

January 20, 2017
BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
Addendum No. 3 / IFB Y17-729-CC
East Orange Regional Park

Revised Bid Opening Date: January 31, 2017

This addendum is hereby incorporated into the bid documents of the project referenced above. The following items are clarifications, corrections, additions, deletions and/or revisions to, and shall take precedence over, the original documents. Underlining indicates additions, deletions are indicated by ~~strikethrough~~.

A. The bid opening date is changed from ~~January 24, 2017 at 2:00 P.M.~~ to January 31, 2017 at 2:00 P.M.

B. Additions, Deletions, and Revisions:

1. Revision: The following “**East Orange County Park Multipurpose Field**” drawings have been revised and are attached:

- a. DRAWING SHEET C100 – OVERALL SITE DEVELOPMENT PLAN dated 1-19-17
 - i. General Revision for Permitting
- b. DRAWING SHEET C101 – SITE DEVELOPMENT PLAN dated 1-19-17
 - i. General Revision for Permitting
- c. DRAWING SHEET C102 – SITE DEVELOPMENT PLAN dated 1-19-17
 - i. General Revision for Permitting
- d. DRAWING SHEET C200 – OVERALL GRADING & DRAINAGE PLAN dated 1-19-17
 - i. General revision for permitting
- e. DRAWING SHEET C201 – GRADING & DRAINAGE PLAN dated 1-19-17
 - i. General revision for permitting
- f. DRAWING SHEET C202 – GRADING & DRAINAGE PLAN dated 1-19-17
 - i. General revision for permitting
- g. DRAWING SHEET C301 – UTILITY PLAN dated 1-19-17
 - i. General revision for permitting
- h. DRAWING SHEET C401– SITE DETAIL SHEET dated 1-19-17
 - i. General revision for permitting
- i. DRAWING SHEET C402 – SITE DETAIL SHEET dated 1-19-17
 - i. General revision for permitting
- j. DRAWING SHEET C403 – DRAINFIELD PLAN/SECTION dated 1-19-17
 - i. General revision for permitting
- k. DRAWING SHEET C404 – FIRE TANK PLAN/SECTION dated 1-19-17
 - i. General revision for permitting
- l. DRAWING SHEET L.01 – SITE LANDSCAPE PLAN dated 1-19-17

- i. General revision for permitting
 - m. DRAWING SHEET L.02 – SITE LANDSCAPE PLAN dated 1-19-17
 - i. General revision for permitting
 - n. DRAWING SHEET LD.01 – LANDSCAPE NOTES AND DETAILS dated 1-19-17
 - i. General revision for permitting
 - o. DRAWING SHEET LD.02 – LANDSCAPE SPECIFICATIONS dated 1-19-17
 - i. General revision for permitting
 - p. DRAWING SHEET LI.01 – IRRIGATION PLAN dated 1-19-17
 - i. General revision for permitting
 - q. DRAWING SHEET LI.02 – IRRIGATION PLAN dated 1-19-17
 - i. General revision for permitting
 - r. DRAWING SHEET LID.01 – IRRIGATION DETAILS dated 1-19-17
 - i. General revision for permitting
2. **Addition:** The following drawings have been added to the “**East Orange County Park Multipurpose Field**” and are attached:
- a. DRAWING SHEET E001 – ELECTRICAL GENERAL NOTES AND DETAILS dated 1-19-17
 - b. DRAWING SHEET E101 – SITE DEVELOPMENT PLAN-ELECTRICAL dated 1-19-17
 - c. DRAWING SHEET E102 – SITE DEVELOPMENT PLAN-ELECTRICAL dated 1-19-17

C. Questions and Answers:

1. **Question (applies to the site drawings titled “East Orange County Park Multipurpose Field”)** On the Civil Drawings it calls out for New Light Poles LP around the Soccer Fields but the details/specs/plans are not provided. Please advise.
Answer: Site electrical and lighting plans are included in this addendum.
2. **Question (applies to the site drawings titled “East Orange County Park Multipurpose Field”)**: On the Civil Sheets it does not show any grass parking locations or details, but on A102 of the Recreation Building and sheet C100 of the Concession/Storage/Restroom Building it shows a grass parking area. Are we responsible for the Grass Parking Lot? If so please provide plans/details.
Answer: Please use sheet C100 in civil set as the development plan for the project. There are only 2-lit ball fields and no provision for grass parking.
3. **Question (applies to the site drawings titled “East Orange County Park Multipurpose Field”)**: Is Laser Grading required for the Soccer Fields? If so please provide the specification.

Answer: Laser Grading will be required for grading of the sport fields. Tolerances for laser grading is 1/4" maximum variation in 10 feet and between 1/4" to 1/2" maximum in the plane of the field.

4. **Question (applies to the site drawings titled “East Orange County Park Multipurpose Field”):** Is any Soil fumigation required for the Soccer Fields? If so please provide the specification.

Answer: Soil Fumigation is included on landscape drawings (LD02), included as part of this addendum.

5. **Question (applies to the site drawings titled “East Orange County Park Multipurpose Field”):** Can crushed concrete be used as a base course in lieu of soil cement?

Answer: Due to the potential for asbestos and other deleterious materials to be present in crushed concrete, crushed concrete is not permitted.

D. ACKNOWLEDGEMENT OF ADDENDA

- a. The Bidder/Proposer shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of the bid or proposal.
- b. All other terms and conditions of the IFB remain the same.

c. **Receipt acknowledged by:**

Authorized Signature

Date Signed

Title

Name of Firm

LEGEND		FURNITURE SCHEDULE			
SYMBOL	DESCRIPTION	QUANTITY	MANUFACTURER, MODEL No.	ADDITIONAL INFORMATION	REPRESENTATIVES
•	WATER FOUNTAIN	2	MOST DEPENDABLE FOUNTAIN, 493 SMS (ADA)	SURFACE MOUNT, POWDER COAT GREEN, STAINLESS STEEL SURFACE CARRIERS	MOST DEPENDABLE
•	TRASH/RECYCLE RECEPTACLE	2	PILOT ROCK, TRH-32 SERIES	32 GALLON, STANDARD ROUND RECEPTACLE, STANDARD 2"x4"	PILOT ROCK
•	MOUNTING-RECEPTACLE	2	PILOT ROCK, M2/G	EMBEDDED PEDESTAL MOUNT	
•	CAN AND LID-RECEPTACLE	2	PILOT ROCK, CNG-WHD32CL	32 GAL. FEDERAL DUTY GALV. STEEL CAN, NO LID REQUIRED	
•	LIDS-RECYCLE DECAL	2	PILOT ROCK, DE-24	CAN & BOTTLES ONLY	
•	BIKE RACK	1	PILOT ROCK, MODEL SRE/G-7	HOT DIP GALV. FINISH, EMBEDDED VERTICAL LEGS, FORMED PREGALVANIZED STEEL COVER CAPS	

FURNITURE/HARDSCAPE NOTES:

- PROVIDE TRASH RECEPTACLES WITH LINERS AND LID INCLUDING CHAIN FOR SECURING. PROVIDE 4"x4"x8" CONCRETE SLAB FOR INSTALLATION OF RECEPTACLES W/ PROPER ANCHORING PER MANUFACTURER. SIMILAR TO DETAIL 10/C401.
- LOCATION OF ALL FURNITURE SHOWN SHALL BE VERIFIED AND ACCEPTED BY O.C. VERIFY ALL SIZES OF PURCHASED EQUIPMENT AND INSTALLATION METHOD PRIOR TO PLACEMENT OF CONCRETE SLAB/FOUNDATION.
- DRINKING FOUNTAINS SHALL BE INSTALLED WITH OPTIONAL JUG FILLER AND ALL RELATED PIPING AND DRAINAGE SYSTEM. INSTALL FOUNTAINS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS WITH FOUNDATION SIMILAR TO DETAIL 11/C401. FINAL LOCATION OF FOUNTAINS SHALL BE COORDINATED IN THE FIELD AND APPROVED BY ORANGE COUNTY REPRESENTATIVE. FOUNTAINS SHALL BE ORDERED WITH PUSH BOTTOMS TO THE FRONT FACING THE CONCRETE WALK. PROVIDE SHUT-OFF VALVE WITHIN GRASS AREA ADJACENT TO THE FOUNTAIN. PROVIDE A 5'x5'x4" CONCRETE SLAB AT EACH FOUNTAIN WHERE SHOWN ON PLAN. ALL FOUNTAINS SHALL HAVE A DRY WELL FOR DRAINAGE PER DETAIL 1/C401. PLACE DRY WELL WITHIN 4 FT. OF FOUNTAIN AND PROVIDE ALL PIPING.
- INSTALL BIKE RACKS ON 5'x6'x4" CONC. PAD (SIMILAR TO DETAIL 1/C401). VERIFY PAD DIMENSIONS W/ PURCHASED BIKE RACKS. PROVIDE PERMANENT ANCHORING PER MANUFACTURER RECOMMENDATIONS.
- CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING NECESSARY FOUNDATION AND ANCHORING SYSTEM FOR ALL SITE FURNITURE REGARDLESS OF THE MANUFACTURER SELECTED.

GEOMETRY NOTES:

- ALL SURVEY DATA USED AND CONDITIONS ASSUMED TO BE PRESENT IN PREPARATION OF THESE PLANS WAS PROVIDED BY (SOUTHEASTERN SURVEYING AND MAPPING CORP.), S.K. CONSORTIUM, INC. DOES NOT ASSUME RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THIS DATA.
- THE CONTRACTOR SHALL VERIFY AND LOCATE ALL VERTICAL AND HORIZONTAL CONTROL POINTS PRIOR TO CONSTRUCTION. IF ANY DISCREPANCIES SHOULD BE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SURVEYOR OF THE CONDITION IN WRITING PRIOR TO COMMENCING HIS CONSTRUCTION ACTIVITIES.
- ALL PAVEMENT OFFSETS, RADII AND DIMENSIONS SHOWN ARE TO PROPOSED EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL STAKE ALL IMPROVEMENTS USING THE GEOMETRIC DATA PROVIDED. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO COMPLETELY STAKE AND CHECK ALL IMPROVEMENTS TO ENSURE ADEQUATE POSITIONING, BOTH HORIZONTAL AND VERTICAL, PRIOR TO THE INSTALLATION OF ANY IMPROVEMENTS.
- THE CONTRACTOR SHALL RESTORE AND REPAIR PROPERTY CORNERS AND LAND MARKERS DISTURBED DURING CONSTRUCTION (UNDER THE DIRECTION OF A FLORIDA REGISTERED LAND SURVEYOR).

GENERAL NOTES:

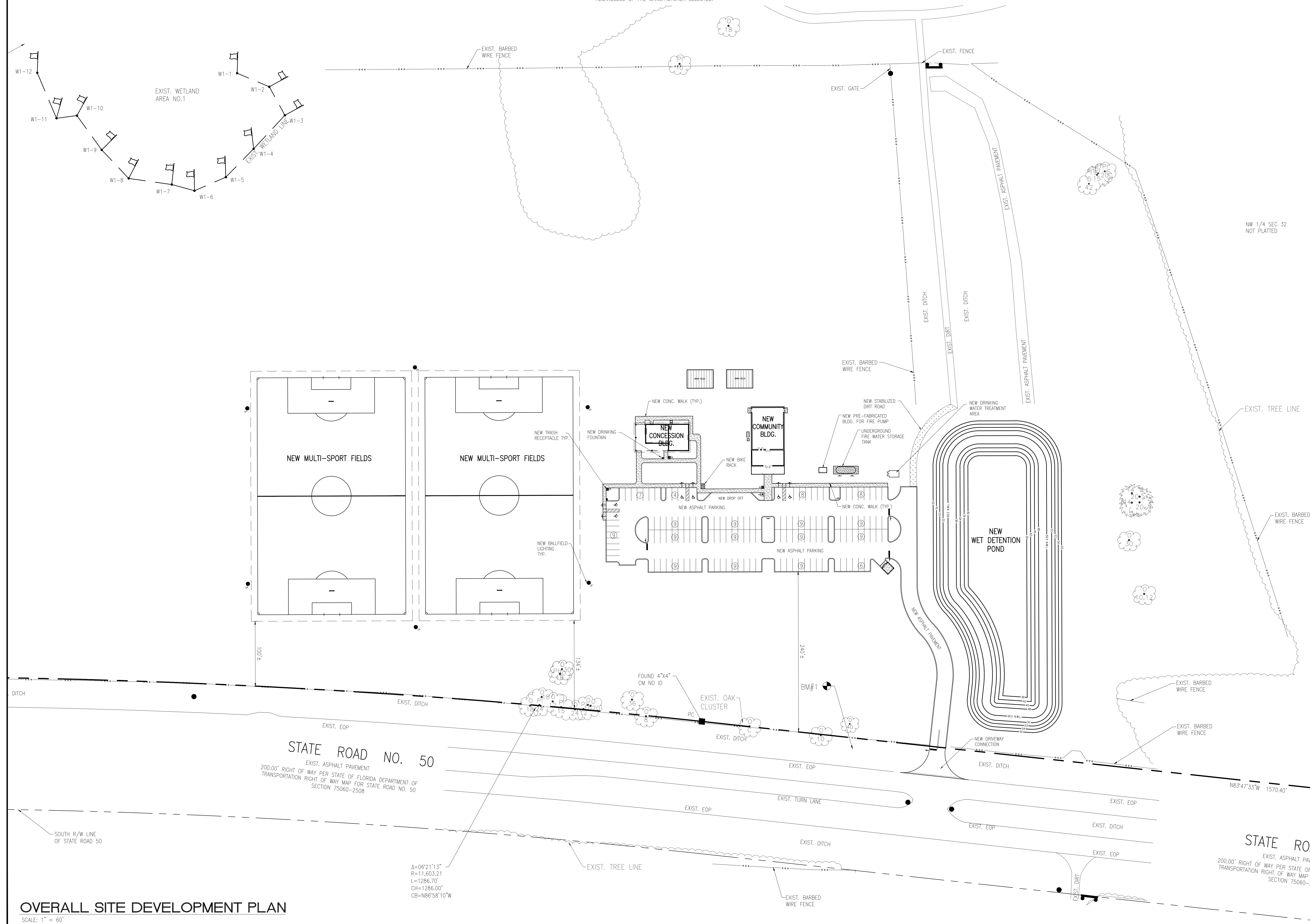
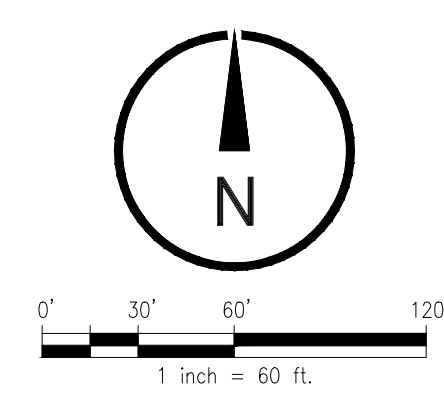
- TRAFFIC MARKINGS
 - ALL DRIVEWAYS EXITING ONTO ANY PUBLIC OR PRIVATE STREET MUST HAVE A TRAFFIC CONTROL DEVICE (30" STOP SIGN MOUNTED 7' ABOVE THE PEDESTRIAN VEHICLE TRAVEL WAY (MEASURED FROM BOTTOM OF SIGN) AND THROUGHOUT THE SITE AS NECESSARY FOR SAFETY.
 - ALL SIGN INSTALLATIONS SHALL COMPLY WITH SIZE, LOCATION AND HEIGHT (?) AS OUTLINED IN THE "MUTCD."
 - PAVEMENT MARKINGS
 - PARKING LOT PAVEMENT MARKINGS SHALL BE WHITE (DIRECTIONAL ARROWS, STOP BARS, LINES DESIGNATING PARKING SPACES AND HANDICAPPED PARKING SPACES).
 - ALL HANDICAPPED PARKING SPACES MUST BE LEGALLY SIGNED WITH ONE REGULATION HANDICAP SIGN AND ONE BLUE PAVEMENT MARKING SYMBOL PER SPACE.
 - A 24" STOP BAR SHALL BE PROVIDED AT ALL POINTS OF EGRESS IN CONFORMANCE WITH FDOT #17346, DRAWING #3 OF 14.
 - ARROWS AND DIVIDING LINES IN CONFORMANCE WITH FDOT #17346, DRAWING 1 OF 14.
- ALL HANDICAPPED PARKING SPACES SHALL BE IN ACCORDANCE W/FBC 2010 & FDOT INDEX 0304 AND MUST HAVE TRUNCATED DOME PER OC REQUIREMENTS.

SITE DATA:

PARCEL ID # 29-22-33-0000-00-002
 ZONING A-2
 TOTAL SITE AREA 243.07 ACRES
 CONCESSION BLDG 3,308 SF
 COMMUNITY BLDG 5,140 SF

PAVEMENT/HARDSCAPE TOTAL IMPERVIOUS AREA 65,390 SF
 TOTAL PERVIOUS AREA 73,838 SF = 1.70 ACRES = 0.70%
 TOTAL PERVIOUS AREA 241.37 ACRES = 99.30%

PARKING PROVIDED
 STANDARD 135 SPACES
 HANDICAP 6 SPACES
 TOTAL 141 SPACES



OVERALL SITE DEVELOPMENT PLAN
 SCALE: 1" = 60'

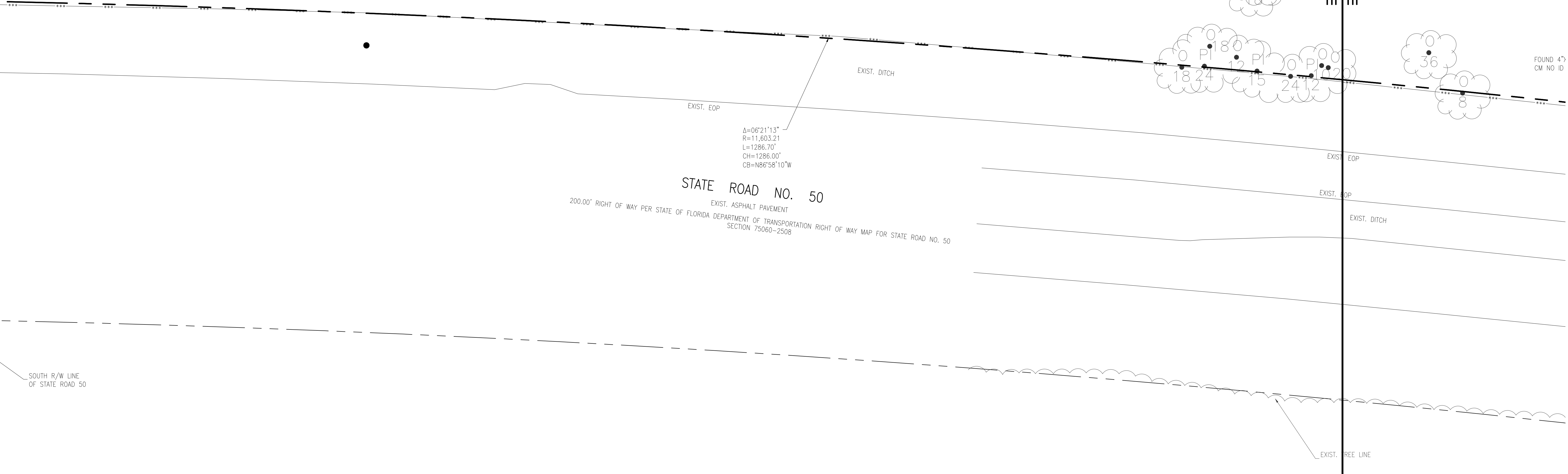
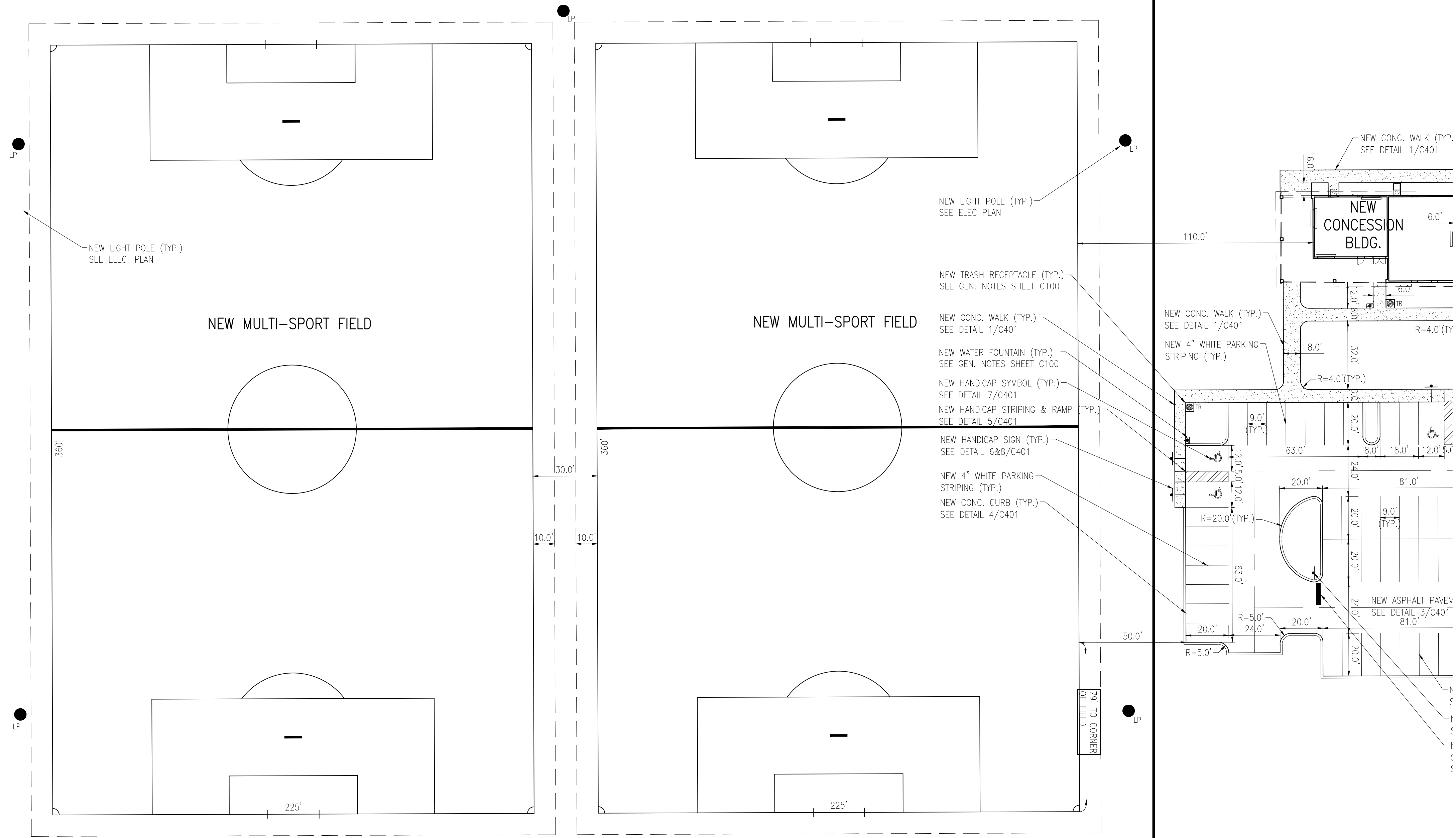
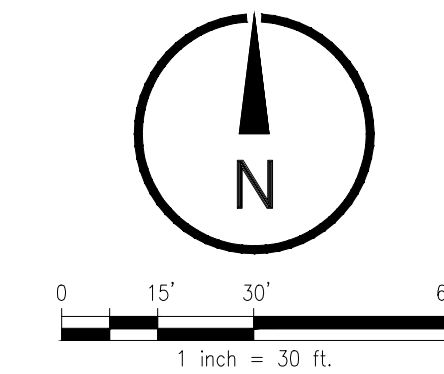
ENGINEERING PLANNING
 URBAN DESIGN
SK Consortium, Inc.
 1053 N. ORLANDO AVE. SUITE 3 • MAITLAND, FLORIDA 32751
 TELEPHONE 407-629-4288 • FACSIMILE 407-629-6566 • E# 7080

Seal: Majid Kalaghchi P.E. 41046

OVERALL SITE DEVELOPMENT PLAN
EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS
ORANGE COUNTY PARKS + RECREATION
 ORANGE COUNTY, FL

CONCEPT PLAN REVIEW 07-08-16	Issue Date and Purpose
PRELIMINARY SITE PLAN 8-9-16	Project Number:
30% DD SET 9-22-16	1639
60% DD SET 10-28-16	Drawn by:
BID SET 12-15-16	Checked by:
REVISED FIRE TANK SIZE 1-4-17	M. KALAGHCHI
PERMIT SET 1-10-17	File No:
ADDENDUM NO.3 1-19-17	150000000





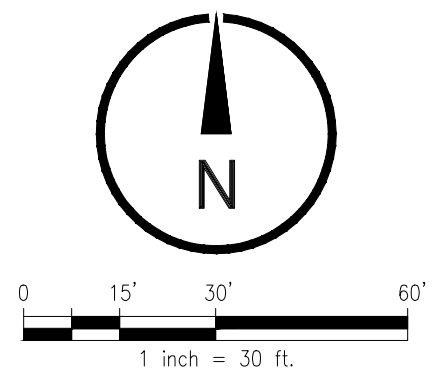
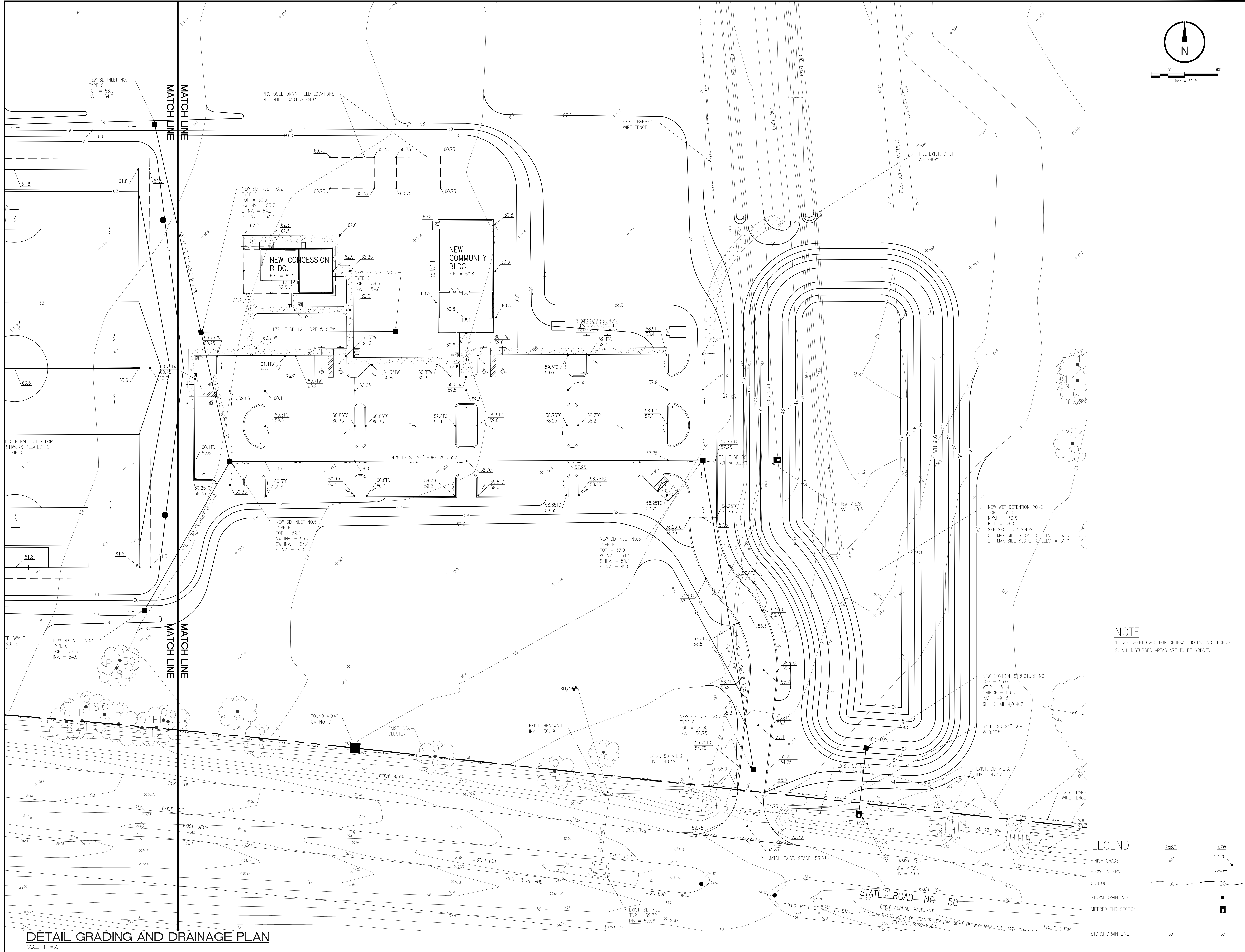
NOTE
SEE SHEET C100 FOR GENERAL NOTES AND LEGEND

Seal: Majid Kaloghchi P.E. 41046

DETAIL SITE DEVELOPMENT PLAN

**EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS
 ORANGE COUNTY PARKS + RECREATION**
 ORANGE COUNTY, FL

CONCEPT PLAN REVIEW 07-08-16
PRELIMINARY SITE PLAN 8-9-16
30% DD SET 9-22-16
60% DD SET 10-28-16
BID SET 12-15-16
REVISED FIRE TANK SIZE 1-4-17
PERMIT SET 1-10-17
ADDENDUM NO.3 1-19-17



Seal: Majid Kaloghchi P.E. 41046

DETAIL GRADING AND DRAINAGE PLAN
EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS
ORANGE COUNTY PARKS + RECREATION
 ORANGE COUNTY, FL

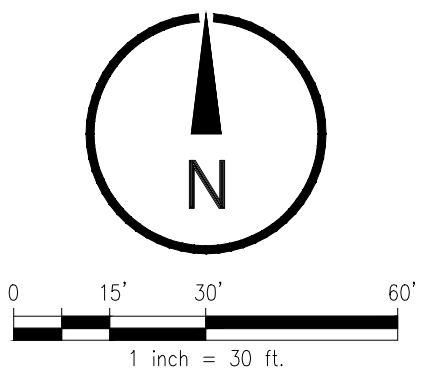
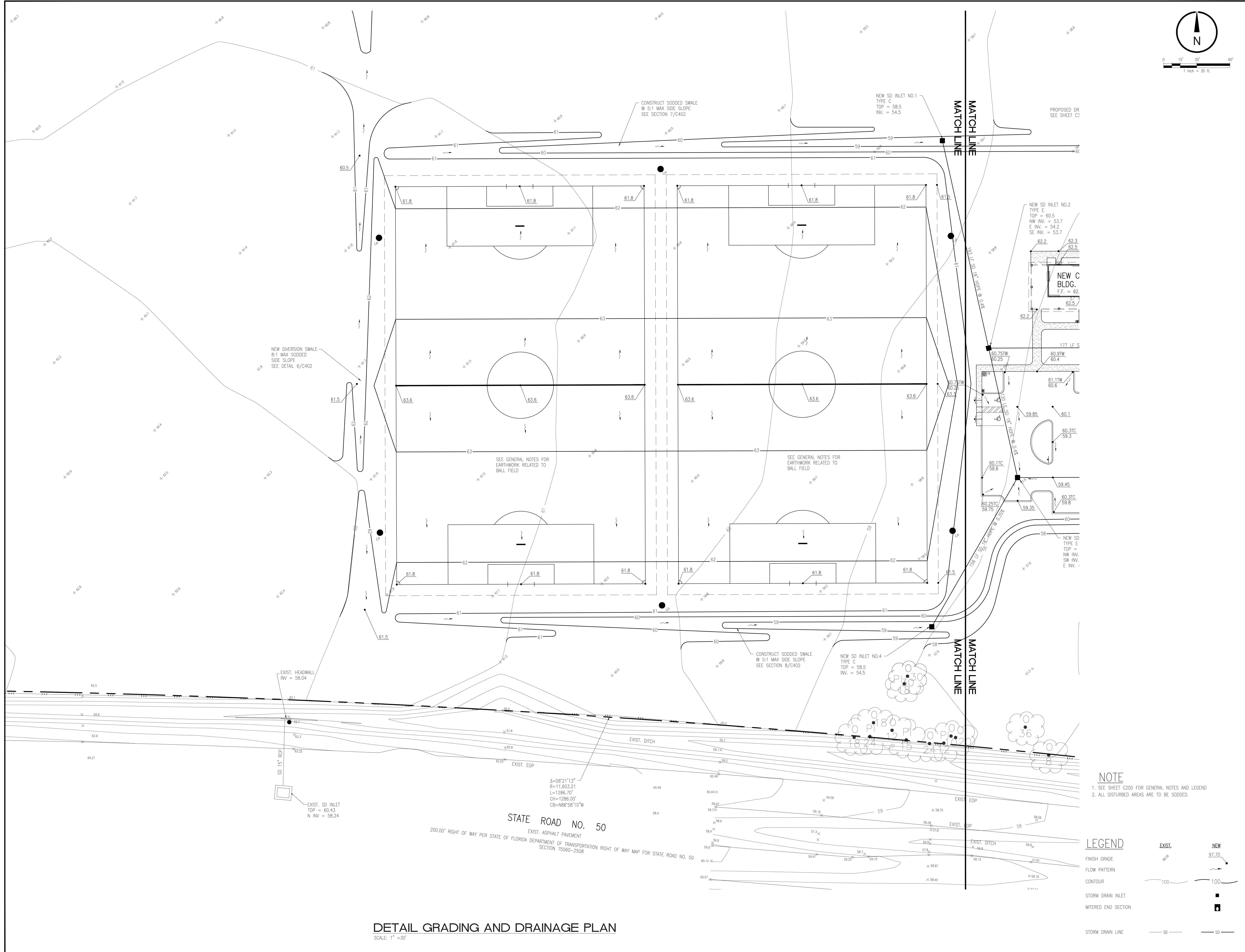
CONCEPT PLAN REVIEW 07-08-16
 PRELIMINARY SITE PLAN 8-9-16
 30% DD SET 9-22-16
 60% DD SET 10-28-16
 BID SET 12-15-16
 REVISED FIRE TANK SIZE 1-4-17
 PERMIT SET 1-10-17
 ADDENDUM NO.3 1-19-17

NOTE
 1. SEE SHEET C200 FOR GENERAL NOTES AND LEGEND
 2. ALL DISTURBED AREAS ARE TO BE SODDED.

LEGEND

EXIST. FINISH GRADE	NEW FINISH GRADE
EXIST. FLOW PATTERN	NEW FLOW PATTERN
EXIST. CONTOUR	NEW CONTOUR
EXIST. STORM DRAIN INLET	NEW STORM DRAIN INLET
EXIST. MITERED END SECTION	NEW MITERED END SECTION
EXIST. STORM DRAIN LINE	NEW STORM DRAIN LINE

DETAIL GRADING AND DRAINAGE PLAN
 SCALE: 1" = 30'



Seal: Majid Kaloghchi P.E. 41046

DETAIL GRADING AND DRAINAGE PLAN
EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS
ORANGE COUNTY PARKS + RECREATION
 ORANGE COUNTY, FL

- NOTE**
- SEE SHEET C200 FOR GENERAL NOTES AND LEGEND
 - ALL DISTURBED AREAS ARE TO BE SODDED.

