INDEX OF SHEETS	
DWG.NO.	DESCRIPTION
1	COVER
2	BOUNDARY AND TOPOGRAPHIC SURVEY
3	DEVELOPMENT INFORMATION
4	DEMOLITION, TREE REMOVAL AND SWPPP PLAN
5	SWPPP DETAILS AND NOTES
6	SITE LAYOUT PLAN
7	ROADWAY PLAN
8	DRAINAGE PLAN
9	GRADING PLAN
10	CROSS SECTIONS
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14	UTILITY DETAILS AND NOTES
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21	FDOT DETAILS AND NOTES
22	FDOT DETAILS AND NOTES
23	MAINTENANCE OF TRAFFIC DETAILS
24	LANDSCAPE PLAN
25	IRRIGATION PLAN
26	LANDSCAPE AND IRRIGATION DETAILS

LEGAL DESCRIPTION

COMMENCE AT THE NORTHEAST CORNER OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 14 SOUTH, RANGE 32 EAST; THENCE WEST ALONG THE NORTH LINE THEREOF, A DISTANCE OF 124.87 FEET TO A CROSS IN A CONCRETE DRAINAGE TROUGH; THENCE SOUTH 30°43'50" EAST A DISTANCE OF 882.27 FEET TO A POINT WHICH IS 10 FEET NORTH AND 10 FEET WEST OF A WELL AND THE POINT OF BEGINNING; THENCE SOUTH 47°25'31" EAST A DISTANCE OF 553.69 FEET TO A POINT ON THE NORTHERLY RIGHT OF WAY OF TOMOKA ROAD; ALSO KNOWN AS STATE ROAD 40 (A 100 FOOT RIGHT OF WAY) THENCE SOUTH 47°11'22" WEST ALONG SAID NORTH RIGHT OF WAY LINE OF STATE ROAD 40 A DISTANCE OF 135.49 FEET TO A POINT OF CURVATURE OF A CURVE TO THE LEFT HAVING A RADIUS OF 5779.65; THENCE CONTINUE ALONG THE ARC OF SAID CURVE AND ALONG SAID NORTHERLY RIGHT OF WAY OF SAID STATE ROAD 40 PASSING THROUGH A CENTRAL ANGLE OF 00°39'54" AND HAVING AN ARC LENGTH OF 67.08 FEET; THENCE DEPARTING SAID RIGHT OF WAY RUN NORTH 47°25'50" WEST A DISTANCE OF 537.76 FEET; THENCE NORTH 42°34'10" EAST A DISTANCE OF 202.00 FEET TO THE POINT OF BEGINNING.

PROJECT STATEMENT

CONSTRUCT A 3,847 SF, 1-STORY, 90 SEAT ZAXBY'S RESTAURANT WITH DRIVE-THRU WINDOW AND 50 PARKING SPACES (3 HANDICAP AND 47 STANDARD), 5 BICYCLE SPACES AND 1 LOADING ZONE. THE PROPOSED SITE IS 2.53 ACRES WITH 1.04 ACRES IMPERVIOUS SURFACE. SITE WORK WILL CONSIST OF PAVING, GRADING, DRAINAGE, UTILITY AND LANDSCAPE IMPROVEMENTS.

JURISDICTIONAL AGENCY	PERMIT No.
CITY OF ORMOND BEACH (DEVELOPMENT ORDER)	2014-102
FDEP 10/2 SELF-CERTIFICATION (STORMWATER)	0328248001EG
FDEP (WASTEWATER)	CS64-0328773-001
FDEP (NOI)	FLR
FDOT (DRIVEWAY)	2014-A-591-36
FDOT (DRAINAGE)	2014-D-591-032

THE GENERAL CONTRACTOR SHALL ENSURE THAT ANY SUBCONTRACTOR HAS A COMPLETE SET OF CONSTRUCTION DRAWINGS FOR ITS RESPECTIVE WORK. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR SUBCONTRACTORS ONLY UTILIZING INDIVIDUAL DRAWINGS FOR ITS WORK WHERE ADDITIONAL INFORMATION MAY BE CONTAINED ON OTHER DRAWINGS WITHIN THE SET.

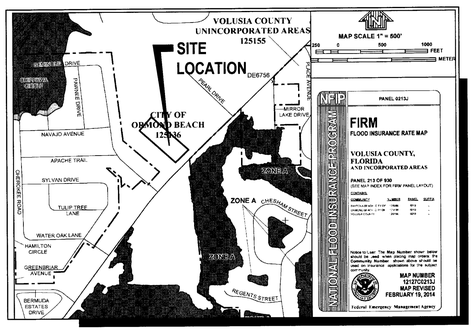
THESE DRAWINGS ARE THE PROPERTY OF NEWKIRK ENGINEERING, INC. ANY USE OR REPRODUCTION IN WHOLE OR PART IS PROHIBITED WITHOUT THE EXPRESSED WRITTEN CONSENT OF NEWKIRK ENGINEERING, INC. COPYRIGHT 2013 ALL RIGHTS RESERVED.

SITE CONSTRUCTION PLANS FOR

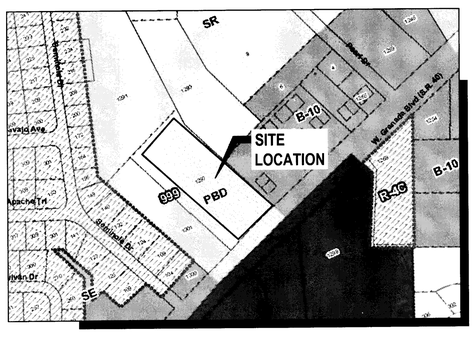
ZAXBY'S

SECTION 30, TOWNSHIP 14 S, RANGE 32 E
4230-00-00-0291
1287 WEST GRANADA BOULEVARD (STATE ROAD 40)
ORMOND BEACH, FL 32174
JUNE 2014
REVISED SEPTEMBER 2, 2014

LOCATION MAP
SCALE: 1" = 800'



FLOOD ZONE MAP
FLOOD ZONE "X"
SCALE: 1" = 800'



ZONING MAP
EXISTING: PBD (PLANNED BUSINESS DEVELOPMENT)
PROPOSED: B-8 (COMMERCIAL)
SCALE: 1" = 300'

SOILS MAP
SCALE: 1" = 200'

SOIL TYPES: (32) MYAKKA FINE SAND
(51) PONOMA-ST. JOHNS COMPLEX
(63) TAVARES FINE SAND, O TO 5% SLOPES

PROJECT TEAM

PROPERTY OWNER: MAURICE THOMPSON
1283 WEST GRANADA BOULEVARD
ORMOND BEACH, FLORIDA 32174
PHONE: (386) 547-4981

APPLICANT: DEMERBURN, LLC
3844 KINDERLOU FOREST
VALDOSTA, GEORGIA 31601
PHONE: (703) 338-8591
EMAIL: VOLUSIAZAXBYS@GMAIL.COM

ENGINEER/ LEAD DESIGNER: NEWKIRK ENGINEERING, INC.
1370 NORTH US1, SUITE 204
ORMOND BEACH, FL 32174
PHONE: (386) 290-7599
EMAIL: HARRY@NEWKIRK-ENGINEERING.COM

ARCHITECT: HFR (HILLFOLEYROSSI & ASSOCIATES)
3680 PLEASANT HILL ROAD, SUITE 200
DULUTH, GEORGIA 30096
PHONE: (770) 622-9858
FAX: (770) 622-9535

SURVEYOR: A1A GEO, INC.
11 COOLIDGE AVENUE, SUITE J
ORMOND BEACH, FL 32174
PHONE: (386) 405-6797
EMAIL: A1AGEOINC@GMAIL.COM

LANDSCAPE ARCHITECT: RICHARD L. POORE, LA
300 GATEWOOD COURT
ORMOND BEACH, FL 32174
PHONE: (386) 212-8491
EMAIL: THEPOORES@BELLSOUTH.NET

GEOTECHNICAL: UNIVERSAL ENGINEERING SCIENCES
911 BEVILLE ROAD, SUITE 3
SOUTH DAYTONA BEACH, FL 32119
PHONE: (386) 756-1105
FAX: (386) 760-4067
EMAIL: BPOHL@UNIVERSALENGINEERING.COM

CONTACT NUMBERS

PLANNING & BUILDING - CITY OF ORMOND BEACH (386) 673-3238
WATER - CITY OF ORMOND BEACH UTILITY DEPARTMENT (386) 676-3269
WASTEWATER - CITY OF ORMOND BEACH UTILITY DEPARTMENT (386) 676-3239
GAS - TECO PEOPLES GAS - (386) 672-2232
ELECTRIC - FLORIDA POWER & LIGHT (386) 257-7502
TELEPHONE/CABLE - AT&T (386) 254-8550

811 Know what's below. Call before you dig.

City of Ormond Beach Site Plan Review Committee
FINAL APPROVAL

ORMOND BEACH
SITE PLAN REVIEW COMMITTEE
FINAL APPROVAL
9.16.2014
Date

NEWKIRK ENGINEERING
1370 North US1, Suite 204
Ormond Beach, Florida 32174
Phone (386) 290-7599
Harry@Newkirk-Engineering.com
Certificate of Authorization No. 30219
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Civil Engineering
Land Development
Construction Engineering & Inspection

HARRY NEWKIRK LICENSE NO 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

DRAWING NUMBER
1

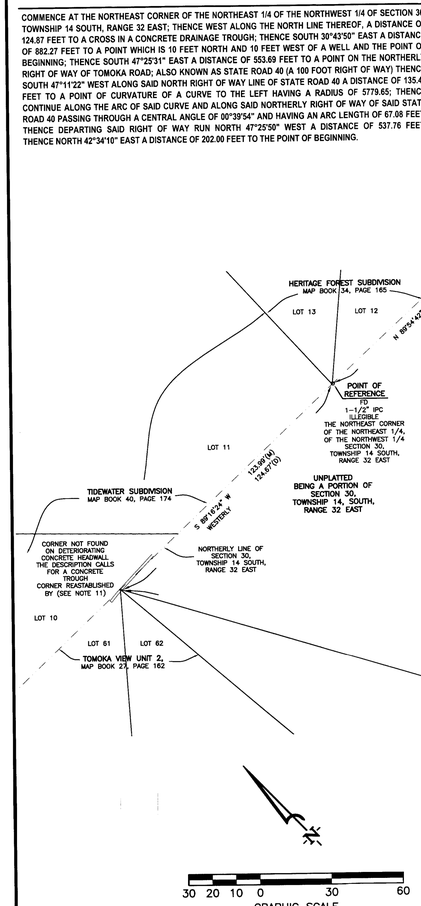
PROJECT No. 2014-85

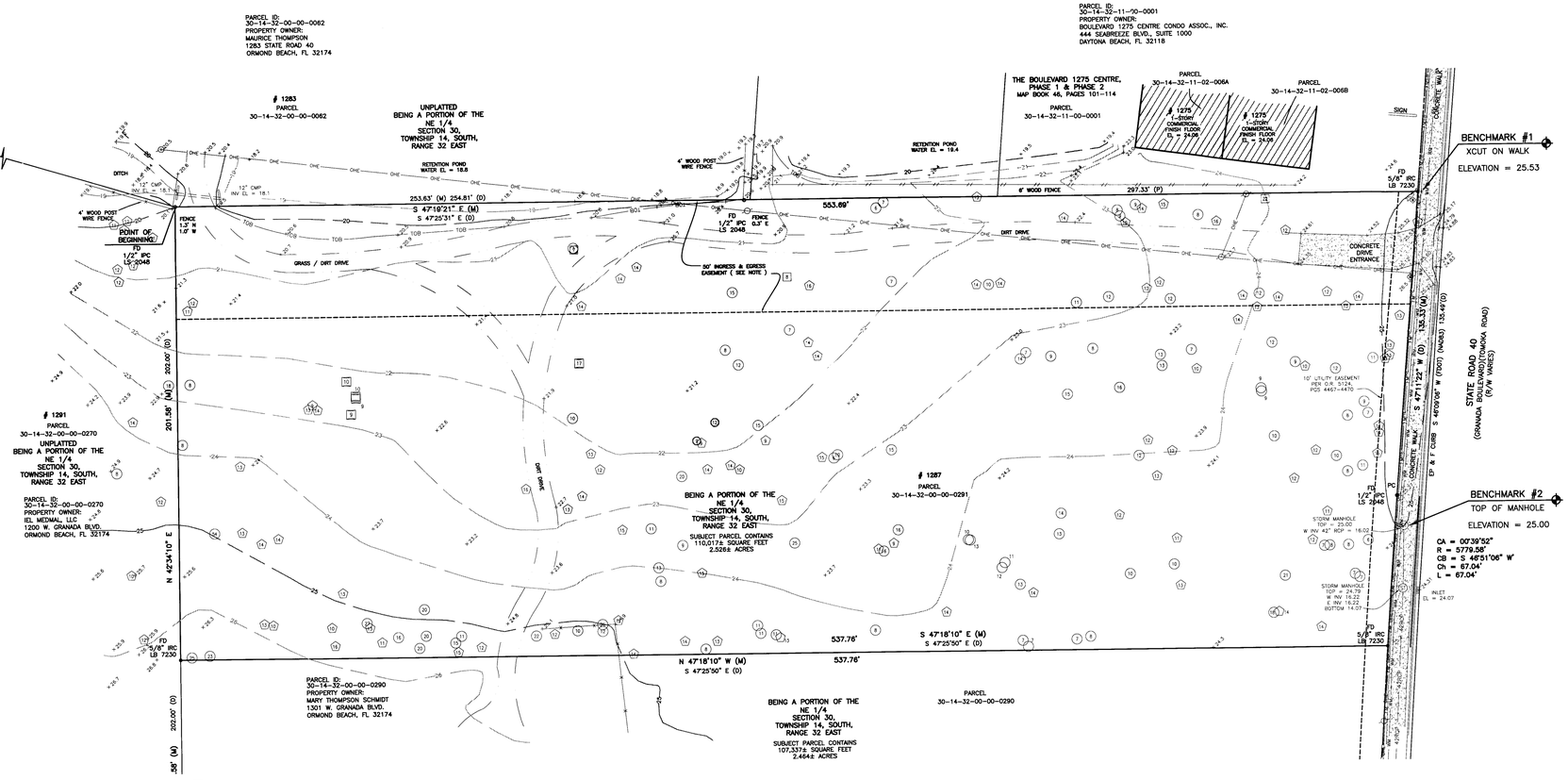
LEGAL DESCRIPTION:

COMMENCE AT THE NORTHEAST CORNER OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 14 SOUTH, RANGE 32 EAST; THENCE WEST ALONG THE NORTH LINE THEREOF, A DISTANCE OF 124.87 FEET TO A CROSS IN A CONCRETE DRAINAGE TROUGH; THENCE SOUTH 30°43'50" EAST A DISTANCE OF 882.27 FEET TO A POINT WHICH IS 10 FEET NORTH AND 10 FEET WEST OF A WELL AND THE POINT OF BEGINNING; THENCE SOUTH 47°25'31" EAST A DISTANCE OF 553.69 FEET TO A POINT ON THE NORTHERLY RIGHT OF WAY OF TOMOKA ROAD; ALSO KNOWN AS STATE ROAD 40 (A 100 FOOT RIGHT OF WAY) THENCE SOUTH 47°11'22" WEST ALONG SAID NORTH RIGHT OF WAY LINE OF STATE ROAD 40 A DISTANCE OF 135.49 FEET TO A POINT OF CURVATURE OF A CURVE TO THE LEFT HAVING A RADIUS OF 5779.65; THENCE CONTINUE ALONG THE ARC OF SAID CURVE AND ALONG SAID NORTHERLY RIGHT OF WAY OF SAID STATE ROAD 40 PASSING THROUGH A CENTRAL ANGLE OF 00°39'54" AND HAVING AN ARC LENGTH OF 67.08 FEET; THENCE DEPARTING SAID RIGHT OF WAY RUN NORTH 47°25'50" WEST A DISTANCE OF 537.76 FEET; THENCE NORTH 42°34'10" EAST A DISTANCE OF 202.00 FEET TO THE POINT OF BEGINNING.

GENERAL NOTES AND SURVEY REPORT:

1. BEARING STRUCTURE (S 47°11'22" W) ALONG THE NORTHERLY RIGHT OF WAY LINE OF TOMOKA ROAD; ALSO KNOWN AS STATE ROAD 40 (A 100 FOOT RIGHT OF WAY) BASED ON OFFICIAL RECORD BOOK 6968, PAGES 1283 THROUGH 1285, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. FOR ANGLE MEASUREMENT ONLY.
2. LEGAL DESCRIPTION PER OFFICIAL RECORD BOOK 6968, PAGES 1283 THROUGH 1285, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
3. RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS ( ), WHEN DIFFERS FROM MEASURED.
4. FLOOD PLANE CERTIFICATION ACCORDING TO THE FEMA (FEDERAL EMERGENCY MANAGEMENT AGENCY) F.I.R.M (FEDERAL INSURANCE RATE MAP), COMMUNITY OF CITY OF DAYTONA BEACH, FLORIDA. NUMBER 125099, PANEL NUMBER 1212?C0219 H, DATED: FEBRUARY 19, 2014. THE PROPERTY IS IN FLOOD ZONES "X" AND "VE (EL 9)" THE BASE 100 YEAR FLOOD ELEVATION IS NONE.
5. ACCURACY STATEMENT: THE ACCURACY OF THE BOUNDARY CONTROL OF THE SUBJECT PROPERTY IS. COMMERCIAL/HIGH RISK LINEAR: THE CLOSURE IS : 1 : 10,000
6. DATA SOURCES: VERTICAL DATA
   ELEVATIONS REFER TO (NAVD 88) FEET AND DECIMAL PART THEREOF NORTH AMERICAN VERTICAL DATUM 1988.
   BENCHMARK REFERENCE NATIONAL GEODETIC SURVEY DESIGNATION F 477, PID DE6756, CONCRETE MONUMENT, ELEVATION = 24.55
   A.) BENCHMARK #1 X-CUT ON WALK ELEVATION = 25.53
   B.) BENCHMARK #2 TOP OF STORM MANHOLE ELEVATION = 25.00
7. MEASUREMENT METHODS: HORIZONTAL AND VERTICAL MEASURES MADE BY ONE OR MORE OF THE FOLLOWING INSTRUMENTS: TOPCON INSTRUMENTS GPT-3003W, SOKKIA GRX-1 GPS INSTRUMENTS, PAL-2 LUFKIN STEEL TAPE, CST STEEL TAPE, STEEL HIGHWAY CHAIN, CST & LUFKIN FIBERGLASS TAPE FOR DIMENSIONS FOR BUILDINGS.
8. CORNERS FOUND AND NOT FOUND AS SHOWN ON THIS SURVEY ARE REFERENCED TO THE FOLLOWING HELPER SURVEYS AND ORIGINAL PLAT / PLATS.
   A.) TOMOKA VIEW ESTATE UNIT 1, AS RECORDED IN MAP BOOK 27, PAGE 43, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
   B.) TOMOKA VIEW ESTATE UNIT 2, AS RECORDED IN MAP BOOK 27, PAGE 162, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
   C.) TIDEWATER SUBDIVISION, AS RECORDED IN MAP BOOK 40, PAGE 174, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
   D.) HERITAGE FOREST SUBDIVISION, AS RECORDED IN MAP BOOK 34, PAGE 165 OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
   E.) THE BOULEVARD 1275 CENTRE, PHASE 1 AND 2, AS RECORDED IN MAP BOOK 46, PAGES 101 THROUGH 114, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
   F.) FLORIDA DEPARTMENT RIGHT-OF-WAY MAPS, SECTION 79100- 2516, SHEETS 4 & 5, DATED NOVEMBER 7, 2013.
   G.) EFIRD SURVEYING GROUP, INC., DRAWING 05-727, DATED MAY 27, 2005.
   H.) EFIRD SURVEYING GROUP, INC., DRAWING
9. NO UNDERGROUND UTILITIES LOCATED EXCEPT AS SHOWN.
10. TITLE INFORMATION PROVIDED: NONE
11. THE CORNER ON CONCRETE HEADWALL WAS RE-ESTABLISHED BY LOCATING CORNERS IN PLATS AS LISTED IN NOTE 8.
12. LIMITATIONS:
   A.) SOME INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHT-OF-WAY AND OR OWNERSHIP WHEN FURNISHED TO THIS SURVEYOR EXCEPT AS SHOWN. THERE MAY BE ADDITIONAL RESTRICTIONS AND/OR OTHER MATTERS THAT ARE NOT SHOWN ON THIS PLAT OF SURVEY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY, NO UNDERGROUND INSTALLATIONS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS SHOWN. IF LOCATION OF EASEMENTS OR RIGHT-OF-WAY OF RECORD, OTHER THAN THOSE ON RECORD PLATS, IS REQUIRED, THIS INFORMATION MUST BE FURNISHED TO THE SURVEYOR AND MAPPER. PER FLORIDA STATUES RULE 5J-17.052(2)(d)(4)
   B.) IT IS UNDERSTOOD TO BE THE PROFESSIONAL OPINION OF THIS SURVEYOR AND THE FIRM, FROM WHICH IS FORMULATED ON HIS BEST KNOWLEDGE, INFORMATION AND BELIEF, AND AS SUCH, DOES NOT CONSTITUTE A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED. FURTHERMORE, THIS SURVEYOR AND FIRM, DOES NOT ASSUME RESPONSIBILITY AND SHALL NOT BE LIABLE FOR CLAIMS ARISING FROM ERRONEOUS OR INCORRECT INFORMATION FURNISHED BY THE OWNER, LENDER, OR OWNER'S CONTRACTORS OR OTHERS, WHICH IS USED AS A BASIS TO FORMULATE THIS SURVEYOR'S OPINION.
   C.) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE PARTY. PER FLORIDA STATUTES CHAPTER RULE 5J-17.051(3)(b)6)
   D.) THE ACCEPTANCE OF THIS SURVEY AS CERTIFIED FOR THE EXCLUSIVE USE OF NAMES SHOWN HEREON SHALL CONSTITUTE FULFILLMENT OF MY CONTRACTUAL OBLIGATION. "ORIGINAL" AS DEFINED HEREON REFERS TO THE SIGNED AND SEALED GRAPHIC REPRESENTATION OF THE FIELD SURVEY. CAD FILES ARE NOT THE SURVEY AND THERE MAY BE A SURCHARGE FOR THEM.
   E.) TAX PARCEL IDENTIFICATION NUMBERS, ADJACENT OWNERS NAMES AND ADDRESS WHEN SHOWN SHOWN IS EITHER SUPPLIED BY CLIENT AND/OR TAKEN FROM COUNTY APPRAISER'S INTERNET WEB PAGE AND MAY NOT BE THE MOST CURRENT.
   F.) SPECIAL PURPOSE SURVEYS WHEN IDENTIFIED AS TYPE OF SURVEY:
      1.) WHEN TREES AS SHOWN ON THE SURVEY IT IS FOR THE LOCATION OF THE TREES 6" INCHES DIAMETER AND ABOVE TREES TAKEN APPROXIMATELY 4 TO 4-1/2 FEET ABOVE GROUND LEVEL. TREE IDENTIFICATION AND HEALTH OTHER THAN LOCATION AND SIZE, SEE AN ARBORIST.
      2.) JURISDICTIONAL WETLANDS WHEN SHOWN WERE LOCATED FROM FLAGS/MARKS BY BIOLOGIST / ENVIRONMENTALIST. AND THE DETERMINATION OF WETLANDS ARE OUT OF THE EXPERTISE OF THIS SURVEYOR AND MAPPER.
      3.) ARCHAEOLOGICAL FEATURES WHEN SHOWN WERE LOCATED FROM OBJECTS IDENTIFIED BY OTHERS AND THE DETERMINATION OF WHAT CONSTITUTES AN ARCHAEOLOGICAL FEATURES IS OUT OF THE EXPERTISE OF THIS SURVEYOR AND MAPPER.
      4.) WILDLIFE CORRIDORS OR HABITATS WHEN SHOWN WERE LOCATED FROM OBJECTS IDENTIFIED BY OTHERS AND THE DETERMINATION OF WHAT CONSTITUTES A WILDLIFE CORRIDORS OR HABITATS IS OUT OF THE EXPERTISE OF THIS SURVEYOR AND MAPPER.
      5.) GEO-TECHNICAL BORINGS SHOWN AS MARKED AND FIELD LOCATED.
   G.) AS-BUILT / RECORD SURVEYS WHEN IDENTIFIED AS TYPE OF SURVEY:
      1.) WHEN UNDERGROUND UTILITIES, SUCH AS UNDERGROUND CABLES, GAS MAINS, WATER MAINS, SANITARY SEWER SYSTEMS AND STORM COLLECTIONS SYSTEMS ARE SHOWN. THE LIMITS OF THIS SURVEY INCLUDE VISIBLE STRUCTURES / IMPROVEMENTS IN COMBINATION WITH AS-BUILT / RECORD DRAWINGS SUPPLIED BY OTHERS.
      2.) WHEN THE PERCENTAGE OF SLOPES ARE SHOWN IT IS BASED ON THE INVERTS BETWEEN VISIBLE STRUCTURES. THIS SURVEY DOES NOT INCLUDE VIDEO PIPELINE INSPECTIONS. VERIFICATION OF LINE OF SITE HAS NOT BEEN VERIFIED. THIS SURVEYOR SUGGESTS VIDEO PIPELINE INSPECTION BY A PROFESSIONALS PROVIDING SERVICE OF THAT SPECIALTY.
      3.) THIS SURVEYOR SUGGEST VIDEO PIPELINE INSPECTION BY A PROFESSIONAL PROVIDING SERVICE OF THAT SPECIALTY.
   H.) TOPOGRAPHIC SURVEY:
      1.) CONTOURS ARE ON ONE FOOT INTERVALS, INTERPOLATED BETWEEN 100 FOOT GRIDS, VISIBLE GRADE BREAKS, ALONG WITH RANDOM GROUND ELEVATIONS.
      2.) OFFSITE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON THE REQUEST BY THE CLIENT AND OR THE CLIENTS AGENT, BEING AN ARCHITECT OR ENGINEER.





TREE LEGEND / SYMBOLS / COUNT

SEE LIMITATIONS: 12(F)(1)

ASH TREE	8	5
CEDAR TREE	9	2
MAPLE TREE	12	1
OAK TREE	10	95
PINE TREE	24	2
PALM TREE	11	88
		193 TOTAL

SURVEY MAP AND SURVEY REPORT

ABBREVIATIONS / LEGEND:

A/C	AIR CONDITIONER	FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	LC	LICENSED CORPORATION	PCP	PERMANENT CONTROL POINT
CA	CENTRAL ANGLE / DELTA	FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	LLC	LIMITED LIABILITY COMPANY	PG	PAGE
CB	CHORD BEARING	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY	LS	LICENSED SURVEYOR	PGS	PAGES
CH	CHORD DISTANCE	F.I.R.M	FLOOD INSURANCE RATE MAP	(A)	MEASURED	P.O.B.	POINT OF BEGINNING
(C)	CALCULATED	FL	FLORIDA	N/A	NOT APPLICABLE AND/OR NOT AVAILABLE	PK/D	PARKER KALON NAIL & DISK
COV.	COVERED	ID	IDENTIFICATION	NAVD	NORTH AMERICAN VERTICAL DATUM	P.A.	POST OFFICE
CONC.	CONCRETE	IP	IRON PIPE (AS NOTED)	NGVD	NATIONAL GEODETIC VERTICAL DATUM	PRM	PERMANENT REFERENCE MONUMENT
C/O	CARE OF	IPC	IRON PIPE & CAP (AS NOTED)	NO	NUMBER	(R)	RECORD
CMP	CORRUGATED METAL PIPE	IR	IRON ROD (AS NOTED)	N/D	NAIL & DISK (AS NOTED)	RCP	REINFORCED CONCRETE PIPE
(D)	DESCRIPTION OR DEED	IRC	IRON ROD & CAP (AS NOTED)	N/P	NOT POSTED ON PANEL	R	RADIUS
DWG	DRAWING	INV	INVERT	OA	OVERALL	R/W	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	L	LENGTH	O.R.	OFFICIAL RECORD BOOK	S.B.	STATE ROAD
EL	ELEVATION	LB	LICENSED BUSINESS	(P)	PLAT	WO#	WORK ORDER NUMBER
FAX	FACSIMILE			P.A.	PROFESSIONAL ASSOCIATION		

- IRON PIPE & CAP (AS NOTED)
- IRON ROD & CAP (AS NOTED)
- PARKER KALON NAIL & DISK
- CONCRETE MONUMENT(AS NOTED)
- X-CUT (AS NOTED)
- CATCH BASIN / STORM INLET
- ELECTRIC BOX
- BENCHMARK
- SIGN
- STORM MANHOLE
- UTILITY BOX
- GAS METER
- SANITARY SEWER MANHOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- CLEANOUT
- UTILITY BOX FOR CABLE TELEVISION
- LIGHT POLE
- EXISTING GROUND ELEVATION
- EXISTING HARD ELEVATION
- OHE — OVERHEAD ELECTRIC
- FM — FORCE MAIN
- WM — WATER LINE
- GAS — GAS LINE
- CONTOUR MINOR LINE
- CONTOUR MAJOR LINE
- BUILDING HATCH
- CONCRETE HATCH

A1A GEO
LAND SURVEYING CONSTRUCTION LAYOUT
1370 N. US HWY 1. STE 204, Ormond Beach Florida 32174
Voice: 386.405.6797 a1ageoinc@gmail.com
LB # 7967 LS # 6309

City of Ormond Beach FINAL APPROVAL Plan Review Complete

THIS MAP IS INTENDED TO BE DISPLAYED AT A SCALE AS 1"=30' OR SMALLER. ANY USE OF THIS FILE AT A SCALE LARGER THAN STATED SHALL BE AT THE USER'S OWN RISK.

THE FOREGOING PLAT IS CERTIFIED TO MEET THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS AS PER CHAPTER 5J-17.0, FLORIDA ADMINISTRATIVE CODE, AS PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

06/12/2014

ANTHONY SANZONE

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

PREPARED FOR THE EXCLUSIVE USE OF:

TYPE OF SURVEY: BOUNDARY, TOPOGRAPHIC & SPECIAL PURPOSE

MAP SUBJECT: ZAXBY'S

ADDRESS: 1287 GRANADA BOULEVARD ORMOND BEACH, FLORIDA

REVISIONS:

PROJECT No:	2014-48
FIELD WORK BY: DATE:	DM 06//12/14
OFFICE WORK BY: DATE:	AM 06/12/14
FIELD BOOK - PAGE:	3-25
SCALE:	1" = 30'
FILE:	2014-48

SHEET: **SU-1** OF 1

GENERAL CONSTRUCTION NOTES

1. GOVERNING SPECIFICATIONS: CITY OF ORMOND BEACH LAND DEVELOPMENT CODE, CITY OF ORMOND BEACH STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS, LATEST EDITION, FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION, AND STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST EDITION, AND SUPPLEMENTS THERETO IF NOTED IN THE SPECIAL PROVISIONS FOR THIS PROJECT.

2. ALL UTILITY MATERIAL, CONSTRUCTION AND TESTING COVERED BY THESE DRAWINGS SHALL COMPLY WITH THE CITY OF ORMOND BEACH STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS, LATEST EDITION. ALL UTILITY WORK AND CONNECTIONS SHALL BE COORDINATED WITH THE CITY OF ORMOND BEACH INSPECTOR.

3. THE CONTRACTOR SHALL PAY FOR AND OBTAIN A BUILDING PERMIT. THE ENGINEER WILL SCHEDULE THE PRECONSTRUCTION CONFERENCE BEFORE THE CONTRACTOR'S START OF WORK. THE CONTRACTOR SHALL CONTACT THE BUILDING DEPARTMENT AT (386) 676-3233 FOR INFORMATION ON ISSUANCE OF CITY PERMITS AND / OR OTHER REQUIREMENTS.

4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY DEFICIENCIES OR DISCREPANCIES AMONG THE DIVISIONS OF THE DRAWING AND SPECIFICATIONS PRIOR TO THE BID DATE. NEITHER THE OWNER OR ENGINEER WILL BE RESPONSIBLE FOR ANY DEFICIENCIES OR DISCREPANCIES RAISED AFTER THE BID OPENING. ACCORDINGLY, IN LIGHT OF THESE OBLIGATIONS, THE ENGINEER IS OBLIGATED TO INTERPRET THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT WILL PROVIDE THE OWNER WITH A COMPLETE, FUNCTIONING FACILITY FOR THE BID PRICE.

5. THESE DRAWINGS AND THE PROJECT MANUAL ARE COMPLEMENTARY, AND ANY REQUIREMENT OF ONE SHALL BE A REQUIREMENT OF THE OTHER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CAREFULLY EXAMINE THE DRAWINGS AND SPECIFICATIONS AND TO COMPARE THE REQUIREMENTS OF EACH DIVISION AND ENSURE THAT EACH TRADE OR SUBCONTRACTOR IS MAKING THE ALLOWANCES NECESSARY TO PROVIDE THE OWNER A COMPLETE FACILITY, OPERATIONAL IN ALL RESPECTS, UNLESS OTHERWISE SPECIFICALLY STATED IN THE DRAWINGS.

6. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR INSTRUCTING THE CONTRACTOR IN THE METHODS OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE METHOD TO CONSTRUCT THE IMPROVEMENTS AS SHOWN ON THE PLANS.

7. ONLY ONE TEMPORARY CONSTRUCTION SIGN IS PERMITTED, NOT TO EXCEED 32 SQUARE FEET IN SIGN AREA, MAXIMUM HEIGHT OF 8 FEET AND NO CLOSER THAN 10 FT FROM PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL APPLY FOR A TEMPORARY SIGN PERMIT AT THE ORMOND BEACH BUILDING DEPARTMENT. THE SIGN MUST BE REMOVED UPON RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

8. CONSTRUCTION NOISE IS RESTRICTED TO LESS THAN 86 dBA BETWEEN THE HOURS OF 7 AM AND 10 PM AND LESS THAN 55 dBA BETWEEN THE HOURS OF 10 PM AND 7 AM DAILY.

9. NIGHT TIME CONSTRUCTION LIGHTING SHALL BE RESTRICTED TO NO MORE THAN 0.5 FT-CANDLE AT THE PROPERTY BOUNDARY.

10. LITTER CONTROL MEASURES TO PREVENT WIND-DRIVEN DEBRIS SHALL BE IMPLEMENTED THROUGHOUT THE DURATION OF CONSTRUCTION. ALL DEBRIS SHALL BE REMOVED AND THE PROJECT SITE CLEANED WITHIN 30 DAYS OF COMPLETION OF CONSTRUCTION.

11. AT NO TIME SHALL EXCAVATIONS BE LEFT UNCOVERED AFTER WORKING HOURS. CONTRACTOR SHALL SECURE THE WORK AREA AT THE END OF EACH DAY'S WORK.

12. AT ALL TIMES, THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT UNDERGROUND UTILITIES, STRUCTURES AND OTHER ASSOCIATED FACILITIES FROM DAMAGE DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MEASURES OF PROTECTION. ANY DAMAGED FACILITIES SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE CITY OR ENGINEER AT THE CONTRACTORS EXPENSE.

13. THERE SHALL BE NO DEVIATIONS FROM THESE PLANS UNLESS APPROVED IN WRITING BY THE ENGINEER AND THE OWNER.

14. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.

15. CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COST.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED MATERIAL TEST RESULTS TO THE ENGINEER OF THE RECORD PRIOR TO THE RELEASE OF FINAL CERTIFICATION BY THE ENGINEER, TEST RESULTS MUST INCLUDE, BUT MAY NOT BE LIMITED TO, DENSITIES FOR SUBGRADE AND BASE DENSITIES AT UTILITY CROSSINGS, MANHOLES, INLETS, STRUCTURES. TEST SHALL INCLUDE ASPHALT GRADATION REPORTS, CONCRETE CYLINDERS, ETC.

17. WHERE NEW ASPHALT MEETS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE SAW CUT TO PROVIDE A STRAIGHT EVEN LINE.

18. PRIOR TO REMOVING CURB OR GUTTER, THE ADJACENT ASPHALT SHALL BE SAW CUT TO PROVIDE A STRAIGHT EVEN LINE.

19. ALL PROPOSED ELEVATIONS REFER TO FINISHED GRADES.

20. CONCRETE WALKS SHALL BE 4 INCHES THICK HAVING A 3,000 PSI STRENGTH, POURED OVER PROPERLY PREPARED SUBGRADE. ALL CONCRETE SIDEWALKS SHALL BE 8 INCHES THICK ACROSS DRIVEWAYS. 1/2 INCH EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM OF 100'. CRACK CONTROL JOINTS SHALL BE 5' ON CENTERS.

21. CORE TESTS SHALL BE TAKEN TO VERIFY THICKNESS AND SUBSURFACE COMPACTION. PROVIDE FOR THREE SAMPLES, RANDOMLY LOCATED. TEST FOR EXTRACTION, GRADATION, LABORATORY DENSITY, AND MARSHALL'S STABILITY. PROVIDE A CERTIFICATE FROM THE TESTING AGENCY THAT MATERIALS AND INSTALLATION COMPLY WITH SPECIFICATIONS, SIGNED BY THE ASPHALTIC CONCRETE PRODUCER AND CONTRACTOR. ALL COSTS OF TESTS SHALL BE PAID BY THE CONTRACTOR. IF TESTS SHOW THE INSTALLATION DOES NOT MEET SPECIFICATIONS, THE PAVING SHALL BE REMOVED, REPLACED, AND RETESTED.

22. IF ANY MUCK-LIKE MATERIAL IS DISCOVERED, IT WILL BE REQUIRED TO BE REMOVED, BACKFILLED WITH APPROPRIATE FILL, COMPACTED, AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.

23. FILL MATERIAL IS TO BE PLACED IN ONE FOOT LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 95% FOR BUILDING PADS AND ALL OTHER AREAS AS PER AASHTO T-180).

24. NO BURYING OF ANY ORGANIC MATERIALS ALLOWED.

SITE AND GENERAL INFORMATION

1. THE PROPERTY AREA BOUNDARY CONSISTS OF 110,017 SF OR 2.562 ACRES. FOR BOUNDARY AND TOPOGRAPHIC SURVEY REFER TO THE SURVEY PERFORMED BY A1A GEO, INC., PROJECT No. 2014_48, FILE No. 2014_48 (SEE SHEET No. 2 OF THESE PLANS).
2. THE CURRENT ZONING IS B-8 (COMMERCIAL).
3. THE TAX PARCEL NUMBER IS 30-14-32-00-00-0291.
6. THE EXISTING SITE CONDITION IS DEVELOPED. THE FLUCFCS LAND USE IS (414) PINE - MESIC OAK.
7. PER THE USDA NATURAL RESOURCES CONSERVATION SERVICE FOR VOLUSIA COUNTY, THE SCS SOILS MAP INDICATES THE SITE CONSISTS OF (32) MYAKKA FINE, HYDROLOGIC SOIL GROUP B/D, (51) POMONA - ST. JOHNS COMPLEX, HYDROLOGIC SOIL GROUP B/D AND (TAVARES FINE SAND, HYDROLOGIC SOIL GROUP A.
8. THE SITE IS LOCATED WITHIN ZONE "X" PER FEMA MAP PANEL No. 12127C0213 J, DATED FEBRUARY 19, 2014.
9. ELECTRICAL UTILITY SERVICE WILL BE PROVIDED BY FLORIDA POWER & LIGHT. NATURAL GAS WILL BE PROVIDED BY TECO PEOPLES GAS COMPANY. TELEPHONE, CABLE AND INTERNET SERVICE WILL BE PROVIDED BY AT&T. CABLE TV AND INTERNET CAN ALSO BE PROVIDED BY BRIGHTHOUSE NETWORKS.
10. SOLID WASTE WILL BE COLLECTED AND DISPOSED OF BY WASTE MANAGEMENT, INC.
11. THE SITE IS NOT LOCATED WITHIN THE LIMITS OF A WELLHEAD PROTECTION ZONE AND THERE IS NO ORDINARY HIGH WATER (OHW) LINE WITHIN THE SITE.
12. STORMWATER WILL BE PROVIDED BY A DRY RETENTION POND SYSTEM DESIGNED SO THAT THE POST DEVELOPMENT DISCHARGE RATE AND VOLUME DOES NOT EXCEED THE PREDEVELOPMENT DISCHARGE RATE AND VOLUME FOR MEAN ANNUAL AND 25-YEAR, 24-HOUR STORM EVENTS.
13. POTABLE WATER AND WASTEWATER UTILITIES PROVIDED BY CITY OF ORMOND BEACH.
14. ONLY THE WATER FOR THE IRRIGATION METER WILL BE PROVIDED BY CITY OF ORMOND BEACH.
15. ALL ON-SITE WATER AND SEWER FACILITIES ARE OWNED AND MAINTAINED BY THE PROPERTY OWNER.

LEGEND

NOTE: NOT ALL SYMBOLS SHOWN HERE MAY BE APPLICABLE TO THESE DRAWINGS, ALSO THERE MAY BE ADDITIONAL SYMBOLS WITHIN PLANS NOT SHOWN HERE, SEE INDIVIDUAL DRAWING LEGEND WHERE APPLICABLE.

Symbol	Description	Symbol	Description
#3	BENCHMARK ID		EXISTING EASEMENT
B24	BORING ID	FOC	EXISTING UNDERGROUND FIBER OPTIC CABLE
TV	EXISTING CABLE TV PEDESTAL	#FM	EXISTING FORCE MAIN (# INDICATES SIZE)
	EXISTING CAP OR PLUG	GAS	EXISTING GAS MAIN
	EXISTING CLEAN OUT	OHE	EXISTING OVERHEAD ELECTRIC CABLES
	EXISTING CONDUIT RISER/ MARKER	OHT	EXISTING OVERHEAD TRAFFIC SIGNAL CABLE
E	EXISTING ELECTRIC METER	#RAW	EXISTING RAW WATER MAIN (# INDICATES SIZE)
+11.7	EXISTING ELEVATION (SOFT)	#REC	EXISTING RECLAIM WATER MAIN (# INDICATES SIZE)
5.0±	PROPOSED ELEVATION (SOFT)	#SAN	PROPOSED SANITARY SEWER (# INDICATES SIZE)
+11.75	EXISTING ELEVATION (HARD)	#WM	PROPOSED WATER MAIN (# INDICATES SIZE)
5.00	PROPOSED ELEVATION (HARD)	12	EXISTING CONTOUR
	EXISTING FIRE HYDRANT	10	PROPOSED CONTOUR (SOFT)
	PROPOSED FIRE HYDRANT	10	PROPOSED CONTOUR (HARD)
	EXISTING FLOW DIRECTION	UTEL	EXISTING UNDERGROUND TELEPHONE CABLE
	PROPOSED FLOW DIRECTION	UTV	EXISTING UNDERGROUND TELEVISION CABLE
	EXISTING GAS METER	UGE	EXISTING UNDERGROUND ELECTRICAL POWER CABLE
	EXISTING GAS VALVE		JURISDICTIONAL WETLAND LINE
	EXISTING GUY WIRE & ANCHOR PIN	8SAN	EXISTING SANITARY SEWER (# INDICATES SIZE)
	EXISTING MAIL BOX	8WM	EXISTING WATER MAIN (# INDICATES SIZE)
	EXISTING MANHOLE (UNKNOWN)		EXISTING PIPE OR CONDUIT (TYPE SPECIFIED)
	PROPOSED MANHOLE		EXISTING SWALE OR CENTER OF DITCH
	EXISTING SANITARY SEWER CLEANOUT		PROPOSED SWALE OR CENTER OF DITCH
SS	EXISTING SANITARY SEWER MANHOLE		EXISTING TOP OF DITCH BANK
	EXISTING ROAD SIGNS AND POSTS		EXISTING BOTTOM OF DITCH BANK
	PROPOSED SIGN AND POST	//	EXISTING WOOD FENCE
	EXISTING TEE		EXISTING WIRE OR CHAIN LINK FENCE
	EXISTING UTILITY POLE		PROPOSED WIRE OR CHAIN LINK FENCE
	EXISTING VALVE IRRIGATION		PROPOSED SILT/SEDIMENT FENCE
	EXISTING VALVE WATER		PROPOSED COIR ROLL OR WATTLE
	PROPOSED WATER VALVE		PROPOSED FLOATING TURBIDITY BARRIER
	EXISTING WATER METER	TP	PROPOSED TREE PROTECTION
	EXISTING STORM SEWER WITH INLET		
	PROPOSED STORM SEWER WITH INLET		
	FOUND 1/2" CAPPED IRON ROD L.B. #3724		
	FOUND 1/2" IRON ROD (NO I.D.)		
	FOUND 1/2" CAPPED IRON ROD L.B. #3724 (WITNESS MONUMENT)		
	FOUND 4" BY 4" CONCRETE MONUMENT L.B. #3724		

SITE DEVELOPMENT USAGE

1. SETBACK:

	BUILDING	LANDSCAPE
FRONT (GRANADA BOULEVARD)	51 FEET	36 FEET
REAR (NORTH)	30 FEET	10 FEET
SIDE (EAST)	10 FEET	6 FEET & 20 FEET @ SR ZONING
SIDE (WEST)	10 FEET	6 FEET

2. EXISTING SITE COVERAGE:

	SQ. FT	ACRE	%	
BUILDING	0	0	0.0	(12% MAX)
CONCRETE	871	0.020	0.8	
OPEN SPACE	109,146	2.506	99.2	
TOTAL SITE	110,017	2.526	100.00	
TOTAL IMPERVIOUS	871	0.020	0.8	(75% MAX)
TOTAL OPEN SPACE	109,146	2.506	99.2	

3. PROPOSED SITE COVERAGE:

	SQ. FT	ACRE	%	
BUILDING	3,847	0.088	3.5	(12% MAX)
PAVEMENT (INCLUDES DUMPSTER)	38,861	0.893	35.3	
CONCRETE SIDEWALKS	2,708	0.062	2.5	
OPEN SPACE	64,601	1.483	58.7	
TOTAL SITE	110,017	2.526	100.00	
TOTAL IMPERVIOUS	45,416	1.043	41.3	(75% MAX)

4. PARKING REQUIREMENTS

1 SPACE PER 3 SEATS + 1 SPACE FOR EACH 2 EMPLOYEES ON THE LARGEST SHIFT
90 SEATS x 1 SPACE / 3 SEATS + 10 EMPLOYEES x 1 SPACE PER 2 EMPLOYEES = 35

TOTAL REQUIRED 35

5. PARKING PROVIDED

STANDARD PARKING 47
HANDICAP PARKING 3
TOTAL PARKING PROVIDED 50

6. BICYCLE PARKING REQUIRED

10% OF PARKING 4

7. BICYCLE PARKING PROVIDED 5

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS - 2014 AND QUALIFIED PRODUCTS LIST

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200	STRUCTURE BOTTOMS - TYPES J AND P	600	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES
201	SUPPLEMENTARY DETAILS FOR MANHOLES AND INLETS	611	MULTILANE, WORK OUTSIDE SHOULDER
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300	CURB & CURB AND GUTTER	17302	TYPICAL SECTIONS FOR PLACEMENT OF SINGLE & MULTIPLE-COLUMN SIGNS
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City of Ormond Beach Site Plan Review Committee — FINAL APPROVAL

ABBREVIATIONS

AWWA WORKS	AMERICAN WATER ASSOCIATION	GW	GROUND WATER	R	RADIUS
CMP PIPE	CORRUGATED METAL	H/C	HANDICAP	RCP	REINFORCED CONCRETE PIPE
CPP	CORRUGATED PLASTIC PIPE	HDPE	HIGH DENSITY POLYETHYLENE	RPM	REFLECTIVE PAVEMENT MARKER
CTV	CABLE TELEVISION	INV	INVERT	R/W	RIGHT-OF-WAY
DIP	DUCTILE IRON PIPE	K_H	HORIZONTAL PERMEABILITY	SAN	SANITARY
ESMT	EASEMENT	K_V	VERTICAL PERMEABILITY	SH	SEASONAL HIGH
EXIST	EXISTING	KO	KNOCK OUT	SMH	SANITARY MANHOLE
FAC	FLORIDA ADMINISTRATIVE CODE	LF	LINEAL FEET	SS	SANITARY SEWER
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	MB	MAP BOOK	SWPPP	STORMWATER POLLUTION PREVENTION PLAN
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY	MES	MITERED END SECTION	SWUCI	SOUTH WALTON UTILITY COMPANY, INC
FH	FIRE HYDRANT	MJ	MECHANICAL JOINT	TSB	TEMPORARY SEDIMENT BASIN
FOC	FIBER OPTIC CABLE	N/A	NOT APPLICABLE	TYP	TYPICAL
FF EL	FINISH FLOOR ELEVATION	NIC	NOT IN CONTRACT	UGE	UNDERGROUND ELECTRIC
FM	FORCE MAIN	NGVD	NATIONAL GEODETIC VERTICAL DATUM	UGT	UNDERGROUND TELEPHONE
FPD	FEET PER DAY	OHE	OVERHEAD ELECTRIC	USACOE	UNITED STATES ARMY CORP OF ENGINEERS
G	GAS	OR	OFFICIAL RECORD	W	WATER (POTABLE)
GPC	GULF POWER COMPANY	PG	PAGE		
		PSI	POUNDS PER SQUARE INCH		
		PVC	POLYVINYL CHLORIDE		
		PVMT	PAVEMENT		

SITE PREPARATION FOR PAVEMENT

1. PRIOR TO CONSTRUCTION, THE LOCATION OF EXISTING UNDERGROUND UTILITY LINES WITHIN THE CONSTRUCTION AREA SHOULD BE ESTABLISHED. PROVISIONS SHOULD BE MADE TO RELOCATE INTERFERING UTILITIES TO APPROPRIATE LOCATIONS. IT SHOULD BE NOTED THAT IF UNDERGROUND PIPES ARE NOT PROPERLY REMOVED OR PLUGGED, THEY MAY SERVE AS CONDUITS FOR SUBSURFACE EROSION WHICH MAY SUBSEQUENTLY LEAD TO EXCESSIVE SETTLEMENT OF THE OVERLYING STRUCTURES.

