



CONSTRUCTION PLANS FOR NEW SOCCER FIELD AT BARNETT PARK DISTRICT NUMBER 6 ORANGE COUNTY, FLORIDA

SOURCE OF BENCH MARK
DATUM FOR THIS PROJECT

ORANGE COUNTY BM S1152016
PUBLISHED ELEVATION = 41.332 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
(AS PROVIDED ON THE SURVEY PREPARED BY
SOUTHEASTERN SURVEYING AND MAPPING, CORP.,
DRAWING NUMBER 44851024C, DATED 03-14-2014)

GOVERNING STANDARDS AND SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM (2010 EDITION).

AND

FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2010 EDITION) AS AMENDED BY CONTRACT DOCUMENTS.

BID DOCUMENTS

BOARD OF COUNTY COMMISSIONERS

TERESA JACOBS _____ COUNTY MAYOR

S. SCOTT BOYD _____ DISTRICT 1

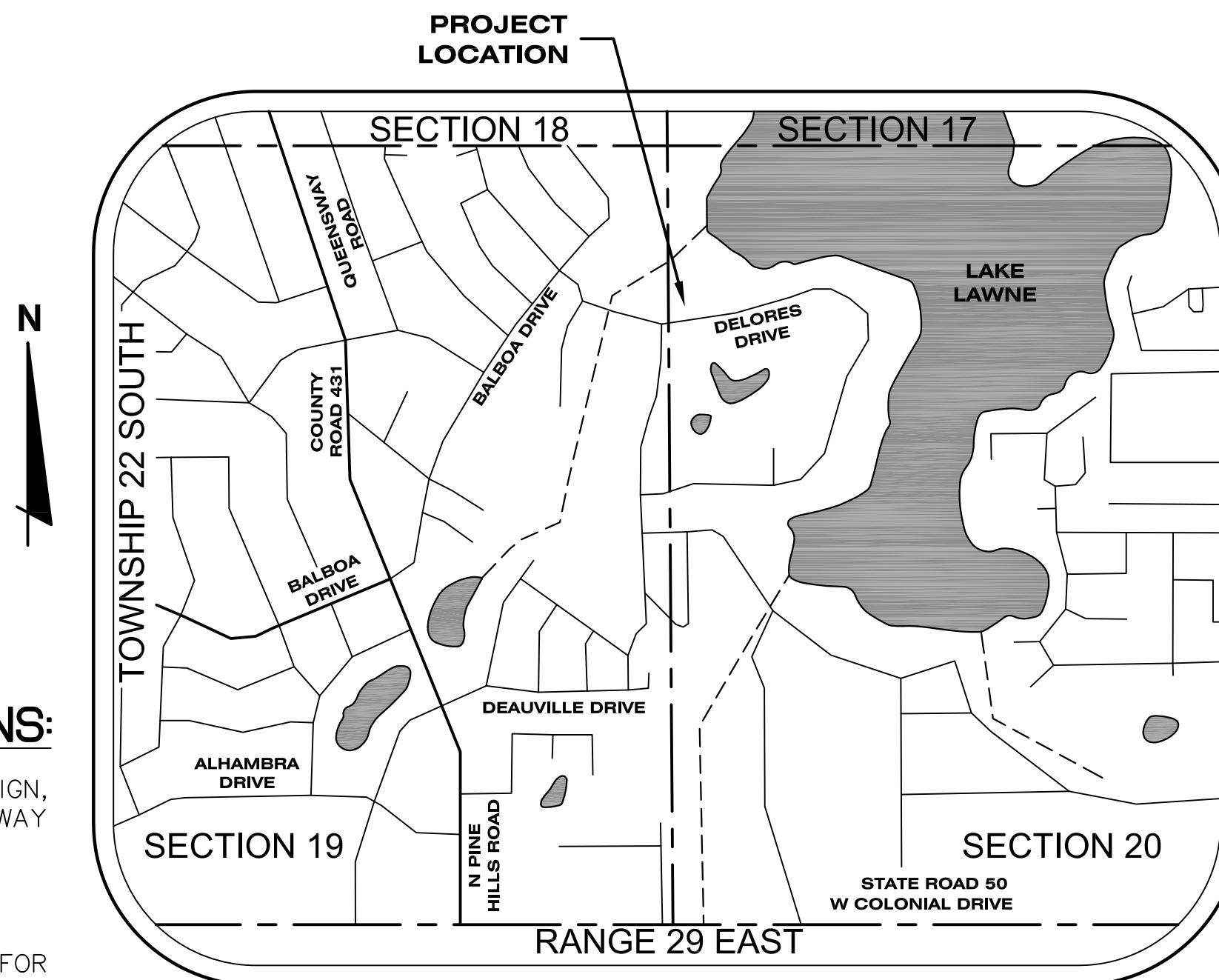
FREDERICK C. BRUMMER _____ DISTRICT 2

PETE CLARKE _____ DISTRICT 3

JENNIFER THOMPSON _____ DISTRICT 4

TED EDWARDS _____ DISTRICT 5

TIFFANY MOORE RUSSELL _____ DISTRICT 6



VICINITY MAP
NOT TO SCALE

NOTES:
1. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN CHANGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

11" X 17" DRAWINGS ~ HALF SIZE
22" X 34" DRAWINGS ~ TO SCALE

2. INFORMATION SHOWN WITHIN THESE PLANS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

3. VERTICAL DATUM SHIFT FOR THIS PROJECT LOCATION WILL BE APPLIED AS A CONSTANT VALUE FOR CONVERTING ELEVATIONS BETWEEN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29). COMPUTED DATUM SHIFTS AS PROVIDED BY SURVEYOR ARE BELOW.

NAVD88 + 0.86' = NGVD29
NGVD29 - 0.86' = NAVD88

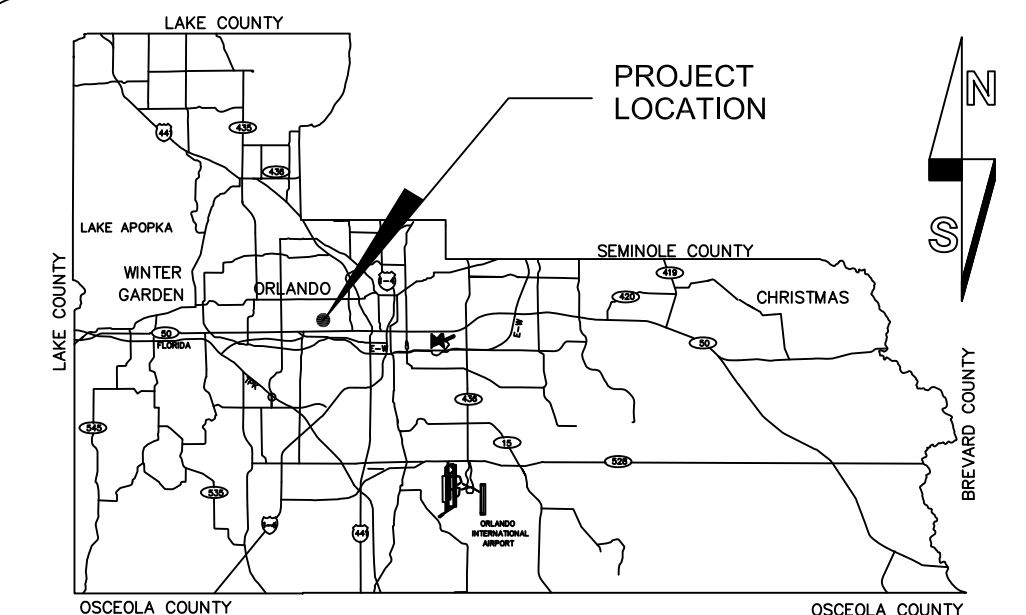
NOTE

PLANS WERE PREPARED TO AVAILABLE INFORMATION TO ADEQUATELY ADDRESS CONDITIONS AS THEY EXISTED AT THE TIME OF PLANS PREPARATION. DEEDS, CONDITIONS AND OWNERSHIP OF PROPERTIES MAY HAVE CHANGED SINCE PROJECT DESIGN. THE COUNTY'S REPRESENTATIVE WILL ADDRESS CHANGES AND NEEDS WITH THE PROPERTY OWNER OR THEIR REPRESENTATIVES. CONTRACTOR SHALL WORK WITH THE COUNTY'S REPRESENTATIVE IN ADDRESSING AND MEETING NEEDS AND CONDITIONS THAT MAY HAVE CHANGED SINCE PLANS PREPARATION.

CERTIFICATION TO PLANS

I HEREBY CERTIFY THAT THE DESIGN FOR THIS PROJECT AND THE ATTACHED CONSTRUCTION PLANS COMPLY WITH THE REQUIREMENTS OF SECTION 336.045 OF THE FLORIDA STATUTES AND ARE IN SUBSTANTIAL CONFORMANCE WITH THE STANDARDS CONTAINED IN THE EDITION OF THE "MANUAL FOR UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS" IN EFFECT ON THIS DATE AS ADOPTED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION PURSUANT TO SUBSECTION 336.045 (1) OF THE FLORIDA STATUTES.

DATE: _____ ENGINEER: _____ REG. NO. 49935
JEFFREY J. EARHART



SECTIONS 19 & 20, TOWNSHIP 22 SOUTH, RANGE 29 EAST

LOCATION MAP

INDEX OF SHEETS

SHEET	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
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6	DETAILS
7	ADS DETAILS
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L3	IRRIGATION PLAN
L4	IRRIGATION DETAILS
E-1S	SOCCER FIELD ELECTRICAL PLAN
E-2S	ONE LINE DIAGRAM & FEEDER SCHEDULE
M1-M2	MUSCO LIGHTING

UTILITIES ENCOUNTERED

WATER & SEWER: ORANGE COUNTY UTILITIES	407-254-9700
WATER: ORLANDO UTILITIES COMMISSION	407-244-8736
ELECTRIC: ORLANDO UTILITIES COMMISSION	407-423-9100
PHONE: AT&T FLORIDA (GM9510@ATT.COM)	407-277-1782



Certificate of Authorization No. 26618
2215 Wembley Place
Oviedo, Florida 32765
Phone: 407.677.1012

REVISIONS	DATE	BY

DESIGNED BY: JE DATE: 06/2014
DRAWN BY : LS DATE: 06/2014
CHECKED BY: JE DATE: 06/2014

PROJECT NO: BARNETT PARK

SHEET 1
OF 7

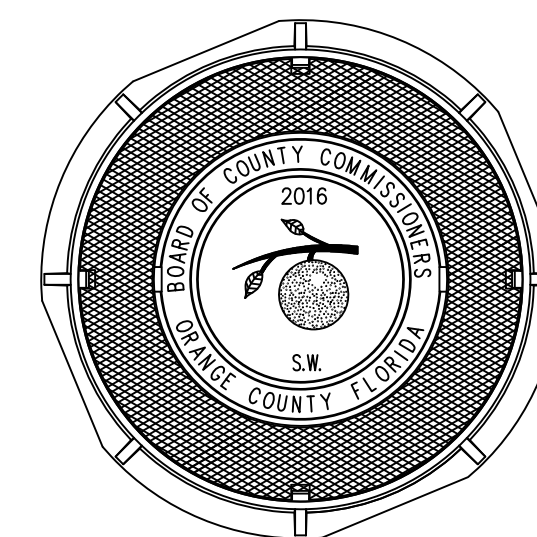
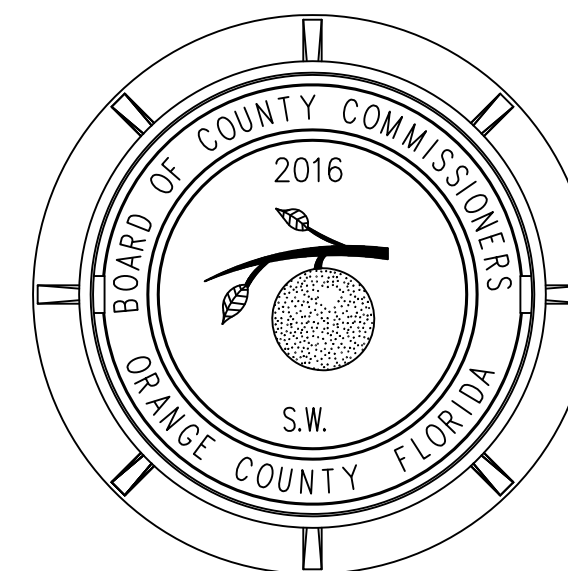
GENERAL NOTES:

1. ALL ELEVATIONS SHOWN IN THESE PLANS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH AND CONFORM TO THE MOST STRINGENT REQUIREMENTS OF THE PROJECT SPECIFICATIONS, THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2010 EDITION), AND SUPPLEMENTS THERETO, AND ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS.
3. SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING TOPOGRAPHIC FEATURES FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLAN GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE OWNER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
4. ALL PERSONAL PROPERTY, EXCEPT MAIL BOXES, WITHIN THE RIGHT-OF-WAY NOT RELOCATED BY THE PROPERTY OWNER SHALL BE REMOVED BY THE CONTRACTOR AS NECESSARY TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE PLANS. MAIL BOXES SHALL BE RELOCATED BY THE CONTRACTOR IN ACCORDANCE WITH F.D.O.T. DESIGN STANDARD 532. PAYMENT WILL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 110-1-1, CLEARING AND GRUBBING.
5. THE DISPOSAL OF EXCESS EARTHWORK MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. APPROVAL(S) OF THE DISPOSAL SITES SHALL BE OBTAINED FROM ORANGE COUNTY PRIOR TO DISPOSAL. ALL EXCESS MATERIALS ARE THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR.
6. ALL EXISTING TREES WITHIN THE FOOTPRINT OF THE CONSTRUCTION LIMITS ARE TO BE REMOVED AS CLEARING AND GRUBBING (110-1-1) UNLESS OTHERWISE DIRECTED.
7. SOD ALL DISTURBED AREAS UNLESS OTHERWISE SHOWN ON THE PLANS. SOD SHALL MATCH EXISTING TYPE SOD UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
8. INSTALL A MINIMUM 4" MUCK BLANKET OR TOPSOIL TREATMENT ON ALL PERMANENT GRASS AREAS, COST TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF SOD.
9. PEGGED SOD TO BE PLACED ON ALL SLOPES 1:2 OR STEEPER.
10. SAWCUT CONCRETE DRIVEWAYS AS REQUIRED FOR CONSTRUCTION.
11. ALL PAVEMENT OFFSETS SHOWN ARE TO PROPOSED CENTERLINE OF CONSTRUCTION; ALL RADII AND DIMENSIONS ARE TO PROPOSED EDGE OF PAVEMENT.
12. FOR STABILIZATION AT TURNOUTS AND DRIVEWAYS CONNECTIONS SEE STANDARD INDEX No. 515 AND TYPICAL SECTIONS FOR DEPTH AND LBR.
13. DRIVEWAY LOCATIONS AND WIDTHS SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED AS NECESSARY AS DIRECTED BY THE ENGINEER.
14. THE CONTRACTOR SHALL PERFORM HIS WORK IN ACCORDANCE WITH REQUIREMENTS OF THE VARIOUS PERMITS INCLUDED IN THE BID SPECIFICATIONS. PAYMENT IS INCLUDED IN THE BID PRICE FOR SECTION 104; "PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION", EXCLUDING ITEMS SPECIFIED ELSEWHERE. ENVIRONMENTAL CONTROLS SHALL BE USED AT LOCATIONS DESIGNATED IN THE STORMWATER POLLUTION PREVENTION PLAN AND/OR DESIGNATED BY THE ENGINEER.
15. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND SURVEYS BUT IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WITH PROJECT CONSTRUCTION. PRIOR TO ORDERING DRAINAGE STRUCTURES, THE CONTRACTOR SHALL DETERMINE IF DRAINAGE/UTILITY CONFLICTS EXIST. INFORMATION ON CONFLICTS IS TO BE SUBMITTED TO THE ENGINEER AS SOON AS POSSIBLE AFTER DISCOVERY FOR RESOLUTION. SUNSHINE STATE ONE CALL MUST BE NOTIFIED FOR LOCATES AT 1-800-432-4770.
16. UTILITIES ARE TO BE ADJUSTED BY THE CONTRACTOR OR AS DIRECTED BY THE ENGINEER.
17. THE CONTRACTOR SHALL NOTIFY ALL GAS UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION AS REQUIRED BY CHAPTER 77-153 OF THE FLORIDA STATUTES.
18. ALL DRAINAGE PIPES SHALL BE STEEL REINFORCED CONCRETE PIPES, CLASS III, UNLESS OTHERWISE NOTED.
19. INLET ELEVATIONS SHOWN IN THE PLANS REFER TO THE EDGE OF PAVEMENT AT THE CENTER OF CURB INLETS AND THE TOP OF THE GRATE FOR DITCH BOTTOM INLETS.
20. ALL EXCAVATIONS SHALL BE REQUIRED TO CONFORM TO THE PROVISIONS OF PART IV OF CHAPTER 553.60, F.S., ALSO KNOWN AS THE "TRENCH SAFETY ACT", TO PROTECT EXISTING PAVEMENT, STRUCTURES, FOUNDATIONS, AND CONSTRUCTION PERSONNEL DURING CONSTRUCTION OF THE PROJECT.
21. MEASUREMENT OF DRAINAGE PIPE FOR PAYMENT SHALL BE DETERMINED FROM ACTUAL LENGTHS INSTALLED.
22. ALL MANHOLE COVERS SHALL INCLUDE THE ORANGE COUNTY LOGO AND BE IDENTIFIED AS "ORANGE COUNTY SANITARY", "ORANGE COUNTY STORM", OR "ORANGE COUNTY WATER", AS APPROPRIATE. (SEE DETAILS BELOW)
23. ALL INLET/MANHOLE - PIPE JOINTS SHALL BE FILLED WITH NON-SHRINK GROUT, COVERED WITH AN ASPHALTIC MASTIC COATING, AND WRAPPED WITH A FILTER FABRIC MATERIAL PER SECTION 13.03.03 OF THE ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS.
24. ALL CURB INLETS, DITCH BOTTOM INLETS, AND MANHOLES SHALL HAVE TRAFFIC BEARING FRAMES AND COVERS OR GRATES MEETING HS-20 LOADING REQUIREMENTS.
25. ALL EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN, UNLESS OTHERWISE SHOWN IN THE PLANS OR DIRECTED BY THE ENGINEER.
26. DESIGN CHANGES OF PIPE INVERTS NOT EXCEEDING PLUS OR MINUS ONE FOOT WILL NOT BE CONSIDERED AS A BASIS FOR ADDITIONAL COMPENSATION FOR THE PERTINENT PIPE BID ITEM OR FOR MODIFICATION OF PRECAST STRUCTURES.

GENERAL NOTES CONTINUED:

27. ALL (P.R.M.'s) IRONS AND MONUMENTS SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH CAST IRON VALVE BOX.
28. ANY U.S.C. AND G.S. MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, ORANGE COUNTY SURVEY SECTION 407-836-7940 AND BOTH SHALL NOTIFY: DAVID NEWCOMER, NOAA AND RANDY WEGNER, NOAA, C/O FLDEP, BUREAU OF SURVEY AND MAPPING, MS 105, 3900 COMMONWEALTH BOULEVARD, TALLAHASSEE, FL 32399-3000, TELEPHONE: (850) 245-2606, FAX: (850) 245-2645.
29. PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE COUNTY SURVEYOR, WITHOUT DELAY, BY TELEPHONE 407-836-7940. THE CONTRACTOR SHALL PROVIDE WRITTEN FOLLOW UP CONFIRMATION WITHIN 48 HOURS OF TELEPHONE NOTIFICATION.
30. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO ORANGE COUNTY CAPITAL PROJECTS DIVISION A SET OF FIELD NOTES VERIFYING THE BENCHMARK ELEVATIONS AND THE REFERENCE POINT TIES SHOWN ON THE TITLE SHEET AND PLAN AND PROFILE SHEETS, AND/OR A SET OF FIELD NOTES FOR ALL ADDITIONAL BENCHMARK AND REFERENCE POINT TIES PROPOSED TO BE USED IN CONSTRUCTING THE PROJECT WITH THEIR LOCATION, DESCRIPTION AND ELEVATION, BASED ON ORANGE COUNTY DATUM. ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA.
31. TO MEET ADA REQUIREMENTS, ALL SIDEWALK CONSTRUCTION SHALL COMPLY WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, STATE FDOT INDEX 304, INDEX 310, AND INDEX 600.
32. THE LOCATIONS OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
33. CONTRACTOR IS TO MAINTAIN UNINTERRUPTED ACCESS TO ALL DRIVEWAYS AND SIDE STREETS AT ALL TIMES AND IS TO NOTIFY PROPERTY OWNERS FIVE DAYS PRIOR TO STARTING CONSTRUCTION.
34. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL CALL SUNSHINE ONE TWO BUSINESS DAYS IN ADVANCE OF PERFORMING ANY UTILITY ADJUSTMENTS OR RELOCATIONS. SUNSHINE ONE PHONE NUMBER 1-(800)-432-4770.
35. CONTRACTOR TO VIDEOTAPE AND PHOTOGRAPH THE LIMITS OF CONSTRUCTION PRIOR CONSTRUCTION AND GIVE A COPY TO THE COUNTY. COST TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 101-1, MOBILIZATION.
36. THE RUNNING SLOPE OF WALKING SURFACES ON AN ACCESSIBLE ROUTE SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:48. FBC ACCESSIBILITY 403.3. THE CONTRACTOR SHALL REVISE ELEVATION AND SIDE LOCATIONS TO MEET THIS REQUIREMENT AS NEEDED.