LEGEND

FINISH GRADE		EXIST.		NEW
FLOW PATTERN				
CONTOUR				
STORM DRAIN INLET				
MITERED END SECTION				
STORM DRAIN LINE				

CONCEPT PLAN REVIEW 07-08-16
 PRELIMINARY SITE PLAN 8-9-16
 50% DD SET 9-22-16
 60% DD SET 10-28-16
 BID SET 12-15-16
 REVISED FIRE TANK SIZE 1-4-17
 PERMIT SET 1-10-17
 ADDENDUM NO.3 1-19-17

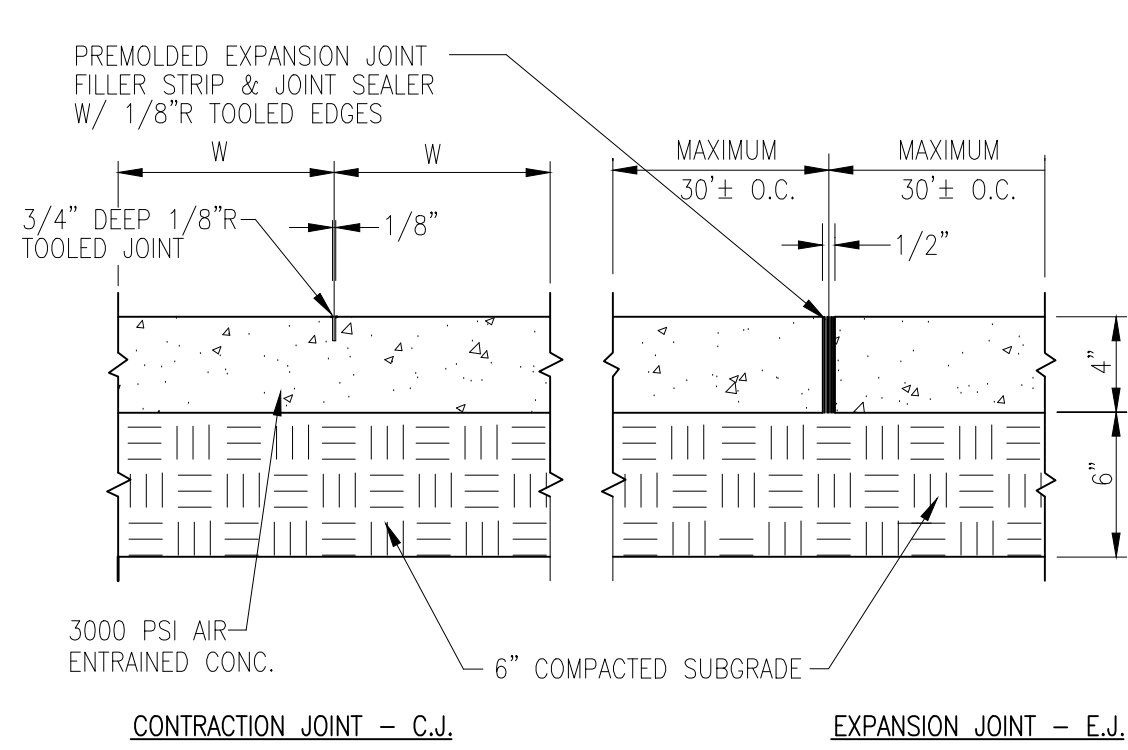
Issue Date and Purpose
 Project Number: **1639**

Drawn by: B. FORSTYTH
 Checked by: M. KALOGHCHI
 Print No: 15090800R

C202

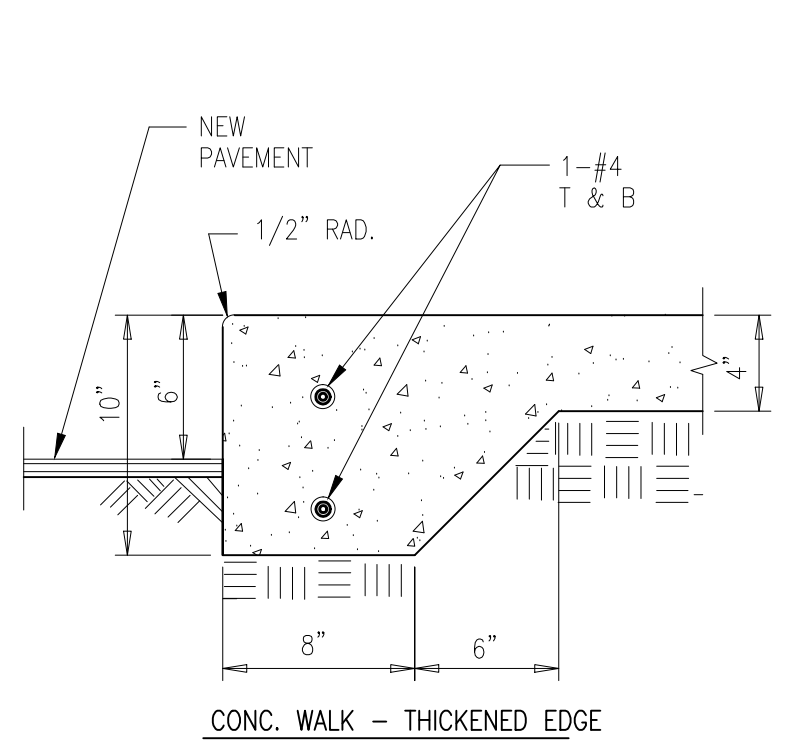
DETAIL GRADING AND DRAINAGE PLAN

SCALE: 1" = 30'

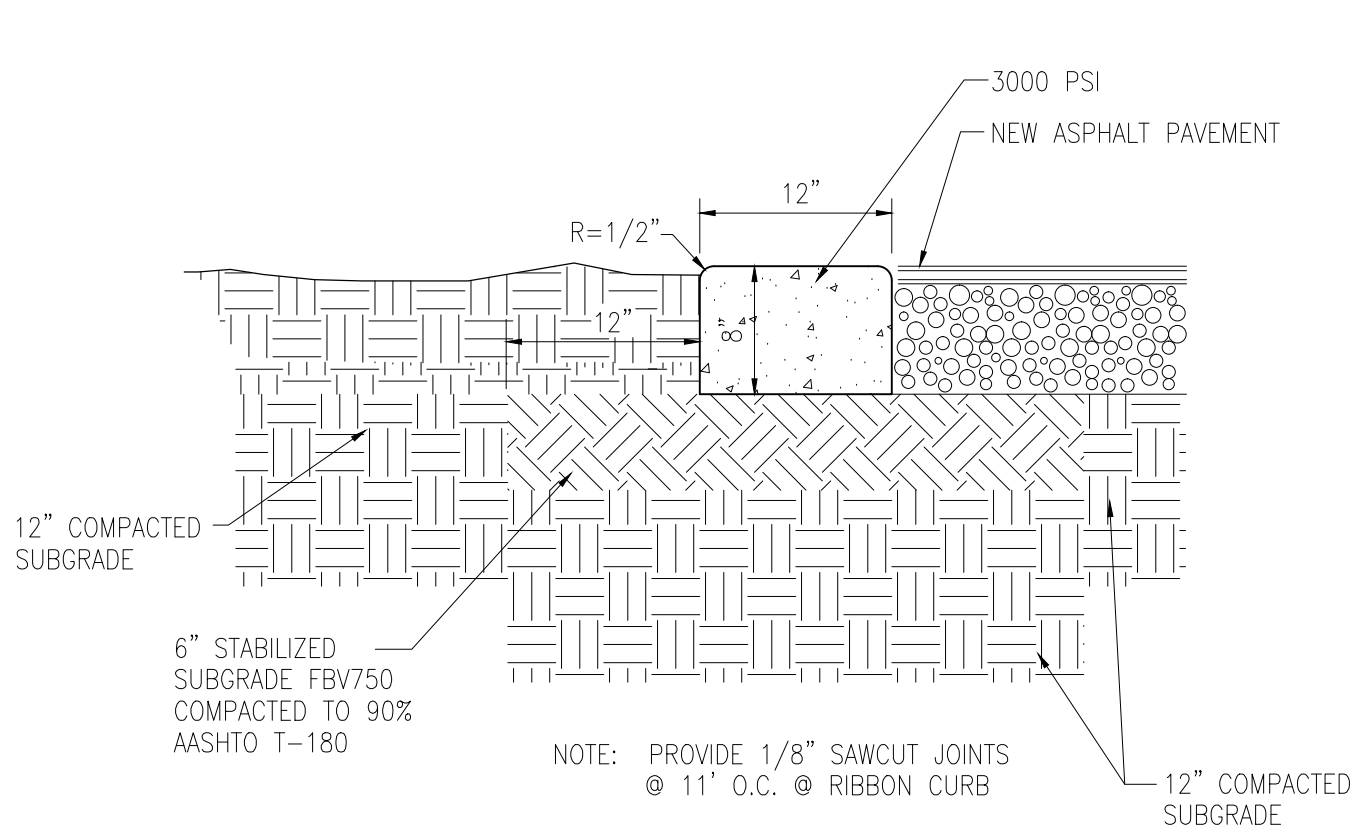


- NOTES:**
1. A THICKENED EDGE SHALL BE PROVIDED BETWEEN SIDEWALK AND DRIVEWAYS OR PARKING LOT.
 2. SLOPE CONC. SIDEWALKS AWAY FROM BUILDINGS TO PROVIDE POSITIVE DRAINAGE.
 3. PROVIDE 2% CROSS SLOPE ON CONC. WALKS TYP.
 4. PROVIDE CONTROL JOINTS @ INTERVALS EQUAL TO SIDEWALK WIDTH (W).
 5. PROVIDE PREMOLDED EXPANSION JOINT WHERE CONC. WALK ABUTS BLDG., POLES, AND OTHER CONC. WALKS.
 6. PROVIDE LIGHT BROOM FINISH APPLIED PERPENDICULAR TO WALK EDGES.

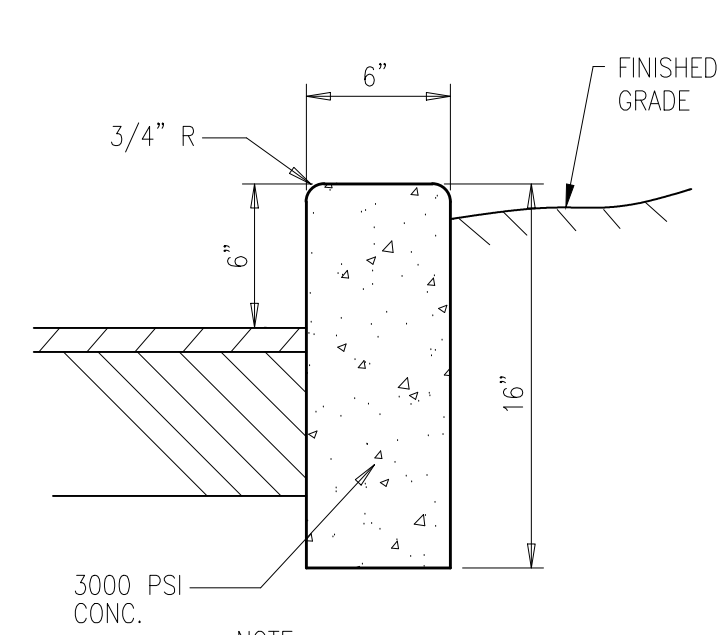
1 CONCRETE SIDEWALK DETAIL
C401 1-1/2"=1'-0"



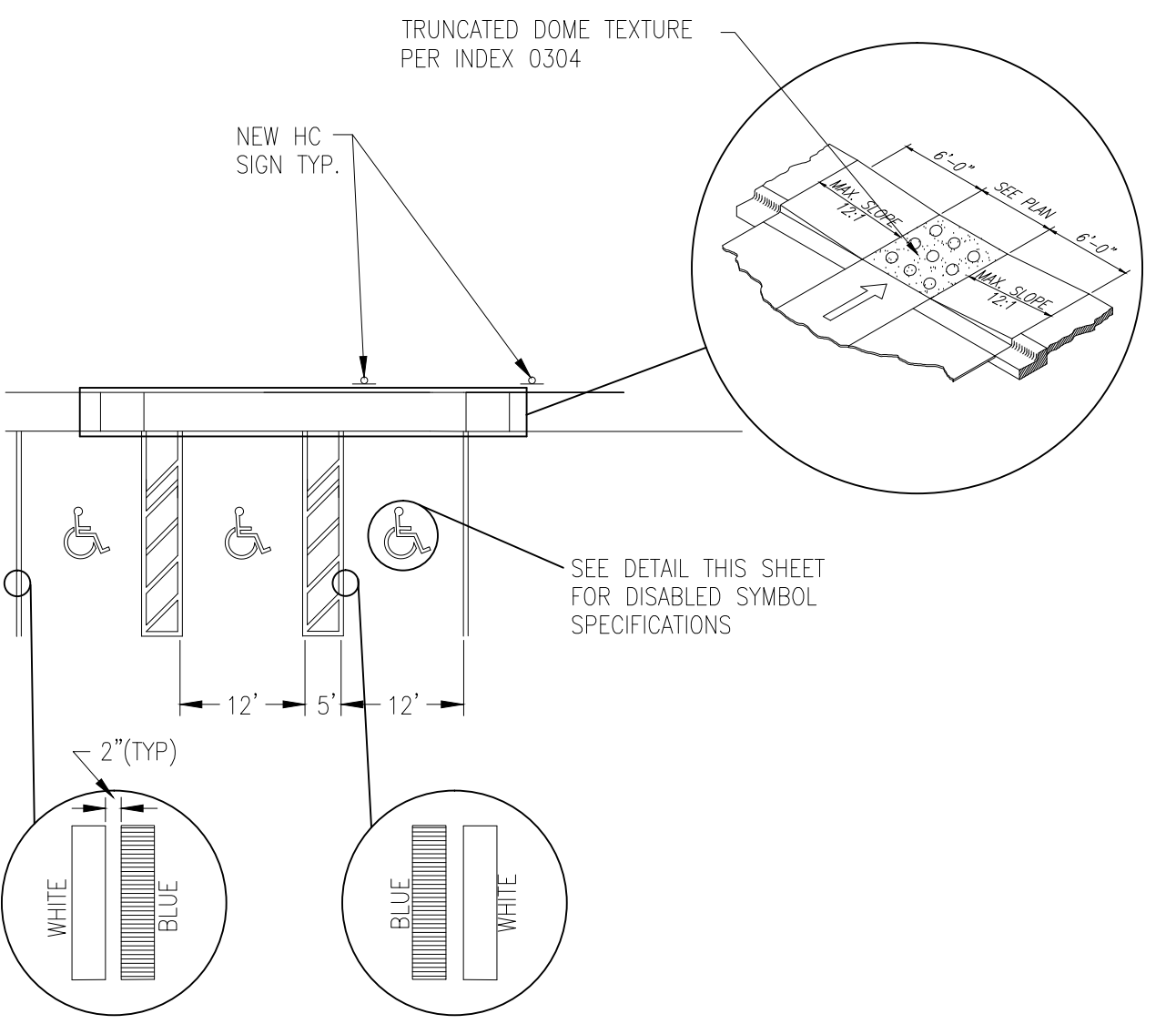
2 RIBBON CURB DETAIL
C401 1"=1'-0"



3 PARKING ASPHALT PAVEMENT
C401 1"=1'-0"

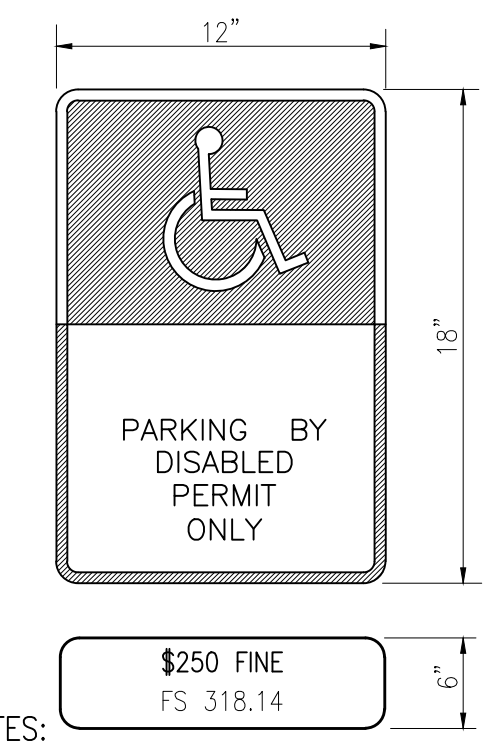


4 CONC. CURB
C401 1-1/2"=1'-0"



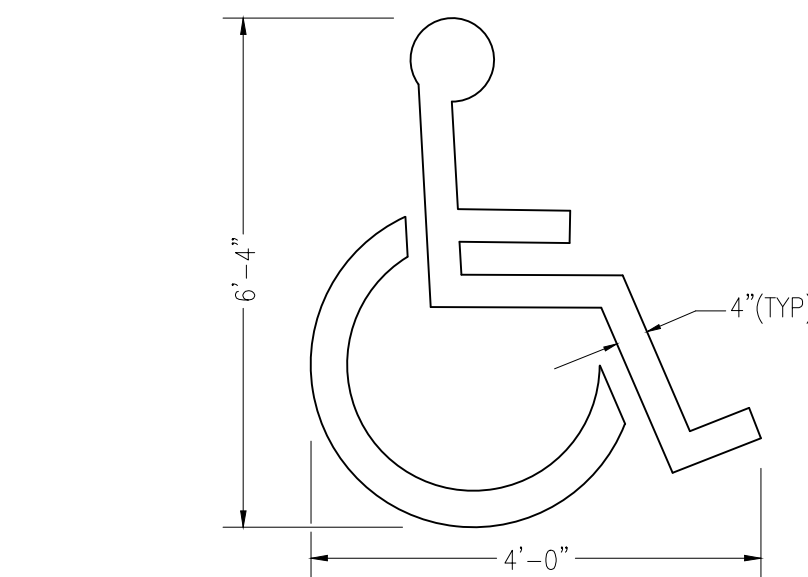
- NOTES:**
1. EACH SUCH PARKING SPACE SHALL BE CONSPICUOUSLY OUTLINED IN BLUE PAINT, AND SHALL BE POSTED AND MAINTAINED WITH A PERMANENT, ABOVE GRADE SIGN BEARING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY, OR THE CAPTION "PARKING BY DISABLED PERMIT ONLY," OR BEARING BOTH SUCH SYMBOL AND CAPTION. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE. ALL HANDICAPPED PARKING SPACES MUST BE SIGNED AND MARKED IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE DEPARTMENT OF TRANSPORTATION.
 2. FL DOT RECOMMENDS MEASURING PARKING SPACE WIDTH FROM CENTER TO CENTER BETWEEN BLUE AND WHITE STRIPES.

5 HANDICAP STRIPING AND RAMP
C401 NTS

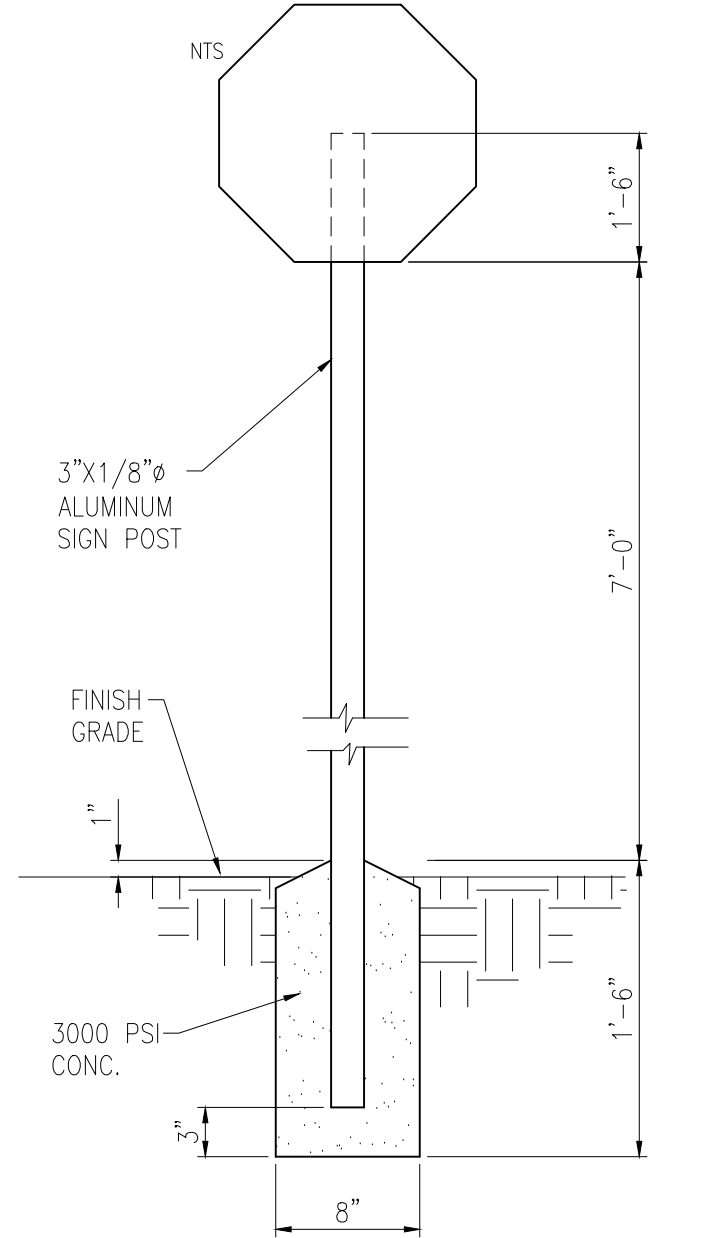


- NOTES:**
1. ALL LETTER ARE 1" SERIES "C", PER MUTCD.
 2. TOP PORTION OF SIGN SHALL HAVE REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
 3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
 4. FINE NOTIFICATION SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
 5. ONE(1) SIGN REQUIRED FOR EACH PARKING SPACE.
 6. INSTALLATION HEIGHT OF SIGN SHALL BE ACCORDANCE WITH SECTION 24-23 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

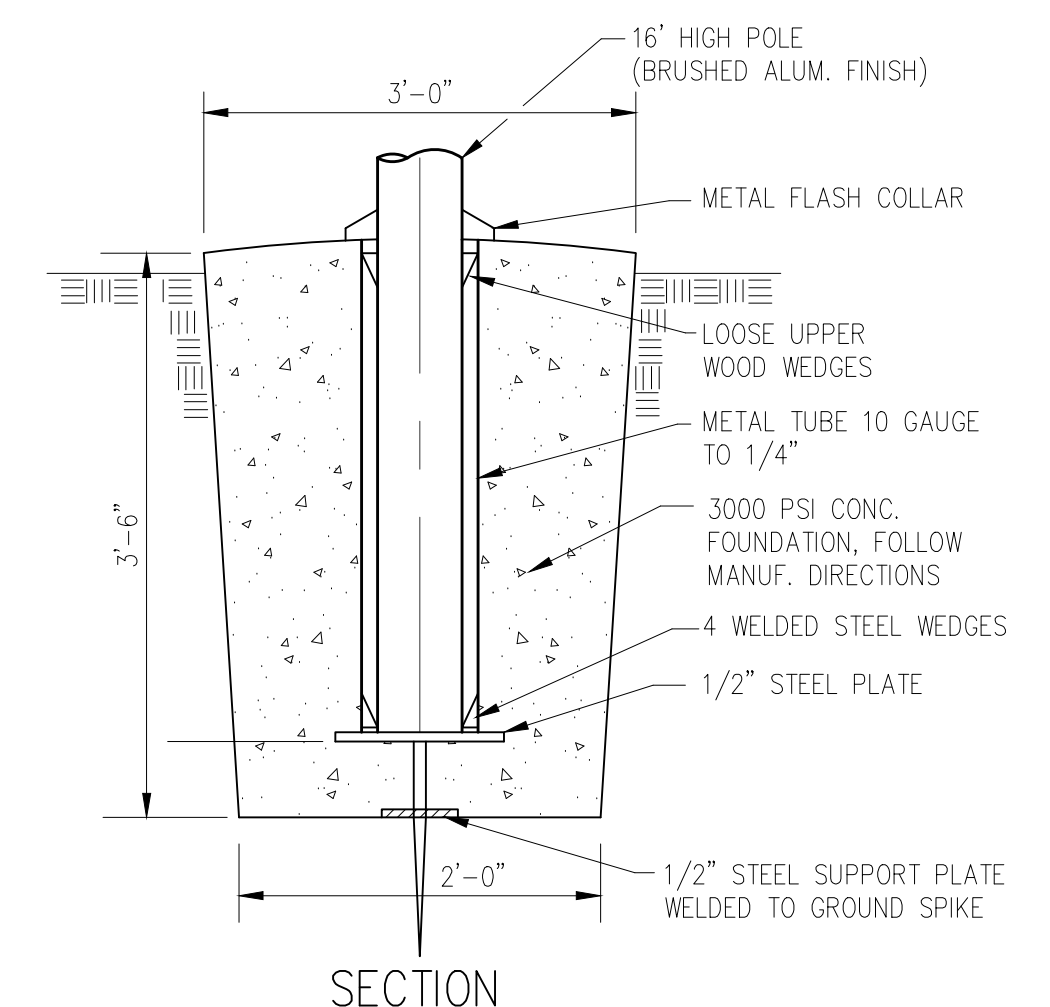
6 TYPICAL HANDICAP SIGN
C401 SCALE: NTS



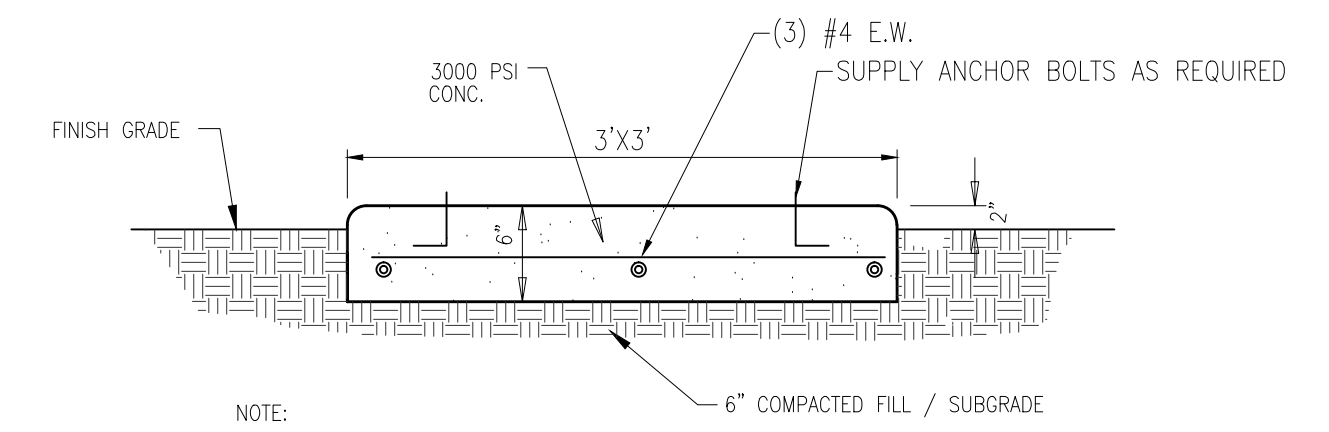
7 HANDICAP PARKING SYMBOL
C401 THIS SYMBOL TO BE WHITE D.O.T. PAINT



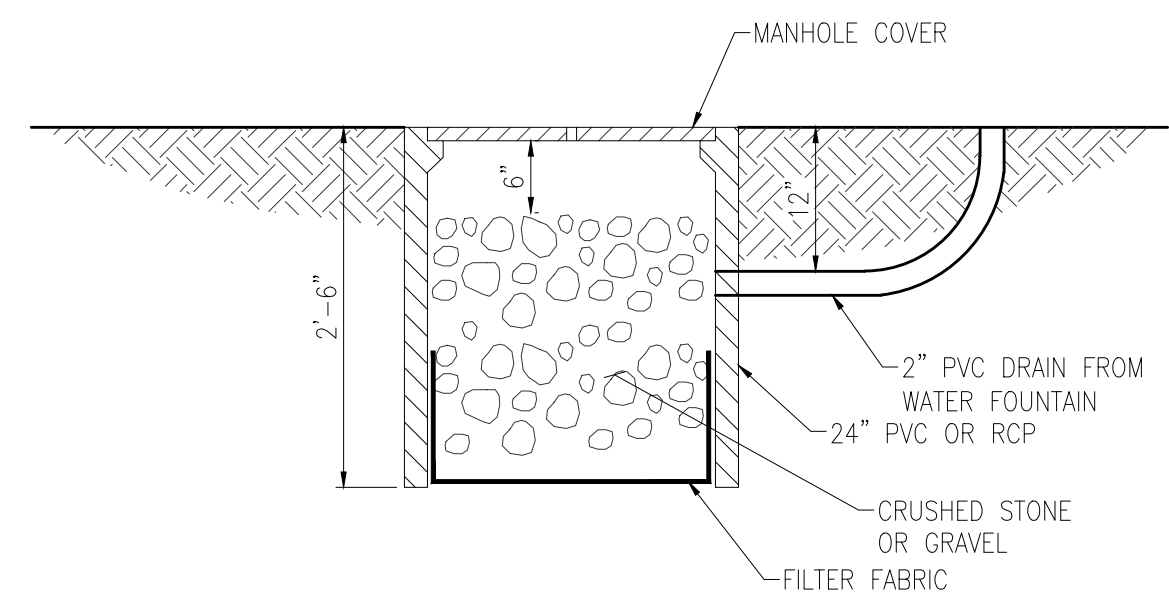
8 TYP. SIGN POST
C401 3/4"=1'-0"



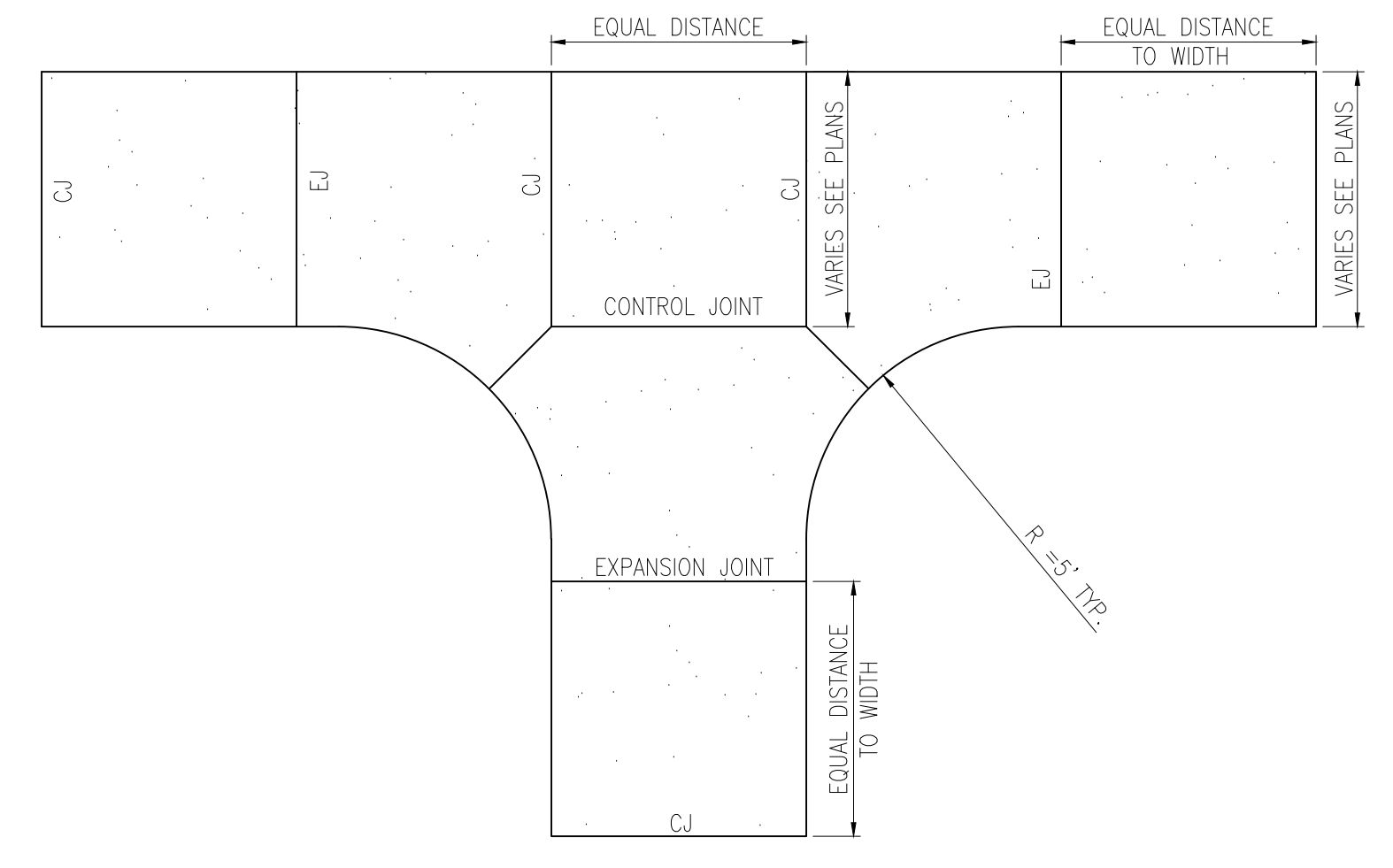
9 FLAGPOLE DETAILS
C402 3/4"=1'-0"



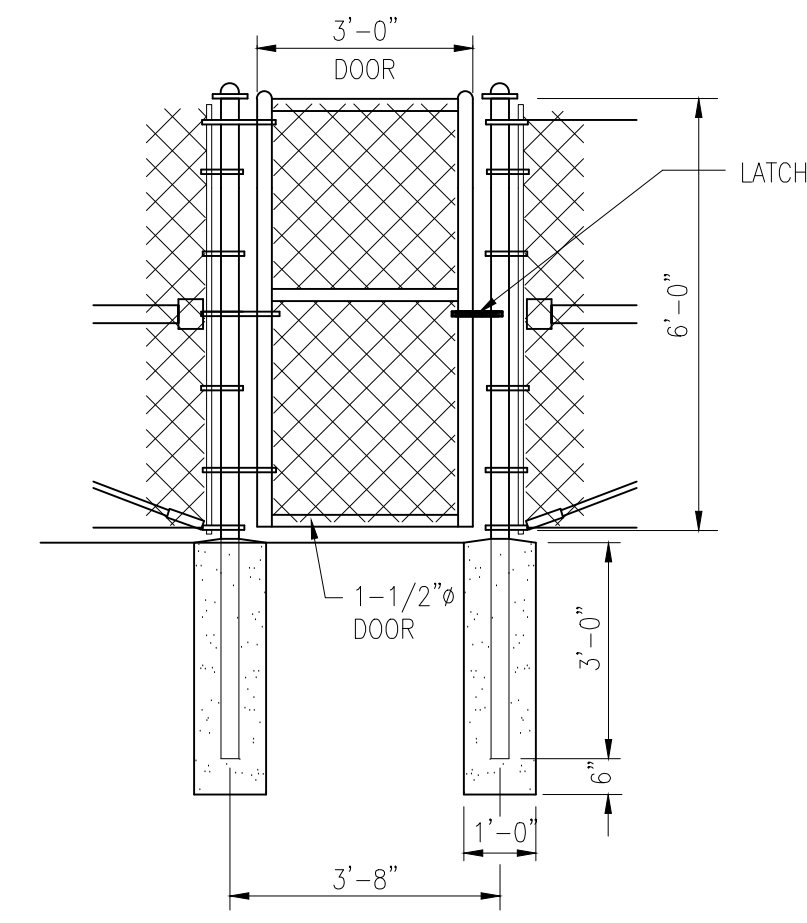
10 TRASH RECEPTACLE PAD
C401 3/4"=1'-0"



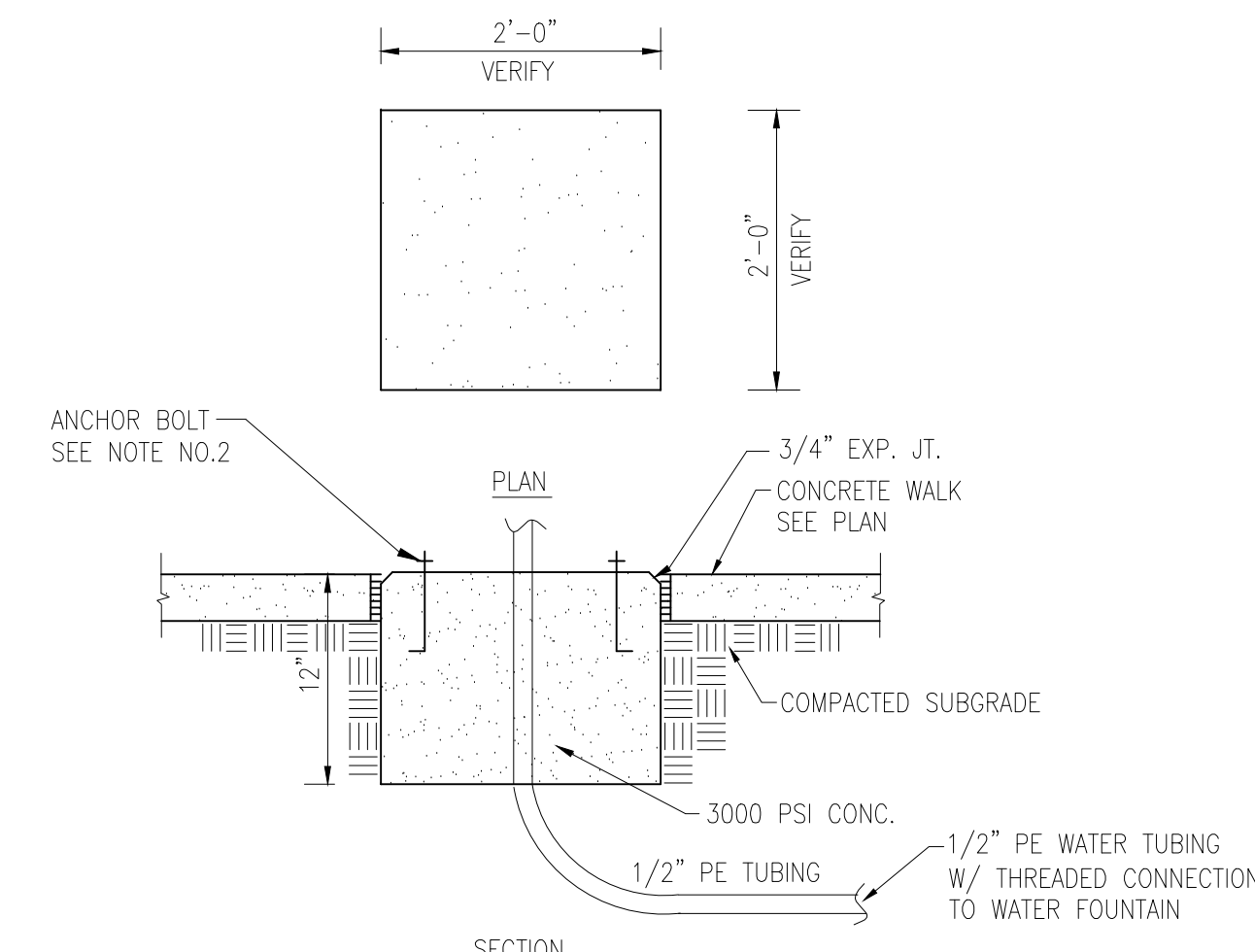
12 DRY WELL FOR WATER FOUNTAIN
C401 3/4"=1'-0"