2. STRIP THE PROPOSED CONSTRUCTION LIMITS OF ALL GRASS, ROOTS, TOPSOIL AND OTHER DELETERIOUS MATERIALS WITHIN AND 5 FEET BEYOND THE PROPOSED PAVEMENT LIMITS. EXPECT INITIAL CLEARING AND GRUBBING TO DEPTHS OF APPROXIMATELY 6 TO 12-INCHES.

3. BASED ON THE GROUND WATER LEVELS AND ANTICIPATED FILL, DEWATERING FOR FOUNDATION EXCAVATION AND COMPACTION IS NOT ANTICIPATED. HOWEVER, IT IS RECOMMENDED IMPLEMENTING TEMPORARY GROUNDWATER CONTROL MEASURES IF THE GROUNDWATER IS WITHIN 2 FEET OF THE REQUIRED DEPTH OF EXCAVATION AT THE TIME OF CONSTRUCTION. DEWATERING MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. GROUNDWATER CONTROL MEASURES SHALL REMAIN IN-PLACE UNTIL COMPACTION OF THE EXISTING SOILS IS COMPLETED AND BACKFILLING HAS REACHED A HEIGHT OF 2 FEET ABOVE THE GROUNDWATER LEVEL AT THE TIME OF CONSTRUCTION. THE SITE SHALL BE GRADED TO DIRECT SURFACE WATER RUNOFF FROM THE CONSTRUCTION AREA.

4. COMPACT THE EXPOSED SURFACE USING TRACTOR / DOZER OR VIBRATORY EQUIPMENT. THE VIBRATORY EQUIPMENT SHALL BE OPERATED IN STATIC MODE WITHIN 75 FEET OF ANY STRUCTURE. THE UPPER 1 FOOT OF SOILS BELOW THE EXPOSED SURFACE WITHIN THE BUILDING AREA SHOULD BE IMPROVED TO ACHIEVE A MINIMUM COMPACTION REQUIREMENT OF 95% OF THE MODIFIED PROCTOR (ASTM D-1557). THE COMPACTED SOILS SHALL EXHIBIT A MOISTURE CONTENT OF 2 PERCENT OF THE SOILS OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D-1557). SHOULD THE SOILS EXPERIENCE PUMPING AND SOIL STRENGTH LOSS DURING THE COMPACTION OPERATIONS, COMPACTION WORK SHALL BE IMMEDIATELY TERMINATED AND (1) THE DISTURBED SOILS REMOVED AND BACKFILLED WITH DRY STRUCTURAL FILL SOILS WHICH ARE THEN COMPACTED, OR (2) THE EXCESS MOISTURE CONTENT WITHIN THE DISTURBED SOILS IS ALLOWED TO DISSIPATE BEFORE RECOMPACTING.

5. TEST THE COMPACTED SURFACE FOR COMPLIANCE AT A MINIMUM OF ONE (1) LOCATION PER 2,500 SQUARE FEET WITHIN THE BUILDING AREA OR AT A MINIMUM OF FOUR (4) LOCATIONS.

6. PLACE THE COMPACT BACKFILL MATERIAL AS REQUIRED. THE FILL SHALL CONSIST OF "CLEAN" FINE SAND WITH LESS THAN 5 PERCENT SOIL FINES. PLACE FILL IN UNIFORM 10 TO 12-INCH LOOSE LIFTS AND COMPACT EACH LIFT TO A MINIMUM DENSITY OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DENSITY WITH THE EXCEPTION THAT DENSITIES OF AT LEAST 98 PERCENT PERCENT SHALL BE OBTAINED WITHIN THE UPPER ONE FOOT BELOW BASE COURSE. COMPACTED SOILS SHALL EXHIBIT MOISTURE CONTENT WITHIN 2 PERCENT OF THE SOILS OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D-1557). IF LIGHT EQUIPMENT IS USED, THEN THE LIFT THICKNESS SHALL BE REDUCED TO 8-INCH THICK LIFTS.

7. PERFORM COMPLIANCE TESTS WITHIN THE BACKFILL AND FILL SOILS AT A MINIMUM OF ONE LOCATION PER 2,500 SQUARE FEET PER LIFT (MINIMUM OF FOUR LOCATIONS).

8. COMPACT AND TEST FOOTING CUTS FOR COMPACTION TO A DEPTH OF ONE FOOT BELOW BEARING LEVEL. TEST ONE OUT OF EVERY FOUR (25 PERCENT) COLUMN FOOTINGS AND PERFORM ONE TEST PER EVERY 50 LINEAL FEET OF WALL FOOTING. COMPACTION OPERATIONS IN CONFINED AREAS, SUCH AS FOOTING EXCAVATIONS, CAN BE BEST PERFORMED WITH A LIGHTWEIGHT VIBRATORY SLED OR OTHER HAND-HELD COMPACTION EQUIPMENT.

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

NEWKIRK ENGINEERING
1370 North US1, Suite 204
Ormond Beach, Florida 32174
Phone (386) 290-7599
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Certificate of Authorization No. 30219
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Civil Engineering
Land Development
Construction Engineering & Inspection

ZAXBY'S

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DEVELOPMENT INFORMATION
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	

DRAWING NUMBER
3

LEGEND:

Symbol	Description
—□—	PROPOSED SILT FENCE (SEE DETAIL SHEET No. 5)
—TP—	PROPOSED TREE BARRICADE (SEE DETAIL SHEET No. 5)
(hatched)	PROPOSED AGGREGATE
(10)	EXISTING TREE (No. INDICATES SIZE)
⊗10	TREE TO BE REMOVED

SCALE: 1" = 20'

Know what's **below.** **Call** before you dig.

WARNING !!
CONTRACTOR SHALL TAKE ALL PRECAUTIONS DURING CONSTRUCTION TO AVOID CONTACT WITH EXISTING UNDERGROUND UTILITIES AND OVERHEAD ELECTRIC IN THE RIGHT-OF-WAY.

LAND ALTERATION / TREE PRESERVATION NOTES:

1. ALL TREES TO REMAIN MUST BE PROTECTED BY TREE PRESERVATION BARRICADES MEETING THE MINIMUM STANDARDS. PROTECTIVE BARRICADES SHALL REMAIN IN PLACE UNTIL LAND ALTERATION AND CONSTRUCTION ACTIVITIES ARE COMPLETED.
2. ALL TRIMMING SHALL BE UNDERTAKEN ON A TREE PROTECTED BY THE PROVISIONS OF THE LAND DEVELOPMENT CODE SHALL BE IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A-300 PRUNING STANDARDS.
3. OAK TREES LARGER THAN 36-INCHES AND ABOVE (HISTORIC) PRUNING SHALL BE PERFORMED BY AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE OR A REGISTERED CONSULTING ARBORIST WITH THE AMERICAN SOCIETY OF CONSULTING ARBORISTS. THE ARBORIST SHALL UNDERSTAND THAT THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A300 PRUNING STANDARDS IS A STANDARD OF DIVISION 4.0.
4. ALL TREE ROOTS EXISTING WITHIN APPROVED IMPROVEMENT AREAS AND ORIGINATING FROM A PROTECTED TREE, SHALL BE SEVERED CLEAN AT THE LIMITS OF THE PRESERVED AREA WHERE INDICATED ON THIS PLAN.

TREE LEGEND :

	Symbol	SITE EXISTING	SITE REMOVED	OFFSITE REMOVED
ASH TREE	8	5	5	0
CEDAR TREE	9	2	2	0
MAPLE TREE	12	1	1	0
OAK TREE	10	95	61	6
PINE TREE	24	2	1	0
PALM TREE	11	88	66	3
		193	136	9

SPECIMEN TREE LEGEND:

	Symbol	EXISTING	REMOVED
TREE (24" TO 35")	24	4	0

HISTORIC TREE LEGEND:

	Symbol	EXISTING	REMOVED
TREE (36" OR GREATER)	36	1	0

EROSION CONTROL NOTES:

1. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE SWPPP DURING CONSTRUCTION OPERATIONS.
2. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL DEVICES HAVE BEEN INSTALLED.
3. THE CONTRACTOR SHALL POST "NO TRESPASSING" SIGNAGE AT ALL SITE ENTRANCES PRIOR TO CONSTRUCTION.
4. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN AND AT LEAST ONCE A WEEK.
5. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
6. GENERAL CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
7. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
8. NO TURBID WATER SHALL BE DISCHARGED OFF-SITE FROM THE DEWATERING OPERATION. CONTRACTOR SHALL TAKE MEASURES TO CONTROL TURBIDITY.
9. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OF NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
11. PROVIDE DUST CONTROL FOR ALL EARTHWORK OPERATIONS. COVER AREA WITH LIGHT COATING OF WATER OR OTHER APPROVED METHOD.

SWPPP INSPECTIONS AND RECORD KEEPING:

INSPECTIONS ARE REQUIRED AT LEAST EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS FOLLOWING A RAINFALL EVENT OF ONE-HALF (½) OF AN INCH OF RAINFALL OR GREATER AND SHALL CONTINUE UNTIL THE SITE COMPLIES WITH FINAL STABILIZATION (NOTICE OF TERMINATION). INSPECTIONS MUST BE CONDUCTED BY A "QUALIFIED" INSPECTOR. "QUALIFIED" IS DEFINED AS A PERSON THAT A). HAS SUCCESSFULLY COMPLETED AND MET ALL REQUIREMENTS NECESSARY TO BE FULLY CERTIFIED THROUGH THE FDEP STORMWATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR TRAINING PROGRAM; B). HAS SUCCESSFULLY COMPLETED AN EQUIVALENT FORMAL TRAINING PROGRAM; OR C). THAT IS QUALIFIED BY OTHER TRAINING OR PRACTICAL EXPERIENCE IN THE FIELD OF STORMWATER POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL. EACH INSPECTION MUST BE FOLLOWED UP BY A REPORT DOCUMENTING THE INSPECTOR'S FINDINGS AND REQUEST THE REQUIRED MAINTENANCE AND/OR REPAIR FOR THE EROSION AND SEDIMENTATION CONTROL MEASURES. THESE RECORDS ARE USED TO PROVE THAT THE REQUIRED INSPECTION AND MAINTENANCE WERE PERFORMED AND SHALL BE PLACED IN THE SWPPP LEDGER. IN ADDITION TO INSPECTION AND MAINTENANCE REPORTS, RECORDS SHOULD BE KEPT OF CONSTRUCTION ACTIVITIES THAT OCCUR ON THE SITE. THE CONTRACTOR SHALL RETAIN COPIES OF THE SWPPP, ALL REPORTS AND DATA FOR A MINIMUM OF FIVE (5) YEARS AFTER THE PROJECT IS COMPLETE IN PAPER AND CD FORMAT.

DIRT DRIVEWAY LEGEND

6" COMPACTED DIRT ROAD
98% MODIFIED PROCTOR MAX DRY DENSITY PER ASTM D1557, ASSHTO T-180 (6" LIFTS)

DEMOLITION AND SWPPP NOTES:

1. ALL EROSION CONTROL DEVICES AND VISIBLE BARRICADES SHALL BE INSTALLED AND APPROVED BY THE ENGINEER PRIOR TO THE START OF CLEARING AND GRUBBING.
2. THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH THE CITY AS SPECIFIED PRIOR TO START OF CONSTRUCTION.
3. THE SITE SHALL BE CLEARED AND GRUBBED OF ALL VEGETATION AND DEBRIS WITHIN THE APPROXIMATE LIMITS OF CLEARING AS INDICATED ON THE DRAWING.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY OF ORMOND BEACH UTILITY DEPARTMENT, FLORIDA SUNSHINE AND EMERGENCY SERVICES FOR RESPECTIVE UTILITY LOCATIONS AND "NOTICE" OF CONSTRUCTION ACTIVITY.
5. ALL REMOVED MATERIAL SHALL BE HAULED OFF-SITE TO AN APPROVED LANDFILL. TREES MAY BE LOGGED OR MULCHED FOR OFF-SITE DISPOSAL AT THE CONTRACTOR'S DISCRETION.
6. ALL EROSION CONTROL DEVICES SHALL BE PLACED PRIOR TO THE START OF WORK AND REMAIN IN PLACE UNTIL ALL WORK IS COMPLETE.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION AND REMOVAL OF DEBRIS AND SILT BEHIND EROSION CONTROL DEVICES..
8. ALL INLETS AND PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY INLET PROTECTION MEASURES TO PREVENT SILTATION IN THE DRAINAGE SYSTEM (SEE DETAILS THIS DRAWING). THE ENTIRE DRAINAGE SYSTEM SHALL BE CLEANED OF ALL DEBRIS PRIOR TO FINAL ACCEPTANCE.
9. ALL OFF-SITE AREAS DISTURBED DURING CONSTRUCTION ACTIVITY SHALL BE IMMEDIATELY RESTORED TO PRIOR CONDITION UPON COMPLETION OF WORK.
10. SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION, BLOWING SAND AND THE IMPACT TO NEIGHBORING PROPERTIES.
11. THE CONTRACTOR SHALL PROVIDE THE ENGINEER, CITY A MOT PLAN AT PRECONSTRUCTION MEETING. TRAFFIC SHALL BE ALLOWED TO CONTINUE DURING WORK. PROVIDE MEASURES TO DETOUR TRAFFIC AROUND OPEN EXCAVATION WITH ADEQUATE BARRICADES, SIGNAGE AND FLAGPERSON TO DIRECT TRAFFIC. EMERGENCY SERVICES SHALL BE NOTIFIED 48 HOUR IN ADVANCE.
12. EXISTING DRIVEWAYS SHOWN ADJACENT TO OR OUTSIDE LIMITS OF CONSTRUCTION SHALL REMAIN IN-SERVICE. EXISTING UTILITIES AND DRIVEWAYS SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.
13. IF ANY DEWATERING IS TO OCCUR DURING ANY PHASE OF CONSTRUCTION THEN DEWATERING ACTIVITY SHALL ADHERE TO CHAPTER 40C-22 FAC MORE SPECIFICALLY AS FOLLOWS. PER 40C-22.030(3) A "NOTICED GENERAL SHORT-TERM DEWATERING PERMIT" IS REQUIRED "ONLY IF" DEWATERING EXCEEDS 4 MILLION GALLONS PER DAY, EXCEPT DURING THE FIRST 120 HOURS OF DEWATERING WHEN THE DAILY AND INSTANTANEOUS PUMPAGE RATES SHALL NOT EXCEED 6 MILLION GALLONS PER DAY. AVERAGE DAILY WITHDRAWAL SHALL NOT EXCEED 2 MILLION GALLONS PER DAY FOR THE FIRST 60 DAYS OF THE DEWATERING ACTIVITY AND SHALL NOT EXCEED ONE MILLION GALLONS PER DAY OF A 180 DAY DURATION. EACH SPECIFIC DEWATERING PROJECT SHALL NOT EXCEED 180 DAYS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE ANY DEWATERING ACTIVITY IS BELOW THE SPECIFIED THRESHOLD. OTHERWISE A PERMIT WILL BE REQUIRED AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL FAMILIARIZE ITSELF WITH CHAPTER 40C-22 FAC AND BE SOLELY RESPONSIBLE FOR OBTAINING AND SUBMITTING FORM RDS-50 TO SJRWMD A MINIMUM OF 10 DAYS PRIOR TO ANY DEWATERING ACTIVITY. SUBMITTAL OF FORM RDS-50 IS NOT REQUIRED IF DEWATERING IS 300,000 GALLONS PER DAY OR LESS AND WILL NOT EXCEED 30 DAYS IN DURATION.

REVISIONS

DATE	DESCRIPTION
8/13/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

City of Ormond Beach FINAL APPROVAL Site Plan Review Committee

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DEMOLITION, TREE REMOVAL AND SWPPP PLAN

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	1" = 20'

DRAWING NUMBER

4

CURB INLET WITHOUT GRATE

CURB INLET WITH GRATE

NOTES:

1. INSTALL FILTER PRIOR TO BEGINNING CONSTRUCTION.
2. INSPECT ONCE EACH WEEK AND AFTER ANY RAIN EVENT. REMOVE ANY FINES AND DEBRIS THAT MAY HAVE ACCUMULATED AND DISPOSE OF PROPERLY.

CURB INLET SEDIMENT PREVENTION DETAIL

NOT TO SCALE

YARD INLET PROTECTION

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)

CURB INLET PROTECTION

GENERAL NOTES:

1. GEOTEXTILE TO BE MIRAFI FILTERWEAVE 402 OR GEOTEX 111F. ALTERNATIVES INCLUDE APPROVED EQUAL ASTM D4491 OR 100 TO 150 GALLON PER MINUTE PER SQUARE FOOT.
2. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
3. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
4. FOR CURB INLET PROTECTION AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
5. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
6. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS, OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

GEOTEXTILE FABRIC INLET PROTECTION

(NOT TO SCALE)

NOTE:

1. SEDIMENT CONTROL STONE SHALL BE 3/4" WASHED STONE.
2. WIRE MESH SHALL BE HARDWARE CLOTH 23 GAUGE MIN. AND SHALL HAVE 1/4 INCH MESH
3. TOP OF WIRE MESH SHALL BE A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR ANY DIVERSION POINT.
4. STEEL POST SHALL BE 5 FT. IN LENGTH, BE INSTALLED 1.5 FT. DEEP MINIMUM, AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
5. WOOD POST SHALL BE 5 FT. IN HEIGHT, BE INSTALLED TO 1.5 FT. DEEP MINIMUM, AND BE 3 INCHES IN DIAMETER.
6. POST SPACING SHALL BE A MAXIMUM OF 4 FT.

HARDWARE CLOTH INLET PROTECTION

(NOT TO SCALE)

City of Ormond Beach
FINAL APPROVAL
Site Plan Review Committee

NOTE:

SEE SITE PLAN FOR LOCATION. THE DISCHARGE OF DEWATERED FLUID SHALL BE CHECKED DAILY AS PART OF THE SWPPP. NO DISCHARGE IS PERMITTED INTO WETLAND AREAS. IF TURBID WATER IS RELEASED, STOP DISCHARGE IMMEDIATELY AND CORRECT THE PROBLEM.

TYPICAL DEWATERING DISCHARGE DETAIL

NOT TO SCALE

FOR POND SIZE
L x W PER 1' DEPTH

100'x100'	10,800 CF
150'x150'	23,700 CF
200'x200'	41,600 CF

NOTE:

SIZED AT A MINIMUM OF 3,600 CF PER ACRE OF DISTURBED AREA.

TEMPORARY SEDIMENT POND DETAIL

NOT TO SCALE

NOTE:

USE DOZER TRACKS TO CREATE GROOVES PERPENDICULAR TO THE SLOPE. GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE SEDIMENT IN RUNOFF.

TRACKING DETAIL

NOT TO SCALE

NOTES:

1) CUTS ARE TO BE MADE CLEANLY WITH A SHARP ROOT PRUNING TOOL (SUCH AS A DOSCO OR VERMEER ROOT PRUNER).

2) INSTALL ORANGE PLASTIC MESH TREE BARRIER, WITH REBAR SUPPORTS, AT POINT OF PRUNING AND CONTINUE COMPLETELY AROUND TREE, PROTECTING THE AREA WITHIN THE DRIP LINE (EXTENT OF OUTER BRANCHES).

STANDARD CONSTRUCTION DETAIL
ROOT PRUNING
NTS.
INDEX LS-2
MARCH 2014

STANDARD CONSTRUCTION DETAIL
TREE BARRICADE
NTS.
INDEX LS-4
MARCH 2014

ES BMP 1.01

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

DEFINITION

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

PURPOSE

TO REDUCE THE AMOUNT OF SEDIMENT TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.

CONDITIONS WHERE PRACTICE APPLIES

WHEREVER TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVES DIRECTLY ONTO A PUBLIC ROAD OR OTHER PAVED AREA.

PLANNING CONSIDERATIONS

CONSTRUCTION ENTRANCES PROVIDE AN AREA WHERE MUD CAN BE REMOVED FROM CONSTRUCTION VEHICLE TIRES BEFORE THE ENTER A PUBLIC ROAD. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLE ENTERS A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF-SITE. CONSTRUCTION ENTRANCES SHOULD BE USED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF MUD PICKED UP BY CONSTRUCTION VEHICLES.

DESIGN CRITERIA

AGGREGATE SIZE

FDOT AGGREGATE NO. 1 (1.5 – 3.5 INCH STONE) SHOULD BE USED.

ENTRANCE DIMENSIONS

AGGREGATE LAYER MUST BE AT LEAST 6 INCHES THICK. IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR INGRESS AND EGRESS AREA. THE LENGTH OF THE ENTRANCE MUST BE AT LEAST 50 FEET. (SEE DETAIL).

WASHING

IF CONDITIONS OF THE SITE ARE SUCH THAT THE MAJORITY OF THE MUD IS NOT REMOVED BY THE VEHICLES TRAVELING OVER THE GRAVEL, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING A PUBLIC ROAD. WASH WATER MUST BE CARRIED AWAY FROM THE ENTRANCE TO A SETTLING AREA TO REMOVE SEDIMENT. A WASH RACK MAY ALSO BE USED TO MAKE WASHING MORE CONVENIENT AND EFFECTIVE. SEE DETAIL.

LOCATION

THE ENTRANCE SHOULD BE LOCATED TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.

INDICATE PROPOSED LOCATION OF GRAVEL CONSTRUCTION ENTRANCE ON THE GRADING PLAN.

CONSTRUCTION SPECIFICATIONS

THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL. THE GRAVEL SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE USED, THEY SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE TO MANUFACTURER'S SPECIFICATIONS.

MAINTENANCE

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE, AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

NOTE: COMPLY WITH FDOT REQUIREMENTS FOR SOIL TRACKING PREVENTION DEVICE IN FDOT ROADWAY ROW (INDEX NO. 106)

STANDARD CONSTRUCTION DETAIL
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NTS
INDEX M-13
MARCH 2014

Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE

Note: Spacing for Type III Fence to be in accordance with FDOT Design Index No. 102, Chart I, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

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

SILT FENCE APPLICATIONS

STANDARD CONSTRUCTION DETAIL
EROSION CONTROL – SILT FENCE
NTS
INDEX M-15
MACH 2014

CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

THE FOLLOWING MEASURES REPRESENT MINIMUM STANDARDS TO BE ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF A PROJECT. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO BE EMPLOYED WHEN WARRANTED BY EXTREME CONDITIONS AND/OR THE FAILURE OF THE CONTRACTOR TO EMPLOY THE APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICES. FAILURE TO COMPLY WITH THESE PROVISIONS SHALL RESULT IN THE ISSUANCE OF A "STOP WORK ORDER".

1. NO DISTURBANCE OF PROPOSED CONSERVATION EASEMENTS, NATURAL BUFFERS, OR WATER BODIES IS PERMITTED. THE CONTRACTOR SHALL LOCATE THESE AREAS ON SITE AND BARRICADE THEM TO AVOID ANY UNAUTHORIZED CLEARING. BARRICADES AND OTHER PROTECTIVE FENCING ARE TO BE LOCATED AT THE DRIP LINE OF EXISTING NATIVE TREES OR AT THE EDGE OF THE NATIVE UNDER– STORY HABITAT, WHICHEVER IS NEAREST TO THE CONSTRUCTION ACTIVITY.
2. SPECIMEN AND HISTORIC TREES, CONSERVATION EASEMENTS, NATURAL VEGETATION BUFFERS, AND SIMILAR AREAS MUST BE PROTECTED BY BARRICADES OR FENCING PRIOR TO CLEARING. BARRICADES ARE TO BE SET AT THE DRIP LINE OF THE TREES AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. BARBED WIRE IS NOT PERMITTED AS A PROTECTIVE BARRIER.
3. WHERE A CHANGE OF GRADE OCCURS AT THE DRIP LINE OF A SPECIMEN TREE, SILT FENCES WILL BE REQUIRED DURING CONSTRUCTION AND RETAINING WALLS MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE BY THE CITY.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND EROSION CONTROL STRUCTURES AND MEASURES IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORK, INCLUDING PRELIMINARY GRUBBING. THESE MEASURES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY CONSTRUCTION FENCES, SYNTHETIC JUTE BALES, WATTLES, &/OR HAVE BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED, SILT FENCES, AND FLOATING TURBIDITY BARRIERS. FURTHER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION CONTROL DEVICES THROUGHOUT THE DURATION OF THE ENTIRE PROJECT. MAINTENANCE SHALL INCLUDE PERIODIC INSPECTION AND REMOVAL OF DEBRIS ABUTTING EROSION CONTROL DEVICES.
5. PRIOR TO THE INSTALLATION OF ANY FILL MATERIALS ON SUBJECT SITE, SILT FENCES SHALL BE INSTALLED (1) ALONG SUBJECT SITE BOUNDARY AND PROPERTY LINES, (2) AT THE EDGE OF CONSERVATION EASEMENTS AND WETLANDS, (3) ADJACENT TO NATURAL LANDSCAPE BUFFERS, (4) AROUND THE PERIMETER OF EXISTING STORM WATER TREATMENT FACILITIES, AND (5) AT ANY ADDITIONAL AREAS THAT THE CITY DEEMS NECESSARY TO BE PROTECTED FROM POTENTIAL EROSION IMPACTS DURING CONSTRUCTION. THESE CONDITIONS SHALL APPLY IN ALL INSTANCES WHERE FILL MATERIAL IS BEING INSTALLED WITHIN 25 FEET OF ANY OF THE AFOREMENTIONED LOCATIONS. WHILE THESE ITEMS REPRESENT THE MINIMUM REQUIREMENTS, THE CITY RESERVES THE RIGHT TO IMPOSE ADDITIONAL PROTECTIVE MEASURES, AS DETERMINED DURING ACTUAL SITE VISITS CONDUCTED AS PART OF THE STANDARD REVIEW OF THE SITE THROUGHOUT PROJECT CONSTRUCTION.
6. AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. SUFFICIENT GRASS COVERAGE IS TO BE ESTABLISHED WITHIN TWO WEEKS.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THROUGH SCHEDULING, TO MINIMIZE THE DISTURBANCE OF SITE AREAS THAT HAVE BEEN BROUGHT TO THEIR PROPOSED FINAL GRADE. WITHIN SEVEN (7) DAYS OF BRINGING A SUBJECT AREA TO ITS FINAL GRADE OR INACTIVITY IN CONSTRUCTION, THE CONTRACTOR SHALL INSTALL SEED AND MULCH OR SOD, AS REQUIRED. ANY PROJECT THAT IS INACTIVE FOR A PERIOD OF 30 DAYS OR MORE SHALL BE STABILIZED TO THE SATISFACTION OF THE CITY OF ORMOND BEACH
8. ONCE AN AREA IS SEEDED OR SODDED, IT MUST BE MAINTAINED BY THE CONTRACTOR TO ALLOW THE GRASS TO BECOME ESTABLISHED. IF THE GRASS IS NOT ESTABLISHED WITHIN TWO WEEKS THE CITY MAY REQUIRE THE CONTRACTOR TO RE–SEED OR A NON–VEGETATIVE OPTION MAY BE EMPLOYED.

A. 9. ABSOLUTELY NO BURYING OF CLEARED MATERIALS IS PERMITTED.

STANDARD CONSTRUCTION DETAIL
CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES
NTS
INDEX M-16A
MARCH 2014

CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

10. THE REMOVAL OF ALL VEGETATION AND TOPSOIL ON THE FUTURE ROADWAY, PARKING AND BUILDING LOT AREAS IS REQUIRED TO BE COMPLETED PRIOR TO THE PLACEMENT OF FILL ON THOSE AREAS. THE TOPSOIL MAY BE TEMPORARILY STOCKPILED AND USED AS TOPSOIL OVER OVER PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED.
11. A SIGNED, DATED, AND SEALED LETTER FROM A SOILS ENGINEER OR THE ENGINEER OF RECORD CERTIFYING THAT THE AREAS TO BE FILLED HAVE BEEN STRIPPED OF ORGANIC MATERIALS, MUST BE SUBMITTED TO THE CITY PRIOR TO FILLING.
10. FILL MATERIAL IS TO BE PLACED IN ONE FOOT LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 95% FOR BUILDING PADS AND ALL OTHER AREAS AS PER AASHTO T–180).
11. DURING SUBDIVISION DEVELOPMENT WHEN FUTURE BUILDING LOTS ARE FILLED AS PART OF THE OVERALL SUBDIVISION IMPROVEMENTS, COMPACTION TEST REPORTS MUST BE PERFORMED ON THE BUILDING LOTS AT 300 FOOT INTERVALS. THESE TESTS ARE TO BE PERFORMED IN ONE–FOOT VERTICAL INCREMENTS. THE RESULTS OF THESE TESTS ARE TO BE SUBMITTED TO THE CITY UPON COMPLETION OF THE TESTS.
12. IF ANY MUCK MATERIAL IS DISCOVERED, IT SHALL BE REQUIRED TO BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL THAT IS PROPERLY BACKFILLED, COMPACTED AND TESTED USING AASHTO T–180 MODIFIED PROCTOR METHOD.
13. STOCKPILING IS NOT GENERALLY PERMITTED BY THE CITY. WHEN ALLOWED, STOCKPILES SHALL NOT EXCEED SIX FEET IN HEIGHT MEASURED FROM THE ORIGINAL GRADE. AT A MINIMUM, STOCK PILES THAT WILL REMAIN IN PLACE IN EXCESS OF TWENTY DAYS SHOULD BE SEEDED AND MULCHED IMMEDIATELY UPON PLACEMENT OF THE FINAL LIFT.
14. SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES. ADEQUATE WATERING METHODS SHOULD BE EMPLOYED TO ALLOW DAILY COVERAGE OF THE ENTIRE LIMITS OF ALL AREAS THAT DO NOT HAVE AN ESTABLISHED VEGETATIVE COVER. METHODS TO BE EMPLOYED INCLUDE, BUT ARE NOT LIMITED TO, WATER TRUCKS, PERMANENT IRRIGATION SYSTEMS, TEMPORARY SPRINKLER SYSTEMS OPERATED BY PUMPING UNITS CONNECTED TO WET RETENTION PONDS, WATER CANNONS, TEMPORARY IRRIGATION SYSTEMS MOUNTED ATOP STOCKPILE AREAS, AND OTHER METHODS AS DEEMED NECESSARY BY THE CITY.
15. ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE.
16. ALL FILL TO BE PLACED IN LANDSCAPED AREAS SHALL HAVE A Ph RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, FREE OF ROCKS AND DEBRIS, OR MATCH NATIVE EXISTING SOILS.
17. OWNER SHALL FILE A "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS REQUIRED BY DEP. CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH ALL PROVISIONS OF THE GENERIC PERMIT INCLUDING BUT NOT LIMITED TO:
    A. PROVIDE SUCH EROSION AND SEDIMENT CONTROL MEASURES AS MAY BE NECESSARY TO PREVENT DISCHARGE OF POLLUTANTS FROM THE SITE FROM THE START OF CONSTRUCTION UNTIL THE FINAL GROUND COVER HAS BEEN ESTABLISHED.
    B. EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE WEEKLY INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES.
    C. EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN 24 HOURS OF EVERY RAINFALL EVENT EXCEEDING ONE–HALF INCH.
    D. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
    E. ADD EROSION AND SEDIMENT CONTROL MEASURES AS SITE CONDITIONS CHANGE.

STANDARD CONSTRUCTION DETAIL
CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES
NTS
INDEX M-16B
MARCH 2014

REVISIONS

DATE	DESCRIPTION
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SWPPP DETAILS AND NOTES
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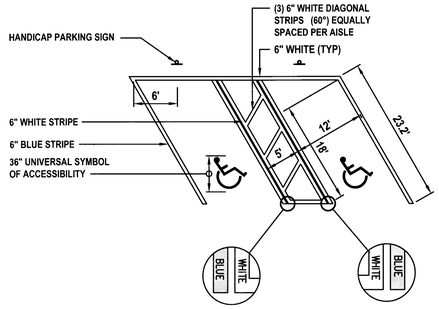
SCALE:	AS SHOWN

DRAWING NUMBER

5

SCALE: 1" = 20'



HANDICAP PARKING STRIPING (UNIVERSAL SPACES PER FLORIDA ADAM)

NOT TO SCALE

GENERAL NOTES:

1. ALL DIMENSIONS AND TIES ARE TO THE EDGE OF PAVEMENT AND OUTSIDE FACE OF BUILDING.
2. ALL IMPROVEMENTS SHALL BE STAKED FOR CONSTRUCTION BY MEANS OF DIGITAL COORDINATES BY SURVEYOR UTILIZING GEODETIC TOTAL STATION OR GPS. SCALING OF DRAWINGS FOR PURPOSES OF STAKING ARE AT THE SURVEYOR'S RISK.
3. THE CONTRACTOR SHALL COORDINATE WITH THE EXISTING ADJACENT BUSINESSES TO ENSURE THERE IS NO DISRUPTION TO THEIR RESPECTIVE OPERATIONS.
4. THE CONTRACTOR AT ITS OWN DISCRETION SHALL MAINTAIN THE CONSTRUCTION SITE SECURE FROM TRESPASS.
5. SOD ALL DISTURBED AREAS IN RIGHT-OF-WAY WITH BAHIA SOD.

PAVEMENT MARKING AND SIGNAGE NOTES:

1. PAINTED PAVEMENT MARKINGS SHALL BE APPLIED AFTER PAVEMENT SURFACE HAS CURED. SURFACE SHALL BE FREE OF FINE SAND AND DEBRIS PRIOR TO APPLICATIONS.
2. APPLY PAINTED PAVEMENT MARKINGS AT LAST STAGE OF CONSTRUCTION AFTER LANDSCAPE PLANTINGS ARE INSTALLED.
3. PAINT SHALL BE SHERWIN WILLIAMS LOW-VOC ACRYLIC PRO PARK PAINT, APPLY PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DRAWINGS FOR LOCATIONS OF SPECIFIC COLORS.
4. ALL REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 17352.
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH INDEX NO. 17301 AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
6. LOCATION OF SIGNS IS APPROXIMATE ONLY AND IS SUBJECT TO CHANGE AS DIRECTED BY THE ENGINEER.
7. FOR ADDITIONAL DETAILS SEE INDEX NO. 11860, 11863, 17302, 17344 AND 17346.
8. ALL TRAFFIC CONTROL SIGNS SHALL BE FABRICATED USING 3M BRAND "SCOTCHLITE" SHEETING (ENGINEER GRADE) ON MINIMUM .08 GA ALUMINUM BLANKS. ALL 36"x48" SIGNS SHALL BE .100 GA MINIMUM AND SHALL BE INSTALLED USING 3"x12" ROUND ALUMINUM POST. ALL STOP SIGNS SHALL BE 36" OCTAGON INSTALLED ON 12.3 LBS/FT "U" CHANNEL POST RAIL STEEL ONLY OR 3"x12' ROUND ALUMINUM POSTS. "U" CHANNEL POSTS MAY BE USED FOR SIGNS SMALLER THAN 36"x36". ALL SPEED LIMIT SIGNS SHALL BE 24"x30".
9. THE "THANK YOU" AND "WELCOME" SIGNS SHALL BE LESS THAN 6 SQUARE FEET AND SHALL HAVE NO ADVERTISING MATTER.

LEGEND

- TYPE 'F' SPILLOUT CURB
- TYPE 'F' CATCH CURB
- TRANSITION LOCATION FROM TYPE 'F' CURB TO DROP CURB
- TRANSITION LOCATION FROM TYPE 'F' CURB TO TYPE "D" CURB
- 24" DETECTABLE WARNING MAT
- SITE LIGHTING

DRIVE THRU KEY:

- (A) DRIVE THROUGH MENU BOARD
- (B) VEHICLE DETECTOR LOOP
- (C) PRE-SELL BOARD
- (D) CLEARANCE BAR

BUILDING DATA TABLE

1. FLORIDA BUILDING CODE TYPE CONSTRUCTION = V
2. NUMBER OF STORIES = 1
3. TOTAL SQUARE FOOT = 3,847
4. FINISH FLOOR ELEVATION = 25.70
5. BUILDING HEIGHT = 20.0'

PAVING LEGEND

HEAVY DUTY ASPHALT PAVEMENT

2" SP-9.5 WITH TACK COAT PER FDOT SPECIFICATIONS
8" LIMEROCK BASE (LBR=100) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" LIFTS)
12" STABILIZED SUBBASE (LBR 40) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (TYPE B STABILIZATION)

*ALTERNATE LIMEROCK BASE COURSE: 8" CRUSHED CONCRETE (LBR=130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" LIFTS)

* ALTERNATE 12" STABILIZED SUBBASE: 6" LIMEROCK (LBR=100) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 OR 6" CRUSHED CONCRETE (LBR=130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180.

*ALTERNATE PAVEMENT TO ASPHALT IS CONCRETE PAVEMENT

LIGHT DUTY ASPHALT PAVEMENT

1.5" SP-9.5 WITH TACK COAT PER FDOT SPECIFICATIONS
6" LIMEROCK BASE (LBR=100) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" LIFTS)
12" STABILIZED SUBBASE (BR 40) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (TYPE B STABILIZATION)

*ALTERNATE LIMEROCK BASE COURSE: 6" CRUSHED CONCRETE (LBR=130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" LIFTS)

* ALTERNATE 12" STABILIZED SUBBASE: 6" LIMEROCK (LBR=100) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 OR 6" CRUSHED CONCRETE (LBR=130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180.

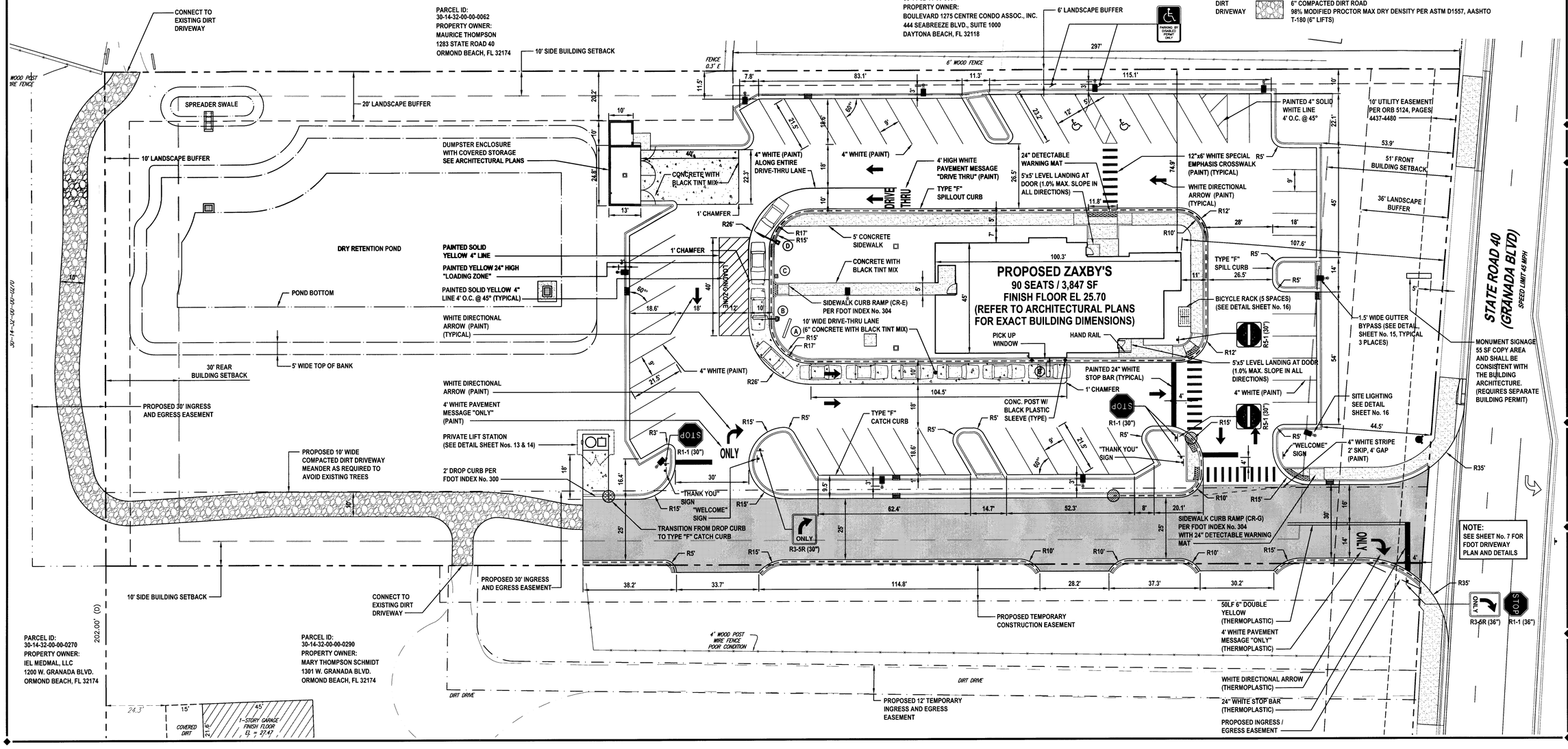
*ALTERNATE PAVEMENT TO ASPHALT IS CONCRETE PAVEMENT

CONCRETE PAVEMENT - 6" CONCRETE (3,000 P.S.I. AT 28 DAYS) 12" STABILIZED SUBGRADE (LBR 40) MIN OF 98% MODIFIED PROCTOR MAX DRY DENSITY PER ASTM D1557, AASHTO T-180 (6" LIFTS) SEE CITY DETAIL R-11A, SHEET No. 17 (CONCRETE FOR DRIVE-THRU LANE SHALL HAVE A BLACK TINT MIX)

CONCRETE SIDEWALK - 4" THICK CONCRETE (MIN.) 3,000 PSI CONCRETE SEE CITY DETAIL M-3, SHEET No. 17 AND SIDEWALK DETAIL SHEET No. 15.

DIRT DRIVEWAY - 6" COMPACTED DIRT ROAD 98% MODIFIED PROCTOR MAX DRY DENSITY PER ASTM D1557, AASHTO T-180 (6" LIFTS)

FINAL APPROVAL — City of Ormond Beach — Plan Review Complete



NOTE: SEE SHEET No. 7 FOR FDOT DRIVEWAY PLAN AND DETAILS

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

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SITE LAYOUT PLAN

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	1" = 20'

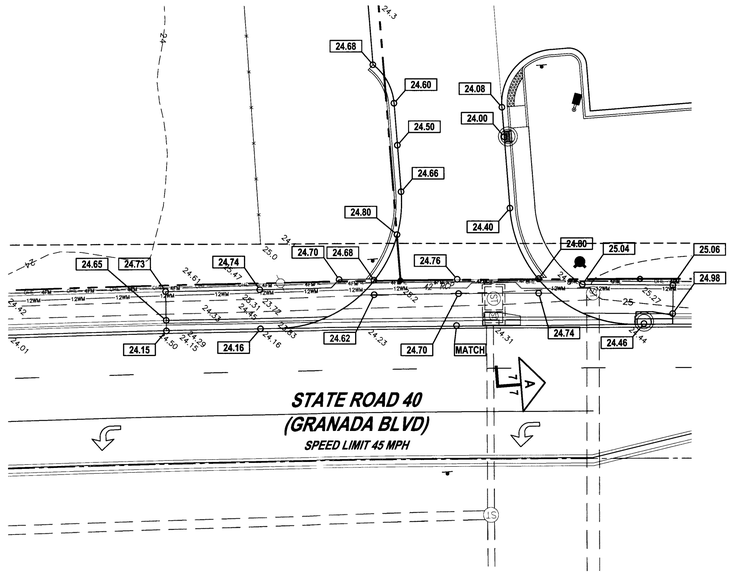
DRAWING NUMBER

6

811 Know what's below. Call before you dig.

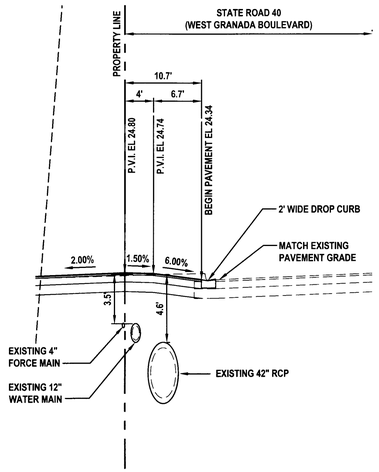
WARNING !!

CONTRACTOR SHALL TAKE ALL PRECAUTIONS DURING CONSTRUCTION TO AVOID CONTACT WITH EXISTING UNDERGROUND UTILITIES AND OVERHEAD ELECTRIC IN THE RIGHT-OF-WAY.



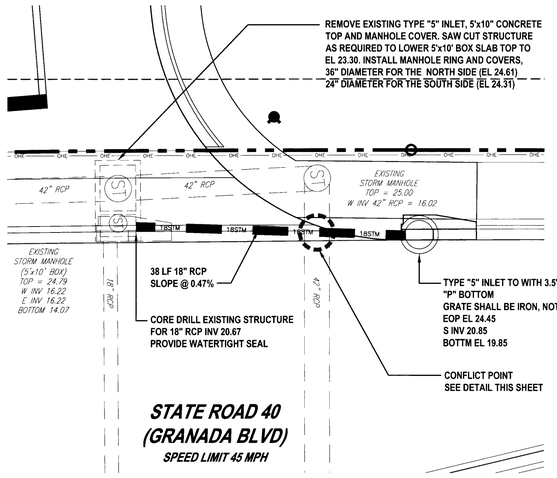
GRADING PLAN

SCALE: 1"=20'



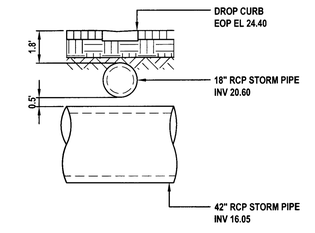
SECTION A

NOT TO SCALE



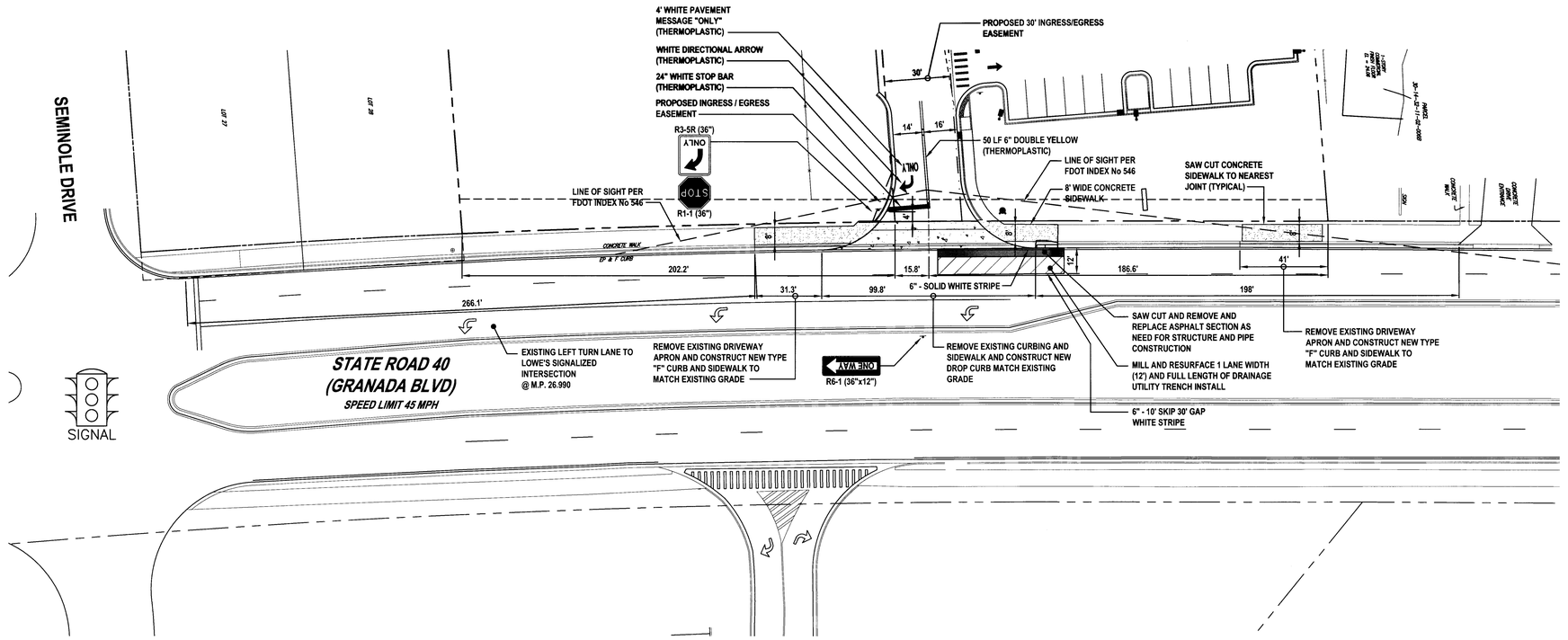
DRAINAGE PLAN

SCALE: 1"=10'



PIPE CONFLICT DETAIL

HORIZONTAL SCALE: N.T.S.



