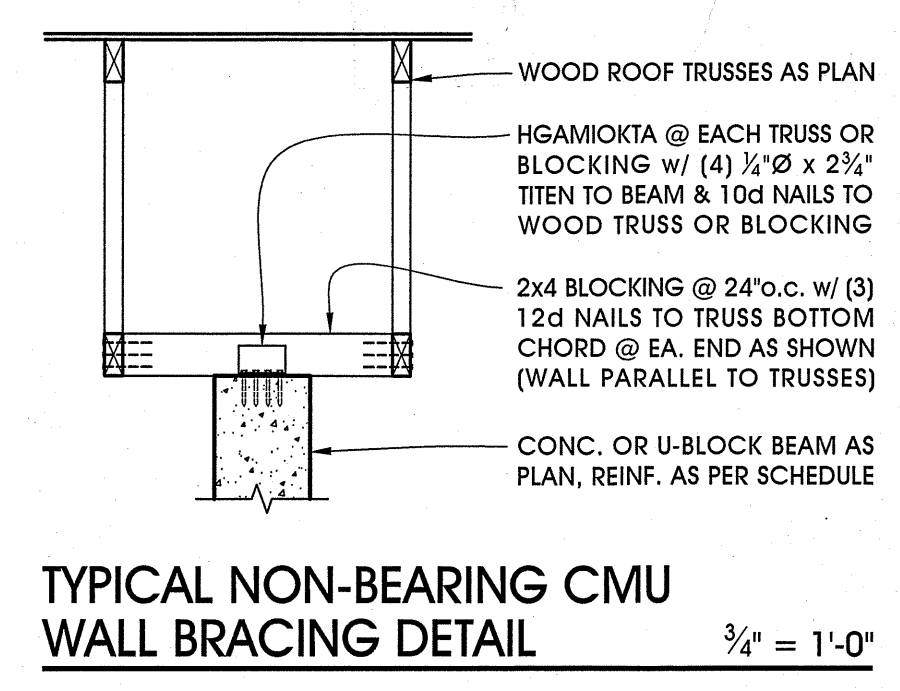
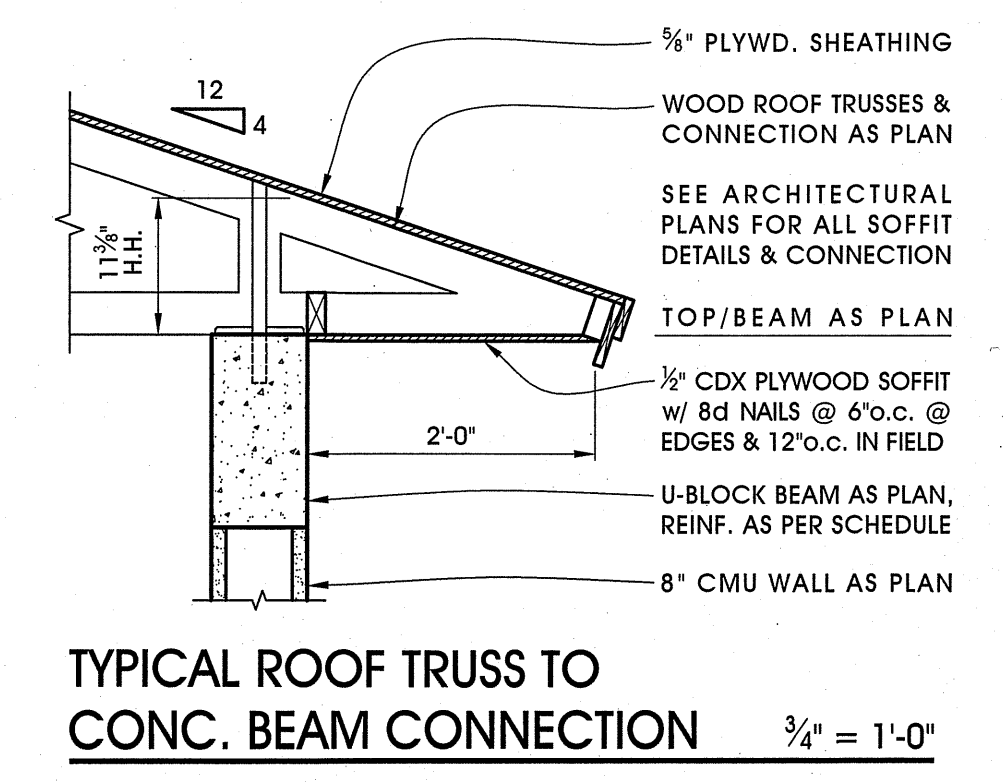
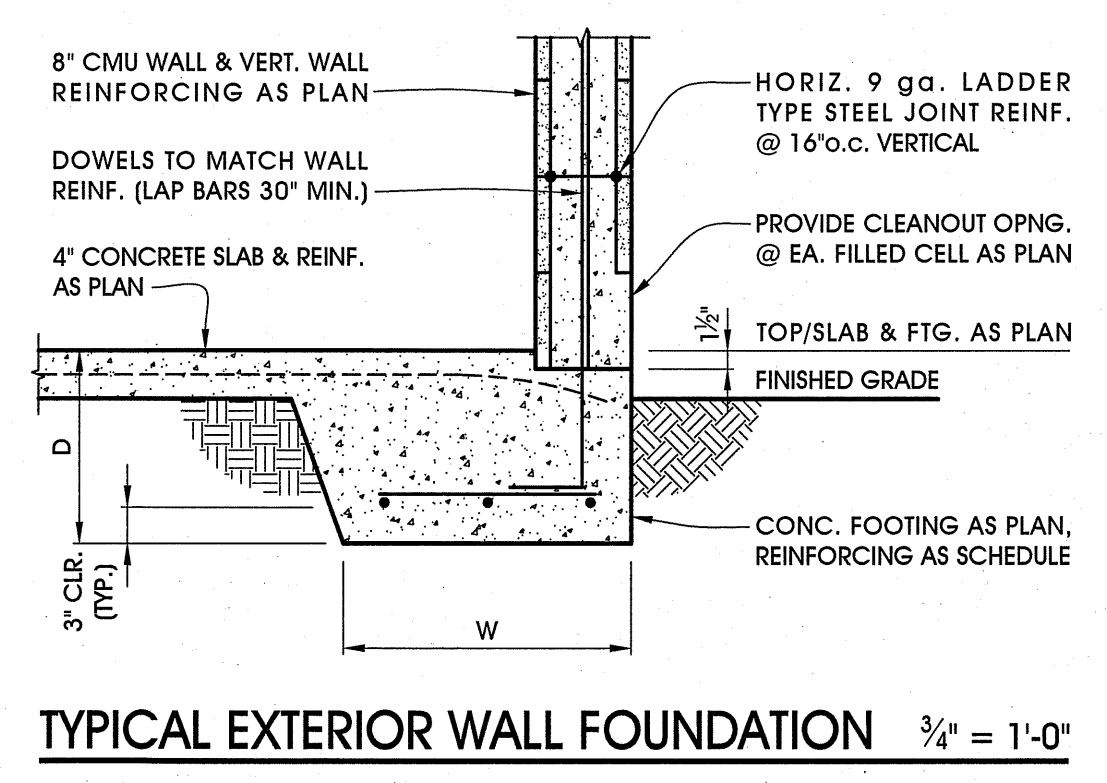
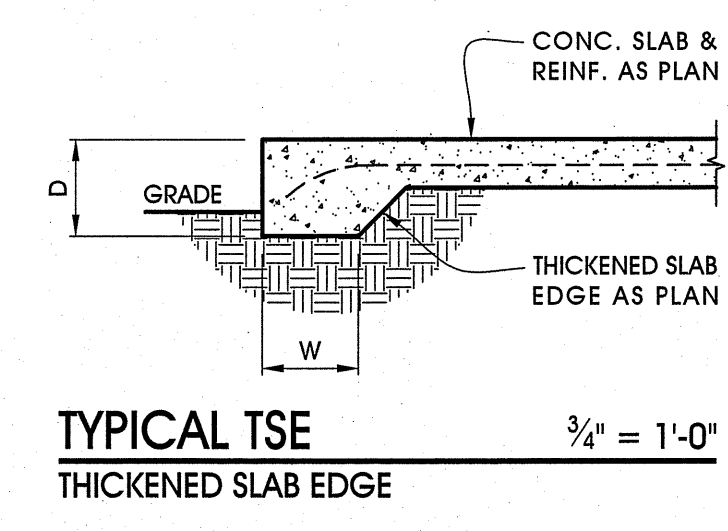
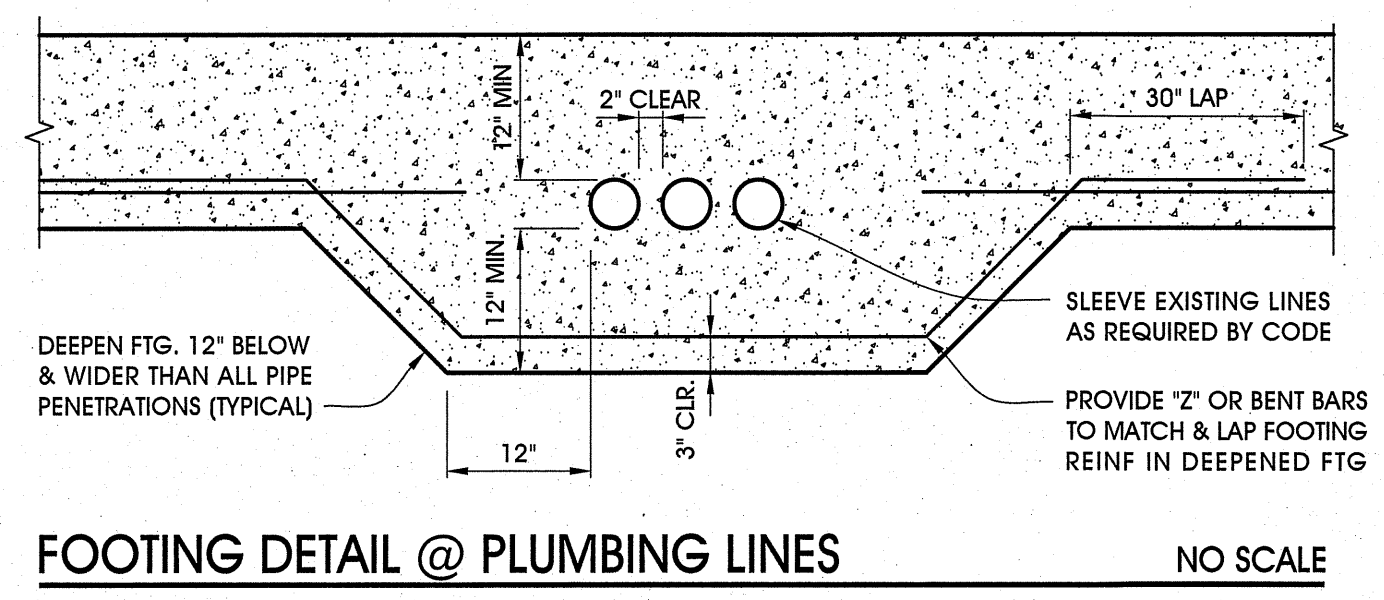
**FOUNDATION PLAN** 1/4" = 1'-0"