13 TYPICAL CONNECTION & JOINT LAYOUT @ WALK INTERSECTIONS
C401 NTS

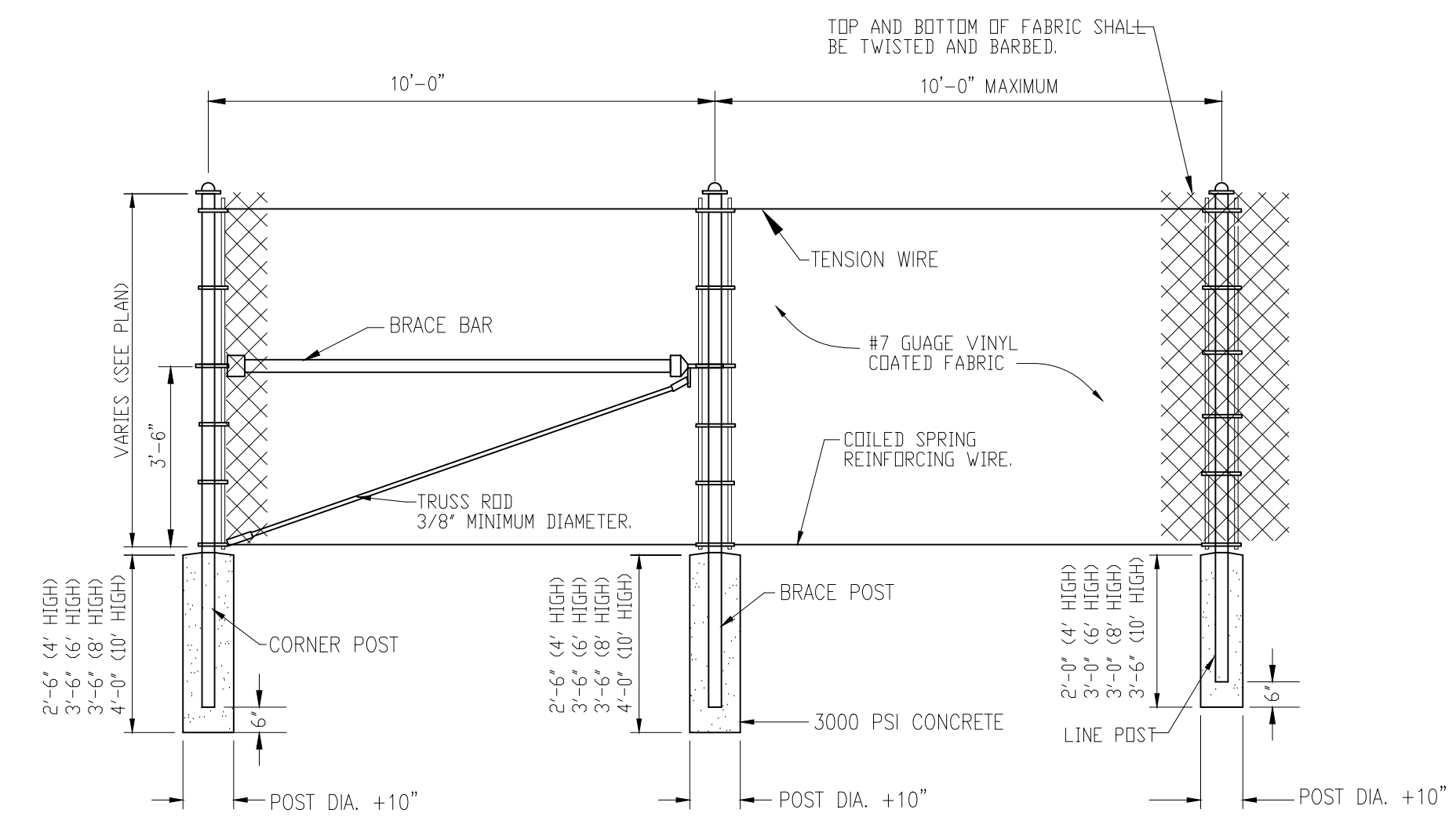


14 SINGLE GATE DETAIL
C401 3/8"=1'-0"



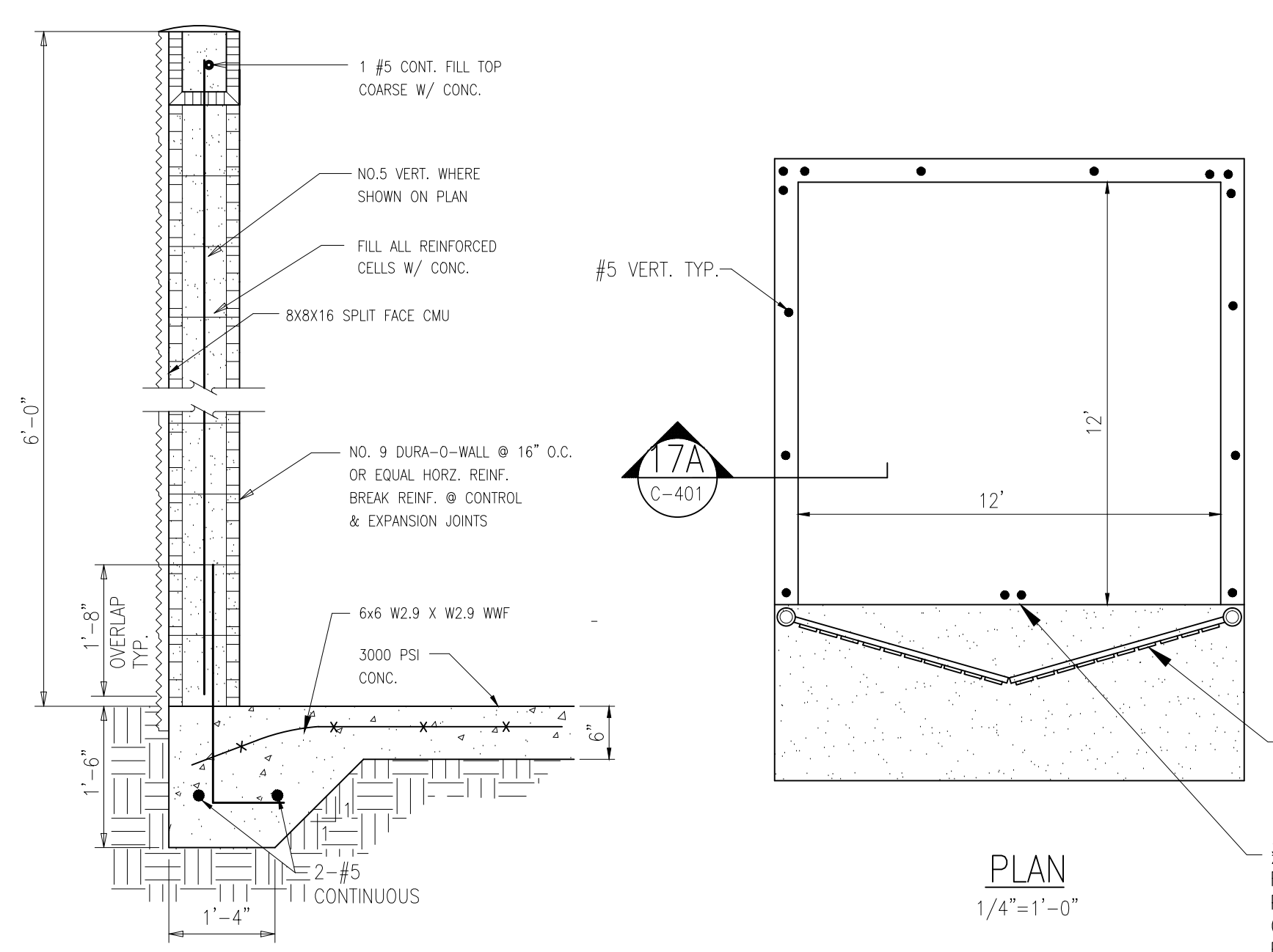
- NOTES:**
1. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH EQUIPMENT SUPPLIER PRIOR TO POURING CONC.
 2. ANCHOR BOLT SIZE, LOCATION, EMBEDMENT PER EQUIPMENT SUPPLIER.
 3. SEE SHEET C-100, HARDSCAPE NOTES FOR CLEARANCE/ EXTENT OF CONC. PAVEMENT @ FOUNTAIN.
 4. PLACE DRY WELL ADJACENT TO WATER FOUNTAIN WITHIN TURF AREA

11 WATER FOUNTAIN FOUNDATION
C401 NTS

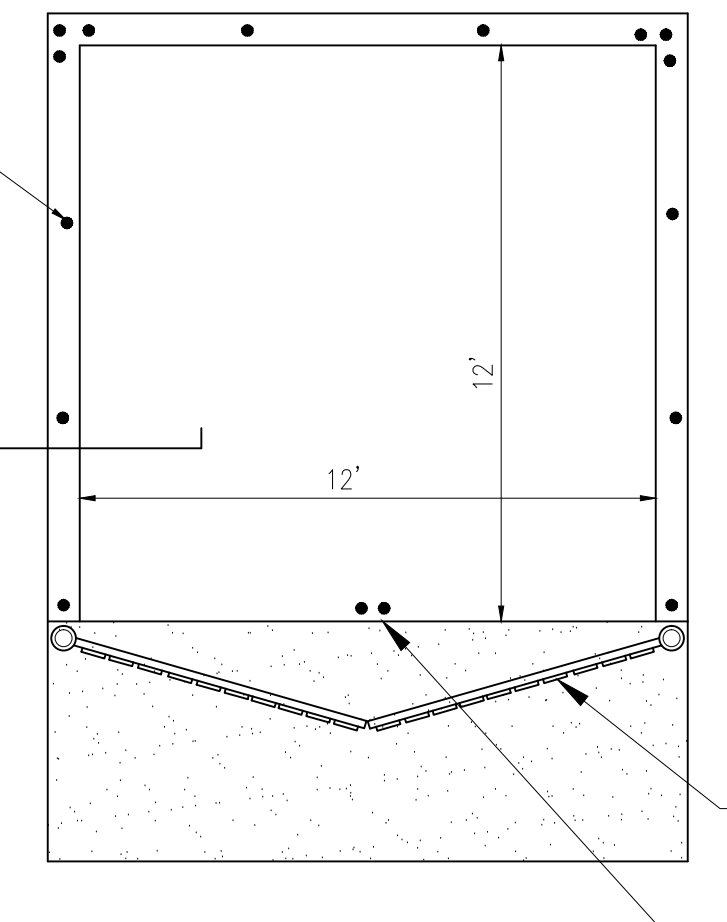


- NOTES:**
1. ALL CHAINLINK FENCING FABRIC SHALL BE VINYL COATED. COLOR: BLACK
 2. ALL POSTS AND ACCESSORIES SHALL BE PAINTED BLACK TO MATCH FABRIC COLOR.

16 CHAIN LINK FENCE DETAIL
C401 3/8"=1'-0"

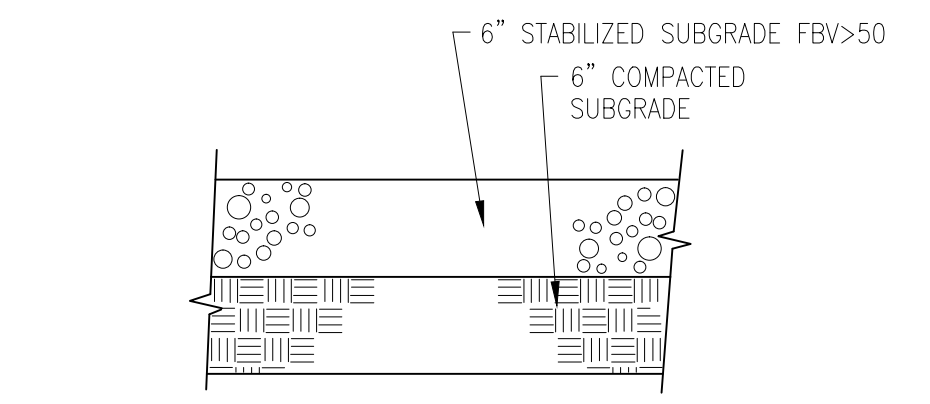


SECTION 17A
3/4"=1'-0"



PLAN
1/4"=1'-0"

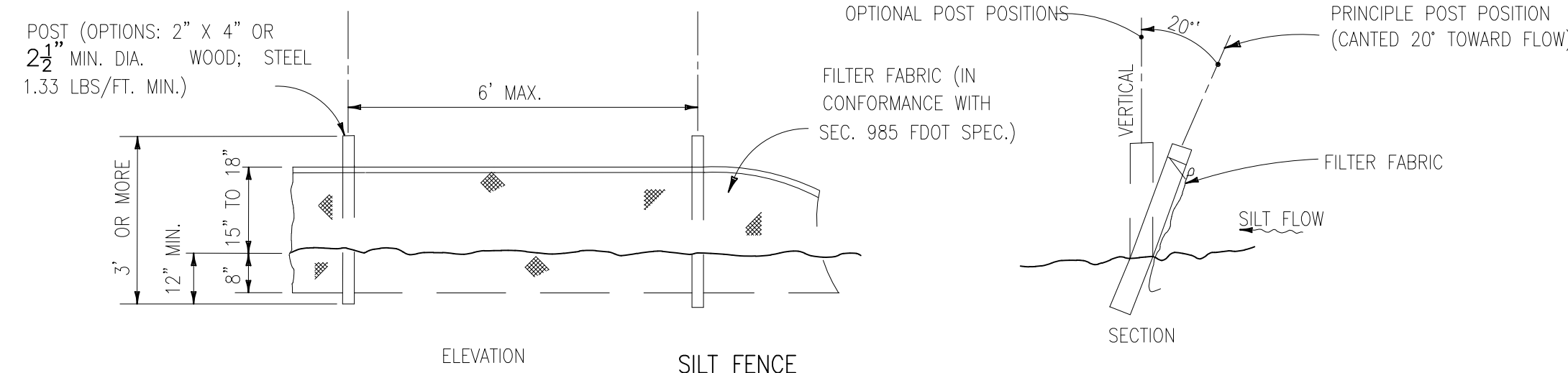
17 DUMPSTER ENCLOSURE
C401 AS SHOWN



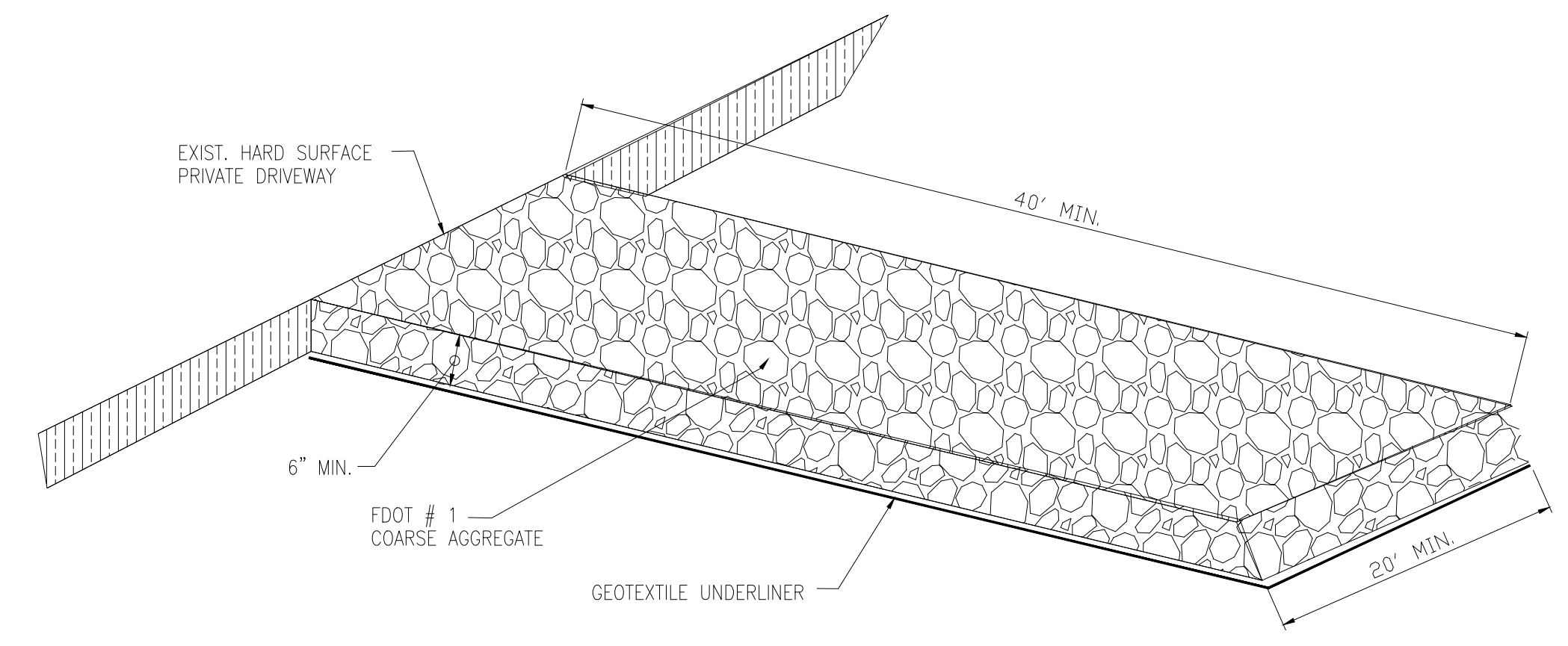
15 STABILIZED LANE DETAIL
C401 NTS

Seal: Majid Kalaghchi P.E. 41046

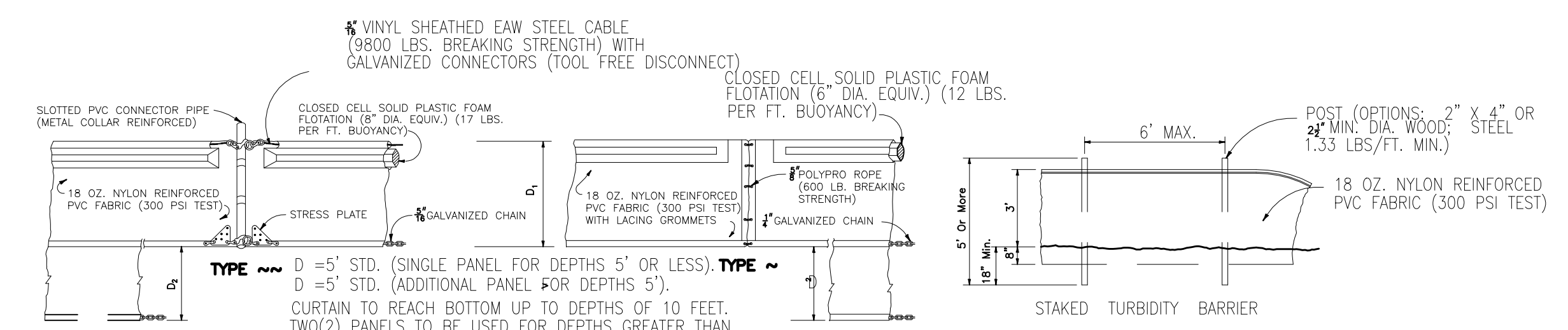
CONCEPT PLAN REVIEW 07-08-16
PRELIMINARY SITE PLAN 8-9-16
30% DD SET 9-22-16
60% DD SET 10-28-16
BID SET 12-15-16
REVISED FIRE TANK SIZE 1-4-17
PERMIT SET 1-10-17
ADDENDUM NO.3 1-19-17



1 SILT FENCE DETAIL
C402 NOT TO SCALE



2 CONSTRUCTION ENTRANCE
C402 NOT TO SCALE



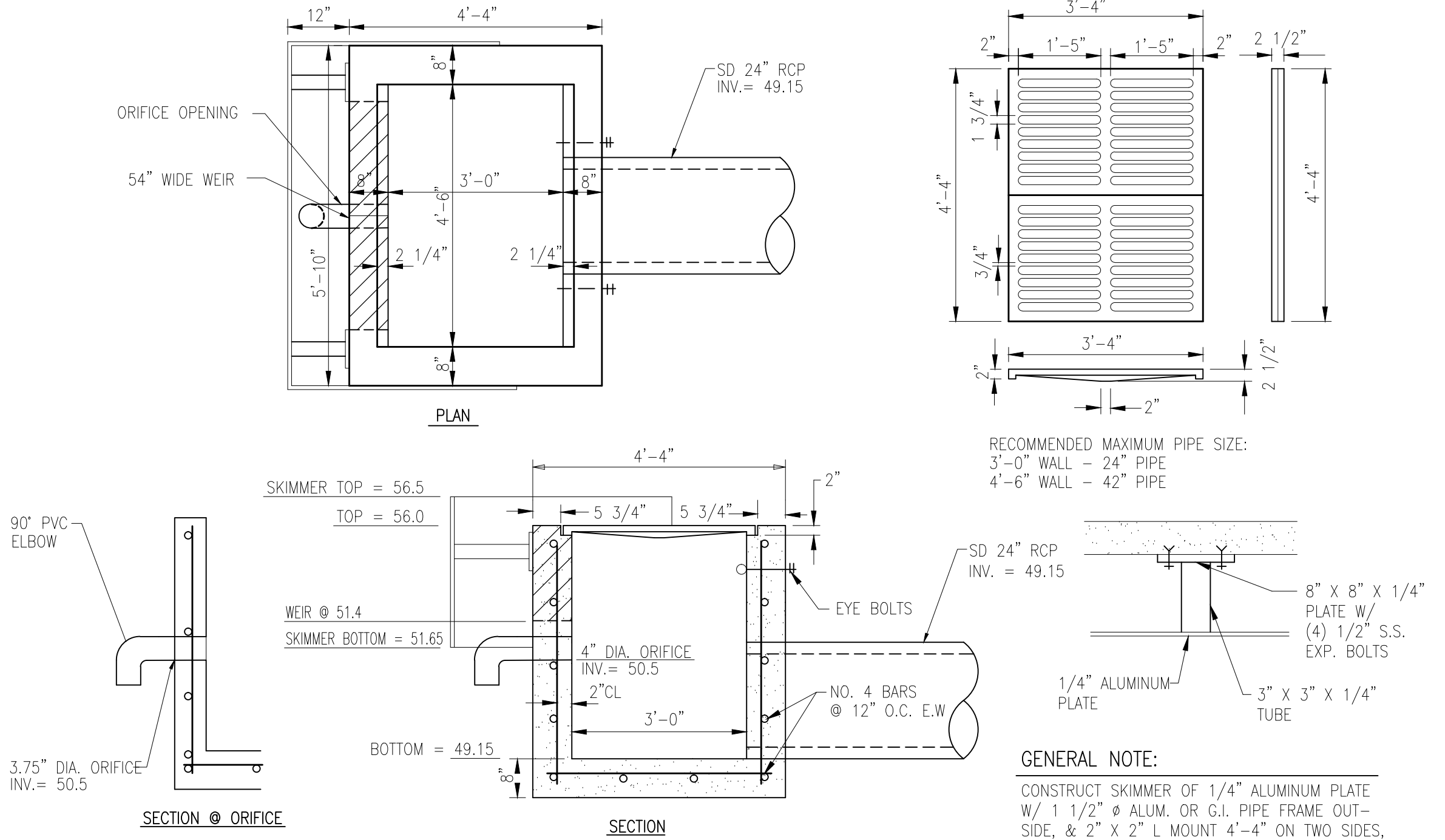
NOTICE: COMPONENTS OF TYPES ~ AND ~ MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES ~ AND ~ SHALL BE AS APPROVED BY THE ENGINEER.

LEGEND

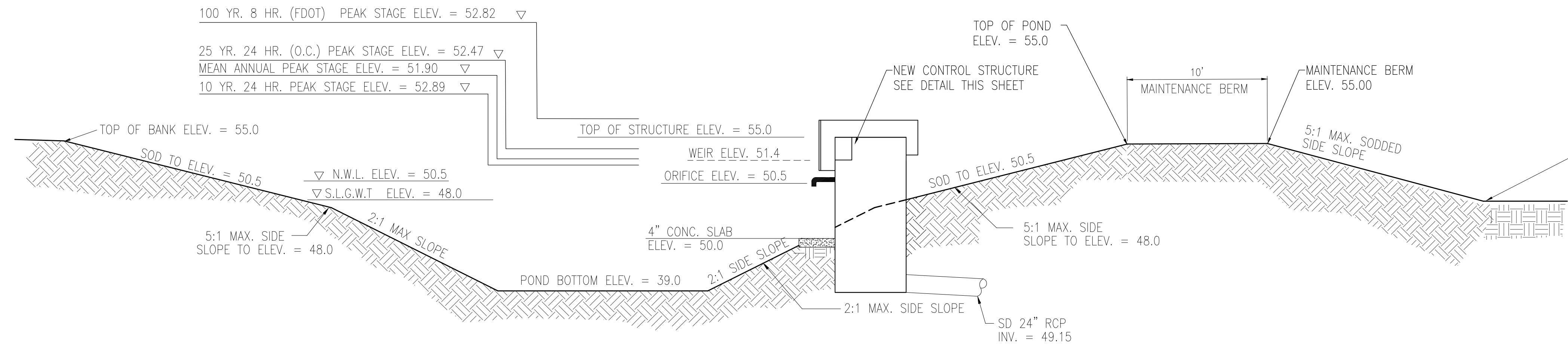
- PILE LOCATIONS
- ▨ DREDGE OR FILL AREA
- ⊕ MOORING BUOY W/ANCHOR
- ⊖ ANCHOR
- BARRIER MOVEMENT DUE TO CURRENT ACTION

NOTE: TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS, HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

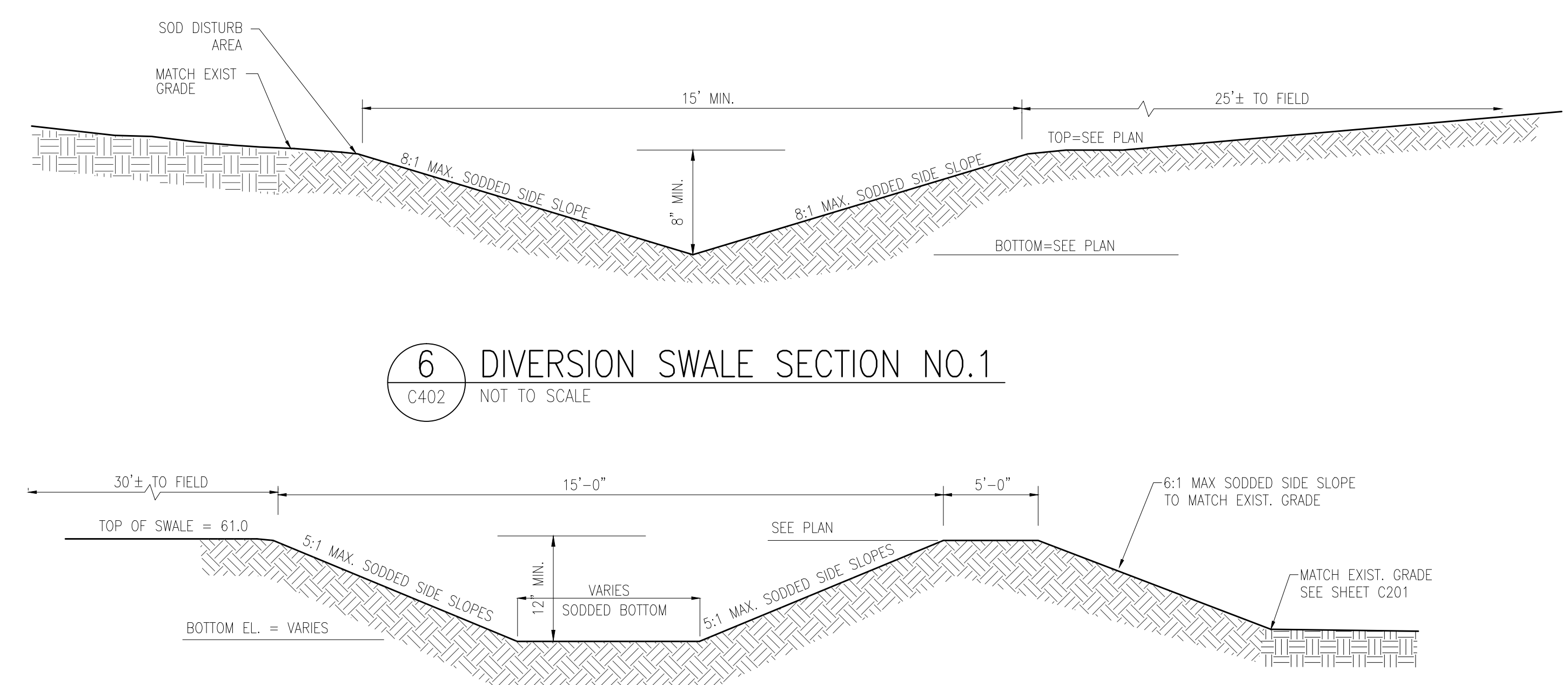
3 TURBIDITY BARRIER APPLICATIONS
C402 NOT TO SCALE



4 CONTROL STRUCTURE - FDOT TYPE "E"
C402 1/2"=1'-0"



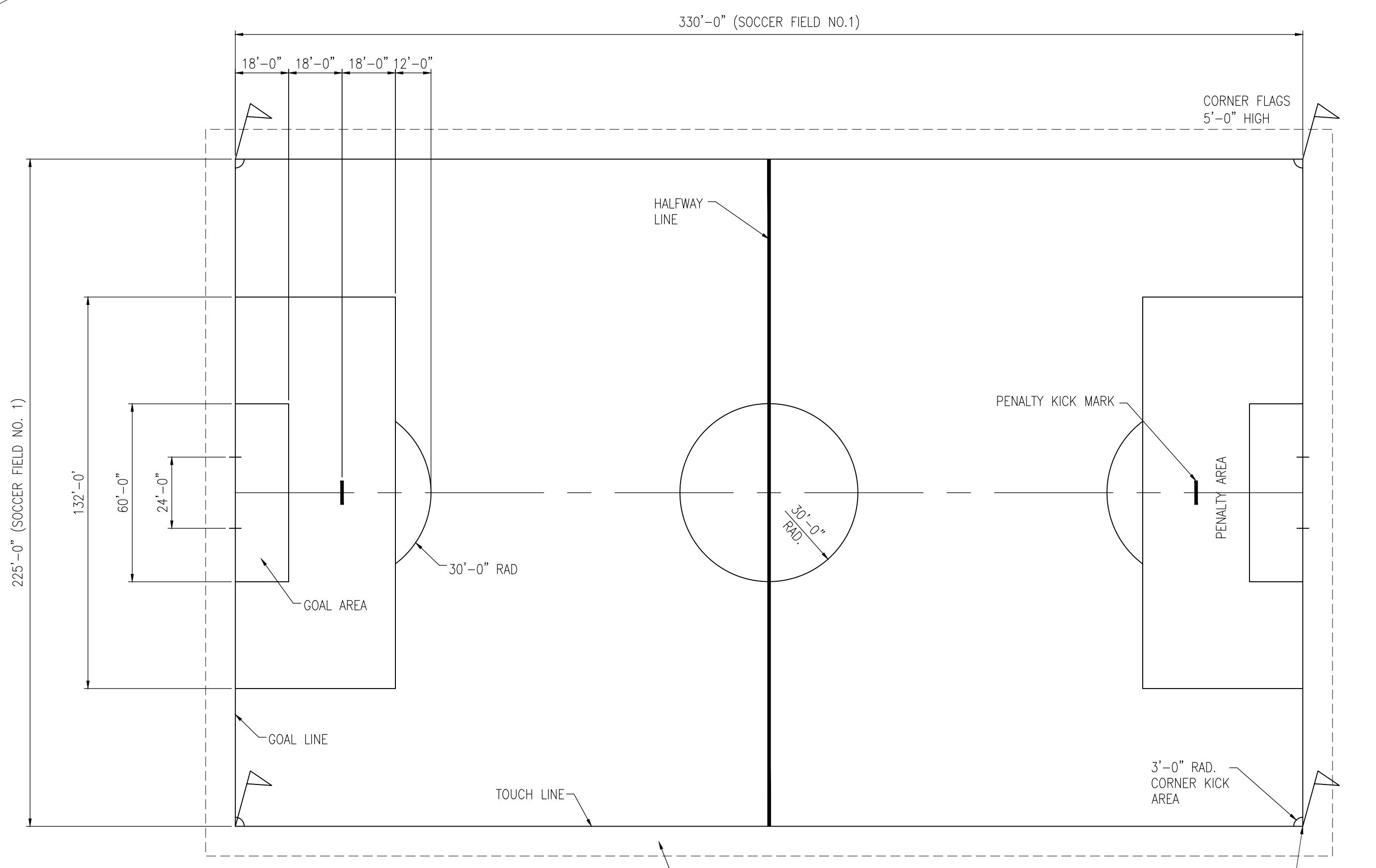
5 SECTION-WET DETENTION POND NO.1
C402 NOT TO SCALE



6 DIVERSION SWALE SECTION NO.1
C402 NOT TO SCALE



7 CONVEYANCE SWALE SECTION NO.2
C402 NOT TO SCALE



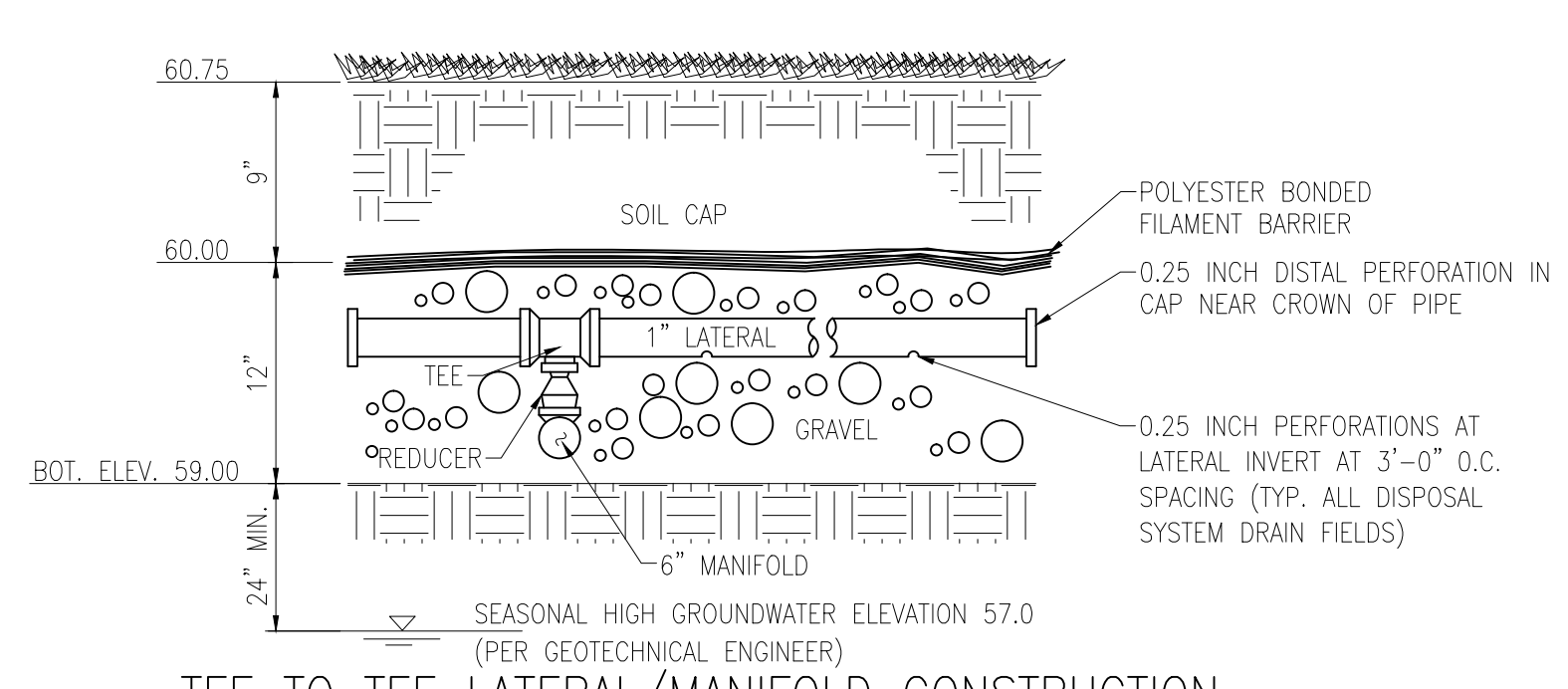
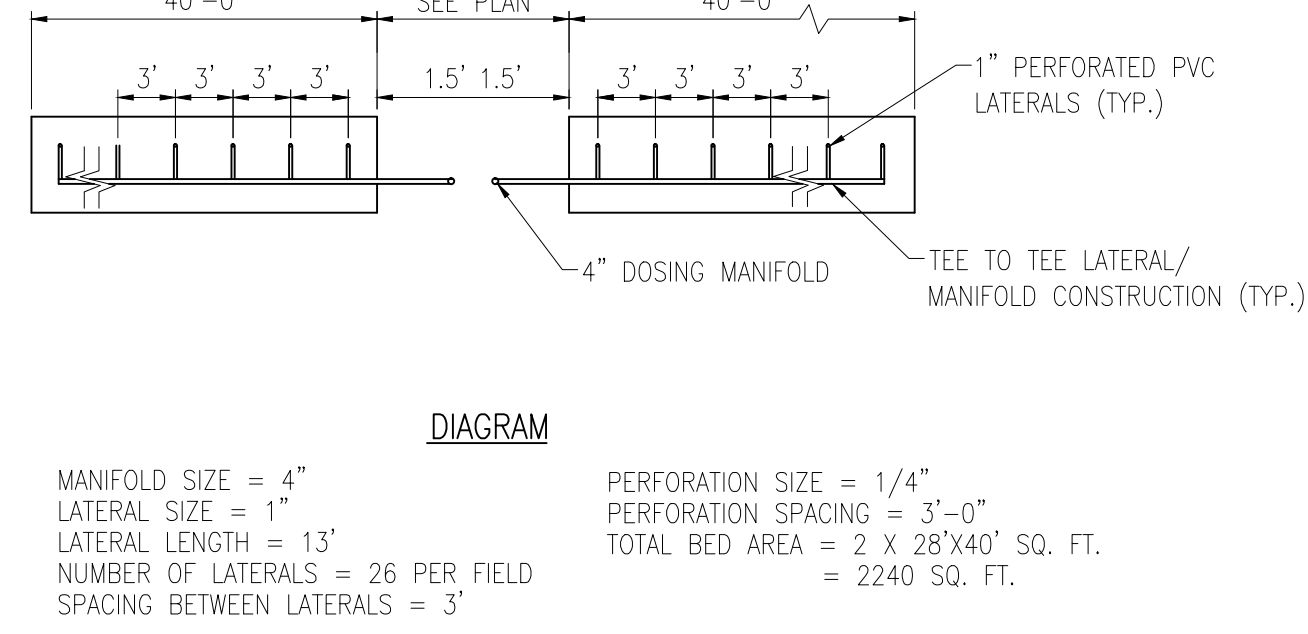
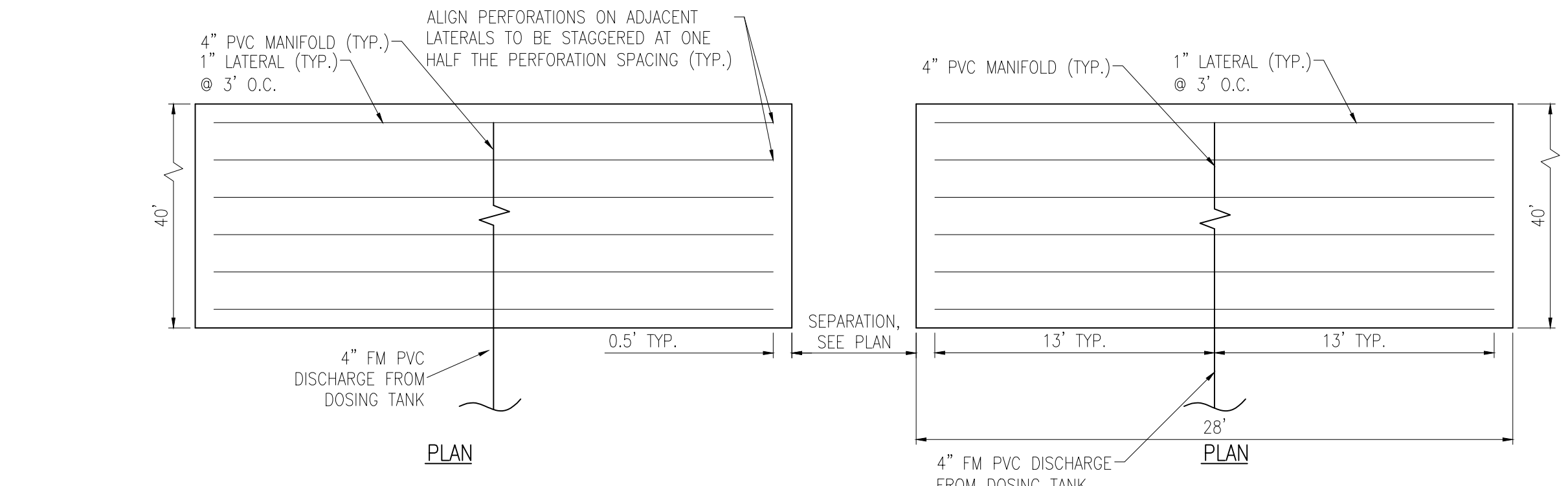
9 SOCCER FIELD TYP.
C402 1" = 32'

SOCCER FIELD NOTES:

- ALL DIMENSIONS SHOWN ARE TO THE INSIDE EDGE OF LINES. ALL LINES ARE TO BE WHITE AND 2 INCHES WIDE, EXCEPT THE CENTERLINE WHICH IS 5 INCHES WIDE.
- CONTRACTOR SHALL PROVIDE PERMANENT MONUMENTATION @ FIELD CORNERS. MONUMENTATION MAY BE 1/2" SURVEY REBAR/ DISK PLACED 6" BELOW FINISHED GRADE.
- OFFICIAL CORNER FLAGS SHALL BE MODEL NO. 68504 MANUFACTURED BY KIKI/GOAL (BY OC PARKS)
- CONTRACTOR SHALL GRADE SOCCER FIELDS IN A UNIFORM MANNER IN ACCORDANCE WITH GRADING AND DRAINAGE PLAN. ALL SELECTED FILL PLACED ON SOCCER FIELD (AND 20 FEET PERIMETER) SHALL CONTAIN NO CLAYS OR FINES, BE NON PLASTIC AND CONTAIN LESS THAN 5% FINES IN ACCORDANCE WITH ACCEPTABLE FILL MATERIAL IN THE SPECIFICATIONS. CONTRACTOR SHALL NOTIFY PROJECT GEOTECHNICAL ENGINEER FOR SAMPLING/TESTING OF IMPORTED MATERIAL AND OBTAIN APPROVAL PRIOR TO IMPORT. CONTRACTOR MAY UTILIZE BORROW MATERIAL FROM THE POND MEETING THIS SPECIFICATION.
- ALL FIELD MARKATION LINES TO BE 2 COATS OF ATHLETIC PAINT BY PIONEER ATHLETICS OR APPROVED EQUAL.