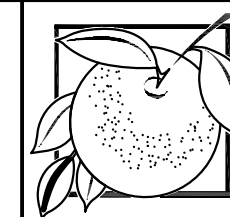
MANHOLE COVER DETAIL



NO.	DATE	REVISION



JEFFREY EARTHART, PE, ENGINEER OF RECORD FLORIDA REG.
 PROF. ENGINEER No.: 49935
 CPWG, COA No.: 26618
 2215 WEMBLEY PLACE, OVIEDO, FL 32765
 PHONE: 407-267-8905

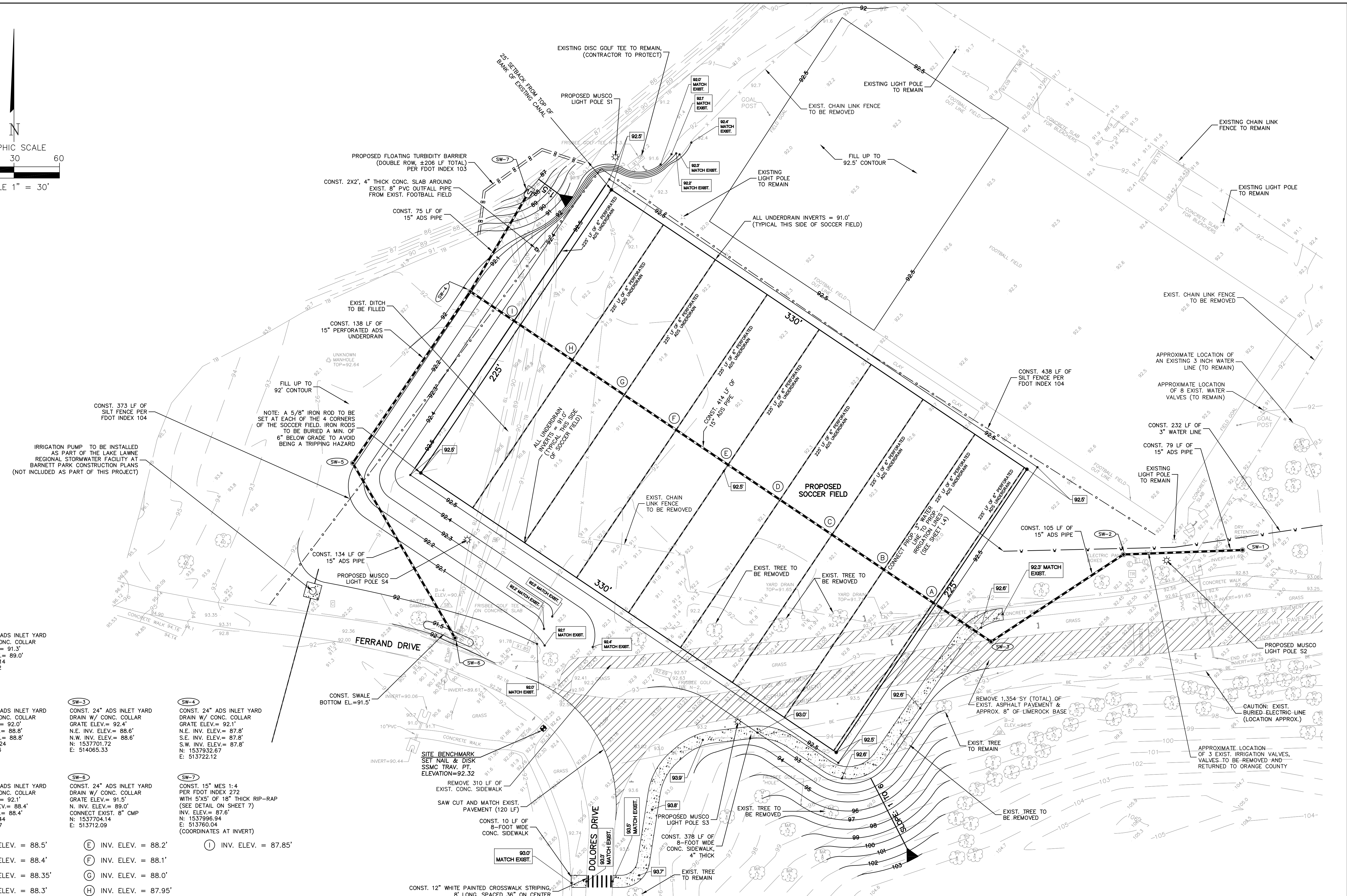
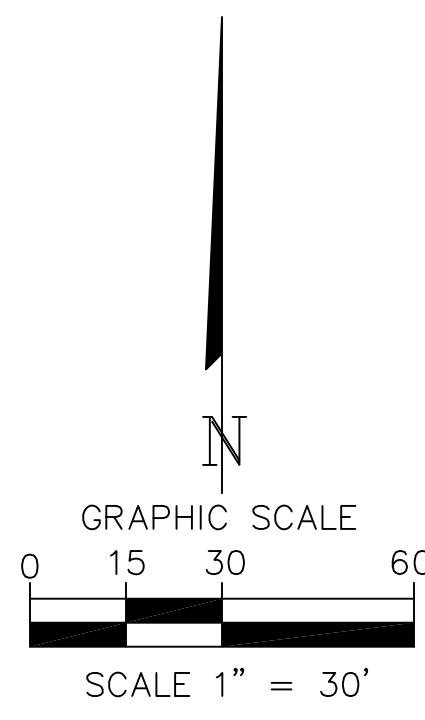


**ORANGE COUNTY
 GOVERNMENT
 FLORIDA**

**BARNETT PARK
 NEW SOCCER FIELD
 AT BARNETT PARK
 ORANGE COUNTY, FLORIDA**

GENERAL NOTES

SHEET NUMBER
2
 OF 7 SHEETS



SW-1
 CONST. 24" ADS INLET YARD DRAIN W/ CONC. COLLAR
 GRATE ELEV. = 91.3'
 W. INV. ELEV. = 89.0'
 N: 1537762.14
 E: 514231.02

SW-2
 CONST. 24" ADS INLET YARD DRAIN W/ CONC. COLLAR
 GRATE ELEV. = 92.0'
 E. INV. ELEV. = 88.8'
 W. INV. ELEV. = 88.8'
 N: 1537759.24
 E: 514152.56

SW-3
 CONST. 24" ADS INLET YARD DRAIN W/ CONC. COLLAR
 GRATE ELEV. = 92.4'
 N.E. INV. ELEV. = 88.6'
 N.W. INV. ELEV. = 88.6'
 N: 1537701.72
 E: 514065.33

SW-4
 CONST. 24" ADS INLET YARD DRAIN W/ CONC. COLLAR
 GRATE ELEV. = 92.1'
 N.E. INV. ELEV. = 87.8'
 S.E. INV. ELEV. = 87.8'
 S.W. INV. ELEV. = 87.8'
 N: 1537932.67
 E: 513722.12

SW-5
 CONST. 24" ADS INLET YARD DRAIN W/ CONC. COLLAR
 GRATE ELEV. = 92.1'
 N.E. INV. ELEV. = 88.4'
 S. INV. ELEV. = 88.4'
 N: 1537819.44
 E: 513644.67

SW-6
 CONST. 24" ADS INLET YARD DRAIN W/ CONC. COLLAR
 GRATE ELEV. = 91.5'
 N. INV. ELEV. = 89.0'
 CONNECT EXIST. 8" CMP
 N: 1537704.14
 E: 513712.09

SW-7
 CONST. 15" MES 1:4 PER FDOT INDEX 272 WITH 5'X3' OF 18" THICK RIP-RAP (SEE DETAIL ON SHEET 7)
 INV. ELEV. = 87.6'
 N: 1537996.94
 E: 513760.04
 (COORDINATES AT INVERT)

- (A) INV. ELEV. = 88.5'
- (B) INV. ELEV. = 88.4'
- (C) INV. ELEV. = 88.35'
- (D) INV. ELEV. = 88.3'
- (E) INV. ELEV. = 88.2'
- (F) INV. ELEV. = 88.1'
- (G) INV. ELEV. = 88.0'
- (H) INV. ELEV. = 87.95'
- (I) INV. ELEV. = 87.85'

CONST. 12" WHITE PAINTED CROSSWALK STRIPING,
 8" LONG, SPACED 36" ON CENTER

NO.	DATE	REVISION



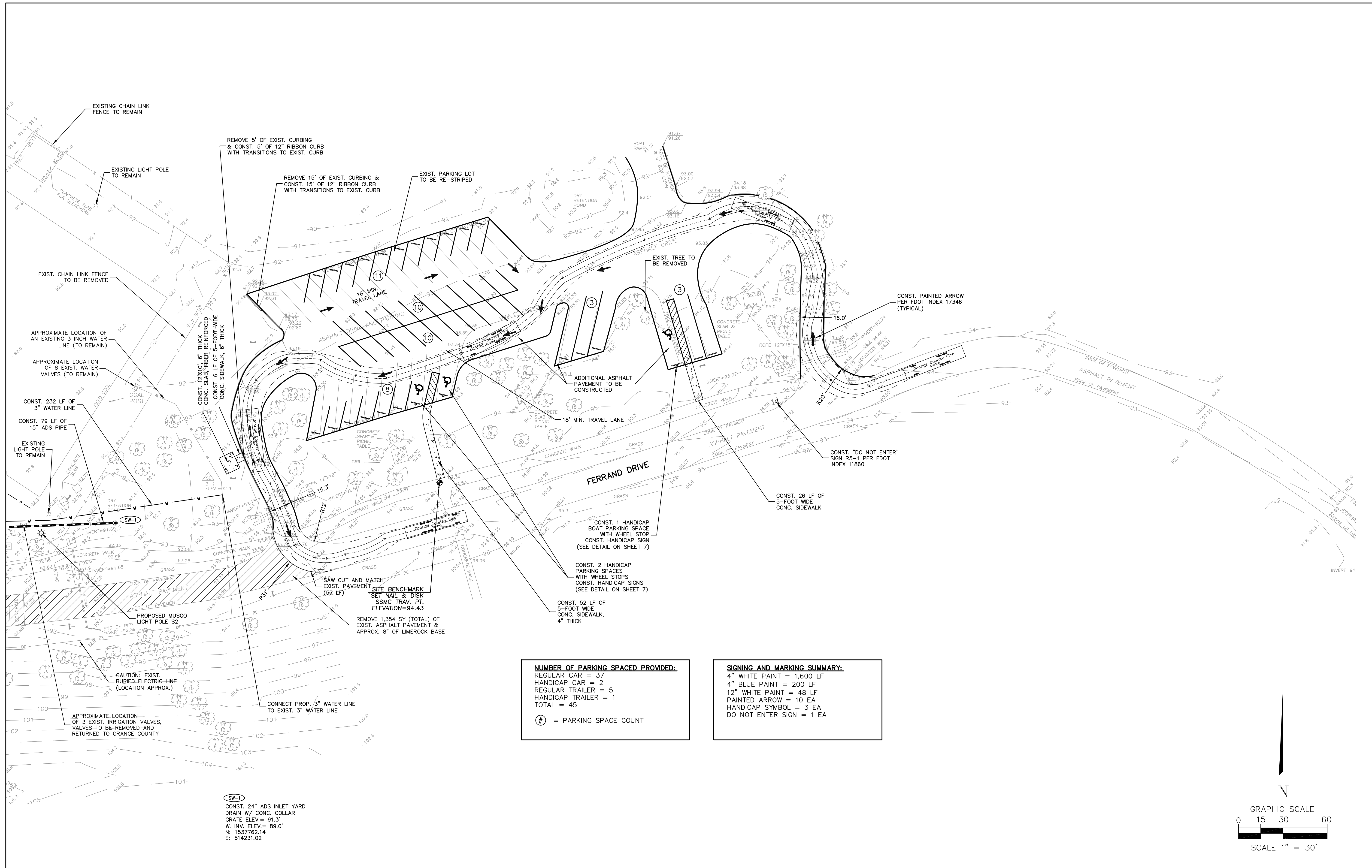
JEFFREY EARHART, PE, ENGINEER OF RECORD FLORIDA REG.
 PROF. ENGINEER No.: 49935
 CPWG, COA No.: 26618
 2215 WEMBLEY PLACE, OVIEDO, FL 32765
 PHONE: 407-267-8905



BARNETT PARK
NEW SOCCER FIELD
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ORANGE COUNTY, FLORIDA

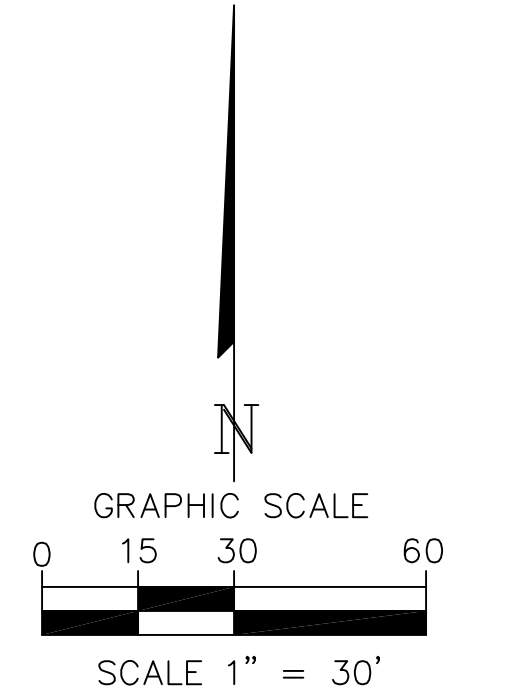
SITE IMPROVEMENT & DEMOLITION PLAN

SHEET NUMBER	3
OF 7 SHEETS	



NUMBER OF PARKING SPACES PROVIDED:
 REGULAR CAR = 37
 HANDICAP CAR = 2
 REGULAR TRAILER = 5
 HANDICAP TRAILER = 1
 TOTAL = 45
 # = PARKING SPACE COUNT

SIGNING AND MARKING SUMMARY:
 4" WHITE PAINT = 1,600 LF
 4" BLUE PAINT = 200 LF
 12" WHITE PAINT = 48 LF
 PAINTED ARROW = 10 EA
 HANDICAP SYMBOL = 3 EA
 DO NOT ENTER SIGN = 1 EA



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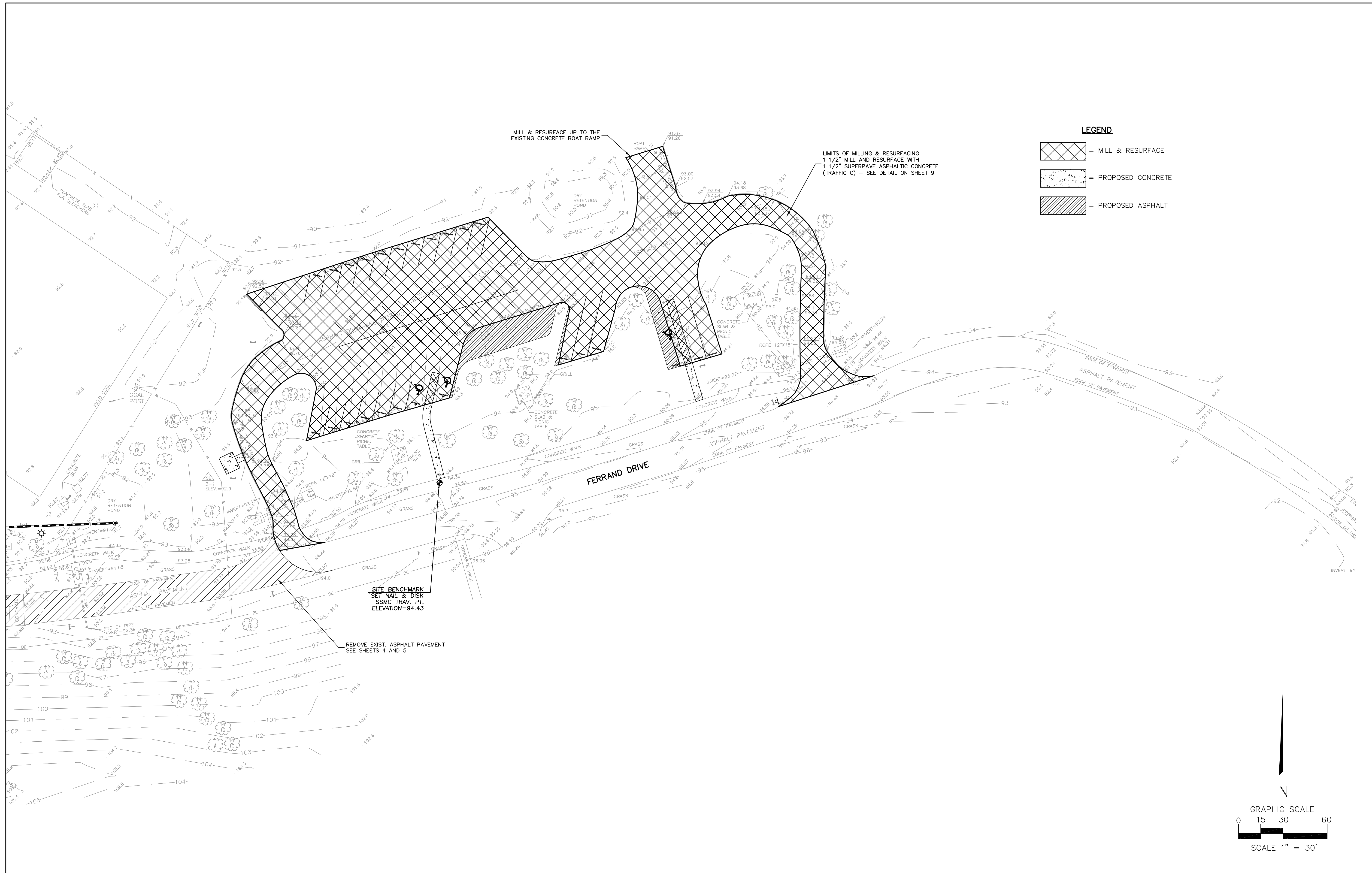
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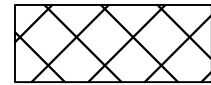


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 ORANGE COUNTY, FLORIDA**

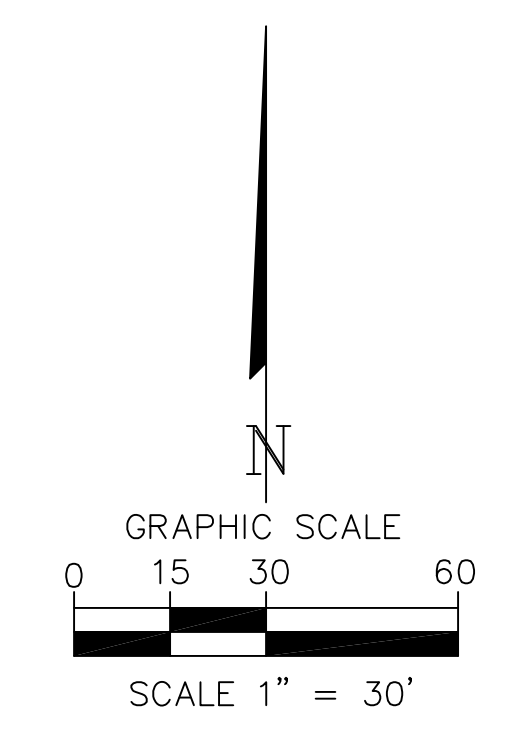
**SITE IMPROVEMENT &
 DEMOLITION PLAN**

SHEET NUMBER
4
 OF 7 SHEETS

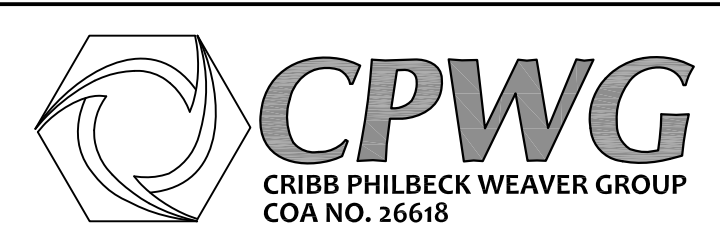


LEGEND

-  = MILL & RESURFACE
-  = PROPOSED CONCRETE
-  = PROPOSED ASPHALT



NO.	DATE	REVISION

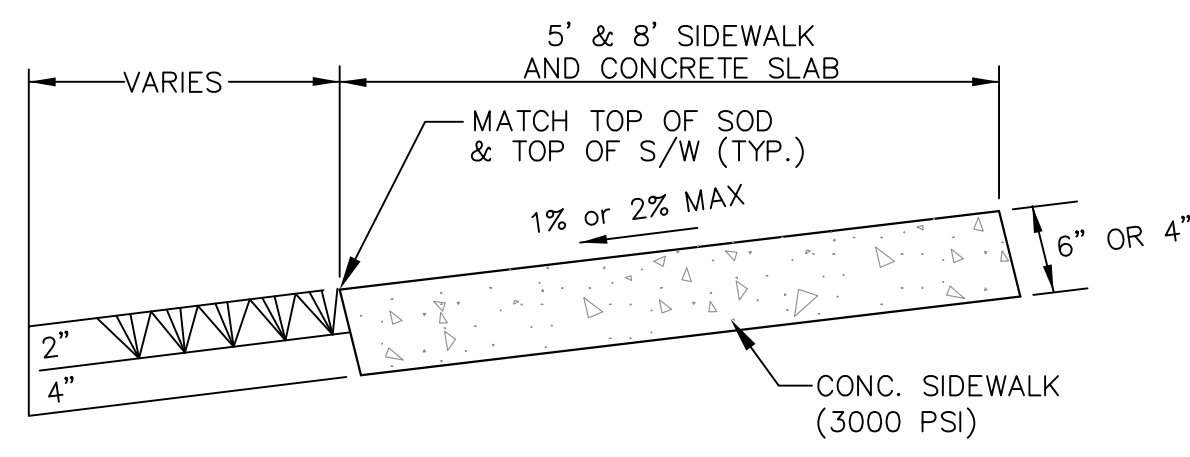


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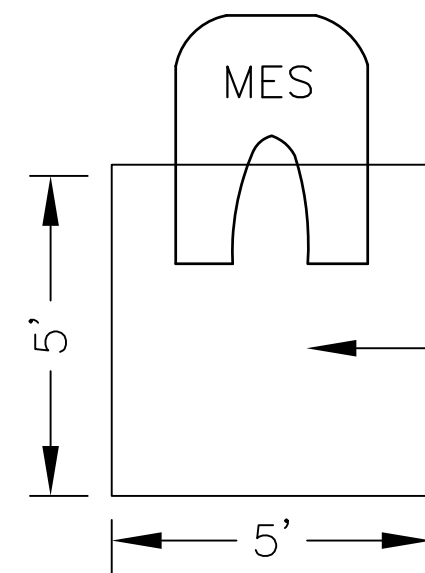
BARNETT PARK
NEW SOCCER FIELD
AT BARNETT PARK
ORANGE COUNTY, FLORIDA