- NOTES:
- ALL ELEVATIONS REFER TO TOP OF MAIN FIRST FLOOR SLAB @ +0'-0" (SEE SITE PLAN FOR ACTUAL ELEVATION).
  - CONTRACTOR SHALL COORDINATE STRUCTURAL WORK WITH ARCHITECTURAL, MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS FOR VERIFICATION OF LOCATIONS & DIMENSIONS OF ALL PROJECT REQUIREMENTS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT OR ENGINEER OF RECORD BEFORE PROCEEDING WITH WORK.
  - ALL DIMENSIONS ARE TO ROUGH OPENING OR CENTERLINE OF STRUCTURE (TYPICAL, UNLESS OTHERWISE NOTED).
  - SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT SHOWN.
  - S.C.: DENOTES 1/8" WIDE x 1" DEEP SAW CUTS IN SLAB AS SHOWN IN PLAN, TO BE MADE AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY ENOUGH TO PREVENT THE AGGREGATE FROM BEING DISLODGED BY THE SAW BLADE.
  - W.J.: DENOTES 1/2" VERTICAL CMU WALL JOINT AS SHOWN IN PLAN. SEE TYPICAL CMU WALL JOINT DETAIL.
- LEGEND
- +PSF WINDOW & DOOR DESIGN PRESSURES (ALLOWABLE STRESS PSF) (TYPICAL AS SHOWN) SEE COMPONENT & CLADDING PRESSURES FOR DISTANCES OF END ZONES FOR EACH BUILDING
  - PSF
  - D - DOOR
  - W - WINDOW
  - RW - ROLL UP WINDOW
  - CT - CONCRETE OR CMU COLUMN AS SHOWN



**ROOF FRAMING PLAN** 1/4" = 1'-0"

- NOTES:
- ALL ELEVATIONS REFER TO TOP OF MAIN FIRST FLOOR SLAB @ +0'-0" (SEE SITE PLAN FOR ACTUAL ELEVATION).
  - CONTRACTOR SHALL COORDINATE STRUCTURAL WORK WITH ARCHITECTURAL, MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS FOR VERIFICATION OF LOCATIONS & DIMENSIONS OF ALL PROJECT REQUIREMENTS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT OR ENGINEER OF RECORD BEFORE PROCEEDING WITH WORK.
  - ALL DIMENSIONS ARE TO ROUGH OPENING OR CENTERLINE OF STRUCTURE (TYPICAL, UNLESS OTHERWISE NOTED).
  - SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT SHOWN.
- LEGEND
- 1 CONNECTOR DESIGNATIONS AS SHOWN, SEE SCHEDULE
  - RT: WOOD ROOF TRUSS
  - HT: WOOD ROOF HIP TRUSS
  - GT: WOOD ROOF GIRDER TRUSS







### HVAC GENERAL NOTES

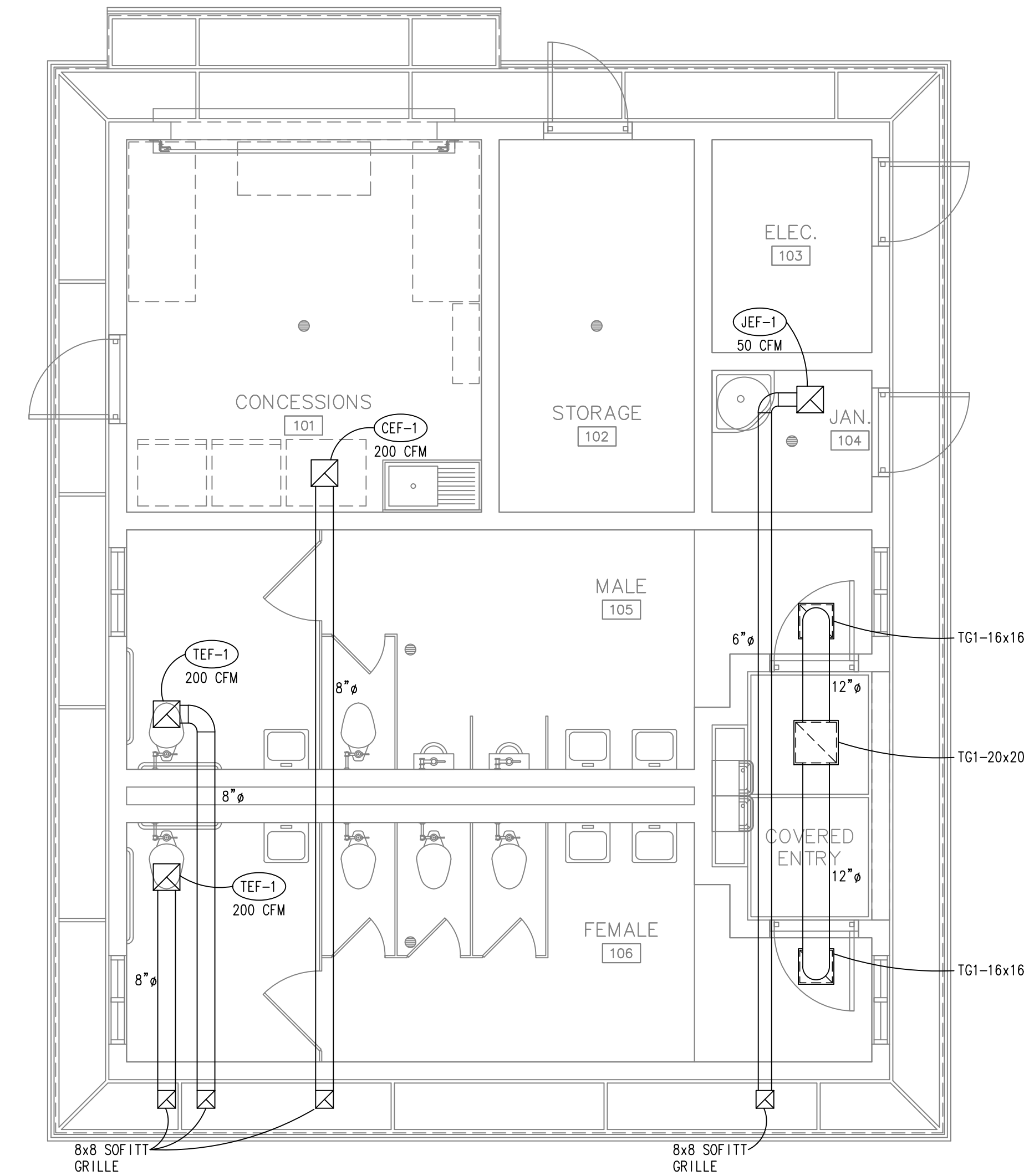
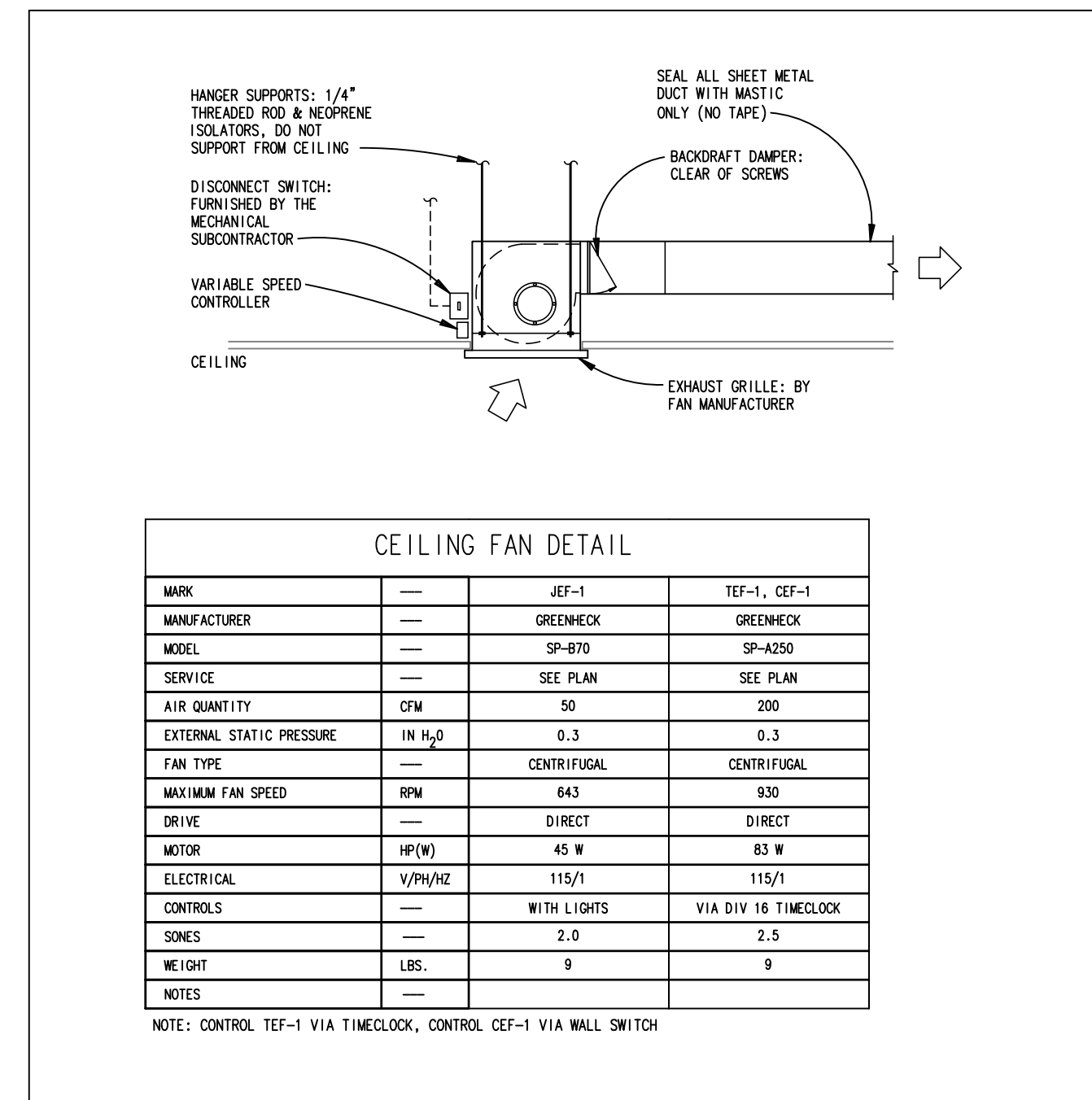
1. ALL WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES. THIS INCLUDES THE 2020 7TH EDITION FLORIDA BUILDING CODE AND FLORIDA MECHANICAL CODE, WITH LOCAL AMENDMENTS, THE APPLICABLE NFPA CODES AND THE FLORIDA ENERGY CODE.
2. ALL ELECTRICAL EQUIPMENT SHALL BE UL CLASSIFIED OR LISTED.
3. DEFINITIONS: "FURNISH" SHALL MEAN TO PURCHASE AND LOCATE AN ITEM ON THE JOBSITE. "INSTALL" SHALL MEAN TO PHYSICALLY INSTALL AN ITEM AND CONNECT IT TO ALL REQUIRED SERVICES TO MAKE THE ITEM FULLY FUNCTIONAL. "PROVIDE" SHALL MEAN TO BOTH FURNISH AND INSTALL THE ITEM.
4. TEST AND BALANCE SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR ON APPROVED FORMS USED BY AABC OR NEBB. THE MECHANICAL CONTRACTOR SHALL HAVE ALL SYSTEMS FULLY INSTALLED AND OPERATIONAL WITH CLEAN FILTERS INSTALLED PRIOR TO TEST AND BALANCE.

### DUCTWORK

1. EXHAUST DUCT WORK SHALL BE GALVANIZED SHEET METAL WITH ALL JOINTS SEALED WITH MASTIC. ROUND DUCT WORK SHALL BE "THERMOFIN" OR SINGLE WALL SHEET METAL. DUCTS DO NOT NEED TO BE INSULATED UNLESS REQUIRED BY LOCAL JURISDICTION. ALL DUCT SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA.
2. ALL DUCT SIZES DEPICTED ARE CLEAR INSIDE DIMENSIONS.
3. PROVIDE A FLEXIBLE CONNECTION FROM EACH AIR HANDLER AND FAN TO THE DUCT SYSTEM.
4. PROVIDE ACCESS PANELS IN DUCTS FOR ACCESS TO VOLUME DAMPERS, FIRE DAMPERS, FIRE/SMOKE DAMPERS, DUCT MOUNTED SMOKE DETECTORS AND WHERE REQUIRED TO MAINTAIN EQUIPMENT.