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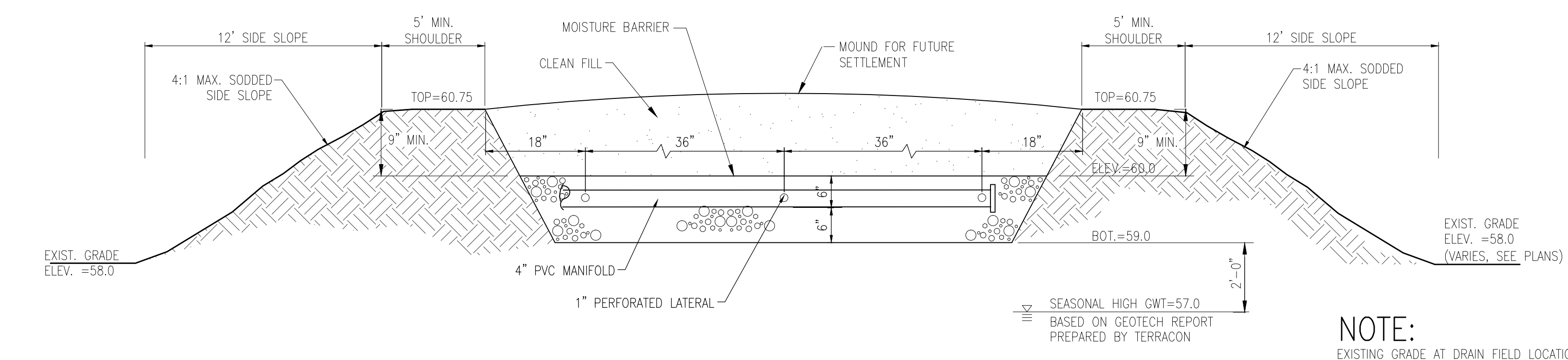
Issue Date and Purpose	
Project Number	1639
Drawn by:	B. FORSYTH
Checked by:	M. KALAGHCHI
File No.	150000000
C402	



DISPOSAL SYSTEM DRAINFIELD DETAIL

TEE TO TEE LATERAL/MANIFOLD CONSTRUCTION

1 DISPOSAL SYSTEM DETAILS
C403 NTS



4 MOUND DRAINFIELD SECTION
C403 NOT TO SCALE

NOTE:
EXISTING GRADE AT DRAIN FIELD LOCATION = 57.00
FINISH GRADE AT DRAIN FIELD LOCATION = 60.75
BOTTOM OF DRAIN FIELD = 59.00
ESTIMATED SHGWT = 56.50 & 57.00 (PER GEOTECH REPORT)

SANITARY SEWER SYSTEMS GENERAL NOTES:

SPECIFICATIONS

- 1.) ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH STATE OF FLORIDA DEPT. OF HEALTH AND REHABILITATIVE SERVICES, CHAPTER 100-6, FAC STANDARDS FOR ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS, ISSUED JULY 16, 2013
- 2.) CONTRACTOR SHALL BE EXPERIENCED IN METHODS OF CONSTRUCTION AND LICENSING PROCEDURES REQUIRED BY H.R.S. AND HAVE DOCUMENTED EXPERIENCE IN THIS TYPE OF WORK.

SEPTIC TANKS

- 1.) TANK SHALL BE CONSTRUCTED OF MINIMUM 3000 PSI (28 DAY) PRECAST REINFORCED CONCRETE. TANK SHALL HAVE A MINIMUM CAPACITY OF 1200 & 1500 GALLONS EACH.
- 2.) EACH TANK SHALL BE WATERTIGHT AND HAVE TWO COMPARTMENTS. THE FIRST COMPARTMENT SHALL HAVE A MINIMUM EFFECTIVE CAPACITY OF AT LEAST TWO-THIRDS OF THE TOTAL CAPACITY REQUIRED. EACH COMPARTMENT SHALL HAVE ACCESS MANHOLES WITH A MINIMUM AREA OF 225 SF. MANHOLES SHALL BE LOCATED SO AS TO ALLOW ACCESS TO THE INLET AND OUTLET DEVICES. THE ACCESS SHALL EXTEND TO WITHIN 8 INCHES OF FINISHED GRADE. EACH SEPTIC TANK SHALL BE COVERED WITH A MINIMUM OF 4 INCHES OF SOIL COVER.
- 3.) THE LIQUID DEPTH OF THE COMPARTMENTS SHALL BE AT LEAST 42 INCHES. A MINIMUM FREEBOARD OF 15 PERCENT OF THE TANK SHALL BE PROVIDED.
- 4.) FLOW BETWEEN ADJACENT TANK COMPARTMENTS SHALL INTERCONNECT USING EITHER A 4 INCH MINIMUM DIAMETER HOLE OR EQUIVALENT SIZE SLOT.
- 5.) MINIMUM OF 4 INCHES DIAMETER INLET DEVICE AND VENTED OUTLET TEE SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 100-6 FAC.
- 6.) TANK OPENINGS SHALL BE SEALED USING A BONDING COMPOUND THAT WILL ADHERE TO THE CONSTRUCTION MATERIALS OF THE TANK AND THE INLET AND OUTLET DEVICES.
- 7.) TANK SHALL BE PROVIDED WITH A SUITABLE LEGEND CAST OR STAMPED INTO THE WALL AT THE INLET END, TO BEGIN WITHIN 6 INCHES OF THE TOP OF THE WALL. THE LEGEND SHALL IDENTIFY THE MANUFACTURER, THE STATE HEALTH OFFICES DESIGNATED APPROVAL NUMBER FOR THE TANK AND THE EFFECTIVE CAPACITY OF THE TANK IN GALLONS.
- 8.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN NECESSARY DEPT. OF HEALTH AND REHABILITATIVE SERVICES AND STATE HEALTH OFFICE APPROVALS.

DOSING TANKS

- 1.) DOSING TANK SHALL HAVE A SINGLE CHAMBER WITH A MINIMUM CAPACITY OF 1500 GALLONS AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478. WET WELL SHALL HAVE A MIN. DIAMETER OF 4'-0".
- | | |
|--------------------|-------|
| WET WELL TOP ELEV. | 61.00 |
| SS 6" PVC INFLOW | 56.00 |
| BOTTOM | 51.00 |
| PUMP OFF | 52.50 |
| 1ST PUMP ON | 55.00 |
| 2ND PUMP ON | 55.00 |
| ALARM | 56.00 |

DOSING SYSTEMS

- 1.) TWO SUBMERSIBLE DOSING PUMPS SHALL BE SUPPLIED IN EACH DISPOSAL SYSTEM TO TRANSPORT SEPTIC TANK OVERFLOW TO THE DRAINFIELD. PUMPS SHALL BE RATED TO DISCHARGE AT THE FOLLOWING RATE AND MUST BE CERTIFIED BY THE MANUFACTURER TO BE SUITABLE FOR SEWAGE SEPTIC SYSTEM SERVICE: 103 GPM @ 12' TDH
- 2.) PUMP OPERATION SHALL BE CONTROLLED BY FOUR LEVEL CONTROL SWITCHES:
 - A. HIGH WATER ALARM LEVEL
 - B. START LEVEL FOR TWO PUMPS
 - C. LOW LEVEL SHUT OFF
 - D. PUMPS MUST CLOSE ALTERNATELY
- 3.) FLOAT SWITCHES SHALL BE SEALED FROM THE CORROSIVE ATMOSPHERE IN THE TANK AND ALL ELECTRICAL CONTACTS AND RELAYS SHALL BE MOUNTED OUTSIDE OF THE TANK.
- 4.) FLOAT SWITCHES SHALL BE FASTENED TO A SUPPORT PIPE TO ENABLE THE FLOATS TO BE ADJUSTED TO ANY HEIGHT.
- 5.) PROVISIONS SHALL BE MADE TO PREVENT GASES IN THE CHAMBER FROM FOLLOWING THE ELECTRICAL CONDUITS INTO THE CONTROL BOX.
- 6.) THE HIGH WATER ALARM SWITCH MUST BE ON A SEPARATE CIRCUIT FROM THE PUMP LEVEL CONTROLS.
- 7.) THE CONTROL PANEL SHALL INCLUDE CONTACT RELAYS FOR EACH PUMP, AN ALTERNATING RELAY CIRCUIT, RUN LIGHT FOR EACH PUMP, CIRCUIT BREAKERS FOR EACH PUMP, AND H.O.A. SWITCHES FOR EACH PUMP WITH OVERLOAD PROTECTION.
- 8.) PUMP SHALL DOSE ALTERNATELY.
- 9.) AN AUDIO AND VISUAL HIGH WATER ALARM SHALL BE PROVIDED IN A CONSPICUOUS LOCATION VISIBLE BY SYSTEM USERS.
- 10.) ALARM SHALL BE WATERPROOF AND WARRANTED BY THE MANUFACTURER FOR OUTDOOR USE.
- 11.) CONTROL PANEL SHALL BE POLE MOUNTED AND SHALL HAVE A WATER TIGHT DEAD FRONT.
- 12.) POWER SERVICE TO PUMP SHALL BE FROM BUILDING MEP.

DOSING PUMP DISCHARGE PIPE (OTHER THAN PERFORATED LATERALS)

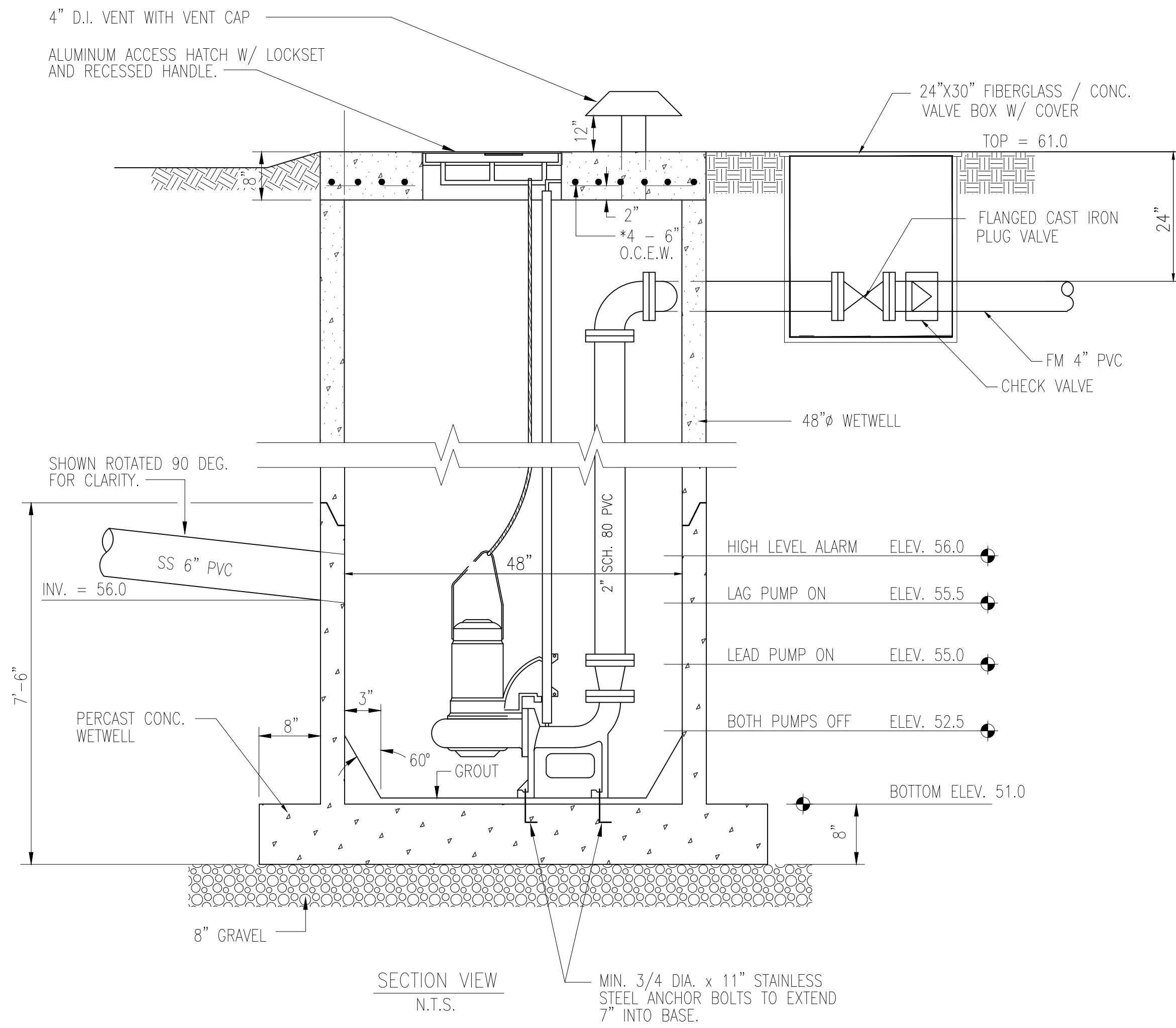
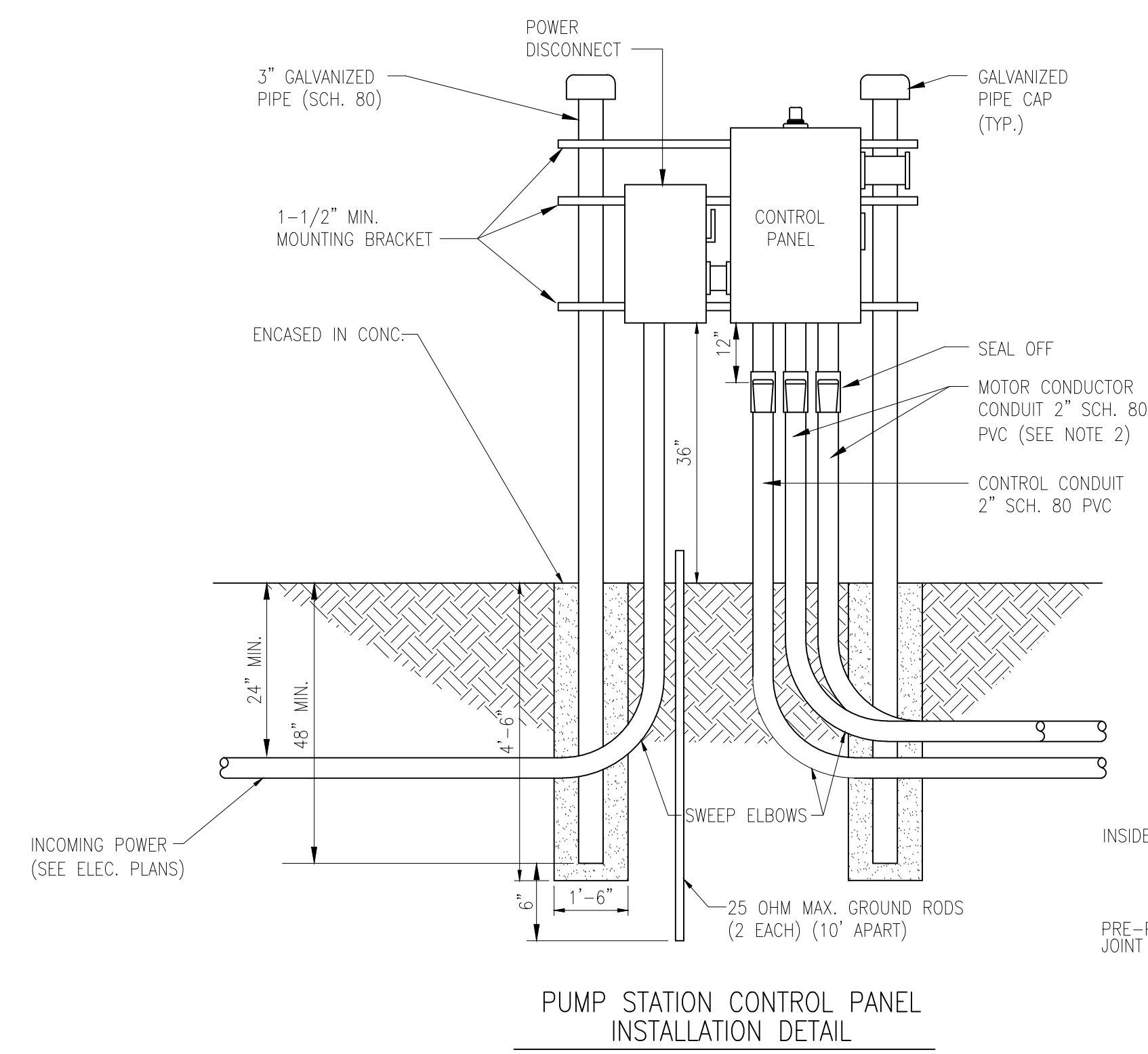
- 1.) DOSING TANK DISCHARGE PIPE SHALL CONFORM TO ASTM D2241 FOR STANDARD DIMENSION RATIO 26-160 PSI PIPE. PVC COMPOUNDS USED IN THE EXTRUSION OF THE PIPE SHALL MEET OR EXCEED THE REQUIREMENTS OF THE MATERIAL SECTION OF ASTM D2241. RUBBER RINGS SHALL CONFORM TO ASTM F477.

DRAINFIELDS

- 1.) ALL PORTIONS OF THE MANIFOLD PIPE AND PERFORATED DRAIN PIPE SHALL BE INSTALLED IN AGGREGATE CONFORMING TO ASTM C33-86 OR LIGHTWEIGHT AGGREGATE CONFORMING TO ASTM C330-87 MEETING F.D.O.T. SPECIFICATIONS UNDER SECTION 901, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1991" AND H.R.S. CHAPTER 100-6 GRADATION REQUIREMENTS.
- 2.) PERFORATED PLASTIC PIPE SHALL CONFORM TO THE STANDARDS OF ASTM D3034-99. LATERAL PIPE SHALL BE 1" DIAMETER PVC WITH ONE ROW OF 0.25 INCH DIAMETER HOLES. PERFORATIONS SHALL BE LOCATED ON THE CENTERLINE OF THE BOTTOM OF THE PIPE AND SHALL BE SPACED @ 3' O.C.
- 3.) ALL PVC PIPE SHALL CONFORM TO THE STANDARDS OF ASTM D-3034-99.
- 4.) EXISTING GROUND TO BE EXCAVATED OR FILLED AS REQUIRED BY GEOTECHNICAL ENGINEER RECOMMENDATIONS AND REPLACED WITH CLEAN, FREE-DRAINING FINE SAND SOIL OF THE UNIFIED SOIL CLASSIFICATION SP TO PROPOSED GRADE ELEVATION.
- 5.) SEASONAL HIGH GROUNDWATER ELEVATION PROVIDED BY UNIVERSAL ENGINEERING AT 2.5 FT. BELOW EXIST. GRADE.

WETWELL / PUMP GENERAL NOTES:

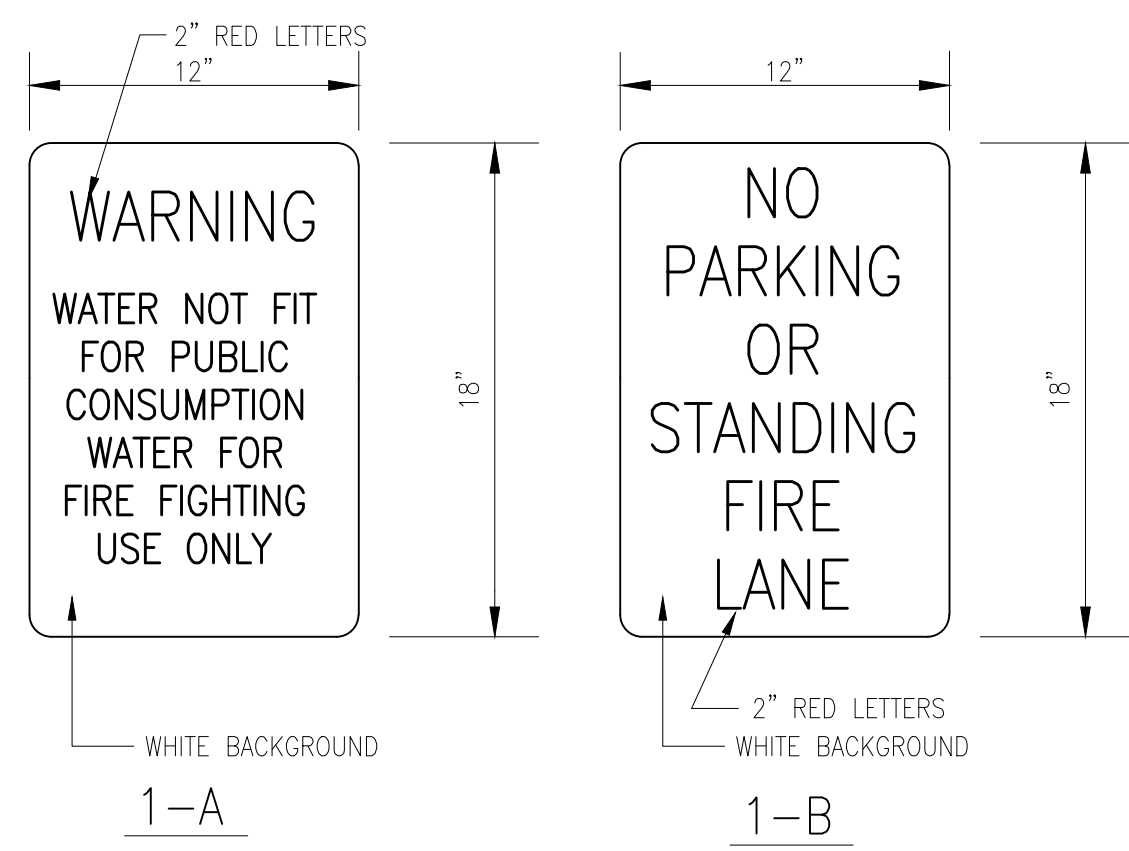
1. ALL EXPOSED METAL SHALL BE PAINTED WITH 2 COATS OF EXTERIOR ENAMEL PAINT.
2. WET WELL AND VALVE VAULT SHALL BE COATED WITH COAL TAR INSIDE AND OUT. (TWO COATS, 9 MILS EACH.)
3. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
4. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON-SHRINK GROUT.
5. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN WET WELL.
6. WET WELL AND VALVE VAULT COVERS SHALL BE ALUMINUM WITH 316 S.S. HARDWARE AND LOCK BRACKET. SIZE AS REQUIRED BY PUMP MANUFACTURER.
7. FLEXIBLE COUPLING SHALL BE SLEEVE TYPE.
8. PUMPS SHALL DELIVER MIN. 103 GPM @ 12' TDH.
9. ALL HARDWARE IN WET WELL AND VALVE BOX TO BE STAINLESS STEEL.



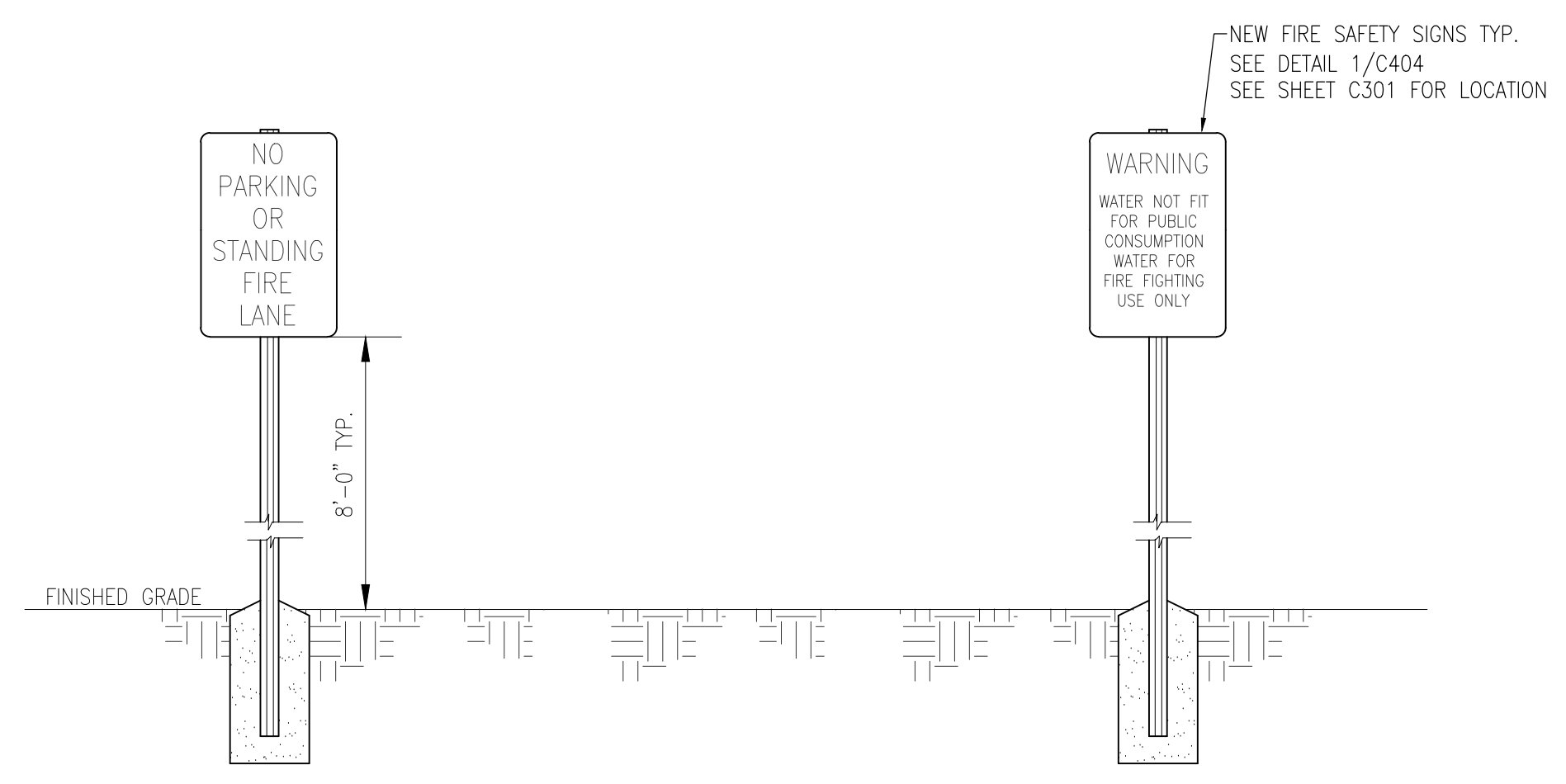
3 DOSING TANK/WET WELL DETAIL
C403 1/2" = 1'-0"

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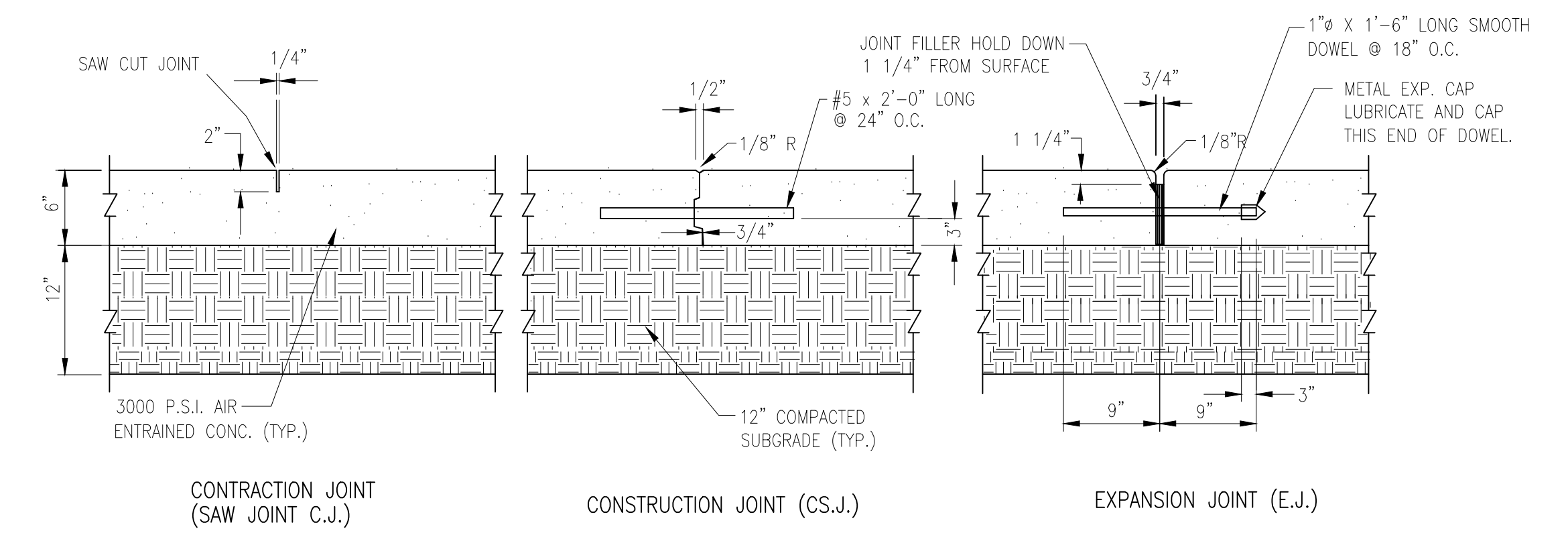
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30% DD SET 9-22-16
60% DD SET 10-28-16
BID SET 12-15-16
REVISED FIRE TANK SIZE 1-4-17
PERMIT SET 1-10-17
ADDENDUM NO.3 1-19-17



1 FIRE LANE SIGN DETAIL
C404 1'-1/2" = 1'-0"



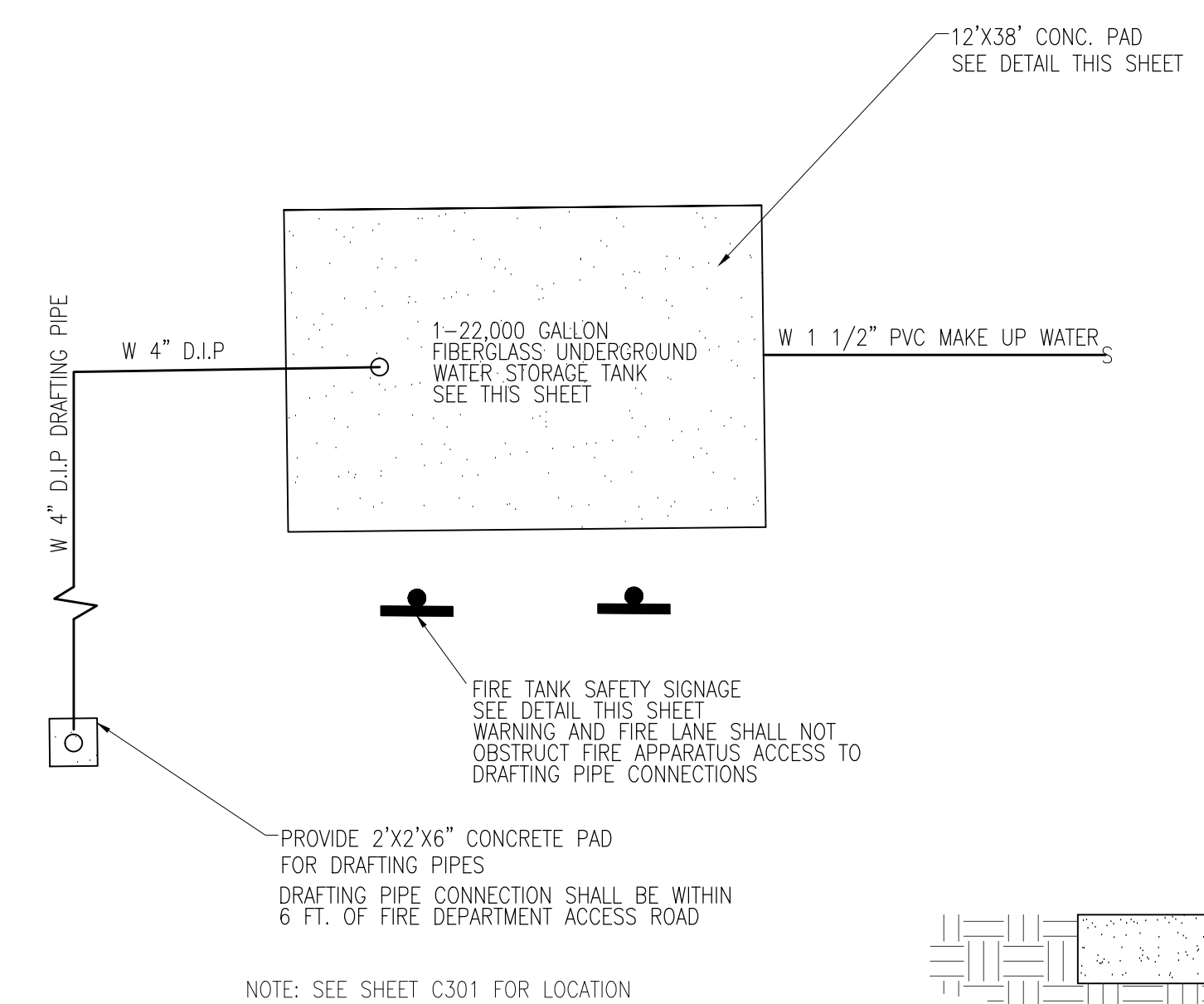
2 FIRE TANK SAFETY SIGNAGE
C404 3/4" = 1'-0"



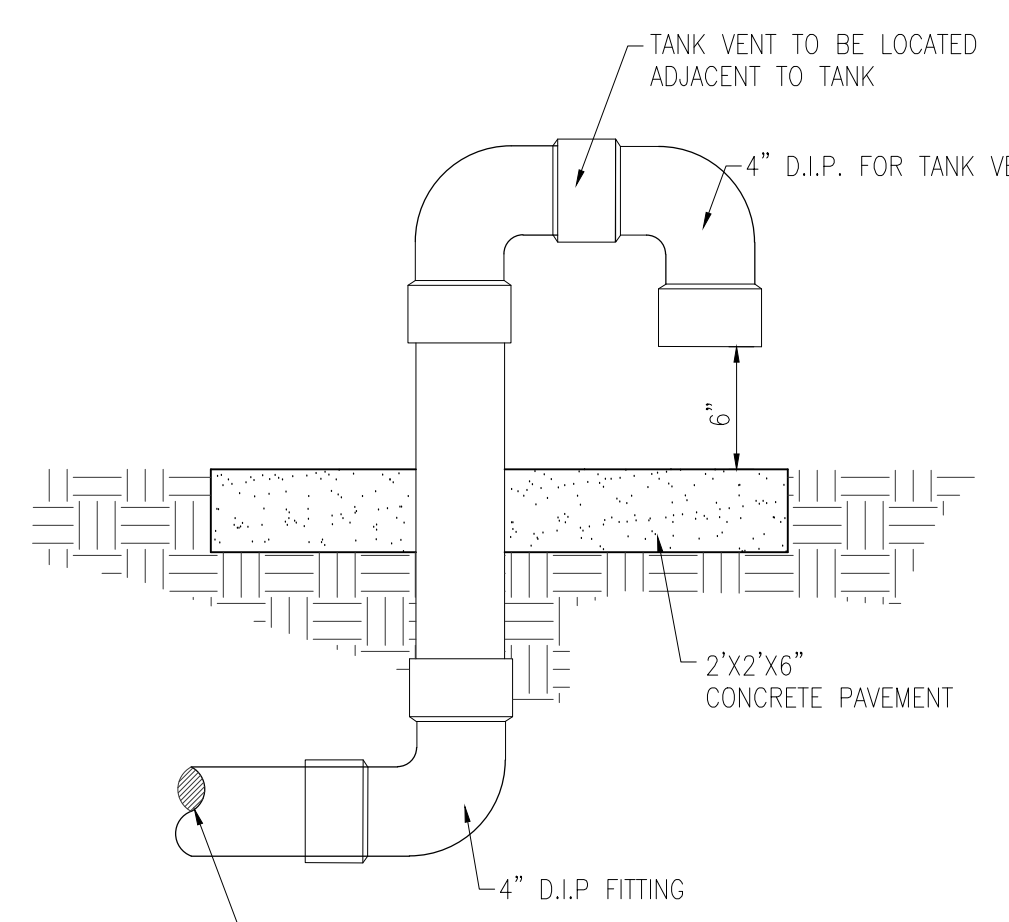
NOTE:

1. PROVIDE 1/2" RADIUS ON ALL EXPOSED EDGES.
2. PROVIDE THICKENED EDGE WHERE CONC. PAVING ABUTS ASPHALT PAVEMENT, BLDGS. AND PERVIOUS AREAS.
3. PROVIDE 1/2" PREMOLDED EXPANSION JOINT WHERE CONCRETE PAVEMENT ABUTS OTHER CONCRETE PAVEMENT, BUILDING, POLE, ETC.