FDOT DRIVEWAY PLAN

SCALE: 1"=30'

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS - 2014 AND QUALIFIED PRODUCTS LIST

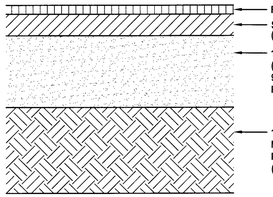
INDEX NO.	DESCRIPTION
102	TEMPORARY EROSION AND SEDIMENT CONTROL
200	STRUCTURE BOTTOMS - TYPES J AND P
205	PIPE BACKFILL
211	CURB INLET TOPS - TYPES 5 AND 6
300	CURB & CURB AND GUTTER
304	PUBLIC SIDEWALK CURB RAMPS
305	CONCRETE PAVEMENT JOINTS
308	CONCRETE SLAB REPLACEMENT
310	CONCRETE SIDEWALK
514	OPTIONAL BASE GROUP AND STRUCTURAL NUMBERS
546	SIGHT DISTANCE AT INTERSECTIONS
600	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES
611	MULTILANE, WORK OUTSIDE SHOULDER
612	MULTILANE, WORK ON SHOULDER
613	MULTILANE, WORK WITHIN THE TRAVEL WAY, MEDIAN OR OUTSIDE LANE
660	PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS
860	ALUMINUM PEDESTRIAN / BICYCLE PICKET RAILING
17302	TYPICAL SECTIONS FOR PLACEMENT OF SINGLE & MULTIPLE-COLUMN SIGNS
17346	SPECIAL MARKING AREAS

GENERAL NOTES:

1. MAINTENANCE OF TRAFFIC TO BE SUPERVISED BY A CERTIFIED PERSON (ON SITE).
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK WITH IN THE FDOT R/W.
3. ALL WORK PERFORMED WITH IN THE FDOT R/W SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN STANDARDS & SPECIFICATION FOR ROAD & BRIDGE, AND ALONG WITH THE UTILITY ACOOMODATION MANUAL.
4. IF THE DEPARTMENT DETERMINES AS-BUILTS WILL BE PROVIDED ALONG WITH RECORD DRAWINGS BY THE ENGINEER.
5. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO REPAIR ANY DAMAGE TO FDOT FACILITIES CAUSED BY THE CONSTRUCTION OF THIS PROJECT.
6. ANY TEST RESULTS TAKEN DURING CONSTRUCTION OF THE PERMITTED WORK SHALL BE PROVIDED TO THE DEPARTMENT UPON REQUEST.
7. ALL CONCRETE TO BE REMOVED SHALL BE SAW CUT TO NEAREST JOINT IN GOOD CONDITION, SO A CONNECTION THAT IS FREE OF CRACKS, DEFORMITIES OR VOIDS & IRREGULARITIES ARE NOT DEFECTIVE.
8. ALL CONCRETE SHALL BE AN APPROVED FDOT MIX DESIGN OF 3,000 PSI.
9. ALL MATERIALS INSTALLED INSIDE FDOT R/W SHALL BE ON THE QUALIFIED PRODUCTS LIST OR APPROVED PRODUCTS LIST.
10. ALL CONSTRUCTION SHALL BE STAKED FOR CONSTRUCTION BY MEANS OF DIGITAL COORDINATES BY SURVEYOR UTILIZING GEODETIC TOTAL STATION. SCALING OF DRAWINGS FOR PURPOSES OF STAKING ARE AT THE SURVEYOR'S RISK.
11. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC AND BARRICADE PLAN TO THE ENGINEER FOR APPROVAL WITH THE BID. INCLUDE THE MOT PLAN AT THE PRECONSTRUCTION MEETING.
12. ALL TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO CONSTRUCTION AND THE FDOT INSPECTOR NOTIFIED FOR APPROVAL.
13. ALL BARRICADES AND POSTED SIGNAGE SHALL REMAIN IN PLACE UNTIL PAVING WORK IS COMPLETE. ALL BARRICADES SHALL BE VERIFIED IN PLACE BY THE CONTRACTOR AT THE END OF EACH WORK DAY.
14. SOD ALL DISTURBED AREAS IN RIGHT-OF-WAY WITH BAHIA.

PAVING LEGEND

FDOT ASPHALT PAVEMENT		FRICTION COURSE: 1.5" FC-12.5 STRUCTURAL COURSE: 1.5" SP-12.5 (TRAFFIC LEVEL D) 10" COMPACTED LIMEROCK, TWO LIFTS (5" EACH), LBR OF 100. COMPACTED TO 98% OF MAXIMUM T-180 MODIFIED PROCTOR. SUBMIT COPIES OF DENSITIES TO FDOT. 12" STABILIZED SUBBASE. LBR MINIMUM OF 40. COMPACTION PER FDOT STANDARD SPECIFICATION 160 (STABILIZING).
FDOT CONCRETE PAVEMENT	8"	8" CONCRETE (3,000 P.S.I. AT 28 DAYS) 12" STABILIZED SUBGRADE (LBR 40) MIN OF 98% MODIFIED PROCTOR MAX DRY DENSITY PER ASTM D1557, AASHTO T-180 (6" LIFTS) CONTROL JOINT SPACING PER FDOT INDEX 305
CONCRETE SIDEWALK		4" THICK CONCRETE (MIN.) 3,000 PSI, CLASS I CONCRETE PER FDOT INDEX 310
MILL & RESURFACE		MILL 1" AVERAGE DEPTH AND RESURFACE WITH 1" FC-12.5



FDOT ASPHALT SECTION

NOT TO SCALE

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City of Ormond Beach Plan Review Comments — FINAL APPROVAL

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FDOT DRIVEWAY PLAN AND DETAILS

1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER

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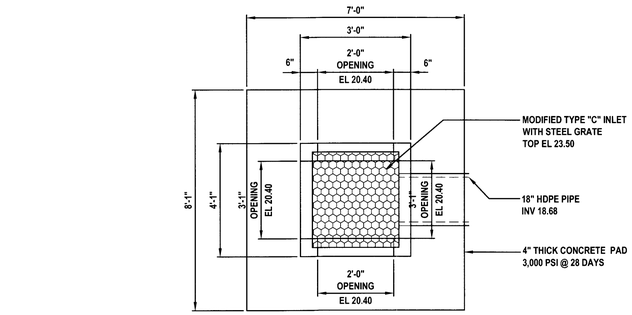
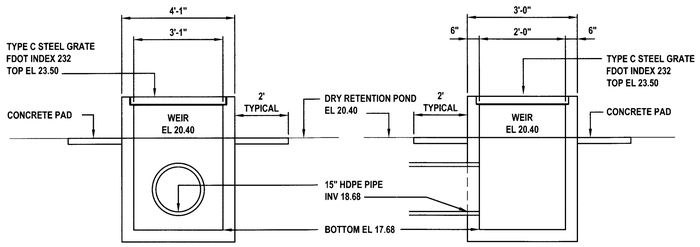
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER

7





INLET I-07 DETAIL

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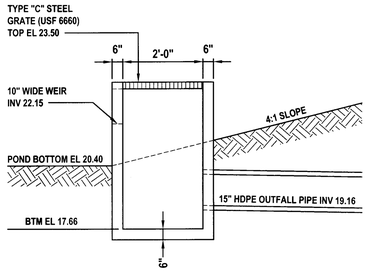
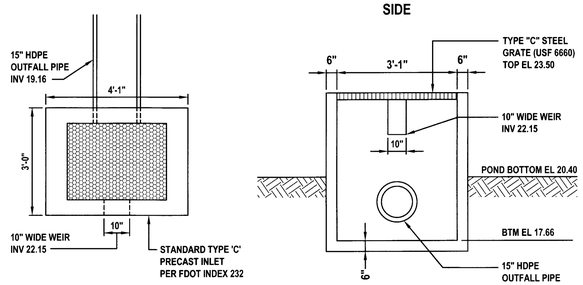


SIDE



PLAN VIEW

SECTION

CONTROL STRUCTURE CS-01 DETAIL

NOT TO SCALE

GENERAL DRAINAGE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO DRAINAGE SYSTEM AND SHALL RESTORE ANY DAMAGED STRUCTURES.
2. ALL PIPE FROM THE BUILDING DRAINS SHALL BE SMOOTH INTERIOR CORRUGATED EXTERIOR (SICE) HDPE OR PVC SCH 40.
3. ALL STORM PIPE SHALL BE CONSTRUCTED OF HDPE (SICE) PIPE WITH CERTIFIED WATERTIGHT JOINTS BY THE MANUFACTURER. RCP JOINTS SHALL BE WRAPPED WHERE APPLICABLE PER FDOT SPECIFICATIONS. ACCEPTABLE HDPE PIPE SHALL BE HANCOR SUR-LOK WT, ADS SERIES 35, ADS N-12 WITH WT JOINT OR EQUAL.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MATERIAL AND STRUCTURES TO THE ENGINEER (NEWKIRK ENGINEERING, INC.) FOR APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING.
5. CONTRACTOR TO PLACE FILTER FABRIC BETWEEN DRAINAGE STRUCTURES AND TOPS TO PREVENT SOIL INTRUSION. THE FABRIC SHALL BE PERIODICALLY CLEANED OF SAND A DEBRIS FABRIC SHALL REMAIN IN PLACE UNTIL PAVING IS COMPLETE.
6. ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN. FENCING TREES, & ETC., WITHIN THE CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFFSITE.
7. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST PER FDOT SPECIFICATIONS.
8. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY PER FDOT STANDARD SPECIFICATIONS AND MANUFACTURES SPECIFICATIONS RESPECTIVELY.
9. ALL DRAINAGE STRUCTURES AND PIPES SHALL BE CLEANED OF SAND AT THE LAST STAGE OF CONSTRUCTION PRIOR TO THE FINAL INSPECTION.
10. ALL STORM INLET GRATES SHALL BE STEEL (TRAFFIC RATED).

STORM STRUCTURE SCHEDULE

I.D.	SIZE	TYPE BOT	TYPE TOP	TOP ELEV	BOT ELEV	N INV	S INV	E INV	W INV
I-01	4' DIA	P	9	23.80	19.50	---	20.50	---	---
I-02	4' DIA	P	9	24.00	19.11	20.11	---	---	20.11
I-03	4' DIA	P	9	24.00	18.24	19.24	---	19.24	---
I-04	4' DIA	P	9	23.70	18.22	19.22	19.22	19.22	---
I-05	4' DIA	P	9	23.50	17.83	18.83	18.83	18.83	18.83
I-06	4' DIA	P	9	23.60	18.62	---	19.62	---	19.62

NOTES:

1. ROUND STRUCTURE BOTTOMS ARE FDOT ALTERNATE 'A'.
2. SQUARE/RECTANGULAR STRUCTURE BOTTOMS ARE FDOT ALTERNATE 'B'.
3. 4'-0" DIA AND SMALLER AND 3'-6" SQUARE STANDARD STRUCTURE BOTTOMS ARE FDOT TYPE DESIGNATED 'P' LARGER STANDARD STRUCTURE BOTTOMS ARE DESIGNATED TYPE 'J'.
4. INSTALL 12"x12" WEEP HOLE AT BOTTOM OF STRUCTURE WITH 18"x18"x12" THICK AGGREGATE BED WRAPPED WITH FILTER FABRIC.

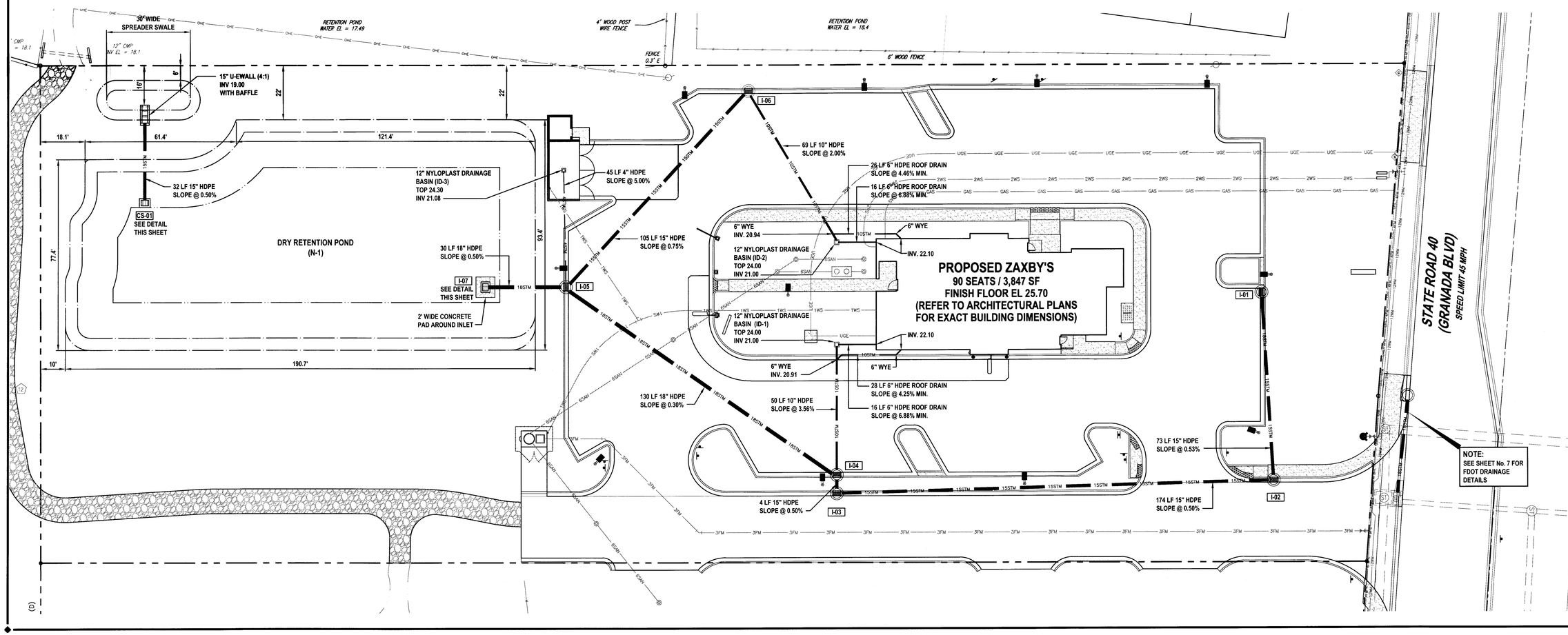
SUMMARY OF DRAINAGE:

THE MINIMUM WATER QUALITY TREATMENT VOLUME REQUIRED IS EQUAL TO 1.25-INCHES OVER THE IMPERVIOUS SURFACE PLUS 0.5-INCHES OF RUNOFF OVER THE DRAINAGE BASIN. STORMWATER TREATMENT IS PROVIDED BY DRY RETENTION POND. THE TREATMENT SYSTEM IS DESIGNED SO THAT THE POST DEVELOPMENT DISCHARGE RATE AND VOLUME DOES NOT EXCEED THE PRE-DEVELOPMENT DISCHARGE RATE AND VOLUME FOR THE MEAN ANNUAL AND 25 YEAR, 24 HOUR STORM EVENTS.

	RAINFALL (INCHES)	DISCHARGE RATE (CFS)		DISCHARGE VOLUME (CF)		POND (N-1) PEAK STAGE (FT)
		PRE	POST	PRE	POST	
MEAN ANNUAL, 24 HOUR	5.0	1.22	0.29	15,246	8,317	22.38
25 YEAR, 24 HOUR	9.0	3.76	3.64	43,415	40,942	23.38

	TREATMENT VOLUME REQUIRED (CF)	TREATMENT VOLUME PROVIDED (CF)	TREATMENT VOLUME RECOVERY (HOURS)	25 YEAR STORM VOLUME (CF)	25 YEAR STORM EVENT RECOVERY (HOURS)
POND (N-1)	16,141	16,141	55.63	30,869	161.42

SCALE: 1" = 20'



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CITY OF ORMOND BEACH — FINAL APPROVAL — ENGINEERING DEPARTMENT

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DRAINAGE PLAN
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK
LICENSED
No. 62971
09/02/2014
STATE OF FLORIDA
PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	1" = 20'

DRAWING NUMBER

8

SCALE: 1" = 20'

CONTOUR LEGEND:

- 85 — EXISTING CONTOUR
- 85 — PROPOSED CONTOUR
- DRAINAGE FLOW ARROW

GENERAL EARTHWORK NOTES:

1. IF ANY MUCK OR MUCK-LIKE MATERIAL IS DISCOVERED, IT WILL BE REQUIRED TO BE REMOVED, BACKFILLED WITH APPROPRIATE FILL, COMPACTED, AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.
2. ALL FILLING IS TO BE PERFORMED IN ONE-FOOT LIFTS. THE COMPACTION REQUIREMENT IS 98% FOR PAVED AREAS AND 95% FOR UNPAVED AREAS PER AASHTO T-180 MODIFIED PROCTOR TEST.
3. TEMPORARY FILL STOCKPILING IS NOT PERMITTED IN LIFTS GREATER THAN SIX FEET.
4. SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES.
5. ONCE AN AREA IS SEEDED OR SODDED, IT MUST BE MAINTAINED TO ALLOW THE GRASS TO GROW.
6. ALL NON-PAVED AREAS MUST BE PLANTED, GRASSED, OR MULCHED.

GENERAL GRADING NOTES:

1. THE HANDICAPPED PARKING SPACES AND AISLES SHALL BE CONSTRUCTED SO THAT CROSS SLOPES WILL NOT EXCEED 2% IN ANY DIRECTION, IN ACCORDANCE WITH SECTION 4.6 OF THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION (FACBC).
2. THE MAXIMUM ELEVATION CHANGE AT THE ENTRANCE DOOR MAY NOT EXCEED 1/2 INCH.
3. ALL SIDEWALK LANDINGS SHALL HAVE SLOPES NO GREATER THAN 1/8 INCH / 1 FOOT IN MANEUVERING SPACES AT ALL DOORWAYS.
4. ALL IMPROVEMENTS SHALL BE STAKED FOR CONSTRUCTION BY MEANS OF DIGITAL COORDINATES BY SURVEY OR UTILIZING GEODETIC TOTAL STATION. SCALING OF DRAWINGS FOR PURPOSES OF STAKING ARE AT THE SURVEYOR.

BENCHMARK INFORMATION:

#1 X-CUT ON WALK ELEVATION = 25.53

#2 TOP OF STORM MANHOLE ELEVATION = 25.00

VERTICAL DATA

ELEVATIONS REFER TO (NAVD 88) NORTH AMERICA VERTICAL DATUM 1988. BENCHMARK REFERENCE NATIONAL GEODETIC SURVEY DESIGNATION F 477, PID DE6756, CONCRETE MONUMENT, ELEVATION = 24.55

City of Ormond Beach — Site Plan Review Committee — FINAL APPROVAL

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GRADING PLAN

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK — LICENSE NO 62971 — 09/02/2014 — STATE OF FLORIDA — PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
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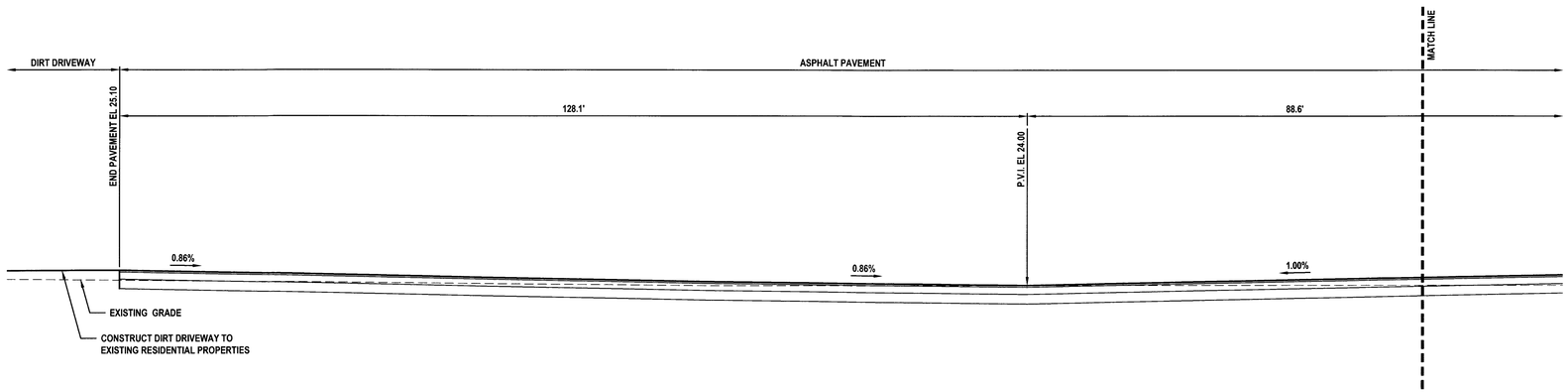
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	1" = 20'

DRAWING NUMBER

9



SECTION A

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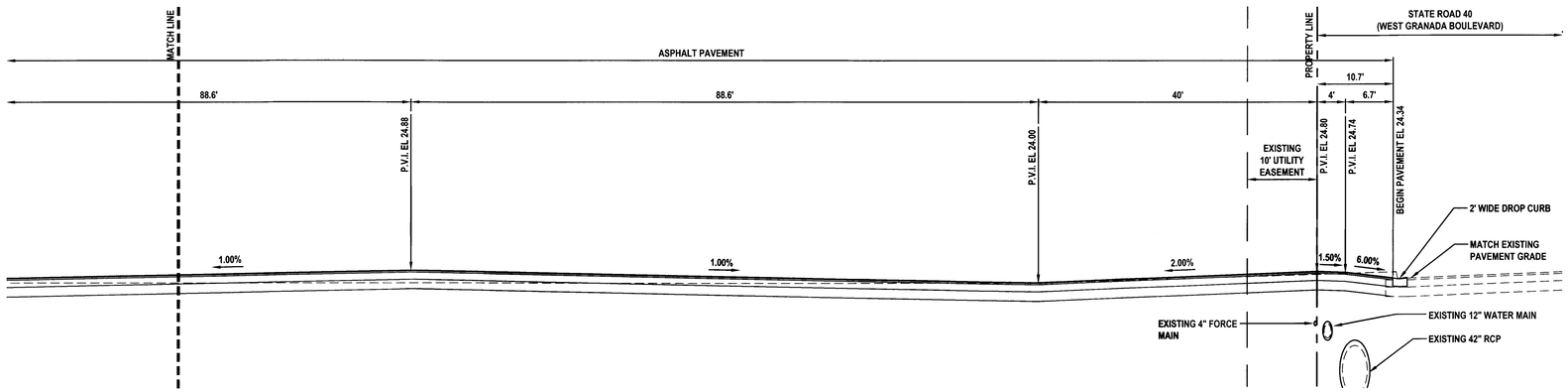

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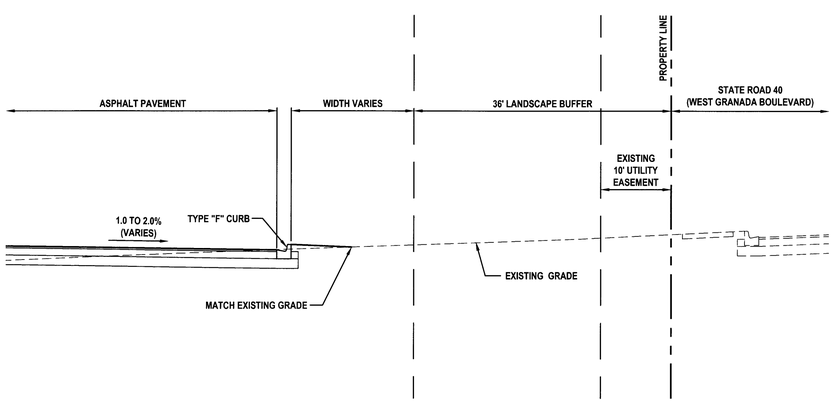

SECTION B

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City of Ormond Beach
FINAL APPROVAL
Site Plan Review Committee

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CROSS SECTIONS
ZAXBY'S
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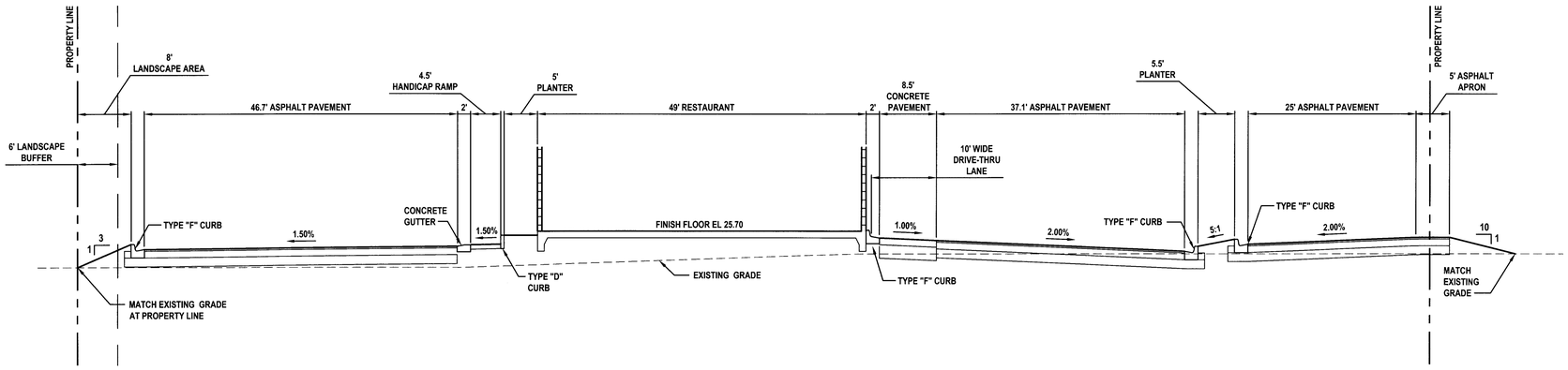
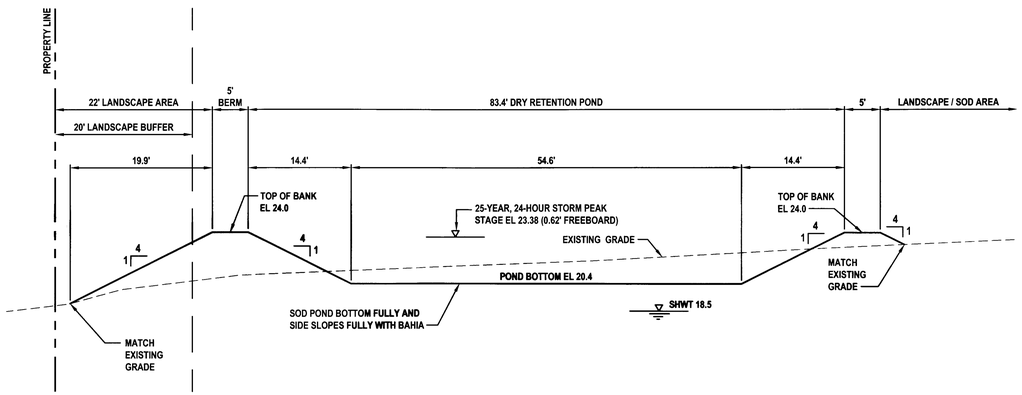


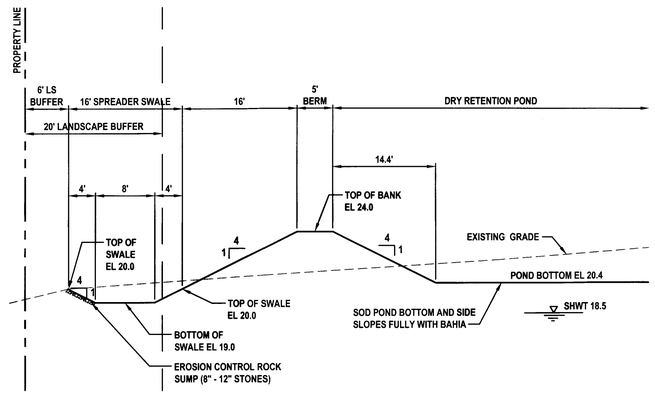
SECTION C

NOT TO SCALE



SECTION D

NOT TO SCALE



SECTION F

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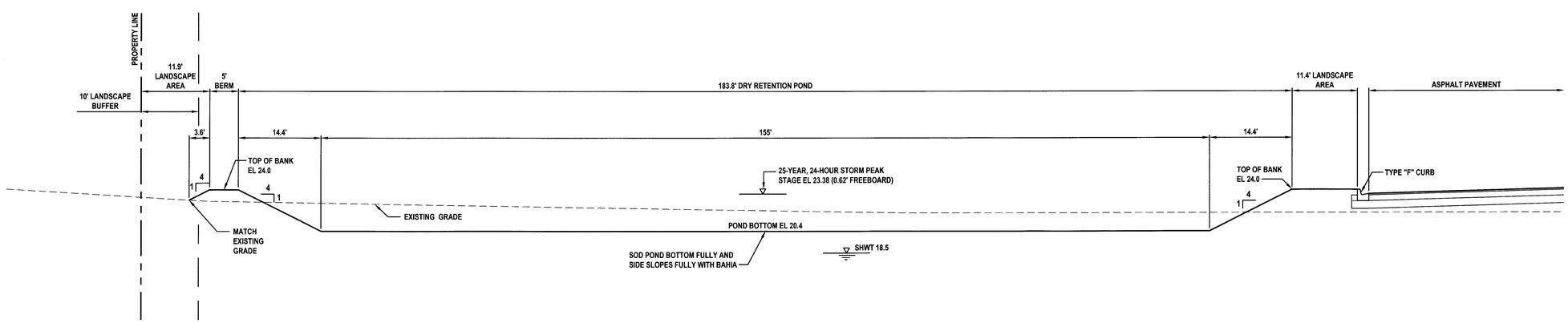

SECTION E

NOT TO SCALE

City of Ormond Beach
FINAL APPROVAL
Site Plan Review Committee

REVISIONS	
DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

NEWKIRK ENGINEERING
1370 North US1, Suite 204
Ormond Beach, Florida 32174
Phone (386) 290-7599
Harry@Newkirk-Engineering.com
Certificate of Authorization No. 30219

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Civil Engineering
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CROSS SECTIONS
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

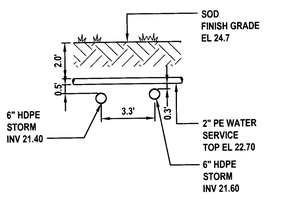
HARRY NEWKIRK
LICENSED
No. 62971
09/02/2014
STATE OF FLORIDA
PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

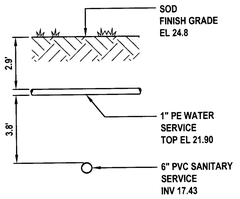
PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER

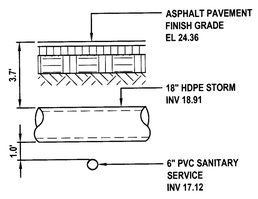
11



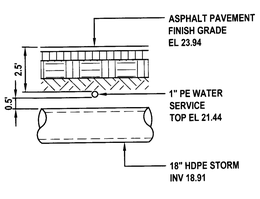
CONFLICT POINT 1



CONFLICT POINT 2



CONFLICT POINT 3



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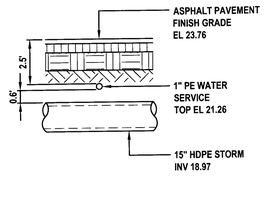

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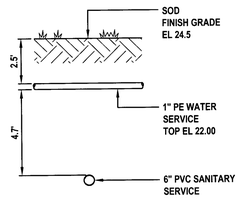
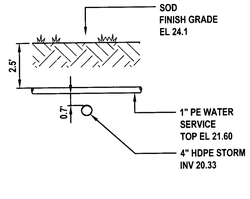


CONFLICT POINT 6



CONFLICT POINT 7

UTILITY CONFLICT DETAILS

HORIZONTAL SCALE: N.T.S.

PROPOSED UTILITY LEGEND

- FM — FORCE MAIN (# INDICATES SIZE)
- SAN — SANITARY SEWER (# INDICATES SIZE)
- WS — POLYETHYLENE WATER SERVICE (# INDICATES SIZE)
- W — WATER MAIN (# INDICATES SIZE)
- GAS — GAS SERVICE (# INDICATES SIZE)
- UGE — UNDERGROUND ELECTRICAL CONDUIT (# INDICATES SIZE)
- 1 — UTILITY CONFLICT (SEE DETAILS THIS SHEET)

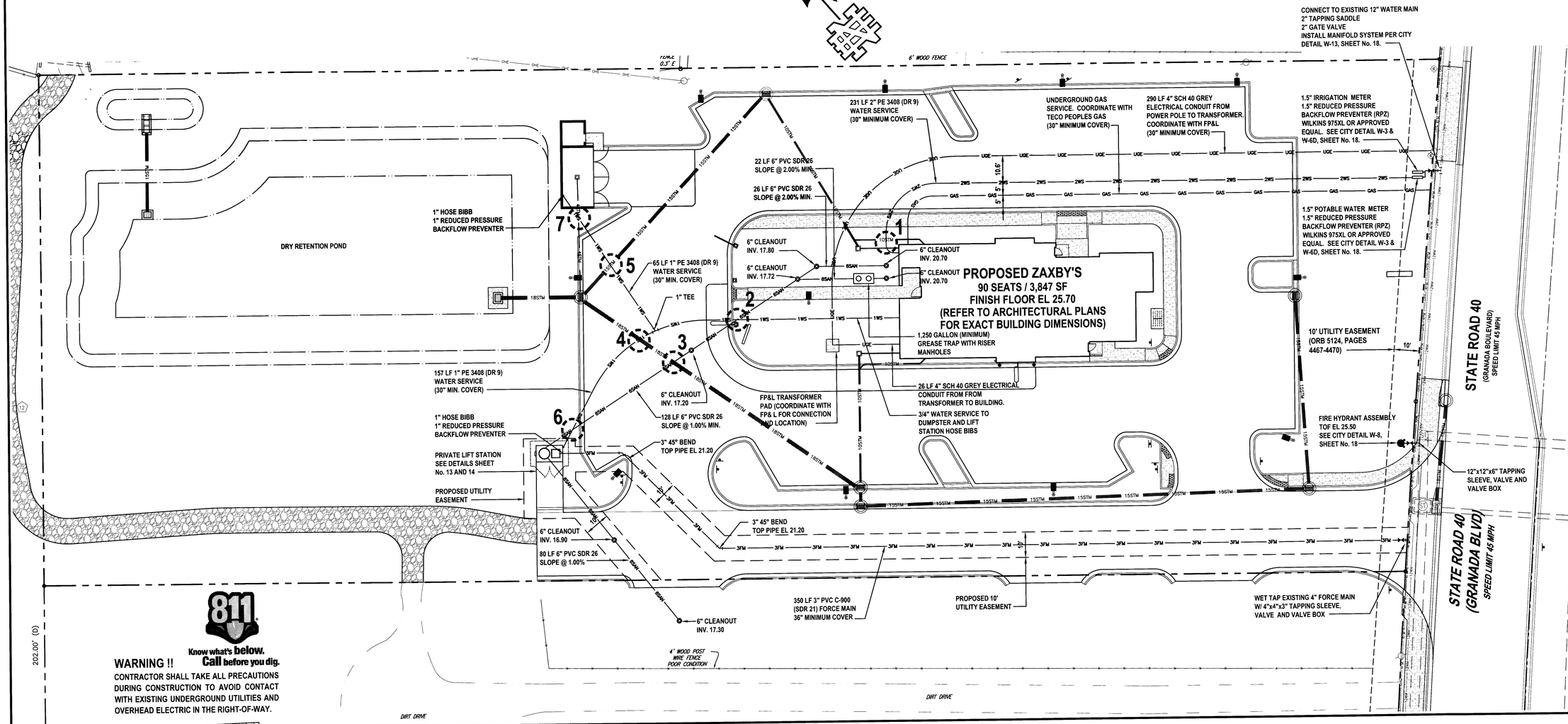
GENERAL WATER NOTES:

1. THE CITY OF ORMOND BEACH WATER UTILITY DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
2. ALL WATER DISTRIBUTION CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDEP REGULATIONS AND THE CITY OF ORMOND BEACH UTILITY DETAILS AND SPECIFICATIONS (LATEST EDITION).
3. CONTRACTOR IS TO VERIFY THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES (UNDERGROUND AND OVERHEAD) PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY CONFLICTS SHALL BE REPORTED TO THE ENGINEER.
4. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ANY EXISTING PAVEMENT, SIDEWALK, CURBING, UTILITIES AND DRAINAGE SYSTEMS DAMAGED DURING CONSTRUCTION. ALL DAMAGED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.
5. LOCATION OF TELEPHONE, T.V. CABLE AND ELECTRICAL SERVICE CONNECTIONS TO BE DETERMINED BY APPROPRIATE UTILITIES PERSONNEL IN COOPERATION WITH CONTRACTOR.
6. ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
7. TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180).
8. WATER SERVICES FROM 3/4" TO 2" POLYETHYLENE (ENDOTRACE) WITH 30" MINIMUM COVER.
9. WATER MAIN FROM 4" TO 12" SHALL BE PVC CLASS 150 (DR 18) WITH 36" MINIMUM COVER.
10. ALL WATER AND FIRE SERVICES ARE REQUIRED TO HAVE A HARD BODY GATE VALVE OFF THE MAIN LINE.
11. ALL VALVES SHALL BE BOLTED TO TEES.
12. ALL POTABLE WATER PIPE SHALL HAVE "NSF POTABLE WATER" IMPRINTED ON THE PIPE.
13. ALL WATER MAIN FITTINGS 4 INCHES OR LARGER SHALL BE CEMENT LINED DIP.
14. A TAPPING CONTRACTOR ACCEPTABLE TO THE CITY OF ORMOND BEACH WILL BE REQUIRED FOR TAPS.
15. THE CONTRACTOR SHALL MAKE ALL ATTEMPTS TO LOCATE BURIED UTILITIES AND NOTIFY THE UTILITY COMPANIES 48 HR. PRIOR TO CONSTRUCTION.
16. UTILITY TRENCH CONSTRUCTION SHALL CONFORM TO CITY OF ORMOND BEACH AND OSHA REQUIREMENTS.
17. IN THE CASE WHERE SOLVENT CONTAMINATION IS FOUND IN THE TRENCH, WORK WILL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH THE APPROVAL OF THE CITY OF ORMOND BEACH UTILITY DEPARTMENT, DUCTILE IRON PIPE, FITTINGS AND APPROVED SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE WILL EXTEND AT LEAST 100 FEET BEYOND ANY DISCOVERED SOLVENT.

GENERAL SEWER NOTES:

1. CITY OF ORMOND BEACH SHALL BE NOTIFIED PRIOR TO ANY SEWER CONSTRUCTION.
2. ALL SEWER CONSTRUCTION MUST COMPLY WITH FDEP REGULATIONS AND THE CITY OF ORMOND BEACH UTILITY DETAILS AND SPECIFICATIONS (LATEST EDITION).
3. ALL SANITARY SEWER LINES SHALL BE PVC SDR 26 DUE TO THE MINIMUM AMOUNT OF COVER. WATER LINES, RECLAIMED LINES AND STORM DRAINAGE CROSSINGS SHALL FOLLOW THE C-900 OR CONCRETE ENCASEMENT REQUIREMENT PER THESE STANDARDS AND AS FDEP REQUIREMENTS.
4. SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY CITY OF ORMOND BEACH.
5. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WITHIN THE AREA OF THE TRENCH.
6. ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY OF ORMOND BEACH.
7. SANITARY SEWER PIPE SHALL BE PVC SDR 26.
8. EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF EXCAVATION WORK IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN, AS WELL AS REPRESENTATIVES OF THE CITY OF ORMOND BEACH, THE DESIGN ENGINEER, AND THE DEVELOPER.
9. ALL TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO MINIMUM COMPACTION OF (95) PERCENT OF THE OPTIMUM DENSITY OF THAT MATERIAL BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
10. ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR.
11. GRAVITY MAINS MUST HAVE A TELEVISED INSPECTION. A VIDEO INSPECTION FORM MUST BE FAXED TO THE CITY OF ORMOND BEACH WASTEWATER COLLECTION DEPARTMENT 48 HOURS PRIOR TO VIDEO INSPECTION. A CITY INSPECTOR MUST BE PRESENT.
12. SEWER CLEANOUT LOCATED ON PAVEMENT AND SIDEWALK AREA SHALL BE TRAFFIC BEARING FLAT TOP BRASS CAP.
13. ALL GREASE TANKS SHALL HAVE A MINIMUM CAPACITY OF 1000 GALLONS.
14. PLUMBING CONTRACTOR SHALL INSTALL TANK AND COORDINATE PIPE INVERTS TO BUILDING WITH UTILITY CONTRACTOR.

SCALE: 1" = 20'



811 Know what's below. Call before you dig.

WARNING !!
CONTRACTOR SHALL TAKE ALL PRECAUTIONS DURING CONSTRUCTION TO AVOID CONTACT WITH EXISTING UNDERGROUND UTILITIES AND OVERHEAD ELECTRIC IN THE RIGHT-OF-WAY.

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

NEWKIRK ENGINEERING
1370 North US1, Suite 204
Ormond Beach, Florida 32174
Phone (386) 290-7599
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UTILITY PLAN
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK
LICENSE
NO. 62971
09/02/2014
STATE OF FLORIDA
PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	1" = 20'

DRAWING NUMBER

12

XYLEM, INC (H-20 LP)

w/ BATTERY BACK-UP FOR AUDIO AND VISUAL ALARMS

Supply one complete H-20 LP Pre-Fab Lift Station, per design.

Pumps shall be capable of pumping domestic & commercial sewage.

Complete system shall be supplied by:

XYLEM, INC

NO SUBSTITUTIONS - NO ALTERNATES

The H-20 Load Rated Fiberglass Wetwell Must Be Manufactured By L.F. Manufacturing, Giddings, Texas, Which Includes A Written 20 Yr. Warranty

Certification of the wetwell H-20 load rating must be supplied with submittals. H-20 certification must be signed and sealed by an engineer registered in the State of Florida.

After the H-20 load rated wetwell has been installed, the ASTM Certification Number and Serial Tracking Number must be visible.

The submersible pumps shall be manufactured by Flygt Corporation.
"The pumps shall be installed in the H-20 LP FRP wetwell utilizing a dual slide rail system. The pumps shall be capable of handling solids, fibrous materials, heavy sludge, and other matter typically found in wastewater.
Major pump components shall be grey cast iron, ASTM A-48, Class 35B. The pump motor shall be NEMA B design and housed in an air-filled watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation by use of the trickle impregnation method. The motor shall be heat-shrink fit into the stator housing. The use of bolts, pins, or other fastening devices is not acceptable. The cable entry seal shall consist of a cylindrical elastomer grommet flanked by washers. Epoxies, silicones, or other sealing systems are not acceptable. Thermal switches set to open at 125 degrees C shall be embedded in the stator end coils to monitor the temperature of each phase winding. The motor horsepower shall be adequate so that the pump is non-overloading throughout the entire pump performance curve from shut-off through run-out.

The pump shall be provided with a dual mechanical seal. Both upper and lower seal assemblies shall consist of a stationary tungsten-carbide ring and a rotating tungsten-carbide ring. Other seal materials are not considered acceptable."

DUPLEX CONTROL PANEL:

Control panel shall be assembled and built by a TUV (UL508A CERTIFIED) manufacturing facility.
The Enclosure shall be NEMA 4X, minimum 30" high x 30" wide x 10" deep Fiberglass with padlockable draw latches.
The enclosure shall have external mounting feet to allow for wall mounting. All hardware shall be stainless steel.

The following components shall be mounted through the enclosure:
1- ea. Red Alarm Beacon (Light)
1- ea. Alarm Horn
1- ea. Generator Receptacle w/ weatherproof cover
1- ea. Alarm Silence Pushbutton

The backpanel shall be fabricated from .125, 5052-H32 marine alloy aluminum. All components shall be mounted by machined stainless steel screws.

The following components shall be mounted to backpanel:
2- ea. Motor Contactors
1- ea. Volt Monitor (Single Phase) Phase Monitor (Three Phase)
1- ea. Control Transformer (480 Volt Only)
1- ea. Silence Relay
1- ea. Duplex Alternator
1- ea. Model BOAC5AH Battery Back-Up w/ Smart Charger (Per DEP)
20- ea. Terminals For Field Connections
6- ea. Terminals For Motor Connections (Single Phase Only)
3- ea. Grounding Lugs

The innerdoor shall be fabricated from .080, 5052-H32 marine alloy aluminum. The innerdoor shall have a continuous aluminum piano hinge.

The following components shall be mounted through the innerdoor:
1- ea. Main Circuit Breaker
1- ea. Emergency Circuit Breaker
1- ea. Mechanical Interlock For Emergency And Main Breakers
2- ea. Short Circuit Protectors
1- ea. Control Circuit Breaker
1- ea. Hand-Off-Auto Selector Switches
2- ea. Pump Run Pilot Lights
1- ea. Power On Pilot Light
2- ea. Elapse Time Meters (Non-Resetable)
1- ea. GFI Duplex Convenience Outlet

COMPONENT SPECIFICATIONS:
All circuit breakers shall be molded thermal magnetic.
The mechanical interlock shall prevent the normal and emergency main breakers being energized at the same time.
An emergency generator receptacle shall be supplied in accordance with DEP standards. The generator receptacle shall be adequately sized to meet the equipment operating conditions and shall be rated for 100 amps.

NEUTRAL TO BE SUPPLIED FOR BOTH 230V 3PHASE OR 230V SINGLE PHASE POWER

All motor short circuit protection devices must provide for undervoltage release and class 10 overload protection on all three phases. Visable trip indication, test, and reset capability must be provided without opening inner door.
Open frame, across the line, contactors shall be rated per IEC standards and properly sized per the motor requirements. Contactors shall provide for safe touch power and control terminals.
Lightning Arrestor shall meet or exceed the requirements of ANSI/IEEE Std. C62.21-1984 section 8.6.1. and 8.7.3 shall be supplied by electrician and mounted on the bottom side of the switch disconnect ahead of the pump control panel.
A voltage monitor shall be supplied for single phase service.
A phase monitor shall be supplied for (3) phase service.
A green pilot light shall be supplied for each motor. The pilot light shall illuminate each time the motor is called to run.
Each pump shall have an Elapse Time Meter to record the accumulated run time. The ETM shall be 2" diameter, non-resettable, six digit, totally encapsulated unit.
A Red pilot light shall be supplied for control power. The pilot light shall illuminate when the control power is available inside the control panel.
Relays shall be ice-cube plug in type. Relay contacts shall be rated 10 amp minimum, DPDT.
Twenty (20) terminals shall be supplied for field connections. The terminals shall be rated 25 amps minimum.
Each motors over-temperature contact shall be connected to the terminal strip and shall open a contact to de-energize the appropriate motor upon a high temperature within the motor.
A 15 Amp GFI duplex receptacle shall be supplied and mounted on the innerdoor.
Ground lugs shall be supplied and appropriately sized for each motor and for service entrance.

Nameplates for the innerdoor and back panel shall be of a graphic design, specifically depicting the intent for each device.

MISCELLANEOUS: All wiring on the backpanel shall be containted within the wiring duct. All wiring between the innerdoor and the backpanel shall be contained with in a plastic spiral wrap.
Each wire shall have a wire number at each end to correspond to the as built drawing for field troubleshooting.
The control panel shall be assembled by a TUV (UL508A Certified) manufacturing facility.

FASTNERS & APPURTANCES: All fasternes, lifting cables, float cable bracket, hinges, and appurtances shall be made of AISI 304SS.
A 304SS slide/latch assembly shall be provided tor holding the doors open on the wetwell and valve box.
Slide rails shall be made of SCH.40 AISI 304SS pipe.
Pump lifting cables shall be made of AISI 304 SS.

H-20 LOAD RATED WETWELL WITH LIFTING LUGS:
The fiberglass wetwell must be H-20 load rated with integral lifting lugs, fiberglass slope in bottom of wetwell and valve box.
Certification of the H-20 load rating must be supplied at the time of submittals to Engineer.
The wetwell shall be manufactured of fiberglass reinforced polyester (FRP) of depth and diameter as shown on the lift station elevation detail. The wall thickness shall be adequate for the depth of the wetwell to maintain the H-20 LOAD RATING.

EXECUTION:
Installation shall be in strict accordance with the manufacturer's recommendations in the locations shown on the drawing.

INSPECTION & TESTING: A factory representative shall be provide for a one (1) time start-up and shall have complete knowledge of the proper operation and maintenance of complete system.
Megger the motors. The pump motors shall be megged out prior to the start-up to ensure that the insulation of the pump motor/cable is intact.
The pump controls and pumps shall be checked for mechanical reliability and proper operation.