### CONTROLS

1. LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT FOR ALL CONTROL WIRING AS COORDINATED WITH THE MECHANICAL CONTRACTOR.
2. LINE VOLTAGE (110 VOLT OR HIGHER) POWER AND CONDUIT SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECT SWITCHES. DO NOT MOUNT DISCONNECT SWITCHES OVER NAMEPLATES OR SERVICE PANELS.
4. TEST AND BALANCE SHALL VERIFY THE OPERATION OF ALL CONTROLS AT THE COMPLETION OF THE PROJECT.



**01 MECHANICAL FLOOR PLAN**  
GROSS SQUARE FOOTAGE = 999 G.S.F.

Scale: 1/4" = 1'-0"

Project:

HOBART PARK

## CONCESSION & RESTROOM BUILDING

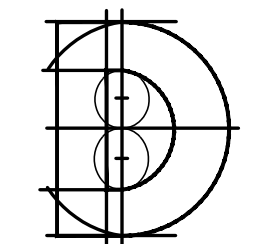
INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues:

No.:	Date:	Description:
A.	03/11/24	BID SET

Architect:



**DONADIO & Associates, Architects P.A.**

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Consultant:



Drawing Title:

MECHANICAL PLAN

Reference North

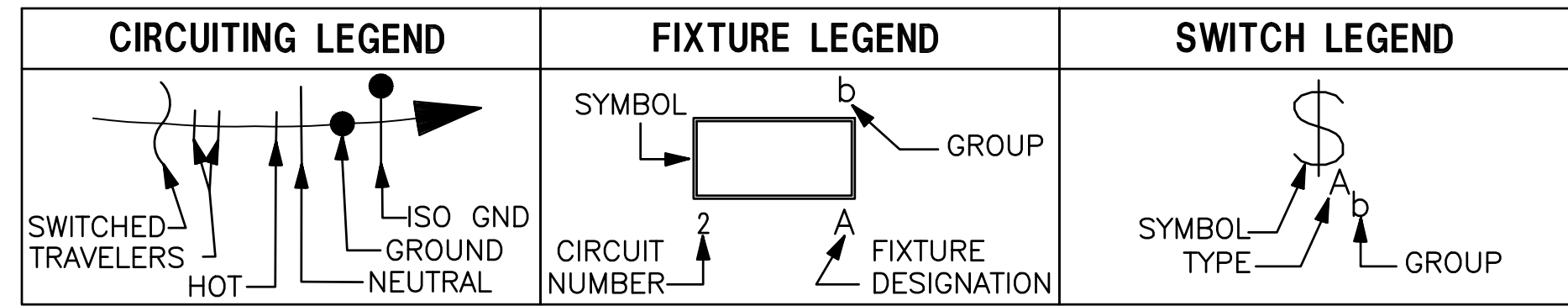


Drn:	Dwg. File:
JGS	XREF File:
Chd:	EH
Project No.:	Plot File:
2018-04	Sheet No.:

Cert. No.: FL PE 77543

Date Signed:

M1.1



P1		ROOM ELECTRIC RM		VOLTS 240/120V 2P 3W		AIC 22,000	
MOUNTING SURFACE		BUS AMPS 200		NEUTRAL 100%		MAIN BKR 200	
FED FROM TXL		NOTE SQ D Q0140M200				LUGS STANDARD	
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.96	30" REFRIGERATOR	a 2	30/2	4.5	WATER HEATER
3	20/1	0.96	30" BEVERAGE COOLER	b 4			
5	20/1	0.96	30" BOX FREEZER	a 6	20/1	0.532	LIGHTING
7	20/1	0.72	CONCESSION COUNTERS, RECEPTACLE	b 8	20/1	0.595	FAN, LIGHTING
9	20/1	0.72	CONCESSION COUNTERS, RECEPTACLE	a 10	20/1	0.148	EXTERIOR LIGHTING
11	20/1	0.37	WATER COOLER	b 12	20/1	0.084	SCOREBOARD
13	20/1	0.9	RECEPTACLE	a 14	20/1	0.268	FLAG POLE LIGHT
15	20/1	1.45	HAND DRYER	b 16	20/1	0.5	IRRIGATION CONTROLLER
17	20/1	1.45	HAND DRYER	a 18	70/2	9.61	IRRIGATION SYSTEM
19	20/1	1.45	HAND DRYER	b 20			
21	20/1	1.45	HAND DRYER	a 22	-/1	0	SPACE
23	20/1	1.45	HAND DRYER	b 24	-/1	0	SPACE
25	20/1	1.45	HAND DRYER	a 26	-/1	0	SPACE
27	-/1	0	SPACE	b 28	-/1	0	SPACE
29	-/1	0	SPACE	a 30	-/1	0	SPACE
31	-/1	0	SPACE	b 32	-/1	0	SPACE
33	-/1	0	SPACE	a 34	-/1	0	SPACE
35	-/1	0	SPACE	b 36	-/1	0	SPACE
37	30/2	0	SURGE PROTECTION DEV.	a 38	50/2	6.62	LIFTSTATION CP
39				b 40			

	CONN KVA	CALC KVA		CONN KVA	CALC KVA		
OTHER LIGHTING (NONCONTINUOUS)	2	2	(100%)	LARGEST MOTOR	9.6	2.4	(25%)
CLUB	2	1,000 SF	(2 VA/SF)	MOTORS	15.7	15.7	(100%)
LIGHTING	0.416	0.52	(125%)	RECEPTACLES	2.7	2.7	(50%>10)
APPLIANCE	7.38	5.54	(75%)	CONTINUOUS	1.08	1.36	(125%)
				NONCONTINUOUS	8.7	8.7	(100%)
				DIVERSE	0.01	0	(0%)
				TOTAL LOAD		38.9	
				BALANCED LOAD		162 A	
				PHASE A		106%	
				PHASE B		94.3%	

**NOTE:**  
TO THE BEST OF THE ENGINEERS KNOWLEDGE, THESE PLANS AND SPECIFICATIONS COMPLY WITH THE 2020 FLORIDA BUILDING CODE (7TH EDITION), 2017 NEC, AND THE FLORIDA FIRE PREVENTION CODE (7TH EDITION)

**NOTE:**  
SEE E0.2 FOR BUILDING ELECTRICAL ONE-LINE, LIFT STATION SCHEDULE, AND SITE EQUIPMENT SCHEDULE.

Project:  
**HOBART PARK**  
**CONCESSION & RESTROOM BUILDING**

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

No.:	Date:	Description:
A.	03/11/24	Bid Set

Architect:

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Consultant:

**TREASURE COAST ENGINEERING**  
Your MEP Design Consultant  
Treasure Coast Engineering, Inc.  
CA# 27181  
4925 13th Lane, Vero Beach, FL 32966  
772-567-1007 www.tce.eng.pro

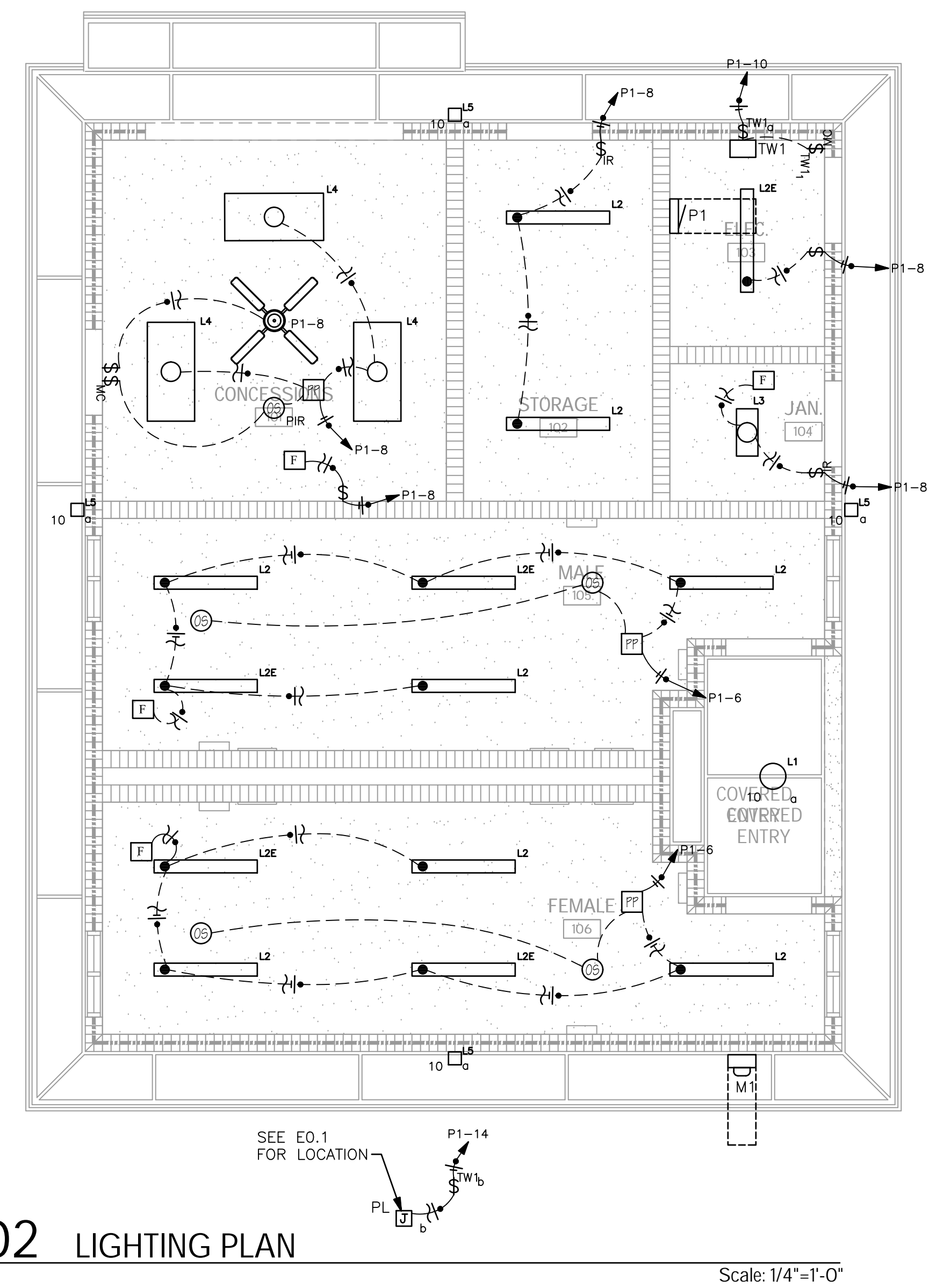
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**LIGHTING PLAN & ELECTRICAL PLAN**