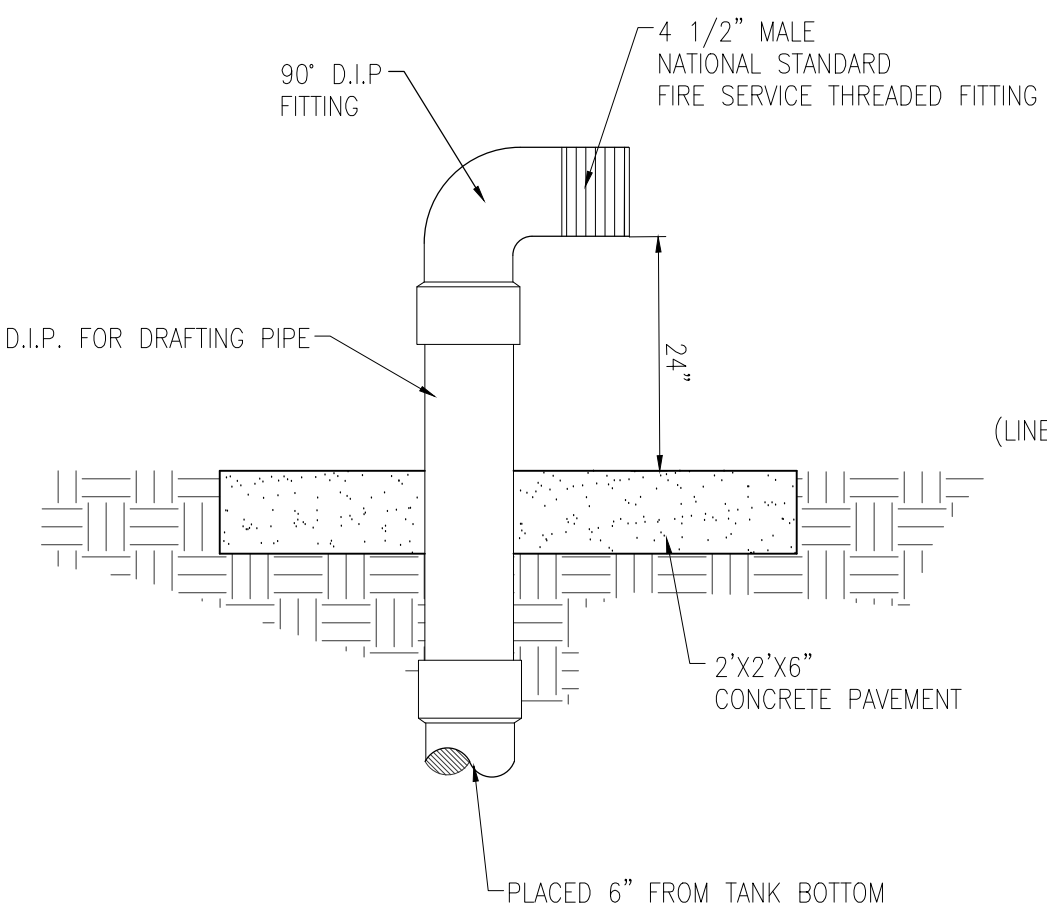
3 CONC. PAVING DETAIL
C404 1" = 1'-0"



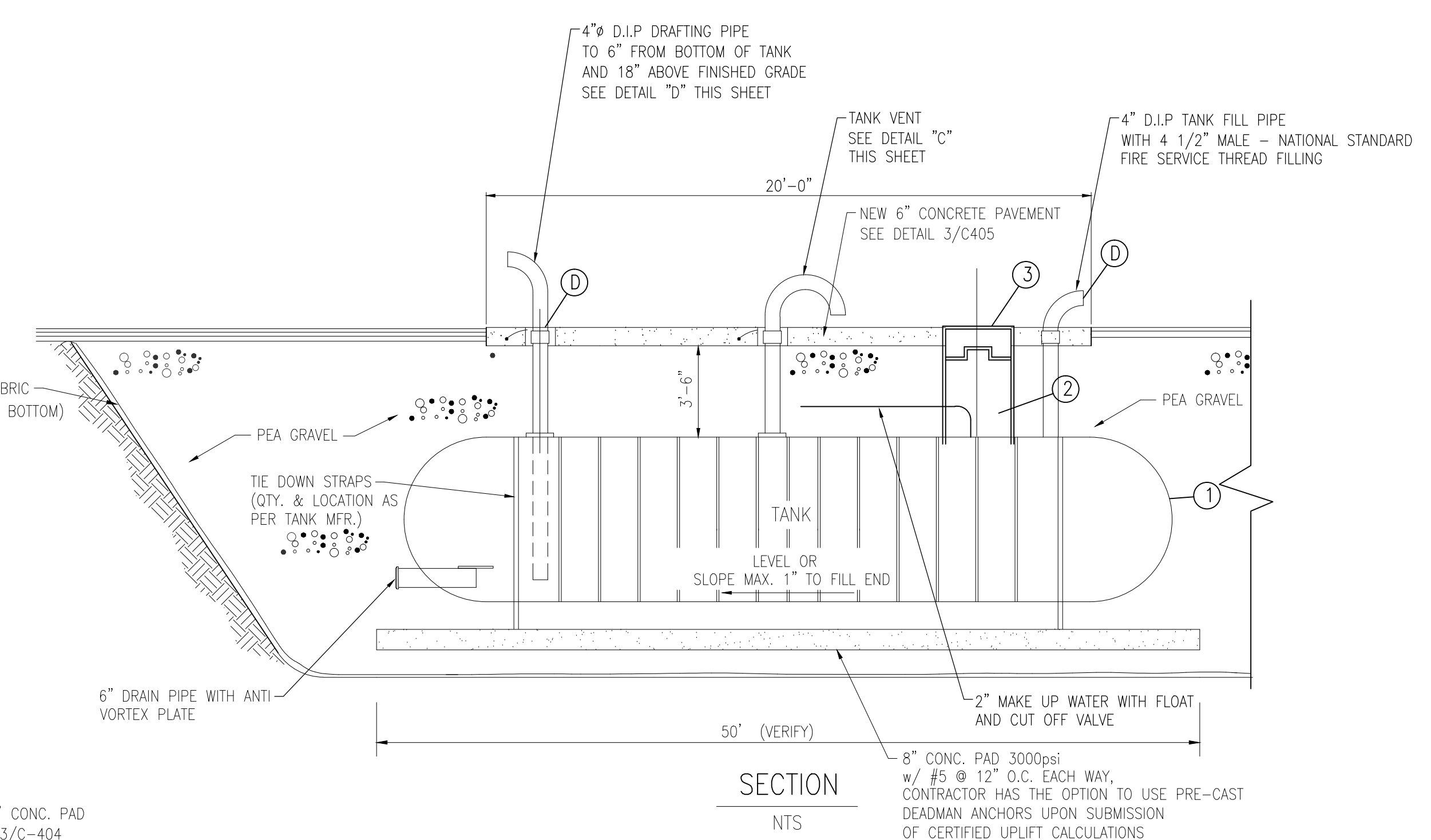
5A DETAILED PLAN
C404 NTS



C VENT DETAIL
C404 NTS



D DRAFTING PIPE DETAIL
C404 NTS



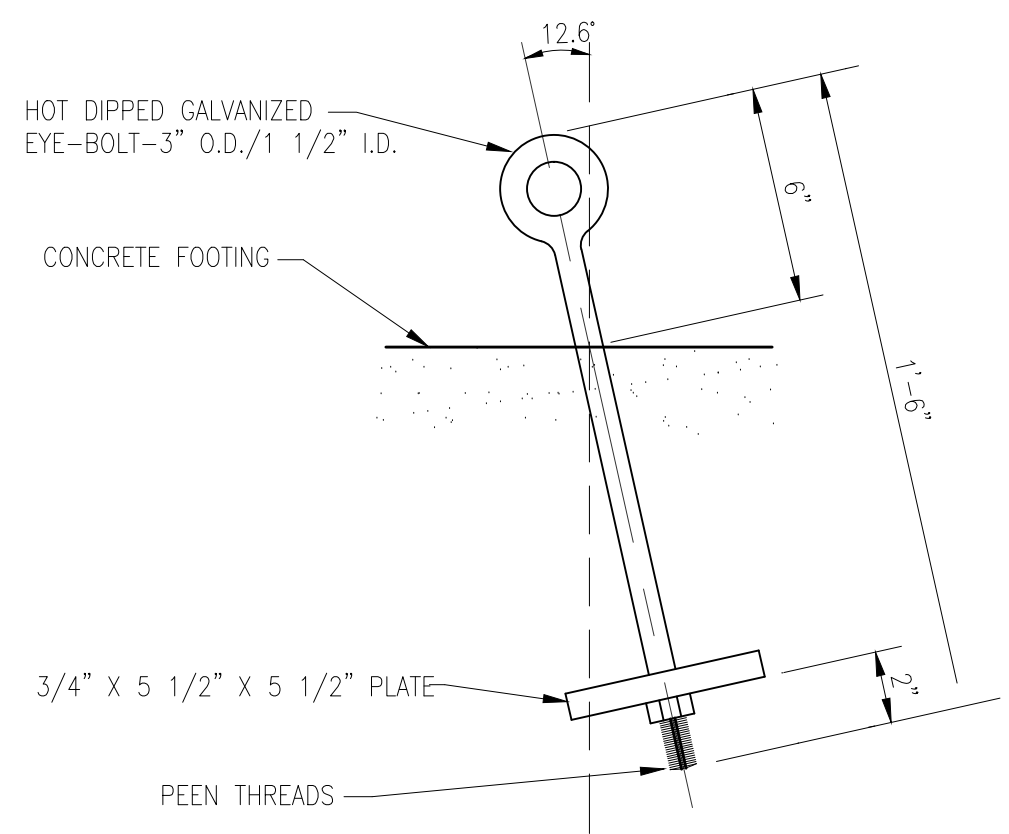
WATER STORAGE NOTES:

1. ONE 25,000 GAL. SINGLE WALL FIBERGLASS UNDERGROUND WATER STORAGE BY XERXES OR APPROVED EQUAL. TANK SHALL BE APPROVED FOR FIRE PROTECTION.
2. 42" INSIDE DIAMETER WATERPROOF SUMP SEALED TO CONTAINMENT COLLAR PROVIDE 30" DIAMETER TANK MANWAY WITH 4" PENETRATIONS AND DRUM STYLE LOCK DOWN.
3. 36" DIAMETER MANHOLE ASSEMBLY WITH MIN. 5/8" THICK TRAFFIC DUTY COVER PROVIDE 36" DIAMETER MANWAY EXTENSION AS REQUIRED.

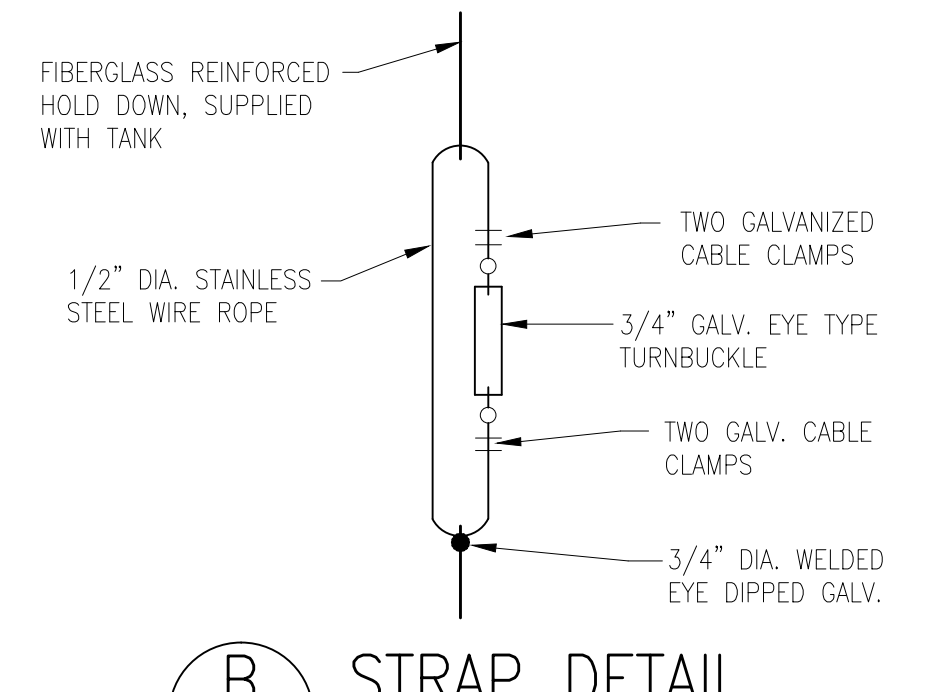
GENERAL NOTES:

1. CONTRACTOR IS TO VERIFY ALL DIMENSIONS WITH PURCHASED EQUIPMENT PRIOR TO POURING CONCRETE.
2. QUANTITY & LOCATION OF THE DOWN STRAPS SHALL BE PER TANK MFR. RECOMMENDATIONS.
3. TANK SHALL BE UL AND ULC 5615-98 LISTED.
4. TANK SHALL BE PRE-ASSEMBLED AT THE FACTORY AND SHALL INCLUDE THE FOLLOWING:
 -ANCHOR
 -ANCHORING STRAPS
 -J-BOLT EMBEDDED IN CONCRETE ACCESS HATCH
 -ALUMINUM ACCESS HATCH
 -HINGED AND PAD-LOCKED, WITH ALUMINUM FRAME AND SS HARDWARE
 -FIBERGLASS LADDER INCLUDED
 -LEVEL CONTROL
 -FLOAT VALVE CONNECTED TO MAKE UP WATER LINE
 -POLYPROPYLENE ANTI CORROSION VALVE

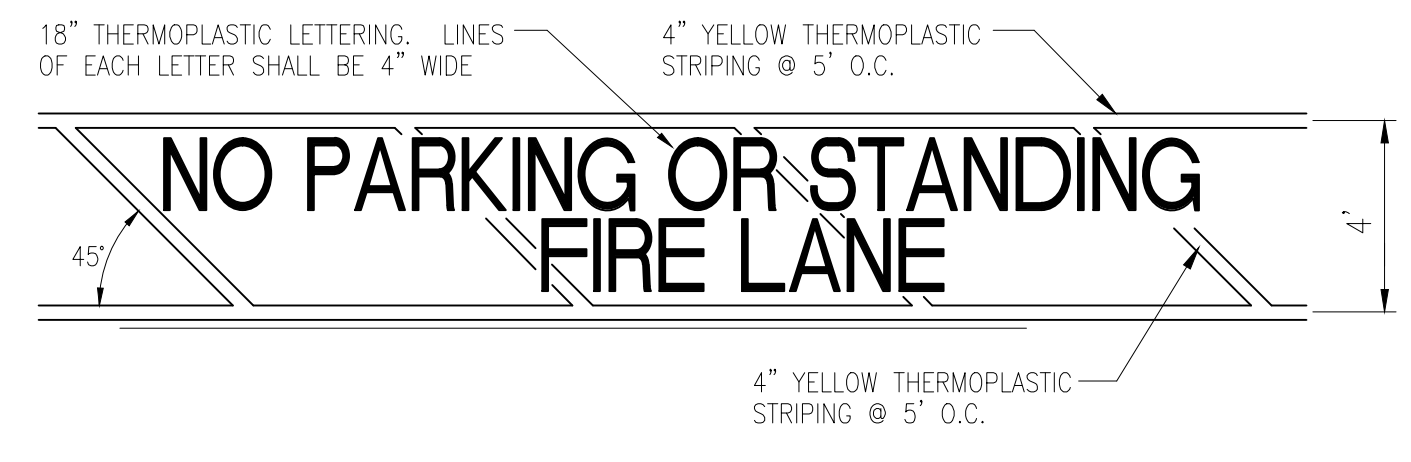
5 UNDERGROUND TANK DETAILS
C404 1/4" = 1'-0"



A ANCHOR DETAIL
C404 3" = 1'-0"



B STRAP DETAIL
C404 NTS




6 FIRE LANE STRIPPING DETAIL
C404 NTS

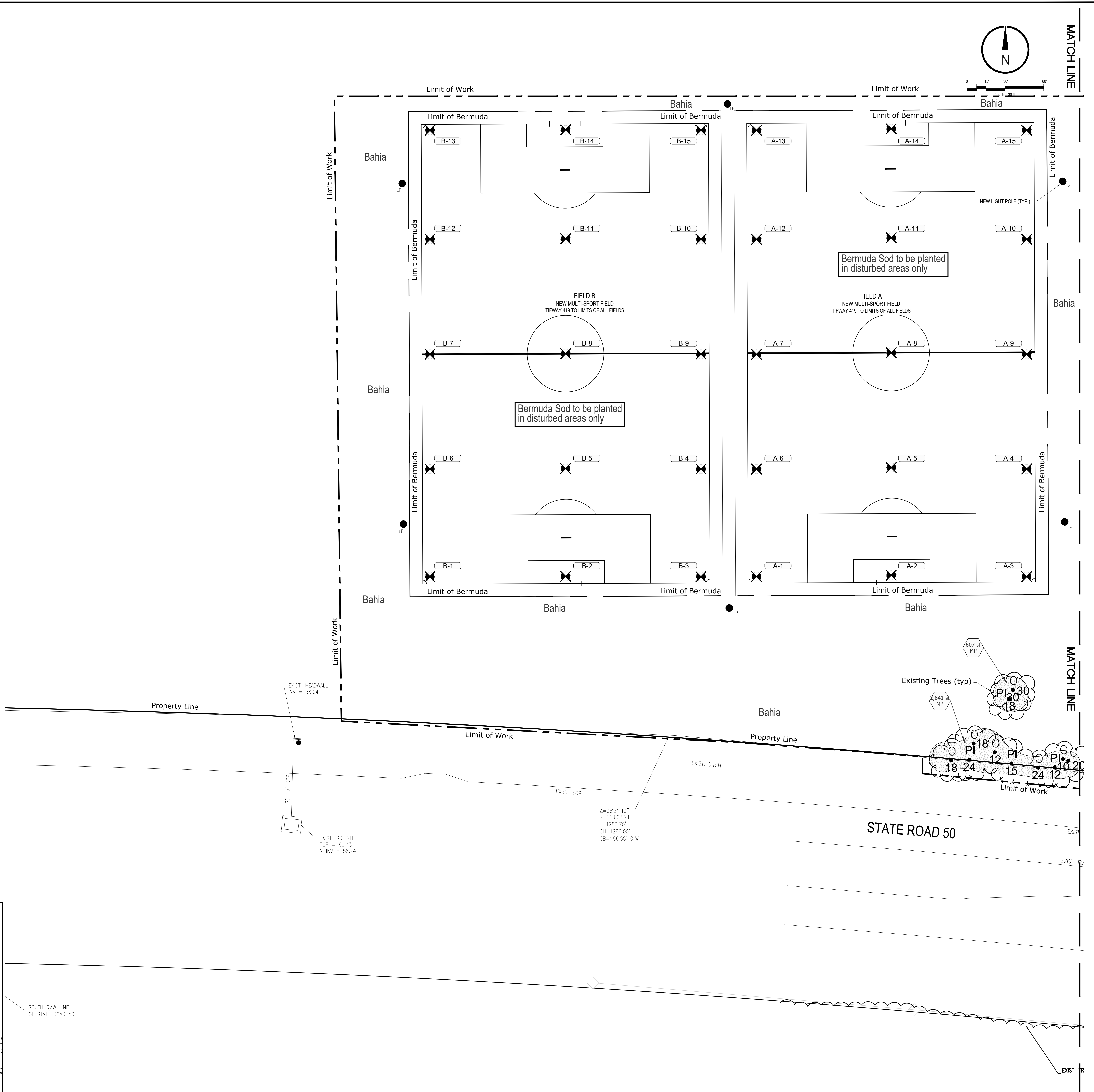
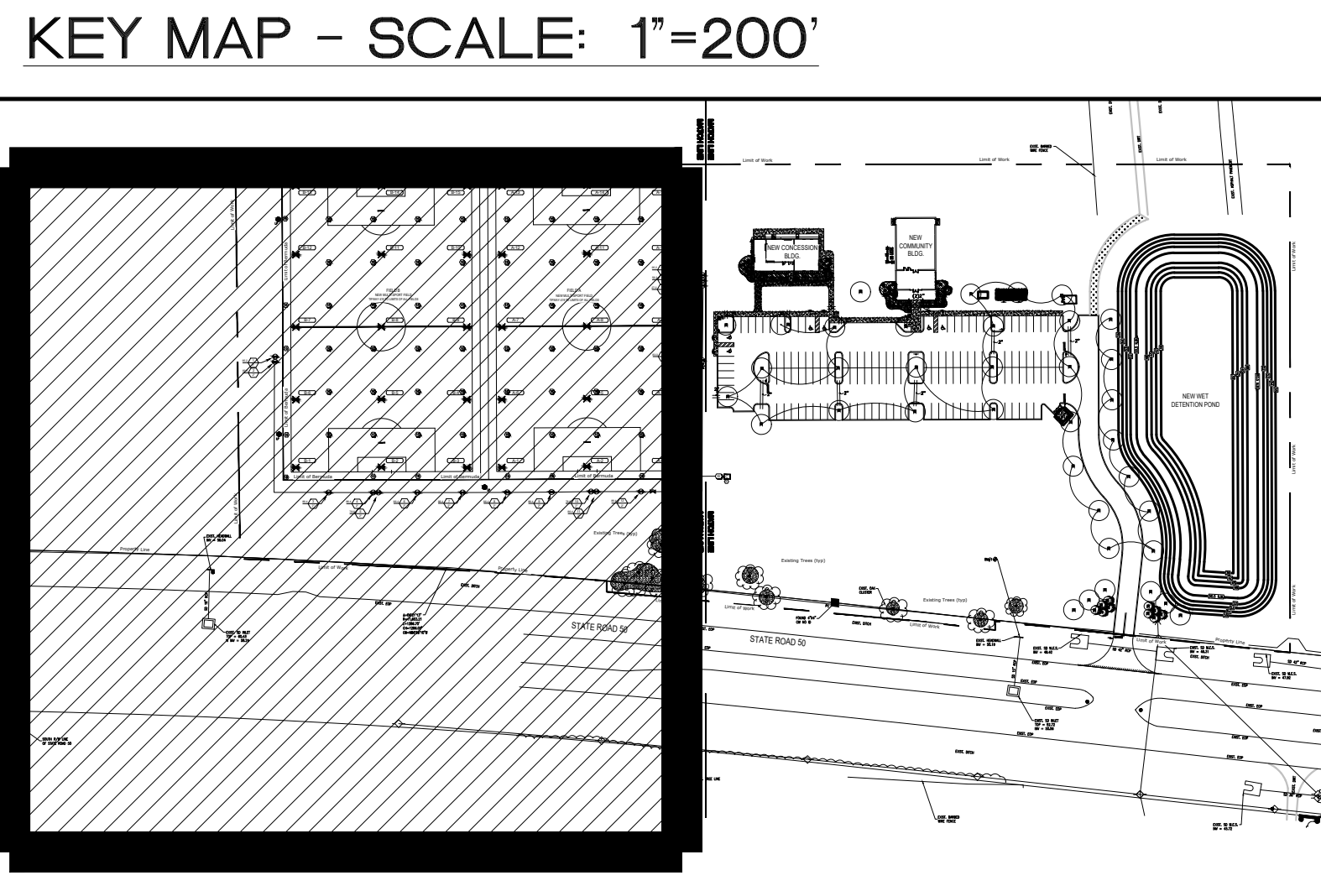
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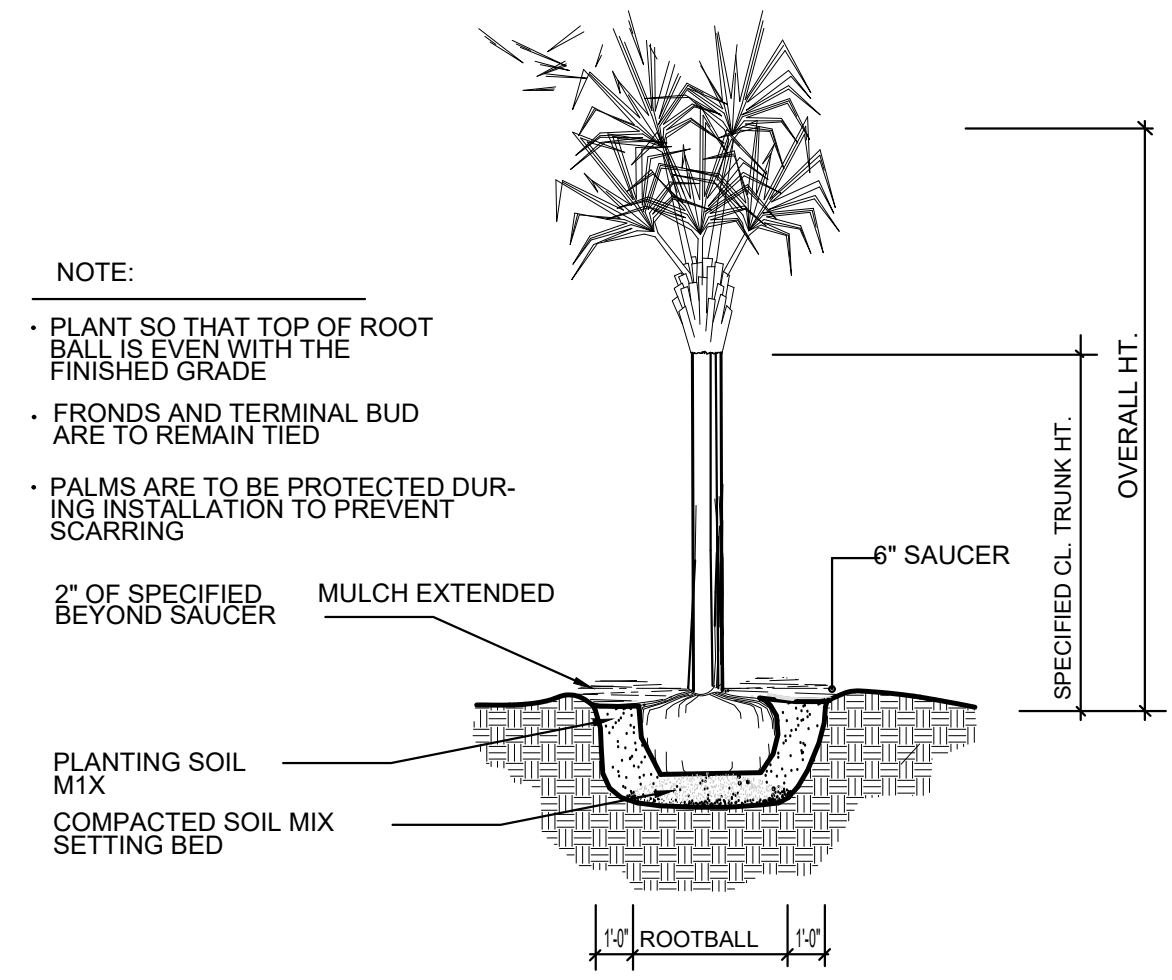
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PERMIT SET 1-10-17
ADDENDUM NO.3 1-19-17

LEGEND

 **A-1** BORING LOCATIONS

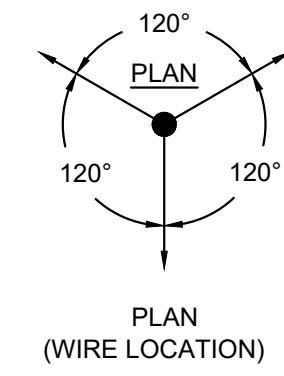
NOTE: Contractor shall collect soil samples from locations as shown. Each sample location shall be tested independently and a recommendation report generated for each location.



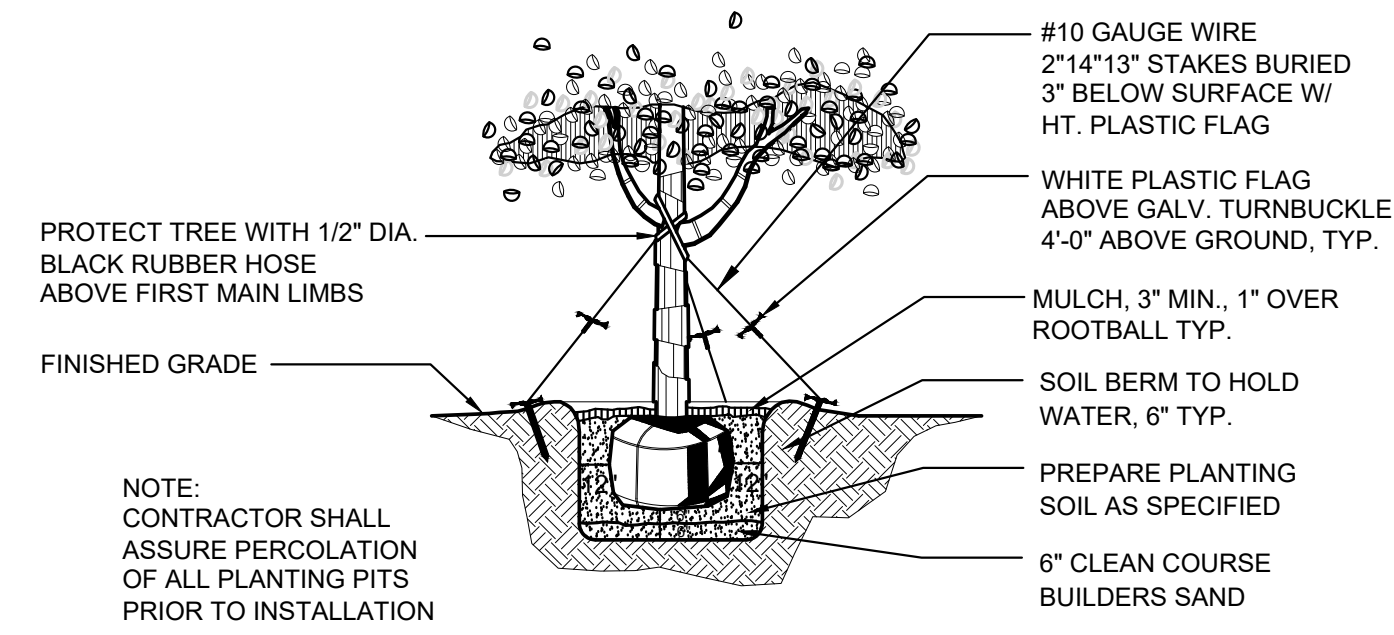


PALM PLANTING DETAIL

Scale: N.T.S. 1/4"=1'-0"

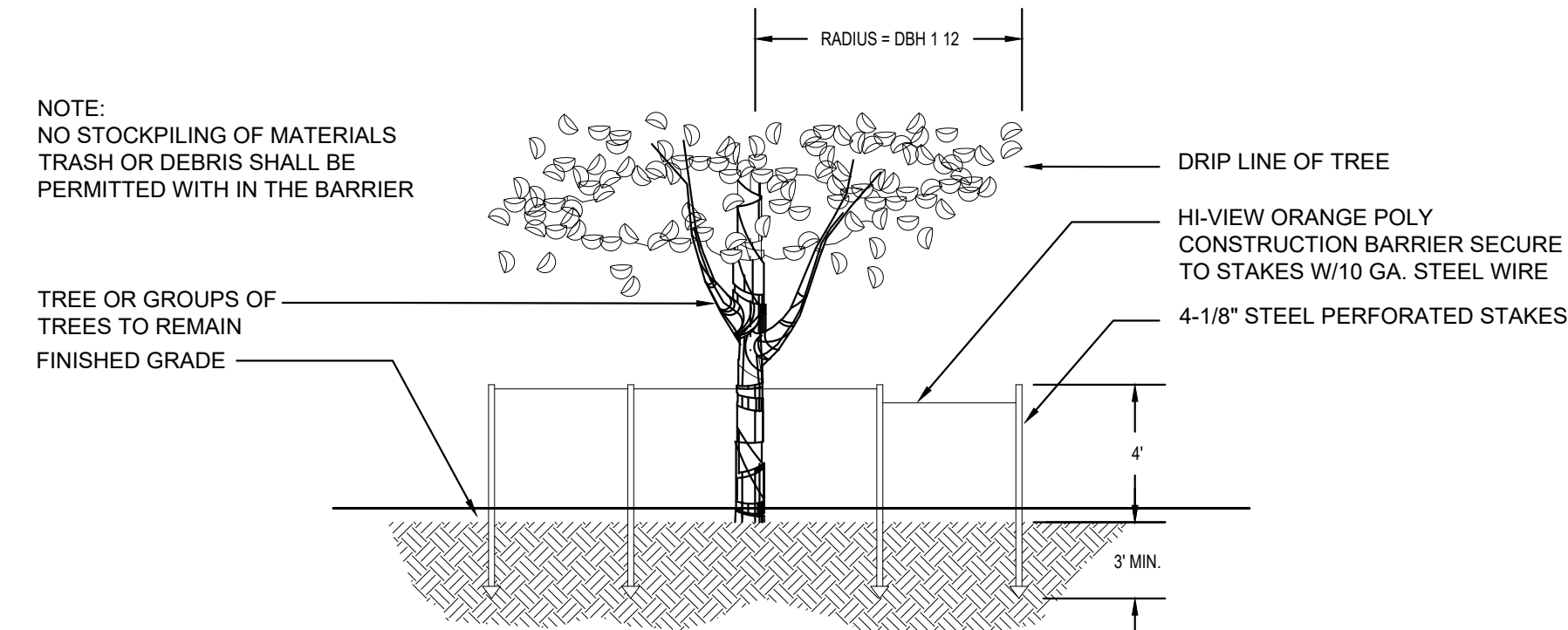


PLAN (WIRE LOCATION)



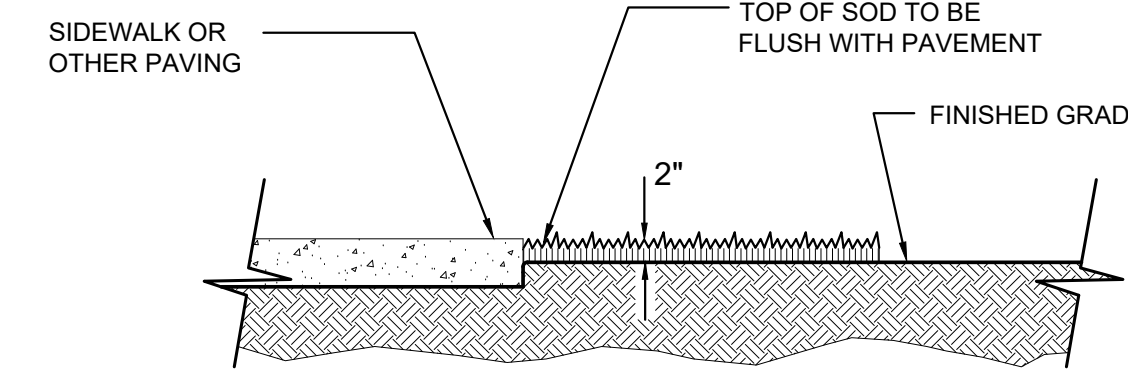
LARGE TREE DETAIL

Scale: N.T.S. 1/4"=1'-0"



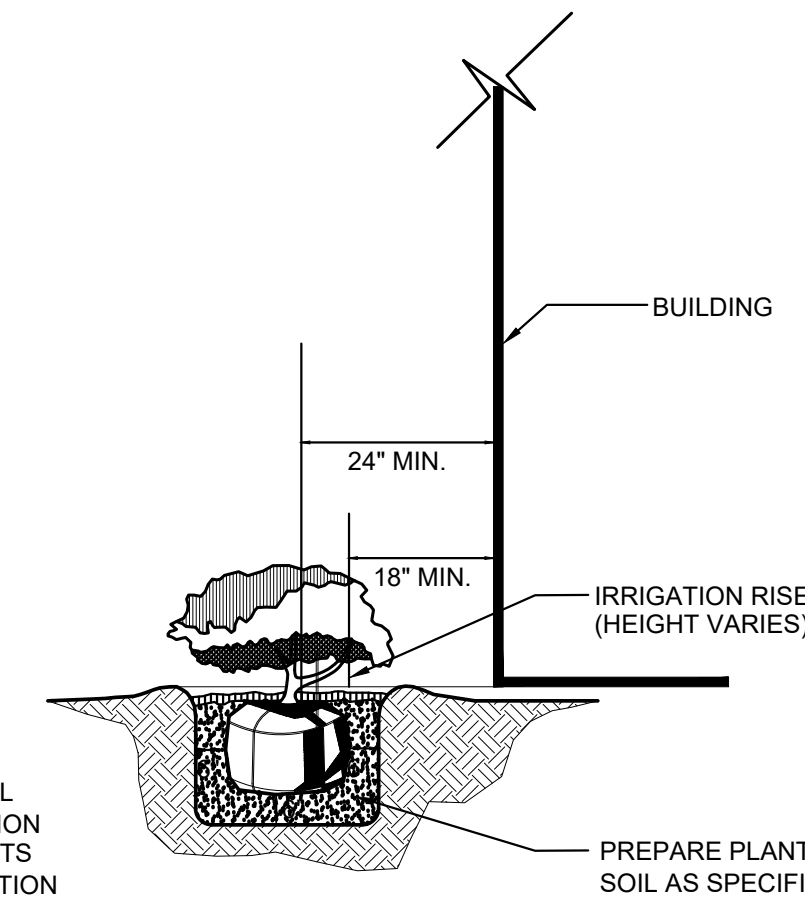
EXISTING TREE PROTECTION DETAIL

Scale: N.T.S. 1/4"=1'-0"



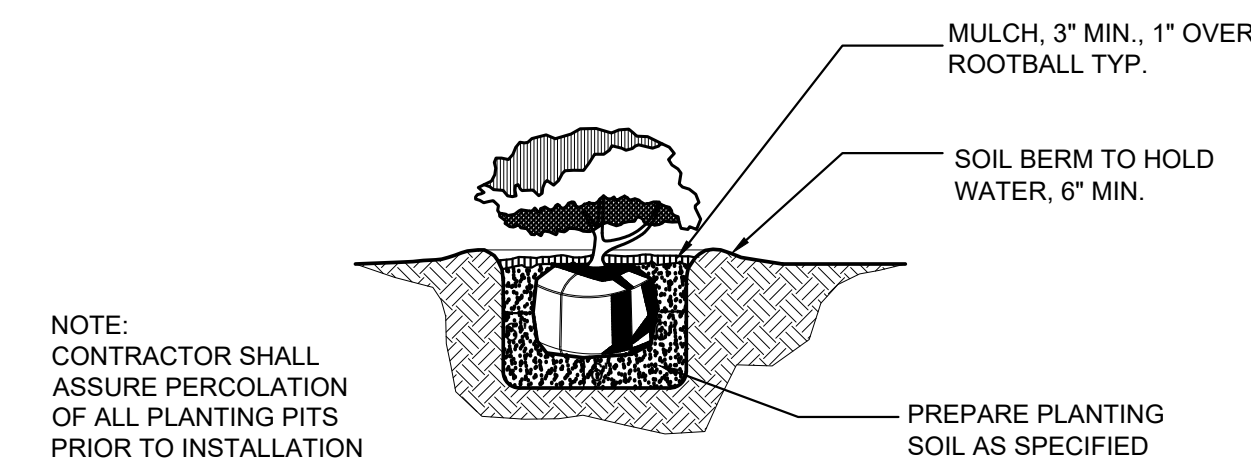
SOD PLACEMENT ADJACENT TO PAVEMENT

Scale: N.T.S. 1/4"=1'-0"



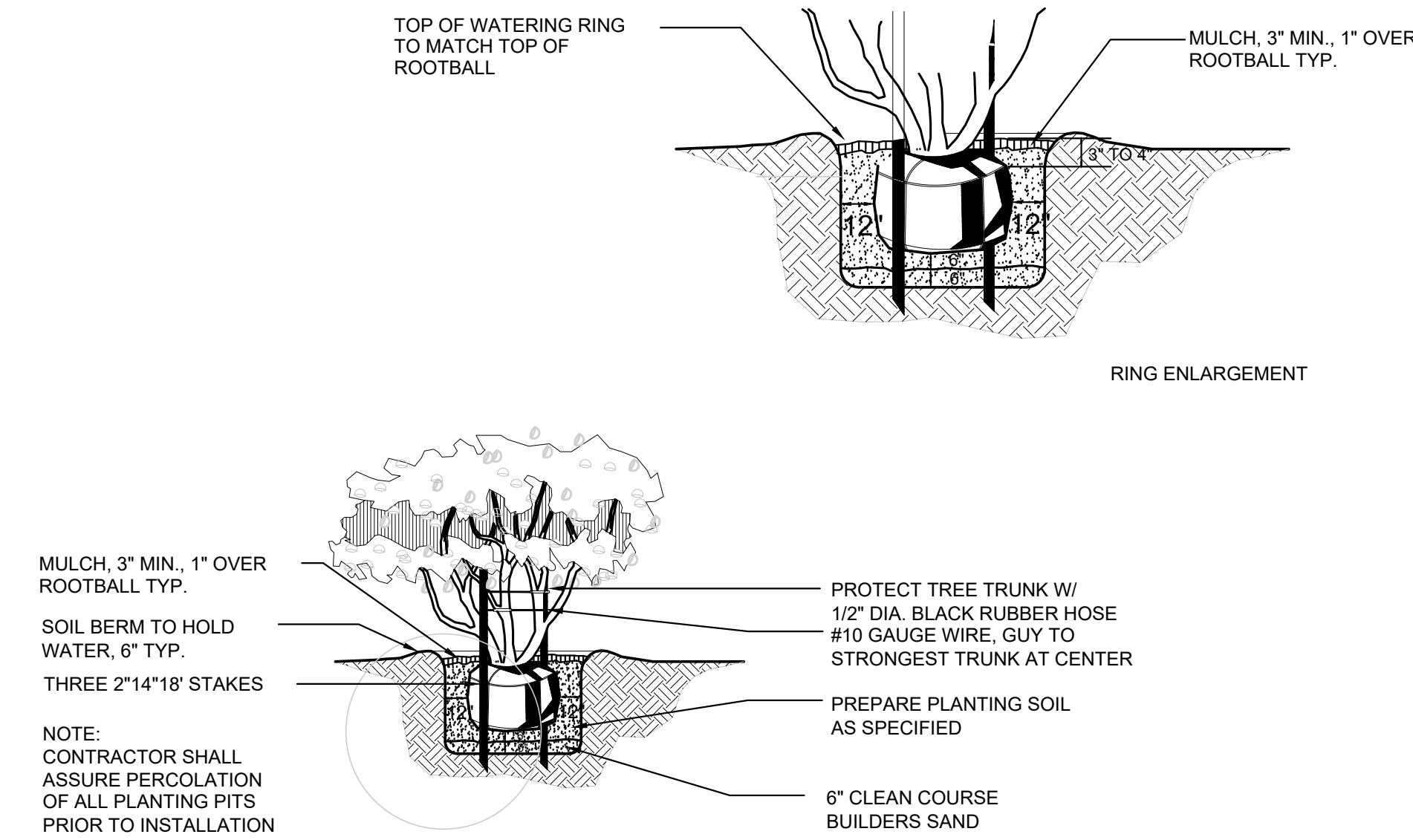
SHRUBS/GROUNDCOVER ADJACENT TO BUILDING

Scale: N.T.S. 1/4"=1'-0"