PUMP DATA		ELEVATIONS	
PRIMARY PUMP CAPACITY	71 GPM	TOP OF WETWELL	25.50
PRIMARY TDH	58'TDH	INLET INVERT	16.50
PUMP MANUFACTURER	FLYGT	HIGH LEVEL ALARM (HLA)	18.50
PUMP MODEL #	NP3085.183	2nd PUMP ON (LAG)	16.50
R.P.M.	3415	1st PUMP ON (LEAD)	15.00
HORSEPOWER	4.0	PUMPS OFF (OFF)	12.00
ELECTRICAL/VOLTS/PHASE	60/230/3	BOTTOM OF WETWELL	10.50
PUMP DISCHARGE SIZE	3-1/8"	WETWELL DIAMETER	48"
IMPELLER DIAMETER	4-9/16"		

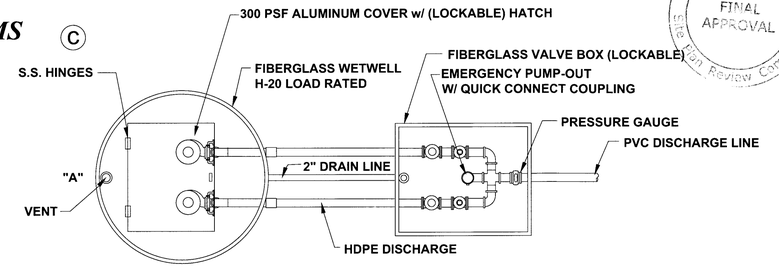
* ELECTRICIAN NOTES:

1. DRAWING NOT TO SCALE
* 2. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES
* 3. ELECTRICIAN SHALL SEAL OFF CONDUIT RUNS
* 4. ELECTRICIAN TO MOUNT LIGHTNING ARRESTOR AT SWITCH DISCONNECT
* 5. CONTRACTOR SHALL VERIFY POWER SOURCE PRIOR TO ORDERING EQUIPMENT
* 6. NEUTRAL TO BE SUPPLIED FOR 23OV-3 PHASE OR 230V-SINGLE PHASE POWER.
* 7. AUXILIARY POWER CONNECTION SHALL BE RATED FOR 100 AMPS.

ITT FLYGT, LLC / H-20 LP 01-21-13

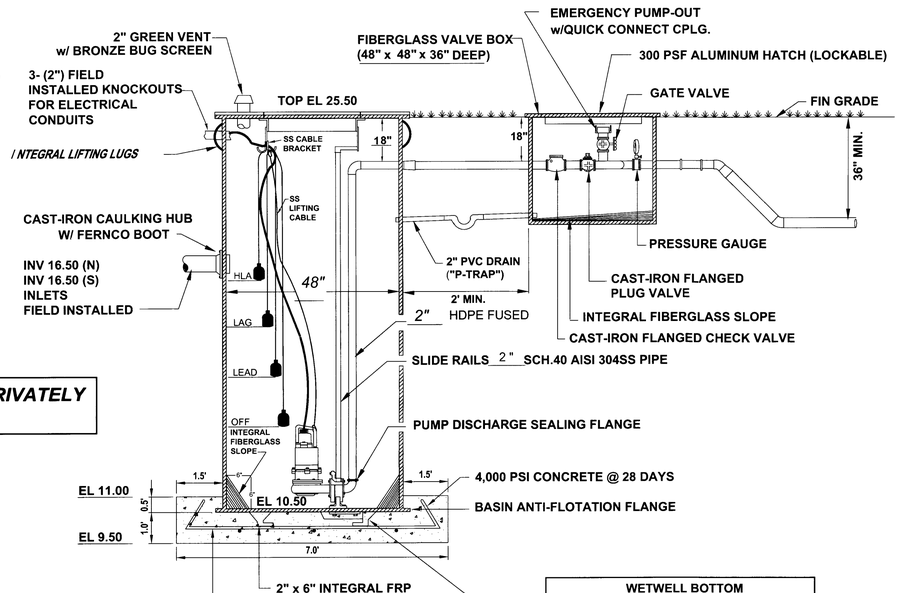
FOR LIFT STATION CONSTRUCTION PACKAGE CONTACT THE FOLLOWING:

SCOTT RACHAL, SALES ENGINEER
EYLEM, INC.
2152 SPRINT BOULEVARD
APOPKA, FLORIDA 32703
OFFICE: (407) 880-2900
CELL: (407) 304-9610
EMAIL: SCOTT.RACHAL@EYLEMINC.COM



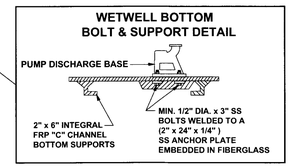
NOTE: PUMP CONTROL PANEL SHALL BE LOCATED 3 FEET MINIMUM FROM WETWELL PERIMETER AT POINT "A"

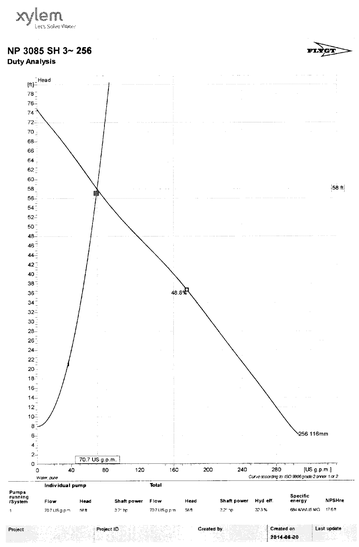
LIFT STATION PLAN

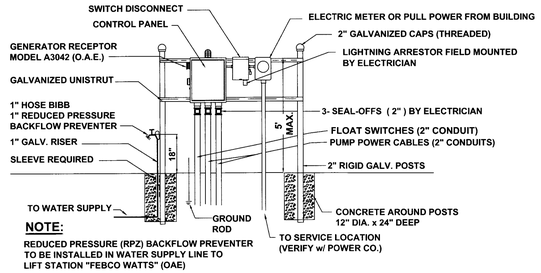


LIFT STATION SHALL BE PRIVATELY OWNED AND MAINTAINED.

LIFT STATION SECTION







NOTE:
REDUCED PRESSURE (RPZ) BACKFLOW PREVENTER TO BE INSTALLED IN WATER SUPPLY LINE TO LIFT STATION "FEBCO WATTS" (OAE)

ELECTRICAL RISER

FINAL APPROVAL
City of Ormond Beach Engineering Review Completed

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

NEWKIRK ENGINEERING
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Ormond Beach, Florida 32174
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Harry@Newkirk-Engineering.com
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LIFT STATION PLAN
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY T. NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	1" = 20'

DRAWING NUMBER

13

FDEP WATER NOTES

1. ALL PIPE, PIPE FITTINGS, PIPE JOINT PACKING AND JOINTING MATERIALS, VALVES, FIRE HYDRANTS, AND METERS INSTALLED UNDER THIS PROJECT WILL CONFORM TO APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS.

2. ALL PUBLIC WATER SYSTEM COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL COME INTO CONTACT WITH DRINKING WATER WILL CONFORM TO NSF INTERNATIONAL STANDARD 61.

3. ALL PROPOSED WATER MAINS SHALL BE FLUSHED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-651 AND THE FDEP PROTECTION REQUIREMENTS.

4. POTABLE WATER PIPES SHALL BE HYDROSTATICALLY TESTED FOR PRESSURE AND LEAKAGE IN ACCORDANCE WITH AWWA STANDARD C600 FOR DUCTILE IRON PIPES AND C605 FOR PVC PIPES, RESPECTIVELY.

5. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL CONTAIN NO MORE THAN 8.0% LEAD, AND ANY SOLDER OR FLUX USED IN THIS PROJECT WILL CONTAIN NO MORE THAN 0.2% LEAD.

6. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(B)3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE; WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.)

7. POTABLE WATER PIPES MUST BE MANUFACTURED IN ACCORDANCE WITH THE FOLLOWING AWWA SPECIFICATIONS:
   - A. DUCTILE IRON PIPE (3 INCHES TO 54 INCHES) - AWWA C150 AND AWWA C151;
   - B. PVC PIPE
     - (1) AWWA C900/ASTM 1784 (1 INCH TO 12 INCHES) WITH CL200 MINIMUM:
     - (2) AWWA C905 (14 INCHES TO 48 INCHES);

8. ALL FIRE HYDRANTS THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL HAVE UNPLUGGED, UNDERGROUND DRAINS WILL BE LOCATED AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, PIPELINE CONVEYING RECLAIMED WATER OR VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-10, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM."

9. NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT WILL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS OR IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDED PROCEDURES.

10. A CONTINUOUS AND UNIFORM BEDDING WILL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT; BACKFILL MATERIAL WILL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE; AND UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES WILL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT.

11. ALL WATER MAIN TEES, BENDS, PLUGS, AND HYDRANTS INSTALLED UNDER THIS PROJECT WILL BE PROVIDED WITH THRUST BLOCKS OR RESTRAINED JOINTS TO PREVENT MOVEMENT.

12. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE CONSTRUCTED OF ASBESTOS-CEMENT OR POLYVINYL CHLORIDE PIPE WILL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C603 OR C605, RESPECTIVELY, AND ALL OTHER NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT WILL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600.

13. NEW OR RELOCATED, UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT WILL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; A HORIZONTAL DISTANCE OF AT LEAST SIX FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER (OR A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER IF THE BOTTOM OF THE WATER MAIN WILL BE LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER); A HORIZONTAL DISTANCE OF AT LEAST SIX FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM."

14. NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OTHER PIPELINE OR AT LEAST 12 INCHES BELOW THE OTHER PIPELINE; AND NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OTHER PIPELINE.

15. AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE WILL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE OR THE PIPES WILL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

16. IF CONNECTION OF THE PROPOSED ACTIVITY TO THE WATER MAIN WILL RESULT IN A DEPRESSURIZATION OF THE EXISTING SYSTEM BELOW 20 POUNDS PER SQUARE INCH, ONE OF THE FOLLOWING MUST OCCUR;
   - A. PRECAUTIONARY BOIL WATER NOTICES MUST BE ISSUED IN CASES OF PLANNED DISTRIBUTION INTERRUPTIONS, WHICH ARE DEEMED AN IMMINENT PUBLIC HEALTH THREAT BY THE DEP CENTRAL DISTRICT OR WILL AFFECT THE BACTERIOLOGICAL QUALITY OF THE DRINKING WATER UNLESS THE PUBLIC WATER SYSTEM CAN DEMONSTRATE, BY SOUND ENGINEERING JUDGMENT, THAT THE INTEGRITY OF THE WATER SYSTEM HAS BEEN MAINTAINED; OR
   - B. IN CASE OF BRIEF INTERRUPTION IN SERVICE, ADVISORIES (NOT BOIL WATER NOTICES) SHOULD BE ISSUED IF TEMPORARY CHANGES IN WATER QUALITY ARE EXPECTED TO OCCUR AND NOT DEEMED AN IMMINENT PUBLIC HEALTH RISK.

FDEP WASTEWATER NOTES

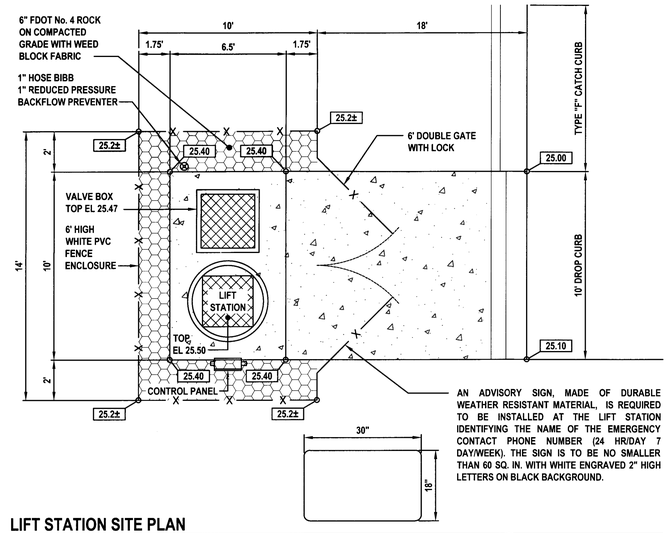
1. APPROPRIATE DEFLECTION TEST ARE SPECIFIED FOR ALL FLEXIBLE PIPE. TESTING IS REQUIRED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM. TESTING REQUIREMENTS SPECIFY: 1) NO PIPE SHALL EXCEED A DEFLECTION OF 5%; 2) USING RIGID BALL OR MANDREL FOR THE DEFLECTION TEST WITH A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATIONS, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURE; AND 3) PERFORMING THE TEST WITHOUT MECHANICAL PULLING DEVICES.

2. LEAKAGE TEST ARE SPECIFIED REQUIRING THAT: 1) THE LEAKAGE EXFILTRATION OR INFILTRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM; 2) EXFILTRATION OR INFILTRATION TEST BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET; AND 3) AIR TEST, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC PIPE, AND OTHER MATERIAL APPROPRIATE TEST PROCEDURES.

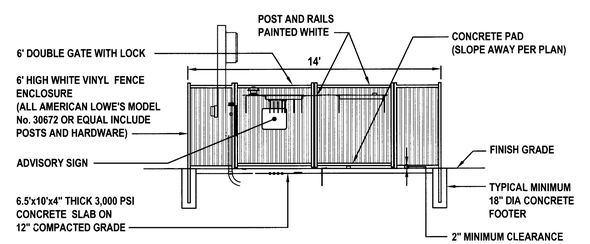
3. MANHOLE INSPECTION AND TESTING FOR WATERTIGHTNESS OR DAMAGE PRIOR TO PLACING INTO SERVICE ARE REQUIRED. AIR TESTING SPECIFIED FOR CONCRETE SEWER MANHOLES, SHALL CONFORM TO THE TEST PROCEDURES DESCRIBED IN ASTM C-1244.

4. SUITABLE COUPLINGS COMPLYING WITH ASTM SPECIFICATIONS ARE REQUIRED FOR JOINING DISSIMILAR MATERIALS.

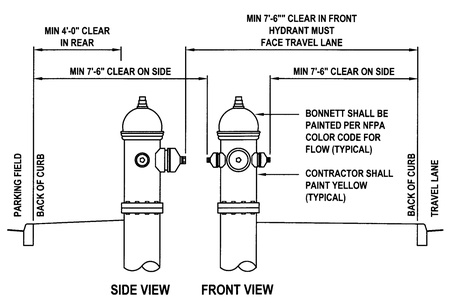
5. CONCRETE MANHOLES SHALL HAVE THE FOLLOWING: 1) MANHOLE LIFT HOLES AND GRADE ADJUSTMENT RINGS SEALED WITH NON-SHRINK MORTAR OR OTHER APPROPRIATE MATERIAL; 2) INLET AND OUTLET PIPES BE JOINED TO THE MANHOLE WITH A GASKETED FLEXIBLE WATERTIGHT CONNECTION OR ANOTHER WATERTIGHT CONNECTION ARRANGEMENT THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL; 3) WATERTIGHT MANHOLE COVERS BE USED WHEREVER THE TOPS MAY BE FLOODED BY STREET RUNOFF OR HIGH WATER.



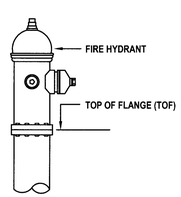
LIFT STATION SITE PLAN
SCALE 1" = 4'



LIFT STATION ENCLOSURE DETAIL
NOT TO SCALE



TYPICAL FIRE HYDRANT CLEARANCE REQUIREMENT
NOT TO SCALE



TOP OF FLANGE REFERENCE POINT DETAIL
NOT TO SCALE

REVISIONS	
DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

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Civil Engineering
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UTILITY DETAILS AND NOTES

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

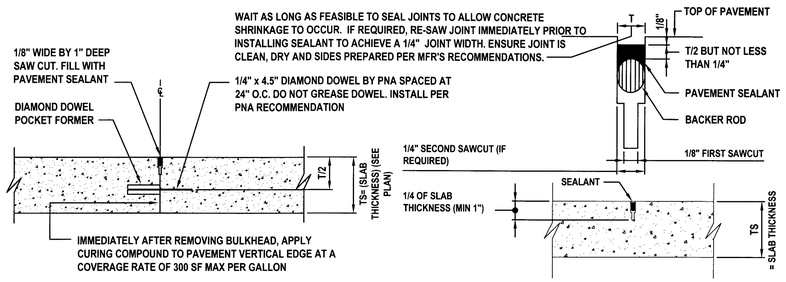
HARRY NEWKIRK LICENSE NO 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER

14

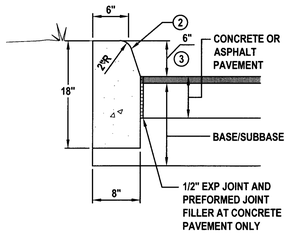


CONCRETE PAVEMENT JOINT DETAILS

NOT TO SCALE

PAVEMENT BUTT JOINT DETAIL

NOT TO SCALE



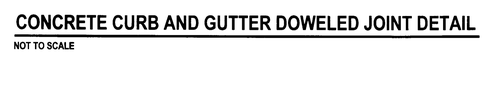
TYPE "D" CURB DETAIL

NOT TO SCALE

1. WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT.
2. PROVIDE CONTRACTION JOINTS @ 10' O.C. AND EXPANSION JOINTS @ 50' O.C. ALL JOINTS SEALED PER SPECIFICATIONS
3. 6" HEIGHT SHALL BE UNIFORM, IF HEIGHT VARIES ± 1/2" THEN CURB WILL BE REPLACED AT THE DISCRETION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

CURB CONSTRUCTION NOTES

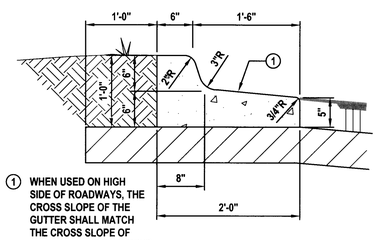
1. ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 3000 P.S.I. CONCRETE.
2. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 500', CONSTRUCTION JOINT REQUIRED EVERY 10' MAXIMUM (4' MINIMUM).
3. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
4. 6" SUBBASE TO BE COMPACTED AND TESTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST AND SHALL BE STABILIZED TO A MINIMUM L.B.R. 40.
5. EXPANSION JOINT MATERIAL MUST COVER ENTIRE CROSS SECTION OF CURB.
6. IN NO INSTANCE SHALL EXTRUDED CURBS (DEFINED AS HEADER-TYPE CURBS INSTALLED DIRECTLY ON TOP OF PAVEMENT) BE PERMITTED.



NOTE: DOWELS NOT REQUIRED IF MONOLITHIC POUR

CONCRETE CURB AND GUTTER DOWELED JOINT DETAIL

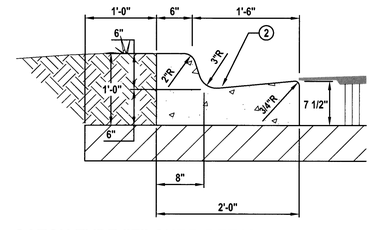
NOT TO SCALE



① WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT.

TYPE "F" SPILLOUT CURB DETAIL

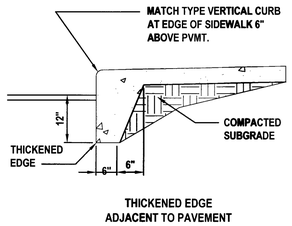
NOT TO SCALE

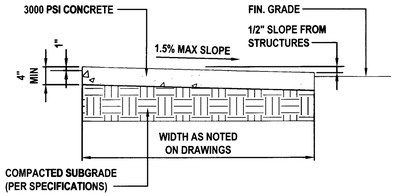


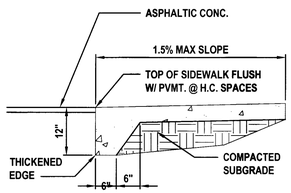
CATCH TYPE "F" CURB DETAIL

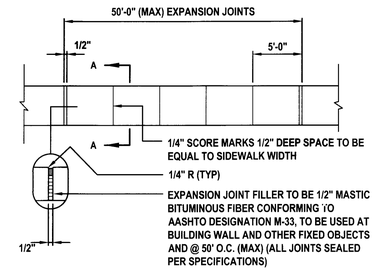
NOT TO SCALE

CONCRETE WALKS SHALL BE 4 INCHES THICK HAVING A 3,000 PSI STRENGTH, POURED OVER PROPERLY PREPARED SUBGRADE. ALL CONCRETE SIDEWALKS SHALL BE 8 INCHES THICK ACROSS DRIVEWAYS. 1/2 INCH EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM OF 50'. CRACK CONTROL JOINTS SHALL BE 5' ON CENTERS.



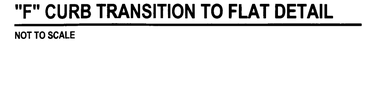






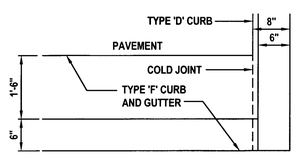
SIDEWALK DETAILS

NOT TO SCALE



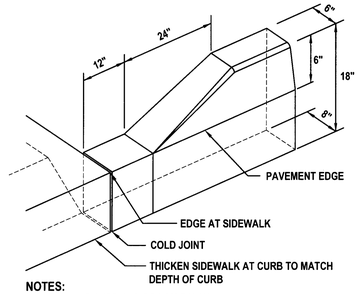
"F" CURB TRANSITION TO FLAT DETAIL

NOT TO SCALE



TYPE "F" AND "D" CURB INTERFACE DETAIL

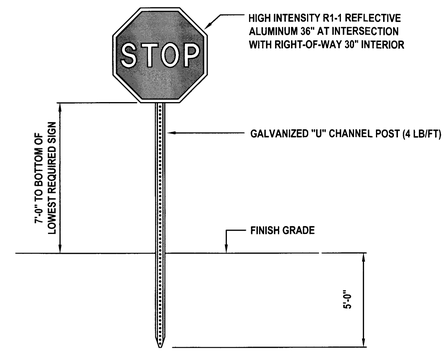
NOT TO SCALE



NOTES:
1. EXTRUDE CURB AND BROOM FINISH
2. PROVIDE 1/2" EXPANSION JOINTS AT ALL COLD JOINTS.
3. SAW CUT CONSTRUCTION JOINTS AT 10'-0" O.C.
4. ALL EXPOSED SURFACES SHALL BE STRIPED GREEN, TROWLED AND CURB EDGING RUBBED SMOOTH.
5. "GLUED-ON" EXTRUDED CURB NOT PERMITTED.

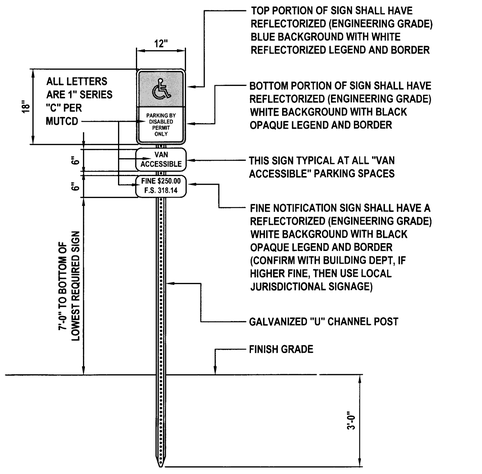
HEADER CURB TERMINATION DETAIL

NOT TO SCALE



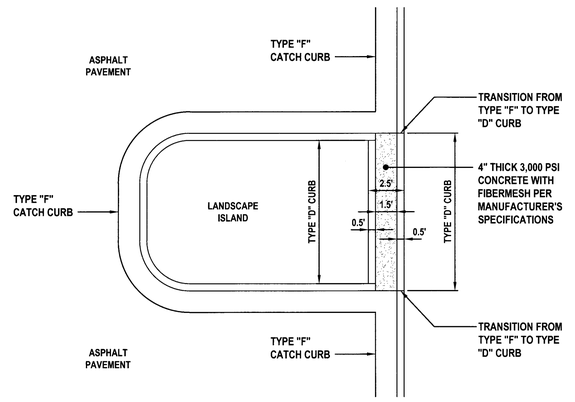
STOP SIGN DETAIL

NOT TO SCALE



HANDICAP PARKING SIGN ONE AT EACH HANDICAP SPACE.

NOT TO SCALE



18" WIDE GUTTER BYPASS @ LANDSCAPE ISLAND DETAIL

NOT TO SCALE

City of Ormond Beach — Site Plan Review Committee — FINAL APPROVAL

REVISIONS	
DATE	DESCRIPTION
08/1/14	PER CITY AND FDOT COMMENTS
08/22/14	PER CITY COMMENTS

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MISCELLANEOUS DETAILS AND NOTES

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

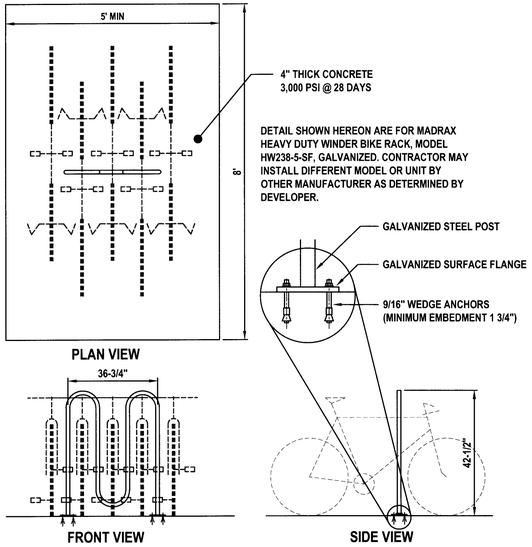
HARRY NEWKIRK — LICENSE — No. 62971 — 09/02/2014 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

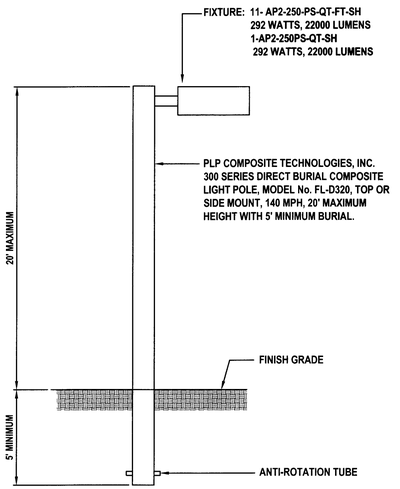
DRAWING NUMBER

15



BICYCLE RACK DETAIL

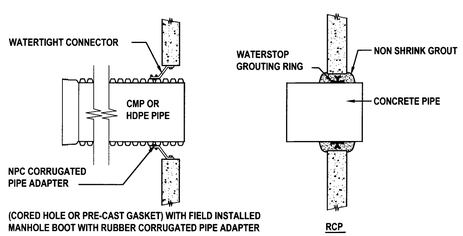
NOT TO SCALE



1. MAKE THE HOLE, GENERALLY HOLES SHALL BE ROUND WITH SMOOTH VERTICAL SIDES CONSISTING OF UNDISTURBED SOIL FOR BEST COMPACTION AND STABILITY OF POLES. DIAMETER OF POLE SHALL BE ABOUT TWICE THE DIAMETER OF THE POLE AT ITS BASE. HOLES SHALL BE AUGURED.
2. WIRE THE POLE UTILIZING APPROVED METHODS.
3. INSTALL THE POLE, IN MANY CASES COMPOSITE POLES CAN BE MANUALLY LIFTED INTO PLACE AND INSERTED INTO THE HOLE.
4. ALIGN AND LEVEL THE POLE.
5. BACKFILL THE HOLE, FILL AND TAMP EVERY 6 TO 8 INCHES OF BACKFILL, FREQUENT TAMPING IS IMPORTANT FOR INSTALLATION.

SITE LIGHTING DETAIL

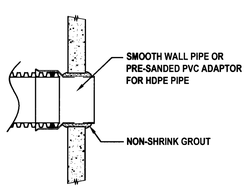
NOT TO SCALE



(CORED HOLE OR PRE-CAST GASKET) WITH FIELD INSTALLED MANHOLE BOOT WITH RUBBER CORRUGATED PIPE ADAPTER

WATER-TIGHT PIPE TO MANHOLE CONNECTION DETAIL PRECAST HOLES REQUIRED

NOT TO SCALE



SOIL-TIGHT PIPE TO MANHOLE CONNECTION DETAIL PRECAST HOLES REQUIRED

NOT TO SCALE

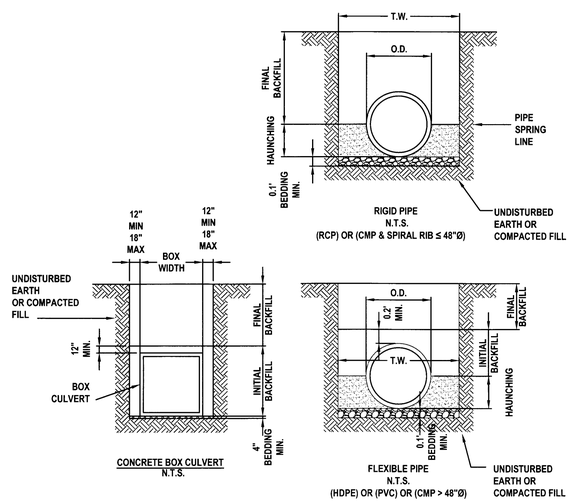
TABLE 1: CLASSES OF EMBEDMENT AND BACKFILL MATERIALS

ASTM D 2321 MATERIAL CLASS	ASTM D 2487 USCS SOIL GROUP	MATERIAL TYPE	% PASSING			ATTERBERG LIMITS	
			1 1/2 IN.	NO. 4	NO. 200	LL	PI
IA	NONE	MANUFACTURED OPEN GRADED AGGREGATES	100%	≤10%	<5%	NON PLASTIC	
IB	NONE	MANUFACTURED DENSE GRADED AGGREGATES	100%	≤50%	<5%	NON PLASTIC	
II	GW	COARSE-GRAINED SOILS, CLEAN	100%	<50% OF "COARSE FRACTION"	<5%	NON PLASTIC	
	GP						
	SW			>50% OF "COARSE FRACTION"			
	SP						
III	GM	COARSE-GRAINED SOILS W/ FINES	100%	<50% OF "COARSE FRACTION"	12% TO 50%		<4 OR <"A" LINE
	GC						<7 OR >"A" LINE
	SM			>50% OF "COARSE FRACTION"			>4 OR <"A" LINE
	SC						>7 OR >"A" LINE
IV-A	ML	FINE-GRAINED SOILS	100%	100%	>50%	<50	<4 OR <"A" LINE
	CL						>7 OR >"A" LINE

TRENCH AND BEDDING DETAILS

GENERAL NOTES

1. BEDDING SHALL BE DUMPED CLASS I-A WORKED BY HAND, OR CLASS I-B COMPACTED TO 85% STANDARD PROCTOR. LOCAL CODE PERMITTING WITH GEOTECHNICAL ENGINEER AND OWNER APPROVAL, NATIVE SOIL MAY BE USED FOR BEDDING PROVIDED IT MEETS THE EMBEDMENT AND BACKFILL MATERIALS IN TABLE 1 EXCLUDING CLASS IV-A.
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I-A, OR CLASS I-B OR CLASS II COMPACTED TO 95% STANDARD PROCTOR. PEA GRAVEL SHALL NOT BE USED AS A HAUNCHING MATERIAL. CLASS III MATERIAL SHALL BE ALLOWED FOR RIGID PIPE COMPACTED AT 95% STANDARD PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 90% STANDARD PROCTOR, OR CLASS III COMPACTED 95% STANDARD PROCTOR. CLASS I & II MATERIAL SHALL BE USED FOR FLEXIBLE PIPE WHEN FILL HEIGHTS EXCEED 8'.
4. FINAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 90% STANDARD PROCTOR, OR CLASS III COMPACTED TO 95% STANDARD PROCTOR.
5. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV-A COMPACTED TO 95% STANDARD PROCTOR.
6. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321. (SEE TABLE 1)
7. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
8. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
9. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES.
10. DESIGN ENGINEER SHALL DESIGNATE ON THE PLANS WHERE WATERTIGHT JOINTS ARE TO BE REQUIRED.
11. REPLACE WET OR UNSUITABLE SOIL AS NECESSARY TO PROVIDE A SUITABLE BASE, AS DIRECTED BY GEOTECHNICAL ENGINEER OR OWNER.
12. WHERE GROUND WATER IS PRESENT CLASS I-A MATERIAL SHALL BE WRAPPED WITH A NON-WOVEN GEO-TEXTILE, EXCLUDING BEDDING MATERIAL BETWEEN 4" & 6" THICK.
13. CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT FOR SOIL TYPE AND CLASSIFICATIONS FOR THIS PROJECT.
14. CONTRACTOR SHALL REFER TO THE LATEST VERSION OF ASTM STANDARDS PRIOR TO CONSTRUCTION.



NOTE: MINIMUM TRENCH WIDTH (T.W.) SHALL BE THE GREATER OF (1.25 O.D. + 12") OR (O.D. + 16")

FINAL APPROVAL
City of Ormond Beach
Engineering Division
Construction Plans Review

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

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Civil Engineering
Land Development
Construction Engineering & Inspection

ZAXBY'S

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MISCELLANEOUS DETAILS AND NOTES

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER

16

IN ORDER TO ENSURE THAT NEW DEVELOPMENTS WITHIN THE CITY ARE CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS "AS-BUILT" DRAWINGS ARE REQUIRED:

THE FOLLOWING INFORMATION IS REQUIRED ON ALL PAVING AND DRAINAGE "AS-BUILT" DRAWINGS:

1. PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RADII AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS AS BEING "AS-BUILT" INFORMATION.
2. ROADWAY ELEVATIONS SHALL BE RECORDED AT ALL GRADE CHANGES OR OTHER INTERVALS AS NEEDED ALONG ALL STREETS. STREET CENTERLINE AND CURB INVERT ELEVATIONS SHALL BE RECORDED AS NOTED. THE "AS-BUILT" CENTERLINE PROFILE OF ALL STREETS SHALL ALSO BE SHOWN ON THE PLAN AND PROFILE SO IT MAY BE COMPARED TO THE EXISTING AND DESIGNED PROFILE GRADE LINES. ALL STREET CENTERLINES ON "AS-BUILTS" SHALL BE LABELED WITH STREET NAME AND RIGHT-OF-WAY WIDTH ON EVERY PAGE.
3. STORM DRAINAGE STRUCTURES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
4. STORM DRAINAGE PIPE INVERT AND STRUCTURE TOP AND BOTTOM ELEVATIONS SHALL BE RECORDED AND CLEARLY DENOTED AS "AS-BUILT" INFORMATION. DESIGN ELEVATIONS SHALL BE CROSSED OUT AND "AS-BUILT" INFORMATION WRITTEN NEXT TO IT.
5. STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
6. ALL APPLICABLE TOPOGRAPHIC INFORMATION, PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS DITCHES, LAKES, CANALS, ETC. THAT ARE DEEMED APPROPRIATE BY THE CITY SHALL BE NOTED. NORMALLY, RECORDING ELEVATIONS EVERY 100 FEET AT THE TOP OF BANK AND TOE OF SLOPE WILL BE REQUIRED. MEASUREMENTS SHALL BE TAKEN AND RECORDED IN ORDER TO ACCURATELY TIE DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES. WHENEVER POSSIBLE, CONTOUR LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.
7. RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. ACTUAL MEASUREMENTS SHALL BE TAKEN AND DIMENSIONS RECORDED OF THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SIDE SLOPES INDICATED. SEPARATE CALCULATIONS SHALL BE SUBMITTED TO INDICATE REQUIRED AND PROVIDED RETENTION VOLUMES.
8. STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
9. ANY SPECIAL FEATURES SUCH AS CONCRETE FLUMES, LAKE BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.
10. ACTUAL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SKIMMERS SHALL BE NOTED ON THE "AS-BUILT".

THE FOLLOWING INFORMATION IS REQUIRED ON ALL WATER AND SEWER "AS-BUILT" DRAWINGS:

11. SANITARY SEWER MANHOLES SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. ALL RIM AND INVERT ELEVATIONS SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
12. SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.

STANDARD CONSTRUCTION DETAIL
REQUIREMENTS FOR "AS-BUILT" DRAWINGS
INDEX M-1A
MARCH 2014

13. SEWER LATERALS SHALL BE VERIFIED AND RECORDED AT THEIR CLEAN-OUT LOCATIONS. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TOWARDS UPSTREAM MANHOLES.
14. LIFT STATIONS AND FORCE MAINS SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. FORCE MAIN DEPTH AND LOCATION INCLUDING VALVES WILL BE PROVIDED AND TIED TO PERMANENT ABOVE GRADE FEATURES EVERY 500 FEET. DIMENSIONAL AND ELEVATION INFORMATION INDICATED ON THE APPROVED PLAN SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION. BURIED ELECTRICAL SERVICE LINE SHALL BE CLEARLY DIMENSIONED, LOCATED AND LABELED.
15. CURB CUTS OR METAL TABS, USED TO MARK SEWER LATERALS, WATER SERVICES AND WATER VALVES, SHALL BE VERIFIED FOR PRESENCE AND ACCURACY OF LOCATION.
16. WATER MAIN LINES SHALL BE DIMENSIONED OFF THE BACK OF CURB OR EDGE OF PAVEMENT IF NO CURB IS PRESENT. WATER MAIN LINE MATERIAL, SIZE, LENGTH AND DEPTH PLACED SHALL ALSO BE NOTED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
17. WATER VALVES, TEES, ALL SERVICES, BLOW - OFFS AND FIRE HYDRANTS SHALL BE LOCATED BY TYING THEM TO SANITARY SEWER MANHOLES. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TO UPSTREAM MANHOLES.

THE FOLLOWING INFORMATION IS GENERAL REQUIREMENTS OF ALL "AS-BUILT" DRAWINGS:

18. FOR PERPENDICULAR CROSSINGS OF STORM WATER, SANITARY SEWER, POTABLE WATER, OR RECLAIMED WATER, THE "AS-BUILT" PLANS SHALL CLEARLY INDICATE WHICH UTILITIES ARE LOCATED OVER OR UNDER OTHER UTILITIES, AS NECESSARY.
19. WHEN STORM WATER, POTABLE WATER, RECLAIMED WATER, OR SANITARY SEWER IMPROVEMENTS ARE LOCATED WITHIN AN EASEMENT, THE "AS-BUILT" SHALL ACCURATELY DEPICT THE LOCATION OF THE EASEMENT ITSELF AS WELL AS THE EXACT LOCATION OF THE IMPROVEMENTS WITHIN THE EASEMENT. THIS IS REQUIRED IN ORDER TO VERIFY THAT THE IMPROVEMENTS HAVE BEEN PROPERLY LOCATED AND TO ENSURE THAT FUTURE SUBSURFACE EXCAVATION TO PERFORM REMEDIAL REPAIR CAN BE ACCOMPLISHED WITHOUT DISTURBANCE BEYOND THE EASEMENT. SUCH DOCUMENTATION AND THE ASSOCIATED PROPOSED EASEMENT DOCUMENT WITH LEGAL DESCRIPTION SHALL BE SUBMITTED FOR CITY REVIEW AND APPROVAL PRIOR TO RECORDING OF SAID EASEMENT. UPON CITY APPROVAL, THE EASEMENT SHALL BE RECORDED VIA A SEPARATE LEGAL INSTRUMENT AND SHALL NOT BE INCLUDED AS PART OF HOMEOWNER COVENANTS AND RESTRICTIONS.
20. SUBMIT CERTIFIED PAPER PRELIMINARY "AS-BUILT" (24"x36") WITH REQUEST FOR FINAL INSPECTION. SUBMIT 3 SETS SHOWING WATER FACILITIES, 3 SETS WITH SEWER FACILITIES, AND 3 SETS WITH PAVING AND DRAINAGE FACILITIES. FOLLOWING FINAL INSPECTION AND COMMENTS, THE CONTRACTOR SHALL REVISE AS-BUILTS TO ADDRESS CITY COMMENTS AND SUBMIT 3 SETS CERTIFIED FINAL "AS-BUILTS" ALONG WITH 1 SET CERTIFIED MYLARS AND 1 CD-ROM CONTAINING AUTO-CAD FILES AND PDF VERSIONS SHOWING ALL "AS-BUILT" SHEETS. ALL "AS-BUILT" DRAWINGS SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR AND ENGINEER OF RECORD.
21. INDICATE VERTICAL DATUM REFERENCE ON ALL SHEETS.
22. CAD FILE OF "AS-BUILTS" SHALL BE IN STATE PLANE COORDINATES; FILE SHOULD INCLUDE REFERENCE TO PROJECTION. (FLORIDA EAST, NAD83)
23. ALL "AS-BUILT" DRAWINGS SHALL BE PREPARED BY A FLORIDA REGISTERED LAND SURVEYOR USING THE FINAL APPROVED SITE DESIGN PREPARED BY THE ENGINEER OF RECORD. LINE WEIGHTS, LINETYPES, AND ANNOTATION SHALL BE MANAGED IN A MANNER THAT CLEARLY DISTINGUISHES DESIGN INFORMATION FROM "AS-BUILT" INFORMATION.
24. ALL "AS-BUILT" SHEETS SHALL INCLUDE A TITLE BLOCK AND CLEARLY STATE PROJECT NAME, PROJECT SURVEYOR, DATE OF FIELD WORK, AS WELL AS PROJECT CERTIFICATION BLOCK FROM THE ENGINEER OF RECORD.

NOTE: REFERENCES TO WATER SHALL MEAN BOTH POTABLE AND RECLAIMED WATER.

STANDARD CONSTRUCTION DETAIL
REQUIREMENTS FOR AS BUILT DRAWINGS
INDEX M-1B
MARCH 2014

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ORMOND BEACH'S LAND DEVELOPMENT CODE REQUIREMENTS, AND THE STANDARD CONSTRUCTION DETAILS AND CONSTRUCTION SPECIFICATIONS (SCDCS). AN ENGINEERING PERMIT AND TREE REMOVAL PERMIT IS REQUIRED PRIOR TO STARTING CONSTRUCTION.
2. NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURE SHALL BE ERECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMIT(S) AS REQUIRED BY THE CITY OF ORMOND BEACH.
3. NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 676-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
5. ROAD CONSTRUCTION AND PIPE INSTALLATION COMPACTION AND DENSITY TESTING SHALL CONFORM TO THE CITY OF ORMOND BEACH'S MINIMUM REQUIREMENTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO THE CITY INSPECTOR AND THE CITY'S ENGINEERING DIVISION.
6. A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
7. A FINAL INSPECTION, TO BE CONDUCTED BY THE CITY OF ORMOND BEACH, SHALL BE PERFORMED ON ALL CONSTRUCTION. THE DESIGN ENGINEER SHALL NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION 676-3269 WHEN REQUESTING A FINAL INSPECTION.
8. THREE COMPLETE SETS OF AS-BUILT DRAWINGS (5 FOR SUBDIVISIONS) ARE REQUIRED TO BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO REQUESTING A FINAL INSPECTION.
9. THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE. VERIFY COMPANY UNDER CONTRACT WITH THE CITY.
10. CONSTRUCTION SITES THAT DISTURB ONE ACRE OR MORE WILL BE REQUIRED TO SEEK COVERAGE UNDER THE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IN ACCORDANCE WITH THIS REQUIREMENT, A STORM WATER POLLUTION PREVENTION PLAN (SWPP) MUST BE SUBMITTED TO THE CITY'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.
11. CONTRACTOR WILL FOLLOW REQUIRED WASTE MANAGEMENT PRACTICES
12. SEEDING OR SODDING SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
13. ANY FIELD MODIFICATIONS OR DEVIATIONS TO THIS CONSTRUCTION PLAN REQUIRES WRITTEN APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

STANDARD CONSTRUCTION DETAIL
GENERAL CONSTRUCTION NOTES
INDEX M-2
MARCH 2014

1. SIDEWALKS, BIKEPATHS, RAMPS, AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3 INCHES, A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 2500 P.S.I. IN 28 DAYS, AND A MINIMUM UNIFORM THICKNESS OF 4 INCHES WHERE INTENDED SOLELY FOR PEDESTRIAN TRAFFIC, AND 6 INCHES THICK WHERE MOTOR VEHICLES ARE LIKELY TO CROSS. SIDEWALKS SHALL BE 5 FOOT WIDE UNLESS OTHERWISE SHOWN ON PLANS.
2. SIDEWALKS AND BIKE PATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE PAVEMENT REMAINS WITHIN THE RIGHT-OF-WAY, IS NOT DIMINISHED IN WIDTH, AND REMAINS AT LEAST 4 FEET FROM THE EDGE OF THE STREET PAVEMENT, UNLESS OTHERWISE APPROVED BY THE CITY.
3. THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 6 INCHES ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND.
4. ALL WALKS SHALL HAVE A CROSS SLOPE OF 1/4 INCH PER FOOT AND SHALL NOT EXCEED A LONGITUDINAL SLOPE OF 1:20, EXCEPT AT DESIGNATED RAMPS THAT SHALL NOT EXCEED 1:12. PROVIDE A TACTIBLE WARNING SURFACE AT ALL RAMPS PER A.D.A. THE CONTRACTOR SHALL INSURE THAT ALL PROVISIONS OF A.D.A AND FLORIDA ACCESSIBILITY CODE ARE MET.*
5. ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE, TO SEPARATE PEDESTRIAN SECTIONS FROM SECTIONS WHICH WILL ENCOUNTER VEHICLE TRAFFIC, TO SEPARATE FRESH PLACEMENT FROM CONCRETE WHICH HAS SET FOR MORE THAN 60 MINUTES, AND NO FARTHER APART THAN 100 FEET IN SIDEWALKS AND BIKEPATHS. JOINT MATERIAL SHALL BE SPECIFIED IN FDOT STANDARDS AND SPECIFICATIONS AND SHALL BE RUBBER, PLASTIC OR OTHER APPROVED NON-BIODEGRADABLE ELASTOMERIC MATERIAL. WOOD IS PROHIBITED.
6. CONTROL JOINTS (TYPE B JOINTS) SHALL BE TOOLED INTO THE FRESH CONCRETE TO A DEPTH EQUAL TO 1/4 THE SLAB THICKNESS AND SPACED APART A DISTANCE EQUAL TO THE WIDTH OF THE SLAB, AT MINIMUM SPACING OF 5', MAX SPACING OF 12'.
7. THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF THE EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS.
8. THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATTER REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTION MACHINE IN MAXIMUM 12 INCH LIFTS OR COMPACTED WITH A HAND TAMPER IN MAXIMUM 4 INCH LIFTS. THE CITY SHALL REQUIRE A COMPACTION TEST FOR EACH LIFT IF THE TOTAL FILLED SECTION IS MORE THAN 12 INCHES DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12 INCHES DEEP. WHERE SUCH TEST IS REQUIRED, THE RESULTS SHALL SHOW A MINIMUM PROCTOR FIELD DENSITY OF 95 PERCENT.
9. ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB, AFTER WHICH TIME THE OWNER OF THE ABUTTING LAND SHALL BE RESPONSIBLE FOR THE SLAB IN ACCORDANCE WITH THE CITY CODE. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED. REPAIRS ARE NOT ACCEPTABLE.
11. SIDEWALKS LOCATED WITHIN THE RIGHT-OF-WAY SHALL NOT BE TINTED, STAINED, COLORED, OR COATED.
12. ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, REGRADED, AND SODDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.

STANDARD CONSTRUCTION DETAIL
SIDEWALK, RAMP, AND DRIVEWAY APRON CONSTRUCTION REQUIREMENTS
NTS
INDEX M-3
JAN. 2012

NOTES:

1. RAMP LOCATIONS ARE TO BE COORDINATED WITH AND IN CONFORMANCE WITH CROSSWALK MARKING DETAILS SHOWN IN THE PLANS.
2. CURBED RAMPS SHALL HAVE FLARED SIDES WITH A MAXIMUM SLOPE OF 12:1.
3. RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE AS SHOWN.
4. RAMPS ARE TO BE CONSTRUCTED AT ALL LOCATIONS SHOWN IN THE PLANS EVEN WHEN A SIDEWALK IS NOT CONSTRUCTED CONCURRENTLY.
5. NO CURB TRANSITION IS NEEDED FOR MIAMI CURBS.
6. ALL RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX NO. 304 AND HANDICAPPED ACCESSIBILITY REQUIREMENTS IN ACCORDANCE WITH THE AMERICAN DISABILITIES ACT.

NOTES:

- ON RAMPS THAT ARE PERPENDICULAR WITH THE CURB LINE, THE DOME PATTERN SHALL BE IN-LINE WITH THE DIRECTION OF TRAVEL. ON RAMPS INTERSECTING CURBS ON A RADIUS, THE DOME PATTERN SHALL BE IN-LINE WITH THE DIRECTION OF TRAVEL TO THE EXTENT PRACTICAL.

STANDARD CONSTRUCTION DETAIL
SIDEWALK AND BIKE PATH RAMP
NTS
INDEX M-4
MARCH 2014

PIPE INSTALLATION DETAIL

NOTES:

1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COPIES OF CERTIFIED TEST REPORTS TO CITY INSPECTOR.
4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
5. INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.

STANDARD CONSTRUCTION DETAIL
PIPE INSTALLATION
NTS
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MARCH 2014

ALL PVC PIPE, OR OTHER CITY APPROVED NONMETALLIC PIPE INSTALLED WITHIN THE CITY'S WATER, SANITARY SEWER, OR RECLAIMED WATER SYSTEMS, SHALL BE INSTALLED WITH 10 THHN SOLID COPPER TRACING WIRE. IF PIPE IS INSTALLED BY DIRECTIONAL BORE, USE (2) 10 THHN SOLID COPPER TRACING WIRE.

THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 500' MINIMUM INTERVALS. WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND BE COILED AND PLACED IN A VALVE BOX, METER BOX, MANHOLE, CLEANOUT OR OTHER APPLICABLE STRUCTURE.