Reference North

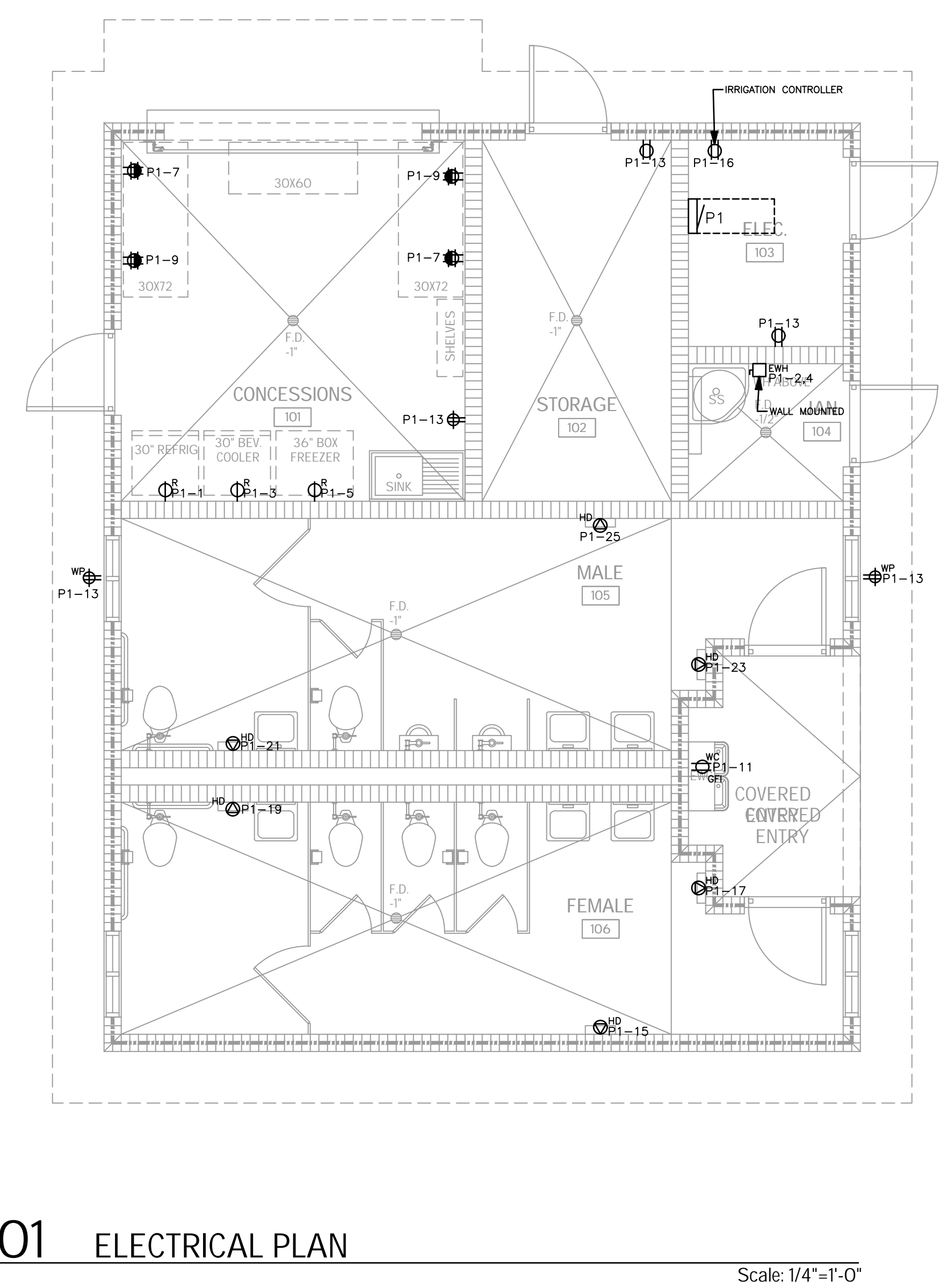
STATE OF FLORIDA  
Professional Engineer  
No. 65050  
A.B.J.  
A.J.D.  
2018-04  
Sheet No.:

Date Signed: \_\_\_\_\_

E11



**02 LIGHTING PLAN**



**01 ELECTRICAL PLAN**



Project:

HOBART PARK

# CONCESSION & RESTROOM BUILDING

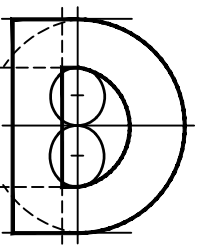
INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues:

No.	Date	Description
A.	03/11/24	Bid Set

Architect:



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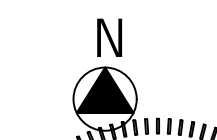
Consultant:



Treasure Coast Engineering, Inc.  
CA# 27181  
4925 13th Lane, Vero Beach, FL 32966  
772-567-1007 www.tce.eng.pro

Drawing Title:  
ELECTRICAL DETAILS

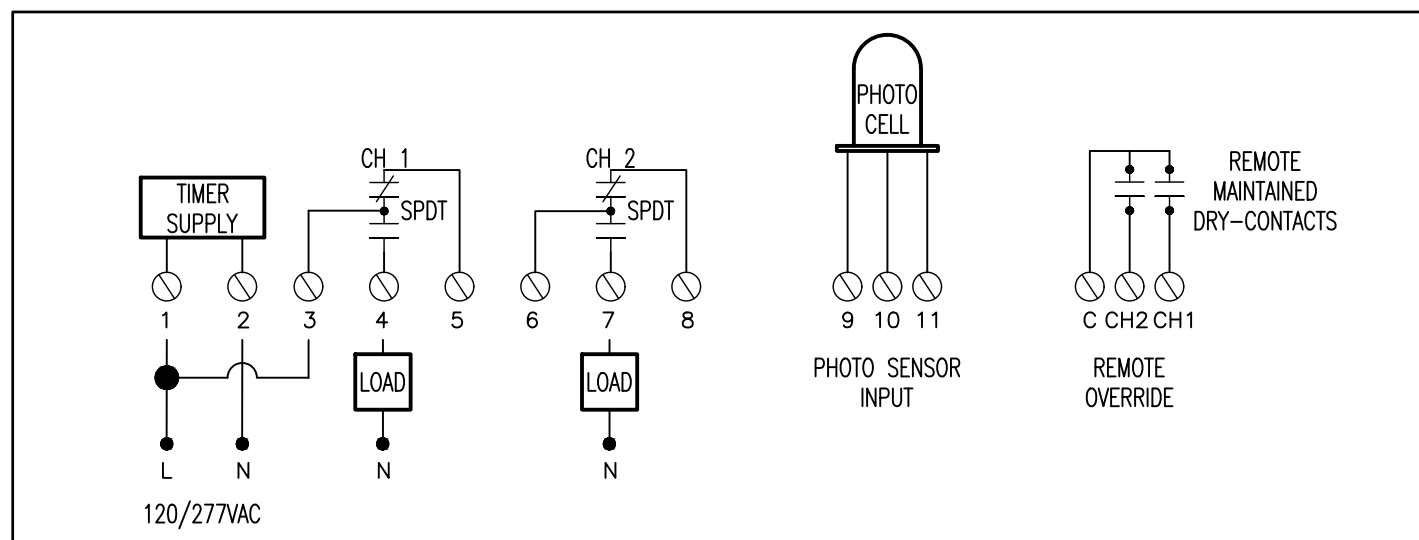
Reference North



Drn:	ABJ	Dwg. File:
Ind:	A.J.D.	XREF File:
Project No.:	2018-04	Plot File:
Sheet No.:		

Date Signed:

E1.3



### GENERAL DESCRIPTION:

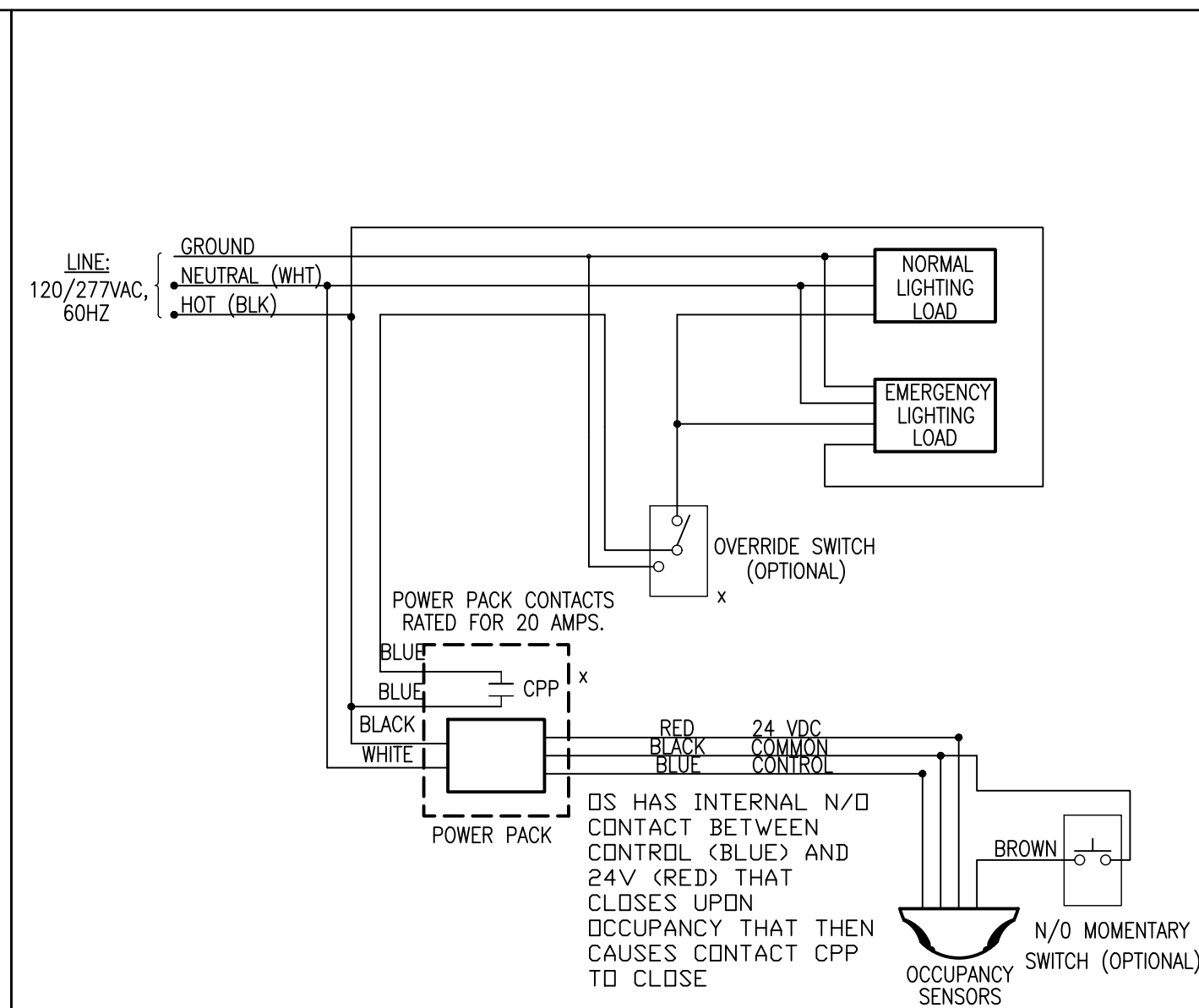
1. FURNISH AND INSTALL A 2 ZONE LIGHTING CONTROLLER W/ PHOTO SENSOR AND REMOTE OVERRIDE INPUT SUCH AS A TORK DGLC200A. 2. EACH ZONE SHALL BE CAPABLE OF INDEPENDENT, USER SETTABLE TURN ON AND TURN OFF LIGHT LEVEL SET POINTS RANGING FROM 1 TO 100 FOOTCANDLES. 3. TWO POSITION SLIDE SWITCHES SHALL BE PROVIDED FOR EACH OF THE 2 ZONES ALLOWING FOR USER SETTINGS BASED ON A) TIME OF DAY OR B) COMBINATION TIME OF DAY AND LIGHT LEVEL. 4. UNIT SHALL BE CAPABLE OF SWITCHING 20 AMP BALLAST LOAD FOR EACH ZONE. 5. EACH ZONE SHALL BE CAPABLE OF ASTRONOMIC FUNCTION. 6. CONTROLLER SHALL PROVIDE AUTOMATIC DAYLIGHT SAVING TIME. 7. CONTROLLER SHALL BE CAPABLE OF 56 SET POINTS WITH SEPARATE SCHEDULING FOR EACH DAY OF THE WEEK. 8. CONTROLLER SHALL HAVE BACK-UP CAPABILITY. 9. UNIT SHALL HAVE A NEMA TYPE 3, METAL INDOOR/OUTDOOR ENCLOSURE.