**LIMITS OF MILLING
 & RESURFACING**

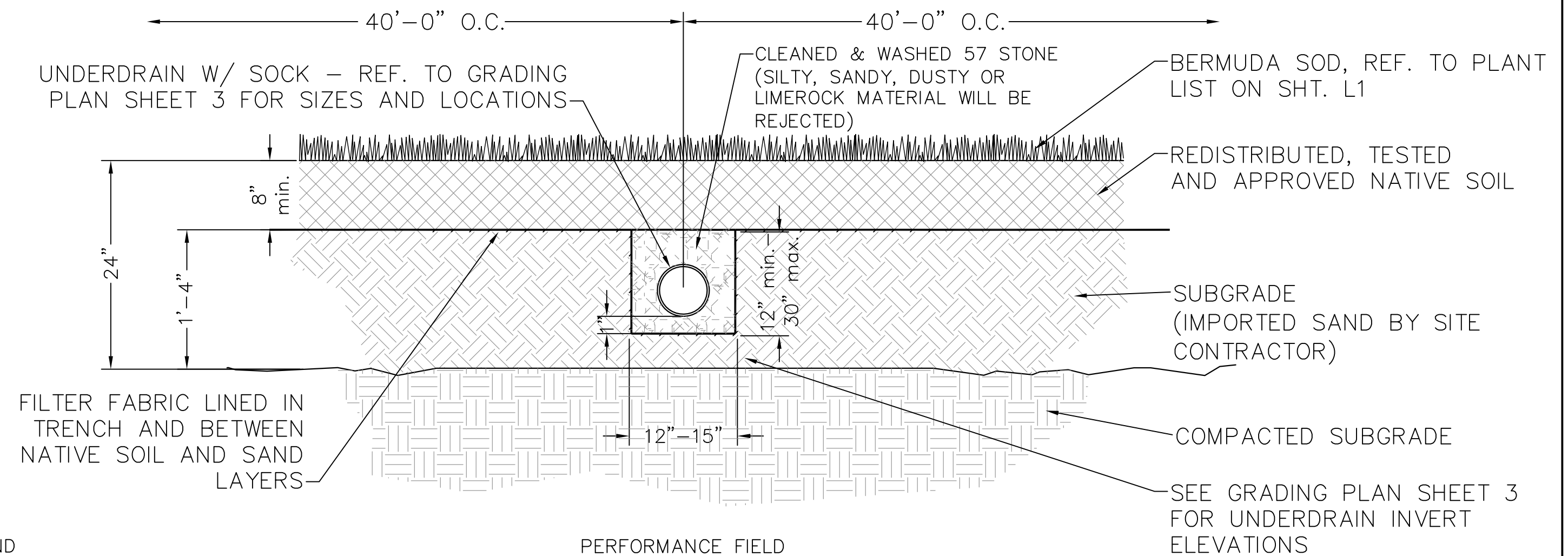


NOTE:

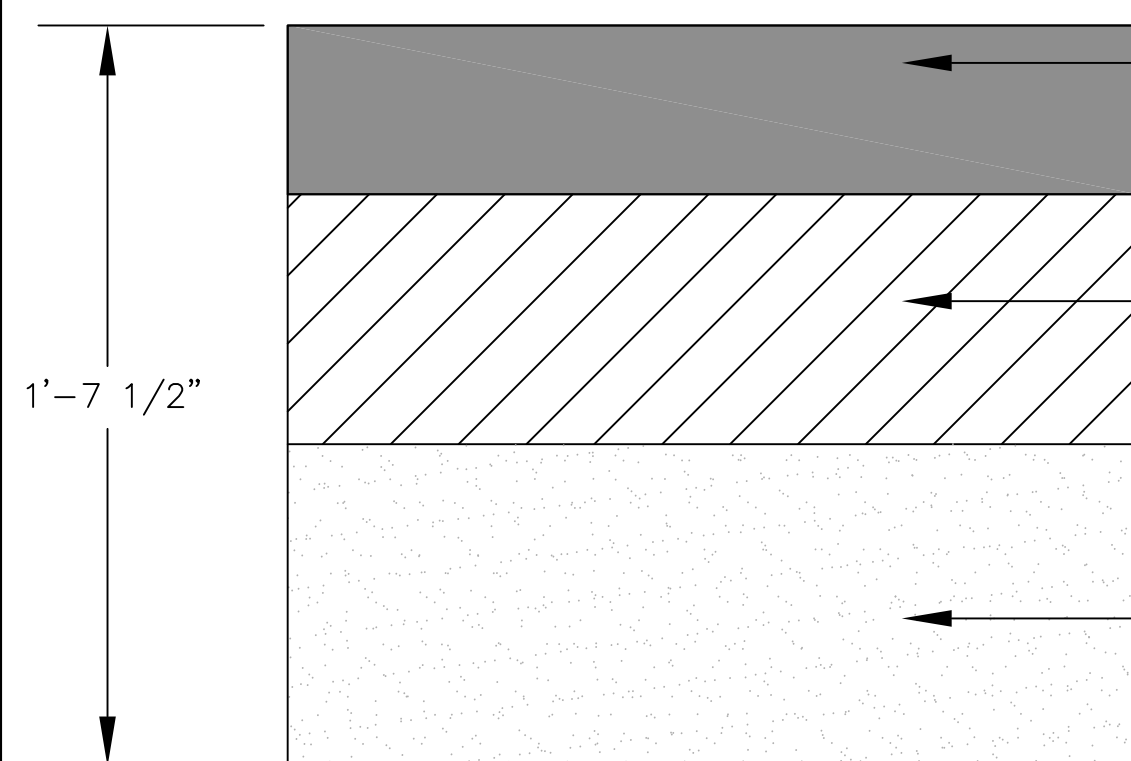
SUB-GRADE CUT TO BE COMPACTED TO 95% MAX. DENSITY AS DETERMINED BY AASHTO T - 180. CUT TO BE REPLACED WITH 3000 PSI HIGH EARLY CONCRETE TO TOP OF EXISTING BASE. CUT AREA TO BE PLATED OR PROTECTED ON DAY OF POUR. TEMPORARY COLD PATCH TO BE APPLIED AND BROUGHT TO GRADE NEXT DAY. PERMANENT REPAIR TO BE MADE WITHIN 30 DAYS.



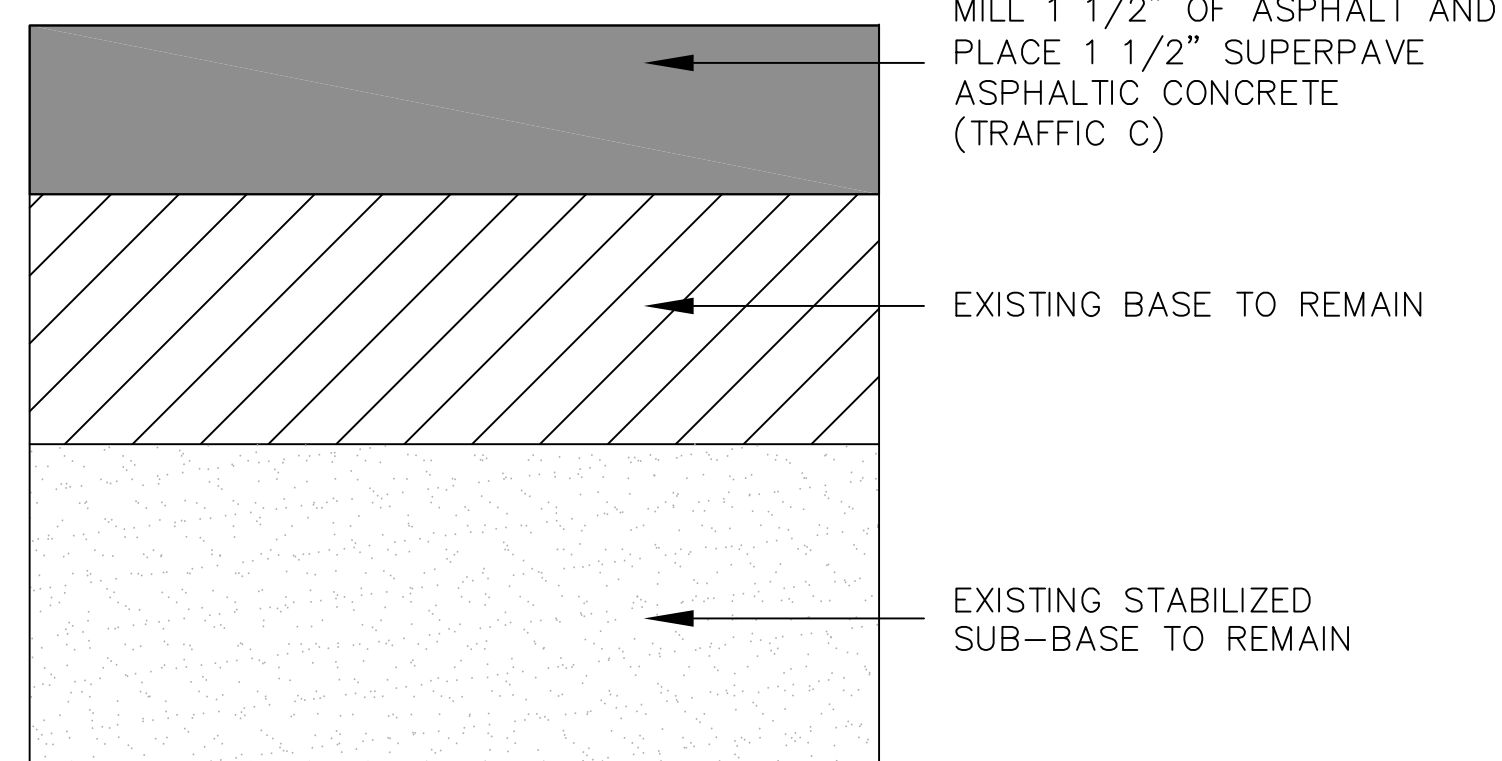
MES RIP-RAP DETAIL
(NOT TO SCALE)



ATHLETIC FIELD DETAIL
(NOT TO SCALE)



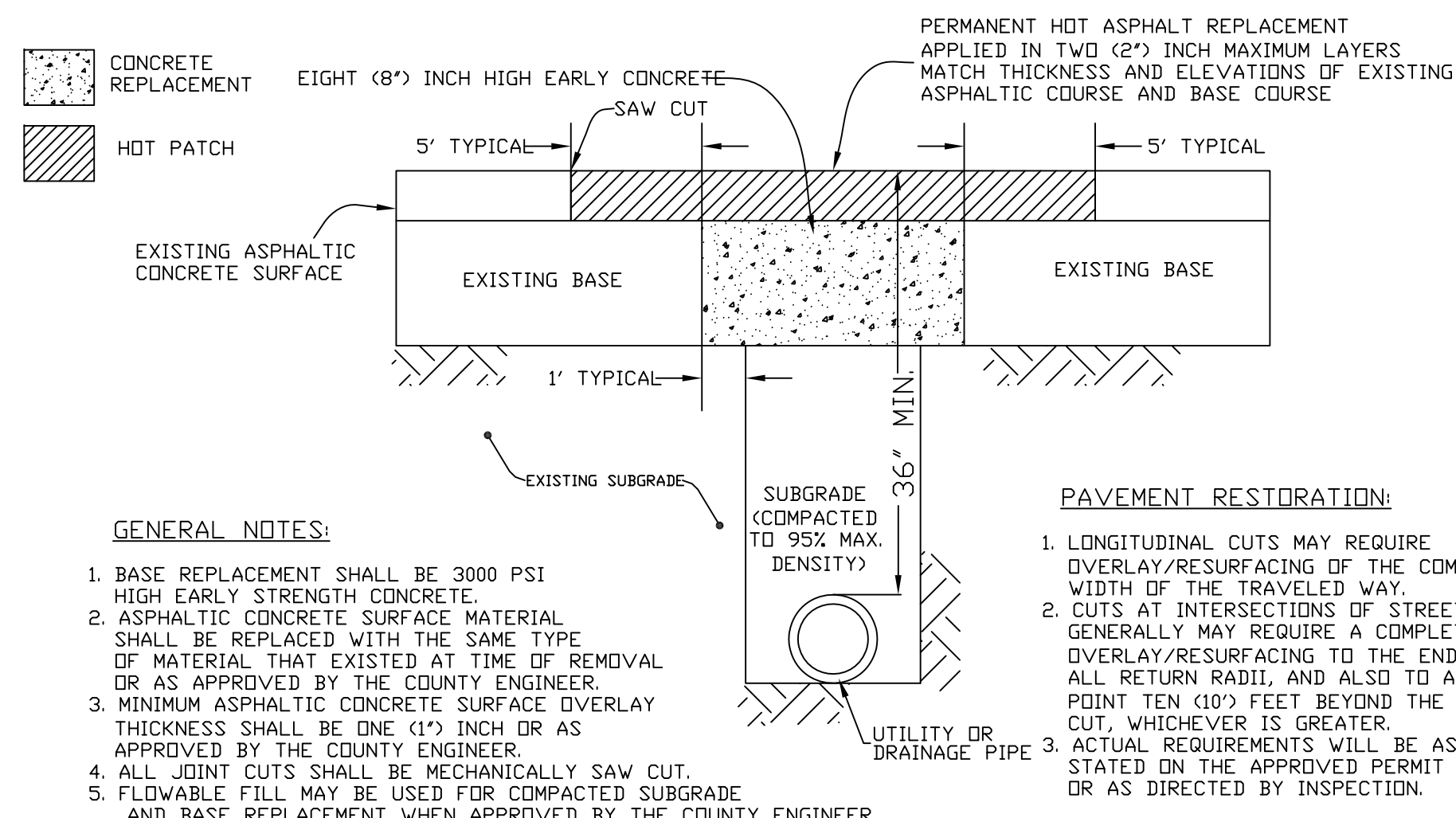
ASPHALT PAVEMENT COMPOSITION FOR PROPOSED PAVEMENT AND PROPOSED PARKING SPACES
(NOT TO SCALE)



MILL AND RESURFACE DETAIL
(NOT TO SCALE)

NOTE:

SUB-GRADE CUT TO BE COMPACTED TO 95% MAX. DENSITY AS DETERMINED BY AASHTO T - 180. CUT TO BE REPLACED WITH AN EIGHT (8") INCH 3000 PSI HIGH EARLY CONCRETE TO TOP OF EXISTING BASE. CUT AREA TO BE PLATED OR PROTECTED ON DAY OF POUR. EXISTING SURFACE TO BE SAW CUT TO AN AREA FIVE (5') FEET, BEYOND THE BASE CUT.



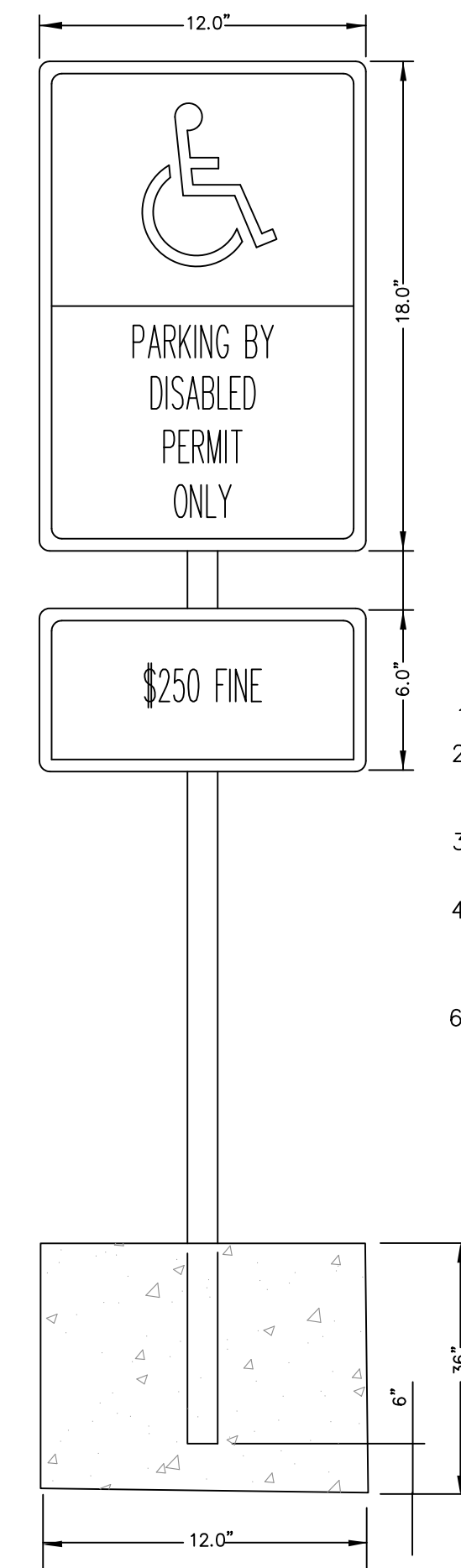
STANDARD ROADWAY OPEN CUT CROSS SECTION DETAIL
FINAL RESTORATION - TYPICAL OF MAJOR OPEN CUTS

GENERAL NOTES:

1. BASE REPLACEMENT SHALL BE 3000 PSI HIGH EARLY STRENGTH CONCRETE.
2. ASPHALTIC CONCRETE SURFACE MATERIAL SHALL BE REPLACED WITH THE SAME TYPE OF MATERIAL THAT EXISTED AT TIME OF REMOVAL OR AS APPROVED BY THE COUNTY ENGINEER.
3. MINIMUM ASPHALTIC CONCRETE SURFACE OVERLAY THICKNESS SHALL BE ONE (1) INCH OR AS APPROVED BY THE COUNTY ENGINEER.
4. ALL JOINT CUTS SHALL BE MECHANICALLY SAW CUT.
5. FLOWABLE FILL MAY BE USED FOR COMPACTED SUBGRADE AND BASE REPLACEMENT WHEN APPROVED BY THE COUNTY ENGINEER.

PAVEMENT RESTORATION:

1. LONGITUDINAL CUTS MAY REQUIRE OVERLAY/RESURFACING OF THE COMPLETE WIDTH OF THE TRAVELED WAY.
2. CUTS AT INTERSECTIONS OF STREETS GENERALLY MAY REQUIRE A COMPLETE OVERLAY/RESURFACING TO THE END OF ALL RETURN RADII, AND ALSO TO A POINT TEN (10) FEET BEYOND THE CUT, WHICHEVER IS GREATER.
3. ACTUAL REQUIREMENTS WILL BE AS STATED ON THE APPROVED PERMIT OR AS DIRECTED BY INSPECTION.

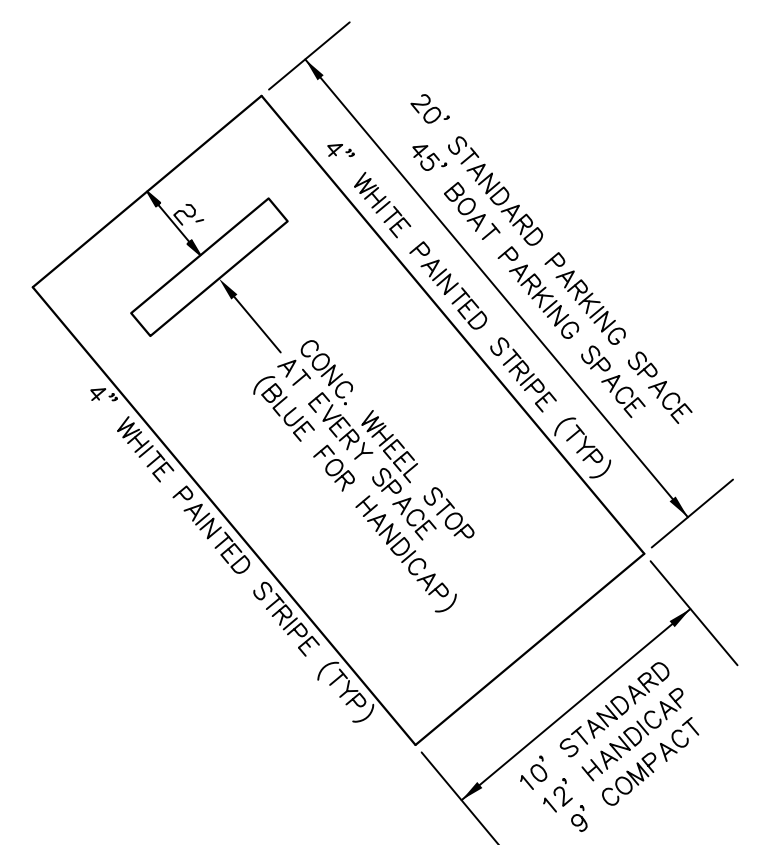


HANDICAP PARKING SIGNAGE
(NOT TO SCALE)

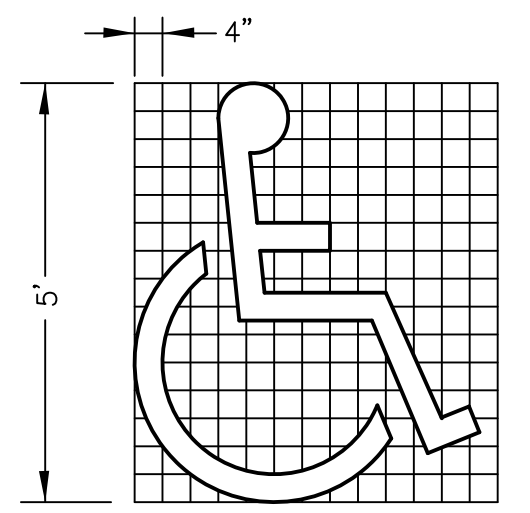
- ADA SIGNAGE NOTES:**
1. ALL LETTERS ARE 1" SERIES "C", PER MUTCD.
 2. TOP PORTION OF SIGN SHALL HAVE REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
 3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND & BORDER.
 4. ONE(1) SIGN REQUIRED FOR EACH PARKING SPACE.
 5. INSTALLATION HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH FEDERAL OR COUNTY CODES.
 6. SET POLE IN CONCRETE.

POST NOTES:

1. SUPPORT SHALL BE DRIVEN 3' INTO THE GROUND
2. 2"Ø x 1/8" ALUMINUM ROUND POST OR 2.5 #/FT. STEEL FLANGED CHANNEL POST
3. ALUMINUM POST 3/8"Ø ALUMINUM BUTTON HEAD WITH NUT AND LOCKWASHER OR 15/16"Ø STAINLESS STEEL HEX HEAD BOLT WITH FLAT WASHER UNDER AND LOCKWASHER UNDER NUT.
4. CHANNEL POST: PROVIDE ATTACHMENT IN ACCORDANCE WITH THE "SIGN ATTACHMENT DETAILS" ON INDEX NO. 11865
5. CONCRETE SHALL HAVE MIN. OF 2500 PSI COMPRESSIVE STRENGTH.