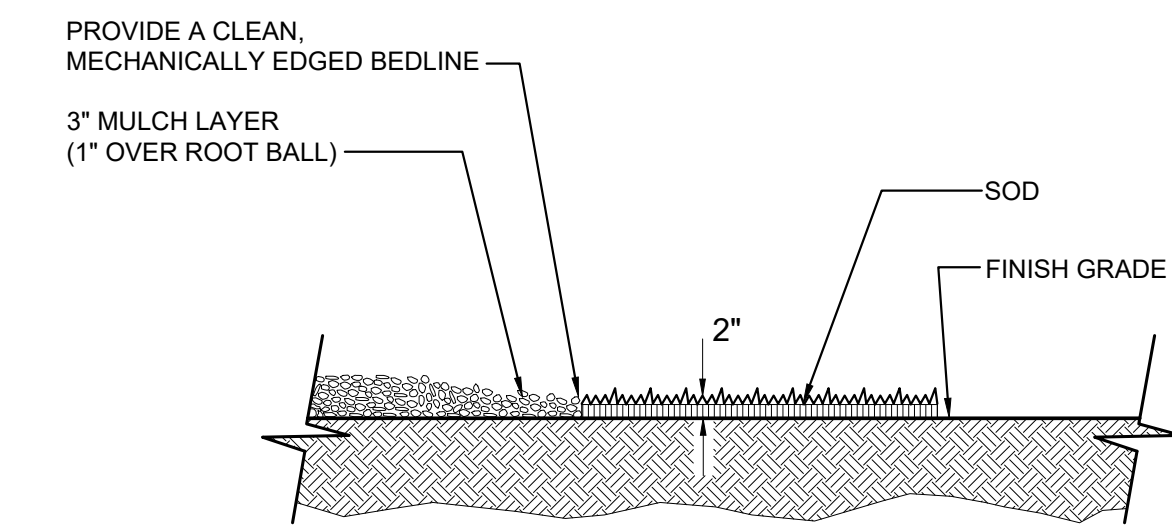
SHRUB DETAIL

Scale: N.T.S. 1/4"=1'-0"



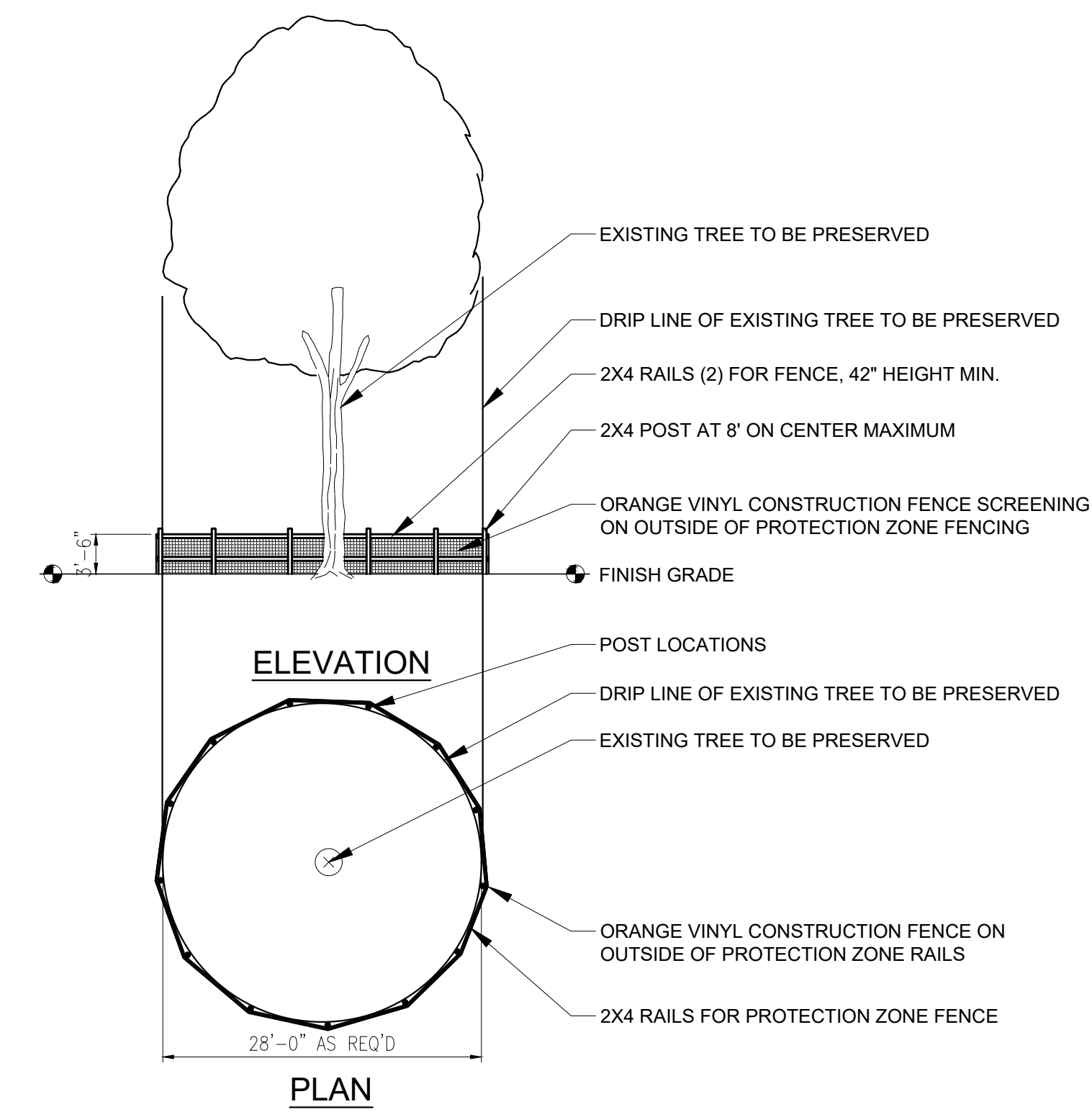
MULTI TRUNK TREE DETAIL

Scale: N.T.S. 1/4"=1'-0"



SOD PLACEMENT ADJACENT TO MULCH

Scale: N.T.S. 1/4"=1'-0"



TREE PROTECTION NOTES:

- TREES TO BE PRESERVED SHALL SURROUNDED BY 2X4 POSTS AT 8' ON CENTER MAXIMUM. INSTALL 2- 2X4 RAILS, THE TOP RAIL LOCATED AT A 42" HEIGHT. LOCATE PROTECTION FENCE AT TREE DRIP LINE. A MINIMUM PROTECTION DIAMETER IS 12" WIDTH PER 1" CALIPER OF THE TREE. INSTALL ORANGE CONSTRUCTION FENCE ON TOP OF THE 2X4 FENCING FOR SAFETY.
- ALL TREE PROTECTION MEASURES SHALL CONFORM TO ALL ORANGE COUNTY LAND DEVELOPMENT REGULATIONS.
- DO NOT STORE ANY PETROLEUM PRODUCTS, SOLVENTS, OR ANY CHEMICALS WITHIN THE PROTECTION ZONE.
- DO NOT STORE ANY MECHANICAL EQUIPMENT OR GANGBOXES WITHIN THE PROTECTION ZONE.
- DO NOT PARK ANY CONSTRUCTION VEHICLES, TRUCK, FOUR WHEELERS, PROJECT GOLF CARTS, ETC. WITHIN THE PROTECTION ZONE.
- DO NOT THROW TRASH INTO OR STORE TRASH RECEPTACLES WITHIN THE TREE PROTECTION ZONE.
- THE PROTECTION ZONE SHALL NOT BE USED AS A LUNCHEON AREA FOR ANY CONSTRUCTION WORKERS ON THE JOB SITE.
- DO NOT STORE ANY PORT-O-LETS OR TEMPORARY ONSITE RESTROOM FACILITIES WITHIN THE PROTECTION ZONE.

TREE PROTECTION DETAIL

Scale: N.T.S. 1/4"=1'-0"

PART 1.00 GENERAL

- 1.01 WORK INCLUDED
A. LANDSCAPING
1. Provide all labor, materials, plant materials, soil additives, soil preparation, aesthetic and fine grading, fertilizing, mulching, planting, sodding, cleanup, services, and maintaining plantings until final acceptance...

- 1.02 RELATED WORK SPECIFIED ELSEWHERE
A. IRRIGATION SYSTEM: Section 02060
1.03 QUALITY ASSURANCE
A. REFERENCE SPECIFICATIONS AND STANDARDS
1. Standards as established by the Florida Nursery Growers Association (FNGA)

- B. TESTS AND INSPECTIONS
1. Plants shall be subject to inspection and approval of the Owner's representative at place of growth and/or upon delivery for conformity to specifications...

- C. PERFORMANCE
1. All planting shall be performed by personnel familiar with planting procedure and under supervision of a qualified planting foreman...

- 1.04 SUBMITTALS
A. Submit documentation to Owner's Representative within fourteen (14) days after award of Contract...

- 1.05 PROTECTION
A. Do not construct, install, or use any grading, soil work, and preparation has been completed...

- 1.06 WARRANTY
A. The Contractor shall guarantee all tree and shrub/groundcover plantings for a period of twelve (12) months...

- 1.07 PRODUCT HANDLING
A. Delivery
1. Plant transportation shall comply with all Federal and State regulations...

- 1.08 VERIFICATION OF DIMENSIONS AND QUANTITIES
A. All scaled dimensions are approximate. Before proceeding with any work, carefully check and verify all dimensions and quantities...

- 1.09 OWNER TAGGED MATERIALS
A. Contractor shall leave all tags on material previously tagged by the Owner's Representative until final acceptance...

- 1.10 JOB CONDITIONS
A. Protection. The Landscape Contractor shall protect all materials and work against injury from any causes and shall provide all necessary safeguards...

- 1.11 PRODUCT HANDLING
A. Existing Conditions
1. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work including, but not limited to, plant materials, irrigation materials, underground pipes and cables...

- 2. Should any objectionable materials such as old concrete, bricks or other debris be encountered during planting operations, the Landscape Contractor shall bring it to the attention of the Owner to coordinate removal of the material from the site...

- 1.12 SAMPLE AND TESTS
A. Owner's Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request of Owner's Representative...

- PART 2.00 PRODUCTS
2.01 MATERIALS
A. GENERAL
1. Nomenclature. All trees, shrubs and plants shall be true to name as established by the American Joint Committee on Horticultural Nomenclature...

- B. PLANT MATERIALS: In reference to method of cultivation, root system status, plants for landscaping shall be classified under the following designations:
1. Container-Grown Plants
a. Container-grown plants shall have been grown in a container large enough and for sufficient time for the root system to have developed well to hold its soil together firm and whole...

- 2. Balled and Burlapped Trees
a. Plants so classified shall be dug with firm natural root balls of earth coming from singular climatic and soil conditions as those on the project site and of sufficient diameter and depth to include most of the fibrous roots...

- 3. Bare Root Plants: No bare root plants shall be used unless otherwise specified.
4. Grow Bag Plants: No grow bag plants shall be used.

- C. PLANTING MATERIALS
1. Topsoil
a. Topsoil shall be a friable loam, (humus) of cultivated topsoils locally containing at least 5 percent of decayed organic matter (humus)...

- 2. Fertilizer/Fertilizer shall be a complete balanced blend formula, of which part of the elements shall be derived from organic sources. It shall contain nitrogen and potassium as well as recommended micronutrients such as magnesium, iron, copper, zinc, boron, and manganese in sufficient...

- 3. Weed Control: All planting beds shall be treated with the pre-emergent Treflan, as manufactured by Elanco Products Company, Division of Eli-Lilly Company, Indianapolis, Indiana...

- 4. Mulch: Wood mulch shall be pine nugget mulch, grade #1, clean, bright and free of weeds, sticks and other debris.

- 5. Stakes and Ties: Stakes and tree ties shall be provided in accordance with the requirements of Paragraph 3.03.C(1) hereon.

- 1.13 QUALITY ASSURANCE
A. Comply with regulations of all governing agencies when applying herbicides and pesticides. Applications shall follow manufacturer instructions.

- B. Maintenance/Rotting Sodded areas shall be rolled throughout the grow-in period to push roots into the soil, to settle or firm the root zone and to smooth the surface to prevent mower scalping...

- C. Weed Control: Weed control shall be performed by a turf specialist knowledgeable with climate conditions and planting requirements of the geographical area and whose work has resulted in successful lawn establishment...

- D. A.S.P.A. (American Sod Producers Association) - Guideline Specifications to Sodding
E. Athletic Fields: Design, Construction and Maintenance by the University of Florida - Institute of Food and Agricultural Sciences (IFAS) - Bulletin #2002 2009 Pest Control Guide for Turfgrass Managers by the University of Florida/IFAS.

- F. Root zone Construction: Standard Guide for Construction of High Performance Sand-Based Root zones for Athletic Fields ASTM Designation: F2396-11

- G. Root zone coarse sand: Submit analysis report for the mix specified in PART 2 - MATERIALS.
1. Before delivery of root zone coarse sand (USGA Construction Sand), furnish a soil analysis produced by a licensed qualified soil testing laboratory confirming compliance with the specified horticultural requirements...

- 2. The analysis shall also include the infiltration rate performance in inches per hour. A range of 10 to 20 inches per hour is required.
3. Provide a complete laboratory analysis of the fill placed beneath the root zone coarse sand prior to the delivery of the sand to the site...

- H. All soil specified herein shall be certified Turfway 419 Bermuda grass. Provide soil source including name and telephone number of soil firm.

- 1.20 QUALITY ASSURANCE
A. Comply with regulations of all governing agencies when applying herbicides and pesticides. Applications shall follow manufacturer instructions.

- B. Grassing shall be performed by a turf specialist knowledgeable with climate conditions and planting requirements of the geographical area and whose work has resulted in successful lawn establishment...

- C. Installation equipment shall be properly maintained, professional grade, and employed so as not to damage turf or field inlets.
D. A.S.P.A. (American Sod Producers Association) - Guideline Specifications to Sodding
E. Athletic Fields: Design, Construction and Maintenance by the University of Florida - Institute of Food and Agricultural Sciences (IFAS) - Bulletin #2002 2009 Pest Control Guide for Turfgrass Managers by the University of Florida/IFAS.

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- 2. The analysis shall also include the infiltration rate performance in inches per hour. A range of 10 to 20 inches per hour is required.
3. Provide a complete laboratory analysis of the fill placed beneath the root zone coarse sand prior to the delivery of the sand to the site...

- H. All soil specified herein shall be certified Turfway 419 Bermuda grass. Provide soil source including name and telephone number of soil firm.

- 4. Plant Protection: Plants shall be protected upon arrival at the site, by being thoroughly watered, kept moist, and properly maintained until arrival.

- 4.2 DELIVERY, STORAGE, & HANDLING
A. Deliver, store, protect and handle products to be used in provisions of Division 1.
B. Do not deliver more materials than shall be installed within 24 hours of delivery.
C. Store all chemicals off-site. Keep all pesticides, herbicides and fertilizers in a secure area when in use on-site and keep away from public.

- 1.5. COORDINATION
Coordinate work under provisions of Division 1.
B. Coordinate installation of underground sprinkler system, piping and heads.
C. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required.

- 1.6. JOB CONDITIONS
A. Planting Time: Best to install sod during the active growing season.
B. When work on the planting operations sufficiently to commence root zone placement and planting, then the planting operations shall be conducted only under favorable weather conditions which are normal for such work as determined by accepted sports field sodding practices.

- 1.7. WARRANTY
A. Provide a 30 day warranty from the date of final completion and acceptance. After a period of ninety days warranty period will be performed by a certified agronomist approved by the County at the expense of the contractor. The warranty inspection will be performed to determine the health of the turf including the presence of any noxious weed growth, insect infestations, contamination by herbicides or other poisons, overall color of the turf and general health...

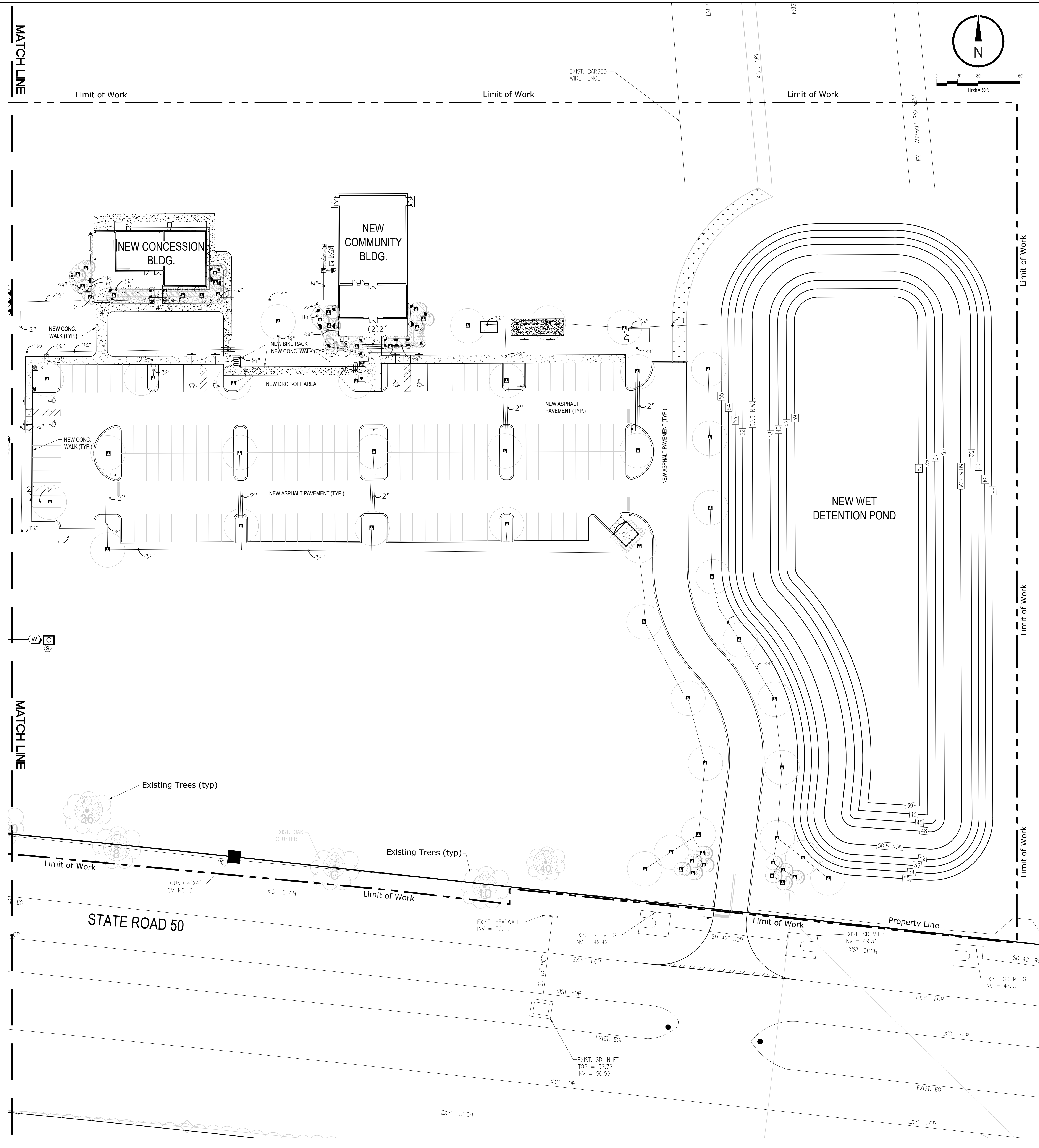
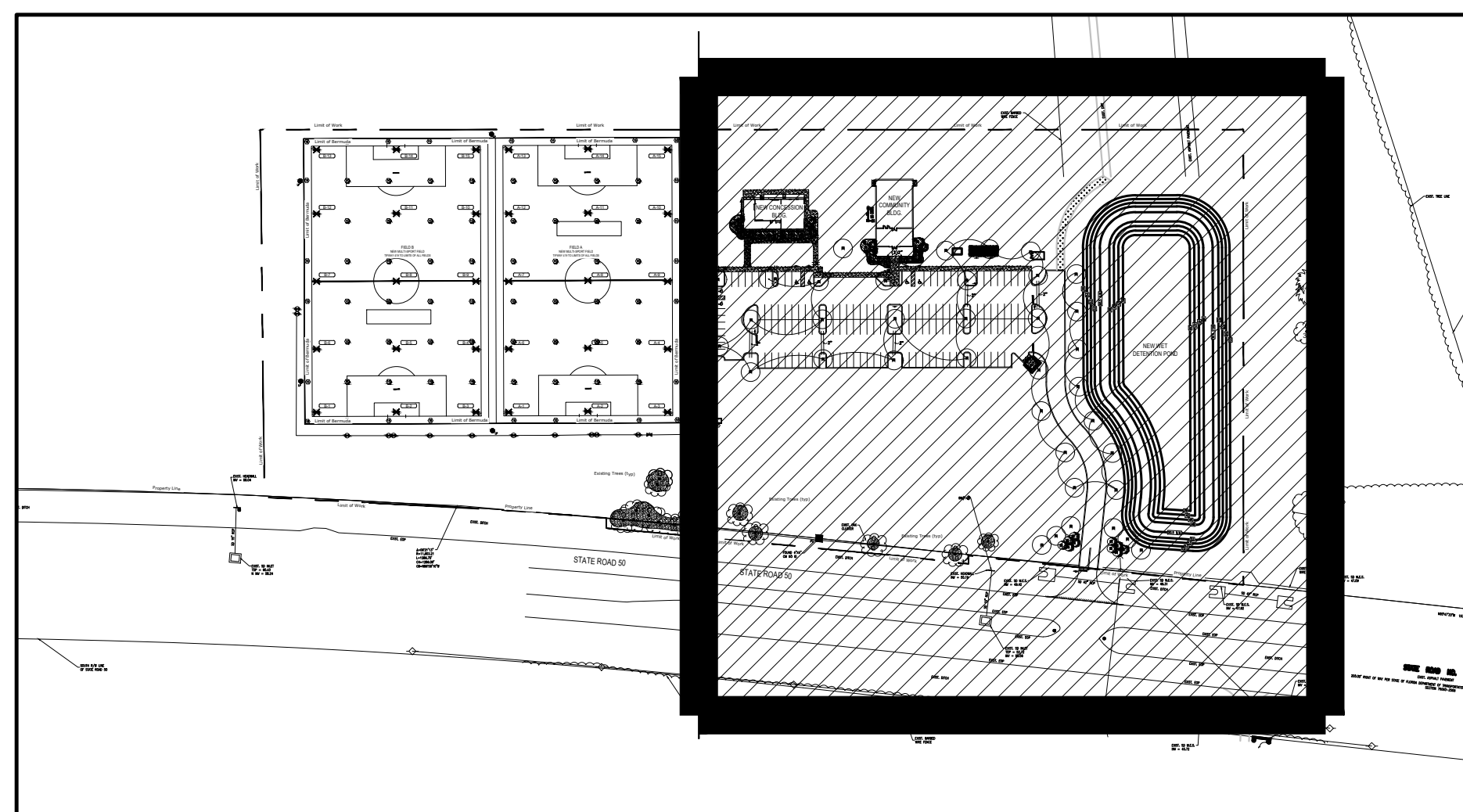
- 3.3 Sod Planting & Grow in Maintenance
A. No turfgrass sod shall be placed on soil which has been chemically treated until sufficient time has elapsed to permit dissipation of all toxic materials. Contractor shall assume full responsibility for any loss due to turfgrass sod arising from improper use of chemicals or due to his failure to allow sufficient time to permit dissipation of toxic residues...

- DEFINITIONS:
A. Weeds: Includes Torpedograss, Bahiagrass, St. Augustine, Nut Sedge, Dandelion, Goosegrass, Dollar Weed, Quackgrass, Dogfennel, Horseshoe or Maretail, Morning Glory, Crabgrass, Common Bermudagrass, and any other grass or weed not in "Weeds of Southern Turfgrasses", as published by the University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences.

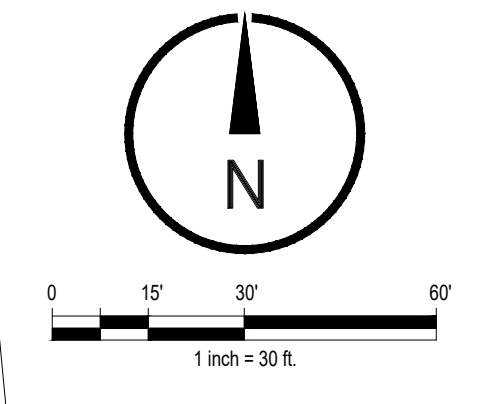
- 2.1 ROOT ZONE COARSE SAND (USGA Construction Sand)
A. The contractor shall provide an 8" deep layer of root zone coarse sand, which shall be non-calcareous, clean and processed according the following criteria:

Table with 4 columns: Size, Sieve, Percent Passing, Range. Rows include No. 10, 20, 40, 60, 100, 200, 425, 600, 840, 1060, 1410, 2000, 2800, 3540, 4750, 6000, 8400, 10600, 14100, 20000, 28000, 35400, 47500, 60000, 84000, 106000, 141000, 200000, 280000, 354000, 475000, 600000, 840000, 1060000, 1410000, 2000000, 2800000, 3540000, 4750000, 6000000, 8400000, 10600000, 14100000, 20000000, 28000000, 35400000, 47500000, 60000000, 84000000, 106000000, 141000000, 200000000, 280000000, 354000000, 475000000, 600000000, 840000000, 1060000000, 1410000000, 2000000000, 2800000000, 3540000000, 4750000000, 6000000000, 8400000000, 10600000000, 14100000000, 20000000000, 28000000000, 35400000000, 47500000000, 60000000000, 84000000000, 106000000000, 141000000000, 200000000000, 280000000000, 354000000000, 475000000000, 600000000000, 840000000000, 1060000000000, 1410000000000, 2000000000000, 2800000000000, 3540000000000, 4750000000000, 6000000000000, 8400000000000, 10600000000000, 14100000000000, 20000000000000, 28000000000000, 35400000000000, 47500000000000, 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KEY MAP - SCALE: 1"=200'



DETAIL SITE IRRIGATION PLAN
SCALE: 1"=30'



IRRIGATION PLAN

EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS
ORANGE COUNTY PARKS + RECREATION
ORANGE COUNTY, FL

CONCEPT PLAN REVIEW 07-08-16
PRELIMINARY SITE PLAN 8-9-16
30% DESIGN DEVELOPMENT 09-22-16
60% DESIGN DEVELOPMENT 11-02-16
BID SET SUBMITTAL 12-14-16
PERMIT SET SUBMITTAL 1-9-17

APPENDIX 3-1-16-17

Issue Date and Purpose	Project Number
	1639

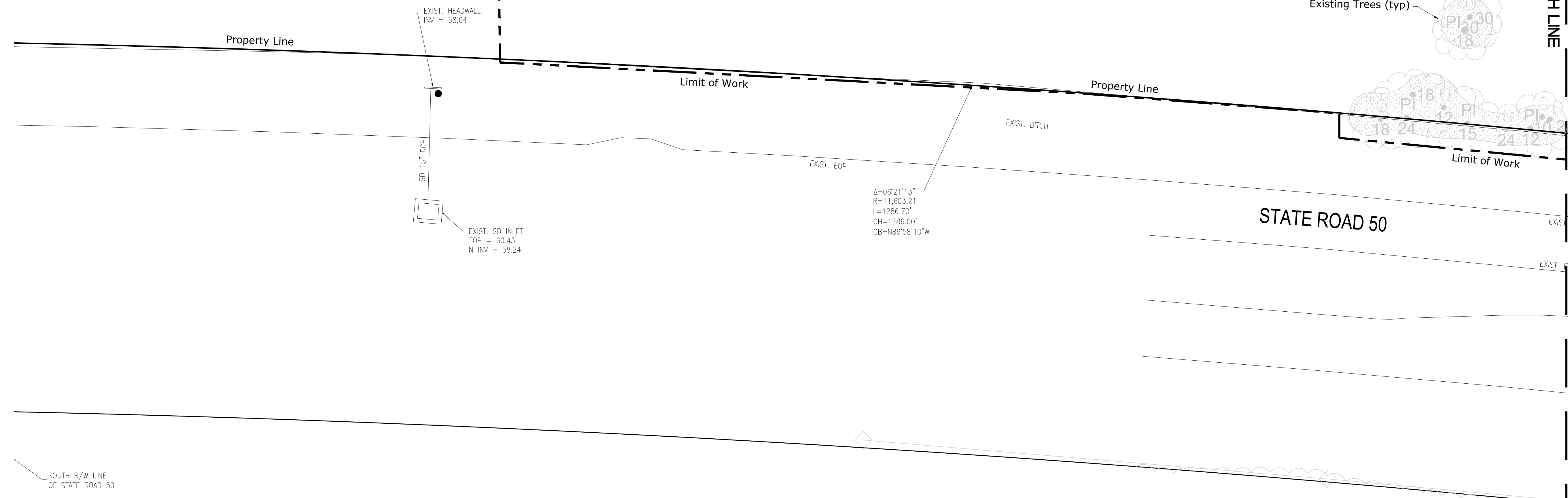
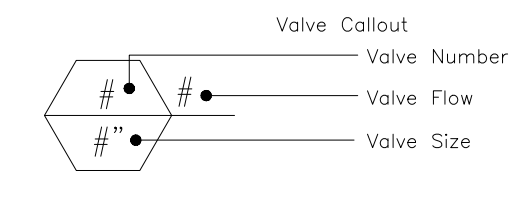
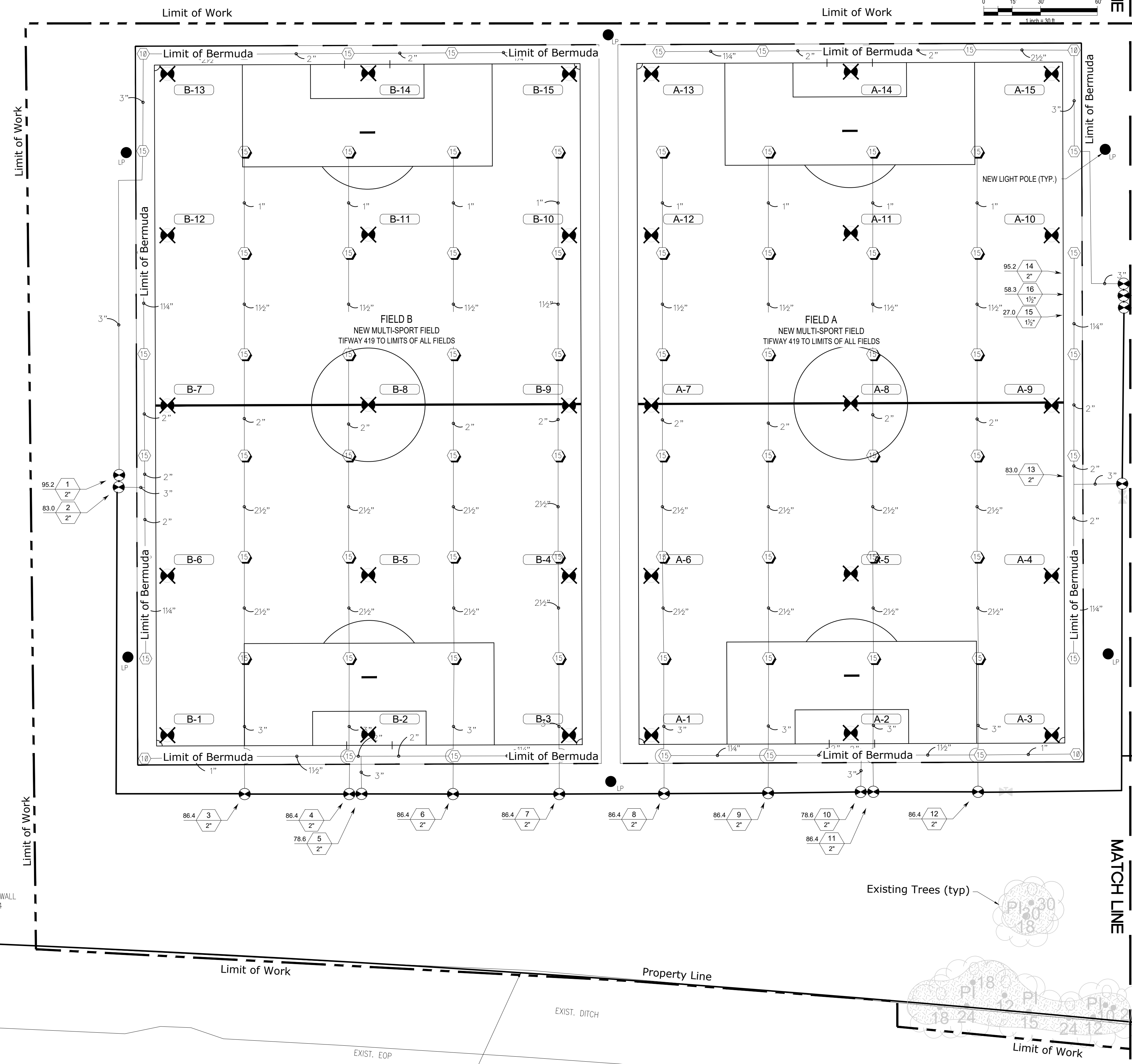
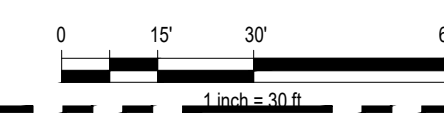
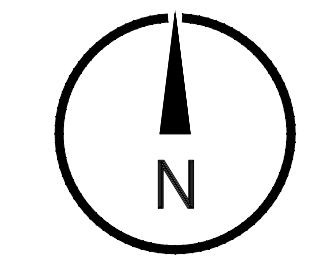
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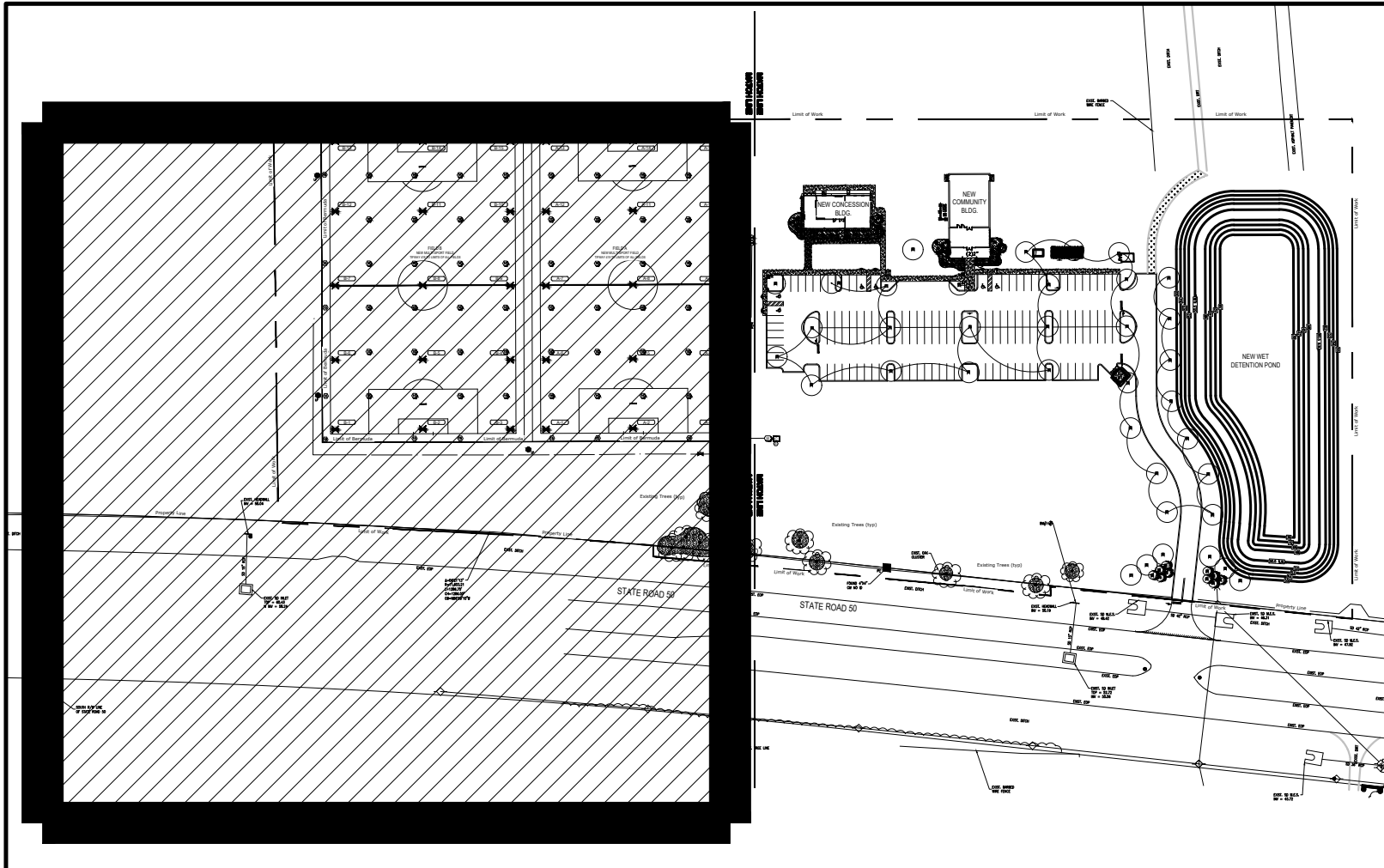
Murray Design Group
LANDSCAPE ARCHITECTURE
942 Fremont Avenue
Winter Park, FL 32789
Phone: (407) 847-8070
www.murraydesigngroup.com

Seal: Majid Kaloghchi P.E. 41046

SK Consortium, Inc.
ENGINEERING
URBAN DESIGN PLANNING
1053 N. ORLANDO AVE., SUITE 300 • MAITLAND, FLORIDA 32751
TELEPHONE 407-629-4288 • FACSIMILE 407-629-1656 • E# 7080



KEY MAP - SCALE: 1"=200'



MATCH LINE

MATCH LINE

IRRIGATION PLAN

EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS ORANGE COUNTY PARKS + RECREATION

ORANGE COUNTY, FL

CONCEPT PLAN REVIEW 07-08-16
PRELIMINARY SITE PLAN 8-9-16
30% DESIGN DEVELOPMENT 09-22-16
60% DESIGN DEVELOPMENT 11-02-16
BID SET SUBMITTAL 12-16-16
PERMIT SET SUBMITTAL 1-9-17