### ELECTRICAL:

CONNECT CLOCK TO SAME CIRCUIT AS CH1 FIXTURE. WIRE FIXTURE TO LOAD CONTACT. MOUNT PHOTO CELL AT LEAST 10 FT UP ON NORTH SIDE OF BUILDING. CIRCUIT ON PLAN VIEW SHOULD SHOW SWITCH SYMBOL THAT REFERENCES TIMER NUMBER AND CHANNEL.

DIGITAL TIME SWITCH 2-CH. (SPDT) DETAIL W/OVERRIDE  
SCALE: NONE

6



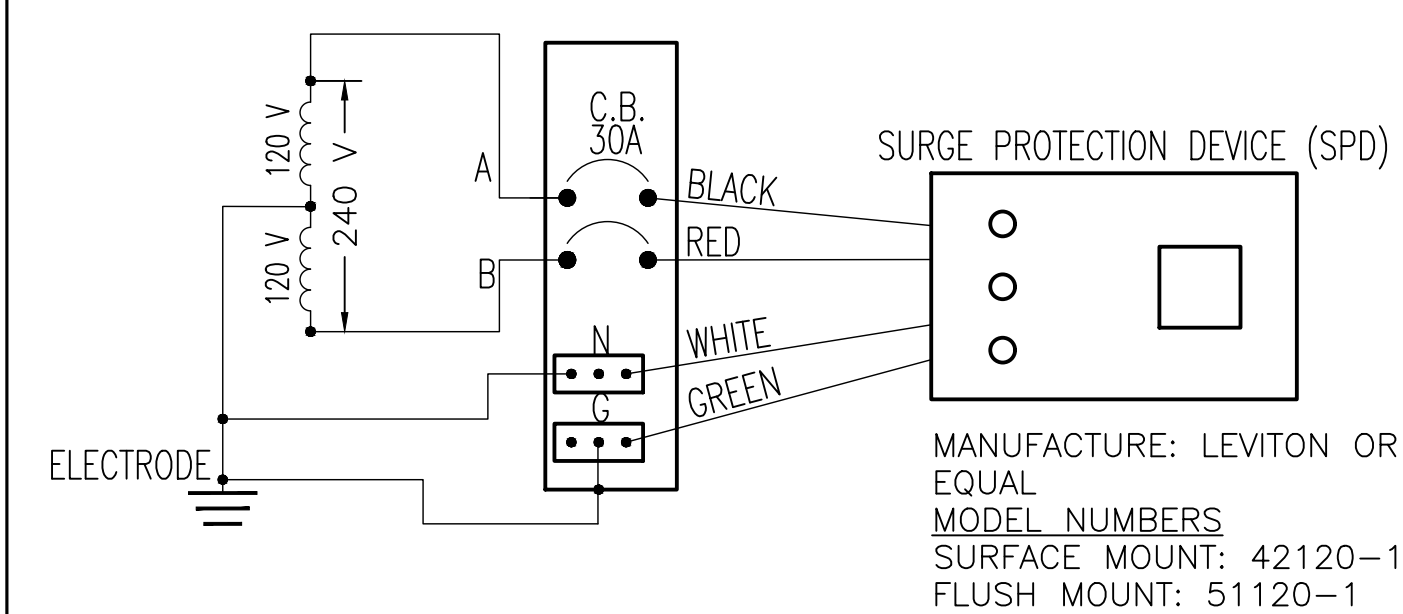
### NOTE:

THE NUMBER OF DEVICES POWERED FROM A SINGLE POWER PACK VARIES WITH THE TYPE OF DEVICE. "x" ON POWER PACK, SWITCH, AND OS REPRESENTS THE SWITCH GROUP THE OCCUPANCY SENSOR IS CONTROLLING.

WIRING DIAGRAM-SINGLE POWER PACK APPLICATION WITH NORMAL & EMERGENCY LIGHTS  
SCALE: NONE

4

NOTE: ONLY USE A SPD DESIGNED FOR A 120/240 SINGLE PHASE OTHER VOLTAGE WILL CAUSE SPD TO FAIL AND NOT PROTECT

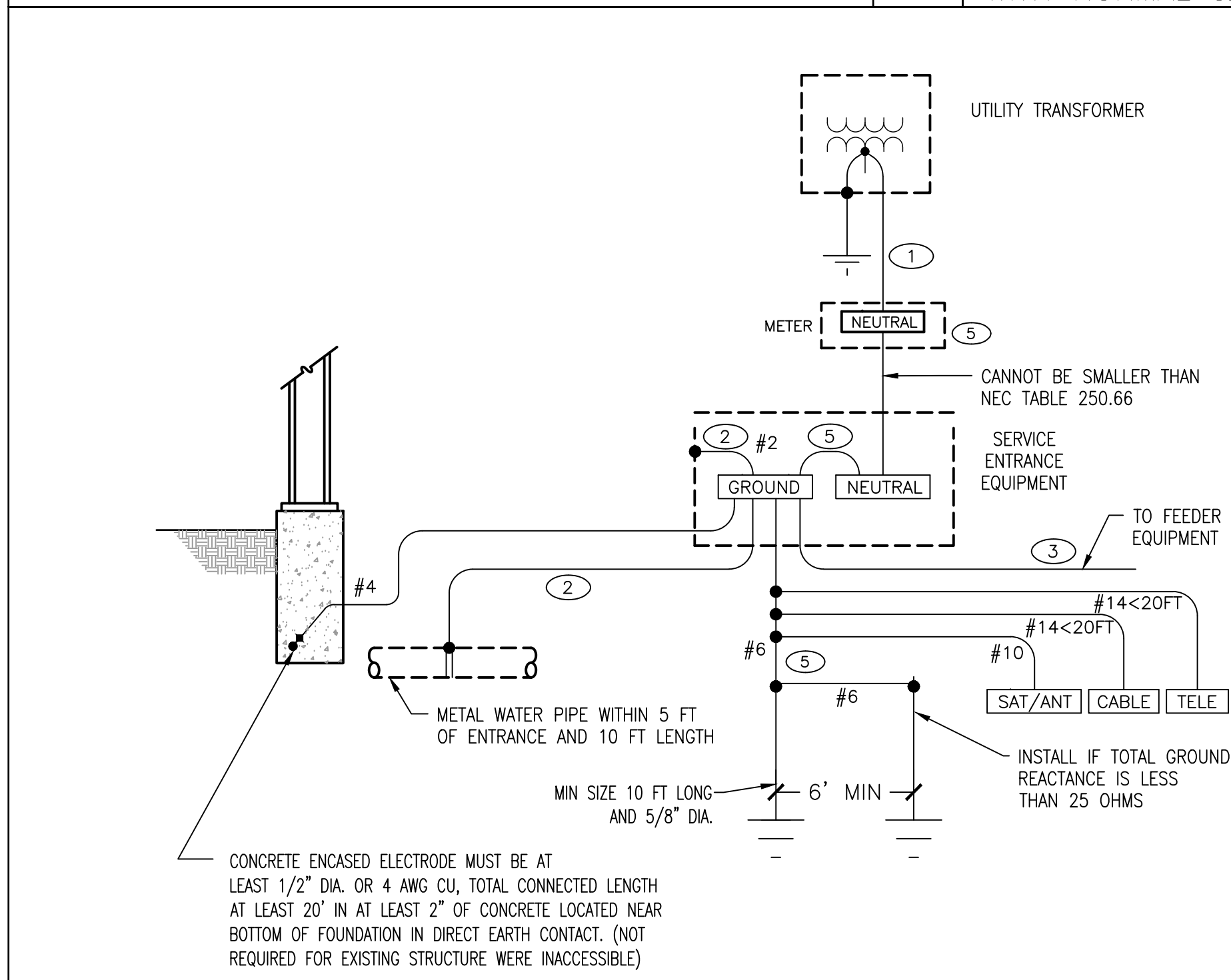


### GENERAL SPD INSTALLATION NOTES:

- LOCATE THE SPD UNIT AS CLOSE AS POSSIBLE TO THE ELECTRICAL PANEL SERVING THE LOADS TO BE PROTECTED TO MINIMIZE THE EFFECTS OF CONNECTION LEAD-LENGTH RESISTANCE AND INDUCTANCE.
- LEADS FROM THE SPD UNIT MUST BE CONNECTED TO THE POWER MAINS THROUGH A DISCONNECT AND FUSING MEANS. EITHER DEDICATED 30-AMP BRANCH CIRCUIT BREAKERS (INDEPENDENT SINGLE-POLE PREFERRED), OR A FUSED 30-AMP DISCONNECT SWITCH MAY BE USED.
- THE TOTAL CONNECTION LENGTH BETWEEN THE BRANCH POWER LINES AND SPD DEVICE SHOULD BE AS SHORT AS POSSIBLE (18" MAX). LEADS FROM THE SPD UNITS SHOULD BE BUNDLED TOGETHER AND SECURED WITH CABLE TIES WHEN POSSIBLE.
- THE SUPPRESSOR'S BLACK WIRES MAY BE CONNECTED TO L1 OR L2 WITHOUT REGARD TO PHASE.
- DO NOT CONNECT THE GREEN WIRE TO ISOLATED GROUND CONDUCTOR(S).

SPD WIRING DETAIL - 1 PHASE, 3-WIRE  
SCALE: NONE

5



SERVICE ENTRANCE GROUNDING SYSTEM DETAIL  
SCALE: NONE

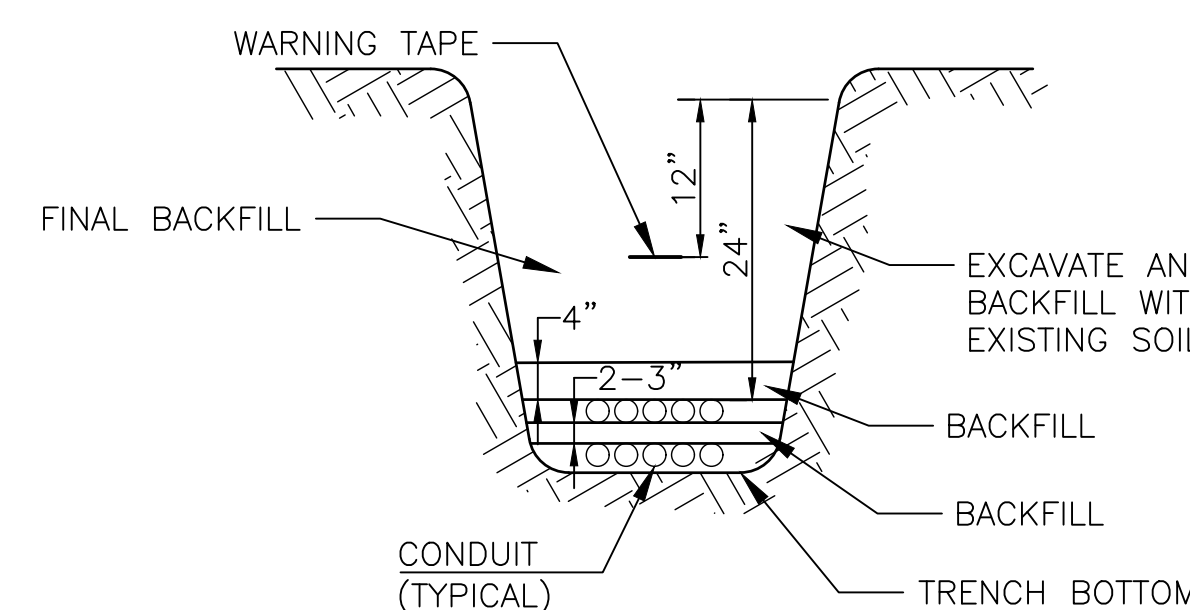
3

### KEYED NOTES

- INSTALL GROUNDING (NEUTRAL) CONDUCTOR WITHOUT EGC. NEUTRAL CONDUCTOR CANNOT BE SMALLER THAN NEC TABLE 250.66. SEE ELECTRICAL ONE-LINE FOR SIZE.
- INSTALL BONDING JUMPER THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE CONDUCTOR SIZE.
- INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250.122 USING THE FEEDER OVER CURRENT DEVICE SIZE. IF THE FEEDER SUPPLIES A SEPARATE STRUCTURE THEN DRAW AN ADDITIONAL GROUND ROD AT STRUCTURE AND GROUND TO PANEL, BUT ISOLATE NEUTRAL.
- INSTALL GROUNDING ELECTRODE CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SEPARATELY DERIVED SYSTEM PHASE CONDUCTOR SIZE.
- GROUND ROD CAN BE CONNECTED TO NEUTRAL OF METER INSTEAD OF SE GROUND. MIN SIZE SHALL BE 5/8" X 10'