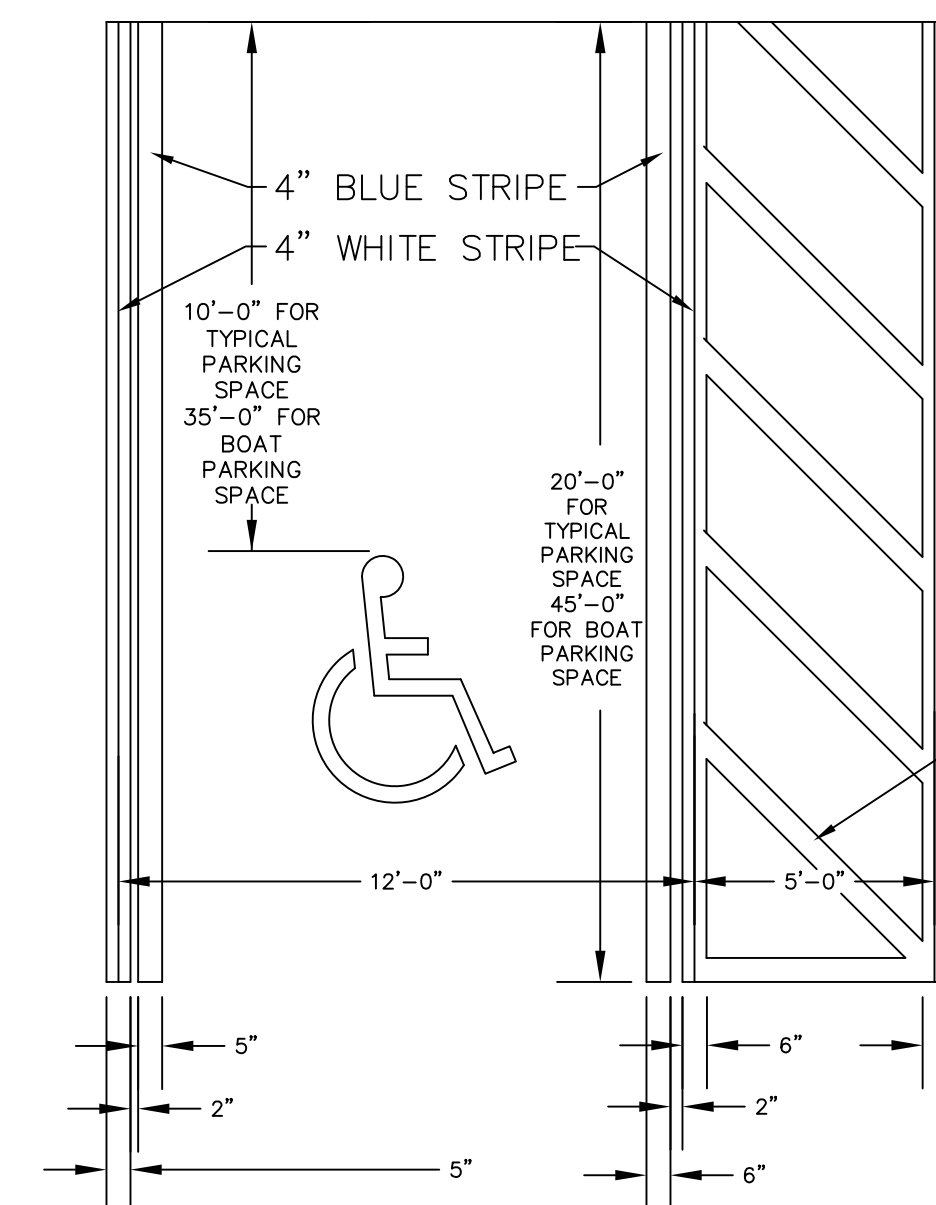


TYPICAL PARKING SPACE DETAIL
(NOT TO SCALE)



* USE OF PAVEMENT SYMBOL IN HANDICAPPED PARKING SPACES IS OPTIONAL. WHEN USED, THIS SYMBOL SHALL BE 3 TO 5 FEET HIGH AND BLUE IN COLOR.

HANDICAPPED PAVEMENT SYMBOL
(NOT TO SCALE)



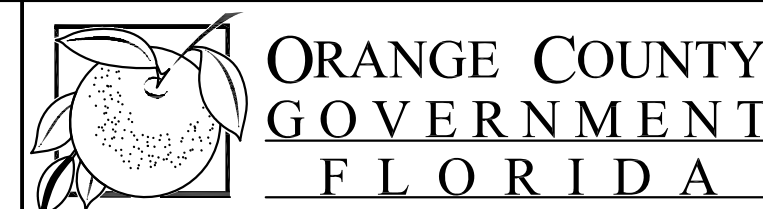
HANDICAP PARKING SPACE
(NOT TO SCALE)

5 FT WIDE ACCESS AISLES ARE DIAGONALLY STRIPPED AT 45° WITH 6" WIDE SOLID WHITE STRIPING AT 4 FT. ON CENTERS AND OUTLINED ON THREE SIDES WITH 6" WIDE SOLID WHITE STRIPING.

NO.	DATE	REVISION



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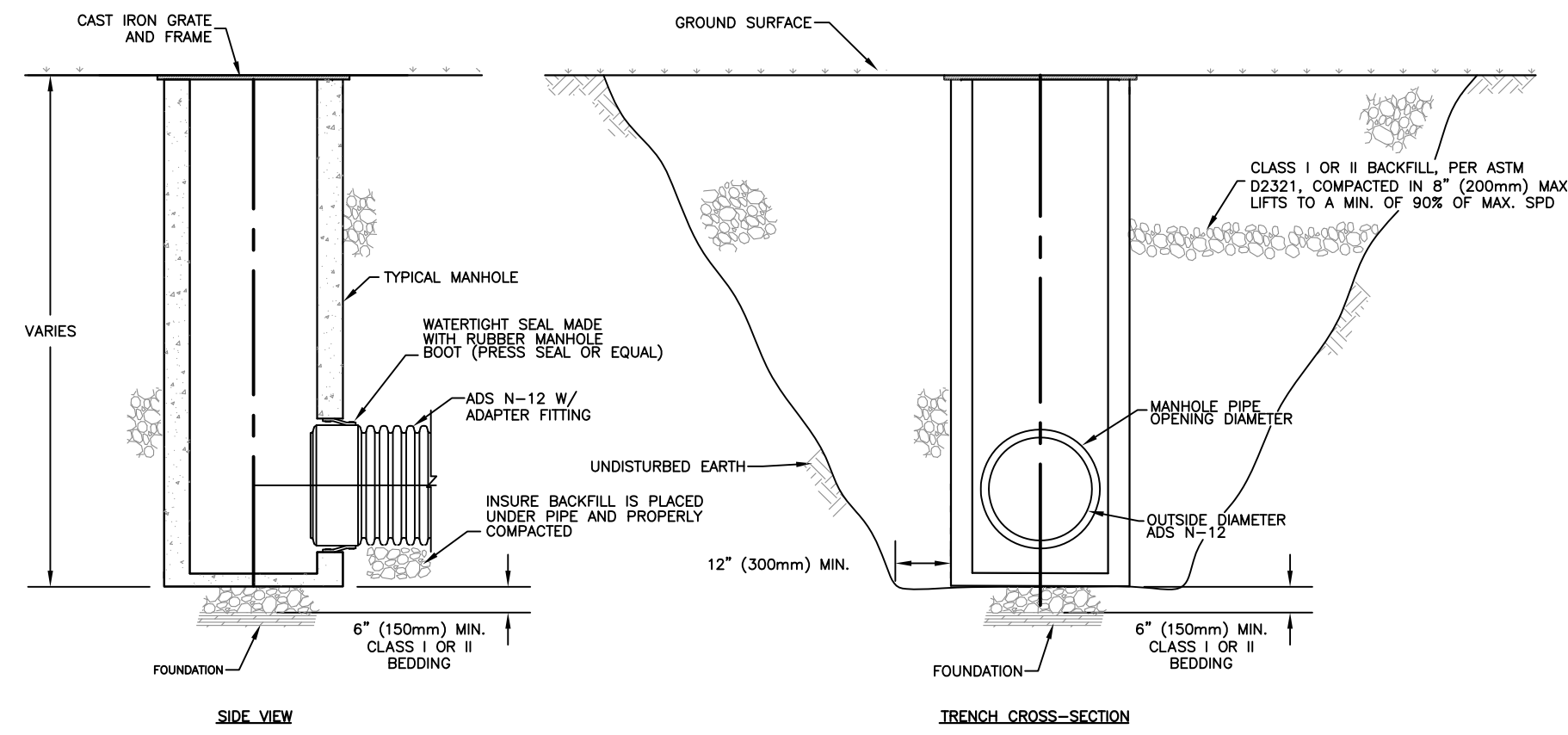


BARNETT PARK
NEW SOCCER FIELD
AT BARNETT PARK
ORANGE COUNTY, FLORIDA

GENERAL DETAILS

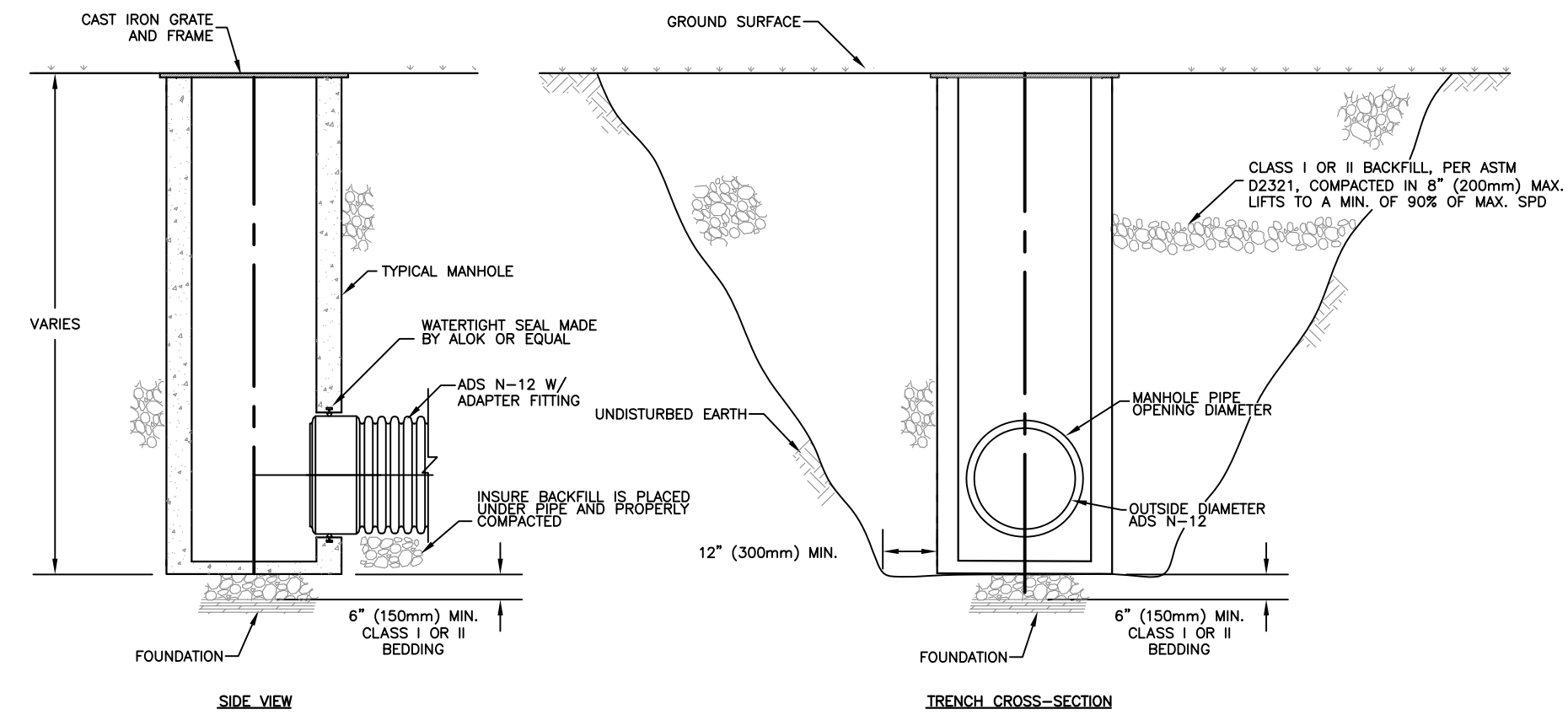
SHEET NUMBER	6
OF 7 SHEETS	

**WATERTIGHT MANHOLE CONNECTION
MANHOLE BOOT CONNECTION
NOT TO SCALE**

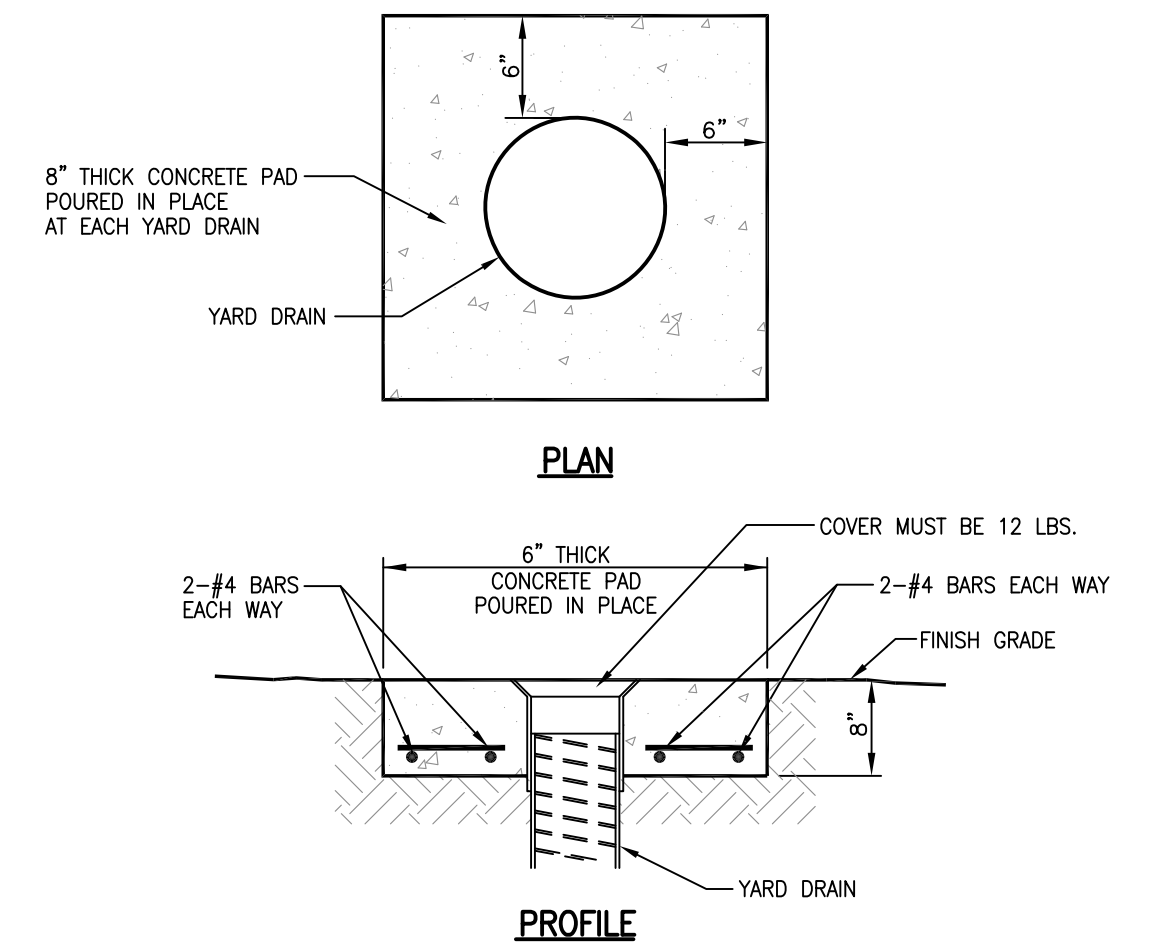


- NOTES
1. MAXIMUM INSERTION ANGLE IS TO BE DETERMINED BY BOOT MANUFACTURER.
 2. MANHOLE BOOT TO BE CONNECTED TO ADS ADAPTER FITTING (SEE FITTINGS MANUAL DRAWING 6045 AND 6050).

**WATERTIGHT MANHOLE CONNECTION
PRECAST MANHOLE GASKET
NOT TO SCALE**

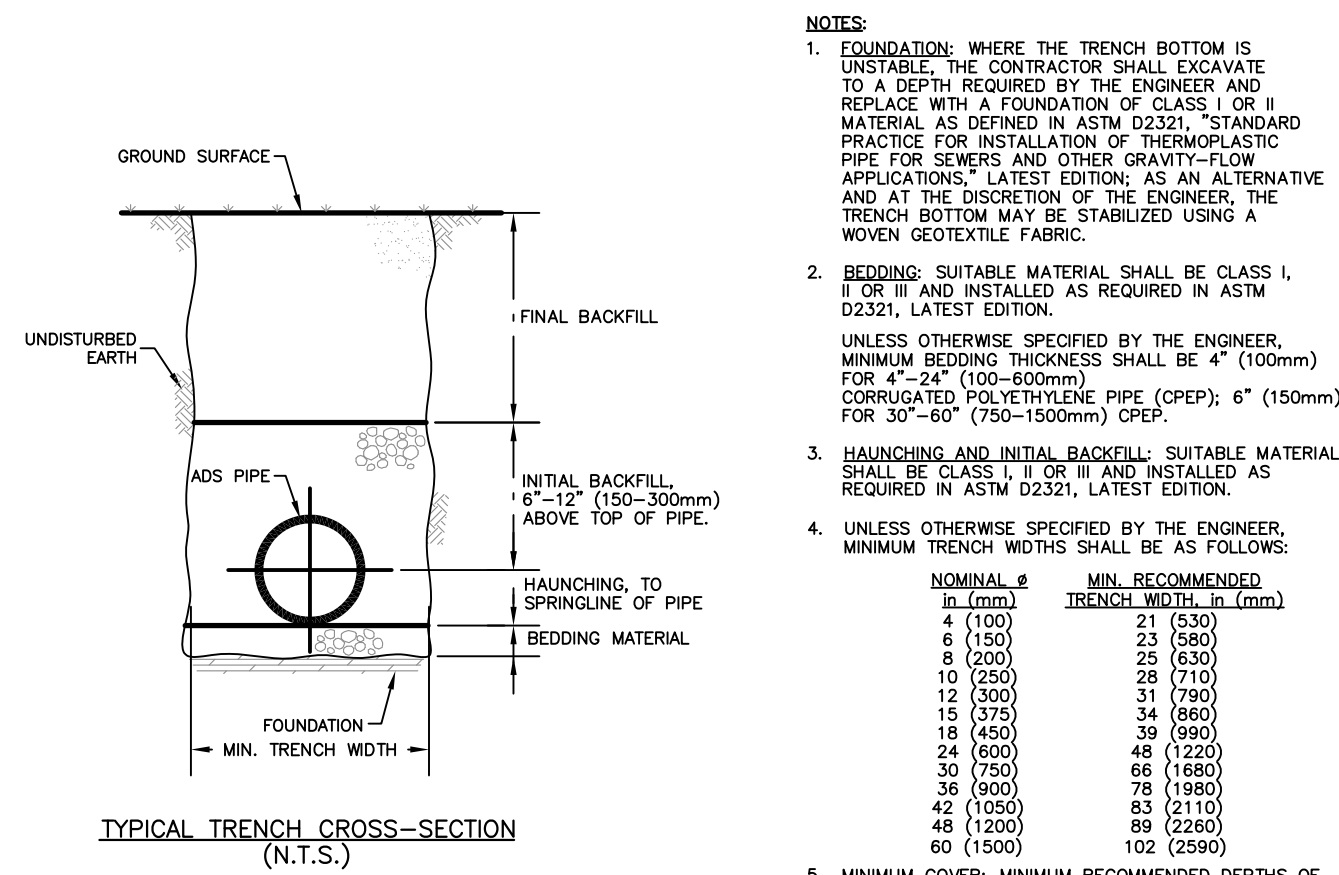


- NOTES
1. MAXIMUM INSERTION ANGLE IS TO BE DETERMINED BY BOOT MANUFACTURER.
 2. PRECAST MANHOLE GASKET TO BE SIZED FROM OUTSIDE DIAMETER OF ADS ADAPTER FITTING (SEE FITTINGS MANUAL DRAWING 6045 AND 6050).



CONCRETE COLLAR DETAIL FOR YARD DRAINS
NTS

TRENCH INSTALLATION DETAIL



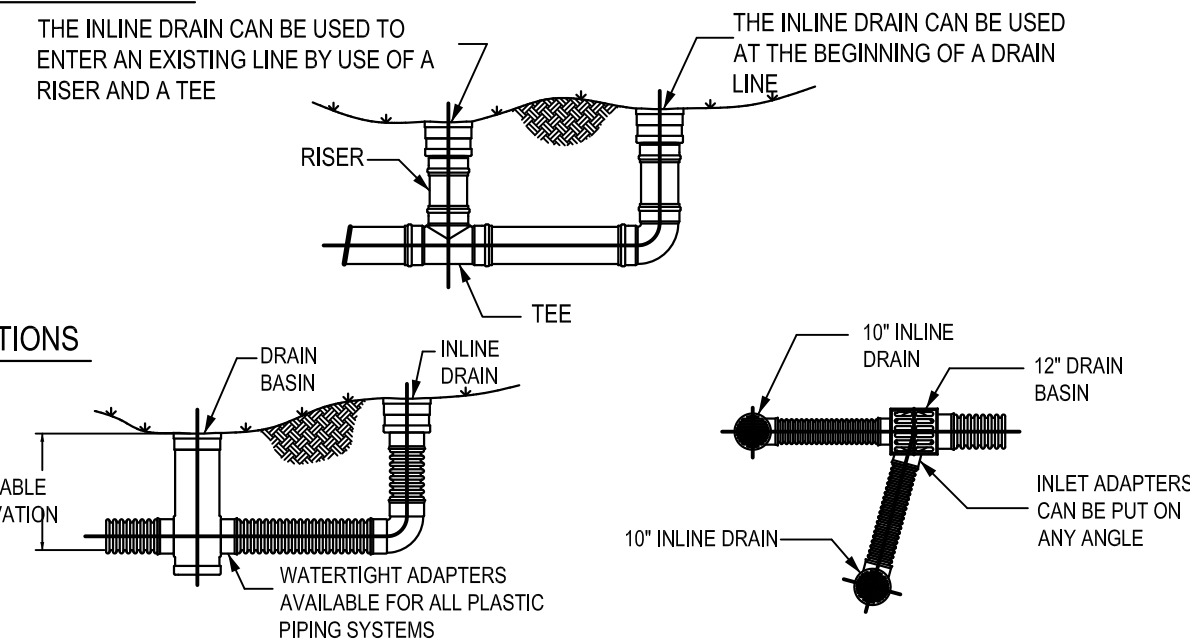
- NOTES
1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS, LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
 2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4\"/>
- | NOMINAL Ø
in (mm) | MIN. RECOMMENDED
TRENCH WIDTH, in (mm) |
|----------------------|---|
| 4 (100) | 21 (530) |
| 6 (150) | 23 (580) |
| 8 (200) | 25 (630) |
| 10 (250) | 28 (710) |
| 12 (300) | 31 (780) |
| 15 (375) | 34 (860) |
| 18 (450) | 39 (990) |
| 24 (600) | 48 (1220) |
| 30 (750) | 66 (1680) |
| 36 (900) | 68 (1880) |
| 42 (1050) | 83 (2110) |
| 48 (1200) | 89 (2260) |
| 60 (1500) | 102 (2590) |

NOTE TO THE ENGINEER: WHEN THIS DETAIL IS TO BE INCORPORATED INTO CONTRACT DOCUMENTS, PLEASE REFERENCE SECTION N-2, "RECOMMENDATIONS FOR INCORPORATION INTO CONTRACT DOCUMENTS" OF ASTM SPECIFICATION D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS" SO THAT APPROPRIATE MODIFICATIONS CAN BE MADE TO ACCOMMODATE SITE SPECIFIC NEEDS.