TRACING WIRE BETWEEN INTERVALS SHALL BE INSTALLED SO AS TO PROVIDE CONTINUOUS CURRENT WHEN LINE LOCATION EQUIPMENT IS CONNECTED TO THE TRACING WIRE. WIRE BRANCHING FROM MAIN LINES SHALL BE LINKED BY A CITY APPROVED CONNECTOR SUCH AS KING # 2011 SAFETY SEALED CONNECTORS OR APPROVED EQUAL.

COLOR CODING:

POTABLE WATER SYSTEM:	BLUE
RECLAIMED WATER SYSTEM:	LAVENDER
SANITARY SEWER FORCE MAIN SYSTEM:	GREEN

1. POTABLE WATER AND RECLAIMED WATER SYSTEMS: WIRE SHALL BE INSTALLED BELOW ALL MAINS AND SERVICE LINES AND ATTACHED TO VALVES, HYDRANTS AND FITTINGS. WIRE INSTALLED WITH SERVICE LINES SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE CURB STOP.
2. FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION.
3. SANITARY SEWER FORCE MAINS: WIRE SHALL BE INSTALLED BELOW THE FORCE MAIN AND ATTACHED TO ALL VALVES AND FITTINGS AND BROUGHT TO THE SURFACE AND PLACED IN A METAL, CITY APPROVED, VALVE BOX.
4. DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN.
5. WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NUT.

STANDARD CONSTRUCTION DETAIL
UTILITY PIPE LOCATION MATERIALS
NTS
INDEX M-10
MARCH 2014

HANDICAPPED PAVEMENT SYMBOL

NOTES:
1. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS.
2. IF ACCESSIBLE AISLE CROSSES THE TOP OF THE HANDICAP SPACE, WHEEL STOP SHALL BE USED TO MAINTAIN MINIMUM 44 INCH CLEAR ACCESSIBLE ROUTE.
3. IF WHEEL STOP IS USED, PARKING SHALL HAVE 18' CLEAR SPACE.
4. ACCESSIBLE PARKING SIGN SHALL BE PLACED AS TO NOT ENCROACH INTO THE ACCESSIBLE AISLE MINIMUM 44 INCH CLEAR ACCESSIBLE ROUTE.
5. NUMBER OF ACCESSIBLE PARKING SPACES SHALL MEET REQUIREMENT OF THE LATEST ISSUE OF THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION

USE OF PAVEMENT SYMBOL IN HANDICAPPED PARKING SPACES IS REQUIRED. WHEN USED THE SYMBOL SHALL BE 5 FT. HIGH AND WHITE IN COLOR. TO BE INSTALLED IN ACCORDANCE WITH FDOT STANDARD INDEX #17346

BLUE STRIP IS TO BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARDS 595

STANDARD CONSTRUCTION DETAIL
TYPICAL MARKINGS FOR HANDICAPPED PARKING
NTS
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SUPPLEMENTAL PLATE MUST BE 12" WIDE BY 6" HIGH WITH 1-1/2" CORNER RADII. PROVIDE A 1" SERIES C BLUE LEGEND AND A 1/2" BLUE BORDER ON A WHITE BACKGROUND.

1.) TOP PORTION OF SIGN TO HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.

2.) BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.

3.) SIGN MAY BE FABRICATED ON ONE PANEL OR TWO.

4.) SIGNS ARE TO BE MOUNTED AT STANDARD HEIGHT. (7' FROM PAVEMENT TO BOTTOM OF SIGN.)

STANDARD CONSTRUCTION DETAIL
HANDICAP PARKING SIGN DETAIL
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NOTES:
1. ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 2500 P.S.I. CONCRETE
2. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 500', CONSTRUCTION JOINT REQUIRED EVERY 10' MAXIMUM (4' MINIMUM).
3. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
4. 6" SUBBASE TO BE COMPACTED AND TESTED TO 98% DENSITY WITH MINIMUM L.B.R. 40 BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
5. EXPANSION JOINT MATERIAL MUST COVER THE ENTIRE CROSS SECTION OF CURB.
6. ALL EXPOSED CORNERS TO BE ROUNDED AT 3/4" MIN. RADIUS.
7. ALL CURB ENDS THAT DO NOT TIE INTO OTHER FACILITIES SHALL TRANSITION DOWN TO PAVEMENT GRADE IN 24 INCHES.

STANDARD CONSTRUCTION DETAIL
STANDARD CURB CONSTRUCTION
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A. SCOPE OF WORK – THE WORK IN THIS SECTION CONSISTS OF FURNISHING AND COMPLETELY INSTALLING SEED AND MULCH OVER THE LIMITS CALLED FOR ON THE CONSTRUCTION DRAWINGS.

B. MATERIALS – GRASS SEED SHALL BE A MIXTURE OF:

PENSACOLA BAHIA (50% SCARIFIED SEED)	80 LBS/ACRE
HULLED BERMUDA	20 LBS/ACRE
BROWN TOP MILLET	30 LBS/ACRE

IN THE FALL AND WINTER MONTHS (OCT. THRU FEB.) AND WITH THE APPROVAL OF THE CITY, ANNUAL RYE GRASS SHALL BE SUBSTITUTED IN EQUAL AMOUNTS FOR THE BROWN TOP MILLET. SEED SHALL BE PREMIXED BY A SEED COMPANY TO THE PROPORTIONS DESCRIBED ABOVE, WITH CERTIFICATION FROM THE SUPPLIER PROVIDED TO THE CITY, PRIOR TO USE. MULCH USED SHALL BE STRAW OR HAY CONSISTING OF OATS, RYE OR WHEAT STRAW OF PANGOLA, PEANUT, COASTAL BERMUDA OR BAHIA GRASS HAY. MULCH SHALL BE FREE FROM UNDESIRABLE WEED AND OTHER UNDESIRABLE GRASS.

C. METHODS – GRASSING SHALL BE DONE IMMEDIATELY UPON COMPLETION OF THE FINE GRADING OPERATION. HOWEVER, NO SEEDING SHALL BE DONE WHEN THE GROUND IS FROZEN OR UNDULY WET. THE RATE OF SPREAD FOR THE SEED MATERIAL SHALL BE ONE HUNDRED AND THIRTY (130) POUNDS PER ACRE. APPROXIMATELY TWO INCHES (2"), LOOSE THICKNESS, OF MULCH MATERIAL SHALL BE APPLIED INFORMALLY OVER THE GRASSED AREAS (APPROXIMATELY 1 1/2 BALES PER 1000 SQUARE FEET). THE MULCH MATERIAL SHALL BE CUT INTO THE SOIL WITH A DISC HARROW OR OTHERWISE ANCHORED DOWN.

D. FERTILIZER –
1. ANALYSIS OF SOILS SHALL BE OBTAINED BY SUBMITTAL OF SAMPLES TO VOLUSIA COUNTY AGRICULTURAL DEPARTMENT (PHONE: 258-7000). ALL APPLICATION RATES WILL BE BASED ON THIS REPORT. SUBMIT A COPY OF THIS REPORT TO THE CITY PRIOR TO COMMENCING ANY SOIL MODIFICATION.

2. THE FERTILIZER SHALL BE A COMMERCIAL GRANULAR TYPE WITH A CHEMICAL DESIGNATION AS RECOMMENDED IN THE SOILS ANALYSIS REPORT.

3. THE NUMERICAL DESIGNATIONS FOR FERTILIZER INDICATE THE MINIMUM PERCENTAGES (RESPECTIVELY) OF (1) TOTAL NITROGEN, (2) AVAILABLE PHOSPHORIC ACID AND (3) WATER SOLUBLE POTASH CONTAINED IN THE FERTILIZER.
a) AT LEAST 50 PERCENT (50%) OF THE PHOSPHORIC ACID SHALL BE FROM A NORMAL SUPER PHOSPHATE OR AN EQUIVALENT SOURCE WHICH WILL PROVIDE A MINIMUM OF TWO UNITS OF SULFUR.
b) THE AMOUNT OF SULFUR SHALL BE INDICATED ON THE QUANTITIVE ANALYSIS CARD ATTACHED TO EACH BAG OR CONTAINER.

4. COMMERCIAL FERTILIZERS SHALL COMPLY WITH THE STATE FERTILIZER LAWS.

5. FERTILIZER MAY, AT THE DISCRETION OF THE ENGINEER/ARCHTECT, UPON THE PRESENTATION BY THE MANUFACTURE OF SATISFACTORY FACTORY EVIDENCE OF ITS FEASIBILITY, BE APPLIED IN LIQUID FORM.

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SEEDING AND MULCHING
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STANDARD CONSTRUCTION DETAIL
PAVEMENT BUTT JOINT
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TYPICAL PAVEMENT SECTION

NOTE: FOR ROADWAYS, THE CROSS SLOPE SHALL BE 1/4" PER FOOT. FOR PRIVATE PARKING AREAS THE MINIMUM ALLOWABLE PAVEMENT SLOPE SHALL BE NO LESS THAN 0.50% MEASURED FROM THE RECEIVING INLET, GUTTER, OR FLUME TO ANY PAVEMENT.

NOTES:
1. CONTRACTION JTS. MAY BE HAND FORMED, SAWED OR CONSTRUCTED W/ A 1/4" PREMOLDED FILLER JT. JOINTS MUST BE SAWED BETWEEN 4 AND 18 HOURS AFTER CONCRETE HAS BEEN PLACED.
2. EXPANSION JOINTS TO BE PLACED BETWEEN ROADWAY AND CURB. ALSO AT ANY PERMANENT STRUCTURE ABUTTING OR WITHIN THE PAVED AREA INCLUDING SIDEWALKS.
3. USE OF WOOD IS NOT AN ACCEPTABLE ALTERNATIVE TO FLEXIBLE JOINT SEALANTS.
4. FINAL DETERMINATION OF CONSTRUCTION JOINT SELECTION AND APPLICATION SHALL BE MADE BY THE ENGINEER OF RECORD BASED ON PROJECT REQUIREMENTS AND LOCATION.
5. CONSTRUCTION JOINTS WITHIN THE SLAB AREA SHOULD NOT CONTAIN PREMOLDED EXPANSION JOINT FILLER.
6. CONCRETE PAVEMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH A.C.I. PUBLICATION ACI 330R-87.

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CONCRETE PAVEMENT DETAILS
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RECOMMENDED MAX. JOINT SPACING

PAVEMENT THICKNESS (INCHES)	RECOMMENDED MAXIMUM JOINT SPACING (FEET)
3.5 (FOR WHITE TOPPING ONLY)	6
4.0	10
4.5	10
5.0	12
5.5	12
6.0	15
OVER 6.0	15

STANDARD CONSTRUCTION DETAIL
CONCRETE PAVEMENT DETAILS
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MARCH 2014

1. CONSTRUCTION STANDARDS FOR ALL DRAINAGE SYSTEM COMPONENTS SHALL CONFORM TO THE LATEST EDITION OF THE "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND AS SPECIFIED HEREIN.
2. ALL STORM WATER PIPES AND STRUCTURES SHALL BE INSTALLED ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
3. DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW THE COMPONENT BEING INSTALLED.
4. ALL PIPES AND STRUCTURES SHALL BE PLACED TRUE TO LINES AND GRADES AS DEPICTED ON THE APPROVED PLANS.
5. ALL PIPE JOINTS SHALL BE PROPERLY HONED AND FILTER FABRIC LINED USING A METHOD TO HOLD THE FABRIC IN PLACE DURING BACKFILL.
6. BACKFILL AND COMPACT TO THE SPRING-LINE (CENTER OF PIPE) ELEVATION AND REQUEST CITY INSPECTION AND APPROVAL BEFORE CONTINUING.
7. ALL WORK COVERED WITHOUT CITY INSPECTION WILL BE REQUIRED TO BE EXCAVATED AND INSPECTED AT THE CONTRACTOR'S EXPENSE.
8. TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH CLEAN GRANULAR MATERIAL IN MAX 6" LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 95 PERCENT (AASHTO-T180) IN UNPAVED AREAS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS AT POINTS 1' ABOVE THE PIPE AND AT A MAX. 1' VERTICAL INTERVALS TO FINISH GRADE, AT A MAXIMUM SPACING OF 100 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY'S INSPECTOR.
10. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE (RCP), HIGH DENSITY POLYETHYLENE (HDPE), POLYVINYL CHLORIDE (PVC) OR ALUMINUM CORRUGATED METAL PIPE (ACMP), AS SHOWN ON THE PLANS.
11. STORM DRAINAGE PIPES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE A MINIMUM OF FIFTEEN (15) INCH RCP DIAMETER OR EQUIVALENT.
12. STORM INLETS, MANHOLES, AND CATCH BASINS SHALL BE EITHER POURED IN PLACE OR PRECAST REINFORCED CONCRETE. STRUCTURES SHALL BE REQUIRED AT EACH CHANGE OF PIPE SIZE OR CHANGE IN PIPE DIRECTION.

STANDARD CONSTRUCTION DETAIL
STORM DRAINAGE CONSTRUCTION NOTES
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13. STORM INLETS SHALL BE SPACED IN SUCH A MANNER AS TO ACCEPT ONE HUNDRED (100) PERCENT OF THE DESIGN STORM RUNOFF.
14. WET DETENTION PONDS SHALL BE EIGHT (8) FEET MINIMUM TO TWELVE (12) FEET MAXIMUM DEPTH BELOW THE DESIGN LOW OR NORMAL WATER STAGE.
15. MAXIMUM DISTANCES BETWEEN INLETS AND/OR JUNCTION BOXES:

PIPES SIZE (INCHES)	LENGTH OF RUN (FEET)
15	150
18	300
24 OR GREATER	400

16. ALL SWALES, DITCHES, AND DRY RETENTION POND SIDE SLOPES SHALL BE NO STEEPER THAT 4:1 (H:V) AND SHALL BE SODDED.
17. ALL RETENTION POND BACKSLOPES SHALL BE NO STEEPER THAN 3:1 (H:V) AND SHALL BE SODDED.
18. NORMAL ROADSIDE SWALES SHALL BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18" BELOW THE OUTSIDE EDGE OF PAVEMENT OR CONCRETE CURB.
19. CONCRETE EROSION CONTROL MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES.
20. A MINIMUM ONE FOOT (1') FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND WET RETENTION PONDS.
21. A MINIMUM SIX INCH (6") FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND DRY RETENTION PONDS.
22. POND INFLOW SHALL GENERALLY BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
23. OUTLET STRUCTURES ARE REQUIRED ON ALL PONDS. ALL OUTLET STRUCTURES SHALL BE PERMANENT CONCRETE OVERFLOW WEIRS OR CONCRETE OUTLET CONTROL STRUCTURES. NO SODDED WEIRS OR OTHER NON-PERMANENT OVERFLOW STRUCTURES SHALL BE ALLOWED.
24. SOIL EROSION CONTROL MEASURES SATISFACTORY TO THE CITY, SHALL BE EMPLOYED DURING CONSTRUCTION AND UPON COMPLETION OF THE POND.
25. THE CITY MAY REQUEST THAT THE DEVELOPER SUBMIT A REPORT BY A QUALIFIED HYDROLOGIST ON THE IMPACT THE POND WILL HAVE ON NEIGHBORING WATER TABLE ELEVATIONS BOTH DURING CONSTRUCTION AND AFTER POND COMPLETION. THE CITY MAY REQUIRE GROUNDWATER MONITORING DURING THE POND EXCAVATION.

STANDARD CONSTRUCTION DETAIL
STORM DRAINAGE CONSTRUCTION NOTES
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MARCH 2014

26. ADEQUATE MAINTENANCE ACCESS AS APPROVED BY THE CITY SHALL BE PROVIDED AROUND THE ENTIRE PERIMETER OF ALL PONDS AND ASSOCIATED OUTFALLS DISCHARGING INTO AND OUT OF PONDS.
27. IN GENERAL, ALL RETENTION/DETENTION PONDS MUST BE CONSTRUCTED PRIOR TO ANY ROAD, PARKING LOT, OR BUILDING CONSTRUCTION COMMENCING OR AS CURRENT PERMIT CONDITIONS DICTATE.
28. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY DEWATERING PERMITS THAT MAY BE REQUIRED.
29. CULVERTS CROSSING RIGHT-OF-WAYS SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY.
30. ALL STORM WATER DISCHARGE FROM RETENTION/DETENTION PONDS ARE REQUIRED TO BE CHANNELED INTO DEFINED DRAINAGE PATHS TO EXISTING WATER BODIES, WETLANDS, DITCHES, ETC.
31. THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEVISE ANY AND ALL STORM SEWER PIPE SYSTEMS IN THE PRESENCE OF THE CITY INSPECTOR BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE DVD SHALL BE IN HIGH QUALITY STANDARD RESOLUTION USING A CAMERA WITH SUITABLE LIGHTING TO ALLOW A CLEAR FOCUSED PICTURE OF THE ENTIRE INSIDE PIPE CIRCUMFERENCE. THE DVD SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING VIEWED. COPIES OF DVD SHALL BE SUBMITTED IN DVD FORMAT ACCOMPANIED BY WRITTEN LOGS DESCRIBING THE CONDITION OF THE LINES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO REQUESTING FINAL INSPECTIONS. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY OR ISSUANCE OF CERTIFICATE OF OCCUPANCY.

STANDARD CONSTRUCTION DETAIL
STORM DRAINAGE CONSTRUCTION NOTES
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NOTES:
1. PROVIDE DESIGN DATA WHERE INDICATED (=)
2. WATER LEVEL MUST RECOVER TO BOTTOM OF POND AT OR BEFORE 72 HOURS AFTER STORM
3. PROVIDE SPILLWAY DETAILS
4. MUCK GROWN SOD IS NOT ACCEPTABLE FOR POND BOTTOM. SOD TO BE PLACED ON BOTTOM MUST BE GROWN IN SAND. PLEASE COORDINATE WITH ENGINEER OR LANDSCAPE ARCHITECT PRIOR TO PLACEMENT

STANDARD CONSTRUCTION DETAIL
DRY RETENTION POND
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MARCH 2014

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

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Land Development
Construction Engineering & Inspection

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CITY DETAILS AND NOTES
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER
17

SANITARY SEWER CONSTRUCTION GENERAL NOTES

1. THE CITY'S PUBLIC UTILITY DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY SEWER CONSTRUCTION.
2. ALL SANITARY SEWER MAIN LINES SHALL BE A MINIMUM OF 8" IN DIAMETER. SERVICE LATERALS SHALL BE A MINIMUM OF 4" DIAMETER (RESIDENTIAL) OR A MINIMUM OF 6" DIAMETER (COMMERCIAL)
3. ALL SANITARY SEWER LINES SHALL BE PVC SDR 26. IN PLACES WHERE A MINIMUM COVER OF 4.0' CANNOT BE MAINTAINED, C-900 GREEN PVC DR-25, CLASS 100 OR CONCRETE ENCASEMENT SHALL BE USED.
4. MINIMUM ALLOWABLE SANITARY SEWER SLOPES ALLOWED ARE:
   8" PIPE 0.40%
   10" PIPE 0.30%
   12" PIPE 0.22%
5. SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY THE CITY.
6. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WITHIN THE AREA OF THE TRENCH.
7. ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
8. EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF EXCAVATION WORK OR USE OF TRENCH BOX IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN, AS WELL AS REPRESENTATIVES OF THE CITY, THE DESIGN ENGINEER, AND THE DEVELOPER.
9. THE CONTRACTOR SHALL INSTALL A METALLIZED FOIL LOCATER TAPE, OR SIMILAR DEVICE AS MAY BE APPROVED BY THE CITY FOR THE FULL LENGTH OF ALL PVC WATER, RECLAIMED WATER AND SEWAGE FORCE MAINS. THIS PIPE LOCATER AID SHALL BE INSTALLED (15) INCHES BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER AND IS IN ADDITION TO THE LOCATER WIRE REQUIRED IN THE UTILITY PIPE LOCATION MATERIALS DETAIL (MISCELLANEOUS DETAILS SECTION – M10).
10. MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
11. MANHOLE RIMS SHALL MATCH FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.2 FEET ABOVE GRADE IN UNPAVED AREAS.

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GENERAL NOTES
SANITARY SEWER CONSTRUCTION
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MARCH 2014

SANITARY SEWER CONSTRUCTION GENERAL NOTES

12. THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
13. RUBBER BOOTS AND STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTION OF THE SEWER MAIN TO THE MANHOLES (SEE RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL).
14. NO DOGHOUSE TYPE MANHOLES ARE PERMITTED WITHIN THE CITY OF ORMOND BEACH
15. INDIVIDUAL SANITARY SERVICE CONNECTORS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, BUT TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS.
16. FOR SINGLE FAMILY HOMES, SINGLE FOUR INCH SEWER SERVICES SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG BEING EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS TO BE USED ON ALL LINES, NO GLUED JOINTS.
17. FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
18. SANITARY SEWER LATERALS LONGER THAN 70 FEET, MEASURED FROM THE SEWER MAIN TO THE RIGHT-OF-WAY LINE MAY BE APPROVED ON A CASE BY CASE BASIS. SUCH LATERALS SHALL BE D.I.P. EPOXY LINED OR C-900 PVC.
19. SANITARY SEWER MANHOLES WHICH HAVE SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM, OR ANY MANHOLE WITHIN 200 FEET OF A LIFT STATION, SHALL BE FIBERGLASS OR PVC LINED. RETRO-FITTING OF MANHOLES WITH LINERS SHALL BE REQUIRED WHEN NEW CONNECTIONS SUCH AS THIS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICKNESS UNLESS APPROVED OTHERWISE BY THE CITY. LINING SHALL BE AGRU SURE-GRIP OR PRE-APPROVED EQUAL.
20. SEE CHART ON DETAIL INDEX S-1C FOR FORCE MAIN AND REUSE PIPE SIZE AND MATERIALS.
21. THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEVISE ANY AND ALL SANITARY SEWER MAIN LINES AND LATERALS PRIOR TO ANY FINAL ACCEPTANCE, AND RESERVES THE RIGHT TO REQUEST WATER AND AIR TESTING.
22. ALL SEWER MAINS PRIOR TO ACCEPTANCE BY THE CITY SHALL BE TELEVISED BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE DVD SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING REVIEWED. WRITTEN DVD LOGS DESCRIBING THE CONDITION OF THE LINES SHALL ACCOMPANY THE DVD SUBMISSION TO THE CITY.
23. CONTRACTORS SHALL BE REQUIRED TO TELEVISE ALL SEWER LINES IN THE PRESENCE OF CITY PERSONNEL AND PROVIDE COPIES OF THE DVD TO THE PUBLIC UTILITY DEPT. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY.

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GENERAL NOTES
SANITARY SEWER CONSTRUCTION
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MARCH 2014

SANITARY SEWER CONSTRUCTION GENERAL NOTES

24. ALL MANHOLES CONSTRUCTED IN SIDE YARDS, BACKYARDS, AND EASEMENTS OFF THE RIGHT-OF-WAY SHALL BE OUTFITTED WITH FIBERGLASS LINERS OR OTHER TYPES OF LINERS OR COATINGS APPROVED BY THE CITY. IN ADDITION THE CITY MAY REQUIRE LINERS OR COATINGS TO BE INSTALLED IN OTHER AREAS WHERE THE PUBLIC UTILITY DEPARTMENTS BELIEVE THE NEED IS JUSTIFIED.
25. ALL SEWER LINES WHICH ARE CONSTRUCTED OFF PUBLIC RIGHTS-OF-WAY WITHIN SIDEYARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF C-900 PVC, OR EPOXY LINED DUCTILE IRON PIPE. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
26. SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT V OR BY A METAL TAB SET INTO THE PAVEMENT.
27. EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WET WELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL PERSONALLY INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS .
28. ALL PROPOSED SEWER MAINS, 4" OR GREATER, SHALL BE FLUSHED AND CLEANED WITH A POLY PIG IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
29. ALL SEWER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER. DUCTILE IRON CLASS 350 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
30. SEWER SYSTEMS SHALL BE PRESSURE TESTED AT 100 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.

FORCE MAIN & REUSE MAIN STANDARDS

DIAMETER	MATERIAL	STANDARD
2" – 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" – 12"	PVC 1120 / CLASS 100	AWWA C 900
14" – 36" (16"– 24" ⟶ DR – 18) (30"– 36" ⟶ DR – 21)	PVC 1120	AWWA C 905
ALL SIZES	HDPE (DIPS) DR 13.5	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE GREEN OR WHITE FOR SEWER FORCE MAIN, AND PURPLE FOR REUSE MAIN.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
SANITARY SEWER CONSTRUCTION
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MARCH 2014

SEWER LATERAL

NOTE: USE OF STYRENE MATERIAL WILL NOT BE PERMITTED.

NOTE
SINGLE SERVICES SHALL BE MIN:
4" DIA. RESIDENTIAL
6" DIA. COMMERCIAL

ALL JOINTS TO BE RUBBER GASKET (NO GLUED FITTINGS)

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SEWER LATERAL DETAIL
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NOTE: CONCRETE COLLAR REQUIRED IN UNPAVED AREAS

STANDARD CONSTRUCTION DETAIL
CLEANOUT DETAIL
NTS.
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MARCH 2014

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

1. THE CITY'S PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
2. DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING LAID.
3. ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
4. TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX. 1' LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 90 PERCENT IN UNPAVED AREAS.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY INSPECTOR.
6. METALLIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAPE SHALL BE USED ON ALL DUCTILE IRON PIPE.
7. WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR) ; POLYBUTYLENE SHALL NOT BE ALLOWED.
8. ALL WATER SERVICE ENDINGS SHALL BE MARKED WITH 4" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, WITH WATER SERVICES SECURED 24" ABOVE THE GROUND. WIRE TIES SHALL BE USED TO SECURE THE CURB STOPS TO SUPPORT POSTS.
9. WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 500 FEET.
10. AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
11. APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
   A. STANDARD GATE VALVES LESS THAN 48" DIAMETER RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).
   B. TAPPING VALVES AND MECHANICAL TAPPING SLEEVE SHALL BE STAINLESS STEEL. (AWWA C - 509)

City of Ormond Beach Site Plan Review Committee FINAL APPROVAL

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
WATER SYSTEM CONSTRUCTION
INDEX W–1A
MARCH 2014

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

12. ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
13. WATER VALVES SHALL BE COMPLETELY OPENED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF UTILITY DEPARTMENT PERSONNEL.
14. HYDRANTS SHALL BE PLACED AT 500 FEET MAXIMUM SPACING IN RESIDENTIAL DEVELOPMENTS AND AT 300 FEET MAXIMUM SPACING IN BUSINESS AND INDUSTRIAL DEVELOPMENTS. ALL WATER MAIN TO WHICH HYDRANTS ARE CONNECTED SHALL BE 8 INCHES MINIMUM.
15. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF FIRE. THE MAIN NOZZLE CONNECTION SHOULD ALWAYS FACE THE STREET AND BE 18-24" ABOVE GRADE.
16. AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.
17. ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON CLASS 350 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
18. **ALL PROPOSED WATER MAINS SHALL BE FLUSHED, CLEANED WITH A POLY PIG. DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.**
19. WATER MAINS SHALL BE AWWA C-900 CL 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED.
20. UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE HEALTH DEPARTMENT, AND THAT CERTIFIED AS-BUILT DRAWINGS (24"x36") ARE PROVIDED TO THE CITY PRIOR TO PAVING AND ANY USE OF THE SYSTEM. PROVIDE THREE (3) BLUELINE COPIES, ONE (1) MYLAR OF AS-BUILT DRAWINGS AND A DIGITAL COPY.
21. MEGALUG OR EQUIVALENT, RESTRAINED JOINT SYSTEM MAY BE USED ON ALL RESTRAINED FITTINGS, VALVES, ETC. MINIMUM DEPTH OF BURY ON PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST RESTRAINT DESIGN GUIDELINES.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
WATER SYSTEM CONSTRUCTION
INDEX W–1B
MARCH 2014

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

22. WATER SYSTEMS SHALL BE PRESSURE TESTED AT 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.
23. ALL WATER SERVICES SHALL BE MARKED WITH A "Λ" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.
24. ALL WATER VALVES AND BLOW-OFFS SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT. LOCATION OF METAL TABS IN INCHES FROM EDGE OF PAVEMENT SHALL EQUAL DISTANCE IN FEET FROM EDGE OF PAVEMENT TO VALVE.
25. UNIFLANGE 1300 SERIES PIPE RESTRAINTS AS MANUFACTURED BY FORD OR APPROVED EQUAL MAY BE USED AS APPROPRIATE FOR RESTRAINING IN-LINE PRESSURE PIPE EACH SIDE OF PIPE JOINT. AS REQUIRED BY RESTRAINT TABLE.
26. TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.
27. NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.
28. ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.
29. **SUBMIT ASSEMBLY** CERTIFICATION FOR ALL BACKFLOW **PREVENTERS TO THE** CITY'S **ENGINEERING DEPARTMENT** BEFORE FINAL INSPECTION.
30. **PIPING FOR RAW WATER** SHALL BE OLIVE GREEN FOR ABOVE GROUND PIPING, **BURIED PVC PIPING SHALL** BE BLUE WITH WHITE COLOR BACKGROUND LOCATOR TAPE PLACED **DIRECTLY ON** TOP OF THE PIPE **AND AT** 12" TO 18" ABOVE THE PIPE. THE TAPE SHALL CONTINUOUSLY READ "CAUTION - **RAW WATER** MAIN BURIED BELOW" OR WHITE WITH LOCATOR TAPE PLACED 12" TO **18" ABOVE THE TOP** OF THE PIPE.
31. SEE CHART BELOW FOR WATER **MAIN** SIZE AND **MATERIALS.**

MATERIALS

DIAMETER	MATERIAL	STANDARD
2" - 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" - 12"	PVC 1120 / CLASS 150	AWWA C 900
> 4" - 12" DEDICATED FIRE LINE	PVC 1120 / CLASS 150	AWWA C 900
14" - 36" (16"- 24" — DR - 18) (30"- 36" — DR - 21)	PVC 1120	AWWA C 905
ALL SIZES	HDPE DIPS DR 11	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE BLUE FOR POTABLE WATER MAINS, BLUE WITH WHITE LOCATOR TAPE OR WHITE WHITE LOCATOR TAPE FOR RAW WATER MAIN.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
WATER SYSTEM CONSTRUCTION
INDEX W–1C
MARCH 2014

NOTE: USE RESTRAINED JOINT WHERE APPLICABLE.

STANDARD CONSTRUCTION DETAIL
GATE VALVE AND VALVE BOX
NTS.
INDEX W–2
MARCH 2014

VALVE SCHEDULE FORD OR EQUIVALENT	
WATER SERVICES	
VALVES AT MAIN	
1"	F1000-4
1 1/2" (REQ. C84-66 PACK JOINT COUPLING)	B81-666
2" (REQ. C84-77 PACK JOINT COUPLING)	B81-777
VALVES AT METER	
1"	B94-324W
1 1/2"-2"	BF43-777W

NOTES:

1. HDPE SHALL BE 200 PSI, NSF APPROVED, SDR 9, MEETING ASTM D1248. TUBING SHALL BE ENDOT ENDOTRACE (OR APPROVED EQUAL).
2. REDUCED PRESSURE BACKFLOW PREVENTERS ARE REQUIRED FOR ALL COMMERCIAL SERVICES. TO BE INSTALLED BY A CERTIFIED TECHNICIAN AT OWNERS EXPENSE
3. ALL SERVICE TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVAL OR WITHIN 2'-0" OF BELL OR SPIGOT ENDS.
4. METERS 3" AND LARGER SHALL BE PLACED IN A VAULT TO BE CONSTRUCTED BY DEVELOPER IN ACCORDANCE WITH ARTICLE 4.04B4 LDC.
5. IN AREAS TO BE PAVED PROVIDE A 2" MIN. PVC SCHEDULE 40 SLEEVE FOR PE-TUBING. SLEEVE SHALL EXTEND A MIN. OF 2' BEHIND BACK OF CURB AT EACH SIDE OF ROAD.
6. ALL IRRIGATION SERVICES (WATER) MUST HAVE AN APPROVED BACKFLOW PREVENTION DEVICE INSTALLED ON CUSTOMERS SIDE OF WATER METER. THE CUSTOMER IS RESPONSIBLE FOR INSTALLATION AND CERTIFICATION COST. A COPY OF THE CERTIFICATION MUST BE SENT TO THE CITY OF ORMOND BEACH ENGINEERING DEPARTMENT, PRIOR TO FINAL INSPECTION
7. WATER METERS INSTALLED IN AREAS SERVED BY RECLAIMED WATER OR AN ALTERNATE IRRIGATION SUPPLY SHALL BE EQUIPPED WITH DUAL CHECK BACKFLOW PREVENTERS.
7. WATER METERS SHALL BE RADIO READ.

STANDARD CONSTRUCTION DETAIL
WATER LATERAL SERVICE
5/8", 3/4", 1", 1–1/2", 2" METERS
NTS
INDEX W–3
MARCH 2014

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)

TABLE APPLIES TO PVC PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 3

FITTING / PIPE SIZE (IN.) :	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)

TABLE APPLIES TO D.I.P. FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

FITTING / PIPE SIZE (IN.) :	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36" *	69 (82)	28 (34)	18 (18)	18 (18)	170 (204)
42" *	76 (92)	31 (37)	18 (18)	18 (18)	191 (229)
48" *	90 (106)	40 (46)	18 (18)	18 (18)	212 (254)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.
VALUES IN PARENTHESIS ARE FOR PIPE ENCASED IN POLYETHYLENE.

STANDARD CONSTRUCTION DETAIL
PVC AND D.I.P. RESTRAINED JOINT TABLE
INDEX W–5
MARCH 2014

ACCEPTABLE MANUFACTURERS: HERSEY MODEL FRP II, WILKINS MODEL 975XL, WATTS MODEL 009 QTS

MATERIALS

ITEM	QUANT.	DESCRIPTION
1	1	3/4", 1", 1-1/2" OR 2" BACKFLOW PREVENTER ASSEMBLY
2	3	3/4", 1", 1-1/2" OR 2" x NOM. NIPPLES – BRASS
3	2	3/4", 1", 1-1/2" OR 2" x 90° ELBOWS – PVC., BRASS, OR COPPER
4	2	3/4", 1", 1-1/2" OR 2" x VARIES RISER – PVC., BRASS, OR COPPER
5	2	3/4", 1", 1-1/2" OR 2" BALL VALVE
6	*	PEA GRAVEL
7	*	PLASTIC LINER

NOTE:
- FIELD ADJUST AND CUT ITEM 4 TO THE PROPER LENGTH.
- NO GALVANIZED FITTINGS OR PIPE ALLOWED.
- A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.
- ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
- ASSEMBLY SHALL BE PAINTED FOREST GREEN

STANDARD CONSTRUCTION DETAIL
REDUCED PRESSURE BACKFLOW PREVENTER
(POTABLE WATER & IRRIGATION)
3/4", 1", 1 1/2", OR 2"
NTS
INDEX W–6D
MARCH 2014

NOTES:
1. ALL JOINTS SHALL BE RESTRAINED
2. HYDRANTS TO BE PAINTED SAFETY YELLOW (PUBLIC) OR RED (PRIVATE).
3. HYDRANT BONNET AND CAP TO BE PAINTED ACCORDING TO THE FOLLOWING SCHEME:
   CLASS AA - 1500 GPM AND GREATER - LIGHT BLUE
   CLASS A - 1000 GPM TO 1499 GPM - GREEN
   CLASS B - 500 GPM TO 999 GPM - ORANGE
   CLASS C - LESS THAN 500 GPM - RED
4. HYDRANTS INSTALLED ON THE PENINSULA SHALL BE PAINTED WITH A CATALYZED TWO PART PRIMER (DURAPLATE #235) OR EPOXY BATH SOLUTION, ELECTRICALLY CHARGED AND A CATALYZED URETHANE TOP COAT (ACROLON 218), OR TWO COMPONENT POLYURETHANE PAINT.
5. HOSE CONNECTIONS TO BE AMERICAN STANDARD THREADS.
6. THE HYDRANT SHOE WILL BE COATED INSIDE WITH FUSION BONDED EPOXY. 6 MIL MINIMUM
7. ADJUSTMENTS OR REPAIRS TO THE HYDRANT AFTER INSTALLATION SHALL BE DONE BY AN UNDERGROUND UTILITY CONTRACTOR OR THE CITY AND ALL COST SHALL BE CHARGED TO THE DEVELOPER. PAYMENT SHALL BE MADE PRIOR TO CERTIFICATE OF OCCUPANCY OF PROPERTY.
8. RESTRAINED JOINTS REQUIRED. THRUST BLOCKS NOT PERMITTED.
9. BOLTS SHALL BE 316 STAINLESS STEEL.
10. INSTALL BLUE REFLECTIVE MARKER IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

STANDARD CONSTRUCTION DETAIL
FIRE HYDRANT ASSEMBLY
NTS
INDEX W–8
MARCH 2014

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (2)	3 FT. MINIMUM	12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES PREFERRED	ALTERNATE 3 FT. MINIMUM
VACUUM SANITARY SEWER	10 FT. PREFERRED 3 FT. MINIMUM	12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY FORCE MAIN, RECLAIMED WATER (4)	10 FT. PREFERRED 6 FT. MINIMUM (3)	12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES PREFERRED	ALTERNATE 6 FT. MINIMUM
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	—	—

(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 18 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SEWER WHERE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
DISCLAIMER - THIS DOCUMENT WAS PROVIDED FOR YOUR CONVENIENCE ONLY. PLEASE REFER TO F.A.C. RULE 62-555.314 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS

STANDARD CONSTRUCTION DETAIL
WATER MAIN SEPARATION
NTS
INDEX W–9A
MARCH 2014

NOTE: ABOVE DETAIL TO BE UTILIZED IF CONTRACTOR **CANNOT MAINTAIN 18"** CLEAR BETWEEN MAINS BY DEFLECTING PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

STANDARD CONSTRUCTION DETAIL
PIPE CROSSING
NTS.
INDEX W–9B
MARCH 2014

STANDARD CONSTRUCTION DETAIL
MANIFOLD SYSTEM FOR
COMMERCIAL MULTI–METERS
NTS
INDEX W–13
MARCH 2014

NOTES:
1. STAINLESS STEEL SLEEVES ONLY WITH 316 STAINLESS STEEL BOLTS ARE PERMITTED FOR ALL TYPES OF PIPE MATERIALS.
2. INSTALL REQUIRED RESTRAINED JOINTS. IN NO INSTANCE SHALL THRUST BLOCK BE PERMITTED.
3. ALL TAPPING OF MAINS SHALL BE PERFORMED BY THE CONTRACTOR UNDER SUPERVISION OF A CITY REPRESENTATIVE. ALL MATERIALS TO BE PROVIDED BY DEVELOPER / CONTRACTOR
4. ALL VALVES 2" OR GREATER SHALL BE GATE VALVES. CORPORATION STOPS ARE NOT ALLOWED ON VALVES 2" OR GREATER EXCEPT ON BLOW–OFFS.

STANDARD CONSTRUCTION DETAIL
TAPPING VALVE AND SLEEVE
NTS
INDEX W–17
MARCH 2014

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

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Land Development
Construction Engineering & Inspection

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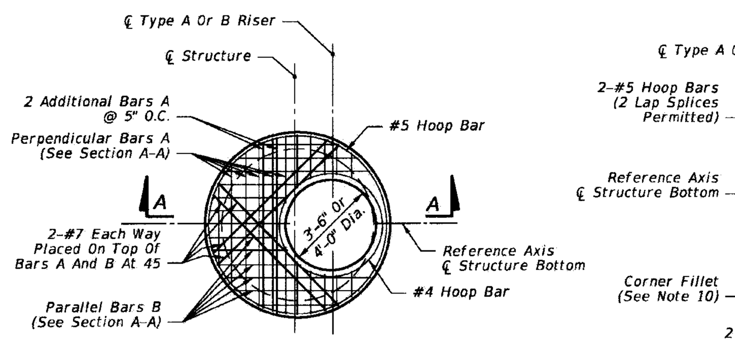
CITY DETAILS AND NOTES
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

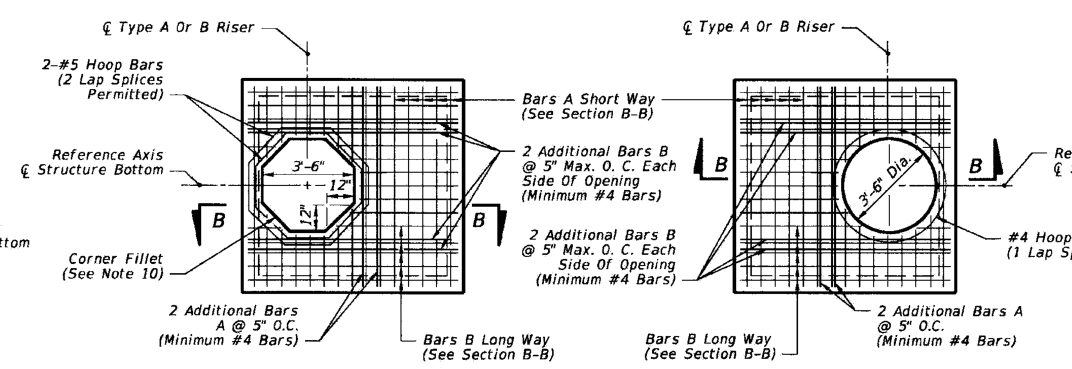
PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER
18



NOTE:
Not Applicable For Type A, B, C, D & E Ditch Bottom Inlets Or Type S & V Gutter Inlets.
See Index Nos. 220, 221, 230, 231 & 232.

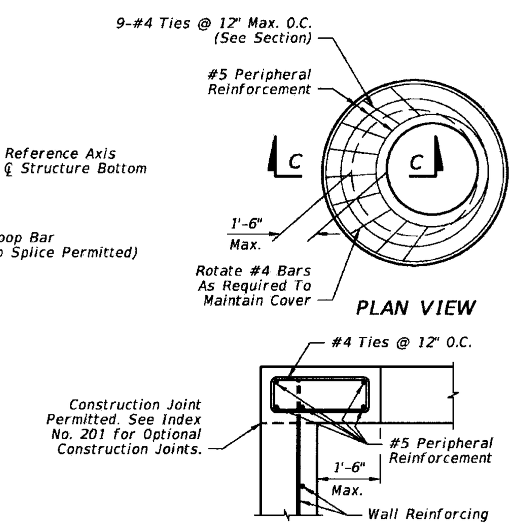
TOP SLAB REINFORCING STEEL DIAGRAM
(ALTERNATE A)



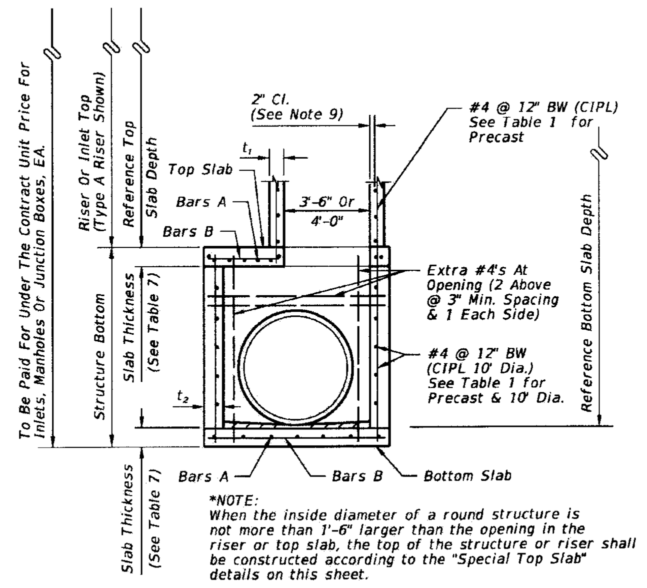
SQUARE OPENING WITH CORNER FILLETS

ROUND RISER OPENING

TOP SLAB REINFORCING STEEL DIAGRAM
(ALTERNATE B)

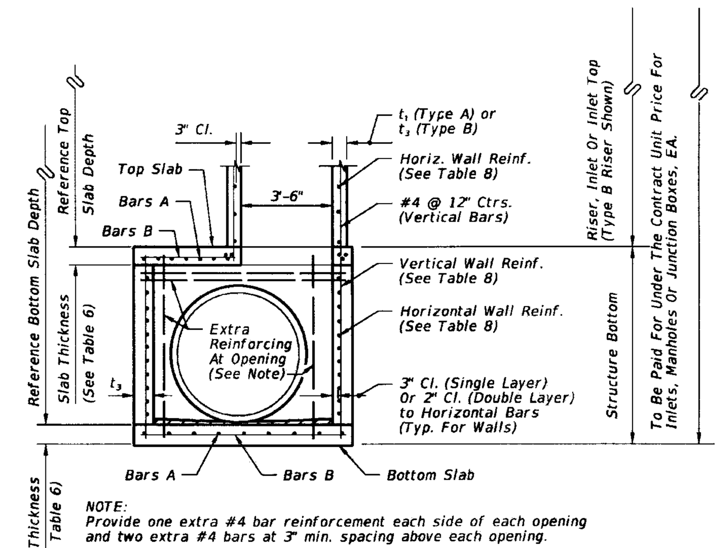


SECTION C-C
SPECIAL TOP SLAB*



*NOTE:
When the inside diameter of a round structure is not more than 1'-6" larger than the opening in the riser or top slab, the top of the structure or riser shall be constructed according to the "Special Top Slab" details on this sheet.

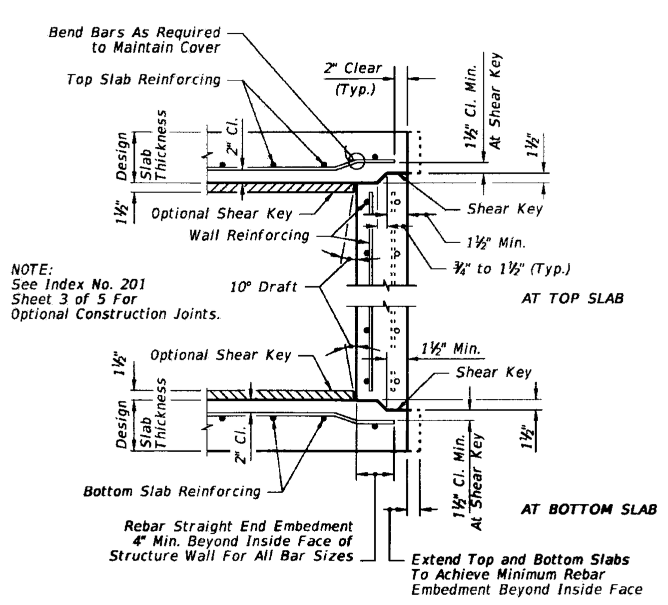
SECTION A-A
(ALTERNATE A)



NOTE:
Provide one extra #4 bar reinforcement each side of each opening and two extra #4 bars at 3" min. spacing above each opening.

SECTION B-B
(ALTERNATE B)

NOTE:
See Index No. 201 Sheet 3 of 5 For Optional Construction Joints.



TYPICAL SLAB TO WALL DETAILS
FOR PRECAST STRUCTURES

LAST REVISION 01/01/10	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	STRUCTURE BOTTOMS TYPE J AND P	INDEX NO. 200	SHEET NO. 1 of 5

ROUND STRUCTURE BOTTOMS (ALTERNATE A) & ROUND RISERS- TABLE 1
Wall Thickness (t_1 & t_2) and Vertical & Horizontal Areas of Reinforcement (A_s)

Type	Structure/Riser Diameter (ft)	Cast-In-Place Items Class II Concrete t_1 Riser (in.)	t_2 Bottom (in.)	A_s (in.²/ft.)	Precast Items Class II Concrete t_1 Riser (in.)	t_2 Bottom (in.)	A_s (in.²/ft.)	ASTM C478 t_1 or t_2 (in.)	A_z *** (in.²/ft.)
P	3'-6"	6	8	0.20	6	8	0.20	4**	0.105
P	4'-0"	6	8	0.20	6	8	0.20	5**	0.120
J	5'-0"	-	8	0.20	-	8	0.20	6**	0.150
J	6'-0"	-	8	0.20	-	8	0.20	6	0.180
J	7'-0"	-	8	0.20	-	8	0.20	7	0.210
J	8'-0"	-	8	0.20	-	8	0.20	8	0.240
J	10'-0"	-	10	0.40##	-	10	0.40##	10	0.300
J	12'-0"	-	10	0.40##	-	12	0.40##	12	0.360

TABLE 1 NOTES:
##Provide 0.20 eq. in.²/ft. at each face, 12" max. bar spacing.
**Modified minimum wall thickness.
***Min. total circumferential reinforcement for continuous steel hoops:
A_z = 0.50 sq. in. for riser section height equal or less than 2'-0" (2 hoop min.)
A_z = 0.75 sq. in. for riser section height more than 2'-0" up to 4'-0" (3 hoop min.)
Areas of reinforcing for precast items are based on Grade 60 reinforcing;
No reduction in the area of reinforcement is allowed for welded wire fabric in Table 1;
Area of vertical reinforcing may be reduced in accordance with ASTM C478.

SQUARE & RECTANGULAR STRUCTURES
(ALTERNATE B) - TABLE 2

Type	Wall Length (ft)	Max. Depth (ft)	Wall Thickness (t_3) CIP (in.)	Precast (in.)
P	≤ 3'-6"	40	6 Riser 8 Bottom	6
J	4'-0"	40	8	6
J	5'-0"	22	-	6
J	6'-0"	15	-	6
J	5'-0" to 9'-0"	40	8	8
J	10'-0"	26	8	8
J	10'-0" to 12'-0"	40	10	9
J	16'-0"	35	-	9
J	16'-0"	40	10	10
J	20'-0"	25	-	9
J	20'-0"	30	10	10

TABLE 2 NOTES:
See Table 8 for Reinforcing Schedule.