ADDENDUM 3 - 1-19-17

Issue Date and Purpose
Project Number: 1639

Drawn by: B. Murray
Checked: B. Murray
File No: 1500000000

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ENGINEERING
PLANNING
DESIGN
URBAN DESIGN

SK Consortium, Inc.
1053 N. ORLANDO AVE., SUITE 300 • MAITLAND, FLORIDA, 32751
TELEPHONE: 407-629-4288 # FACSIMILE: 407-629-1656 • E# 7080

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Winter Park, FL 32789
Phone: (407) 947-8070
www.murraydesign.com

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
☐	Hunter PROS-06-PRS30 5' strip spray	1	LCS	30	0.65	5'x15'
☐	Hunter PROS-06-PRS30 5' strip spray	2	RCS	30	0.65	5'x15'
☐	Hunter PROS-06-PRS30 5' strip spray	1	SST	30	1.30	5'x30'
☐	Hunter PROS-12-PRS30 5' strip spray	1	RCS	30	0.65	5'x15'
☐	Hunter PROS-12-PRS30 5' strip spray	1	SST	30	1.30	5'x30'
○	Hunter PROS-12-PRS30 8' radius	1	90	30	0.24	8'
○	Hunter PROS-12-PRS30 10' radius	6	180	30	0.88	10'
○	Hunter PROS-12-PRS30 10' radius	8	90	30	0.42	10'
○	Hunter PROS-12-PRS30 12' radius	10	180	30	1.30	12'
○	Hunter PROS-12-PRS30 12' radius	4	90	30	0.67	12'
○	Hunter PROS-12-PRS30 15' radius	4	180	30	1.86	15'
○	Hunter PROS-12-PRS30 15' radius	5	90	30	0.97	15'
○	Hunter PROS-12-PRS30 15' radius	3	120	30	1.30	15'
○	Hunter PROS-12-PRS30 adjustable arc	1	Adj	30		12'
○	Hunter PROS-12-PRS30 adjustable arc	1	Adj	30		15'
■	Two Hunter PCB-25	66	360	30	0.50	1'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS
⑩	Hunter I-40-06-SS with 222700 stabilizer flange	4	70	12.2	51'
⑮	Hunter I-40-06-SS with 222700 stabilizer flange	28	70	16.6	57'
⑮	Hunter I-40-06-SS-ON with 222700 stabilizer flange	48	70	14.4	56'

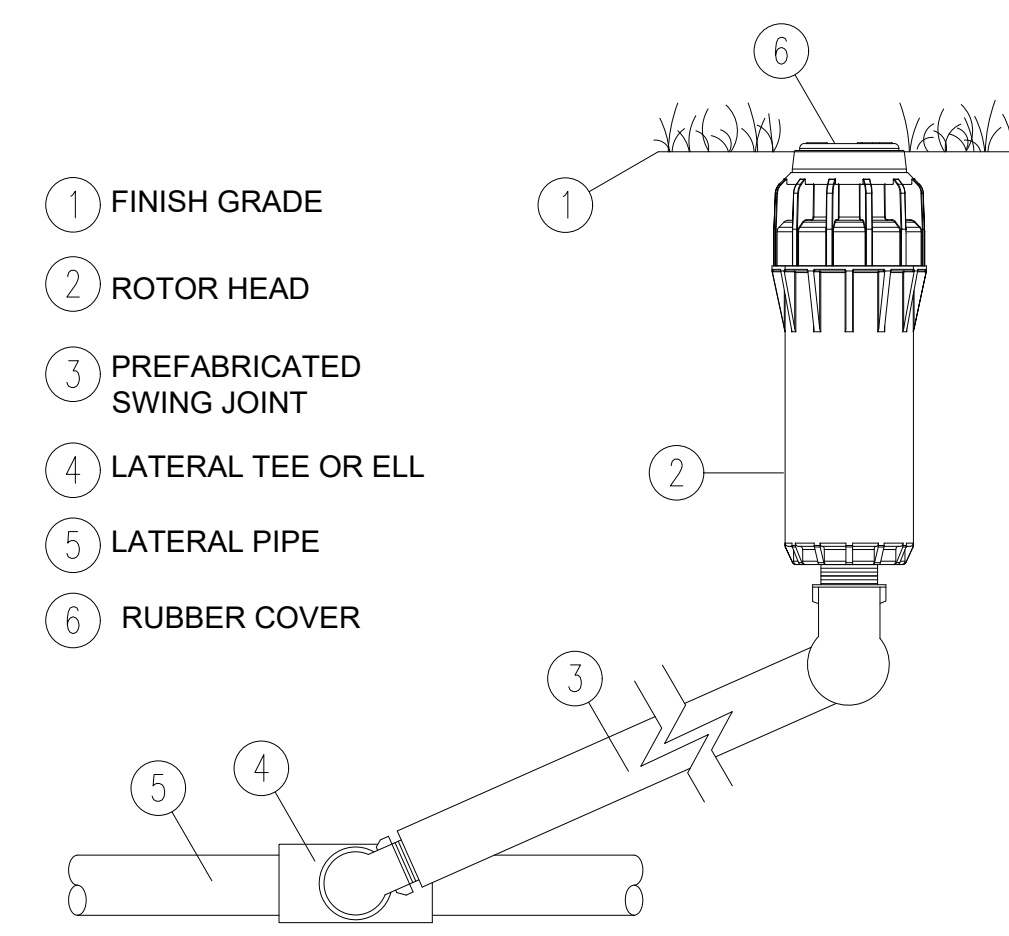
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
☐	Rain Bird PESB in 12"x18" Ametek Valve Box	16
☐	Clow 3" Gasket Isolation Valve in 10" Ametek Valve Box	2
C	Hunter IC-2000-PP 20 Station Controller Plastic Pedestal	1
S	Hunter MINI-CLK Rain Sensor	1
W	5" Well with Starite 10hp 90 series pump see note 26	1
—	Irrigation Lateral Line: PVC Schedule 40	7,800 l.f.
—	Irrigation Mainline: PVC 3" Schedule 40	1,000 l.f.
—	Pipe Sleeve: Schedule 40	300 l.f.
—	Extend sleeves 18 inches beyond edges of paving or construction.	

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	GPM
1	Rain Bird PESB	Turf Rotor	1.15 in/h	95.2
2	Rain Bird PESB	Turf Rotor	1.15 in/h	83.0
3	Rain Bird PESB	Turf Rotor	0.47 in/h	86.4
4	Rain Bird PESB	Turf Rotor	0.47 in/h	86.4
5	Rain Bird PESB	Turf Rotor	1.15 in/h	78.6
6	Rain Bird PESB	Turf Rotor	0.47 in/h	86.4
7	Rain Bird PESB	Turf Rotor	0.47 in/h	86.4
8	Rain Bird PESB	Turf Rotor	0.47 in/h	86.4
9	Rain Bird PESB	Turf Rotor	0.47 in/h	86.4
10	Rain Bird PESB	Turf Rotor	1.15 in/h	86.4
11	Rain Bird PESB	Turf Rotor	0.47 in/h	78.6
12	Rain Bird PESB	Turf Rotor	0.47 in/h	86.4
13	Rain Bird PESB	Turf Rotor	1.15 in/h	83.0
14	Rain Bird PESB	Turf Rotor	1.15 in/h	95.2
15	Rain Bird PESB	Bubbler	NA	27.0
16	Rain Bird PESB	Shrub Spray	1.58 in/h	58.3

IRRIGATION NOTES:

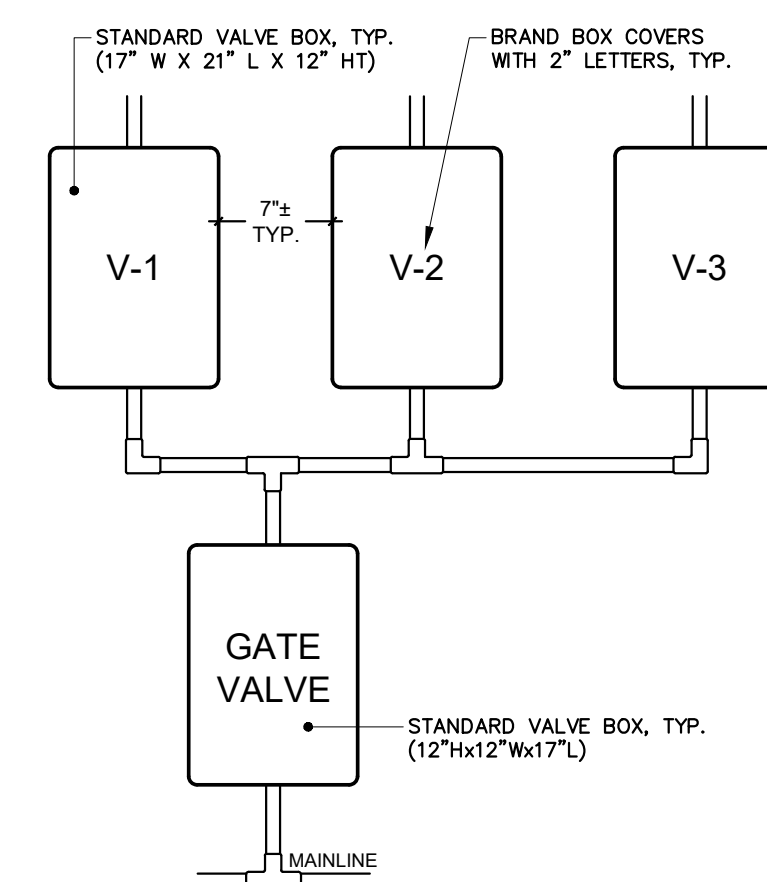
- THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. SOME COMPONENTS MAY BE SHOWN OUTSIDE THE WORK AREA FOR CLARITY. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ALL DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS, WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT APPROVED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.
- THE IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS, IRRIGATION SYSTEM SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPLY WITH ALL PREVAILING LOCAL CODES, ORDINANCES, AND REGULATIONS.
- CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, INCLUDING UTILITY LOCATIONS, BEFORE INSTALLATION OF THE IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THE PLANS - CONTRACTOR TO VERIFY. COORDINATE ALL IRRIGATION SYSTEM CONSTRUCTION WITH EXISTING AND NEW PLANTINGS TO AVOID CONFLICT OR INTERFERENCE WITH LOCATION OF PIPING, SLEEVING, CABLES, AND SERVICE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. IRRIGATION SYSTEM SHALL BE RELOCATED AT NO ADDITIONAL COST FOR ANY CONFLICT WITH LANDSCAPE INSTALLATION OR ANY OTHER SITE CONSTRUCTION OR EXISTING CONDITIONS. ALL COMPONENTS THAT ARE NOT CONTAINED WITHIN THE SPECIFIC AREAS SHOWN OR CALLED OUT ON THE DRAWINGS WILL NOT BE ACCEPTED. ALL PIPING AND OTHER COMPONENTS ARE TO REMAIN WITHIN THE PROPERTY OF THE OWNER.
- WHERE EXISTING OR NEW TREES, LIGHT STANDARDS, SIGNS, ELECTRONIC CONTROLLERS AND/OR OTHER OBJECTS ARE AN OBSTRUCTION TO AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN PROPER COVERAGE OF AN IRRIGATION SPRINKLER'S PATTERN. THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN THE PROPER COVERAGE WITHOUT DAMAGING THE OBSTRUCTION. OWNER'S REPRESENTATIVE SHALL DETERMINE WHETHER AN OBSTRUCTION OCCURS OR NOT.
- COMPONENT SPACING ARE MAXIMUM. DO NOT EXCEED SPACING SHOWN OR NOTED ON THE PLANS. COMPONENT SPACING MAY BE ADJUSTED TO ACCOMMODATE CHANGES IN TERRAIN AND PLANTING LAYOUT AS LONG AS THE MODIFIED SPACING DO NOT EXCEED THE SPACING SHOWN IN THE PLANS. UNLESS SHOWN OTHERWISE, CONTRACTOR SHALL PROVIDE 100% COVERAGE.
- ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE NEW AND INSTALLED AS DETAILED ON THE PLANS. IF THE DRAWINGS DO NOT THOROUGHLY DESCRIBE THE TECHNIQUES TO BE USED, THE INSTALLER SHALL FOLLOW THE INSTALLATION METHODS AND INSTRUCTIONS RECOMMENDED BY THEIR MANUFACTURER.
- THE LOCATION OF THE IRRIGATION MAINLINE SHALL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS, CONTROLLER AND OTHER DEVICES TO OBTAIN SPECIFIED OPERATING PARAMETERS, INCLUDING COVERAGE, OPERATING PRESSURE, FLOW RATES AND OPERATION TIME, AS INDICATED ON THE DRAWINGS AND IN THE IRRIGATION SYSTEM SPECIFICATIONS.
- CONTRACTOR TO PROVIDE INSTALLATION SHOP DRAWINGS AND MANUFACTURER PRODUCT INFORMATION FOR ALL IRRIGATION COMPONENTS. ALL INSTALLATIONS SHALL BE AS RECOMMENDED BY MANUFACTURERS. THE QUANTITIES SHOWN IN THE LEGENDS AND SYMBOL SHEETS SHALL NOT BE USED FOR BIDDING PURPOSES. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING A COMPREHENSIVE MATERIALS TAKEOFF TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED IN THE DOCUMENTS.
- ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN, DEBRIS-FREE MATERIALS. CLEAN SAND SHALL BE USED FOR BEDDING MATERIAL IF PARENT SOIL CANNOT BE ADEQUATELY RID OF ROCK AND OTHER EXTRANEIOUS DEBRIS. PULLING PIPE SHALL BE PROHIBITED.
- ALL MAINLINE CHANGE OF DIRECTION FITTINGS SHALL BE THRUST BLOCKED PER DETAIL. INSTALL LEECMCO RESTRAINT FITTINGS ON MAINLINE ISOLATION VALVES.
- IRRIGATION CONTRACTOR TO LABEL ALL VALVE BOX COVERS WITH THE CORRESPONDING CONTROLLER ZONE NUMBER. NUMBERING SIZE 1". PROVIDE TAGS TO ALL VALVES AS SHOWN PER DETAILS.
- CONTRACTOR TO PLACE BUBBLERS AT OUTER EDGE OF ROOT BALL, NOT OUTER EDGE OF PLANTING HOLE.
- THE CONTROL WIRE SHALL BE 14 GAUGE SINGLE STRAND UL LISTED FOR DIRECT BURIAL. ALL WIRE SPLICES SHALL BE MADE WITH 3M-DBY CONNECTORS.
- LOCATE ALL VALVES WITH A MINIMUM OFFSET OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT.
- ALL VALVES (SOLENOID, GATE, ISOLATION, AIR RELIEF AND FLUSH), SURGE PROTECTORS AND FILTERS SHALL BE LOCATED WITHIN THE SPECIFIED VALVE BOXES.
- ALL IRRIGATION LINES UNDER PAVEMENT SHALL BE INSTALLED WITHIN SCH 40 PVC SLEEVES AS NOTED. IRRIGATION COMMUNICATION CABLE SHALL HAVE IT'S OWN SEPARATE SLEEVE UNLESS NOTED OTHERWISE.
- ALL UNSIZED PIPE SHALL BE 3/4".
- IRRIGATION LATERAL LINES TO BE BURIED AT A DEPTH OF 18" UNLESS NOTED OTHERWISE.
- IRRIGATION MAINLINES TO BE BURIED AT A DEPTH OF 24" UNLESS NOTED OTHERWISE.
- ALL COMPONENTS INSTALLED BY THE IRRIGATION CONTRACTOR, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE EXACT LOCATION AND DEPTH BELOW FINISH GRADE OF ALL COMPONENTS SHALL BE NOTED ON THE "AS-BUILT" DRAWINGS.
- 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 LANDSCAPE SUPERVISOR. WORK IN THE RIGHT OF WAY SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE HIGHWAY JURISDICTION.
- INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY FLOW OF VEHICULAR TRAFFIC AND COMPLETION OF ALL WORK ON THE SITE.
- INSTALL NIBCO ISOLATION VALVE BEFORE EACH GROUP OF VALVE.
- ALL BALL FIELD HEADS TO BE INSTALLED ON 1" PREFABRICATED SWING JOINT.
- IRRIGATION PUMPING SYSTEM SHALL INCLUDE A 5" WELL WITH A STARITE 10 HP SUBMERSIBLE PUMP TO PRODUCE 95 GPM @ 70 PSI. THE PUMP SYSTEM SHALL INCLUDE A CYCLE STOP CSV2B VALVE, WX103 TANK, PRESSURE SWITCH, PRESSURE GAUGE AND ALL FITTINGS REQUIRED. ALL EQUIPMENT SHALL BE INSTALLED IN A FIBERGLASS ENCLOSURE.
- THE OWNER SHALL PROVIDE 230 VOLT THREE PHASE POWER TO WELL LOCATION. FINAL CONNECTION TO THE PUMP SHALL BE MADE BY THE WELL DRILLER.
- ALL MAINLINES SHALL BE PRESSURE TESTED AT 100 PSI FOR THE PERIOD OF TWO HOURS. THE MAINLINE SHALL MAINTAIN A PRESSURE FOR THE TWO HOUR PERIOD OF 95 PSI OR GREATER.



BALL FIELD ROTOR HEAD

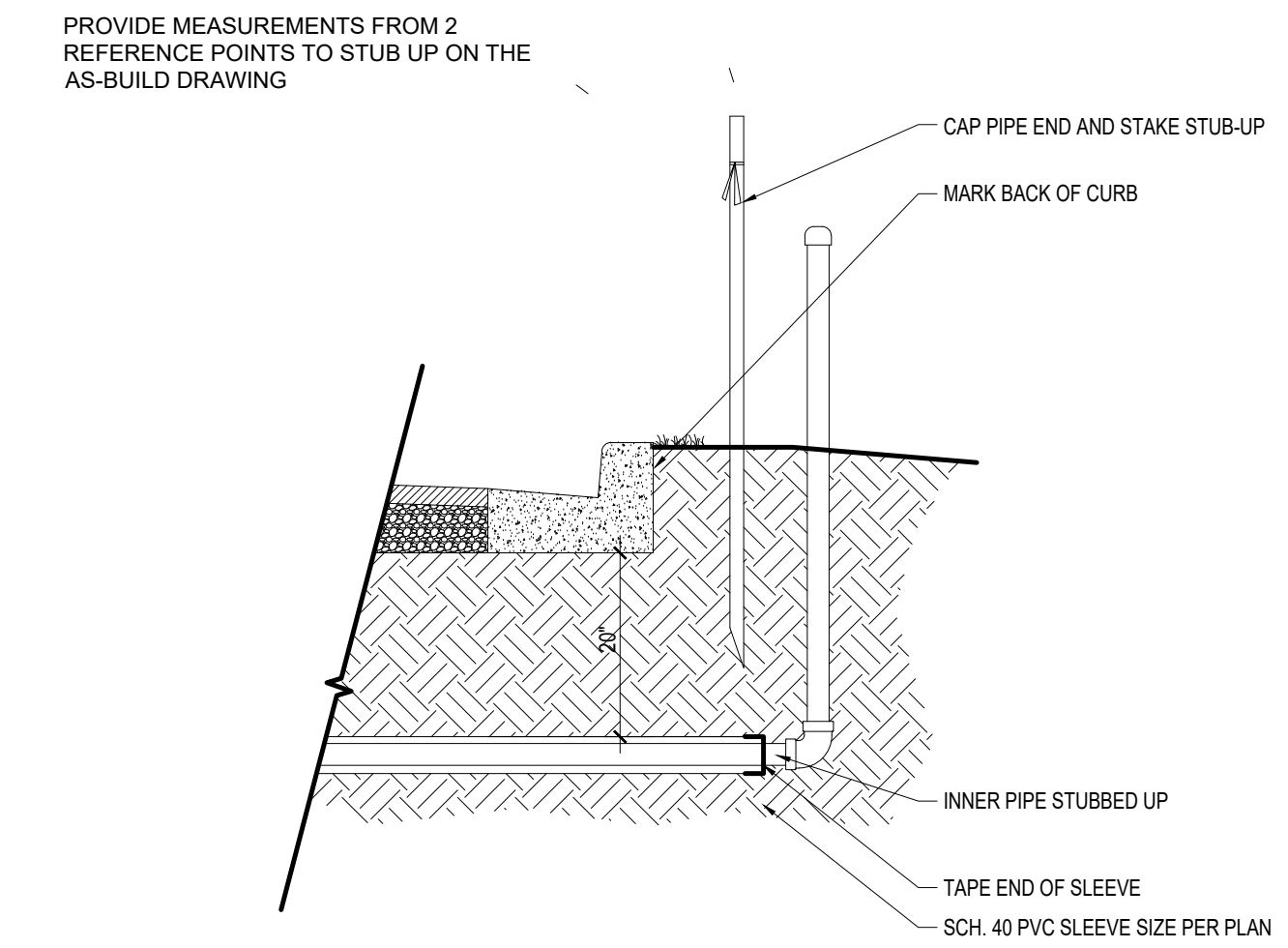
IRRIGATION DETAIL

NOTES:
VALVE GROUPINGS SHALL NOT HAVE MORE THAN 3 VALVE BOXES AND 1 GATE VALVE BOX.
PLASTIC TAGS SHALL BE AFFIXED TO EACH VALVE WITH THE ZONE NUMBER AND ZONE TYPE (TURF, SHRUB, ETC.) PREPRINTED OR LABELED WITH INDELEIBLE INK.



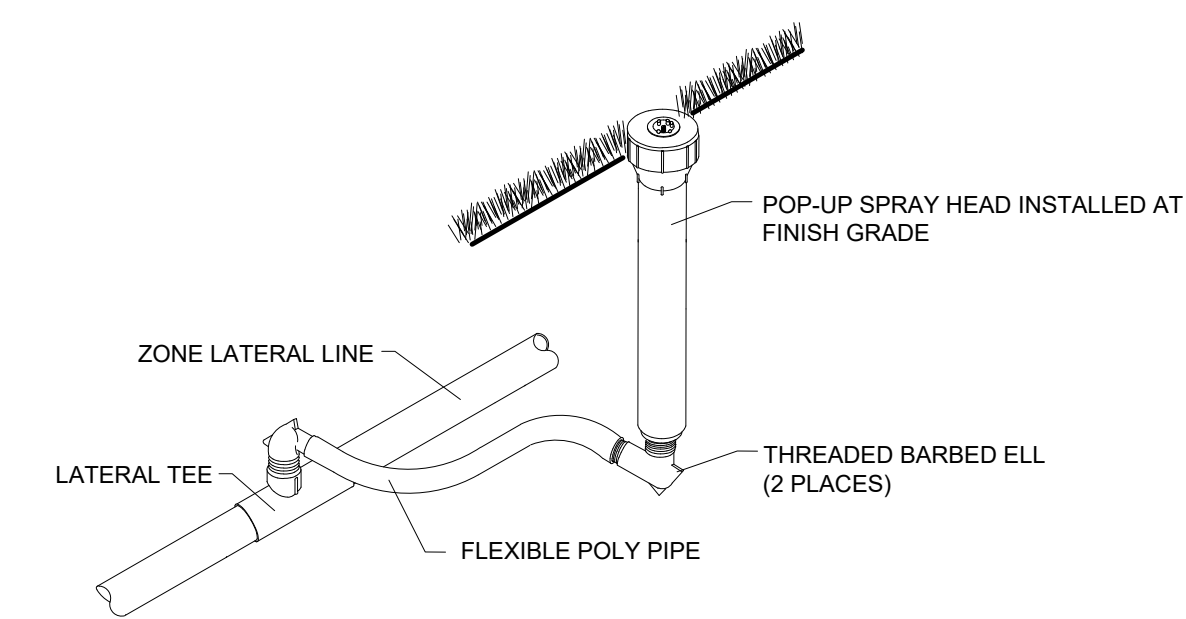
VALVE BOX DETAIL

SCALE: NTS



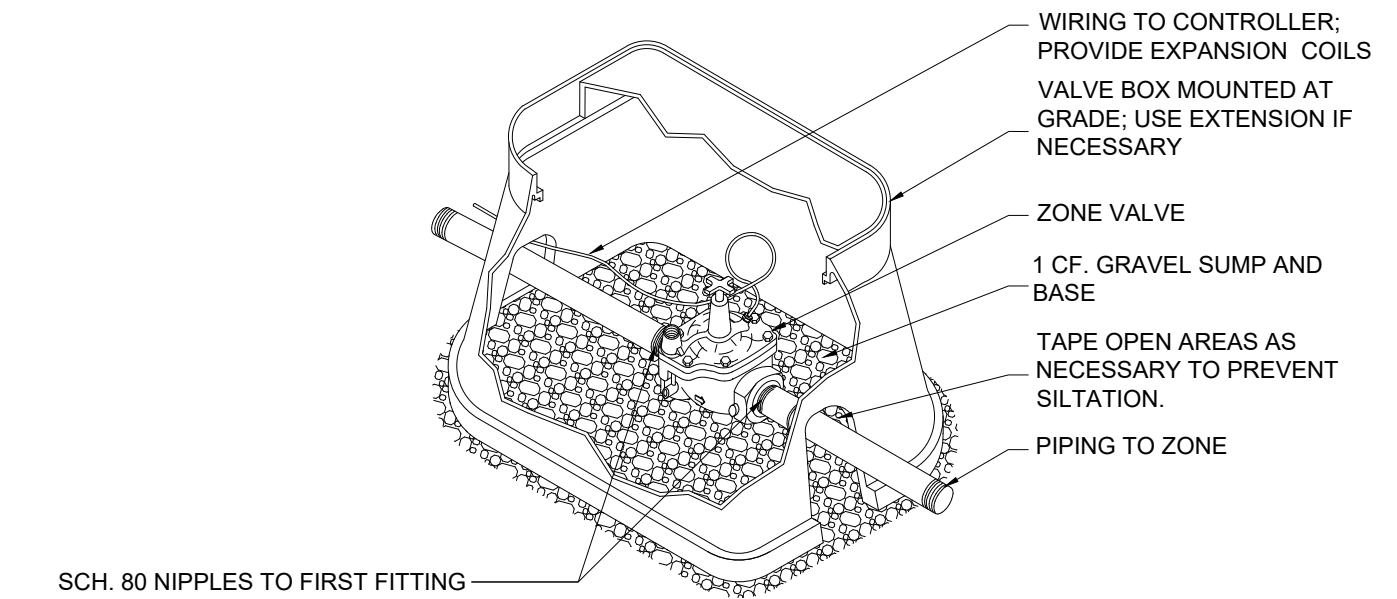
SLEEVING ROUGH-IN DETAIL

SCALE: NTS



SPRAY HEAD INSTALLATION DETAIL

SCALE: NTS

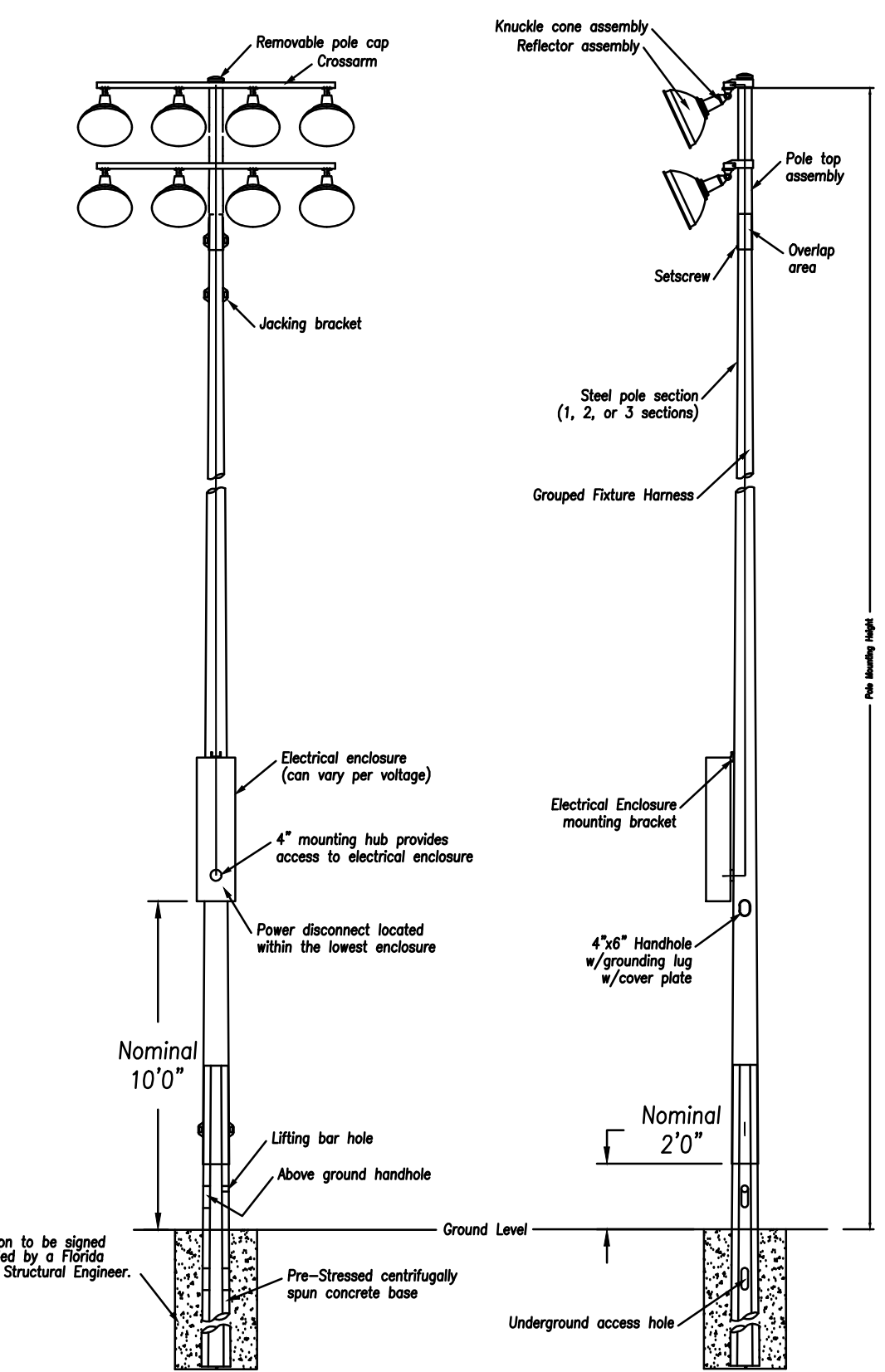


INSTALL EACH VALVE TAP IN A VERTICAL ORIENTATION TO ASSURE THE PROPER VALVE DEPTH.

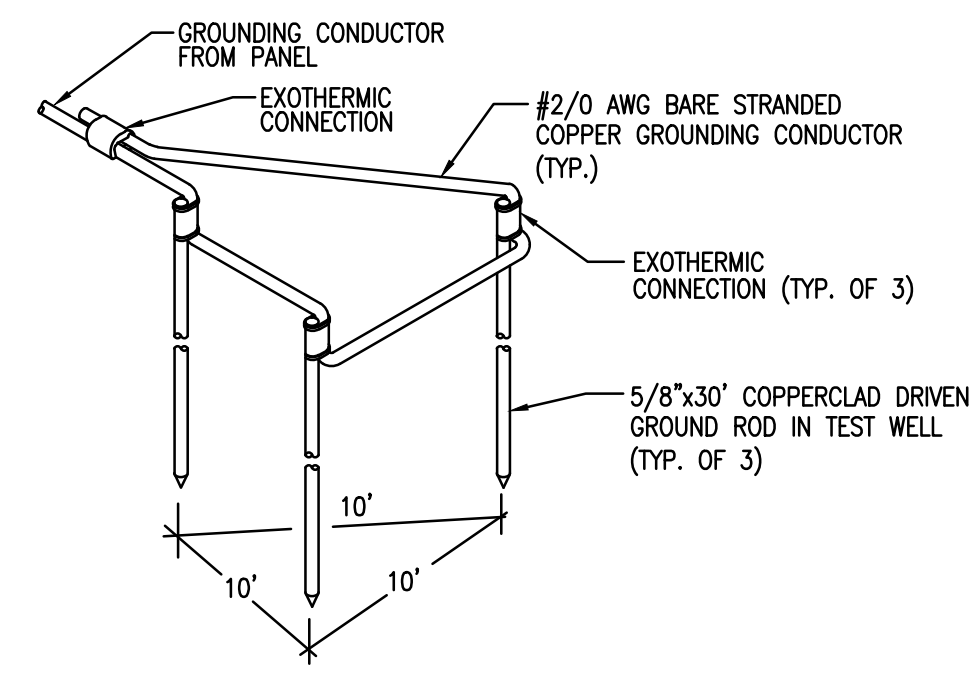
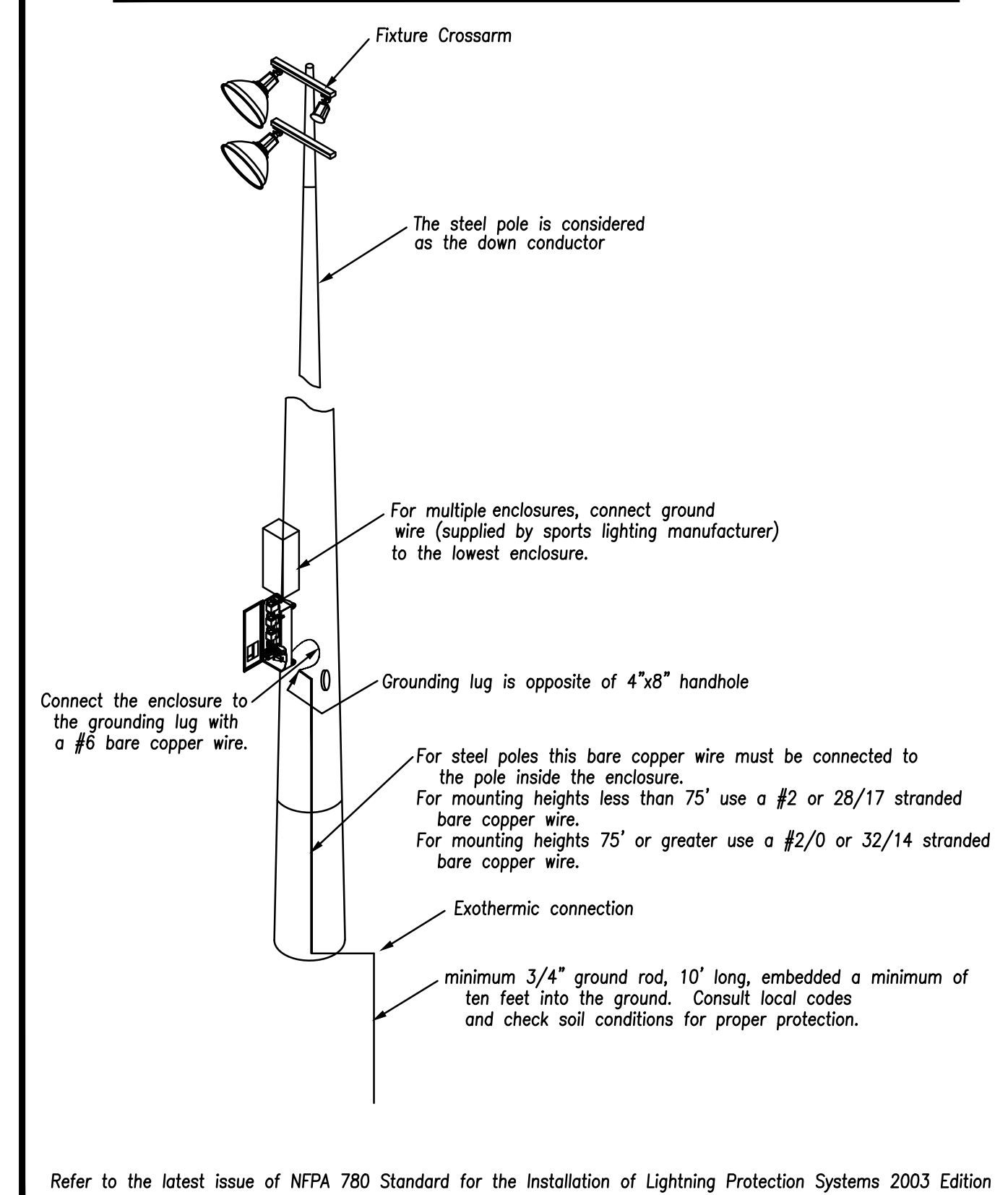
ZONE VALVE INSTALLATION DETAIL