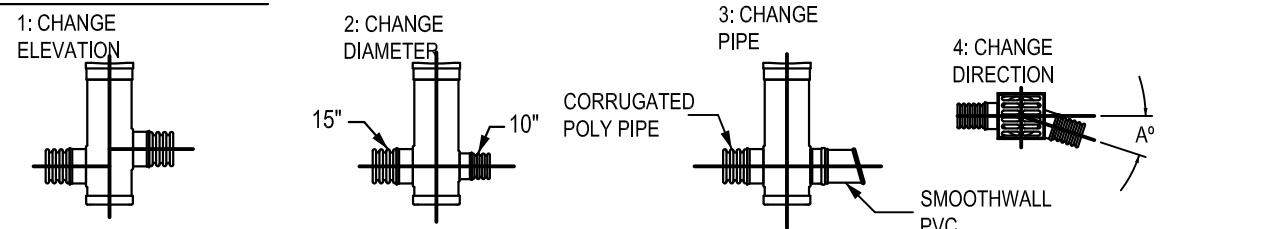
SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER, in (mm)
H2S (FLEXIBLE PAVEMENT)	12 (300), 24 (600) FOR 60\"/>
H2S (RIGID PAVEMENT)	12 (300), 24 (600) FOR 60\"/>
EBO RAILWAY	24 (600)
HEAVY CONSTRUCTION	48 (1200)

*TOP OF PIPE TO BOTTOM OF BITUMINOUS PAVEMENT SECTION

WHEN ARE INLINE DRAINS USED?



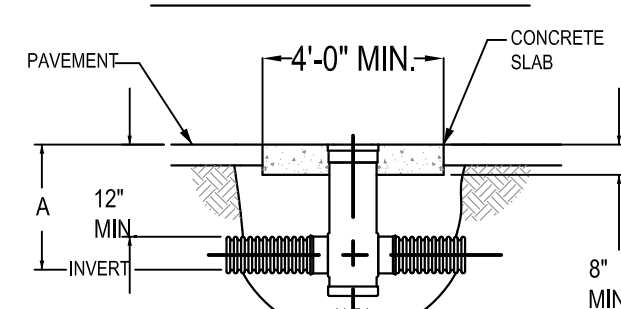
WHEN ARE DRAIN BASINS USED?



AVAILABLE IN SIZES 8" THROUGH 30".
ADAPT TO PIPE SIZES 4" THROUGH 30".

DATE	BY	DESCRIPTION
10/16/00	AWA	DRAWN
01/04/01	CJA	APPROVED
10/16/00	AWA	DATE
10/16/00	AWA	DATE

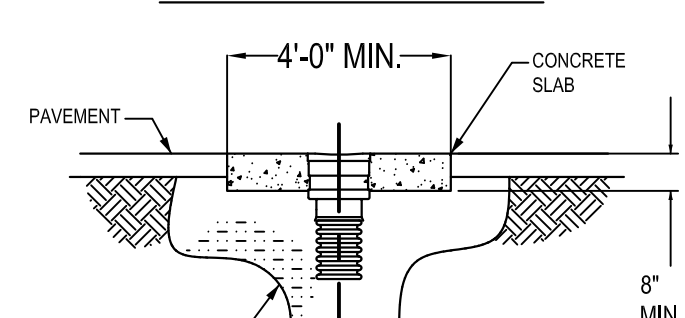
12" AND 15" DRAIN BASIN



BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED.

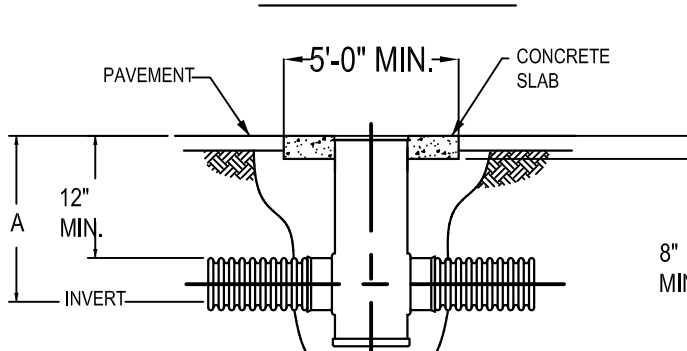
PIPE SIZE	A (ADS N-12 PIPE)
4"	17.00"
6"	19.00"
8"	21.00"
10"	24.00"
12"	26.00"
15"	29.00"

12" AND 15" INLINE DRAIN



BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED.

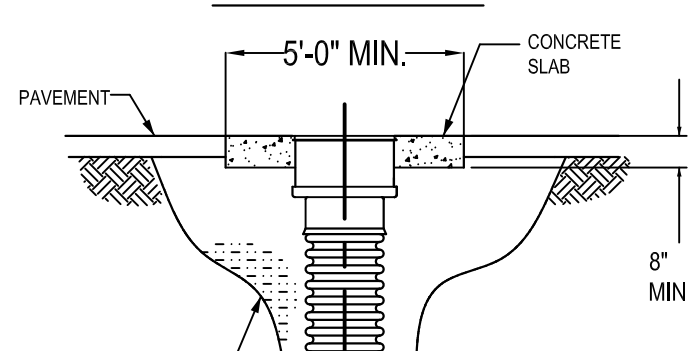
24" DRAIN BASIN



BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED.

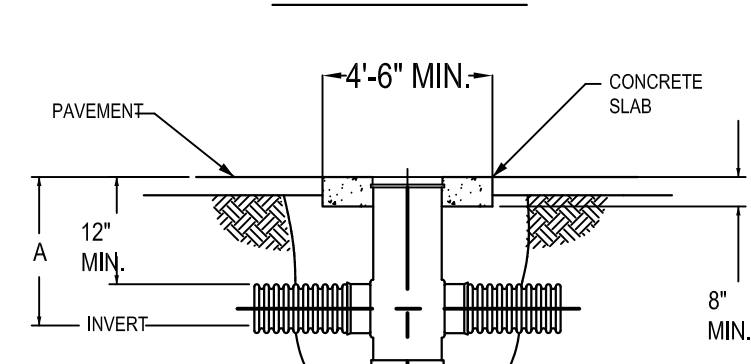
PIPE SIZE	A (ADS N-12 PIPE)
4"	17.00"
6"	19.00"
8"	21.00"
10"	24.00"
12"	26.00"
15"	29.00"
18"	32.00"
24"	39.00"

24" INLINE DRAIN



BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED.

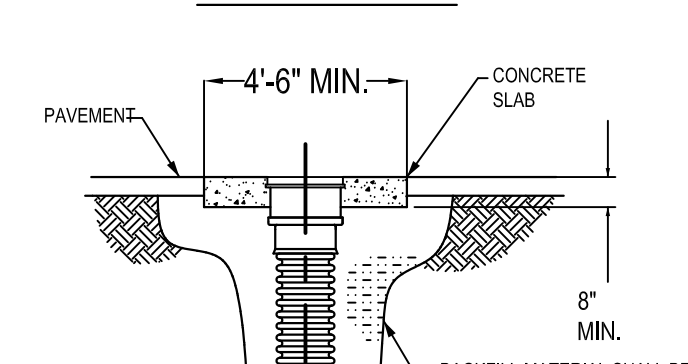
18" DRAIN BASIN



BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED.

PIPE SIZE	A (ADS N-12 PIPE)
4"	17.00"
6"	19.00"
8"	21.00"
10"	24.00"
12"	26.00"
15"	29.00"
18"	32.00"

18" INLINE DRAIN



BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED.

DATE	BY	DESCRIPTION
10/16/00	AWA	DRAWN
01/04/01	CJA	APPROVED
10/16/00	AWA	DATE
10/16/00	AWA	DATE

NO.	DATE	REVISION



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**BARNETT PARK
NEW SOCCER FIELD
AT BARNETT PARK
ORANGE COUNTY, FLORIDA**

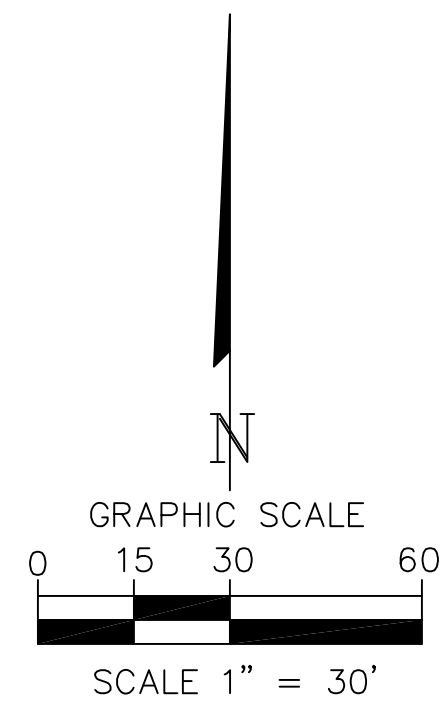
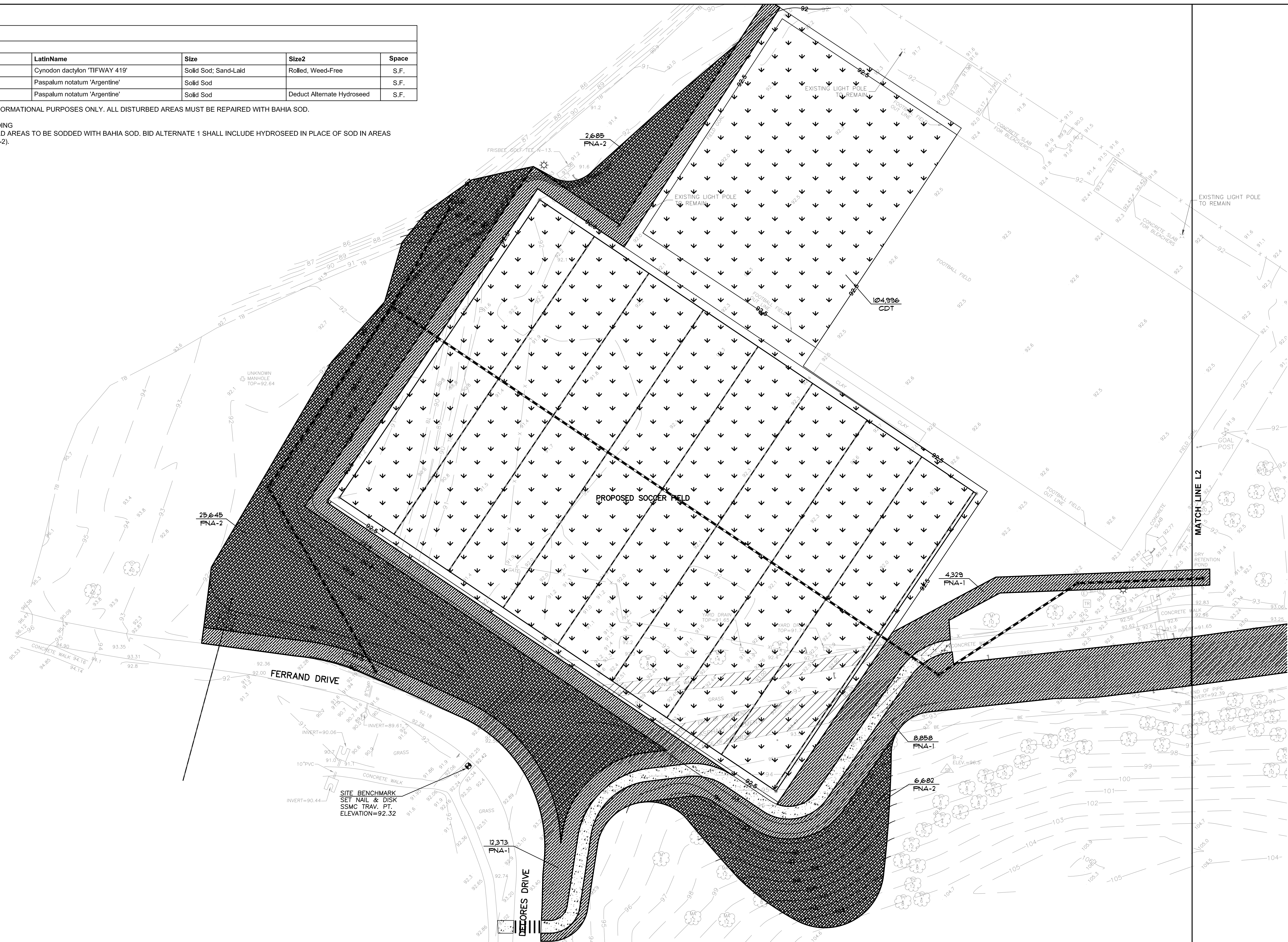
ADS DETAILS

Plant List

Groundcover						
Symbol	Qty	CommonName	LatinName	Size	Size2	Space
CDT	104996	Bermuda Sod	Cynodon dactylon 'TIFWAY 419'	Solid Sod; Sand-Laid	Rolled, Weed-Free	S.F.
PNA-1	32545	Bahia Grass	Paspalum notatum 'Argentine'	Solid Sod		S.F.
PNA-2	35012	Bahia Grass	Paspalum notatum 'Argentine'	Solid Sod	Deduct Alternate Hydroseed	S.F.

NOTE: QUANTITIES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. ALL DISTURBED AREAS MUST BE REPAIRED WITH BAHIA SOD.

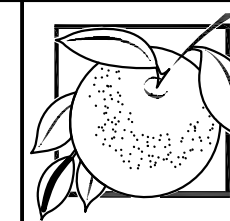
BID DEDUCT #1 - DEDUCT FOR HYDROSEEDING THE BASE BID IS TO INCLUDE ALL NON-FIELD AREAS TO BE SODDED WITH BAHIA SOD. BID ALTERNATE 1 SHALL INCLUDE HYDROSEED IN PLACE OF SOD IN AREAS INDICATED ON THE LANDSCAPE PLAN (PNA-2).



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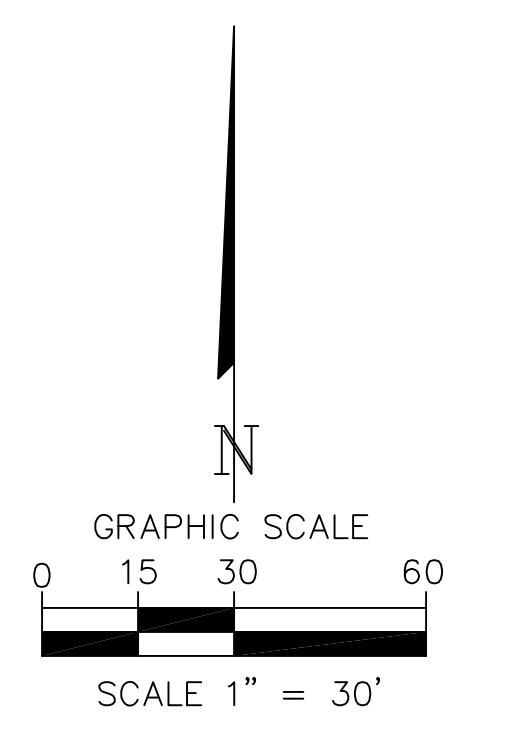
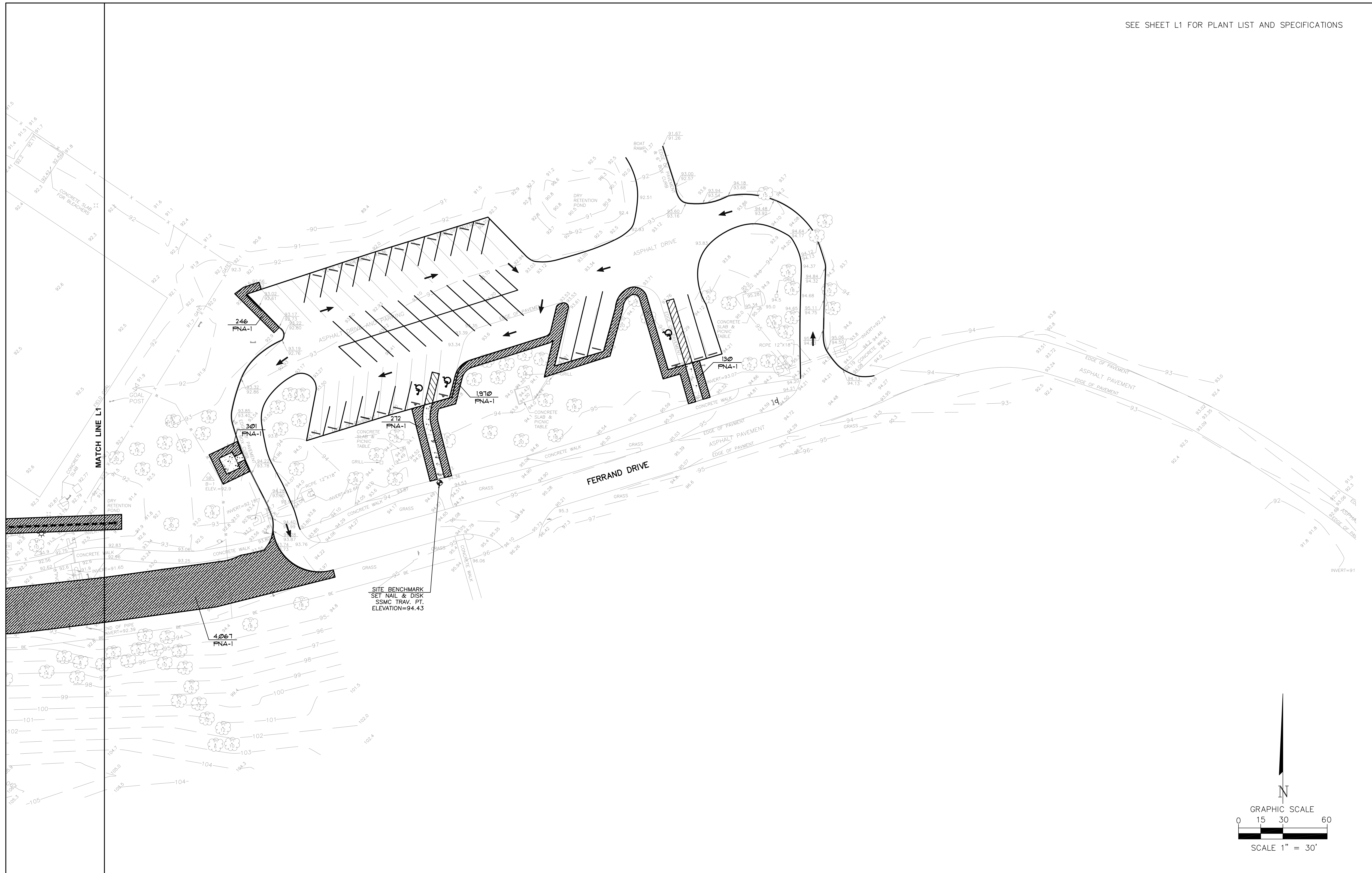


ORANGE COUNTY
 GOVERNMENT
 FLORIDA

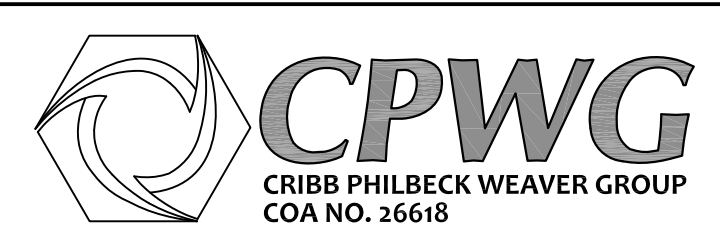
BARNETT PARK
NEW SOCCER FIELD
AT BARNETT PARK
ORANGE COUNTY, FLORIDA

LANDSCAPE PLAN

SHEET NUMBER
L1
 OF 7 SHEETS



NO.	DATE	REVISION



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BARNETT PARK
NEW SOCCER FIELD
AT BARNETT PARK
ORANGE COUNTY, FLORIDA

LANDSCAPE PLAN

SHEET NUMBER
L2
 OF 7 SHEETS

SEE SHEET L4 FOR
IRRIGATION LEGEND,
NOTES AND DETAILS

VALVE ID GUIDE

A1	STATION NUMBER
55	GPM
1.5"	VALVE SIZE
.50"/HR	PRECIPITATION RATE

NOTES:
1. EXISTING IRRIGATION LOCATION APPROXIMATE BASED ON AS-BUILT DRAWINGS. FIELD VERIFY AS NECESSARY.
2. ALL EXISTING IRRIGATION ZONES CONNECTED TO MAINLINE MUST REMAIN OPERATIONAL DURING CONSTRUCTION.
3. ALL PVC SHALL BE SCHEDULE 40.
4. ADJUST IRRIGATION IN EXISTING FOOTBALL FIELD AS NECESSARY BASED ON ADDITIONAL FILL AND NEW 60D BEING ADDED TO FIELD.

CUT AND CAP EXISTING IRRIGATION LINES IN THIS AREA TO ELIMINATE IRRIGATION HEADS WITHIN THE LIMITS OF THE NEW SOCCER FIELD. MAINTAIN HEAD TO HEAD COVERAGE ON EXISTING FOOTBALL FIELD.

CONSTRUCT MAINLINE VALVE AND VALVE BOX AND CAP FOR FUTURE CONNECTION TO NEW IRRIGATION PUMP. ONCE CONNECTED TO FUTURE WATER SUPPLY, CLOSE ISOLATION VALVE AT EXISTING MAINLINE CONNECTION OR VERIFY WITH OWNER WHERE TO CUT AND CAP MAINLINE.