GENERAL NOTES

1. Standard structure bottoms 4'-0" diameter and smaller (Alt. A) and 3'-6" square (Alt. B) are designated Type P. Larger standard structure bottoms are designated Type J. Risers are permitted for all structures. Round risers are designated Type A, square risers are designated Type B.
2. Walls of circular structures (Alt. A) constructed in place may be of brick or reinforced concrete. Precast and rectangular structures (Alt. B) shall be constructed of reinforced concrete only.
3. Wall thickness and reinforcement are for either reinforced cast-in-place or precast concrete units except that precast circular units may be furnished with walls in accordance with ASTM C478 (see modified wall thicknesses in Table 1).
4. Top and bottom slab thickness and reinforcement are for precast and cast-in-place construction. All concrete shall be of Class II concrete, except use Class IV concrete when shown in the Plans, for special applications of structures located in extremely aggressive environments. Concrete as specified in ASTM C478 (4000 psi) may be used in lieu of Class II concrete for precast items manufactured in accordance with Specifications Section 449.
5. All reinforcement shown is Grade 60 steel, deformed bar. Equivalent area Grade 40 steel or equivalent area smooth or deformed welded wire reinforcement in accordance with Specification Section 931 may be substituted according to Index No. 201, unless otherwise noted.
6. Alt. A or Alt. B structure bottoms may be used in conjunction with curb inlet tops Types 1, 2, 3, 4, 5, 6, 9, and 10, and any manhole or junction box unless otherwise shown in the plans or other standard drawings. Alt. B structure bottoms may be used in conjunction with curb inlet Types 7 & 8, or any ditch bottom inlet unless otherwise shown in the plans or other standard drawings.
7. Rectangular structures may be rotated as directed by the Engineer in order to facilitate connections between the structure walls and storm sewer pipes.
8. Except when ACI hooks are specifically required, reinforcement in top and bottom slab shall be straight embedment.
9. All reinforcement must have 2" minimum cover except for 3'-6" diameter precast circular units manufactured under ASTM C478, keyed construction otherwise shown. Additional bars used to restrain hole formers for precast structures with grouted pipe connections,may be left flush with the hole surface. Cut or bend reinforcement at pipe openings to maintain cover. Exposed ends of reinforcing at precast pipe openings and grouted joints must be removed to 1" below the concrete surface and sealed with a Type F epoxy in accordance with Specification Section 926. Horizontal steel in rectangular structures shall be lapped a minimum of 30 bar diameters or by standard hooks at corners.
10. The corner fillets shown are necessary for rectangular structures used with circular risers and inlet throats and when used on skew with rectangular risers, inlets and inlet throats. Fillets will be required in the top slab of the Alt. A structure bottoms when used with the Alt. B risers. Each fillet shall be reinforced with two #5 bars.
11. Inlet walls, throats, risers or manhole tops shall be secured to structures as shown on Index No. 201 (Sheet 3 of 5) Optional Construction Joints.
12. Structures with depths over 14' below the mean high water table are to be checked for flotation by the designer of the drainage project.
13. Units larger than specified standards may be substituted at the contractor's option when these units will not cause or increase the severity of utility conflicts. Such larger units shall be furnished at no additional cost to the Department. Larger Alt. A units cannot replace Alt. B units without approval of the Engineer. This note applies to this Index only.
14. For manhole and junction box tops, for frames and covers, and, for supplementary details and notes see Index No. 201.
15. Type J structure bottoms must have a minimum 6'-0" wall height when possible, for maintenance access.

LAST REVISION 07/01/13	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	STRUCTURE BOTTOMS TYPE J AND P	INDEX NO. 200	SHEET NO. 2 of 5

TABLE 3-MINIMUM STRUCTURE SIZES FOR SINGLE PIPE CONNECTION PER SIDE

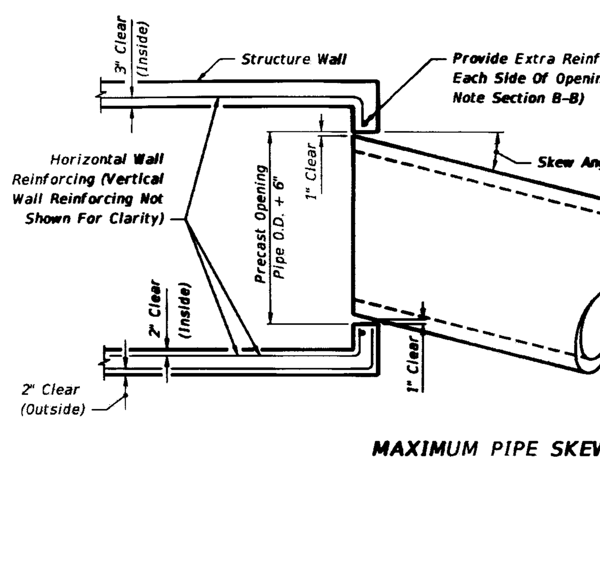
PIPE SIZE	RECTANGULAR Side Dimension (L) Single Pipe Per Side	Note Number	ROUND Diameter (D) Single Pipe or θ=180°	2 to 4 Pipes θ=90°
18"	3'-6"		3'-6"	4'-0"
24"	3'-6"		3'-6"	5'-0"
30"	3'-6"/4'-0"	2	4'-0"	6'-0"
36"	4'-0"/5'-0"	3	5'-0"	7'-0"
42"	5'-0"		6'-0"	7'-0"
48"	6'-0"		6'-0"	8'-0"
54"	6'-0"		7'-0"	10'-0"
60"	7'-0"		7'-0"	10'-0"
66"	7'-0"/8'-0"	4	8'-0"	12'-0"
72"	8'-0"		8'-0"	12'-0"
78"	9'-0"		10'-0"	12'-0"
84"	9'-0"		12'-0"	N/A

TABLE 3 NOTES:
1. For Round Structures sizes with variable angles between pipes and variable pipe sizes, refer to the FDOT Storm Drain Handbook.
2. For 3'-6" Precast Square Structure Bottoms, 30" Pipes with similar invert elevations are not permitted in adjacent walls. Use 4'-0" Side Dimensions when 30" pipe openings are required on adjacent walls and the difference in flow lines is less than 3'-0".
3. For 4'-0" Precast Square Structure Bottoms, 36" Pipes with similar invert elevations are not permitted in adjacent walls. Use 5'-0" Side Dimensions when 36" pipe openings are required on adjacent walls and the difference in flow lines is less than 3'-0".
4. For 7'-0" Precast Square Structure Bottoms, 66" Pipes with similar invert elevations are not permitted in adjacent walls. Use 8'-0" Side Dimensions when 66" pipe openings are required on adjacent walls and the difference in flow lines is less than 4'-0".

TABLE 4-MINIMUM SIZES FOR MULTIPLE PARALLEL PIPE CONNECTIONS FOR RECTANGULAR STRUCTURE BOTTOMS

PIPE SIZE	PIPE SPACING (S)	MINIMUM WALL LENGTH (L) FOR NUMBER OF PARALLEL PIPES 2	3	4
18"	2'-10"	6'-0"	8'-6"	11'-0"
24"	3'-5"	6'-6"	10'-0"	13'-6"
30"	4'-3"	8'-0"	12'-6"	16'-6"
36"	5'-1"	9'-6"	14'-6"	19'-6"
42"	6'-0"	11'-0"	17'-0"	-
48"	6'-9"	12'-6"	19'-0"	-
54"	7'-8"	14'-0"	-	-
60"	8'-6"	15'-0"	-	-
66"	9'-0"	16'-6"	-	-
72"	10'-0"	18'-0"	-	-
78"	10'-9"	19'-0"	-	-
84"	11'-8"	20'-6"	-	-

TABLE 4 NOTES:
1. Minimum wall lengths based on precast structures, using concrete pipe with maximum skew angles per Table 5.
2. Wall lengths exceeding 20'-0" require special designs.

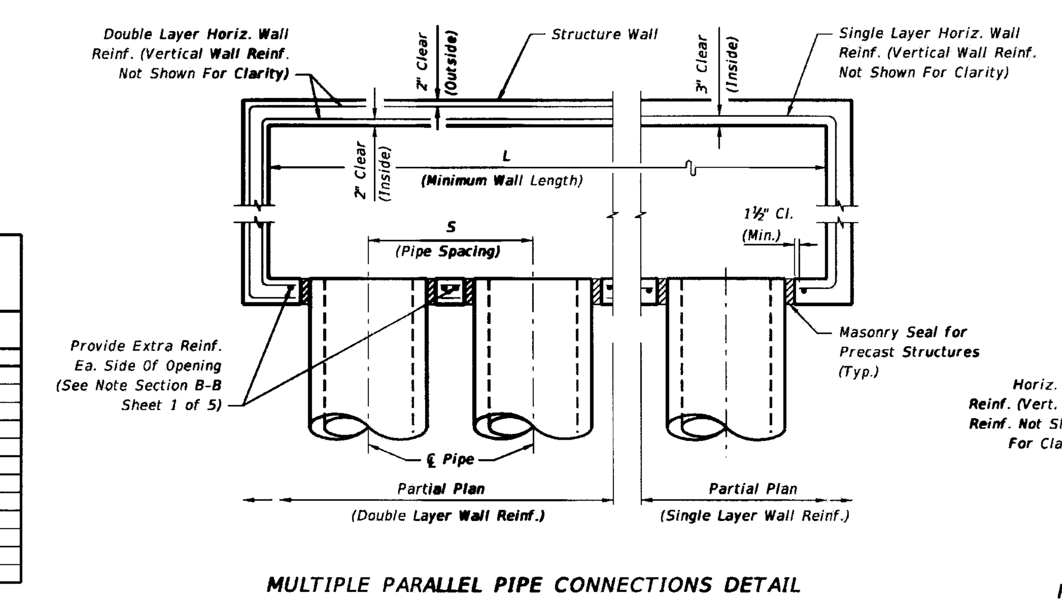


MAXIMUM PIPE SKEW FOR PRECAST ROUND OPENINGS
PLAN VIEW

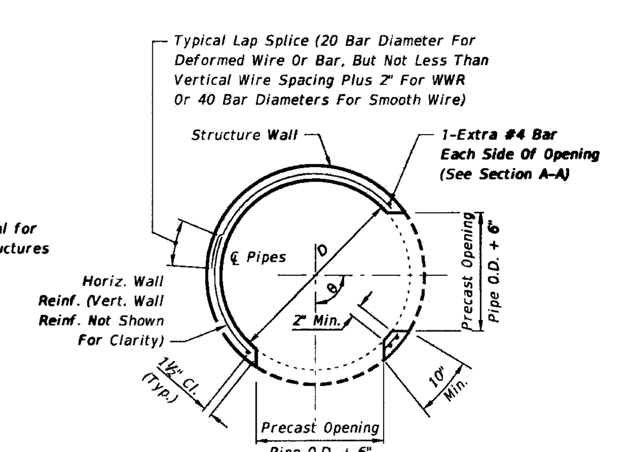
TABLE 5 - MAXIMUM PIPE SKEW FOR PRECAST ROUND OPENINGS

	WALL THICKNESS	PIPE SIZE 18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	78"	84"
MAXIMUM SKEW ANGLE	8"	19°	17°	16°	16°	15°	14°	14°	13°	13°	13°	12°	12°
	6"	21°	20°	18°	17°	17°	16°	15°	15°	14°	14°	13°	13°

TABLE 5 NOTES:
These values are based on 2" clearance for precast structures.
Larger skews are possible for Cast-In-Place Structures or elliptical pipe openings when approved by the Engineer.



MULTIPLE PARALLEL PIPE CONNECTIONS DETAIL
PLAN VIEW



PRECAST ROUND STRUCTURES WITH MULTIPLE PIPE CONNECTIONS

STRUCTURE SIZES FOR PIPE CONNECTIONS

LAST REVISION 07/01/07	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	STRUCTURE BOTTOMS TYPE J AND P	INDEX NO. 200	SHEET NO. 3 of 5

SLAB DESIGNS - SQUARE AND RECTANGULAR STRUCTURES (TABLE 6)
(ALL SLABS 8" THICK EXCEPT AS NOTED - REINFORCING PARALLEL TO SHORT WAY AND LONG WAY)

SHORT-WAY SLAB DEPTH	SCHEDULE (Bars A)	LONG-WAY SLAB DEPTH	SCHEDULE (Bars B)
SIZE: 3'-6" x UNLIMITED			
≥0.5' < 8'	B10	≥0.5' < 24'	B10
8' < 13'	B5.5	24'-40'	B5.5
13' < 31'	C6.5		
31'-40'	D7		
SIZE: 4' x UNLIMITED			
≥0.5' < 7'	B5.5	≥0.5' < 15'	B10
7' < 19'	C6.5	15' < 29'	B5.5
19' < 31'	D7	29'-40'	C6.5
31'-40'	E5		
SIZE: 5' x 5'			
≥0.5' < 3'	C6.5	≥0.5' < 3'	C6.5
3' < 7'	B5.5	3' < 13'	C6.5
7' < 22'	C6.5	13' < 22'	D7
22' < 29'	D7	22' < 29'	D4.5
29'-40'	E5	29'-40'	E5
SIZE: 5' x 6'			
≥0.5' < 12'	C6.5	≥0.5' < 3'	C6.5
12' < 26'	D7	3' < 9'	B5.5
26'-40'	E5	9' < 23'	C3.5
		23' < 35'	D4.5
		35'-40'	E5
SIZE: 5' x 7'			
≥0.5' < 10'	C6.5	≥0.5' < 10'	B5.5
10' < 20'	D7	10' < 31'	C3.5
20' < 34'	E5	31'-40'	D4.5
34'-40'	F5		
SIZE: 5' x 8'			
≥0.5' < 7'	C6.5	≥0.5' < 8'	B10
7' < 13'	D7	8' < 17'	B5.5
13' < 24'	E5	17' < 25'	C6.5
24'-40'	F5	25'-40'	C3.5
SIZE: 5' x 9'			
≥0.5' < 8'	C6.5	≥0.5' < 14'	B10
8' < 14'	D7	14' < 24'	B5.5
14' < 25'	E5	24' < 34'	C6.5
25'-40'	F5	34'-40'	C3.5
SIZE: 5' x UNLIMITED			
≥0.5' < 8'	C6.5	≥0.5' < 14'	B10
8' < 14'	D7	14' < 24'	B5.5
14' < 25'	E5	24' < 34'	C6.5
25'-40'	F5	34'-40'	C3.5

SHORT-WAY SLAB DEPTH	SCHEDULE (Bars A)	LONG-WAY SLAB DEPTH	SCHEDULE (Bars B)
SIZE: 6' x 6'			
≥0.5' < 13'	C6.5	≥0.5' < 10'	C3.5
13' < 23'	D7	10' < 18'	D4.5
23'-40'	E5	18' < 27'	E5
		27' < 33'	E3
		33'-40'	F5
SIZE: 6' x 7'			
≥0.5' < 8'	C6.5	≥0.5' < 8'	C6.5
8' < 16'	D7	8' < 12'	C3.5
16' < 28'	E5	12' < 21'	D4.5
28'-40'	F5	21' < 28'	E5
		28' < 35'	E3
		35'-40'	F5
SIZE: 6' x 8'			
≥0.5' < 6'	C6.5	≥0.5' < 6'	B5.5
6' < 13'	D7	6' < 11'	C6.5
13' < 22'	E5	11' < 17'	C3.5
22' < 35'	F5	17' < 22'	D4.5
35'-40'	G5	22' < 32'	E5
		32'-40'	E3
SIZE: 6' x 9'			
≥0.5' < 8'	D7	≥0.5' < 8'	B5.5
8' < 14'	E5	8' < 14'	C6.5
14' < 24'	F5	14' < 21'	C3.5
24'-34'	G5	21' < 25'	D4.5
		25'-34'	E5
SIZE: 6' x UNLIMITED			
≥0.5' < 8'	D7	≥0.5' < 8'	B5.5
8' < 14'	E5	8' < 14'	C6.5
14' < 24'	F5	14' < 21'	C3.5
24'-34'	G5	21' < 25'	D4.5
		25'-34'	E5
SIZE: 7' x 7'			
≥0.5' < 8'	C6.5	≥0.5' < 4'	C6.5
8' < 15'	D7	4' < 7'	C3.5
15' < 26'	E5	7' < 11'	D4.5
26'-40'	F5	11' < 22'	E3
		22' < 32'	F3.5
		32'-40'	G3.5
SIZE: 7' x 8'			
≥0.5' < 5'	C6.5	≥0.5' < 5'	C6.5
5' < 11'	D7	5' < 8'	C3.5
11' < 19'	E5	8' < 13'	D4.5
19' < 30'	F5	13' < 22'	E3
30'-40'	G5	22' < 30'	F3.5
		30'-40'	G3.5
SIZE: 7' x 9'			
≥0.5' < 9'	D7	≥0.5' < 7'	C6.5
9' < 15'	E5	7' < 10'	C3.5
15' < 25'	F5	10' < 14'	D4.5
25' - 34'	G5	14' < 21'	E5
		21' < 29'	F5
		29'-34'	F3.5

SHORT-WAY SLAB DEPTH	SCHEDULE (Bars A)	LONG-WAY SLAB DEPTH	SCHEDULE (Bars B)
SIZE: 8' x 8'			
≥0.5' < 10'	D7	≥0.5' < 9'	D4.5
10' < 19'	E5	9' < 13'	E5
19'-30'	F5	13' < 18'	F5
		18' < 23'	F3.5
		23'-30'	G3.5
SIZE: 8' x 9'			
≥0.5' < 8'	D7	≥0.5' < 7'	D7
8' < 14'	E5	7' < 9'	D4.5
14' < 23'	F5	9' < 15'	E3
23'-31'	G3.5	15' < 20'	F5
		20' < 23'	F3.5
		23'-31'	G3.5
SIZE: 9' x 9'			
≥0.5' < 8'	D7	≥0.5' < 7'	D4
8' < 14'	E5	7' < 10'	E5
14' < 22'	F5	10' < 17'	F3.5
		17' < 22'	G3.5
SIZE: 9'x9'x10" SLAB THICKNESS			
22' < 36'	F5	22' < 31'	F3.5
36'-40'	G5	31'-40'	G3.5
SIZE: 10'x10'x10" SLAB THICKNESS			
≥0.5' < 7'	C6.5	0.5' < 6'	C6.5
7' < 10'	D7	6' < 9'	D4.5
10' < 18'	F5	9' < 15'	E5
18' < 27'	F5	15' < 22'	F5
27'-32'	G5	22'-32'	G3.5
SIZE: 12'x12'x12" SLAB THICKNESS			
≥0.5' < 10'	D7	≥0.5' < 8'	D7
10' < 16'	E5	8' < 14'	E5
16' < 25'	F5	14' < 22'	F5
25'-35'	G5	22' < 30'	G5
		30'-35'	H4

SLAB DESIGNS - ROUND STRUCTURES (TABLE 7)

SLAB DEPTH	SLAB THICKNESS	REINF. (2-WAY) SCHEDULE
SIZE: 3'-6" DIAMETER		
2'-15'	6" Precast	C6.5
0.5' < 30'	8"	A6
30'-40'	8"	B5.5
SIZE: 4'-0" DIAMETER		
≥0.5' < 19'	8"	A6
19' < 30'	8"	B5.5
30'-40'	8"	C6.5
SIZE: 5'-0" DIAMETER		
≥0.5' < 15'	8"	B5.5
15' < 26'	8"	C6.5
26' < 35'	8"	D7
35'-40'	8"	D4.5
SIZE: 6'-0" DIAMETER		
≥0.5' < 9'	8"	B5.5
9' < 15'	8"	C6.5
15' < 22'	8"	C3.5
22' < 30'	8"	D4.5
30'-40'	8"	E5
SIZE: 7'-0" DIAMETER		
≥0.5' < 8'	8"	C3.5
8' < 16'	8"	D4.5
16' < 23'	8"	E5
23' < 27'	8"	E3
27'-40'	8"	F3.5
SIZE: 8'-0" DIAMETER		
≥0.5' < 10'	8"	D4.5
10' < 16'	8"	E5
16' < 19'	8"	E3
19' < 29'	8"	F3.5
29'-40'	10"	F5
SIZE: 10'-0" DIAMETER		
≥0.5' < 12'	10"	D4.5
12' < 20'	10"	E5
20' < 28'	10"	F5
28'-40'	10"	G3.5
SIZE: 12'-0" DIAMETER		
≥0.5' < 8'	10"	D4.5
8' < 13'	10"	E5
13' < 18'	10"	F5
18' < 26'	10"	G3.5
26'-40'	12"	G3.5

SLAB AND WALL DESIGN TABLE NOTES

1. Size is the inside dimension(s) of a structure.
2. Slab reinforcement is appropriate for top, intermediate, and bottom slabs.
3. Bottom Slabs for precast 3'-6" x 3'-6" rectangular structures at 15' depth or less, may be 6" thick.
4. Slab depth is measured from finished grade to top of slab.
5. Wall depth is measured to the top of the bottom slab for boxes and to the top of the intermediate slab for risers.
6. Wall height is the distance between top of lower slab to bottom of upper slab. Maximum wall height is 12' for wall lengths exceeding 5', or 10' for wall lengths exceeding 12'.
7. Wall lengths exceeding 6'-0" require two layers of reinforcing (See Table 8) with 2" of cover from the horizontal bars to the inside and outside faces for each layer.
8. Wall lengths exceeding the dimensions or depths shown in Table 8, or 12'-0" diameter require a special design.
9. Wall thickness and reinforcing for rectangular structures is the same for both long and short sides.
10. Reinforcing schedules with larger areas of steel may be substituted for schedules with smaller bar or wire spacing, except that Schedule B10 may not be substituted for Schedule A6. See Index 201, Sheet 4 for allowable bar spacing adjustments when larger areas of reinforcing are substituted.

LAST REVISION 07/01/09	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	STRUCTURE BOTTOMS TYPE J AND P	INDEX NO. 200	SHEET NO. 4 of 5

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

City of Ormond Beach Site Plan Review Committee FINAL APPROVAL

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Certificate of Authorization No. 30219
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Civil Engineering
Land Development
Construction Engineering & Inspection

ZAXBY'S

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FDOT DETAILS AND NOTES
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER
19

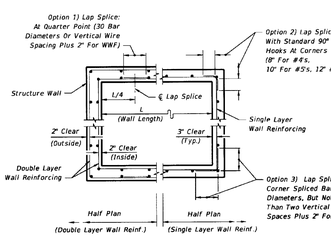
WALL DESIGNS - RECTANGULAR STRUCTURES (TABLE 8)

VERTICAL REINFORCING		HORIZONTAL REINFORCING		WALL THICKNESS
WALL DEPTH	SCHEDULE	WALL DEPTH	SCHEDULE	
SIZE: 3'-6" & RISERS				
≥1.17" - 40"	A12	≥1.17" < 10"	B10	6"/8"
		10" < 18"	B5.5	6"/8"
		18" < 29"	C6.5	6"/8"
		29" - 40"	C3.5	6"/8"
SIZE: 4'-0"				
≥1.17" - 40"	A12	≥1.17" < 6"	B10	6"/8"
		6" < 11"	B5.5	6"/8"
		10" < 20"	C6.5	6"/8"
		20" < 28"	C3.5	6"/8"
		28" - 40"	D4.5	6"/8"
SIZE: 5'-0"				
≥1.17" - 40"	A12	≥1.17" < 5"	B5.5	6"/8"
		5" < 9"	C6.5	6"/8"
		9" < 15"	C3.5	6"/8"
		15" < 22"	D4.5	6"/8"
		22" - 40"	E3	8"
SIZE: 6'-0"				
≥1.17" < 26"	A12	≥1.17" < 9"	C3.5	6"/8"
		9" < 15"	D4.5	6"/8"
		15" < 26"	E3	8"
	Inside/Outside		Inside/Outside	
26" - 40"	A12 / A12	26" - 40"	D7 / D7	8"
SIZE: 7'-0"				
	Inside/Outside		Inside/Outside	
≥1.17" < 25"	A12 / A12	≥1.17" < 2"	B10 / B10	8"
26" - 40"	B10 / B10	7" < 10"	B5.5 / B5.5	8"
		10" < 20"	C6.5 / C6.5	8"
		20" < 30"	D7 / D7	8"
		30" - 40"	E5 / E5	8"
SIZE: 8'-0"				
	Inside/Outside		Inside/Outside	
≥1.17" < 20"	A12 / A12	≥1.17" < 6"	B5.5 / B5.5	8"
20" - 40"	C6.5 / C6.5	6" < 13"	C6.5 / C6.5	8"
		13" < 22"	D7 / D7	8"
		22" < 31"	E5 / E5	8"
		31" - 40"	F5 / F5	8"
SIZE: 9'-0"				
	Inside/Outside		Inside/Outside	
≥1.17" < 12"	A12 / A12	≥1.17" < 8"	C6.5 / C6.5	8"
12" < 28"	C6.5 / C6.5	8" < 15"	D7 / D7	8"
28" - 40"	D7 / D7	15" < 23"	E5 / E5	8"
		23" - 40"	F5 / F5	8"
SIZE: 10'-0"				
	Inside/Outside		Inside/Outside	
≥1.17" < 10"	B10 / B10	≥1.17" < 10"	D7 / D7	8"
10" < 21"	C6.5 / C6.5	10" < 17"	E5 / E5	8"
21" < 26"	D7 / D7	17" < 26"	F5 / F5	8"
26" - 40"	C6.5 / C6.5	26" - 40"	F5 / F5	10"

VERTICAL REINFORCING		HORIZONTAL REINFORCING		WALL THICKNESS
WALL DEPTH	SCHEDULE	WALL DEPTH	SCHEDULE	
SIZE: 10'-0" (Precast Only)				
	Inside/Outside		Inside/Outside	
26" - 40"	D7 / D7	26" - 40"	F5 / F5	9"
SIZE: 12'-0"				
	Inside/Outside		Inside/Outside	
≥1.17" < 14"	B10 / B10	≥1.17" < 10"	C6.5 / C6.5	10"
14" < 25"	C6.5 / C6.5	10" < 17"	D7 / D7	10"
25" - 40"	D7 / D7	17" < 24"	E5 / E5	10"
		24" - 40"	F5 / F5	10"
SIZE: 12'-0" (Precast Only)				
	Inside/Outside		Inside/Outside	
≥1.17" < 12"	B10 / B10	≥1.17" < 10"	D7 / D7	9"
12" < 24"	C6.5 / C6.5	10" < 17"	D4.5 / D4.5	9"
24" - 40"	D7 / D7	17" < 23"	E5 / E5	9"
		23" < 32"	F5 / F5	9"
		32" - 40"	G5 / G5	9"
SIZE: 16'-0"				
	Inside/Outside		Inside/Outside	
≥1.17" < 11"	C6.5 / C6.5	≥1.17" < 13"	D7 / D7	10"
11" < 20"	D7 / D7	13" < 20"	E5 / E5	10"
20" < 28"	E5 / E5	20" < 28"	F5 / F5	10"
28" - 40"	F5 / F5	28" - 40"	G5 / G5	10"
SIZE: 16'-0" (Precast Only)				
	Inside/Outside		Inside/Outside	
≥1.17" < 10"	C6.5 / C6.5	≥1.17" < 9"	D7 / D7	9"
10" < 18"	D7 / D7	9" < 13"	D4.5 / D4.5	9"
18" < 25"	E5 / E5	13" < 19"	E5 / E5	9"
25" - 35"	F5 / F5	19" < 27"	F5 / F5	9"
		27" - 35"	G5 / G5	9"
SIZE: 20'-0"				
	Inside/Outside		Inside/Outside	
≥1.17" < 10"	C6.5 / C6.5	≥1.17" < 8"	D7 / D7	10"
10" < 17"	D7 / D7	8" < 12"	E5 / E5	10"
17" - 30"	E5 / E5	12" < 20"	F5 / F5	10"
		20" - 30"	G5 / G5	10"
SIZE: 20'-0" (Precast Only)				
	Inside/Outside		Inside/Outside	
≥1.17" < 8"	C6.5 / C6.5	≥1.17" < 8"	D4.5 / D4.5	9"
8" < 13"	D7 / D7	8" < 12"	E5 / E5	9"
13" - 25"	E5 / E5	12" < 19"	F5 / F5	9"
		19" - 25"	G5 / G5	9"

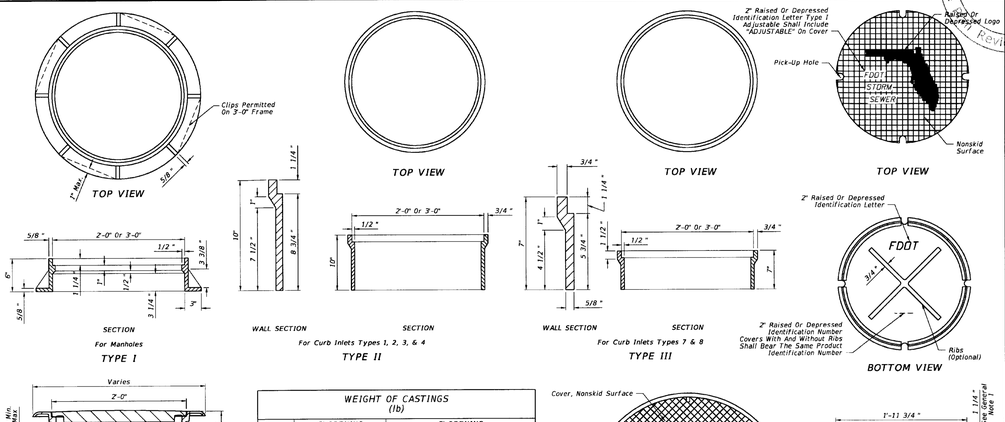
REINFORCING SCHEDULE				
SCHEDULE	GRADE 60 BARS OR 65 KSI & 70 KSI WELDED WIRE REINFORCING			
	GRADE 60 AREA (in^2/ft.)	MAXIMUM SPACING		
		GR 60 BARS (in.)	WWR EQUIV. AREA* 65 KSI (in.)	70 KSI (in.)
A12	0.20	12	8	8
A6	0.20	6	5	4½
B10	0.24	10	8	7½
B5.5	0.24	5½	5	4
C6.5	0.37	6½	6	5
C3.5	0.37	3½	3	2½
D7	0.53	7	6	5
D4.5	0.53	4½	4	3½
E5	0.73	5	4	4
E3	0.73	3	3	3
F5	1.06	5	4	4
F3.5	1.06	3½	3	3
G5	1.45	5	4	4
G3.5	1.45	3½	3	3
H4	1.75	4	3	3

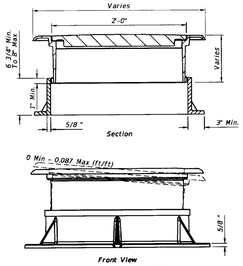
*Equivalent Area Welded Wire Reinforcing may be substituted in accordance with Index No. 201, Sheet 4.



WALL REINFORCING SPLICE DETAILS (ALTERNATE B)

LAST REVISION 01/01/12	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	STRUCTURE BOTTOMS TYPE J AND P	INDEX NO. 200	SHEET NO. 5 of 5





WEIGHT OF CASTINGS (lb)						
Frame Type	2' OPENING		3' OPENING			
	Frame	Cover (Std.)	Frame	2-Piece Cover		
				Inside	Outside	Total
I *	155	190	220	190	220	410
II	145	190	255	190	220	410
III	90	190	180	190	220	410

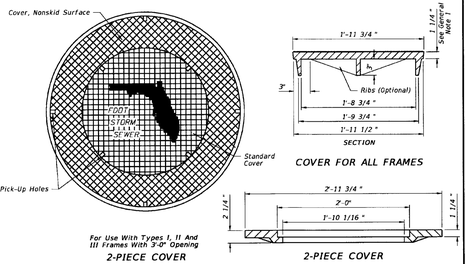
* Includes Type I Adjustable

NOTES (FRAMES, AND COVER)

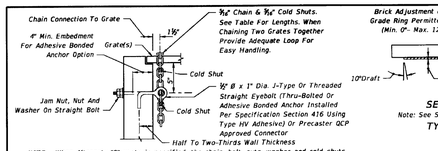
1. The standard cover is to be used for all frames Types I, II, III and the 2-piece cover, and is the replacement cover for all previous frames with ½" deep seats (traffic type). The 185 lb. cover (nontraffic type), 1984 Roadway and Traffic Design Standards Index No. 201, is the replacement cover for existing frames with ½" deep seats. Installation of frame with ½" deep seats is not permitted.
2. Use the 2'-0" cover, unless the 2-piece cover is called for in the plans, except at inlets and manholes with sump bottoms use the 2-piece cover when the sump depth exceeds 2', unless otherwise noted.

DESIGNER NOTE:

Consider using the 2-piece cover where depths exceed 5' and manual entry may be required for cleaning. Clearly note the requirement for a 2-piece cover, on the Drainage Structure sheets in the plans.



LAST REVISION 01/01/12	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	SUPPLEMENTARY DETAILS FOR MANHOLES & INLETS	INDEX NO. 201	SHEET NO. 1 of 5

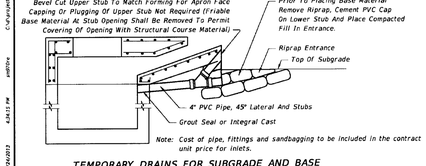


NOTE: When Alternate "G" grate is specified, the chain, bolt, nuts, washer and cold shuts shall be galvanized in accordance with Section 425 of the Standard Specifications.

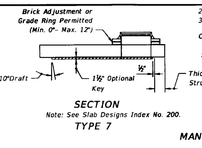
Cost of eyebolt and chain to be included in the contract unit price for inlets.

EYEBOLT AND CHAIN REQUIREMENTS				
Index Number	Inlet Type	Eye-Bolts	Length Of Chain	Handling & Remarks
217	(MB) 1	1	4'-0"	Slide & Spin
	(MB) 2	1	4'-0"	Slide & Spin
	(MB) 3	2	2 @ 4'-0"	Slide & Spin
	(MB) 4	2	2 @ 4'-0"	Slide & Spin
	(MB) 5	2	2 @ 4'-0"	Slide & Spin
218	(BW)	1	3'-8"	Slide Or Slide & Spin
219	(BW, RSD)	1	4'-0"	Slide & Spin
220	S	1	4'-0"	Slide & Spin
221	V	1	4'-0"	Slide & Spin
230	A	1	3'-0"	Slide
231	B	1	5'-0"	Slide & Spin
232	C	1	2'-6"	Slide & Spin
	D	1	2'-6"	Slide & Spin
	E	2	2 @ 2'-6"	Slide & Spin
	H	2	2 @ 2'-6"	Flip Ctr. Grate and Slide & Spin Single Free Grate
		1 or 2 @ 1'-6"	Ctr. Grate(s) Chained To One End Grate	
233	F	1	3'-6"	Flip Or Slide & Spin
	G	1	6'-0"	Slide
			2'-0"	Lifting Loop
234	J	1	4'-0"	Slide & Spin

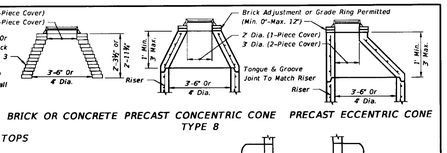
EYEBOLT AND CHAIN FOR LOCKING GRATES TO INLETS



TEMPORARY DRAINS FOR SUBGRADE AND BASE



SECTION
Note: See Slab Designs Index No. 200.
TYPE 7 MANHOLE TOPS

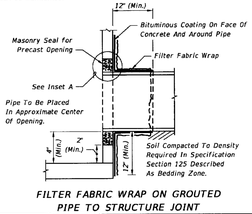


NOTES (TOPS)

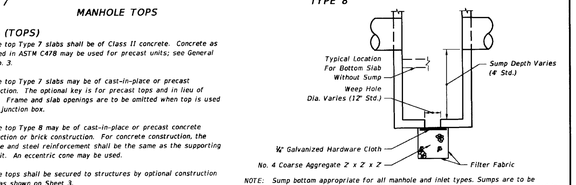
1. Manhole top Type 7 slabs shall be of Class II concrete. Concrete as specified in ASTM C478 may be used for precast units; see General Note No. 3.
2. Manhole top Type 7 slabs may be of cast-in-place or precast construction. The optional key is for precast tops and in lieu of dowels. Frame and slab openings are to be omitted when top is used over a junction box.
3. Manhole top Type 8 may be of cast-in-place or precast concrete construction or brick construction. For concrete construction, the concrete and steel reinforcement shall be the same as the supporting wall unit. An eccentric cone may be used.
4. Manhole tops shall be secured to structures by optional construction joints as shown on Sheet 3.
5. Frames can be adjusted a maximum 12" height with brick or precast ASTM C478 grade rings.
6. Substitution of manhole top Type 8 for manhole top Type 7 is allowed provided that minimum dimensions shown above are not reduced.
7. Substitution of Manhole top Type 7 for Type 8 is allowed if the minimum thickness (h) above pipe opening cannot be maintained with manhole top Type 8.

DESIGN NOTES

1. Manhole top Type 8 should be specified in the plans when depths shown above can be maintained.

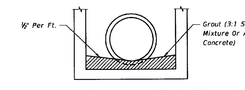


FILTER FABRIC WRAP ON GROUTED PIPE TO STRUCTURE JOINT

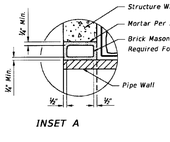


NOTE: Sump bottom appropriate for all manhole and inlet types. Sumps are to be constructed in inlet and manholes connected to French Drains unless excluded in the plans. At other locations, sump is to be constructed only where called for in the plans. Weep holes to be constructed in sump bottom only where called for in the plans. Cost of sump bottom and weep hole to be included in the contract unit price for inlet or manhole.

SUMP BOTTOM

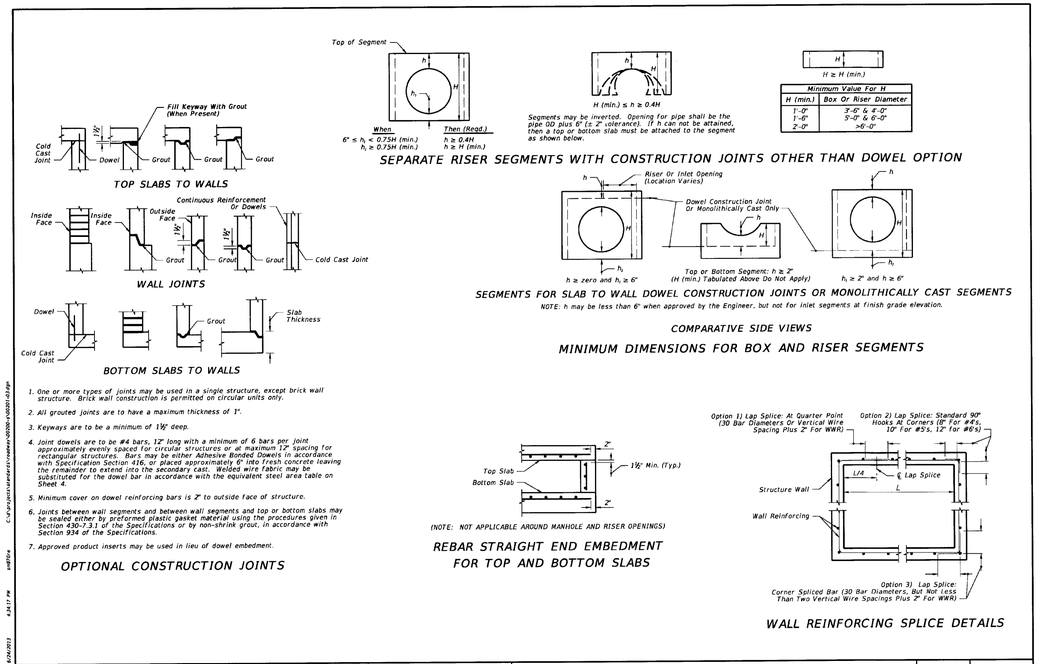


FOR ALL STRUCTURES UNLESS EXCLUDED BY SPECIAL DETAIL
ALL PIPE TYPES
DRAINAGE STRUCTURE INVERT



INSET A

LAST REVISION 07/01/12	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	SUPPLEMENTARY DETAILS FOR MANHOLES & INLETS	INDEX NO. 201	SHEET NO. 2 of 5



1. One or more types of joints may be used in a single structure, except brick wall structure. Brick wall construction is permitted on circular units only.
2. All grouted joints are to have a maximum thickness of 1".
3. Keyways are to be a minimum of 1½" deep.
4. Joint dowels are to be #4 bars, 12" long with a minimum of 6 bars per joint approximately evenly spaced for circular structures or at maximum 12" spacing for rectangular structures. Bars may be either Adhesive Bonded Dowels in accordance with Specification Section 416, or placed approximately 6" into fresh concrete leaving the remainder to extend into the secondary cast. Welded wire fabric may be substituted for the dowel bar in accordance with the equivalent steel area table on Sheet 4.
5. Minimum cover on dowel reinforcing bars is 2" to outside face of structure.
6. Joints between wall segments and between wall segments and top or bottom slabs may be sealed either by preformed plastic gasket material using the procedures given in Section 430-7.3.1 of the Specifications or by non-shrink grout, in accordance with Section 934 of the Specifications.
7. Approved product inserts may be used in lieu of dowel embedment.

OPTIONAL CONSTRUCTION JOINTS

(NOTE: NOT APPLICABLE AROUND MANHOLE AND RISER OPENINGS)

REBAR STRAIGHT END EMBEDMENT FOR TOP AND BOTTOM SLABS

WALL REINFORCING SPLICE DETAILS

LAST REVISION 01/01/10	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	SUPPLEMENTARY DETAILS FOR MANHOLES & INLETS	INDEX NO. 201	SHEET NO. 3 of 5

REVISIONS	
DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

City of Ormond Beach — FINAL APPROVAL — Review Comments

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Civil Engineering
Land Development
Construction Engineering & Inspection

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FDOT DETAILS AND NOTES
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK — LICENSE — NO 62971 — 09/02/2014 — STATE OF FLORIDA — PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER
20

EXAMPLE TABLE OF EQUIVALENT STEEL AREA

SCHEDULE	GRADE 60 REINFORCING BAR		EQUIVALENT GRADE 40 REINFORCING BAR		EQUIVALENT 65 KSI SMOOTH WELDED WIRE REINFORCEMENT		EQUIVALENT 70 KSI DEFORMED WELDED WIRE REINFORCEMENT	
	Bar Size & Spacing	Steel Area (in^2/ft)	Bar Size & Spacing	Min. Steel Area (in^2/ft)	Style Designation	Min. Steel Area (in^2/ft)	Style Designation	Min. Steel Area (in^2/ft)
A	#3 @ 6½" Ctrs. #4 @ 12" Ctrs.	0.20	#3 @ 4½" Ctrs. #4 @ 8" Ctrs. #5 @ 12" Ctrs.	0.30	3"x3"-W4.6xW4.6 4"x4"-W6.2xW6.2 6"x6"-W9.2xW9.2	0.1846	3"x3"-D4.3xD4.3 4"x4"-D5.7xD5.7 6"x6"-D8.6xD8.6	0.1714
B	#3 @ 5½" Ctrs. #4 @ 10" Ctrs.	0.24	#3 @ 3½" Ctrs. #4 @ 6½" Ctrs. #5 @ 10" Ctrs.	0.36	3"x3"-W5.5xW5.5 4"x4"-W7.4xW7.4 6"x6"-W11.1xW11.1	0.2215	3"x3"-D5.1xD5.1 4"x4"-D6.9xD6.9 6"x6"-D10.3xD10.3	0.2057
Special 1	#3 @ 5" Ctrs.. #4 @ 9" Ctrs.	0.267	#3 @ 3" Ctrs. #4 @ 6" Ctrs. #5 @ 9" Ctrs.	0.40	3"x3"-W6.2xW6.2 4"x4"-W8.2xW8.2 6"x6"-W12.3xW12.3	0.2465	3"x3"-D5.7xD5.7 4"x4"-D7.6xD7.6 6"x6"-D11.4xD11.4	0.2289
C	#3 @ 3½" Ctrs. #4 @ 6½" Ctrs. #5 @ 10" Ctrs.	0.37	#4 @ 4" Ctrs. #5 @ 6½" Ctrs. #6 @ 9½" Ctrs.	0.555	3"x3"-W8.5xW8.5 4"x4"-W11.4xW11.4 6"x6"-W17.1xW17.1	0.3415	3"x3"-D7.9xD7.9 4"x4"-D10.6xD10.6 6"x6"-D15.9xD15.9	0.3171
D	#4 @ 4½" Ctrs. #5 @ 7" Ctrs. #6 @ 10" Ctrs.	0.53	#4 @ 3" Ctrs. #5 @ 4½" Ctrs. #6 @ 6½" Ctrs.	0.795	3"x3"-W12.2xW12.2 4"x4"-W16.3xW16.3 6"x6"-W24.5xW24.5	0.4892	3"x3"-D11.4xD11.4 4"x4"-D15.1xD15.1 6"x6"-D22.7xD22.7	0.4543
E	#4 @ 3" Ctrs. #5 @ 5" Ctrs. #6 @ 7" Ctrs.	0.73	#5 @ 3½" Ctrs. #6 @ 4½" Ctrs. #7 @ 6½" Ctrs.	1.095	3"x3"-W16.8xW16.8 4"x4"-W22.5xW22.5 6"x6"-W33.7xW33.7	0.6738	3"x3"-D15.6xD15.6 4"x4"-D20.9xD20.9 6"x6"-D31.3xD31.3	0.6257
F	#5 @ 3½" Ctrs. #6 @ 5" Ctrs. #7 @ 7" Ctrs.	1.06	#6 @ 3" Ctrs. #7 @ 4½" Ctrs. #8 @ 6" Ctrs.	1.59	3"x3"-W24.5xW24.5 4"x4"-W32.6xW32.6 6"x6"-W48.9xW48.9	0.9785	3"x3"-D22.7xD22.7 4"x4"-D30.3xD30.3 6"x6"-D45.4xD45.4	0.9086
Special 2	#5 @ 3" Ctrs. #6 @ 4" Ctrs. #7 @ 5½" Ctrs.	1.24	#7 @ 4" Ctrs. #8 @ 5" Ctrs.	1.86	3"x3"-W28.6xW28.6 4"x4"-W38.2xW38.2 6"x6"-W57.2xW57.2	1.1446	3"x3"-D26.6xD26.6 4"x4"-D35.4xD35.4 6"x6"-D53.1xD53.1	1.0629
G	#6 @ 3½" Ctrs. #7 @ 5" Ctrs.	1.46	#7 @ 3" Ctrs. #8 @ 4" Ctrs.	2.19	3"x3"-W33.7xW33.7 4"x4"-W44.9xW44.9	1.3477	3"x3"-D31.3xD31.3 4"x4"-D41.7xD41.7	1.2514

NOTES FOR PRECAST OPTIONS & EQUIVALENT REINFORCEMENT SUBSTITUTION

1. Details for optional precast inlet construction up to depths of 15' are shown on the Inlet Indexes.
2. When precast units are used in conjunction with Alt. "B" Structure Bottoms, Index No. 200, the interior dimensions of an Alt. "B" Bottom can be adjusted to reflect these inlet interior dimensions.
3. Concrete which meets the requirements of ASTM C478 or Class IV must be used for precast structures constructed with 6" wall or slab thickness.
4. Reinforcement can be either deformed bar reinforcement or welded wire reinforcement. Bar reinforcement other than 60 ksi may be used, however only two grades are recognized; Grade 40 and Grade 60. Smooth welded wire reinforcement, will be recognized as having a design strength of 65 ksi and deformed welded wire reinforcement will be recognized as having a design strength of 70 ksi. The area of reinforcement required may be adjusted in accordance with the Equivalent Steel Area Table provided. For bars and spacings not given, the steel area required can be determined by the following equations:

$$\text{Grade 40 Steel Area} = A_s40 = \frac{60}{40} \times A_s60$$

$$\text{Smooth Welded Wire Reinforcement Steel Area} = A_s65 = \frac{60}{65} \times A_s60$$

$$\text{Deformed Welded Wire Reinforcement Steel Area} = A_s70 = \frac{60}{70} \times A_s60$$

continued...