### GENERAL NOTES

- EACH GROUNDING ELECTRODE SHOWN SHALL ONLY BE USED IF PRESENT AT EACH STRUCTURE/BUILDING SERVED. IF NONE ARE PART OF THE STRUCTURE/BUILDING THEN AT MINIMUM A GROUND ROD ELECTRODE SHALL BE INSTALLED. A METAL WATER PIPE SHALL NOT BE USED AS THE SOLE GROUNDING ELECTRODE SYSTEM (GES).
- INSTALL GROUNDING TERMINATIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING (EXCEPT IF ENCAPSULATED BY PREPROOFING MATERIAL).
- INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE.
- INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.122 USING THE FEEDER CIRCUIT OVER CURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVER CURRENT DEVICE SIZE.
- BOND HOT AND COLD WATER PIPING SYSTEMS.
- INSTALL 5/8" X 10' GROUND ROD.
- OTHER METAL PIPING OR EXPOSED STRUCTURAL METALS THAT ARE LIKELY TO BE ENERGIZED SHALL BE BONDED TO THE SERVICE EQUIPMENT ENCLOSURE USING THE LARGEST GROUND WIRE.

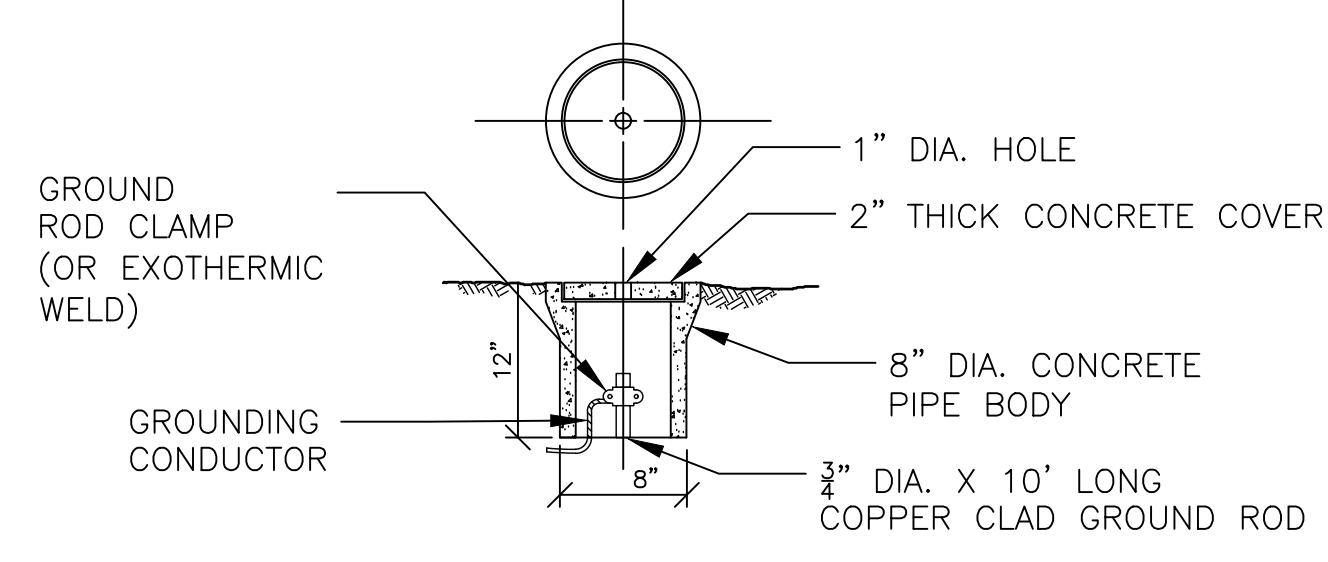


### NOTE:

BACKFILL SHALL BE TAMPED TO 95% COMPACTION. 4" OF CONCRETE MAY BE NEEDED TO CREATE SOLID BASE. BACKFILL SHALL BE FINE CLEAN SAND. FINAL BACKFILL WILL CONSIST OF EXISTING SOIL AND CAN CONTAIN SOME STONES IN IT.

DIRECT BURIAL DUCT BANK TRENCHING DETAIL (TYP)  
SCALE: NONE

2



GROUNDING ROD DETAILS (TYPICAL)  
SCALE: NONE

1

PLUMBING FIXTURE SCHEDULE					
MARK	FIXTURE, MODEL #, DESCRIPTION	ROUGH-IN			
		WASTE	VENT	CW	HW
WC	WATER CLOSET AMERICAN STANDARD "MADERA" #2234.015 1.6 GALLON FLUSH WITH OLSONITE #95 OPEN FRONT SEAT LESS COVER. SLOAN #111 FLUSH VALVE.	3"	2"	1"	---
WC-HC	WATER CLOSET, HANDICAPPED AMERICAN STANDARD "MADERA" #3043.102 1.6 GALLON FLUSH WITH OLSONITE #95 OPEN FRONT SEAT LESS COVER. SLOAN #111 FLUSH VALVE.	3"	2"	1"	---
LAV	LAVATORY, WALL HUNG AMERICAN STANDARD "LUCERENE" #0355.012 20-1/2" x 18-1/4" WALL HUNG LAVATORY WITH #5400.962 FAUCET, 1-1/4" CP P-TRAP, STOP AND SUPPLIES.	1-1/2"	2"	1/2"	1/2"
LAV-HC	LAVATORY, WALL HUNG, HANDICAPPED AMERICAN STANDARD "LUCERENE" #0355.012 WITH #7401.172H 6" GOOSENECK FAUCET AND 4" WRIST BLADE HANDLES, 1-1/4" CP P-TRAP, CP STOPS, SUPPLIES.	1-1/2"	2"	1/2"	1/2"
UR	URINAL AMERICAN STANDARD "ALLBROOK" #6541.132 1.0 GALLON FLUSH WITH SLOAN ROYAL #186-1.0 FLUSH VALVE. MOUNT AT STANDARD HEIGHT.	2"	2"	3/4"	---
UR-HC	URINAL, HANDICAPPED AMERICAN STANDARD "ALLBROOK" #6541.132 1.0 GALLON FLUSH WITH SLOAN ROYAL #186-1.0 FLUSH VALVE. MOUNT AT HANDICAPPED HEIGHT.	2"	2"	3/4"	---
SCS	SINGLE COMPARTMENT SINK BK RESOURCES BKREBK-1-1824-14-24L SINGLE COMPARTMENT SINK WITH T&S BRASS 5F-8CW10 FAUCET, 1-1/4" CP P-TRAP, STOP AND SUPPLIES.	1-1/2"	2"	1/2"	1/2"
EWH	ELECTRIC WATER HEATER A.O. SMITH DEL-40 R-16 FOAM INSULATED, GLASS-LINED 40 GALLON TANK, THREE (3) YEAR WARRANTY WATER HEATER. 32" HIGH x 26" DIAMETER, 4.5 KW @ 208 VOLT, 1 PHASE ELECTRIC HEATER. PROVIDE 120 VOLT PLUG IN GRUNDFOS RECIRC PUMP WITH AQUASTAT/TIMER.	---	---	3/4"	3/4"
EW-SL	ELECTRIC WATER COOLER, DUAL LEVEL, HANDICAPPED ELKAY VERDOLBSC COOLER STANDARD COLOR, 1-1/2" 20 GAUGE CP P-TRAP, LESS CO. STOP AND SUPPLIES. MOUNT LOWER BOWL NOZZLE AT 30" A.F.F FOR ADA.	1-1/2"	2"	1/2"	---
MSB	MOP SERVICE BASIN F1A1 MSB2424 24"x24" MOLDED STONE MOP SERVICE BASIN WITH 830-AA FAUCET, 832-AA HOSE BRACKET AND HANGER.	3"	2"	3/4"	3/4"
FD	FLOOR DRAIN ZURN Z415-6B-P 6" FLOOR DRAIN WITH "SURE SEAL" TRAP SEAL AND TYPE "B" STRAINER.	3"	2"	---	---
WCO	WALL CLEANOUT ZURN Z1400 D.C.C.I. BODY WITH STAINLESS STEEL ACCESS COVER AND SECURING SCREW.	SEE PLAN	---	---	---
FCO	FLOOR CLEANOUT ZURN Z1400 D.C.C.I. BODY ADJUSTABLE TO FINISHED FLOOR.	SEE PLAN	---	---	---
COTG	CLEANOUT TO GRADE ZURN Z1400-HD D.C.C.I. BODY ADJUSTABLE TO FINISHED GRADE WITH HEAVY DUTY TOP. SET IN 24"x24"x6" CONCRETE PAD.	SEE PLAN	---	---	---
TMV	THERMOSTATIC MIXING VALVE BRADLEY S89-2007 TWO INLETS, ONE OUTLET, SET TO 105 DEG. F. VALVE SHALL HAVE INTEGRAL CHECK STOPS, PROVIDE WITH WALL MOUNT BELOW SINK.	---	---	1/2"	1/2"
HB	HOSE BIBB JAY R. SMITH 5609QT WITH POSITIVE NON-FREEZE PROTECTION AND VACUUM BREAKER.	---	---	1/2"	---

- NOTES:  
1. APPROVED MANUFACTURERS OF FIXTURES ARE AMERICAN STANDARD, ELJER AND KOHLER.  
2. APPROVED MANUFACTURERS OF DRAINS AND CLEANOUTS ARE J.R. SMITH, ZURN AND WADE.  
3. ALL SUPPLIES SHALL BE PROVIDED WITH CP BRASS ANGLE STOPS BY EASTMAN OR BRASSCRAFT.  
4. ALL EXPOSED TRAPS AND WASTE ARMS SHALL BE CP BRASS BY MCGUIRE OR EQUAL.