IRRIGATION PUMP AND CONTROL TO BE INSTALLED AS PART OF THE LAKE LAJUNE REGIONAL STORMWATER FACILITY AT BARNETT PARK CONSTRUCTION PLANS (NOT PART OF THIS PROJECT)

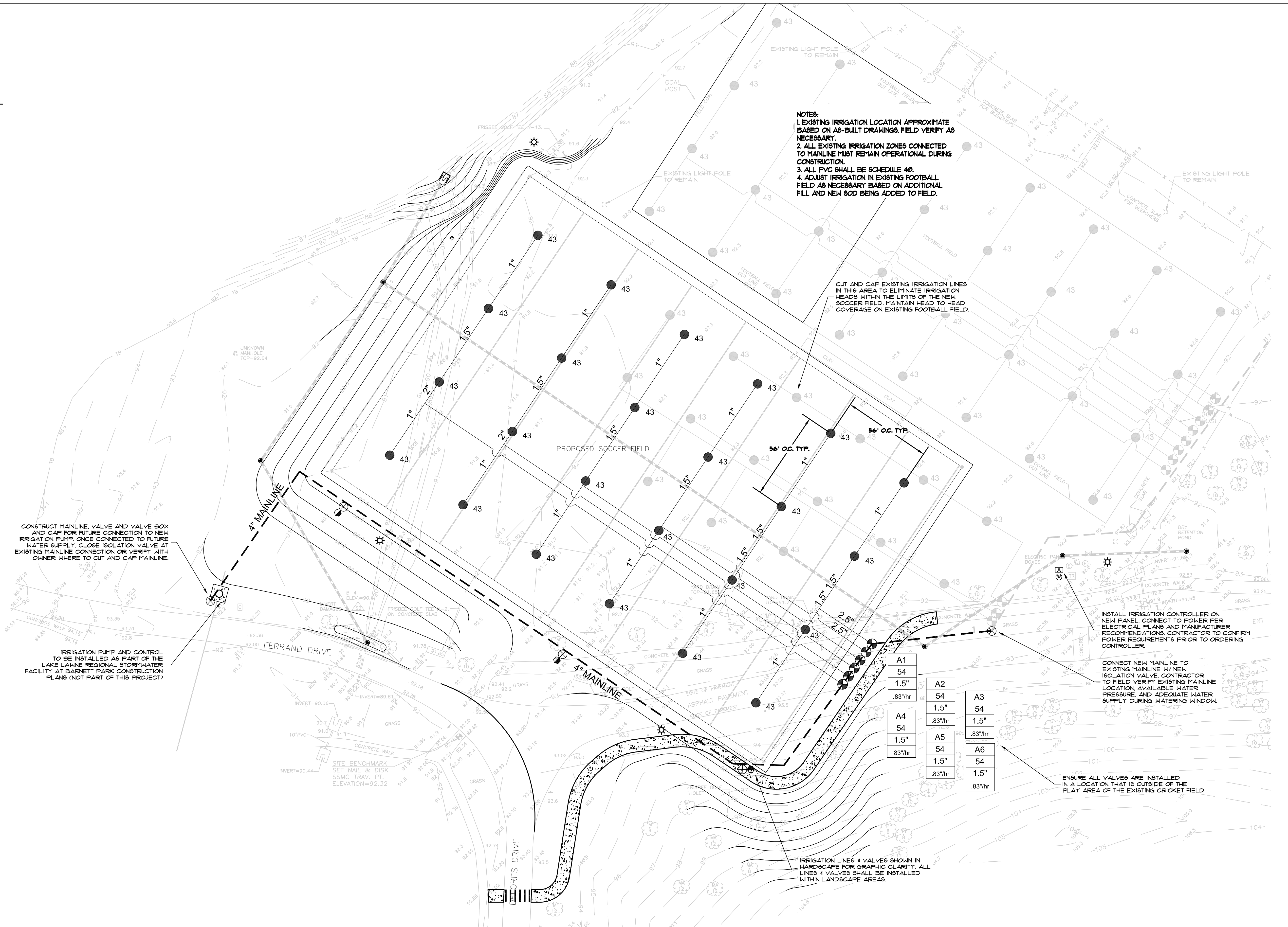
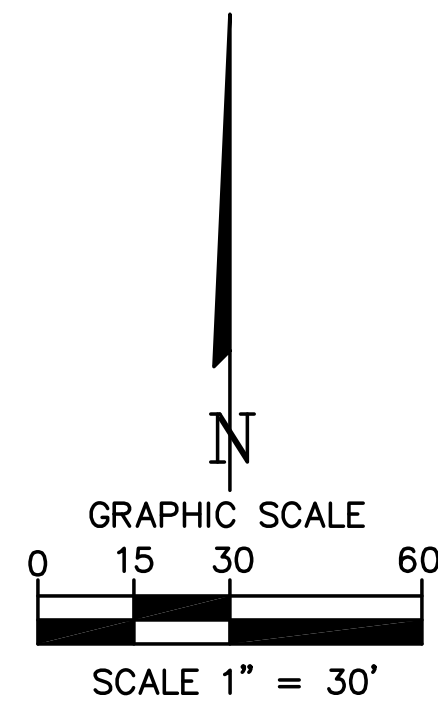
INSTALL IRRIGATION CONTROLLER ON NEW PANEL. CONNECT TO POWER PER ELECTRICAL PLANS AND MANUFACTURER RECOMMENDATIONS. CONTRACTOR TO CONFIRM POWER REQUIREMENTS PRIOR TO ORDERING CONTROLLER.

CONNECT NEW MAINLINE TO EXISTING MAINLINE W/ NEW ISOLATION VALVE. CONTRACTOR TO FIELD VERIFY EXISTING MAINLINE LOCATION, AVAILABLE WATER PRESSURE, AND ADEQUATE WATER SUPPLY DURING WATERING WINDOW.

ENSURE ALL VALVES ARE INSTALLED IN A LOCATION THAT IS OUTSIDE OF THE PLAY AREA OF THE EXISTING CRICKET FIELD

IRRIGATION LINES & VALVES SHOWN IN HARDSCAPE FOR GRAPHIC CLARITY. ALL LINES & VALVES SHALL BE INSTALLED WITHIN LANDSCAPE AREAS.

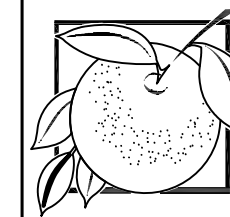
A1	A2	A3
54	54	54
1.5"	1.5"	1.5"
.83"/hr	.83"/hr	.83"/hr
A4	A5	A6
54	54	54
1.5"	1.5"	1.5"
.83"/hr	.83"/hr	.83"/hr



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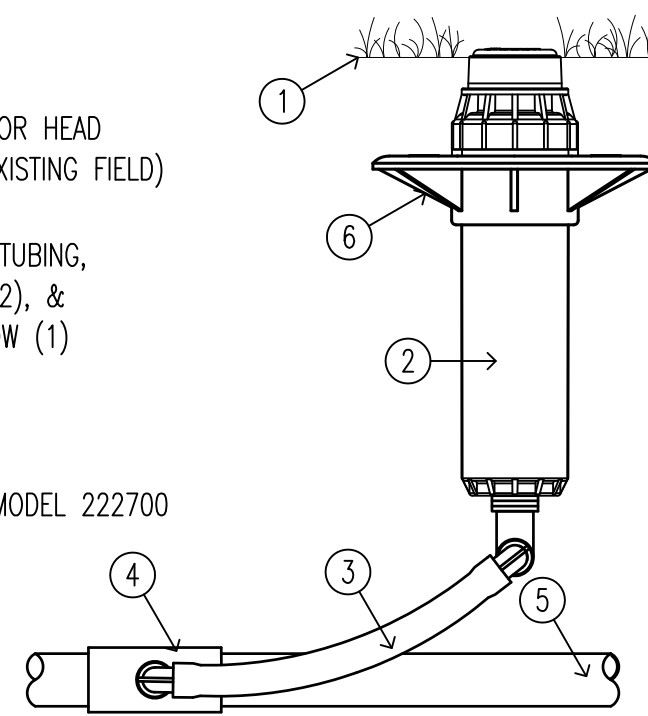
ORANGE COUNTY
GOVERNMENT
FLORIDA

BARNETT PARK
NEW SOCCER FIELD
AT BARNETT PARK
ORANGE COUNTY, FLORIDA

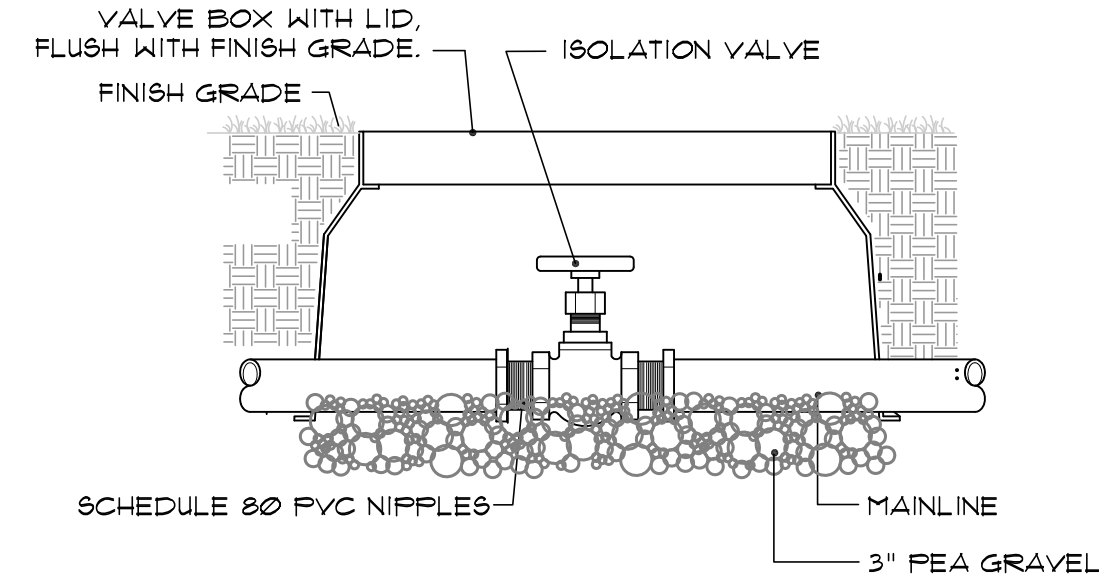
IRRIGATION PLAN

SHEET NUMBER
L3
OF 7 SHEETS

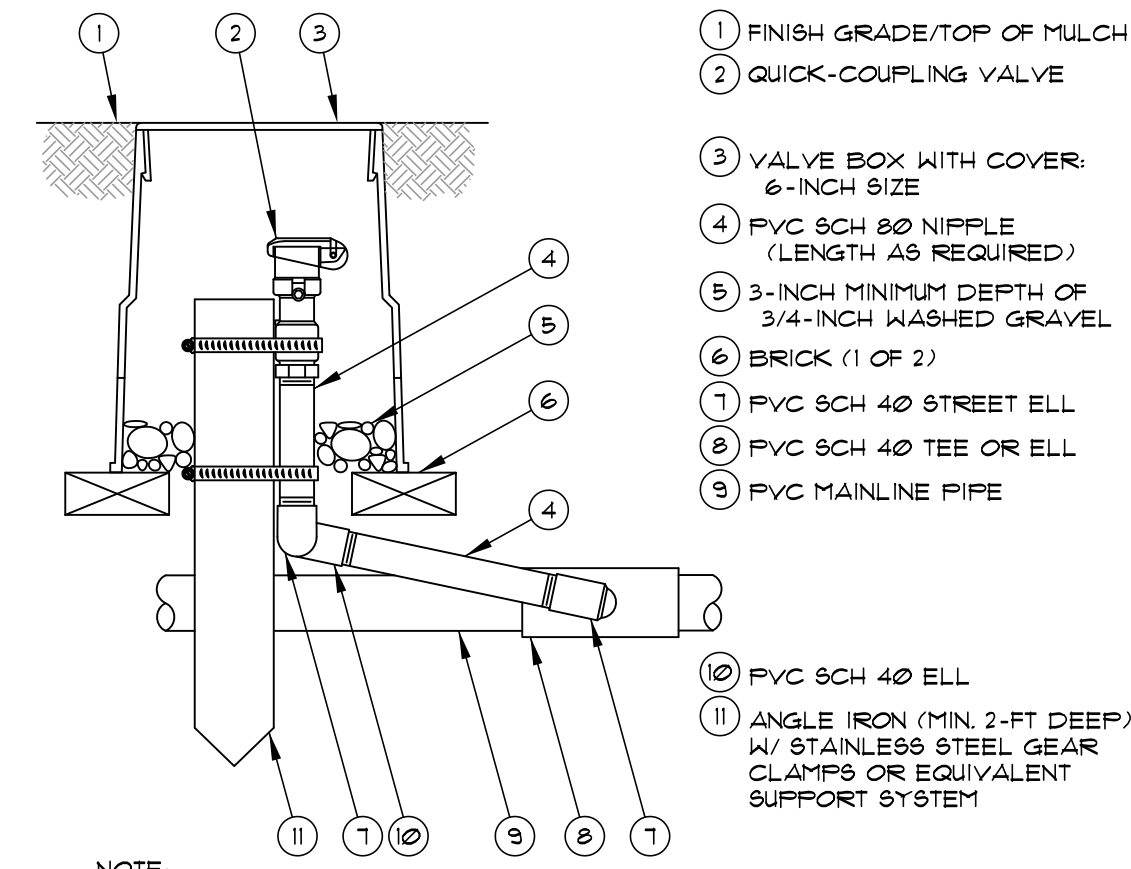
- 1 FINISH GRADE
- 2 MODEL I-40-06 ROTOR HEAD (MATCH HEADS ON EXISTING FIELD)
- 3 SWING JOINT: HUNTER "PRO-FLEX" TUBING, HSBE-075 ELBOWS (2), & MARLEX STREET ELBOW (1)
- 4 LATERAL TEE OR ELL
- 5 LATERAL PIPE
- 6 STABILIZER FLANGE, MODEL 222700



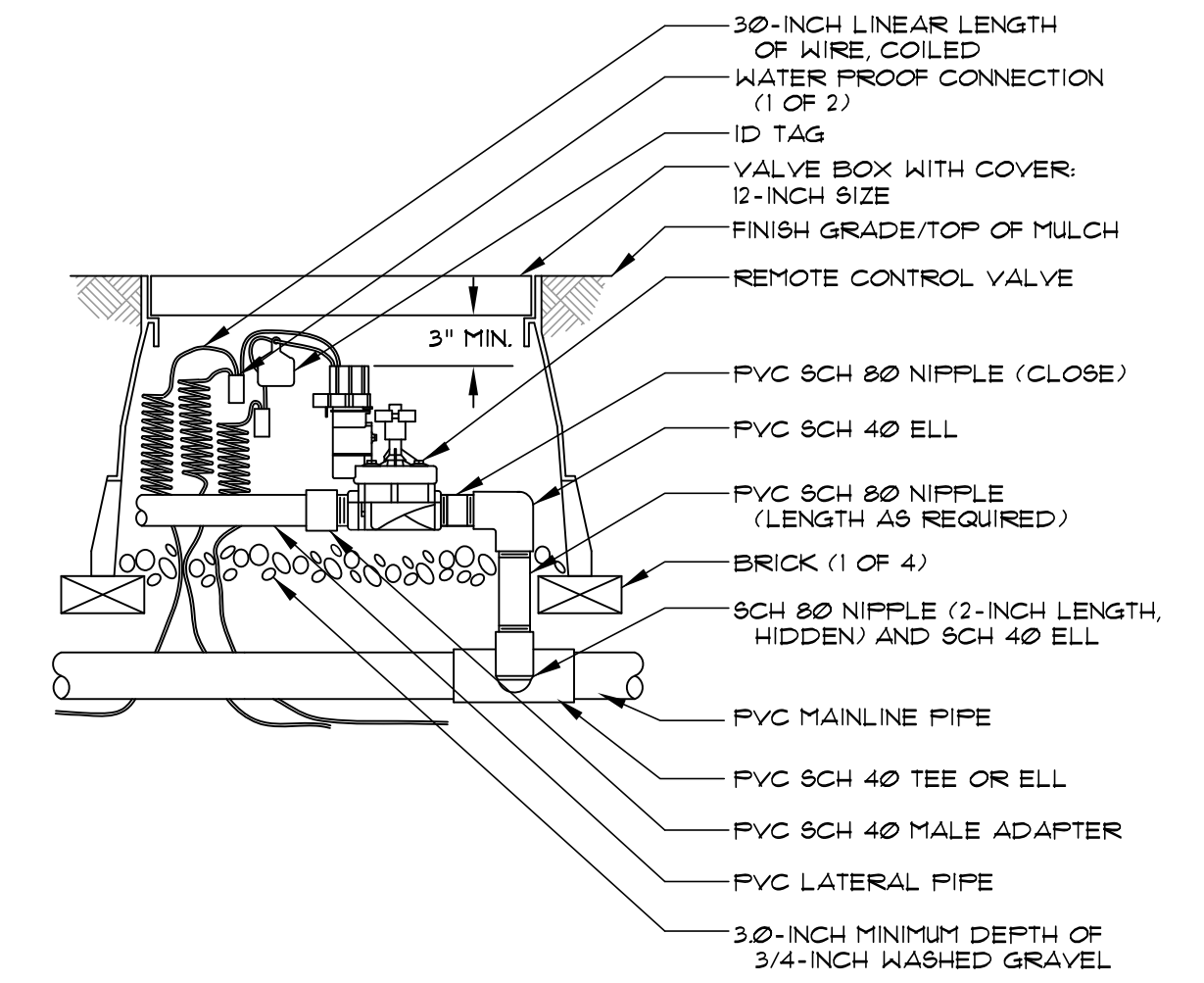
1 ROTOR HEAD DETAIL
SECTION SCALE: NT5



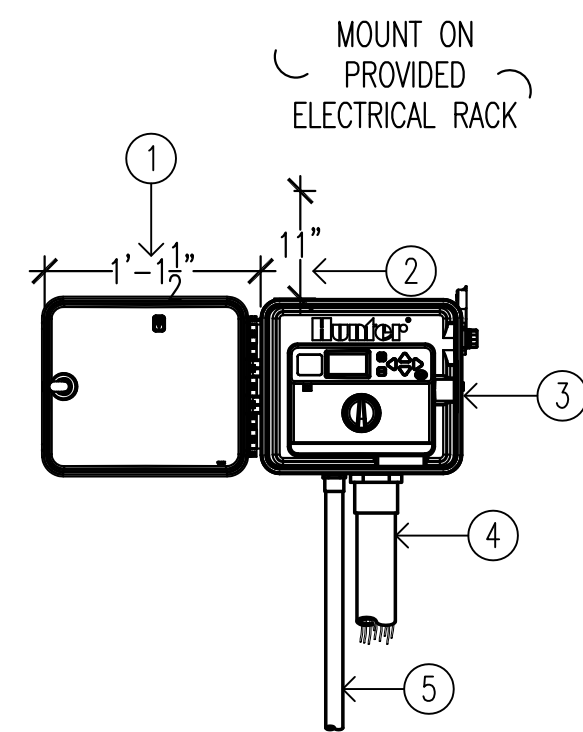
2 ISOLATION VALVE DETAIL
SECTION SCALE: NT5



3 QUICK COUPLER DETAIL
SECTION SCALE: NT5



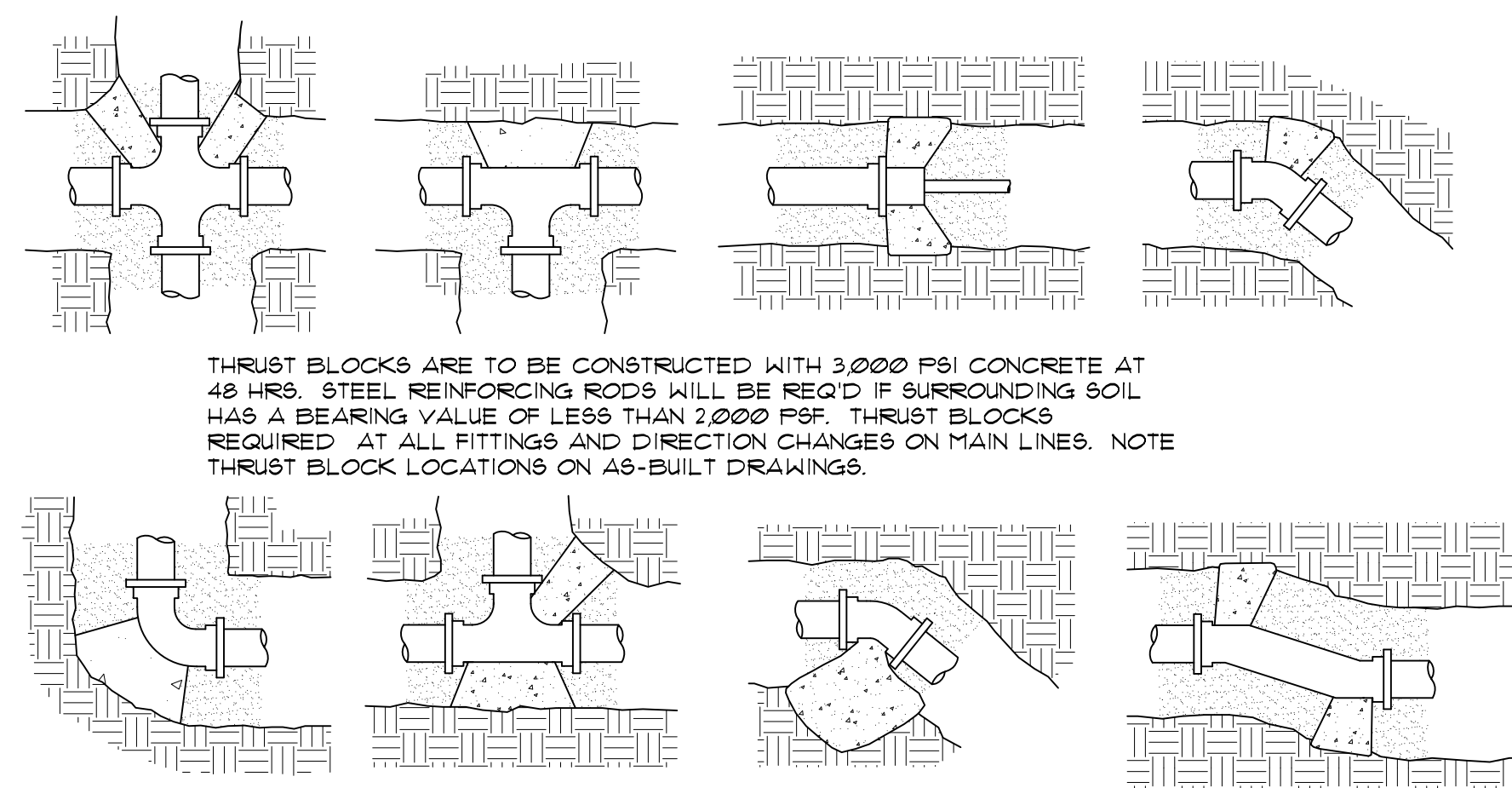
4 ELECTRIC ZONE VALVE DETAIL
SECTION SCALE: NT5



- 1 MINIMUM CLEARANCE FOR DOOR OPENING
- 2 MINIMUM VERTICAL CLEARANCE NEEDED FOR HINGE PIN REMOVAL
- 3 MODEL IC-600-PL
- 4 CONTROL WIRE IN ELECTRICAL CONDUIT. SIZE AND TYPE PER LOCAL CODE
- 5 1/2" POWER SUPPLY CONDUIT J-BOX INSIDE CONTROLLER CONNECT PER LOCAL CODE