When a reduced area of reinforcement is provided, any maximum bar spacing shown must also be reduced as determined by the following equations, unless otherwise shown:

Max. Grade 40 Bar Spacing = Grade 60 Bar Spacing
Max. Smooth Welded Wire Spacing = Grade 60 Bar Spacing x 0.86
Max. Deformed Welded Wire Spacing = Grade 60 Bar Spacing x 0.74

When an increased area of reinforcing is provided, then the maximum bar spacing may be increased by the squared ratio of increased steel area, but not to exceed 12":

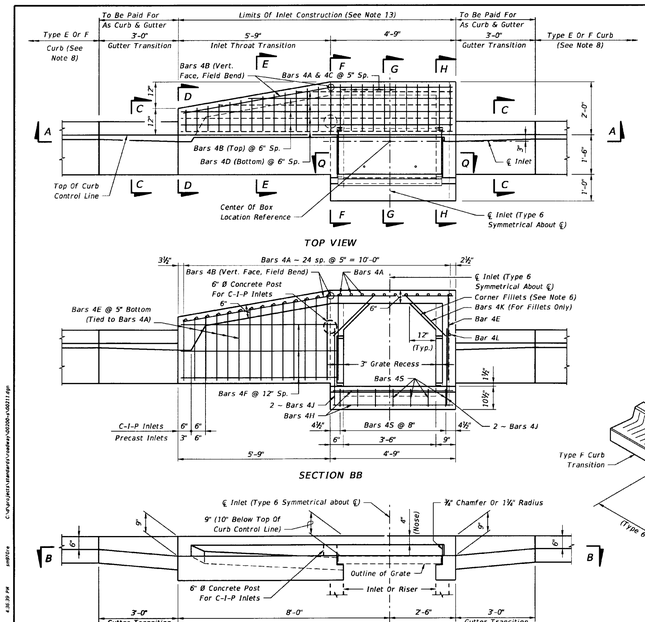
$$\text{Max. Bar Spacing Provided} \le \text{Max. Bar Spacing Required} \times \left(\frac{\text{Steel Area Provided}}{\text{Min. Steel Area Required}}\right)^2$$

In no case will reinforcement with wires smaller than W3.1 or D3.1, or spacings greater than 8" be permitted. Bar reinforcement shall show the minimum yield designation grade mark or either the number 60 or one (1) grade mark line to be acceptable at the higher value. Maximum bar spacing shall not be greater than two (2) times the slab thickness with a maximum spacing of 12" or three (3) times the wall thickness, with a maximum spacing of 18" for vertical bars and 12" for horizontal bars. Wires smaller than W3.1 or D3.1 are permitted in the walls of ASTM C 478 round structure bottoms and round risers.

GENERAL NOTES

1. For square or rectangular precast drainage structures, either deformed or smooth welded wire reinforcement in accordance with Specifcation Section 931:
   a) Width and length of the unit is four times the spacing of the cross wires.
   b) Wire reinforcement shall be continuous around the box, and lapped in accordance with Option 1 or 3 as shown in the Wall Reinforcing Splice Details.
2. Horizontal steel in the walls of rectangular structures shall be lap spliced in accordance with Option 1, 2 or 3 as shown in the Wall Reinforcing Splice Details.
3. Welding of splices and laps is permitted. The requirements and restrictions placed on welding in AASHTO M259 shall apply.
4. Rebar straight end embedment of peripheral reinforcement may be used in lieu of ACI standard hooks for top and bottom slabs except when hooks are specifically called for in the plans or standard drawings.
5. Concrete as specified in ASTM C478, (4000 psi) may be used in lieu of Class II concrete in precast items manufactured in plants which meet the requirements of Section 449 of the Specifications.
6. Precast opening for pipe shall be the pipe OD plus 6" (± 2" tolerance). Mortar used to seal the pipe into the opening will be of such a mix that shrinkage will not cause leakage into or out of the structure. Dry-pack mortar may be used in lieu of brick and mortar construction to seal openings less than 2½" wide.
7. For pay item purposes, the height used to determine if a drainage structure is greater than 10 feet shall be computed using:
   a) the elevation of the top of the manhole lid,
   b) the grade elevation or the theoretical gutter grade elevation of an inlet, or
   c) the outside top elevation of a junction box less the flow line elevation of the lowest pipe or to top of sump floor.

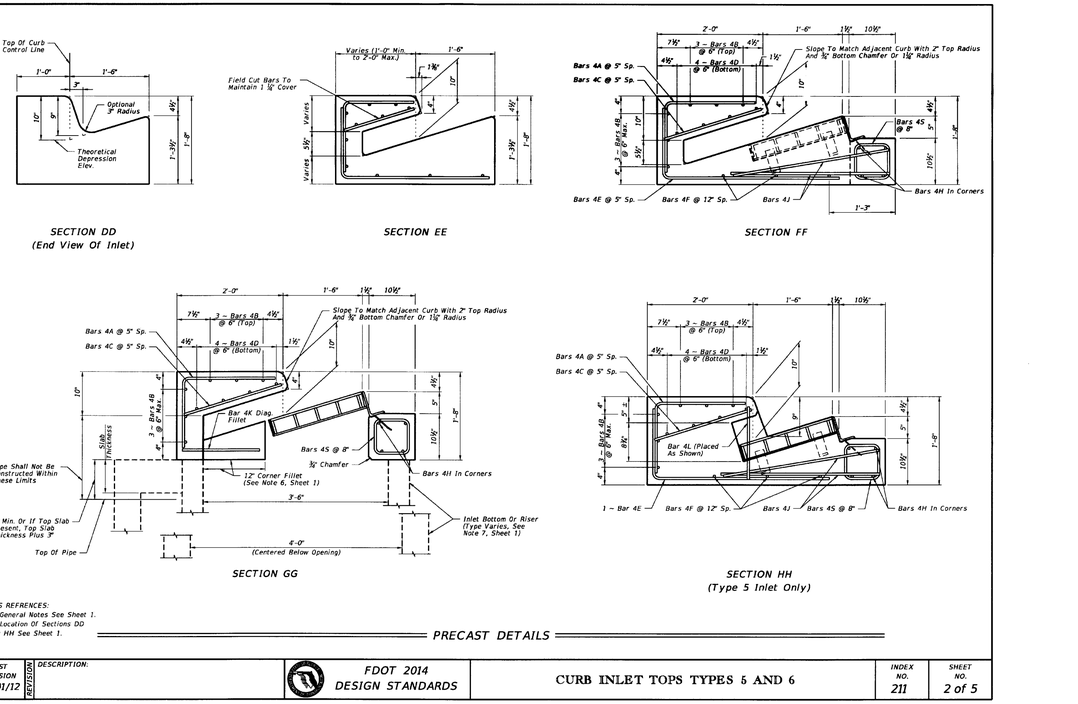
LAST REVISION 07/01/13	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	SUPPLEMENTARY DETAILS FOR MANHOLES & INLETS	INDEX NO. 201	SHEET NO. 4 of 5



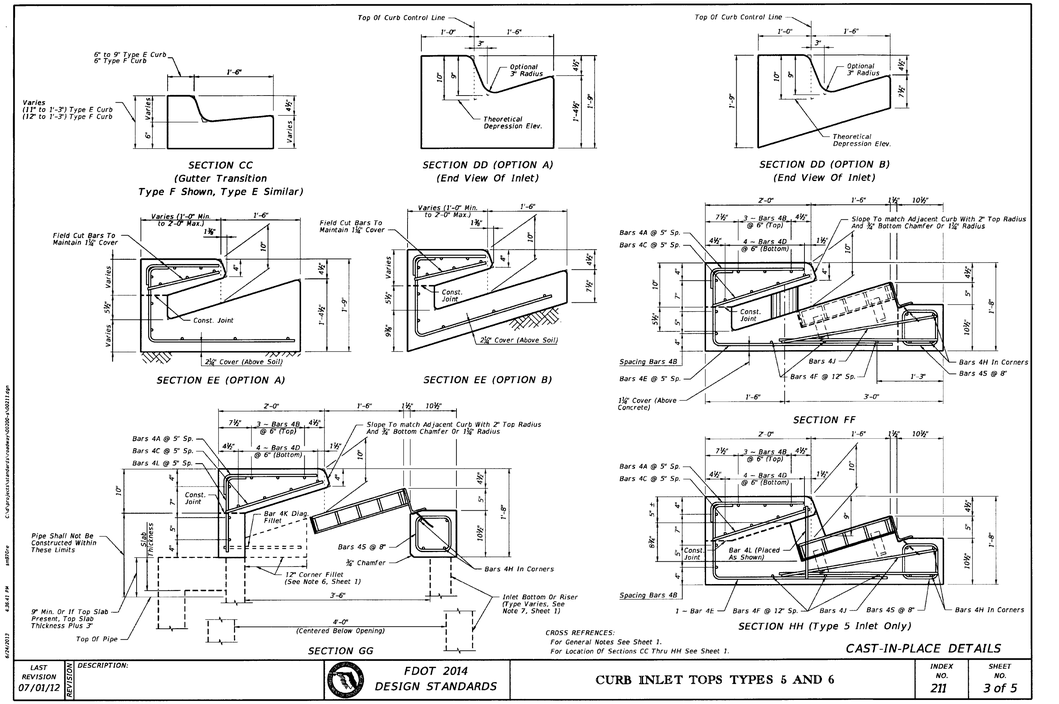
GENERAL NOTES

1. The finished grade and slope of the inlet tops are to conform with the finished cross slope and grade of the proposed sidewalk and/or border.
2. For inlets constructed on a curve, refer to the plans to determine the radius, and modify the inlet details accordingly. Bend steel when necessary.
3. All reinforcing steel to be Grade 60 bars with 1½" minimum cover unless otherwise shown, see Sheet 4 for equivalent area Welded Wire Reinforcement details.
4. Inlet tops shall be either cast-in-place or precast concrete. Precast units shall conform to the dimensions shown or in accordance with approved shop drawing's. Request for shop drawing approval shall be directed to the State Drainage Engineer.
5. Concrete meeting the requirements of ASTM C478 (4,000 psi) may be used in lieu of Class II concrete for precast units, manufactured in plants which meet the requirements of Section 449 of the Specifications.
6. Corner fillets are required at inlet opening for precast units or C-I-P units used in conjunction with circular inlet bottoms or skewed rectangular inlet boxes. Finish top of fillets flush with drain throat bottom and match slope.
7. For inlet bottoms see Index No. 200. Inlet tops are to be used with Type P bottoms, or Type J bottoms with 3'-6" square (Type B), 3'-6" or 4' round (Type A) risers or top slab openings.
8. These inlet tops are designed for use with standard curb and gutter Type E and Type F. Locate inlet outside of pedestrian crosswalks. For Type E curb, transition the shape of the curb over the gutter transition length to match the face of the inlet (Type F).
9. See Index No. 201 for supplemental details.
10. All steel used for frame and grate shall meet the requirements of ASTM A36/A36M.
11. Either cast iron grates or steel grates may be used.
12. When Alternate "O" grate is specified in the plans either the cast iron grate and galvanized steel frame or the the galvanized steel grate and frame must be used. Grates are to be grouted in accordance with the grouting detail shown on Sheet 5, in lieu of tack welding.
13. Inlet to be paid for under the contract unit price for Inlets (Curb) (Type), Each.

LAST REVISION 01/01/10	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	CURB INLET TOPS TYPES 5 AND 6	INDEX NO. 211	SHEET NO. 1 of 5



LAST REVISION 07/01/12	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	CURB INLET TOPS TYPES 5 AND 6	INDEX NO. 211	SHEET NO. 2 of 5



LAST REVISION 07/01/12	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	CURB INLET TOPS TYPES 5 AND 6	INDEX NO. 211	SHEET NO. 3 of 5

REVISIONS		
DATE	DESCRIPTION	
8/11/14	PER CITY AND FDOT	
	COMMENTS	
9/02/14	PER CITY COMMENTS	

City of Ormond Beach FINAL APPROVAL Review Complete

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Civil Engineering
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FDOT DETAILS AND NOTES

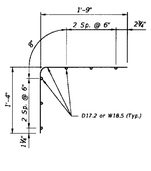
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER
09/02/2014
NOT VALID UNLESS SIGNED AND SEALED

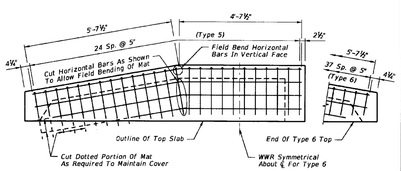
PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER
21

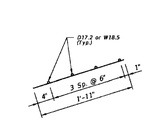
ALTERNATE REINFORCING STEEL DETAILS FOR WELDED WIRE REINFORCEMENT (WWR)



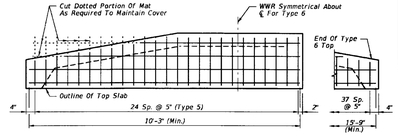
WELDED WIRE REINFORCEMENT PIECE NO. 1



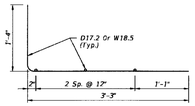
PLACEMENT SCHEMATIC FOR WELDED WIRE REINFORCEMENT PIECE NO. 1



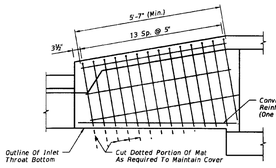
WELDED WIRE REINFORCEMENT PIECE NO. 2



PLACEMENT SCHEMATIC FOR WELDED WIRE REINFORCEMENT PIECE NO. 2



WELDED WIRE REINFORCEMENT PIECE NO. 3



PLACEMENT SCHEMATIC FOR WELDED WIRE REINFORCEMENT PIECE NO. 3

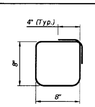
CONVENTIONAL REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL

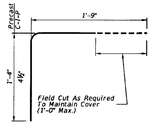
MARK	SIZE	TYPE 5 INLET		TYPE 6 INLET	
		NO.	LENGTH	NO.	LENGTH
A (Precast)	4	25	3'-1"	38	3'-1"
A (C-1-P)	4	25	2'-1½"	38	2'-1½"
B	4	6	10'-3"	6	15'-9"
C	4	25	11" to 1'-11"	38	11" to 1'-11"
D	4	4	10'-3"	4	15'-9"
E	4	16	4'-11½"	30	4'-11½"
F	4	3	6'-0"	6	6'-0"
H	4	4	4'-6"	4	4'-6"
J	4	4	3'-0"	4	3'-0"
K (Fillet)	4	2	2'-3"	2	2'-3"
L (Precast)	4	1	1'-4"	0	---
L (C-1-P)	4	10	1'-4"	9	1'-4"
S	4	7	3'-2"	7	3'-2"

REINFORCING STEEL NOTES:

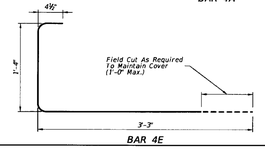
1. All bar dimensions in the bending diagrams are out to out.
2. Bars 4A and 4E may be combined into a single bar.
3. Welded Wire Reinforcement consists of Smooth or Deformed wire meeting the requirements of Specification Section 931.



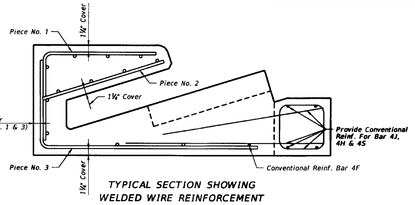
BAR 4S



BAR 4A

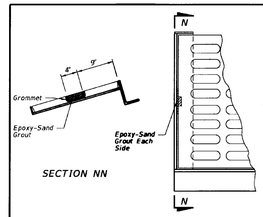


BAR 4E



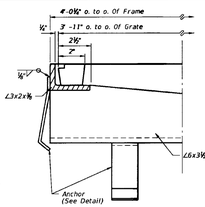
TYPICAL SECTION SHOWING WELDED WIRE REINFORCEMENT

LAST REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	CURB INLET TOPS TYPES 5 AND 6	INDEX NO.	SHEET NO.
07/01/13				211	4 of 5

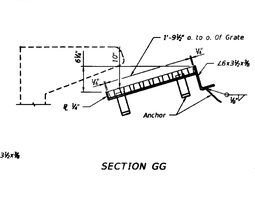


SECTION NN

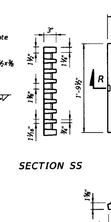
TOP VIEW CAST IRON GRATE



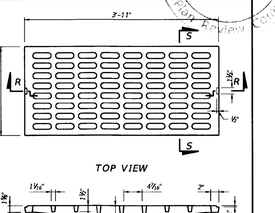
SECTION QQ



SECTION GG



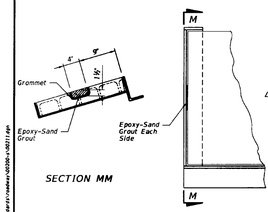
SECTION SS



TOP VIEW

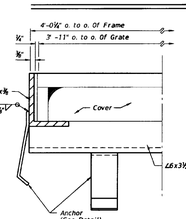
SECTION RR

CAST IRON GRATE

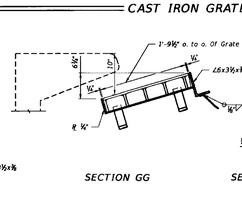


SECTION MM

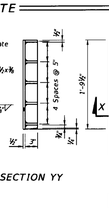
TOP VIEW STEEL GRATE



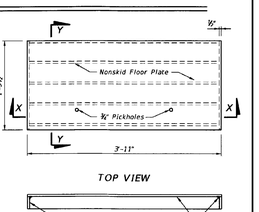
SECTION QQ



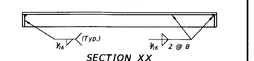
SECTION GG



SECTION YY



TOP VIEW

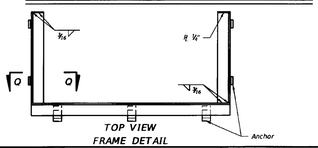


SECTION XX

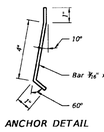
GROUTING DETAILS

STEEL GRATE

CROSS REFERENCES:
For Location Of Section GG and QQ
See Sheet 1.



TOP VIEW FRAME DETAIL



ANCHOR DETAIL

LAST REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	CURB INLET TOPS TYPES 5 AND 6	INDEX NO.	SHEET NO.
07/01/09				211	5 of 5

City of Ormond Beach — FINAL APPROVAL — Public Works Review

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

NEWKIRK ENGINEERING
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Ormond Beach, Florida 32174
Phone (386) 290-7599
Harry@Newkirk-Engineering.com
Certificate of Authorization No. 30219

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Civil Engineering
Land Development
Construction Engineering & Inspection

ZAXBY'S

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FDOT DETAILS AND NOTES

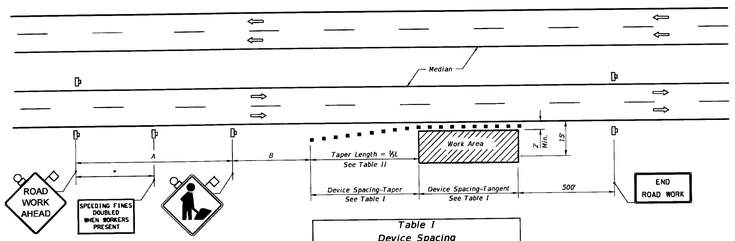
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK LICENSE NO. 62971 09/02/2014 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER

22



DISTANCE BETWEEN SIGNS		
Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350
50 mph or greater	500	500

*500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

Table I
Device Spacing

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Table II
Taper Length - Shoulder

Speed (mph)	½L (ft.)			Notes
	8' Shldr.	10' Shldr.	12' Shldr.	
25	28	35	42	
30	40	50	60	L= WS²/60
35	55	68	82	
40	72	90	107	
45	120	150	180	
50	133	167	200	L=WS
55	147	183	220	
60	160	200	240	
65	173	217	260	
70	187	233	280	

8' minimum shoulder width.

½L = Length of shoulder taper in feet

W = Width of total shoulder in feet (combined paved and unpaved width)

S = Posted speed limit (mph)

SYMBOLS

- Work Area
- Sign With 18" X 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Lane Identification + Direction of Traffic

GENERAL NOTES

1. If the work operation encroaches on the through traffic lanes or when four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), a flagger shall be provided and a FLAGGER sign shall be substituted for the WORKERS sign. The flagger shall be positioned at the point of vehicle entry or departure from the work area.
2. This TCZ plan also applies to work performed in the median more than 2' but less than 15' from the edge of travelway.
3. When work is being performed on a multilane undivided roadway the signs normally mounted in the median (as shown) shall be omitted.
4. WORKERS signs to be removed or fully covered when no work is being performed.
5. SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign.
6. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
7. For general TCZ requirements and additional information, refer to Index No. 600.

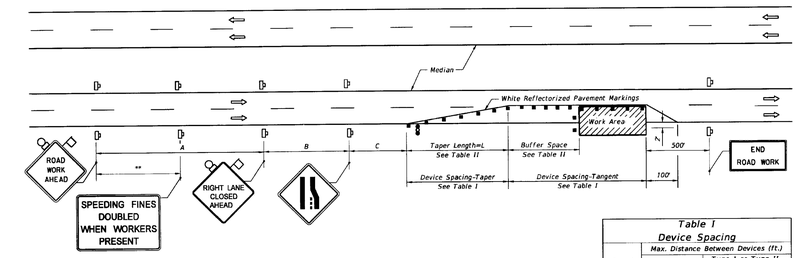
DURATION NOTES

1. Signs and channelizing devices may be omitted if all of the following conditions are met:
   a. Work operations are 60 minutes or less.
   b. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

LAST REVISION 07/01/07	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	MULTILANE, WORK ON SHOULDER	INDEX NO. 612	SHEET NO. 1 of 1



DISTANCE BETWEEN SIGNS		
Speed	Spacing (ft.)	
	A	B	C
40 mph or less	200	200	200
45 mph	350	350	350
50 mph	500	500	500
*55 mph or greater	2640	1640	1000

* The ROAD WORK 1 MILE sign may be used as an alternate to the ROAD WORK AHEAD sign and the RIGHT LANE CLOSED ½ MILE sign may be used as an alternate to the RIGHT LANE CLOSED AHEAD sign.

** 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

GENERAL NOTES

1. Work operations shall be confined to one traffic lane, leaving the adjacent lane open to traffic.
2. On undivided highways the median signs as shown are to be omitted.
3. When work is performed in the median lane on divided highways, the channelizing device plan is inverted and left lane closed and lane ends signs substituted for the right lane closed and lane end signs.

   The same applies to undivided highways with the following exceptions:
   a. Work shall be confined within one median lane.
   b. Additional barricades, cones, or drums shall be placed along the centerline abutting the work area and across the trailing end of the work area.

   When work on undivided highways occurs across the centerline so as to encroach on both median lanes, the inverted plan is applied to the approach of both roadways.
4. Signs and traffic control devices are to be modified in accordance with INTERMITTENT WORK STOPPAGE details (sheet 2 of 2) when no work is being performed and the highway is open to traffic.
5. The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
6. When paved shoulders having a width of 8 ft. or more are closed, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the travel way. See Index No. 612 for shoulder taper formulas.
7. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
8. This TCZ plan does not apply when work is being performed in the middle lane(s) of a six or more lane highway. See Index No. 614.
9. For general TCZ requirements and additional information, refer to Index No. 600.

SYMBOLS

- Work Area
- Sign With 18"x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Advance Warning Arrow Board

Table I
Device Spacing

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Table II
Buffer Space and Taper Length

Speed (mph)	Buffer Space	Taper Length (12' Lateral Transition)	
	Dist. (ft.)	L (ft.)	Notes (Merge)
25	155	125	
30	200	180	L = WS²/60
35	250	245	
40	305	320	
45	360	540	
50	425	600	L = WS
55	495	660	
60	570	720	
65	645	780	
70	730	840	

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use Where:

L = Length of taper in feet
W = Width of lateral transition in feet
S = Posted speed limit (mph)

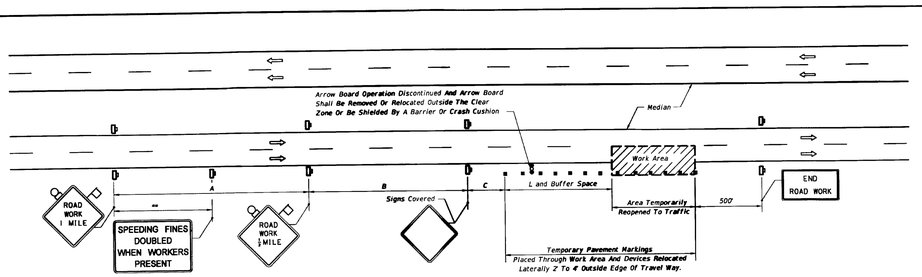
DURATION NOTES

1. Temporary white edgeline may be omitted for work operations less than 3 consecutive calendar days.
2. For work operations up to approximately 15 minutes, signs, channelizing devices, arrow board, and buffer space may be omitted if all of the following conditions are met:
   a. Speed limit is 45 mph or less.
   b. No sight obstructions to vehicles approaching the work area for a distance equal to the buffer space and the taper length combined.
   c. Volume and complexity of the roadway has been considered.
   d. The closed lane is occupied by a class 5 or larger, medium duty truck(s) with a minimum gross weight vehicle rating (GWVR) of 16,001 lb with high-intensity, rotating, flashing, oscillating, or strobe lights mounted above the cab height and operating.
3. For work operations up to 60 minutes, arrow board and buffer space may be omitted if conditions a, b, and c in DURATION NOTE 2 are met, and vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

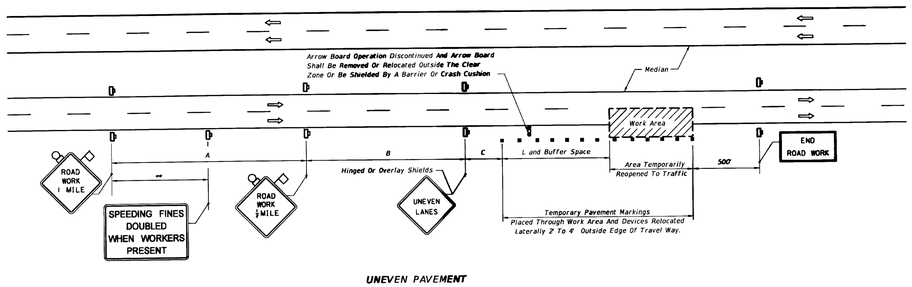
CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE LANE ADJACENT TO EITHER SHOULDER AND THE AREA 2' OUTSIDE THE EDGE OF TRAVEL WAY.

LAST REVISION 07/01/09	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	MULTILANE, WORK WITHIN TRAVEL WAY MEDIAN OR OUTSIDE LANE	INDEX NO. 613	SHEET NO. 1 of 2



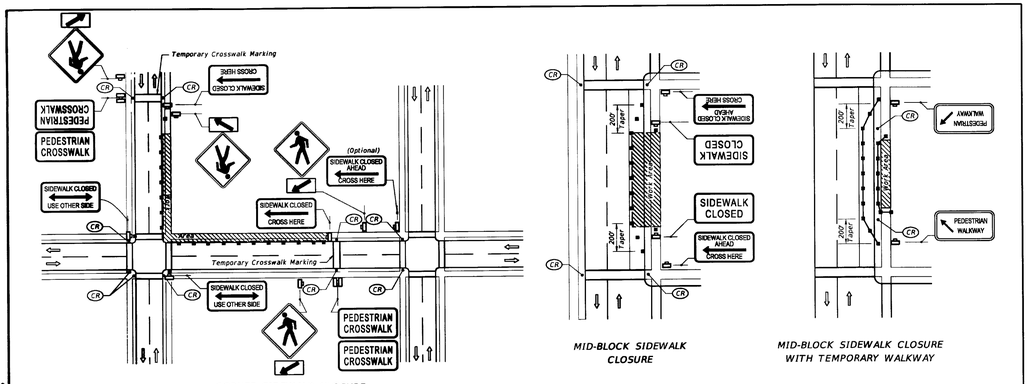
EVEN PAVEMENT



UNEVEN PAVEMENT

INTERMITTENT WORK STOPPAGE - LANE REOPENED TO TRAFFIC

LAST REVISION 07/01/05	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	MULTILANE, WORK WITHIN TRAVEL WAY MEDIAN OR OUTSIDE LANE	INDEX NO. 613	SHEET NO. 2 of 2



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALKS

MID-BLOCK SIDEWALK CLOSURE

MID-BLOCK SIDEWALK CLOSURE WITH TEMPORARY WALKWAY

SYMBOLS

- Work Area
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- (CR) Required Locations For Either Temporary Or Permanent Curb Ramps.
- Lane Identification + Direction of Traffic
- Pedestrian Longitudinal Channelizing Device

GENERAL NOTES

1. Only the signs controlling pedestrian flows are shown. Other work zone signs will be needed to control traffic on the streets.
2. For spacing of traffic control devices and general TCZ requirements refer to Index No. 600. Maximum spacing between barricades, vertical panels, drums or tubular markers shall not be greater than 25'.
3. Street lighting should be considered.
4. For nighttime closures use Type A flashing warning lights on barricades supporting signs and closing sidewalks. Use Type C steady-burn lights on channelizing devices separating the work area from vehicular traffic.
5. Pedestrian traffic signal display controlling closed crosswalks shall be covered or deactivated.
6. Post Mounted Signs located near or adjacent to a sidewalk shall have a 7' minimum clearance from the bottom of sign to the sidewalk.
7. When construction activities involve sidewalks on both sides of the street, efforts should be made to stage the construction so that both sidewalks are not out of service at the same time.
8. In the event that sidewalks on both sides of the street are closed, pedestrians shall be guided around the construction zone.
9. Temporary walkways shall be a minimum of 4' wide with a maximum 0.02 cross slope and a maximum 0.05 running slope between ramps. Temporary walkways less than 5' in width shall provide for a 5' x 5' passing space at intervals not to exceed 200'. Temporary ramps shall meet the requirements for curb ramps specified in Index No. 304. Temporary walkway surfaces and ramps shall be stable, firm, slip resistant, and kept free of any obstructions and hazards such as holes, debris, mud, construction equipment, stored materials, etc.
10. Temporary ramps and temporary crosswalk markings shall be removed with reopening of the sidewalk, unless otherwise noted in the plans. All work and materials associated with constructing temporary curb ramps and temporary crosswalk markings, removal and disposal of temporary curb ramps and temporary crosswalk markings, and restoration to original condition shall be paid for as Maintenance of Traffic, Lump Sum.
11. A pedestrian longitudinal channelizing device shall be placed across the full width of the closed sidewalk.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT WORKERS OR THEIR ACTIVITIES ENCROACH ON THE SIDEWALK FOR A PERIOD OF MORE THAN 60 MINUTES.

LAST REVISION 07/01/13	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS	INDEX NO. 660	SHEET NO. 1 of 1

City of Ormond Beach — FINAL APPROVAL — Site Plan Review Committee

REVISIONS

DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

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MAINTENANCE OF TRAFFIC
ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

HARRY NEWKIRK — LICENSE NO 62971 — 09/02/2014 — STATE OF FLORIDA — PROFESSIONAL ENGINEER
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	HHN
DRAWN BY:	DAB
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER

23

SCALE: 1" = 20'

SITE NORTH

BUFFER CALCUATIONS:

EAST BUFFER (NORTH): (20' WIDE x 257' - TYPE 3 - 4 TREES, 40 SHRUBS & 40 GC / 100')
- 11 TREES REQUIRED, 6 PROVIDED (6 PLANTED)
- 103 SHRUBS REQUIRED, 103 PROVIDED
- 103 GROUND COVER REQUIRED, 103 PROVIDED

EAST BUFFER (SOUTH): (6' WIDE x 297' - TYPE 1 - 2 TREES, 20 SHRUBS & 20 GC / 100')
- 6 TREES REQUIRED, 6 PROVIDED (2 EXISTING, 4 PLANTED)
- 60 SHRUBS REQUIRED, 83 PROVIDED
- 60 GROUND COVER REQUIRED, 62 PROVIDED

SOUTH (FRONT) BUFFER: (36' WIDE x 202' - GREENBELT)
- 29 TREES REQUIRED, 29 PROVIDED (15 EXISTING, 14 PLANTED)
- 60% OR MORE NATIVE PLANTS REQUIRED, 62% PROVIDED
- 40% OR LESS NON-NATIVE PLANTS REQUIRED, 38% PROVIDED

WEST BUFFER (10' WIDE x 319' - TYPE 2 - 3 TREES, 30 SHRUBS & 30 GC / 100')
- 11 TREES REQUIRED, 11 PROVIDED (1 EXISTING, 10 PLANTED)
- 96 SHRUBS REQUIRED, 108 PROVIDED
- 96 GROUND COVER REQUIRED, 104 PROVIDED

NORTH BUFFER (10' WIDE x 120' - TYPE 2 - 3 TREES, 30 SHRUBS & 30 GC / 100')
- 4 TREES REQUIRED, 4 PROVIDED (2 EXISTING, 2 PLANTED)
- 36 SHRUBS REQUIRED, 50 PROVIDED
- 36 GROUND COVER REQUIRED, 36 PROVIDED

LEGEND

- ST. AUGUSTINE SOD
- BAHIA SOD
- 35 — QUANTITY OF PLANTS
- RI — PLANT CODE (SEE SCHEDULE)
- AREAS TO REMAIN NATURAL

TREE MITIGATION / REPLACEMENT SCHEDULE:

REQUIRED:

110,017 SF x 1 TREE / 1,500 SF OF PROPERTY = 74 TREES

OR WHICHEVER IS GREATER

28,488 SF x 1 TREE / 400 SF LANDSCAPE AREA = 72 TREES

74 TREES REQUIRED

PROVIDED: 82 TREES (42 EXISTING TREES & 40 NEW TREES)

PLANTING SCHEDULE:

QUANTITY	CODE	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS	NATIVE
315	BF	BULBINE FRUTESCENS	BULBINE	1 GAL., 12" HGT., FULL	NO
56	DT	DIANELLA TASMANICA	BLUE BERRY FLAX LILLY	1 GAL., 12" HGT., FULL	NO
2	IC	ILEX CASSINE	DAHOON HOLLY	10' - 12' HGT., FULL, 2.5" CAL.	YES
92	IVS	ILEX VOMITORIA NANA	DWARF YOUPON HOLLY	3 GAL.,16" HGT., FULL	YES
167	LEG	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LIRIOPE	1 GAL., 12" HGT., FULL	YES
11	LI	LAGERSTROEMIA INDICA	CRAPE MYRTLE (PURPLE) SSP	10'-12' HGT., FULL, 2.5" CAL.	NO
8	LIS	LAGERSTROEMIA INDICA	PURPLE TREE STD.	10'-12' HGT., 2.5" CAL.	YES
36	LJF	LIGUSTRUM SSP.	JACK FROST LIGUSTRUM	3 GAL., 18" HGT., 36" O.C.	NO
3	LJT	LIGUSTRUM JAPONICA	TREE FORM LIGUSTRUM	8'-10' GHT., FULL	YES
10	MGJ	MAGNOLIA SSP.	LITTLE GEM MAGNOLIA	12' - 14' HGT., 3.5" CAL.	YES
24	POM	PODOCARPUS MACROPHYLLUS	YEW PODOCARPUS	7 GAL., 30" HGT., 30" O.C.	YES
107	PSR	PENNISETUM SETACEUM RUBRUM	RED FOUNTAIN GRASS	3 GAL., 20" HGT., FULL, 30" O.C.	YES
7	QV	QUERCUS VIRGINIANA	LIVE OAK	12' - 14' HGT., FULL, 3.5" CAL.	YES
2	QV 1	QUERCUS VIRGINIANA	LIVE OAK	12' - 14' HGT., FULL, 3.5" CAL.	YES
263	RI	RAPHIOLEPIS INDICA	INDIAN HAWTHORNE	3 GAL., 16" HGT., FULL	YES
39	ROSA	ROSA SSP.	RED KNOCKOUT ROSE	3 GAL., 18" HGT., FULL, 30" O.C.	YES
146	SB	SPARTINA BAKERI	SAND CORDGRASS	3 GAL., 18" HGT., 36" O.C.	YES
1	SP	SABAL PALMETTO	SABAL PALM	16' O.A.	YES
2	TD	TAXODIUM DISTICHUM	BALD CYPRESS	10' - 12' HGT., FULL, 2.5" CAL.	YES
3	TD1	TAXODIUM DISTICHUM	BALD CYPRESS	12' - 14' HGT., FULL, 3.5" CAL.	YES
253	VO	VIBURNUM ODERATISSIMUM	SWEET VIBURNUM	3 GAL., 20" HGT., 3' O.C.	YES
95	VS	VIBURNUM SUSPENSUM	SANDANKWA	3 GAL., 20" HGT., 3' O.C.	YES
37	VW	VIBURNUM SSP	WALTER VIBURNUM	3 GAL., 18" HGT., 3' O.C.	YES

NOTE:

1. ALL TREES (NEW AND EXISTING) ARE TO HAVE A 3' DIAMETER MULCHED CIRCLE AROUND THE BASE UNLESS IT IS IN A PLANTING BED.
2. 77% OF THE LANDSCAPE MATERIAL IS XERIC.

TREE PRUNING NOTE:

REMOVE ALL EXISTING UNDERBRUSH AND GROUND COVERS WITHIN LANDSCAPE BUFFERS. PRUNE ALL TREES TO REMAIN IN ACCORDANCE WITH ANSI A 300 PRUNING STANDARDS AS PERFORMED BY AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) OR A REGISTERED CONSULTING ARBORIST WITH THE AMERICAN SOCIETY OF CONSULTING ARBORISTS (ASCA).

LANDSCAPE NOTES:

1. ALL PLANT MATERIAL SHALL CONFORM TO THE STANDARDS FOR FLORIDA #1 OR BETTER AS DESCRIBED IN THE CURRENT "GRADES AND STANDARDS FOR NURSERY PLANTS", STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE, TALLAHASSEE, OR THEIR EQUAL AS DETERMINED BY THE LANDSCAPE ARCHITECT.
2. ALL MULCH SHALL BE ALL NATURAL WOOD (NO CYPRESS).
3. SOD SPECIFIED AS ST. AUGUSTINE "FLORITAM" SHALL BE 95% WEED-FREE. SOD SPECIFIED AS BAHIA SHALL BE 85% WEED-FREE. ALL SOD SHALL BE INSTALLED WITH TIGHT JOINTS, ROLLED AND FERTILIZED.
4. SEED, IF ANY, TO MEET SOUTHERN SEED CERTIFICATION ASSOCIATION.
5. ALL DIMENSIONS SHALL BE FIELD-CHECKED BY THE LANDSCAPE CONTRACTOR PRIOR TO CONSTRUCTION, WITH ANY DISCREPANCIES REPORTED IMMEDIATELY TO THE LANDSCAPE ARCHITECT.
6. THE PLANT MATERIALS SCHEDULE IS PROVIDED FOR THE CONVENIENCE OF THE LANDSCAPE CONTRACTOR; SHOULD THERE BE ANY DISCREPANCY BETWEEN THE PLAN AND THE PLANT LIST, THE PLAN WILL PREVAIL.
7. ALL MATERIALS MUST BE AS SPECIFIED ON THE LANDSCAPE PLAN. IF MATERIALS OR LABOR DO NOT ADHERE TO THE SPECIFICATIONS, THEY WILL BE REJECTED AT NO ADDITIONAL COST TO THE OWNER.
8. ALL PLANTING BEDS SHALL BE TREATED WITH 'ROUND-UP' AND 'RONSTAR'. USE AS DIRECTED BY MANUFACTURERS.
9. NO SUBSTITUTIONS OR CHANGES OF ANY KIND WILL BE ALLOWED AT THE TIME OF BIDDING SO AS TO PROVIDE FOR FAIR COMPARISON.
10. EXISTING IRRIGATION SYSTEM SHALL BE REVAMPED TO PROVIDE 100% COVERAGE.
11. THE CONTRACTOR SHALL VERIFY EXISTENCE AND LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND CONDITIONS PRIOR TO HIS COMMENCEMENT OF THE ANY WORK.
12. ALL BUILDING MATERIALS AND LABOR SHALL CONFORM TO THE SOUTHERN BUILDING CODE AND ALSO TO ALL LOCAL CODES THAT HAVE JURISDICTION.
13. ALL PERMIT AND VARIANCE APPLICATIONS SHALL BE MADE BY THE CONTRACTOR.
14. PRIOR TO CONSTRUCTION OF PLANTING BEDS, ALL AREAS ARE TO HAVE SOIL TESTS CONDUCTED TO DETERMINE pH AND SOIL FERTILITY. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO AMEND THE SOIL TO MEET ADEQUATE FERTILITY AND pH FOR CORRESPONDING PLANT MATERIAL. ALL TEST RESULTS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT.
15. EQUIPMENT SHALL BE OPERATED IN A MANNER AS NOT TO INJURE OR DESTROY ANY TREES SHOWN TO REMAIN. CONTRACTOR SHALL NOT CAUSE OR ALLOW THE CLEANING OF EQUIPMENT OR MATERIAL WITHIN THE DRIP LINE OF ANY TREE OR GROUPS OF TREES TO BE RETAINED OR THOSE PROPOSED. NOR SHALL THE CONTRACTOR ALLOW THE DISPOSAL OF WASTE MATERIAL, SUCH AS PAINT, OIL SOLVENTS, ASPHALT, CONCRETE, MORTAR OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF A TREE WITHIN THE DRIP LINE OF ANY TREE OR GROUP OF TREES. NO ATTACHMENT, WIRES (OTHER THAN PROTECTIVE GUY WIRES), SIGNS, OR PERMITS MAY BE FASTENED TO A TREE.
16. ANY EXISTING TREES CREDITED TOWARDS REQUIRED BUFFERS OR LANDSCAPE REQUIREMENTS REMOVED FOR ANY REASON SHALL BE REPLACED WITH TREES MEETING CITY APPROVAL WITH REGARDS TO SPECIES AND SIZE.
17. ALL QUESTIONS CONCERNING THE PLAN AND/OR SPECIFICATIONS SHALL BE DIRECTED TO THE LANDSCAPE ARCHITECT (386) 672-9515.
18. ALL SHADE TREES AND SINGLE TRUNK UNDERSTORY TREES SHALL BE STAKED USING ARBORGUY STAKING SYSTEM FOR SINGLE STEM TREE AND ALL MULTI-TRUNK UNDERSTORY TREES SHALL BE STAKED WITH ARBORGUY MULTI-TRUNK SYSTEM.
19. ANY CHANGE IN STAKING SYSTEM MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT BEFORE BEING INSTALLED.
20. ALL UNIMPROVED AREA NOT OTHERWISE PLANTED OR MULCHED SHALL BE SODDED WITH ST. AUGUSTINE FLORITAM UNLESS OTHERWISE NOTED ON THE LANDSCAPE PLAN.
21. PLANT MATERIAL SHALL BE CLEARLY IDENTIFIED AS FLORIDA #1 OR BETTER ON EITHER LABELS OR INVOICES.
22. ALL PLANT MATERIAL SHALL BE GUARANTEED ONE YEAR AFTER ACCEPTANCE BY OWNER.
23. ALL TREES IN SOD TO BE IN A (4) FOOT MINIMUM-MULCHED RING AROUND.
24. TREES SHALL BE PLANTED SO THAT THE TRUNK FLARE IS EXPOSED AND TOPMOST ROOT IN THE ROOTBALL ORIGINATING FROM THE TRUNK IS AT SOIL SURFACE OR WITHIN THE TOP INCH OF SOIL ON THE ROOTBALL.
25. ALL PLANT SPECIFICATIONS MUST BE MET OR EXCEEDED.
26. PLANT TREE SO THAT ROOTBALL IS 1"-2" ABOVE FINISH GRADE.
27. REMOVAL OF ALL CONSTRUCTION DEBRIS, LIMEROCK, EXCESS OF BUILDERS SAND, CONCRETE AND MORTAR DEBRIS, EXISTING WEEDS AND GRASS, AND ALL FOREIGN MATERIALS IN THE PLANTING BED AND SOD AREAS SHALL BE REMOVED AND A MINIMUM OF 3' OF CLEAN SAND WITH A pH 5.5-6.5 SHALL BE INSTALLED PRIOR TO ANY INSTALLATION OF PLANTS OR TREES.
28. FOR ALL NEW DEVELOPMENT, OR REDEVELOPMENT OF EXISTING PROPERTY, THE APPLICANT SHALL BE REQUIRED TO REMOVE ALL INVASIVE NONNATIVE PLANT SPECIES FROM THE PROPERTY PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
29. ALL EXISTING TREES AND PALMS WILL BE PROPERLY PRUNED AND CLEANED OF DEADWOOD, BROKEN BRANCHES, DEAD FROND AND VINES AS NEEDED.

City of Ormond Beach Site Plan Review Committee FINAL APPROVAL

REVISIONS	
DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT COMMENTS
9/02/14	PER CITY COMMENTS

RLP
RICHARD L. POORE, LA
PLANNER & LANDSCAPE ARCHITECT
300 GATEWOOD COURT • ORMOND BEACH, FLORIDA 32174
CELL: (386)212-8491 • RLA# 0000533

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LANDSCAPE PLAN

ZAXBY'S

1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

REGISTERED LANDSCAPE ARCHITECT RICHARD L. POORE 09/02/2014 LA533 STATE OF FLORIDA

NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	RLP
DRAWN BY:	DAB
CHECKED BY:	RLP
SCALE:	AS SHOWN

DRAWING NUMBER

24

SCALE: 1" = 20'

NOTE:

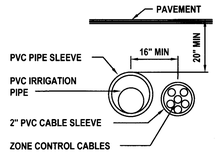
1. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE CITY AND COUNTY WATER WISE ORDINANCE REQUIREMENTS. THE IRRIGATION CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IF THERE ARE ANY DEVIATIONS TO THE DRAWING.
2. IRRIGATION LINES ARE SHOWN DIAGRAMMATICALLY AND ARE INTENDED TO SHOW DISTRIBUTION ZONES ONLY. ALL VALVES SHALL BE LOCATED WITHIN PLANTING AREAS (NOT WITHIN PAVEMENT). LINES LOCATED UNDER PAVEMENT SHALL BE KEPT TO A MINIMUM AND ALL PIPING UNDER PAVED AREAS SHALL BE SLEEVED.
3. WHEN INSTALLING IRRIGATION PIPING IN ISLAND AND OTHER NARROW PLANTING AREAS RUN PIPING CLOSE TO CURB AND NOT DOWN THE MIDDLE OF THE PLANTING AREA. (BEFORE DOING IRRIGATION GET A COPY OF THE LANDSCAPE PLAN AND KEEP IRRIGATION LINES OUT OF PLANTING AREAS WHERE POSSIBLE.)
4. NO SIGNIFICANT IRRIGATION OVERTHROW SHALL BE ALLOWED ONTO IMPERVIOUS SURFACES.

PIPE SIZING INFORMATION

GALLONS PER MINUTE (GPM)	PIPE SIZE
0-6	1/2"
7-10	3/4"
11-16	1"
17-28	1 1/4"
29-35	1 1/2"
35-55	2"

PIPE SLEEVE SCHEDULE	
PIPE SIZE	SLEEVE SIZE
2 1/2"	6"
1" THRU 2"	4"
1/2" AND 3/4"	3"

NOTE:
AT THE DISCRETION OF THE IRRIGATION CONTRACTOR, THE DIAMETER OF THE SLEEVE PIPE MAY BE REDUCED.



IRRIGATION LEGEND (USE THE FOLLOWING IRRIGATION EQUIPMENT OR EQUAL)

15 SERIES MPR	FLOW RATE (GPM)
(A) ADJUSTABLE 15° RADIUS	VARIES
(Q) QUARTER	0.92
(H) HALF	1.85
(T) THREE QUARTER	2.78
(F) FULL	3.70

	FLOW RATE (GPM)
15° EST	0.61
15° SST	1.21
9° SST	1.73
15° CST	1.21

PGP - HUNTER GEAR DRIVE

(4) NOZZLE SIZE	1.6
(5) NOZZLE SIZE	2.0
(7) NOZZLE SIZE	3.4
(8) NOZZLE SIZE	3.9
(10) NOZZLE SIZE	7.6

ZONE NUMBER
2 | 15 — NUMBER OF HEADS (* DENOTES NETAFIM)
35± — APPROX. GALLONS PER MINUTE

1.5" LOOPED IRRIGATION MAIN (MUST BE SCH 40 PIPE)

SLEEVE UNDER PAVEMENT FOR WIRE (1")
SLEEVE UNDER PAVEMENT FOR PIPE (SEE SCHEDULE FOR SIZE REQUIREMENTS)
BACK OF CURB
12" MIN.