### PLUMBING GENERAL NOTES

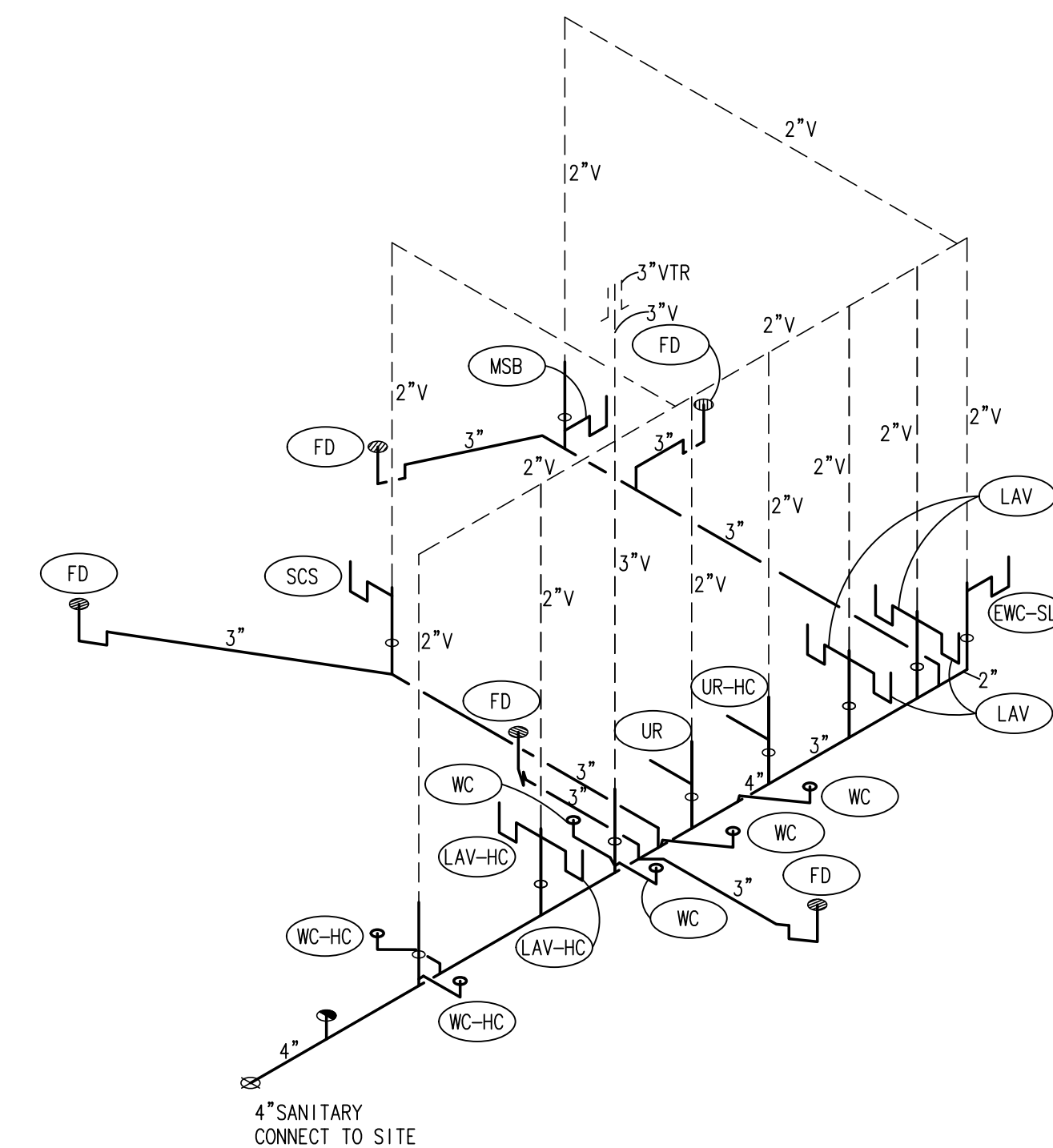
- ALL WORK SHALL COMPLY WITH NATIONAL, STATE AND LOCAL CODES. THIS SHALL INCLUDE THE 2020 7TH EDITION FLORIDA BUILDING CODE, WITH LOCAL AMENDMENTS.
- REVIEW PLANS OF ALL TRADES PRIOR TO BIDDING. INSTALLATION TO INCLUDE ALL PLUMBING FOR COMPLETE SYSTEMS DEPICTED ON THE PLANS.
- COORDINATE WITH OTHER TRADES TO PREVENT CONFLICTS WITH HVAC DUCTS, ELECTRICAL LIGHTING AND STRUCTURAL ELEMENTS.
- THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES SHOWN ON THE PLUMBING FIXTURE SCHEDULE. VERIFY MOUNTING HEIGHT AND CONNECTION SIZES OF ALL PLUMBING FIXTURES PRIOR TO INSTALLATION.
- ALL WORK, BOTH MATERIAL AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE BY THE OWNER.

### WATER PIPING

- THE WATER PIPING SHALL BE CPVC WITH SOLVENT WELDED JOINTS, WITH MAIN RUNS BELOW SLAB.
- THE WATER SERVICE TO THE BUILDING IS NEW.
- THE MAIN BACKFLOW PREVENTER IS NEW.
- THE SITE WATER METER IS NEW.
- SUPPORT ALL PIPING WITH PIPE HANGERS EQUAL TO GRINNEL.
- PROVIDE EACH FIXTURE WITH A SHUT-OFF SUPPLY STOPS. EXPOSED STOPS AND SUPPLY PIPING SHALL BE CHROME PLATED, WITH CHROME ESCUTCHEON PLATE AND SET SCREW. STOPS SHALL BE 16" AFF FOR LAVATORIES.
- PROVIDE UNIONS FOR ALL CONNECTIONS TO SERVICEABLE EQUIPMENT. UNIONS SHALL BE DIELECTRIC WIERE DISSIMILAR METALS ARE CONNECTED.
- INSULATE ALL HOT WATER PIPING WITH 1" ARMAFLEX OR 1" FIBERGLASS EQUAL TO MANVILLE MICRO-LOK AP-T. VAPOR SEAL ALL BUTT JOINTS.
- PROVIDE WATER HAMMER ARRESTORS, EQUAL TO JR SMITH 5000 SERIES, IN ACCORDANCE WITH PD1 STANDARD WH-201. FIELD FABRICATED SHOCK ABSORBERS ARE NOT ACCEPTABLE.
- PROVIDE VACUUM BREAKERS AS REQUIRED BY CODE.
- STERILIZE ALL WATER PIPING IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS.
- TEST ALL WATER PIPING AT 100 PSIG FOR SIX HOURS OR AS REQUIRED BY THE JURISDICTION.
- PROVIDE SHUT OFF VALVES FOR ALL EXTERIOR HOSE BIBS AND WALL HYDRANTS.
- PROVIDE SERVICE VALVES AT EACH BRANCH SUPPLY LINE, AS DEPICTED ON THE PLAN. ALL VALVES, CHECK STOPS, ETC. SHALL BE RATED FOR 125 LB SERVICE. VALVES SHALL BE BALL OR GATE TYPE. GLOBE VALVES ARE NOT ACCEPTABLE. VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION FOR SERVICING AND OPERATION.

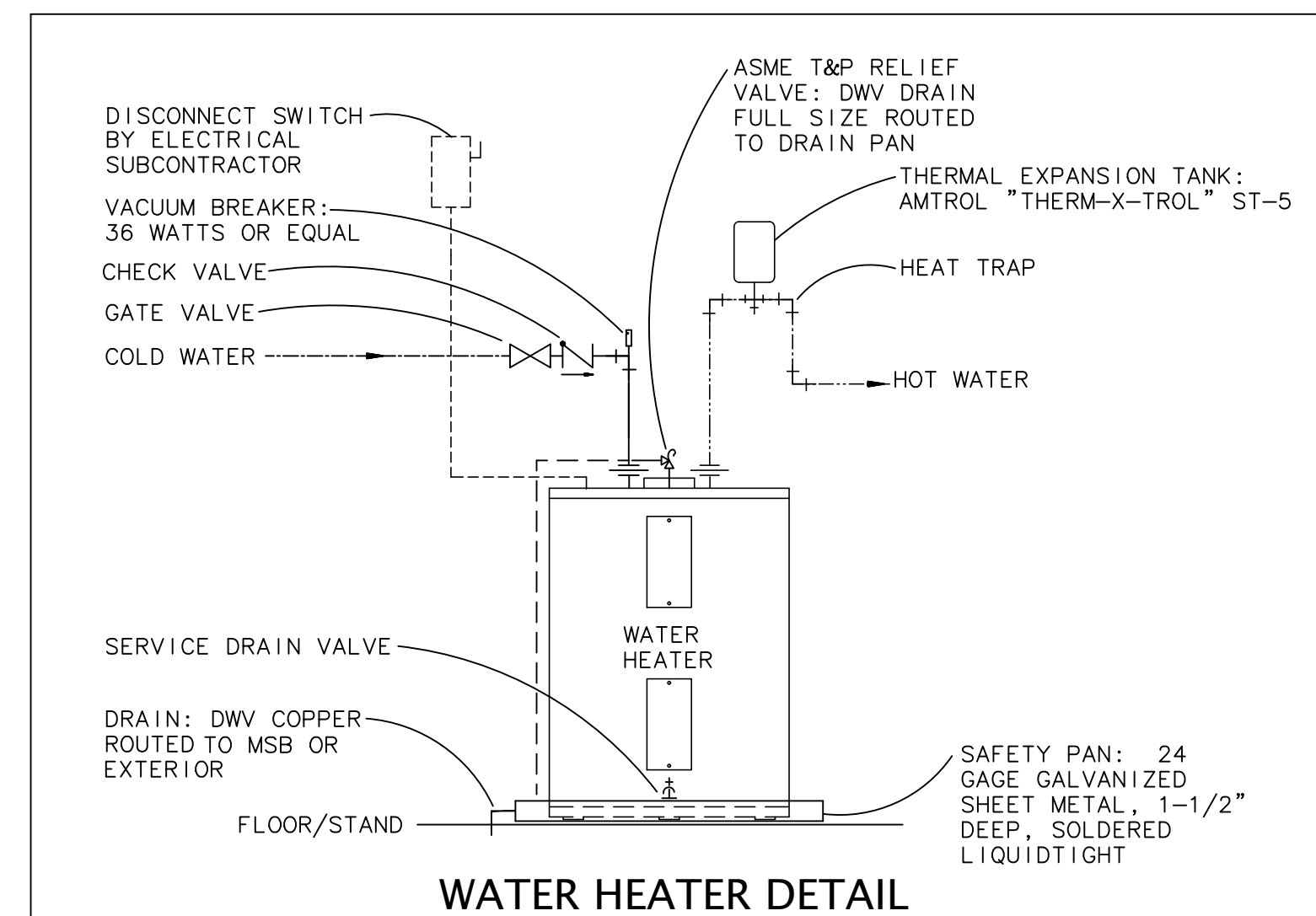
### SANITARY, WASTE AND VENT PIPING

- SANITARY WASTE, CONDENSATE AND VENT PIPING SHALL BE SCHEDULE 40 PVC DWV (ASTM-2665) WITH SOLVENT WELDED JOINTS.
- SLOPE OF SANITARY, CONDENSATE AND WASTE PIPING SHALL BE UNIFORM, WITH A MINIMUM OF 1/8" PER FOOT FOR 2" AND A MINIMUM OF 1" PER FOOT FOR LARGER PIPING.
- EXPOSED WASTE DRAINS IN RESTROOMS SHALL BE CHROME PLATED BRASS TUBING WITH MATCHING CHROME ESCUTCHEON PLATE.
- PROVIDE INTERIOR AND EXTERIOR CLEANOUTS AS REQUIRED BY CODE.
- FURNISH 4 LB LEAD OR 8 OZ COPPER VENT FLASHING FOR INSTALLATION BY THE GENERAL CONTRACTOR FOR ALL VENTS THROUGH ROOF. VERIFY TYPE OF ROOFING PRIOR TO INSTALLATION.
- TEST SANITARY, WASTE AND VENT PIPING USING A 10 FOOT WATER COLUMN FOR 2 HOURS OR AS REQUIRED BY THE JURISDICTION.