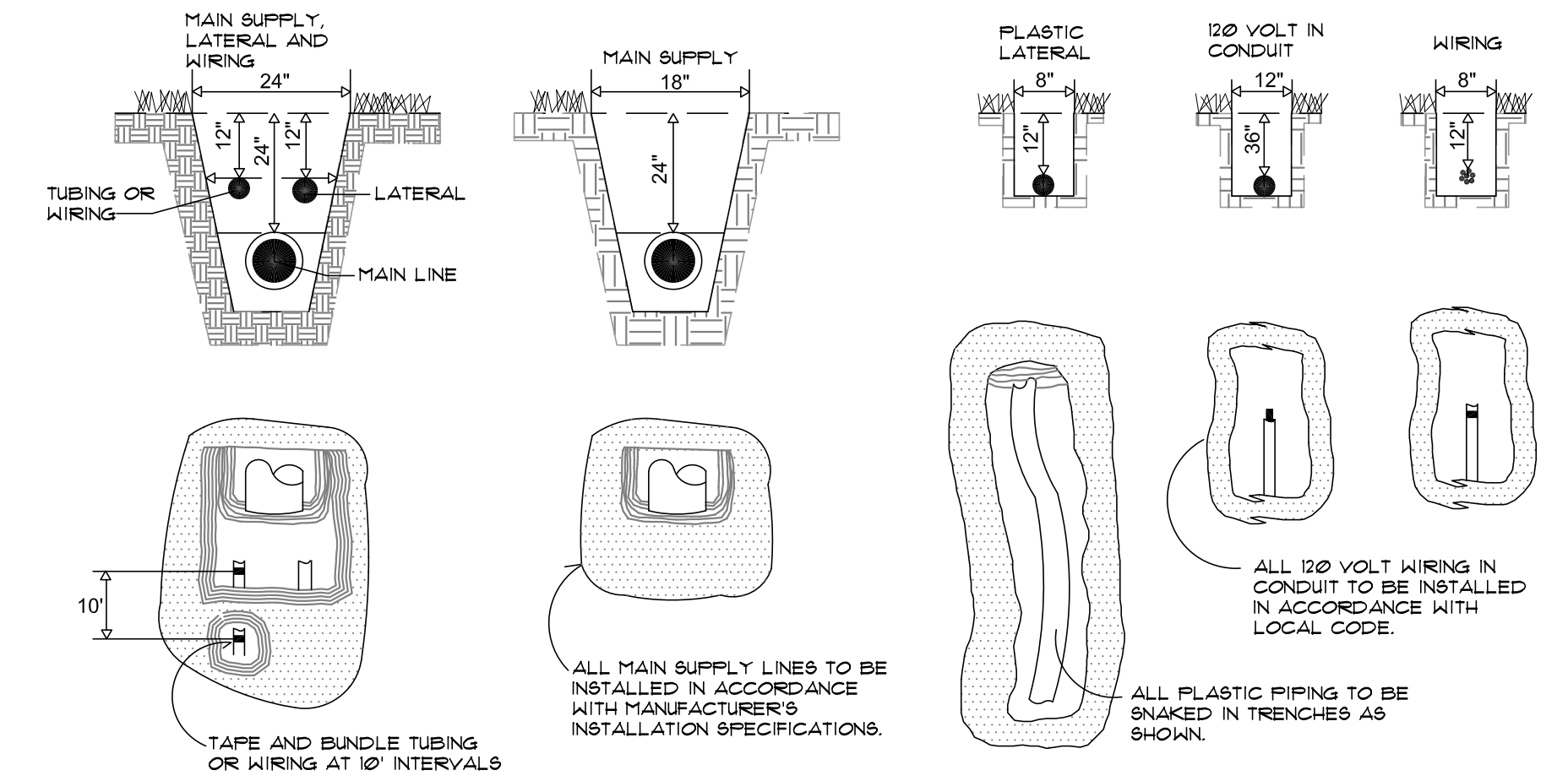
NOTE
MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL. CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 or 220 VAC SOURCE.

5 CONTROLLER DETAIL
ELEVATION SCALE: NT5



THRUST BLOCKS ARE TO BE CONSTRUCTED WITH 3,000 PSI CONCRETE AT 48 HRS. STEEL REINFORCING RODS WILL BE REQ'D IF SURROUNDING SOIL HAS A BEARING VALUE OF LESS THAN 2,000 PSF. THRUST BLOCKS REQUIRED AT ALL FITTINGS AND DIRECTION CHANGES ON MAIN LINES. NOTE THRUST BLOCK LOCATIONS ON AS-BUILT DRAWINGS.

6 TYP. THRUST BLOCK DETAILS
SECTION SCALE: NT5



7 TYP. TRENCHING DETAILS
SECTION SCALE: NT5

IRRIGATION LEGEND

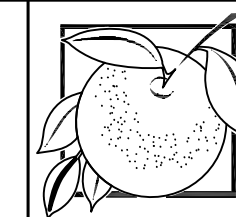
- PRODUCT DESCRIPTION
- HUNTER I-40-06-SS-ON-XX, NOZZLE AS SHOWN
NOZZLE PERFORMANCE:
#43 @ 50 PSI - 13.5 GPM 56' RADIUS
 - ⊕ RAINBIRD PEB ELECTRIC CONTROL VALVE SIZE AS SHOWN
 - ⊙ HUNTER HQ-44-XX-AW QUICK COUPLER VALVE
 - ⊠ HUNTER IC-600-PL CONTROLLER
 - ⊗ HUNTER MINI-CLIK ON SITE RAIN SENSOR
 - MAINLINE PIPE - PVC SCHEDULE 40, SIZE AS SHOWN
 - - - LATERAL PIPE - PVC SCHEDULE 40, SIZE AS SHOWN
 - ⊗ ISOLATION VALVE LINE SIZED
- NOTE: ALL EQUIPMENT SHALL MATCH EXISTING EQUIPMENT AT THE PARK OR APPROVED EQUAL. CONFIRM WITH PARKS IRRIGATION STAFF PRIOR TO INSTALLATION.

IRRIGATION NOTES

1. SPRINKLER LOCATIONS ARE TO SCALE
2. PIPE LOCATIONS ARE DIAGRAMMATIC
3. ALL SPRINKLERS TO BE INSTALLED ON 1" FLEX PIPE (MIN. 16")
4. ALL COMPONENTS TO BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS
5. MAINLINE DEPTH TO BE NO LESS THAN 18"
6. LATERAL DEPTH TO BE NO LESS THAN 16"
7. ELECTRIC CONTROL VALVES TO BE COVERED WITH 12" VALVE BOX
8. LOCATE VALVES/QCV'S OUT OF HIGH TRAFFIC AREAS, PAVEMENT, SIDEWALKS, ETC.
9. WIRE SPLICE CONNECTIONS TO BE WATERPROOF
10. QCV TO BE LOCATED IN 10" VALVE BOX
11. ALL PIPES RUN UNDERNEATH HARDSCAPE SHALL BE INSTALLED INSIDE SLEEVES.
12. ALL SLEEVES TO BE 2X PIPE RUN THROUGH THEM (MIN. 2")
13. INSTALL ALL COMPONENTS AS PER LOCAL, STATE, FEDERAL CODES
14. REFER TO MANUFACTURER INSTALLATION DETAILS
15. REFER TO MANUFACTURER CATALOG FOR PERFORMANCE SPECIFICATIONS
16. INSTALL IRRIGATION HEADS A MIN. OF 6" OFF OF FIELD LINE LOCATIONS TO ELIMINATE CONFLICT WITH PAINTED LINES DURING PLAY.
17. ALL PIPE SHALL BE PURPLE PIPE. ALL HEADS SHALL HAVE PURPLE CAPS. VALVES SHALL HAVE PURPLE FLOW CONTROL HANDLES.



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ORANGE COUNTY
GOVERNMENT
FLORIDA

BARNETT PARK
NEW SOCCER FIELD
AT BARNETT PARK
ORANGE COUNTY, FLORIDA

IRRIGATION DETAILS

SHEET NUMBER
L4
OF 7 SHEETS

NO.	DATE	REVISION

To the best of the engineer's knowledge, these plans and specifications comply with the 2010 Florida Building Code and the Florida Fire Prevention Code (2010 Edition).

GENERAL NOTES:

- ALL WORK AND EQUIPMENT UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE WITH THE CODES, STANDARDS AND PRACTICES LISTED HEREIN, AND THEIR RESPECTIVE DATES ARE FURNISHED AS THE MINIMUM LATEST REQUIREMENTS.
 - STATE OF FLORIDA.
 - LIFE SAFETY CODE - NFPA 101.
 - UNDERWRITERS LABORATORIES, INC. PUBLICATIONS
 - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
 - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
 - NATIONAL ELECTRICAL CODE - NFPA 70.
 - INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE).
 - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA).
 - REQUIREMENTS OF LOCAL POWER COMPANY.
 - 2010 FLORIDA BUILDING CODE.
 - THE AMERICANS WITH DISABILITIES ACT (ADA)
 - FLORIDA ACCESSIBILITY CODE.
 - ORANGE COUNTY.
- REFER TO THE ARCHITECTURAL AND CIVIL DRAWINGS FOR RELATED INFORMATION AND ADDITIONAL INSTALLATION REQUIREMENTS TO BE PERFORMED AS PART OF THE WORK.
- REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- COORDINATE OUTLET BOX LOCATIONS WITH MASONRY TO AVOID CUTTING ON MORTAR JOINTS.
- EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED, WITH APPROPRIATE NEMA ENCLOSURE RATINGS.
 - WORKING CLEARANCES AND DEDICATED SPACE FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110.
- ALL BRANCH CIRCUIT CONDUITS SHALL CONTAIN A MINIMUM OF (2) #12 AWG INSULATED COPPER CONDUCTORS, PLUS A MINIMUM OF (1) #12 AWG GROUND WIRE UNLESS NOTED OTHERWISE. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE INDIVIDUAL NEUTRAL CONDUCTORS.
- LOCATIONS OF EQUIPMENT SPECIFIED BY OTHER TRADES OR PROVIDED BY OWNER ARE APPROXIMATE. COORDINATE EXACT LOCATIONS IN FIELD PRIOR TO ROUGHING IN AND ROUTING CONDUIT.
- CONTRACTOR SHALL UPSIZE BRANCH CIRCUIT WIRE SIZE AS REQUIRED TO COMPENSATE VOLTAGE DROP FROM LENGTHENING OF CIRCUITS DUE TO FIELD ROUTING. FINAL INSTALLATION SHALL MEET FLORIDA BUILDING CODE REQUIREMENT OF: MAXIMUM BRANCH CIRCUIT VOLTAGE DROP OF 3%.

120 VOLT (BASIS 1500 WATT) CIRCUIT LENGTH	MIN. CONDUCTOR SIZE FOR VOLTAGE DROP
0 - 70'	#12 AWG
71 - 115'	#10 AWG
116 - 180'	#8 AWG
- REFER TO VOLTAGE DROP CHART BELOW FOR CONDUCTOR SIZES FOR BRANCH CIRCUITS
- 18" AND ABOVE TO BE SUBMITTED BY CONTRACTOR AND APPROVED BY ENGINEER.
- WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF THE ACTUAL INSTALLATION INCLUDING: SINGLE LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM, SITE PLANS AND ALL ELECTRICAL FLOOR PLANS.
- CONTRACTOR SHALL PROVIDE AN OPERATING MANUAL AND MAINTENANCE MANUAL TO OWNER. THE MANUAL SHALL INCLUDE AT A MINIMUM: (1) SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, (2) OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED, (3) NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
- CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL SERVICE AS REQUIRED FOR USE BY ALL TRADES DURING CONSTRUCTION. REMOVE TEMPORARY POWER AT THE COMPLETION OF THE PROJECT. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS TO OBTAIN TEMPORARY ELECTRICAL SERVICE.
- ALL CONDUCTORS SHALL BE COPPER. ALUMINUM CONDUCTORS ARE NOT PERMITTED.

ELECTRICAL SPECIFICATIONS

GENERAL:

THE INSTALLATION SHALL COMPLY WITH ALL LOCAL LAWS AND ORDINANCES APPLICABLE TO ELECTRICAL INSTALLATIONS, AND WITH THE REGULATIONS OF THE NFPA WHERE SUCH REGULATIONS DO NOT CONFLICT WITH THOSE LAWS. OBTAIN ALL PERMITS REQUIRED.

MANUFACTURERS DRAWINGS AND DATA: SUBMIT TO THE ENGINEER FOR APPROVAL FIVE (5) COPIES OF THE COMPLETE LIST OF ALL ELECTRICAL MATERIALS WHICH ARE PROPOSED TO BE FURNISHED FOR THIS PROJECT. AS A MINIMUM THE SUBMITTAL SHALL INCLUDE PANELBOARDS, A.I.C. OF BREAKERS INSTALLED, AND LIGHT FIXTURES.

STANDARD OF MATERIALS AND WORKMANSHIP: ALL MATERIALS, EQUIPMENT AND APPARATUS COVERED BY THIS SPECIFICATION SHALL BE NEW, OF CURRENT MANUFACTURE AND SHALL BEAR THE SEAL OF APPROVAL OF THE UNDERWRITERS LABORATORIES. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT AND MECHANICAL APPEARANCE WHEN COMPLETED.

STORAGE OF MATERIALS: THE CONTRACTOR SHALL PROVIDE SUITABLE STORAGE FACILITIES FOR ALL MATERIAL FURNISHED BY HIM UNDER THIS CONTRACT. ALL ITEMS TO BE INSTALLED MUST BE FREE OF RUST AND DIRT.

FIREPROOFING: ALL CONDUIT AND BOXES PASSING THROUGH OR INSTALLED WITHIN FIRE WALLS AND SMOKE WALLS SHALL BE INSTALLED SO AS TO MAINTAIN THE INTEGRITY OF THE WALL THROUGH WHICH IT PASSES. BOXES TO BE INSTALLED WITH 1/8" OF WALL SURFACE.

TESTING: AT THE COMPLETION OF THE WORK, A THOROUGH TEST SHALL BE MADE IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE. AND THE ENTIRE SYSTEM SHALL BE SHOWN TO BE IN PERFECT WORKING CONDITION AS INTENDED BY THESE SPECIFICATIONS.

GUARANTEE: THE CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEM INSTALLED BY HIM UNDER THIS CONTRACT IN PROPER WORKING ORDER AND SHALL REPLACE, WITHOUT ADDITIONAL CHARGE, ALL WORK OR MATERIAL WHICH MAY DEVELOP DEFECTS, ORDINARY WEAR AND TEAR OR DAMAGE RESULTING FROM IMPROPER HANDLING EXCEPTED, WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF FINAL TESTING AND ACCEPTANCE BY THE ENGINEER. BALLASTS SHALL BE INCLUDED BUT LAMPS SHALL BE EXCLUDED.

IDENTIFICATION:

EQUIPMENT: EQUIPMENT IDENTIFICATION SHALL BE MADE USING ENGRAVED LAMINATED PHENOLIC OR MICARTA PLATES (INDENTED TAPE LABELS WILL NOT BE PERMITTED). CHARACTERS SHALL BE WHITE ON A BLACK BACKGROUND AND 1/4" HIGH MINIMUM. PLATES SHALL BE SECURED TO THE PANELS BY MEANS OF SCREWS OR METAL PRESSURE PINS. CEMENT, BY ITSELF, WILL NOT BE ACCEPTABLE. ALL NAMEPLATES SHALL BE MOUNTED ON THE OUTSIDE SURFACE OF THE PIECE OF EQUIPMENT. INDIVIDUALLY ENCLOSED SAFETY SWITCHES, CIRCUIT BREAKERS, AND MOTOR STARTERS, PULL BOXES, CONTROL CABINETS AND OTHER SUCH ITEMS SHALL BE IDENTIFIED INDICATING LOAD, ELECTRICAL CHARACTERISTICS, AND SOURCE.

ELECTRICAL SYMBOL LEGEND SERVICE AND DISTRIBUTION

- BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, SURFACE MOUNTED
- GROUND BAR
- SURGE PROTECTION DEVICE
TYPE 1 = SERVICE ENTRANCE DEVICE
TYPE 2 = PANELBOARD DEVICE

LIGHTING

- POLE MOUNTED LIGHT FIXTURE. NUMBER INDICATES BRANCH CIRCUIT WHICH FIXTURE IS CONNECTED. UPPER CASE LETTER INDICATES FIXTURE TYPE.

GROUNDING:

IN GENERAL A GROUND WIRE SHALL BE INSTALLED IN EVERY CONDUIT. THE CONDUIT INSTALLATION ITSELF SHALL SERVE AS AN ADDITIONAL GROUNDING MEANS.

WHERE CONDUITS TERMINATE WITHOUT MECHANICAL CONNECTION (I.E. LOCKNUTS AND BUSHINGS) TO PANELBOARDS, AND FOR ALL TERMINATIONS OF CONDUIT CONTAINING #4 AWG OR LARGER WIRE, AND FOR ALL SIZES OF METALLIC CONDUIT (RIGID OR FLEXIBLE) TERMINATING IN CONCENTRIC KNOCKOUTS, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED: EACH CONDUIT SHALL BE PROVIDED WITH AN INSULATING GROUND BUSHING AND EACH BUSHING CONNECTED WITH A BARE COPPER CONDUCTOR TO THE GROUND BUS IN THE ELECTRICAL EQUIPMENT. THE GROUND CONDUCTOR SHALL BE IN ACCORDANCE WITH THE ARTICLE OF GROUNDING OF NEC.

A BONDING AND SINGLE POINT GROUNDING SYSTEM SHALL BE PROVIDED TO INTERCONNECT THE MAIN ELECTRIC SERVICE GROUND AND ALL SPECIAL ELECTRONIC SYSTEM ISOLATED GROUNDS.

CONDUIT AND FITTINGS:

ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC AND SHALL BE A MINIMUM OF 2 FEET BELOW GRADE. PROVIDE WARNING TAPE 12" ABOVE CONDUIT.

NOT MORE THAN THREE CIRCUITS MAY BE INSTALLED IN ANY ONE CONDUIT UNLESS OTHERWISE INDICATED.

ALL CONDUITS SHALL BE CONCEALED UNLESS OTHERWISE NOTED ON THE DRAWINGS. EXPOSED CONDUIT WILL BE PERMITTED ONLY AS SHOWN ON THE DRAWINGS. EXPOSED CONDUIT SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO THE BUILDING WALLS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PLASTIC OR NYLON FISH WIRE.

CONDUCTORS:

ALL CONDUCTORS SHALL HAVE NEC TYPE THHN/THWN, 600 VOLT INSULATION. CONDUCTORS NO. 12 THROUGH NO. 10 SHALL BE SOLID AND NO. 8 AND LARGER SHALL BE STRANDED. NO CONDUCTORS SMALLER THAN NO. 12 SHALL BE USED EXCEPT AS OTHERWISE NOTED. CONTROL CONDUCTORS SHALL BE NO. 14.

CABLE AND WIRE SPLICES:

THE MATERIALS SHALL BE COMPATIBLE WITH THE CONDUCTORS, INSULATIONS AND PROTECTIVE JACKETS OF THE RESPECTIVE CABLES AND WIRES.

FOR CONDUCTOR SIZED NO. 6 AWG OR LARGER: SPLICES IN CONDUCTORS SHALL BE MADE WITH INDENTER, CRIMP CONNECTORS AND COMPRESSION TOOLS OR WITH BOLTED CLAMP TYPE CONNECTORS TO INSURE A SATISFACTORY MECHANICAL AND ELECTRICAL JOINT.

PANELBOARDS:

INTERRUPTING RATINGS SHALL BE COORDINATED WITH THE AVAILABLE SHORT CIRCUIT CURRENT. BRANCH CIRCUIT PROTECTION DEVICES SHALL BE MOLDED CASE CIRCUIT BREAKERS BOLT-ON TYPE. PANELS SHALL BE FULLY RATED.

HARDWARE SHALL CONSIST OF COMBINATION LATCH AND LOCK. ALL KEYS THE SAME.

PANEL ENCLOSURES SHALL BE FURNISHED WITHOUT KNOCKOUTS. ALL KNOCKOUTS TO BE FIELD CUT.

TYPED DIRECTORY CARDS SHALL BE FURNISHED IN EACH PANEL.

ALL PANELS SHALL BE PROVIDED WITH COPPER BUSSING, A COPPER EQUIPMENT GROUNDING BUS SIMILAR TO, BUT ISOLATED FROM THE COPPER SOLID-NEUTRAL BUS.

EACH PANEL SHALL BE FURNISHED WITH AN IDENTIFICATION PLATE AS SPECIFIED IN THE "IDENTIFICATION" SECTION OF THIS SPECIFICATION.

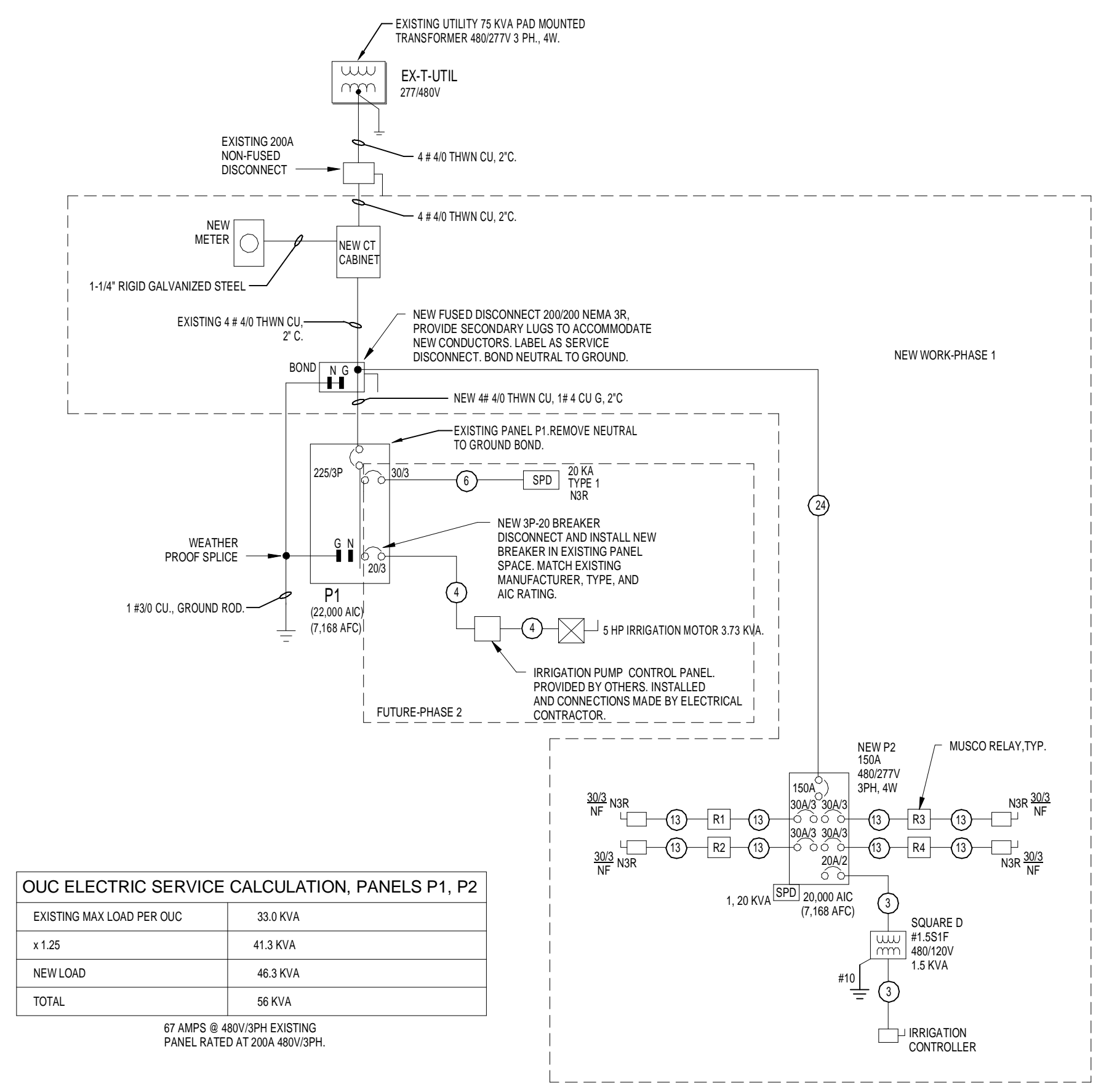
ACCEPTABLE MANUFACTURERS: SQ-D, GE, SIEMENS.