NETAFIM

(C) CONTROLLER - RAINBIRD ESPLXM - (2) 8 STATION OUTSIDE MOUNT WITH 2-MODULE ESPLXMSMA - 4 STATION (TOTAL 16 STATIONS)

(R) RAIN SENSOR SHUTOFF (ON TOP OF CONTROL BOX OR PEDESTAL MOUNT)

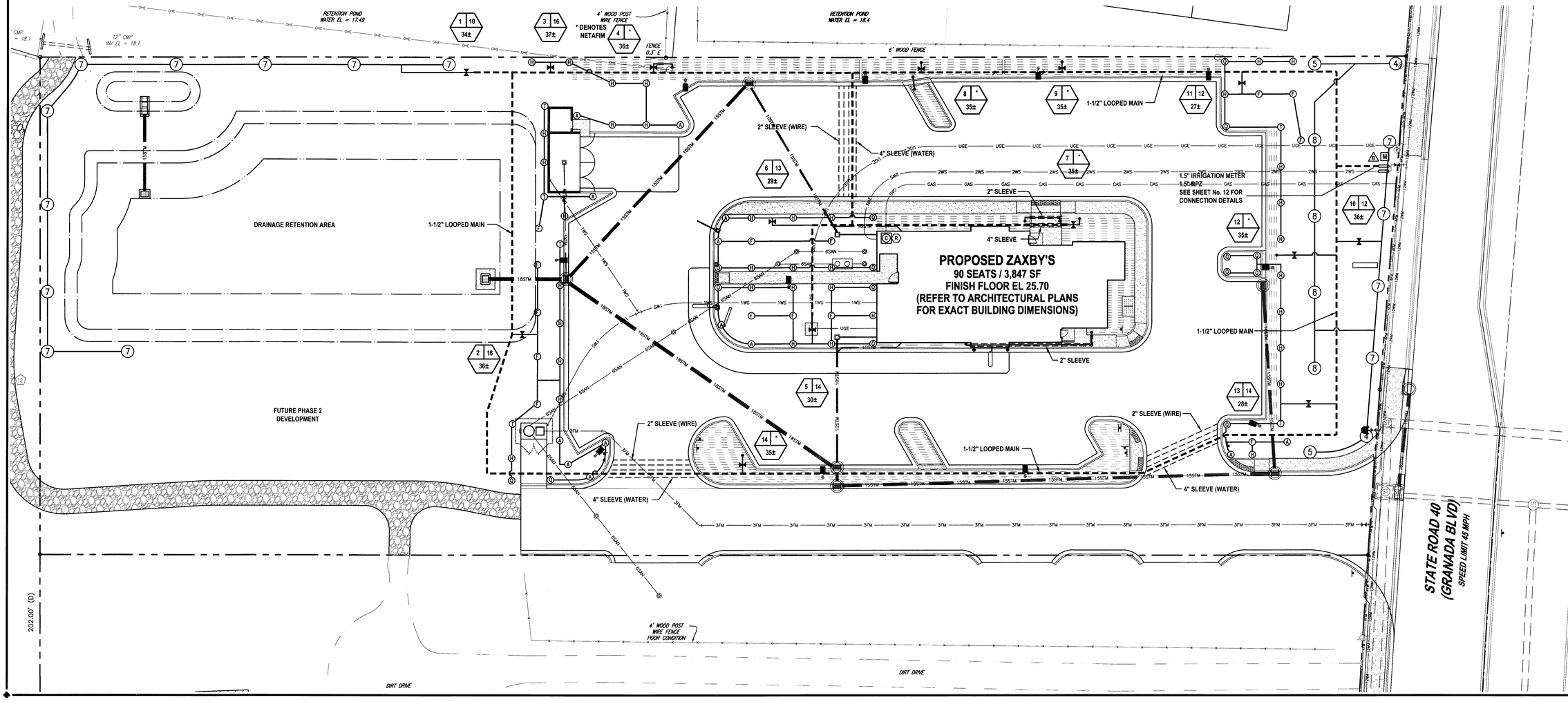
(M) 1.5" IRRIGATION METER (SEE UTILITY PLAN, SHEET No. 12 FOR DETAILS)

(B) 1.5" REDUCED PRESSURE BACKFLOW PREVENTER (SEE UTILITY PLAN, SHEET No. 12 FOR DETAILS)

ZONE CONTROL VALVE (HARDIE 216B) (1-1/2" ANGLE- PRESSURE REDUCING)

IRRIGATION NOTES:

1. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL EXISTING UTILITIES AND CONDITIONS PRIOR TO ITS COMMENCEMENT OF THE IRRIGATION WORK.
2. *CHECK PRESSURE AND GPM OF WATER SUPPLY BEFORE BEGINNING JOB AND REPORT FINDING TO LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT WILL MAKE ANY ADJUSTMENT NECESSARY TO MAKE SYSTEM WORK AT ITS BEST.*
3. THE PLAN IS SCHEMATIC ONLY. THE CONTRACTOR SHALL INSTALL PIPING IN A MINIMUM NUMBER OF TRENCHES AND SHALL INSTALL PIPE IN A MINIMUM LENGTH.
4. QUANTITIES FOR IRRIGATION MATERIALS ARE NOT GIVEN. THE CONTRACTOR SHALL DETERMINE THIS FROM THE PLAN.
5. INSTALL SLEEVE PIPING WHERE SHOWN ON THE DRAWINGS AT THE PROPER DEPTH.
6. ALL SLEEVE PIPE SHALL BE SCHEDULE 40 PVC PIPE INSTALLED A MINIMUM OF 20" BELOW FINISHED PAVING GRADES.
7. ALL SLEEVES WHEN PLACED IN FIELD ARE TO BE LOCATED BY A METAL PIPE AT EACH END AND LOCATED FROM TWO STATIONARY POINTS BY TAPE MEASUREMENTS.
8. ALL PIPE SHALL BE INSTALLED A MINIMUM OF 20" BELOW GRADE.
9. ALL TRENCHING SHALL BE KEPT OUT OF THE DRIP LINE AREA OF ALL EXISTING TREES. USE RADIAL LINES OR TUNNELING WHEN NECESSARY TO ENCROACH INTO THE DRIP LINE AREA OF TREES.
10. LOCATE ALL VALVES AND OTHER IRRIGATION EQUIPMENT IN PLANT BED AREAS WITHIN THE PROJECT LIMITS FOR CONCEALMENT PURPOSES.
11. RISERS ARE TO BE HIDDEN COMPLETELY IN SHRUBBERY OR PAINTED BLACK AND IN NO CASE BE HIGHER THAN THE SHRUBBERY INSTALLED.
12. ALL PIPE EXPOSED ABOVE GRADE AND TO VIEW SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE OF THE NOTED SIZE.
13. ALL IRRIGATION EQUIPMENT (PUMP, CONTROLLER, ETC.) SHALL BE PLACED WITHIN FENCED ENCLOSURE.
14. ALL VALVES SHALL BE INSTALLED IN METER TYPE SIZE BOXES EQUAL TO AMETEK POLY-IRON.
15. PROVIDE A 6" GRAVEL SUMP AT THE BOTTOM OF ALL METER BOXES AND INSTALL 1/2" TO 1" DIAMETER GRAVEL AT THE BOTTOM OF THE VALVE PIT.
16. IRRIGATION SHALL MEET ALL APPLICABLE CURRENT MUNICIPAL, COUNTY, STATE OR FEDERAL CODES, ORDINANCES AND REGULATIONS THAT HAVE JURISDICTION.
17. ALL PIPE 1/2" TO 2 1/2" IN SIZE SHALL BE PRESSURE RATED 160 PVC (EXCEPT MAIN).
18. ALL FITTINGS SHALL BE SCHEDULE 40 PVC.
19. ALL SPRAY HEADS ARE TO BE A MINIMUM OF 6" POP-UP AND ALL HEADS IN PLANTING AREAS TO BE 12" POP-UP OR RISERS. RISERS SHALL BE PAINTED GREEN OR BLACK.
20. ELECTRICAL TO CONTROLLER SHALL BE SUPPLIED BY ELECTRICAL CONTRACTOR (NOT IRRIGATION CONTRACTOR).
21. *PURPLE IRRIGATION EQUIPMENT MUST BE USED FOR ALL IRRIGATION IF REUSE WATER IS BEING USED.*



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CELL: (386)212-8491 - RLA# 0000533

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REVISIONS

DATE	DESCRIPTION
9/11/14	PER CITY AND FDOT
9/02/14	COMMENTS
	PER CITY COMMENTS

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IRRIGATION PLAN

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

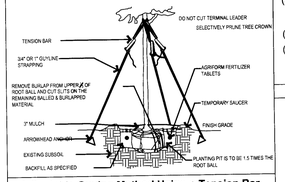
REGISTERED LANDSCAPE ARCHITECT RICHARD L. POORE 09/02/2014 LA533 STATE OF FLORIDA
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	RLP
DRAWN BY:	DAB
CHECKED BY:	RLP
SCALE:	1"=20'

DRAWING NUMBER

25

Tree Frog Environmental Products® (formerly Arborguy®) PRO20/PRO40/PRO60/PRO80STAKING DETAIL



Adjustable Guying Method Using a Tension Bar

The anchors for each kit are best installed using the Integrated Tool Assembly (ITA) from the manufacturer.

1. Once the arrowhead anchor has been driven into the ground and set (secured), the guyline should be passed through Hole #1 on the tension bar, then wrapped around the tree trunk just above the lowest established branch. Then, the guyline should be passed through Hole #2 in the tension bar just below the first established branch. After pulling taut any slack, a stop knot is established immediately below Hole #2 in the guyline. (See Figure 1)

2. The tension bar is then pulled downward until the tree is straight and the guyline is SNUG (NOT TIGHT). (See Figure 2)

3. The tension bar is locked into place by tying the loose end of the guyline itself just above Hole #2. (See Figure 3)

This tensioning method allows the guylines to be readjusted, if necessary, in order to keep the guylines snug until the tree root system is established and the staking material is removed.

*Specify Anchor
1. Biodegradable (soft or hard soil)
2. Nylon (soft soil)
3. Heavy Duty (hard soil)

Tree Frog® PRO20 SYSTEM

PRO20:
For up to 2" Caliper Trees
(3) ARBORGUY™ Guylines 3/4" x 12' = 600 lb test Black or Green, UV resistant, polypropylene strapping
(3) "Tool-Free" Tension Bars™
(3) Arrowhead *Anchors (4" x 3-3/4")

Tree Frog® PRO40 SYSTEM

PRO40:
For up to 4" Caliper Trees
(3) ARBORGUY™ Guylines 1" x 12' = 600 lb test Black or Green, UV resistant, polypropylene strapping
(3) "Tool-Free" Tension Bars™
(3) Arrowhead *Anchors (4 ¾" x 4 ½")

Tree Frog® PRO60 SYSTEM

PRO60:
For up to 6" Caliper Trees
(3) ARBORGUY™ Guylines 1" x 15' = 2400 lb break strength polyester black strapping
(3) "Tool-Free" Tension Bars™
(3) Arrowhead *Anchors (4 ¾" x 4 ½")

Tree Frog® PRO80 SYSTEM

PRO80:
For up to 8" Caliper Trees
(4) ARBORGUY™ Guylines 1" x 15' = 2400 lb break strength black polyester strapping
(4) Steel Cable leaders attached to anchors (optional)
(4) "Tool-Free" Tension Bars™
(4) Arrowhead *Anchors (4 ¾" x 4 ½")

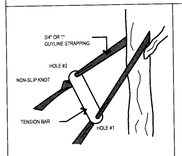


FIGURE 1

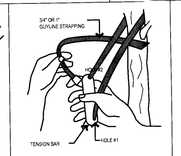


FIGURE 2

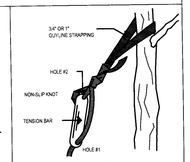
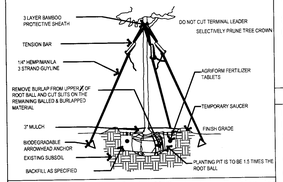


FIGURE 3

Tree Frog Environmental Products® (formerly Arborguy®) BIODEGRADABLE TREE GUYING DETAIL



Biodegradable Adjustable Guying Method Using a Tension Bar

The anchors for each kit are best installed using the Integrated Tool Assembly (ITA) from the manufacturer.

1. Once the Biodegradable arrowhead anchor has been driven into the ground and set (secured), the guyline should be passed through Hole #1 on the tension bar, then wrapped around the tree trunk just above the lowest established branch. Then, the guyline should be passed through Hole #2 in the tension bar just below the first established branch. After pulling taut any slack, a stop knot is established immediately below Hole #2 in the guyline. (See Figure 1)

2. The tension bar is then pulled downward until the tree is straight and the guyline is SNUG (NOT TIGHT). (See Figure 2)

3. The tension bar is locked into place by tying the loose end of the guyline itself just above Hole #2. (See Figure 3)

This tensioning method allows the guylines to be readjusted, if necessary, in order to keep the guylines snug until the tree root system is established and the staking material is removed.

Tree Frog® BIO20 SYSTEM

BIO20:
For up to 2" Caliper Trees
(3) FROG ANCHOR™ Guyline 1/4" x 12' = 560 lb tensile Hemp/Manila rope
(3) "Tool-Free" Tension Bars™
(3) Biodegradable Arrowhead Anchors (4 ¾" x 4 ½")

Tree Frog® BIO40 SYSTEM

BIO40:
For up to 4" Caliper Trees
(4) FROG ANCHOR™ Guyline 1/4" x 12' = 560 lb tensile Hemp/Manila rope
(4) "Tool-Free" Tension Bars™
(4) Biodegradable Arrowhead Anchors (4 ¾" x 4 ½")

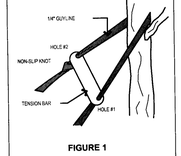


FIGURE 1

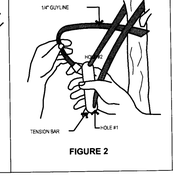


FIGURE 2

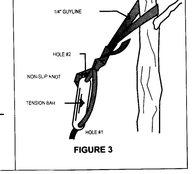
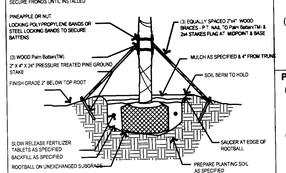


FIGURE 3

Tree Frog Environmental Products® (formerly Arborguy®) Palm Batten Detail

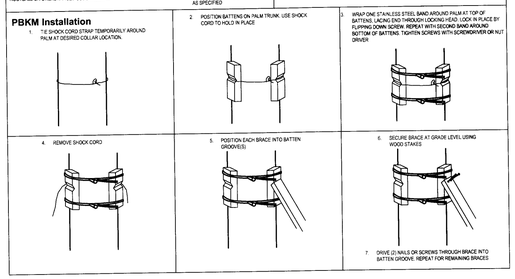


Tree Frog® Palm Batten System

PBKM (Metal Bands)
(3) 1 1/2"x3" 1/2"x12" (2x4 wood) battens with 5 layers of burlap backing and (4) staple guides for banding, pre-notched (to accept 2"x4"x8' support braces)
(2) 44" plated carbon steel bands with tensioning and locking screw / clamp

PBKC (Polypropylene Bands)
(3) 1 1/2"x3 1/2"x12" (2x4 wood) battens with 5 layers of burlap backing and (4) staple guides for banding, pre-notched (to accept 2"x4"x8' support braces)
(2) 8'x1", 600 lb test webbing bands with metal spring locking clamps

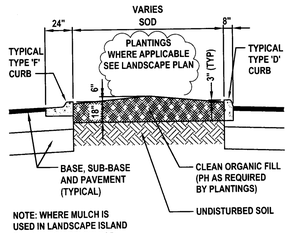
PBKM Installation



TREE ANCHORING DETAILS

PROVIDED BY MANUFACTURER
(See www.froganchor.com or call 352-735-7411

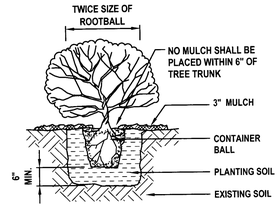
NOT TO SCALE



NOTE: WHERE MULCH IS USED IN LANDSCAPE ISLAND KEEP MULCH BELOW TOP OF CURBS

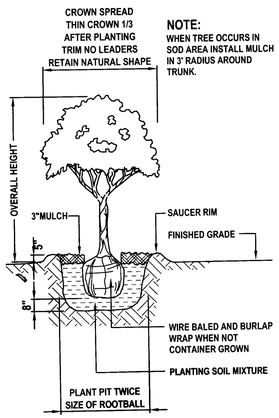
ISLAND PLANTING DETAIL

NOT TO SCALE



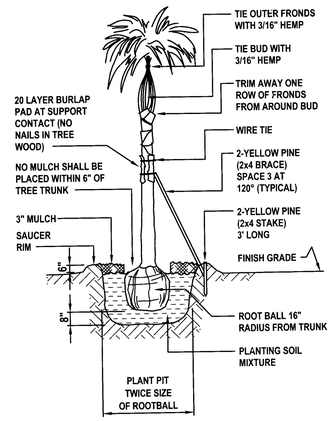
SHRUB PLANTING DETAIL

NOT TO SCALE



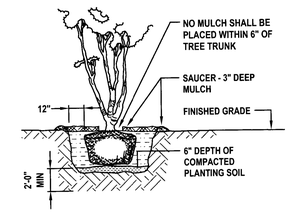
TREE PLANTING DETAIL

NOT TO SCALE



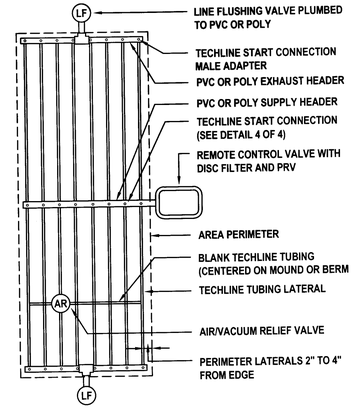
PALM TREE PLANTING DETAIL

NOT TO SCALE

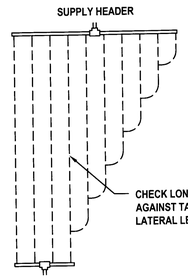


MULTI-TRUNK PLANTING DETAIL

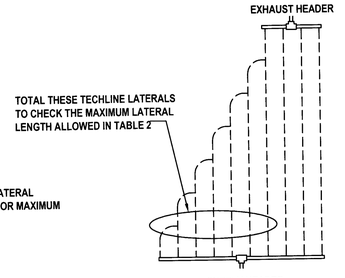
NOT TO SCALE



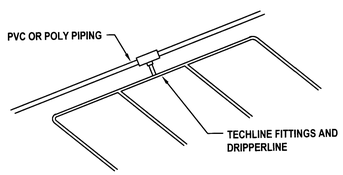
TECHLINE CENTER FEED LAYOUT



JOINING TECHLINE TUBING



BRANCHING OUT TECHLINE TUBING



CREATING SUB-HEADERS TO REDUCE GLUE/SADDLE JOINTS

ZONE WATER REQUIREMENTS:

ONCE YOU HAVE LAID OUT THE TECHLINE, YOU NEED TO IDENTIFY HOW MANY DRIPPERS THERE ARE, AND THEIR TOTAL OUTPUT. THIS WILL HELP YOU DETERMINE MAINLINE, SUBMAIN AND SUPPLY/EXHAUST HEADER SIZING. VALVE, FILTER, AND REGULATOR SELECTION.,

CENTER FEED LAYOUTS:

- WHERE LAYOUT FLEXIBILITY EXISTS, IT IS RECOMMENDED THAT CENTER FEED LAYOUTS BE USED. THIS ALLOWS FOR THE MOST EVEN FLOW OF WATER THROUGHT THE ZONE.
- CENTER FEED LAYOUTS ALSO ALLOW YOU TO MAXIMIZE THE LENGTHS OF TECHLINE THAT CAN BE RUN.

OTHER PIPING LAYOUTS:

- WHEN BRANCHING OUT, OR JOINING TECHLINE, ONE OF TWO RULES APPLY. RULE 1 - WHEN BRANCHING OUT TECHLINE FROM THE SUPPLY HEADER, TOTAL ALL "BRANCHED OUT" DRIPPERLINE AND CHECK THE SUM AGAINST THE MAXIMUM LATERAL LENGTH IN TABLE 2. RULE 2 - WHEN JOINING DRIPPERLINE LATERALS FROOM THE SUPPLY HEADER, CHECK ONLY THE LONGEST LATERAL AGAINST THE MAXIMUM ALLOWABLE IN TABLE 2.
- TO REDUCE THE NUMBER OF GLUE JOINTS, SADDLES OR INSERT FITTINGS IN A HEADER, TRANSITION TO TECHLINE AND TECHLINE FITTINGS TO MAKE UP SUB-HEADERS, MAKING SURE TO FOLLOW THE GUIDELINE OF A MAXIMUM OF 0.5 GPM IN THE "SUB-HEADER" ZONE.

NETAFIM DETAIL

NOT TO SCALE

City of Ormond Beach Site Plan Review Committee
FINAL APPROVAL

REVISIONS	
DATE	DESCRIPTION
8/11/14	PER CITY AND FDOT
	COMMENTS
9/02/14	PER CITY COMMENTS

RICHARD L. POORE, LA
PLANNER & LANDSCAPE ARCHITECT
330 GATEWOOD COURT - ORMOND BEACH, FLORIDA 32174
CELL: (386)212-8491 - RLA# 0000533

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ZAXBY'S

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LANDSCAPE AND IRRIGATION DETAILS AND NOTES

ZAXBY'S
1287 WEST GRANADA BOULEVARD
ORMOND BEACH, FL 32174

REGISTERED LANDSCAPE ARCHITECT
RICHARD L. POORE
09/02/2014
LA533
STATE OF FLORIDA
NOT VALID UNLESS SIGNED AND SEALED

PROJECT No:	2014-85
DATE:	JUNE 2014
DESIGN BY:	RLP
DRAWN BY:	DAB
CHECKED BY:	RLP
SCALE:	AS SHOWN

DRAWING NUMBER

26

EXTERIOR FINISH SCHEDULE

ALL MATERIALS & INSTALLATION SHALL CONFORM TO APPLICABLE ASTM STANDARDS UNLESS GOVERNING AUTHORITIES HAVE DIFFERENT REQUIREMENTS.

STANDARD BRICK UNIT 3-5/8" x 2-1/4" x 7 5/8" RUNNING 1/2 BOND

(1) COLOR: BRICK - MOSSWOOD (BORAL BRICK)
MORTAR - BUFF BRICK (BORAL BRICK)

ALTERNATE BRICK:

(1) COLOR: BRICK - MOSSTOWN (CHEROKEE BRICK)
MORTAR - ANTIQUE BUFF (CEMEX)

15# ROOFING FELT OVER ALL SUBSTRATES OR SEALED DENS GLASS GOLD SHEATHING GROUT VOID SOLID @ FENCE AND BELOW F.F. PROVIDE VAPOR BARRIER AS INDICATED.

CONTINUOUS, THROUGH WALL FLASHING, EPDM (BY W.R. GRACE) OR EQUAL. AT BOTTOM OF WALLS & ABOVE OPENINGS. CUT FLASHING FLUSH WITH EXT. FACE. PROVIDE CELL VENT TYPE WEEPS, ABOVE FLASHING @ 32" O.C. MAX.

3/8" THICK MORTAR JOINTS. ASTM C-270, TYPE N.

HOHMANN & BARNARD, INC. HORIZ REINF. ON CMU FENCE
HOHMANN & BARNARD, INC., DW-10 HS TRIANGULAR MTL. WALL TIES (OR EQUAL) @ 16" O.C. VERT. & AT HORIZ. STUD SPACING, 14 GA. SEE SECTIONS & SPECS.
ATTACH TO STUDS WITH (2) 10 - 16 x 1-1/2" SCREWS.

(2) STANDING SEAM MTL. ROOFING - SEE (4)

(3) STO TO HAVE "SWIRL" FINISH AND CAN BE PAINTED.
FINISH COLORS, BELOW AND ON SHEET A-103 CAN BE PAINTED.
STO BRAND EIFS ON CMU, OR SHEATHING:
"STO ESSENCE" SPEC. E100
ICC EVALUATION REPORT NO. ESR-1720

(3F) = FIELD COLOR: SHERWIN WILLIAMS ZAXBY'S CREAM
(3A) = ACCENT COLOR: SHERWIN WILLIAMS COLOR DARK TAN

(4) PREFINISHED, METAL COPING OR GRAVEL STOP & ROOFING
COLOR: COPINGS: MATCH SURROUNDING CORNICE COLOR
ROOFING @ REAR SHED: BLACK
MATERIAL SHALL BE 24 GAUGE, HOT DIPPED GALVANIZED STEEL OR 0.032" THICK ALUM. FINISH SHALL BE KYNAR 500 FLUOROCARBON COATING.
ACCEPTABLE MANUFACTURES ARE AS FOLLOWS:

A. BERRIDGE MANUF. CO.,HOUSTON, TX.
B. PAC-CLAD
C. APPROVED EQUALS WILL BE ACCEPTED

PROVIDE ALL RELATED ACCESSORIES: FLASHING, END CLOSURES, GUTTERS, DOWNSPOUTS, ETC. IN MATCHING COLOR. INSTALL ALL MATERIALS PER MANUF.'S RECOMMENDATIONS.

A MANUFACTURER'S WARRANTY AGAINST DISCOLORATION & WEATHER-TIGHTNESS WILL BE REQUIRED.

NOT ALL ROOF PENETRATIONS & ACCESSORIES ARE SHOWN ON THIS DRAWING. IT IS THE RESPONSIBILITY OF THE G.C. TO INSTALL ITEMS INDICATED ELSEWHERE.

(5) STOREFRONT: WINDOWS & ENTRANCE DOORS (BLACK ANODIZED)

ACCEPTABLE MANUFACTURER: KAWNEER, REFER TO SPECIFICATIONS

ALL GLAZING SHALL BE IN ACCORDANCE W/ THE FOLLOWING VALUES:

GLAZING - UNCOATED TINTED GLASS						
APPEARANCE	**LOCATION**	**TYPE & THICKNESS**	**U FACTOR**	**SHGC**	**VLT**	**VLR**
GRAY TINT	EXTERIOR SIDE	1/4" TEMPERED	.47	.45	39.6	7.3
CLEAR -NO TINT	INTERIOR SIDE	1/4" TEMPERED	.58	.69	79	15

CONTACT PERSON @ QUALITY GLASS: JOHNNY DOSTER @ 706-548-4481

(6) SELF-CLOSING & TEMPERED GLASS
DRIVE-THRU WINDOW: ROUGH OPENING = 6'-0" WIDE x 5'-8" HIGH
QUICKSERV MODEL SC-4030 SELF CLOSING HORIZ. SLIDER WINDOW
FIT INTO A "STOREFRONT" FRAME, MATCH STOREFRONT IN COLOR & GLAZING.

QUICKSERV-DIVISION OF MCE SYSTEMS CORP.
P.O. BOX 40466, HOUSTON, TX 77240-0466
P. 800-388-8307 F. 713-462-1936
STOREFRONT & SLIDER ALSO BY:
QUALITY GLASS P. 706-548-4481

(7) PLANTATION STYLE AWNINGS
PROJECT AWNING: ALUM. FRAME W/ RC SLATS, BLACK
STRUCTURE BY AWNING SUPPLIER
ANY FABRIC TO MEET: ASTM E84-95, FLAME SPREAD RATING CLASS A (10).
FIELD VERIFY ALL AWNING CONDITION AND SIZES.

(8) BLACK GOOSENECK FIXTURES ARE TO BE INSTALLED BY THE G.C.

ALL SPECIFIED MATERIALS MUST BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND THE MANUFACTURER'S REQUIREMENTS SHOULD BE IDENTIFIED BY THE CONTRACTOR PRIOR TO INSTALLATION AND DURING THE BID PHASE TO AVOID CHANGE ORDERS.

(9) LADDER, PAINT BLACK

⬡ GLAZING, REFER TO SHEET A117

◯ DOORS, REFER TO SHEET A115

"ZAXBY'S CREAM" - PAINT MIXTURE	
COLORANT	1/32 OZ.
R2	1
G2	1
N1	7
Y3	57
BASE 1 GALLON	A82W51
A-100 SATIN EXTERIOR LATEX HOUSE PAINT EXTRA WHITE	

"ZAXBY'S DARK TAN" - PAINT MIXTURE	
COLORANT	1/32 OZ.
B1	37
R2	12
Y3	2Y21
W1	63
BASE 1 GALLON	A82W51
A-100 SATIN EXTERIOR LATEX HOUSE PAINT EXTRA WHITE	

ORMOND BEACH ARCH. REQUIREMENTS:

Design guidelines incorporated: style: **NEO - ECLECTIC**

A - MASSING & ARCHITECTURAL ELEMENTS:
A1 - Massing elements every 25'
A2 - Massing element @ dining nook w/ high bay windows that face a major public way
A3 - Overhangs
A4 - Deep detailed Cornice treatment
A5 - Decorative Brackets
A6 - Building wall offsets
A7 - Architectural Tower elements
A8 - Variations in roof height
A9 - Projections and recessed sections
A10 - Plantation shutters

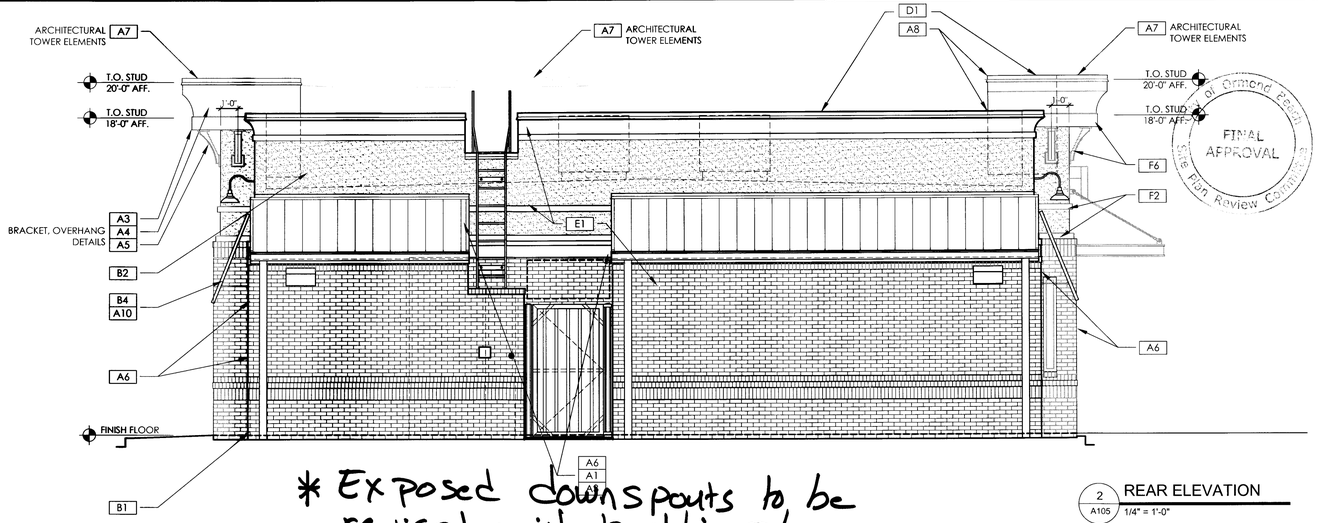
B - FINISH MATERIALS:
B1 - Brick
B2 - Synthetic stucco
B3 - Glass
B4 - Steel plantation shutters w/ decorative louvers

C - ENTRYWAYS DOORS & WINDOWS:
C1 - Side entries with individual foyers that are recessed and provide covered entries
C2 - Extensive landscaping plan - (See civil/landscape)
C3 - Greater than 50% fenestration on street facing side of building

D - ROOFLINE:
D1 -Major plane changes combined with Architectural elements or towers present on ALL major facades

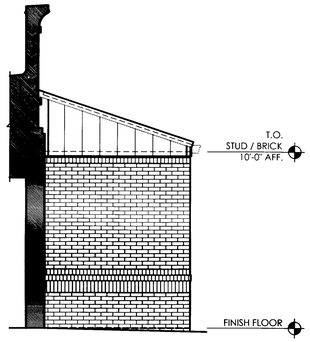
E - COLORS:
E1 - Incorporates rust and clay colored earth tones with brick for base
Pastels with light yellow / cream for main field of facades
Sand / clay colored earth tones with decorative banding incorporated about the whole building and for Cornice treatment to provide an Architectural contrast

F - FACADES REQUIREMENTS:
F1 - Color change : Brick base, field of facades
F2 - Arch. Banding : Incorporated throughout on all facades
F3 - Expression of Architectural bays: Expressed at towers and through massing
F4 - Material and Texture change: Though use of alternating materials, brick, stucco etc.
F5 - Synthetic stucco has two separate textures one for field and a finer texture for details
F6 - Cornice treatment brackets, banding and appurtenant Architectural details.

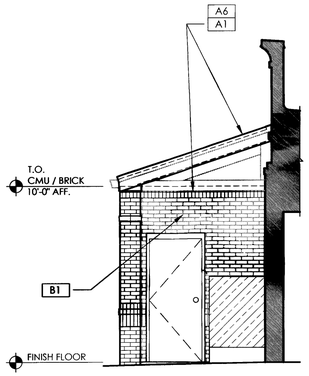


* Exposed downspouts to be revised with building plans.

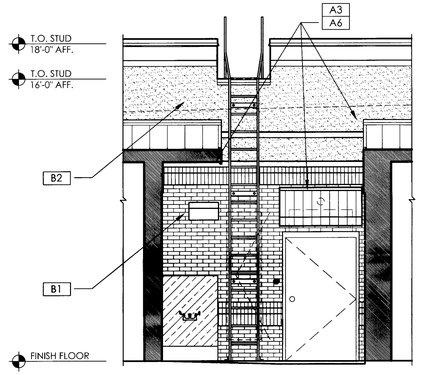
2 A105 REAR ELEVATION 1/4" = 1'-0"



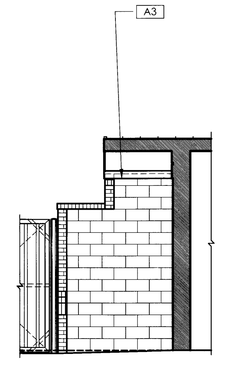
8 A105 REAR ELEVATION @ CAN WASH 1/4" = 1'-0"



4 A105 REAR ELEVATION @ CAN WASH 1/4" = 1'-0"



3 A105 REAR ELEVATION (HIDDEN) 1/4" = 1'-0"

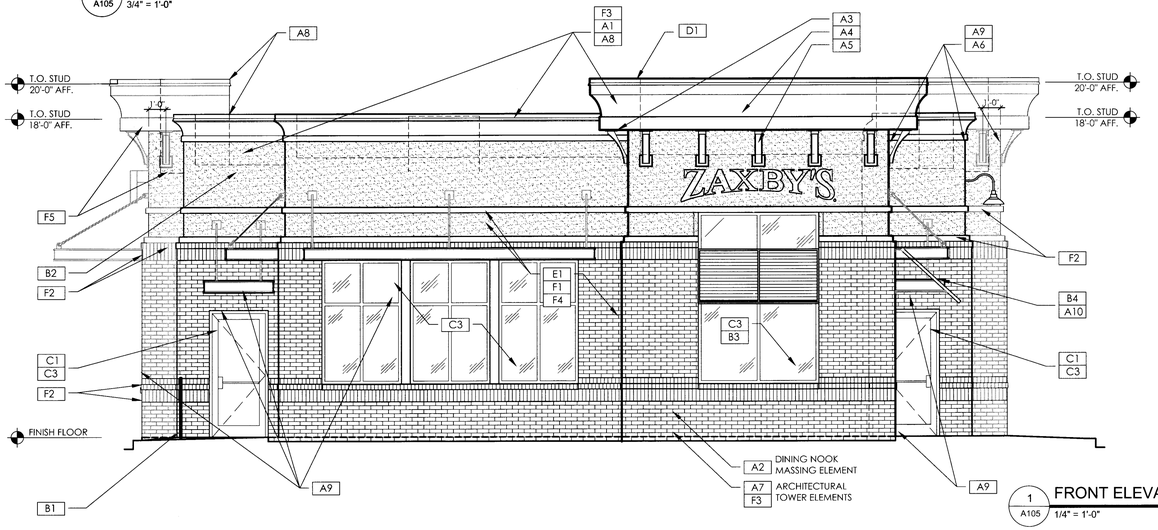


9 A105 ELEVATION (PARTIAL) 1/4" = 1'-0"

5 A105 NOT USED 3/4" = 1'-0"

6 A105 NOT USED N.T.S.

7 A105 NOT USED N.T.S.



1 A105 FRONT ELEVATION 1/4" = 1'-0"

HFR HILLFOLEY ROSSI & ASSOCIATES
ARCHITECTURE ENGINEERING
3680 Pleasant Hill Road Suite 200 Duluth, Georgia 30096
p 770.622.9858 f 770.622.9535
www.hillfoleyrossi.com

ZAXBY'S

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NOT FOR CONSTRUCTION

ISSUE / REVISIONS:

DATE	DESCRIPTION:
XX-XX-XX	REVISION DESCRIPTION

SEAL:

These plans constitute a Prototype only and are not to be used for construction purposes without appropriate site-specific modifications to these prototype plans. Zaxby's Franchising Incorporated(ZFI) shall have no liability as a result of the use of these prototype plans for construction purposes without the appropriate site-specific modifications.

PROJECT NAME & ADDRESS

ZAXBY'S
90 MODEL
1287 WEST GRANADA BLVD.
ORMOND BEACH, FL

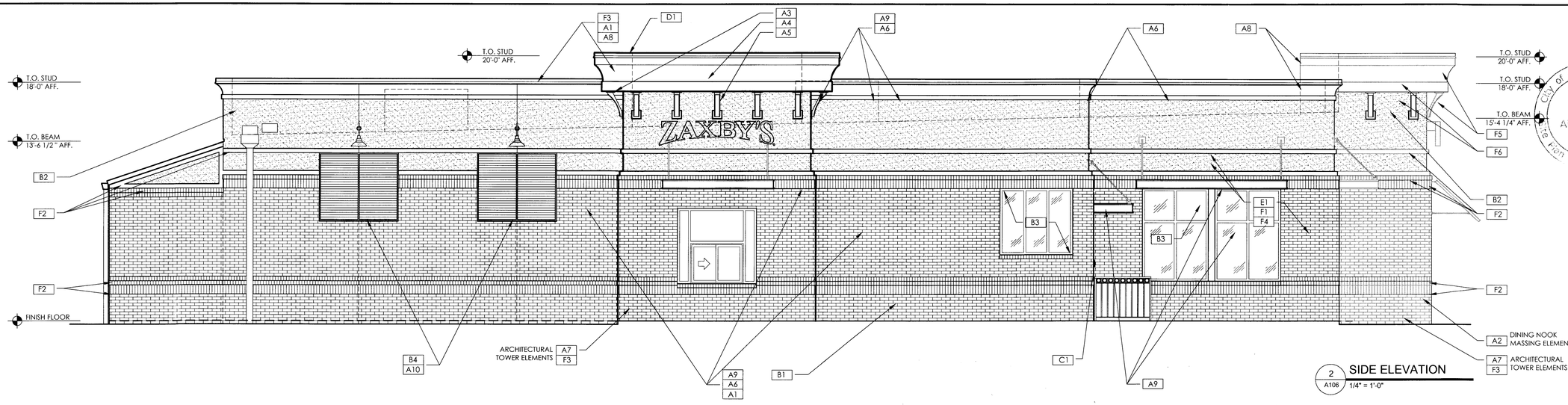
PROTOTYPE SERIES
90 BR (C) - SDT

SHEET TITLE:
FRONT & REAR EXTERIOR ELEVATIONS FOR CITY APPROVAL

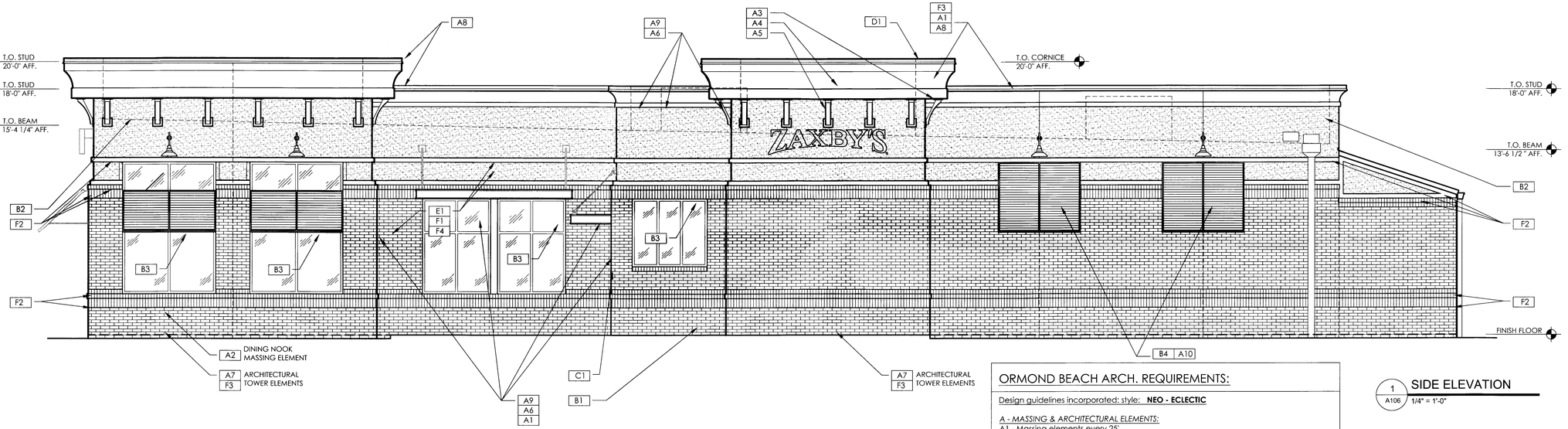
PROJECT #:
14-859.00

A105A

H:\CadL Architectural\-14\14-859 ZX Ormond Beach, FL\10 Drawings\14-859 90-A105a Front & Rear Elevations.dwg, 9/4/2014 9:53:05 AM, vitality



2 A106 SIDE ELEVATION
1/4" = 1'-0"



1 A106 SIDE ELEVATION
1/4" = 1'-0"

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MORTAR - BUFF BRICK (BORAL BRICK)

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(1) COLOR: BRICK - MOSSTOWN (CHEROKEE BRICK)
MORTAR - ANTIQUE BUFF (CEMEX)

15# ROOFING FELT OVER ALL SUBSTRATES OR SEALED DENS GLASS GOLD SHEATHING.
USE ICE & WATER SHIELD BY W.R. GRACE WHERE INDICATED, SEE SECTIONS & SPECIFICATIONS.
GROUT VOID SOLID @ FENCE AND BELOW F.F. PROVIDE VAPOR BARRIER AS IDICATED.

CONTINUOUS, THROUGH WALL FLASHING, EPDM (BY W.R. GRACE) OR EQUAL, AT BOTTOM OF WALLS & ABOVE OPENINGS. CUT FLASHING FLUSH WITH EXT. FACE. PROVIDE CELL VENT TYPE WEEPS, ABOVE FLASHING @ 32" O.C. MAX.

3/8" THICK MORTAR JOINTS. ASTM C-270, TYPE N.

HOHMANN & BARNARD, INC. HORIZ REINF. ON CMU FENCE
HOHMANN & BARNARD, INC., DW-10 HS TRIANGULAR MTL. WALL TIES (OR EQUAL) @ 16" O.C. VERT. & AT HORIZ. STUD SPACING, 14 GA. SEE SECTIONS & SPECS. ATTACH TO STUDS WITH (2) 10 - 16 x 1-1/2" SCREWS.

(2) STANDING SEAM MTL. ROOFING - SEE (4)

(3) STO TO HAVE "SWIRL" FINISH AND CAN BE PAINTED.
FINISH COLORS, BELOW AND ON SHEET A-103 CAN BE PAINTED.
STO BRAND EIFS ON CMU, OR SHEATHING:
"STO ESSENCE" SPEC. E100
ICC EVALUATION REPORT NO. ESR-1720

(3F) = FIELD COLOR: SHERWIN WILLIAMS ZAXBY'S CREAM
(3A) = ACCENT COLOR: SHERWIN WILLIAMS COLOR DARK TAN

(4) PREFINISHED, METAL COPING / GRAVEL STOP & ROOFING
COLOR: COPINGS: MATCH SURROUNDING CORNICE COLOR
ROOFING @ REAR SHED: BLACK
MATERIAL SHALL BE 24 GAUGE, HOT DIPPED GALVANIZED STEEL OR 0.032" THICK ALUM. FINISH SHALL BE KYNAR 500 FLUOROCARBON COATING.
ACCEPTABLE MANUFACTURES ARE AS FOLLOWS:

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B. PAC-CLAD
C. APPROVED EQUALS WILL BE ACCEPTED

PROVIDE ALL RELATED ACCESSORIES; FLASHING, END CLOSURES, GUTTERS, DOWNSPOUTS, ETC. IN MATCHING COLOR. INSTALL ALL MATERIALS PER MANUF.'S RECOMMENDATIONS. A MANUFACTURER'S WARRANTY AGAINST DISCOLORATION & WEATHER-TIGHTNESS WILL BE REQUIRED. SEE SPECIFICATIONS.

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(5) STOREFRONT: WINDOWS & ENTRANCE DOORS (BLACK ANODIZED)

ACCEPTABLE MANUFACTURER: KAWNEER. REFER TO SPECIFICATIONS.

GLAZING SHALL BE IN ACCORDANCE W/ THE FOLLOWING VALUES:

GLAZING - UNCOATED TINTED GLASS

APPEARANCE	LOCATION	TYPE & THICKNESS	U FACTOR	SHGC	VLT	VLR
GRAY TINT	EXTERIOR SIDE	1/4" TEMPERED	.47	.45	39.6	7.3
CLEAR -NO TINT	INTERIOR SIDE	1/4" TEMPERED	.58	.69	79	15

CONTACT PERSON @ QUALITY GLASS: JOHNNY DOSTER @ 706-548-4481

(6) SELF-CLOSING & TEMPERED GLASS
DRIVE-THRU WINDOW: ROUGH OPENING = 6'-0" WIDE x 5'-8" HIGH
QUICKSERV MODEL SC-4030-IP SELF CLOSING HORIZ. SLIDER WINDOW
FIT INTO A "STOREFRONT" FRAME, MATCH STOREFRONT IN COLOR & GLAZING.

QUICKSERV-DIVISION OF MCE SYSTEMS CORP.
P.O. BOX 40466, HOUSTON, TX 77240-0466
P. 800-388-8307 F. 713-462-1936
STOREFRONT & SLIDER ALSO BY:
QUALITY GLASS P. 706-548-4481

(7) PLANTATION STYLE AWNINGS
PROJECT AWNING: ALUM. FRAME W/ RC SLATS, BLACK
STRUCTURE BY AWNING SUPPLIER
ANY FABRIC TO MEET: ASTM E84-95, FLAME SPREAD RATING CLASS A (10).
FIELD VERIFY ALL AWNING CONDITION AND SIZES.

(8) BLACK GOOSENECK FIXTURES ARE TO BE INSTALLED BY THE G.C.

ALL SPECIFIED MATERIALS MUST BE INSTALLED PER MANUFACTURER'S REQUIREMENTS, ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND THE MANUFACTURER'S REQUIREMENTS SHOULD BE IDENTIFIED BY THE CONTRACTOR PRIOR TO INSTALLATION AND DURING THE BID PHASE TO AVOID CHANGE ORDERS.

(9) LADDER, PAINT BLACK

⬡ GLAZING, REFER TO SHEET A117

◯ DOORS, REFER TO SHEET A115

ORMOND BEACH ARCH. REQUIREMENTS:

Design guidelines incorporated: style: **NEO - ECLECTIC**

A - MASSING & ARCHITECTURAL ELEMENTS:
A1 - Massing elements every 25'
A2 - Massing element @ dining nook w/ high bay windows that face a major public way
A3 - Overhangs
A4 - Deep detailed Cornice treatment
A5 - Decorative Brackets
A6 - Building wall offsets
A7 - Architectural Tower elements
A8 - Variations in roof height
A9 - Projections and recessed sections
A10 - Plantation shutters

B - FINISH MATERIALS:
B1 - Brick
B2 - Synthetic stucco
B3 - Glass
B4 - Steel plantation shutters w/ decorative louvers

C - ENTRYWAYS DOORS & WINDOWS:
C1 - Side entries with individual foyers that are recessed and provide covered entries
C2 - Extensive landscaping plan - (See civil/landscape)
C3 - Greater than 50% fenestration on street facing side of building

D - ROOFLINE:
D1 -Major plane changes combined with Architectural elements or towers present on ALL major facades

E - COLORS:
E1 - Incorporates rust and clay colored earth tones with brick for base
Pastels with light yellow / cream for main field of facades
Sand / clay colored earth tones with decorative banding incorporated about the whole building and for Cornice treatment to provide an Architectural contrast

F - FACADES REQUIREMENTS:
F1 - Color change : Brick base, field of facades
F2 - Arch. Banding : Incorporated throughout on all facades
F3 - Expression of Architectural bays: Expressed at towers and through massing
F4 - Material and Texture change: Though use of alternating materials, brick, stucco etc.
F5 - Synthetic stucco has two separate textures one for field and a finer texture for details
F6 - Cornice treatment brackets, banding and appurtenant Architectural details.

FIELD COLOR: SHERWIN WILLIAMS

"ZAXBY'S CREAM" - PAINT MIXTURE

COLORANT	1/32 OZ.
R2	1
G2	1
N1	7
Y3	57

BASE 1 GALLON A82W51
A-100 SATIN EXTERIOR LATEX
HOUSE PAINT EXTRA WHITE

ACCENT COLOR: SHERWIN WILLIAMS

"ZAXBY'S DARK TAN" - PAINT MIXTURE

COLORANT	1/32 OZ.
B1	37
R2	12
Y3	2Y21
W1	63

BASE 1 GALLON A82W51
A-100 SATIN EXTERIOR LATEX
HOUSE PAINT EXTRA WHITE

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City of Ormond Beach Site Plan Review Committee
FINAL APPROVAL

ZAXBY'S
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ISSUE / REVISIONS:

DATE	DESCRIPTION:
XX-XX-XX	REVISION DESCRIPTION

SEAL:

These plans constitute a Prototype only and are not to be used for construction purposes without appropriate site-specific modifications to these prototype plans. Zaxby's Franchising Incorporated(ZFI) shall have no liability as a result of the use of these prototype plans for construction purposes without the appropriate site-specific modifications.

PROJECT NAME & ADDRESS

ZAXBY'S
90 MODEL
1287 WEST GRANADA BLVD.
ORMOND BEACH, FL

PROTOTYPE SERIES
90 BR (C) - SDT

SHEET TITLE:
DRIVE THRU & RIGHT EXTERIOR ELEVATIONS FOR CITY APPROVAL

PROJECT #:
14-859.00

A106A

H:\Cad_Architecture\I-14\14-859 ZX Ormond Beach, FL\10 Drawings\14 859 90-A106a Drive Thru & Right Side Elevations - Copy.dwg, 9/4/2014 9:37:06 AM, vbailey