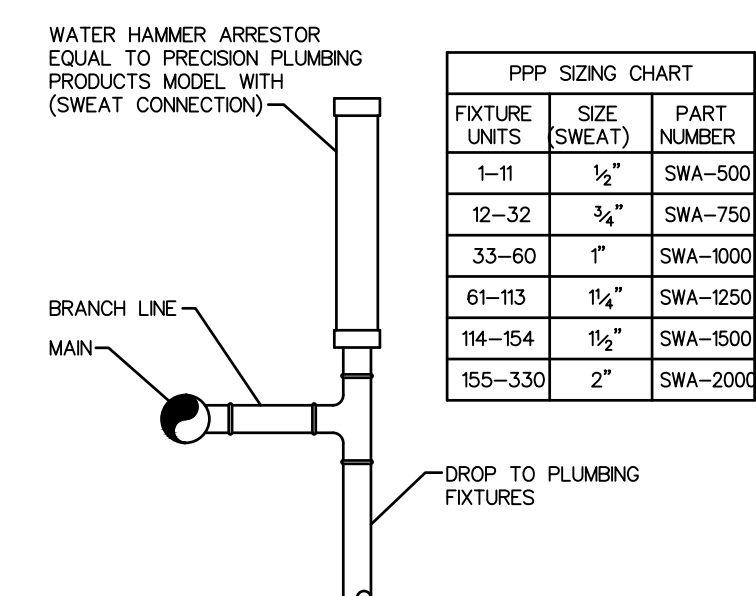


## 02 SANITARY ISOMETRIC

Scale: NOT TO SCALE

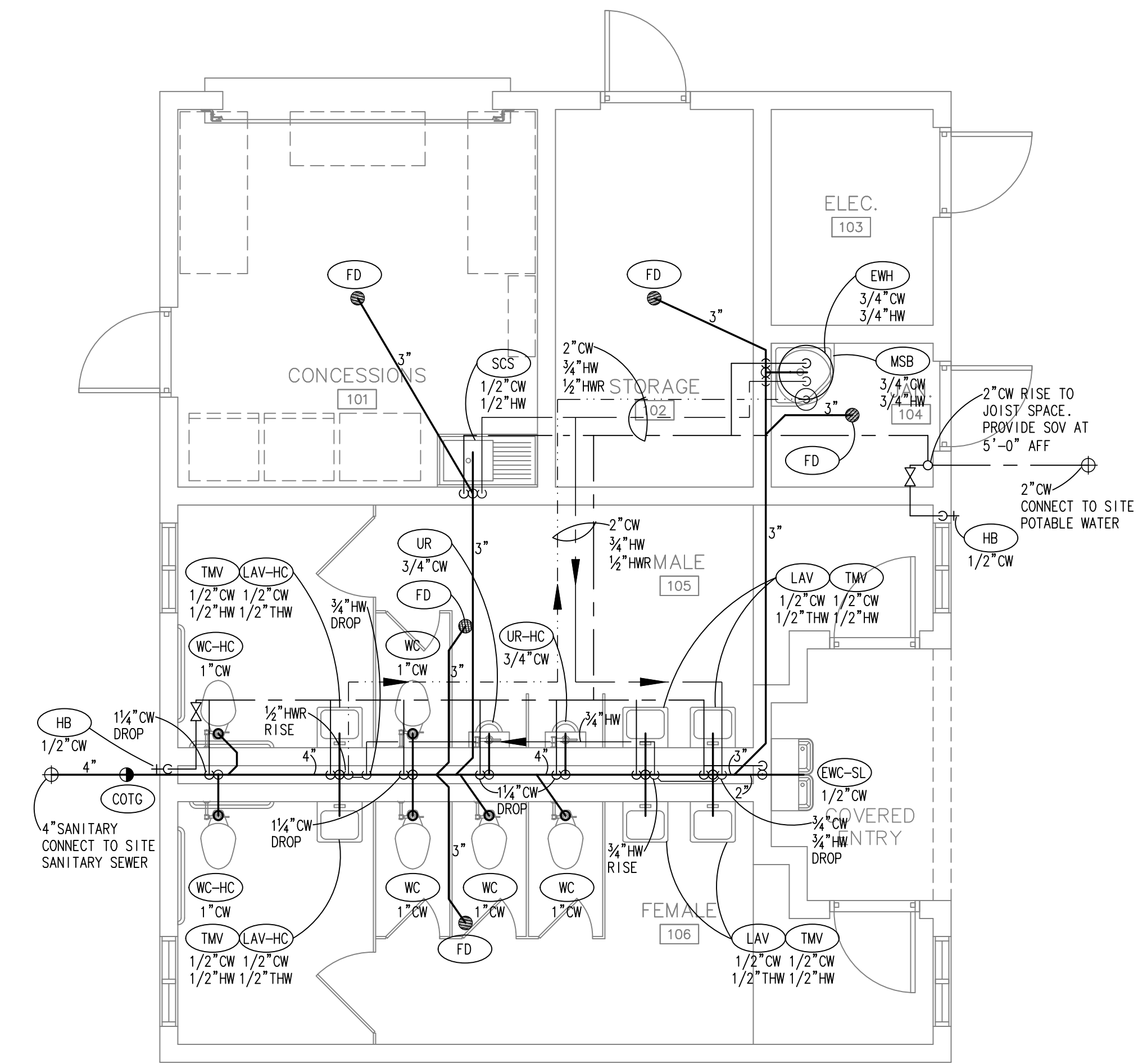


### WATER HEATER DETAIL



- NOTES:  
1. PROVIDE A WATER HAMMER ARRESTOR ON EACH HOT WATER AND COLD WATER DROP.  
2. ARRESTORS SHOULD ALWAYS BE INSTALLED SO THAT THERE IS AN UNOBSTRUCTED SHOCK PATH TO THE ARRESTOR.  
3. ARRESTORS SHOULD ALWAYS BE PLACED AS NEAR TO THE SOURCE OF SHOCK AS POSSIBLE.

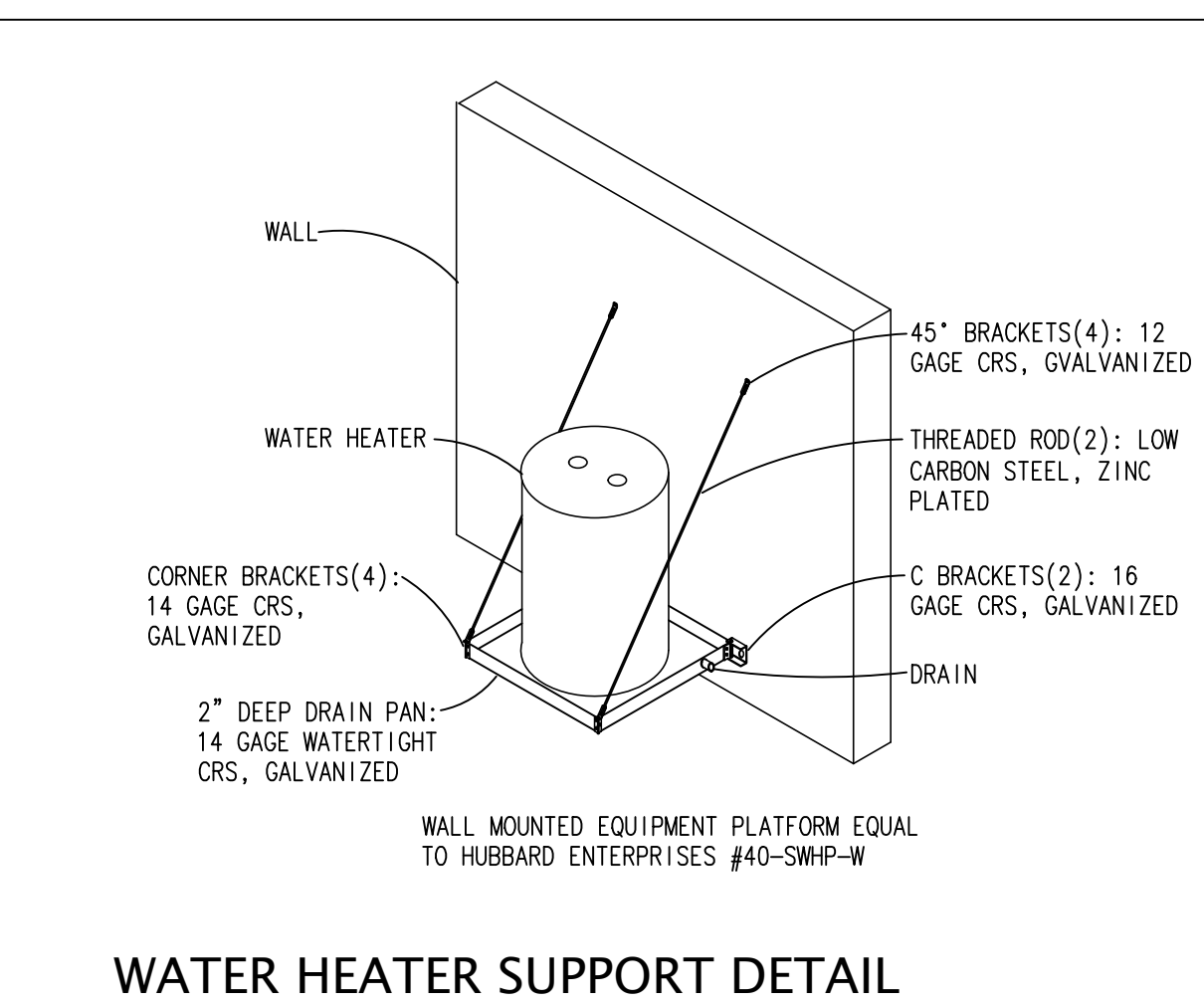
### WATER HAMMER ARRESTOR DETAIL



## 01 PLUMBING FLOOR PLAN

GROSS SQUARE FOOTAGE = 999 G.S.F.

Scale: 1/4"=1'-0"



### WATER HEATER SUPPORT DETAIL

WATER DEMAND					
	CW EACH	HW EACH	TOTAL EACH	QTY EACH	TOTAL ALL
WC	10	1.5	10	6	60
LAV	1.5	1.5	2	6	12
UR	5	---	5	2	10
SINK	2.0	2.0	3	1	3
MSB	1.5	1.5	2	1	2
HB	3.0	---	3	2	6
EWC	0.5	---	0.5	1	0.5
TOTAL WSFU					93.5
TOTAL GPM	64				PIPE SIZE = 2"

PLUMBING LEGEND	
SANITARY SEWER (SAN)	---S---
GREASE (GR)	---G---
VENT (V)	---V---
COLD WATER (CW)	---C---
HOT WATER (HW)	---H---
TEMPERED HOT WATER (THW)	---T---
HOT WATER RETURN (HWR)	---R---
LP GAS (G)	---G---
SHUT-OFF VALVE	---V---
SITE POINT OF CONNECTION	---P---

Project:

HOBART PARK

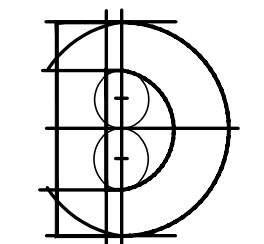
CONCESSION &  
RESTROOM  
BUILDING

INDIAN RIVER COUNTY, FLORIDA

Key Plan:

Issues:  
No.: Date: Description:  
A. 03/11/24 BID SET

Architect:



**DONADIO**  
& Associates, Architects P.A.

609 17th Street  
Vero Beach, FL 32960  
Tel: 772.794.2929  
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www.donadio-arch.com

Consultant:

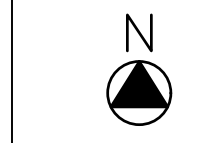


Your MEP Design Consultant  
Treasure Coast Engineering, Inc.  
CA# 27181  
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772-567-1007 www.tce-eng.pro

Drawing Title:

PLUMBING PLAN

Reference North



Drn: JGS Dwg. File:  
Chd: XREF File:  
EH  
Project No.: Plot File:  
2018-04  
Sheet No.:

Cert. No.: FL PE 77543

Date Signed:

P1.1