LIGHTING FIXTURES: IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY CATALOG NUMBERS IN THE FIXTURE SCHEDULE TO ENSURE THAT MATCHES THE DESCRIPTION GIVEN AND FOR PROPER MOUNTING, REQUIRED ACCESSORIES, ETC.

SURGE PROTECTION:

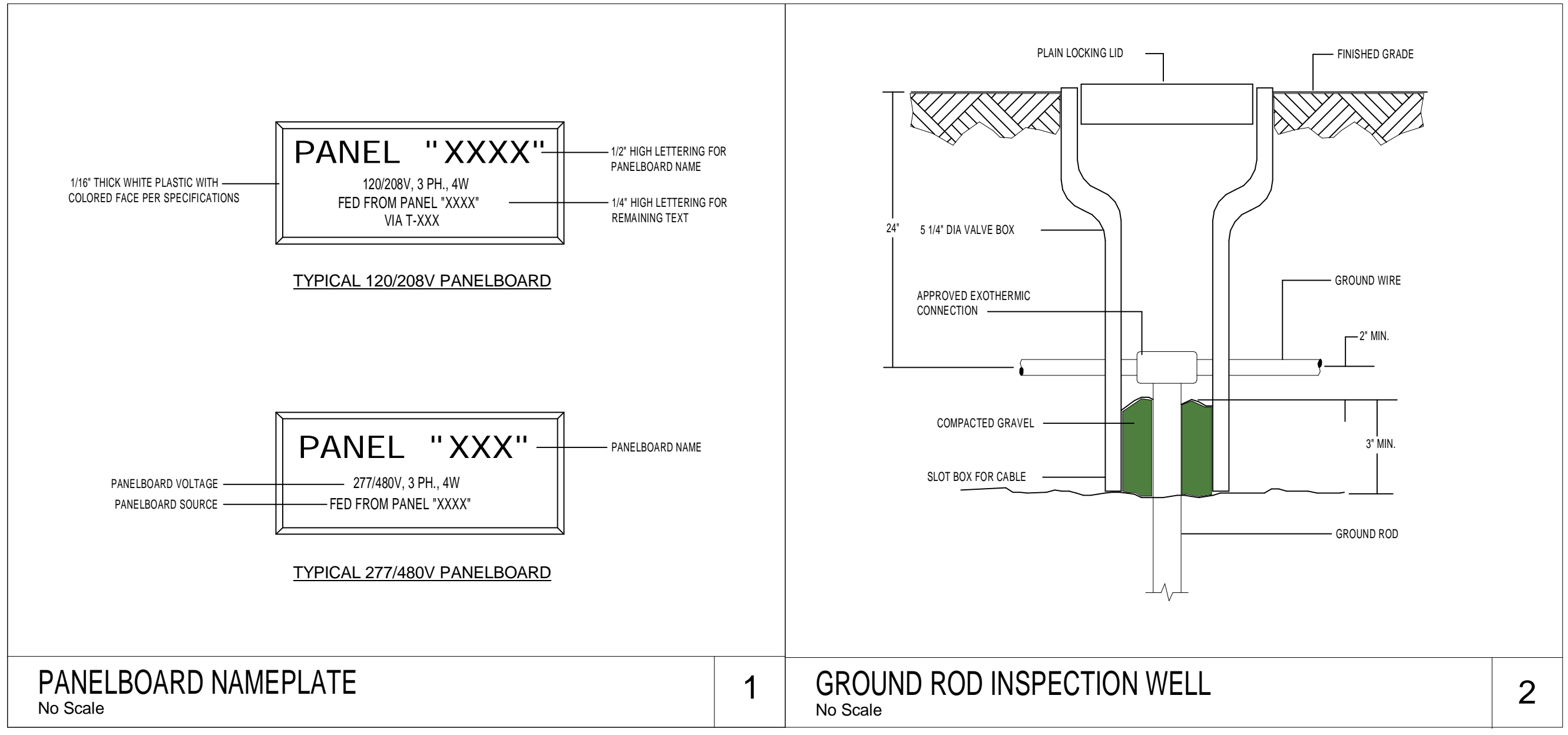
SURGE PROTECTION DEVICES SHALL BE PROVIDED FOR ALL NEW DISTRIBUTION EQUIPMENT. IT SHALL BE INSTALLED ON THE MAIN ELECTRICAL SERVICE, ALL DISTRIBUTION PANELS AND SELECTED SUB-PANELS, POWER SUPPLIES OF SPECIAL SYSTEMS, AND ON CIRCUITS FEEDING SELECTED MAJOR ITEMS THAT HAVE A SENSITIVE ELECTRICAL NATURE.

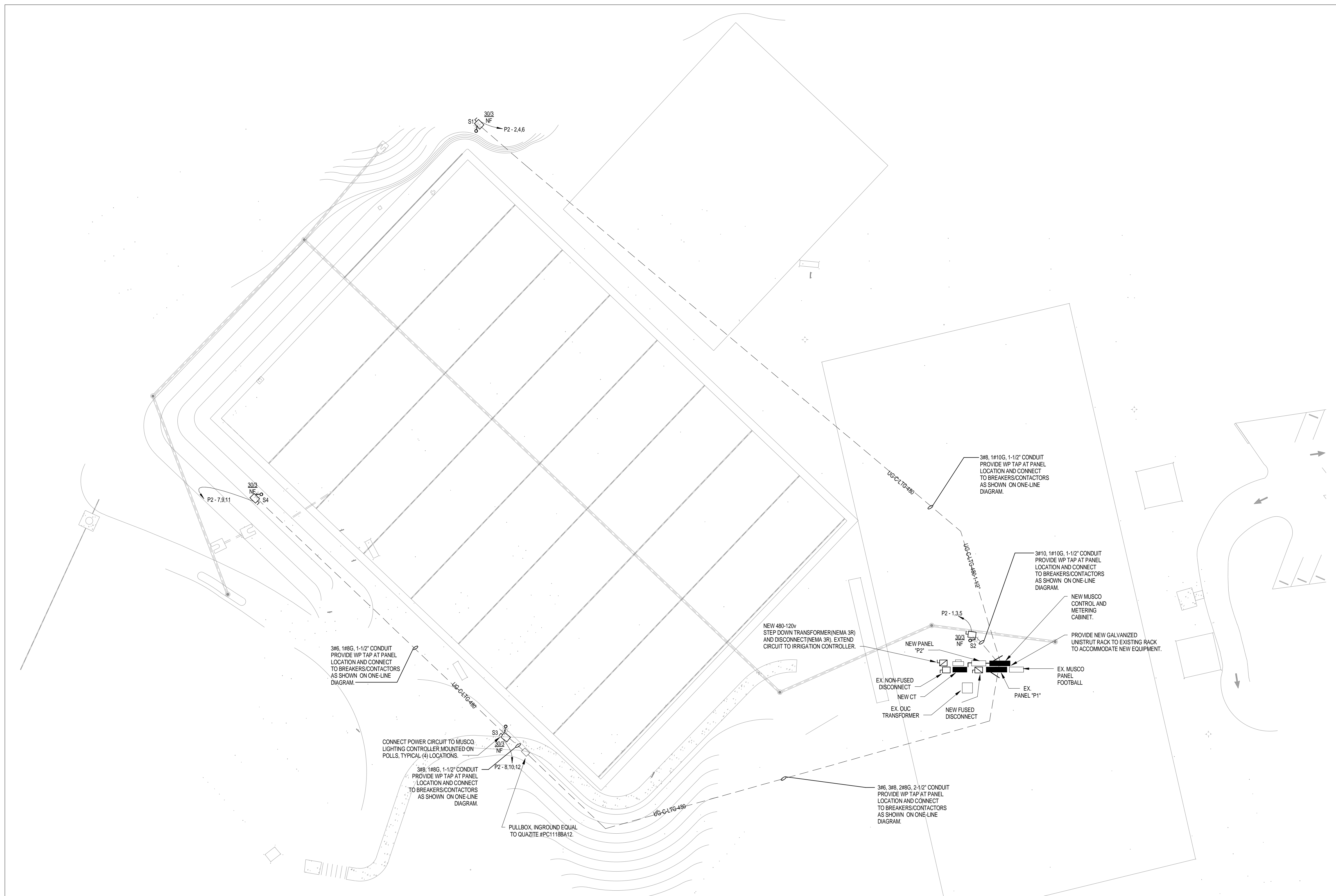
DEVICES SHALL BE UL 1449 3RD EDITION LISTED.



DESIG.	FUSE OR CIRCUIT BREAKER AMP RATING# POLES	NUMBER OF SETS	NUMBER OF CONDUCTORS	FEEDER SIZE	
				CONDUCTORS	EQUIP. GRD. CONDUIT
1	15/3	1	3	12 AWG	12 AWG 3/4"
2			4		3/4"
3	20/3	1	3	12 AWG	12 AWG 3/4"
4			4		3/4"
5	30/3	1	3	10 AWG	10 AWG 3/4"
6			4		3/4"
7	40/3	1	3	8 AWG	10 AWG 3/4"
8			4		1"
9	50/3	1	3	6 AWG	10 AWG 1-1/4"
10			4		1-1/4"
11	60/3	1	3	4 AWG	10 AWG 1-1/4"
12			4		1-1/4"
13	70/3	1	3	4 AWG	8 AWG 1-1/4"
14			4		1-1/4"
15	80/3	1	3	3 AWG	8 AWG 1-1/4"
16			4		1-1/4"
17	90/3	1	3	2 AWG	8 AWG 1-1/4"
18			4		1-1/2"
19	100/3	1	3	1 AWG	8 AWG 1-1/2"
20			4		2"
21	125/3	1	3	1 AWG	6 AWG 1-1/2"
22			4		2"
23	150/3	1	3	1/0 AWG	6 AWG 1-1/2"
24			4		2"
25	175/3	1	3	2/0 AWG	6 AWG 2"
26			4		2"
27	200/3	1	3	4/0 CU KCMIL	4 CU AWG 2-1/2"
28			4		2-1/2"

ELECTRICAL ONE-LINE DIAGRAM N.T.S.

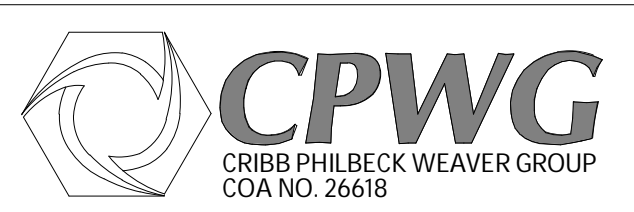




BID DEDUCT #2:
 REMOVE LIGHT POLES AND WIRING. CONDUIT (LABELED UG-C-LTG-480) WITH PULL STRING ONLY TO REMAIN.
 CAP AND MARK END OF CONDUIT WITH METAL MARKER.

SOCCER FIELD ELECTRICAL PLAN
 1" = 30'-0"

NO.	DATE	REVISION



STEPHEN B COTTON
 Florida License #60046, P.E.



BARNETT PARK
 NEW SOCCER FIELD
 AT BARNETT PARK
 ORANGE COUNTY, FLORIDA

**SOCCER FIELD
 ELECTRICAL PLAN**

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	S1	80'	-	80'	1500W MZ	8	8	0
1	S2	100'	-	100'	1500W MZ	8	8	0
2	S3-S4	70'	-	70'	1500W MZ	8	8	0
4	TOTALS					32	32	0



MY PROJECT

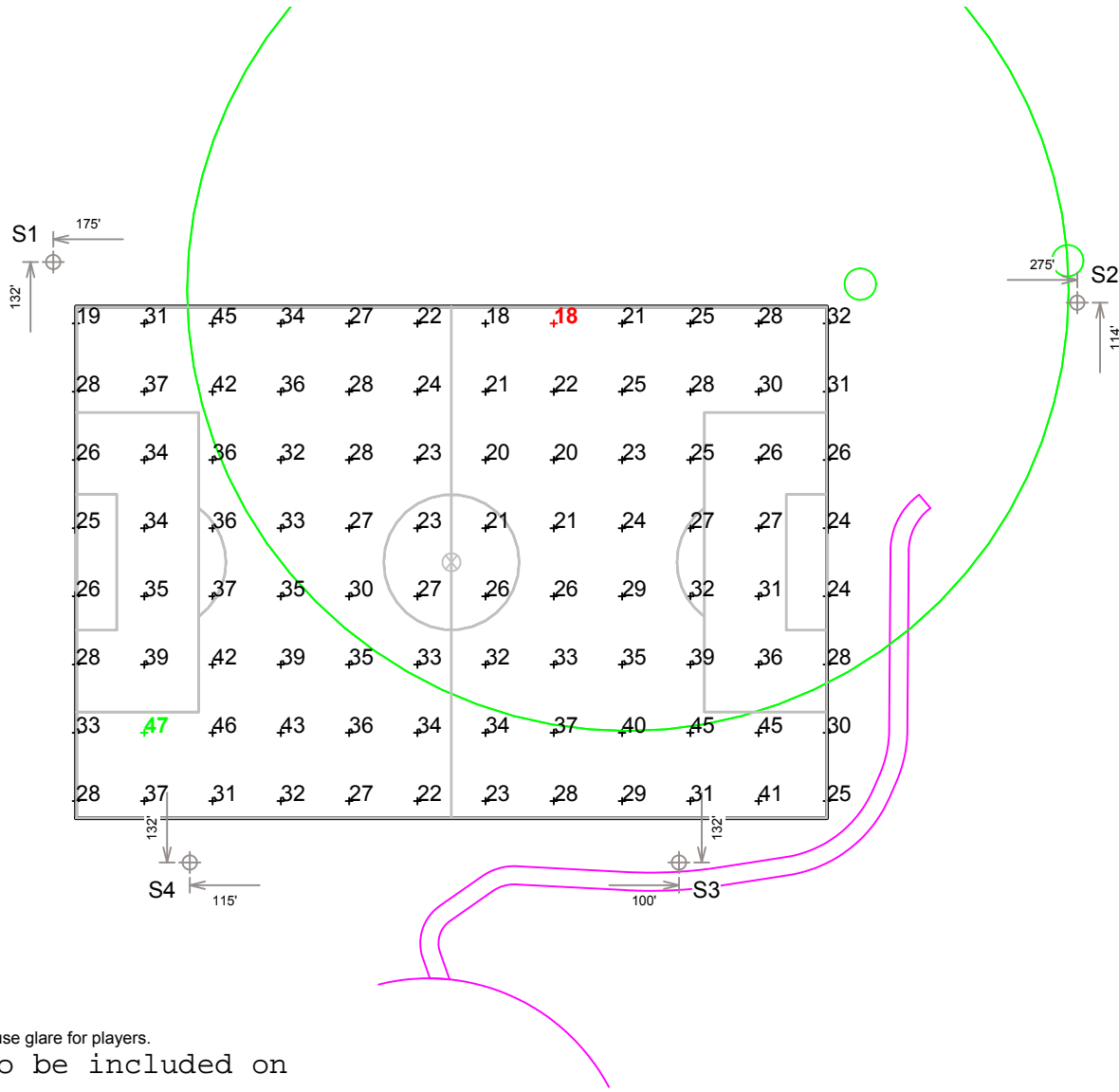
Name: **Barnett Park Football Phase II**
 Location: Orlando, FL

GRID SUMMARY

Name: **Soccer-1**
 Size: 330' x 225'
 Spacing: 30.0' x 30.0'
 Height: 3.0' above grade

CONSTANT ILLUMINATION

SUMMARY		HORIZONTAL FOOTCANDLES	
		Entire Grid	
Guaranteed Average:	30		
Scan Average:	30.33		
Maximum:	47		
Minimum:	18		
Avg / Min:	1.68		
Guaranteed Max / Min:	3		
Max / Min:	2.63		
UG (adjacent pts):	1.63		
CU:	0.61		
No. of Points:	96		
LUMINAIRE INFORMATION			
Luminaire Type:	Green Generation		
Rated Lamp Life:	5,000 hours		
Design Lumens:	134,000		
Avg Lamp Tilt Factor:	1.000		
No. of Luminaires:	32		
Avg KW:	50.05 (54.4 max)		



Guaranteed Performance: The Guaranteed Average CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

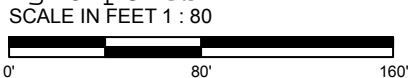
Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

By: **Jake Van Polen**
 File # / Date: 168815F 10-Jun-14

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NOTES: Location of S2 will cause glare for players.
 Bird Nests to be included on all light poles



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ILLUMINATION SUMMARY



MY PROJECT

Name: **Barnett Park Football Phase II**
 Location: **Orlando, FL**

EQUIPMENT LAYOUT

INCLUDES:
 - Soccer-1

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires		QTY / POLE
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	
1	S1	80'	-	80'	1500W MZ	8
1	S2	100'	-	100'	1500W MZ	8
2	S3-S4	70'	-	70'	1500W MZ	8
4	TOTALS					32

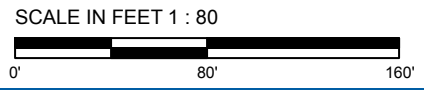
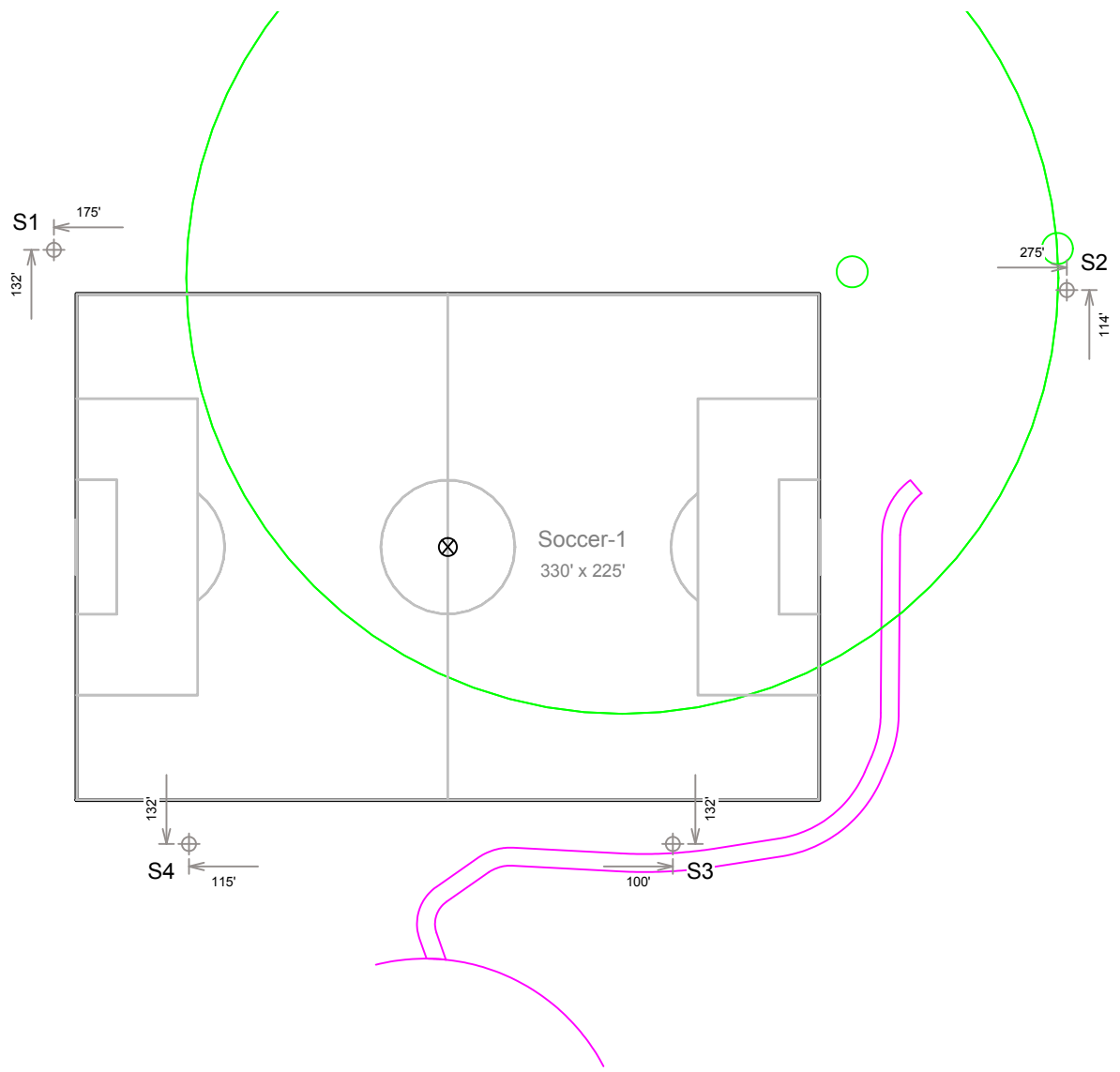
SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
Single Phase Voltage							
1500 watt MZ	8.6	8.3	7.5	6.5	5.1	4.7	3.7

ENGINEERED DESIGN

By: **Jake Van Polen**
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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