SCALE: NTS

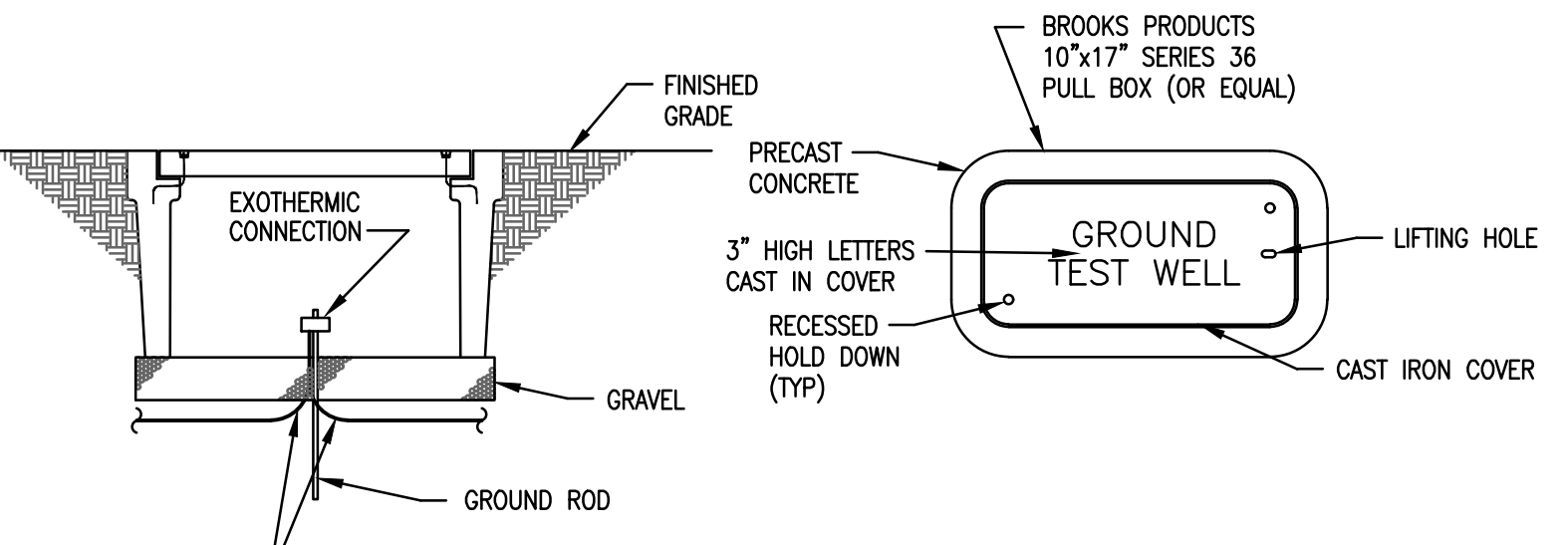
Remote Ballasted Steel Lighting Pole



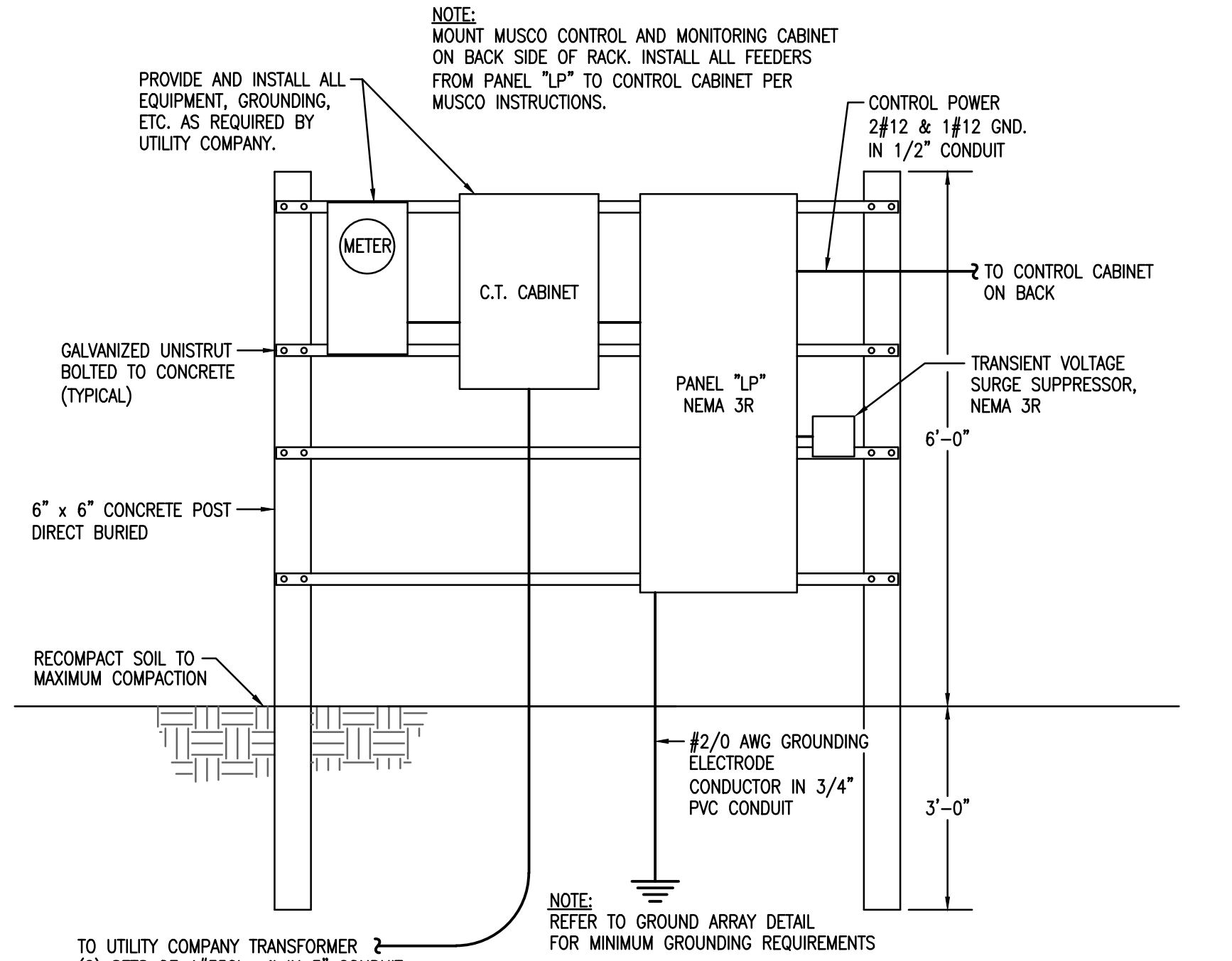
LIGHTNING PROTECTION FOR STEEL POLES



GROUND ARRAY DETAIL FROM PANEL
NOT TO SCALE



GROUND TEST WELL
NOT TO SCALE
NOTE: TYPICAL AT ALL GROUND RODS



SERVICE AND METER EQUIPMENT RACK
NOT TO SCALE

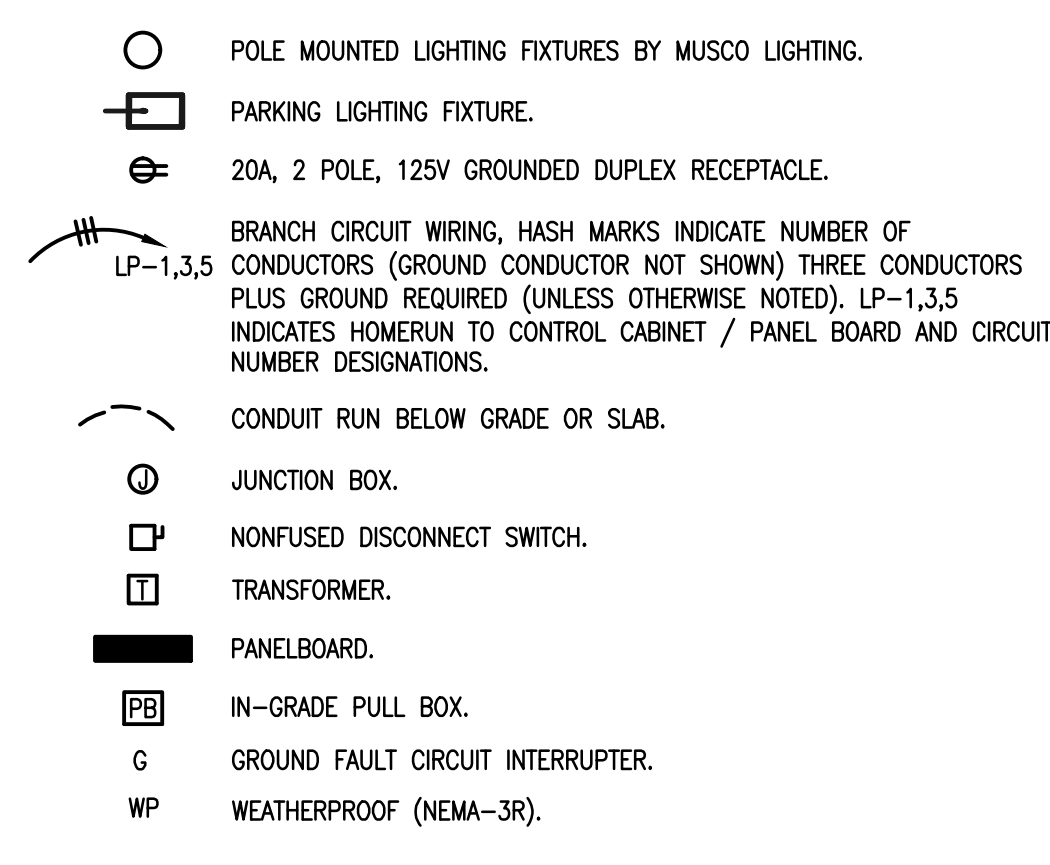
LOAD DESCRIPTION	WATTS PER PHASE			BKR	POLE	CKT	POLE	WATTS PER PHASE			LOAD DESCRIPTION	
	PH A	PH B	PH C					PH A	PH B	PH C		
POLE S3	5158	5158	5158	60	3	1	2	3	60	6190	POLE S5	
POLE S4	5158	5158	5158	60	3	7	8	3	60	6190	POLE S5	
POLE S7	5158	5158	5158	60	3	13	14	3	60	6190	POLE S6	
POLE S8	5158	5158	5158	60	3	19	20	3	60	6190	POLE S6	
IRRIGATION PUMP	7437	7437	7437	100	3	25	26	2	20	1015	PARKING LOT LIGHTS	
DRINKING WATER WELL PUMP	1319	1319	1319	20	3	31	32	X	X	X	LIGHTING CONTROL (NOTE 1)	
SPACE	X	X	X	X	X	37	38	X	X	X	SPACE	
SPACE	X	X	X	X	X	39	40	X	X	X	SPACE	
SPACE	X	X	X	X	X	41	42	X	X	X	SPACE	
SPACE	X	X	X	X	X	43	44	3	30	X	SPACE	
SPACE	X	X	X	X	X	45	46	X	X	X	SPACE	
SPACE	X	X	X	X	X	47	48	X	X	X	SPACE	
PANELBOARD SUB-TOTALS	29388	29388	29388						25775	25775	25060	PANELBOARD SUB-TOTALS
LOAD CALCULATIONS:	CONNECTED LOAD (WATTS)			DEMAND FACTOR			ESTIMATED DEMAND LOAD (WATTS)			NOTES:		
LIGHTING	138506			.25			173133			1. PROVIDE CIRCUIT BREAKER WITH HANDLE LOCK.		
RECEPTACLES (FIRST 10 KW)	X			1.00			X					
RECEPTACLES (REMAINDER)	X			0.50			X					
HVAC (WORST CASE)	X			1.00			X					
WATER HEATING	X			1.00			X					
KITCHEN	X			0.65			X					
MISCELLANEOUS	26268			1.00			26268					
PANELBOARD TOTALS:	164774W (458A)						199401W (554A)					

GENERAL NOTES

(APPLIES TO ALL DRAWINGS)

- WIRING SHOWN ON PLAN IS SCHEMATIC AND INTENDED TO SHOW REQUIRED CIRCUITING. PROVIDE PROPER NUMBER OF WIRES IN EACH CONDUIT AS REQUIRED BY INDICATED CIRCUITRY.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND 2011 NATIONAL ELECTRICAL CODE (NEC).
- ALL BRANCH CIRCUITS FOR 120 VOLT, 20 AMP CIRCUITS EXCEEDING EIGHTY FEET IN LENGTH SHALL BE #10 AWG ENTIRE CIRCUIT MINIMUM.
- ALL EMPTY CONDUIT (EC) SHALL BE PROVIDED WITH NYLON PULL WIRES.
- TYPE AC CABLE AND ELECTRICAL NON-METALLIC TUBING SHALL NOT BE PERMITTED.
- COORDINATE THE REQUIRED SIZE OF ALL CIRCUIT BREAKERS FEEDING EQUIPMENT WITH APPROVED EQUIPMENT SHOP DRAWINGS AND OWNER REPRESENTATIVES PRIOR TO ORDERING PANELBOARDS. BREAKERS SHALL BE SIZED PER THE NEC, THE EQUIPMENT NAME PLATE AND MANUFACTURER'S RECOMMENDATIONS.
- THE POWER COMPANY SHALL BE CONTACTED WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT BY THE CONTRACTOR TO VERIFY THE ACTUAL AVAILABLE SHORT CIRCUIT FAULT CURRENT (SCC) AT THE TRANSFORMER SECONDARY BUSBARS. THE CONTRACTOR SHALL PROVIDE ELECTRICAL DISTRIBUTION AND UTILIZATION EQUIPMENT AND PANELBOARDS WHICH HAVE AIC/WITHSTAND RATINGS GREATER THAN THE AVAILABLE SCC.
- ALL CONDUIT IN OR UNDER SLAB, OR UNDERGROUND SHALL BE PVC SCHEDULE 40.
- ALL CONDUIT ABOVE SLAB, WHETHER EXPOSED OR CONCEALED, SHALL BE EMT, IMC, OR RIGID GALVANIZED STEEL.
- FLEXIBLE METAL RACEWAYS SHALL NOT EXCEED 6' IN LENGTH.
- "LIQUID-TIGHT" TYPE FLEXIBLE WEATHERPROOF RACEWAYS SHALL HAVE A METALLIC INTERIOR, AND NOT EXCEED 6' IN LENGTH.
- ALL BOXES AND BOX COVERS SHALL BE METAL.
- ALL CONDUIT SHALL BE PARALLEL AND PERPENDICULAR TO STRUCTURAL MEMBERS.
- ALL BENDS SHALL BE MADE IN CONDUIT USING PROPER EQUIPMENT AND MEET NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS.
- ALL WIRE, INCLUDING BUT NOT LIMITED TO FEEDERS AND BRANCH CIRCUIT WIRING, SHALL BE COPPER.
- ALL BREAKERS SHALL BE "FULL SIZE". NO TANDEM, PIGGY BACK, TWIN, OR HALF SIZE BREAKERS WILL BE ACCEPTED.
- ALL DEVICES SHALL BE COMMERCIAL OR SPECIFICATION GRADE.
- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY POWER AND TEMPORARY LIGHTING DURING CONSTRUCTION. TEMPORARY POWER SHALL PROVIDE ADEQUATE POWER FOR NORMAL CONSTRUCTION USE. TEMPORARY LIGHTING SHALL PROVIDE ADEQUATE LIGHT SO THAT THE INDIVIDUAL TRADES WORK CAN BE COMPLETED.
- ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED.
- A (GREEN) INSULATED COPPER GROUND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAYS.
- GROUNDING SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250 AND APPLICABLE REQUIREMENTS OF IEEE STANDARDS 142 AND 241.
- TEST RESISTANCE TO GROUND (EARTHING CONNECTION) WITH RESISTANCE TESTER SUBSEQUENT TO FINAL INSTALLATION. WHERE TEST INDICATES RESISTANCE TO GROUND IS OVER 5 OHMS, TAKE APPROPRIATE ACTION TO REDUCE RESISTANCE TO 5 OHMS OR LESS, BY DRIVING ADDITIONAL PROPERLY SPACED GROUND RODS AND TREATING SOIL IN PROXIMITY OF GROUND RODS WITH COMMON SALT, COPPER SULFATE OR MAGNESIUM SULFATE, RETEST TO DEMONSTRATE COMPLIANCE.
- CONDUCTORS ARE SIZED FOR VOLTAGE DROP PER N.E.C. ARTICLE 210.19(A)(1) INFORMATIONAL NOTE NO. 4 AND THE 2014 F.B.C. ENERGY CONSERVATION CODE 405.7.3.1&2. ELECTRICAL CONTRACTOR SHALL PERFORM VOLTAGE DROP CALCULATIONS IN ACCORDANCE WITH N.E.C. ARTICLE 210.19 (A)(1) INFORMATIONAL NOTE NO. 4 AND THE 2014 F.B.C. ENERGY CONSERVATION CODE 405.7.3.1&2 ON ANY CIRCUITS THAT ARE INSTALLED THAT DIFFER FROM THE DESIGN SHOWN IN THESE PLANS. FEEDER CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AND BRANCH CIRCUIT CONDUCTORS 3% AT DESIGN LOAD.

ELECTRICAL SYMBOL LIST



PARKING LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	FIXTURE DESCRIPTION	LAMPS		MANUFACTURER		VOLTS	REMARKS
		QTY	TYPE	NAME	CATALOG #		
SLA	LED AREA LIGHT, DIE CAST ALUMINUM HOUSING, TYPE 4 DISTRIBUTION, CONSTANT LIGHT OUTPUT DRIVER, FLAT TEMPERED GLASS LENS, GRAY FINISH	-	183W LED 4000K	PHILIPS (OR EQUAL)	RM190W112LED4K-LE4-UNV-CLO-CY3	208	MOUNTING HEIGHT 30' AFG VERIFY FIXTURE AND POLE COLOR WITH OWNER.
SLAA	SAME AS "SLA" WITH (2) FIXTURES ON (1) POLE	-	183W LED 4000K	PHILIPS (OR EQUAL)	RM190W112LED4K-LE4-UNV-CLO-CY3	208	MOUNTING HEIGHT 30' AFG VERIFY FIXTURE AND POLE COLOR WITH OWNER.
SLB	LED AREA LIGHT, DIE CAST ALUMINUM HOUSING, TYPE 2 DISTRIBUTION, CONSTANT LIGHT OUTPUT DRIVER, FLAT TEMPERED GLASS LENS, GRAY FINISH	-	183W LED 4000K	PHILIPS (OR EQUAL)	RM190W112LED4K-LE2-UNV-CLO-CY3	208	MOUNTING HEIGHT 30' AFG VERIFY FIXTURE AND POLE COLOR WITH OWNER.
SLC	LED POST-TOP LIGHT, DIE CAST ALUMINUM HOUSING, TYPE 5 DISTRIBUTION, CONSTANT LIGHT OUTPUT DRIVER, POLYCARBONATE GLOBE, GRAY FINISH	-	50W LED 4000K	PHILIPS (OR EQUAL)	PBPD10250W64LED4K-MP-PC-C-LE5-UNV-CLO-GR	208	MOUNTING HEIGHT 15' AFG VERIFY FIXTURE AND POLE COLOR WITH OWNER.
SLA/SLB POLE	37 FOOT OVERALL ROUND DIRECT BURIED PRE-CAST CONCRETE POLE, RATED FOR 180MPH AT 5 EPA, GRAY COLOR, WITH SINGLE FIXTURE POLE TOP MOUNTING BRACKET	-	-	PRE-CAST SPECIALTIES (OR EQUAL)	UNITED LTG STANDARDS (OR EQUAL)	POLE - TYPE I-0 37 FT	-
SLAA POLE	37 FOOT OVERALL ROUND DIRECT BURIED PRE-CAST CONCRETE POLE, RATED FOR 180MPH AT 5 EPA, GRAY COLOR, WITH DOUBLE FIXTURE POLE TOP MOUNTING BRACKET	-	-	PRE-CAST SPECIALTIES (OR EQUAL)	UNITED LTG STANDARDS (OR EQUAL)	POLE - TYPE I-0 37 FT	-
SLC POLE	22 FOOT OVERALL ROUND DIRECT BURIED PRE-CAST CONCRETE POLE, RATED FOR 150MPH AT 3 EPA, GRAY COLOR	-	-	PRE-CAST SPECIALTIES (OR EQUAL)	UNITED LTG STANDARDS (OR EQUAL)	POLE - TYPE I-0 22 FT	-

SPORTS LIGHTING FIXTURE SUMMARY

POLE NO.	FIXTURE QTY	FLA	CONTROLS		VOLTS	FEEDER SIZE	DISTANCE (FEET)	VOLTAGE DROP %	
			CAB. NO.	ZONE					
S3	7	43.0	1	2	C1	208	3#3/0, #16, 2'C.	850	2.35
S4	7	43.0	1	2	C2	208	3#1/0, #40, 1 1/2'C.	600	2.58
S5	8	51.6	1	2	C3	208	3#2, #66, 1 1/4'C.	350	2.86
S6	8	51.6	1	2	C4	208	3#2/0, #30, 2'C.	650	2.80
S5	8	51.6	1	3	C5	208	3#2, #66, 1 1/4'C.	350	2.86
S6	8	51.6	1	3	C6	208	3#2/0, #30, 2'C.	650	2.80
S7	7	43.0	1	3	C7	208	3#3, #66, 1 1/4'C.	330	2.96
S8	7	43.0	1	3	C8	208	3#6, #106, 1'C.	50	0.88

NOTE: ALL LIGHTING FIXTURES IN THIS SUMMARY SHALL BE FURNISHED AND INSTALLED BY MUSCO SPORTS LIGHTING AND CONTROLLED THROUGH SPORTS LIGHTING CONTRACTOR CONTROL PANEL.

PARKING LIGHTING FIXTURE SUMMARY

POLES	FIXTURE QTY	FLA	CONTROLS		VOLTS	FEEDER SIZE	DISTANCE (FEET)	VOLTAGE DROP %	
			CAB. NO.	ZONE					
PARKING LOT	14	9.76	1	4	C9	208	2#6, #66, 1'C.	925	2.02

NOTE: LIGHTING FIXTURES IN THIS SUMMARY SHALL BE CONTROLLED THROUGH SPORTS LIGHTING CONTRACTOR CONTROL PANEL.

AUGUSTO E. ROBES JR., P.E.
FLORIDA P.E. # 39410

BOBES ASSOCIATES
CONSULTING ENGINEERS
150 CIRCLE DRIVE, MAITLAND, FL 32751
TELEPHONE: 407.628.0882
E-MAIL: INFO@BOBES.COM
FLORIDA STATE P.E. NUMBER: 5131

ENGINEERING
PLANNING
DESIGN
URBAN DESIGN

SK Consortium, Inc.
1053 N. ORLANDO AVE. SUITE 3 • MAITLAND • FLORIDA 32751
TELEPHONE 407-628-4288 • FACSIMILE 407-628-656 • EBF 7080

Sheet: Mojib Kaloghchi P.E. 41046

ELECTRICAL GENERAL NOTES AND DETAILS

EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS
ORANGE COUNTY PARKS + RECREATION
ORANGE COUNTY, FL

CONCEPT PLAN REVIEW 07-08-16
PRELIMINARY SITE PLAN 8-9-16
30% DD SET 9-22-16
50% DD SET 10-28-16
90% SET 12-15-16
PERMIT SET 1-10-17
ADDENDUM NO.3 1-19-17

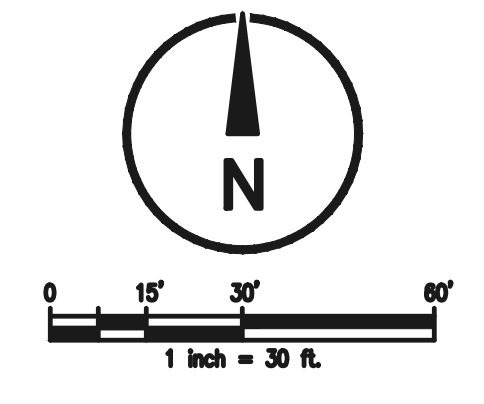
Issue Date and Purpose
Project Number: 1639

Drawn by: [Signature]
Checked by: [Signature]
Date: [Signature]

E001

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	Tag
2	2	SLA	SINGLE	N.A.	0.810	RVM-190W12LED4K-R-LE4/ PRE-CAST 37 FT TYPE I-O POLE WITH FIXTURE AT 30 FT AFG	PHILIPS
3	3	SLAA	D180	N.A.	0.810	RVM-190W12LED4K-R-LE4/ PRE-CAST 37 FT TYPE I-O POLE WITH FIXTURE AT 30 FT AFG	PHILIPS
4	4	SLC	SINGLE	N.A.	1.000	PBDP102-50W64LED4K-MF-PC-C-LE5/ PRE-CAST 22 FT TYPE I-O POLE WITH FIXTURE AT 15 FT AFG	PHILIPS LUMEC
2	2	SLB	SINGLE	N.A.	0.810	RVM-190W12LED4K-R-LE2/ PRE-CAST 37 FT TYPE I-O POLE WITH FIXTURE AT 30 FT AFG	PHILIPS

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PROPERTY LINE	Illuminance	Fc	0.01	3.0	0.0	N.A.	N.A.
PROPERTY LINE 1	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
SITE	Illuminance	Fc	0.55	6.8	0.0	N.A.	N.A.
ENTRANCE ROAD	Illuminance	Fc	1.49	4.2	0.4	3.73	10.50
PARKING LOT	Illuminance	Fc	1.59	6.8	0.5	3.18	13.60
SIDE WALK TO CONCESSION	Illuminance	Fc	1.17	2.3	0.3	3.90	7.67



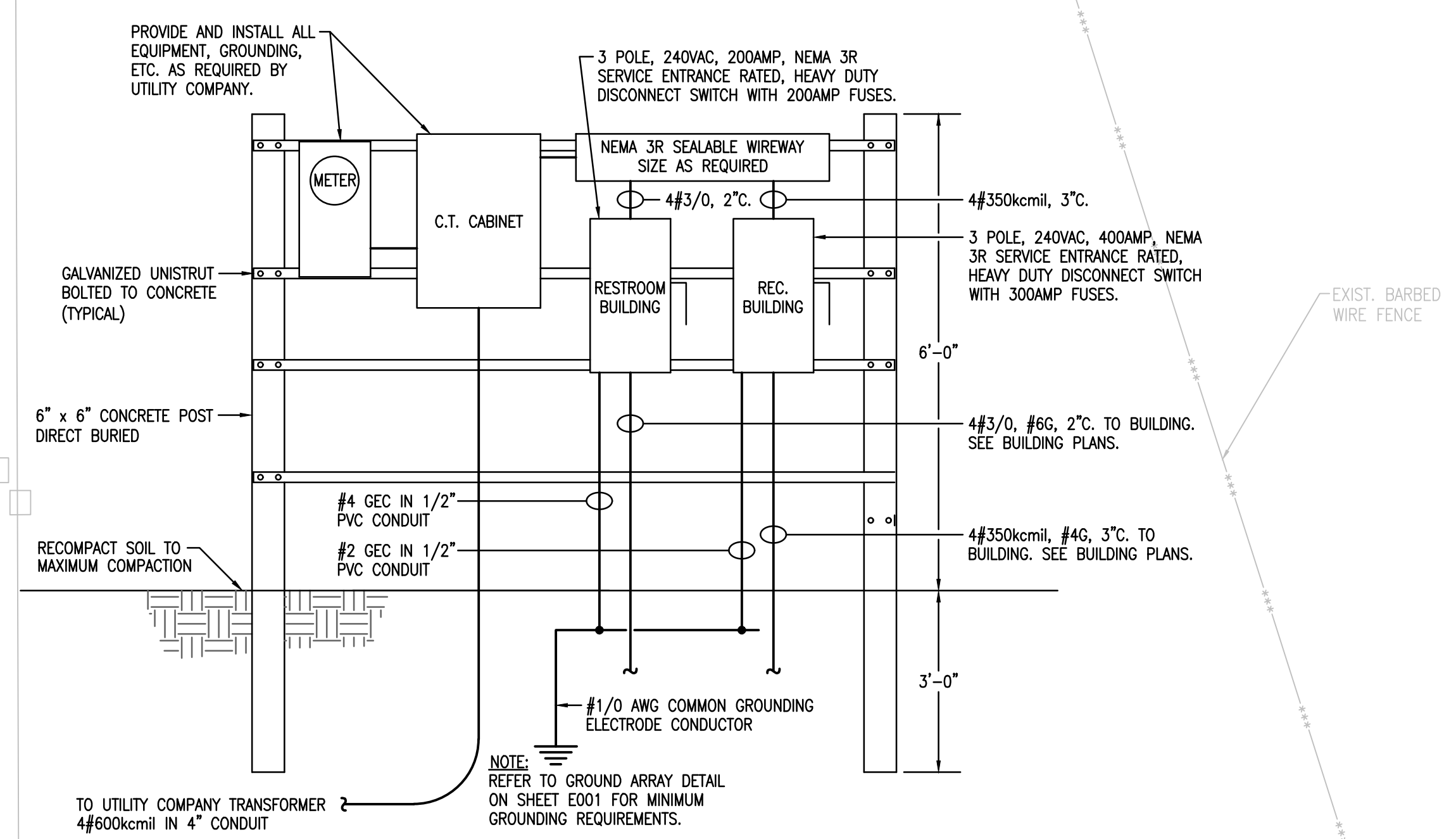
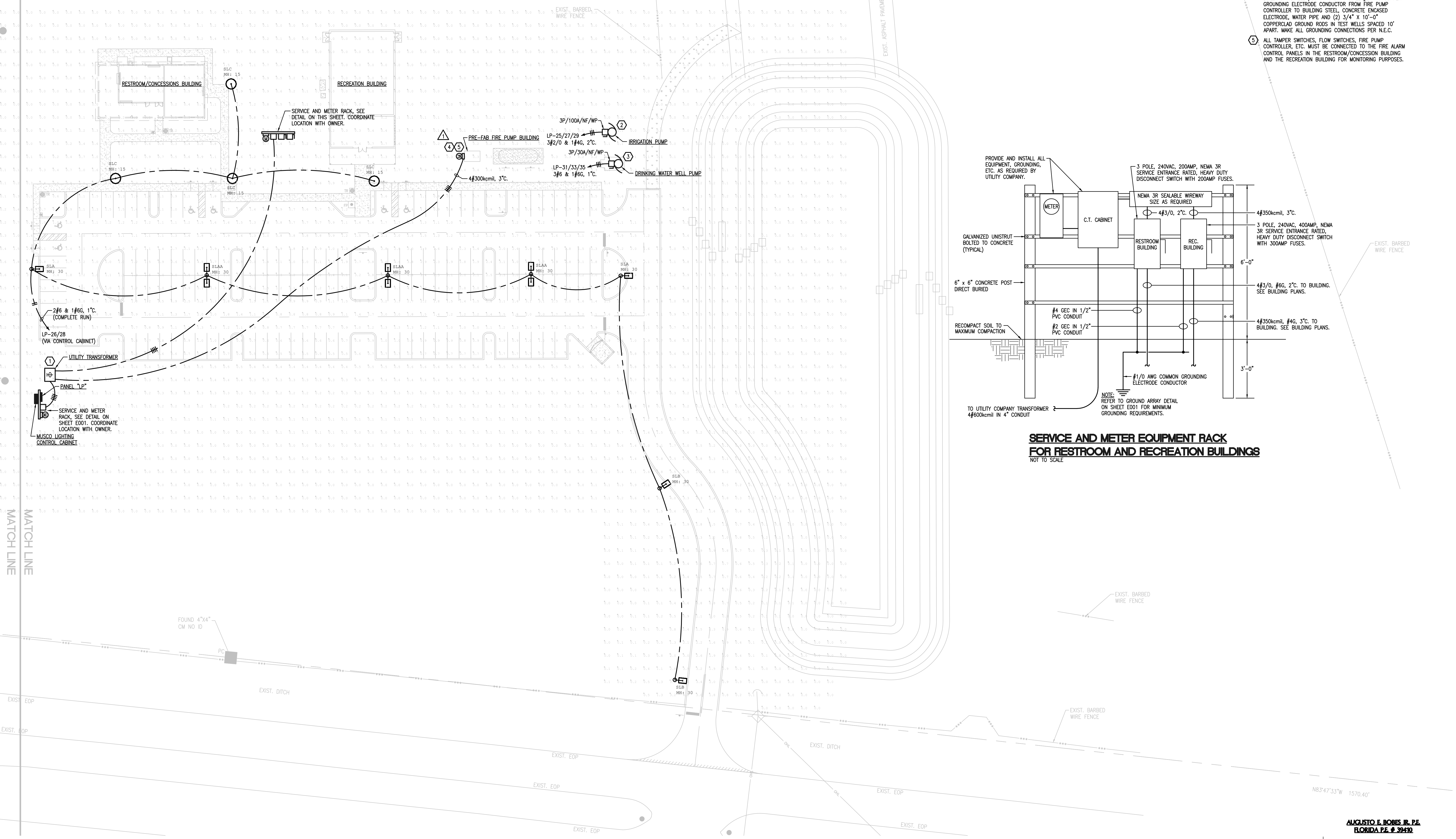
GENERAL NOTES:

- REFER TO COMPLETE GENERAL NOTES ON SHEET E001.
- THE REQUIRED UTILITY EASEMENT FOR THE ROUTING OF THE PRIMARY FROM UTILITY POLE TO TRANSFORMER SHALL BE 5 FEET ON EACH SIDE OF RUN FOR A TOTAL OF 10 FEET WIDE.
- PROVIDE AND INSTALL POWER FOR THE IRRIGATION PUMP. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH IRRIGATION CONTRACTOR.
- PROVIDE AND INSTALL POWER FOR THE DRINKING WATER WELL PUMP. COORDINATE EXACT REQUIREMENTS WITH WELL CONTRACTOR.
- PROVIDE AND INSTALL POWER FOR THE PRE-FAB FIRE PUMP BUILDING. COORDINATE EXACT REQUIREMENTS WITH FIRE PUMP INSTALLER/CONTRACTOR. INSTALL #2 AWG COPPER GROUNDING ELECTRODE CONDUCTOR FROM FIRE PUMP CONTROLLER TO BUILDING STEEL. CONCRETE ENCASED ELECTRODE, WATER PIPE AND (2) 3/4" X 10'-0" COPPERCLAD GROUND RODS IN TEST WELLS SPACED 10' APART. MAKE ALL GROUNDING CONNECTIONS PER N.E.C.
- ALL TAMPER SWITCHES, FLOW SWITCHES, FIRE PUMP CONTROLLER, ETC. MUST BE CONNECTED TO THE FIRE ALARM CONTROL PANELS IN THE RESTROOM/CONCESSION BUILDING AND THE RECREATION BUILDING FOR MONITORING PURPOSES.

KEY NOTES:

MATCH LINE

MATCH LINE



SERVICE AND METER EQUIPMENT RACK FOR RESTROOM AND RECREATION BUILDINGS
NOT TO SCALE

ENGINEERING PLANNING DESIGN

SK Consortium, Inc.
1053 N. ORLANDO AVE. SUITE 3 MAILING & FLORIDA, 32751
TELEPHONE: 407-628-4288 FACSIMILE 407-628-6568 • EBF 7080

Seal: Majid Kaloghchi P.E. 41046

SITE DEVELOPMENT PLAN - ELECTRICAL

EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS

ORANGE COUNTY PARKS + RECREATION

ORANGE COUNTY, FL

CONCEPT PLAN REVIEW 07-08-16
PRELIMINARY SITE PLAN 8-9-16
30% DD SET 9-22-16
50% DD SET 10-28-16
80% SET 12-15-16
PERMIT SET 1-10-17
ADDENDUM NO.3 1-19-17

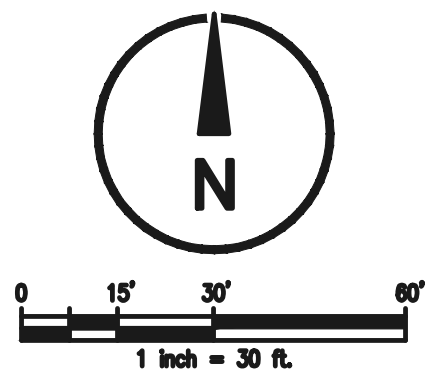
AUGUSTO E. ROBES JR., P.E.
FLORIDA P.E. # 39410

BOBES ASSOCIATES
CONSULTING ENGINEERS
150 CIRCLE DRIVE, MAITLAND, FL 32751
TELEPHONE: 407.628.0882
E-MAIL: INFO@BOBES.COM
FLORIDA STATE P.E. NUMBER: 5131

Issue Date and Purpose
Project Number: **1639**

Drawn By: **E101**
Checked: **E101**
Date: **12/15/16**

SITE DEVELOPMENT PLAN - ELECTRICAL
SCALE: 1" = 30'

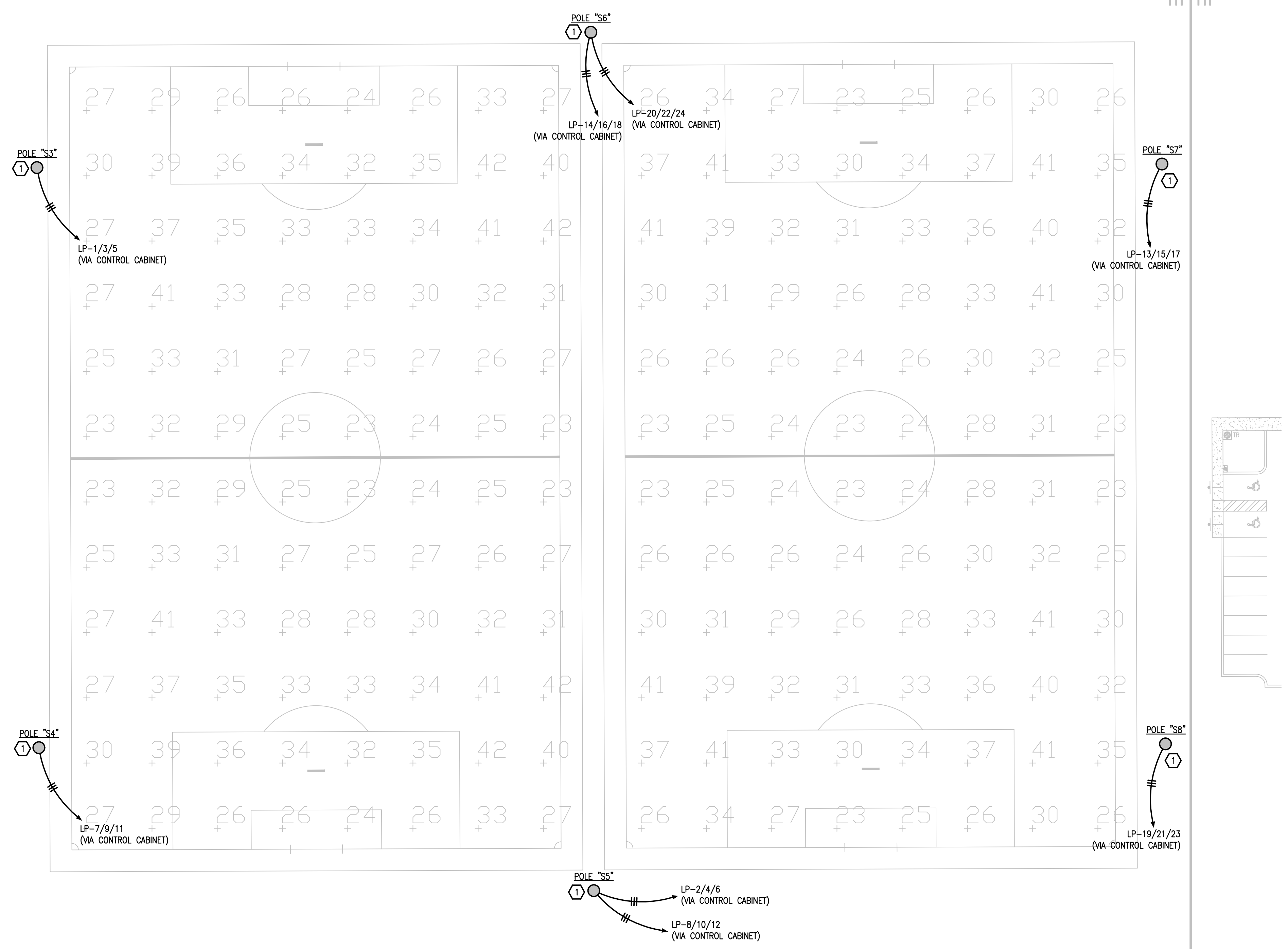


GENERAL NOTES:

1. REFER TO COMPLETE GENERAL NOTES ON SHEET E001.

KEY NOTES:

① INSTALL A BIRD NESTING DISH ON EACH SPORTS LIGHTING POLE. DISH SHALL BE AS MANUFACTURED BY FIBERNEST (OR APPROVED EQUAL).



MATCH LINE

MATCH LINE

EXIST. DITCH

EXIST. DITCH

EXIST. EOP

EXIST. EOP

EXIST. EOP

Δ=06°21'13"
 R=11,603.21'
 L=1286.70'
 CH=1286.00'
 CB=N86°58'10"W

SITE DEVELOPMENT PLAN - ELECTRICAL
 SCALE: 1" = 30'

B	A
C	E

BOBES ASSOCIATES
 CONSULTING ENGINEERS
 150 CIRCLE DRIVE, MAITLAND, FL 32751
 TELEPHONE: 407.628.0882
 E-MAIL: INFO@BOBES.ENG
 FLORIDA STATE P.E. NUMBER: 5131

AUGUSTO E. BOBES JR., P.E.
 FLORIDA P.E. # 39410

Seal: Mojib Kaloghchi P.E. 41046

SITE DEVELOPMENT PLAN - ELECTRICAL
EAST ORANGE COUNTY PARK MULTI-PURPOSE FIELDS
ORANGE COUNTY PARKS + RECREATION
 ORANGE COUNTY, FL

CONCEPT PLAN REVIEW 07-08-16
 PRELIMINARY SITE PLAN 8-9-16
 30% DD SET 9-22-16
 50% DD SET 10-28-16
 70% SET 12-15-16
 PERMIT SET 1-10-17
 ADDENDUM NO.3 1-19-17

Issue Date and Purpose
 Project Number: **1639**
 Drawn by: **E102**
 Checked: **ABM**
 PLO: **12/20/2016**