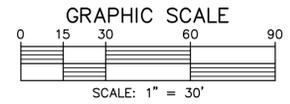


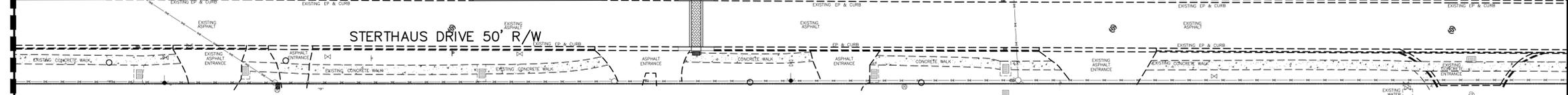
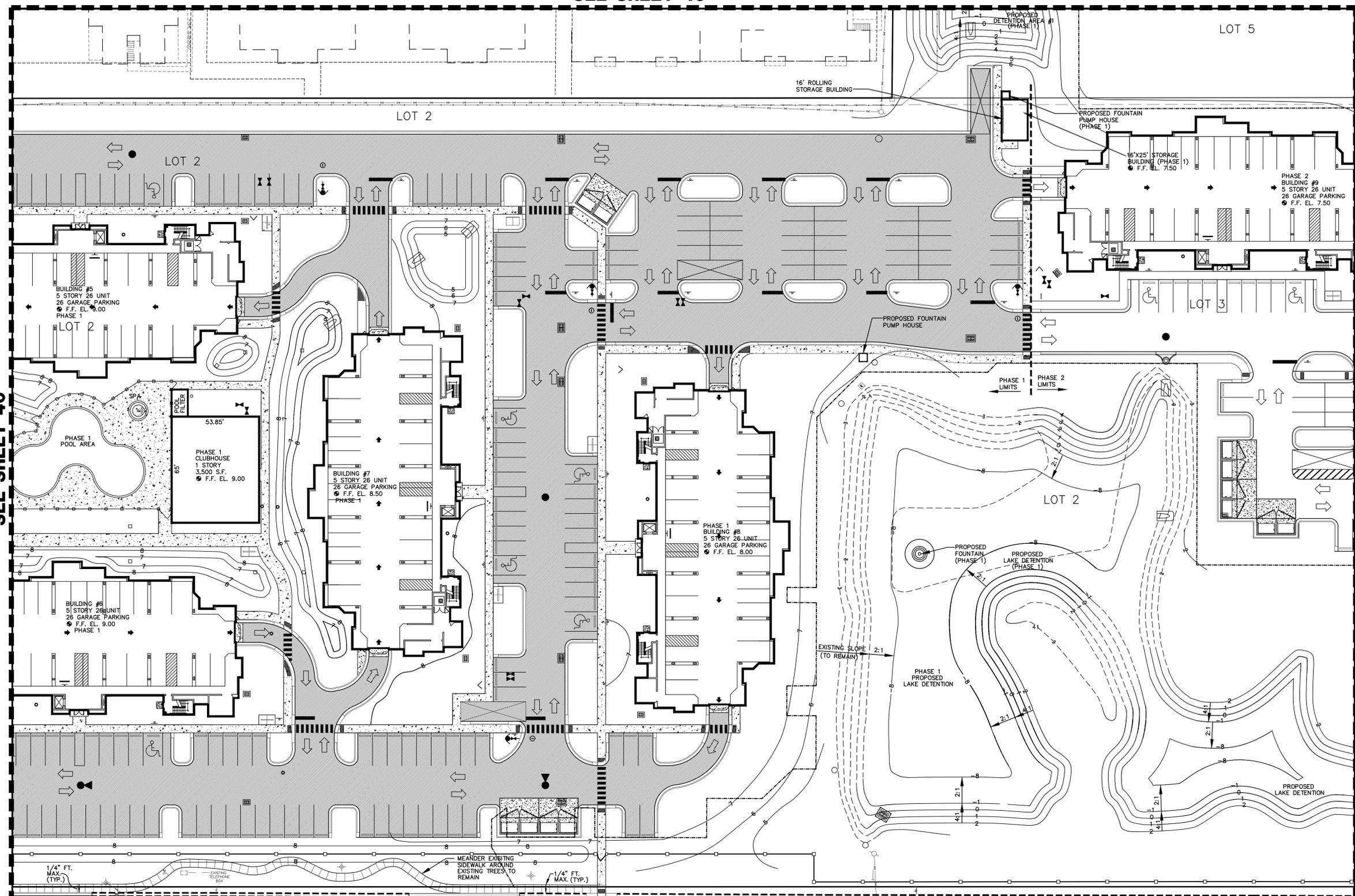


SEE SHEET 43



SEE SHEET 40

SEE SHEET 42

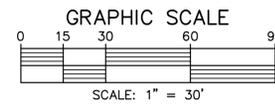
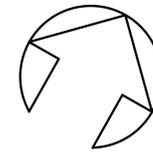
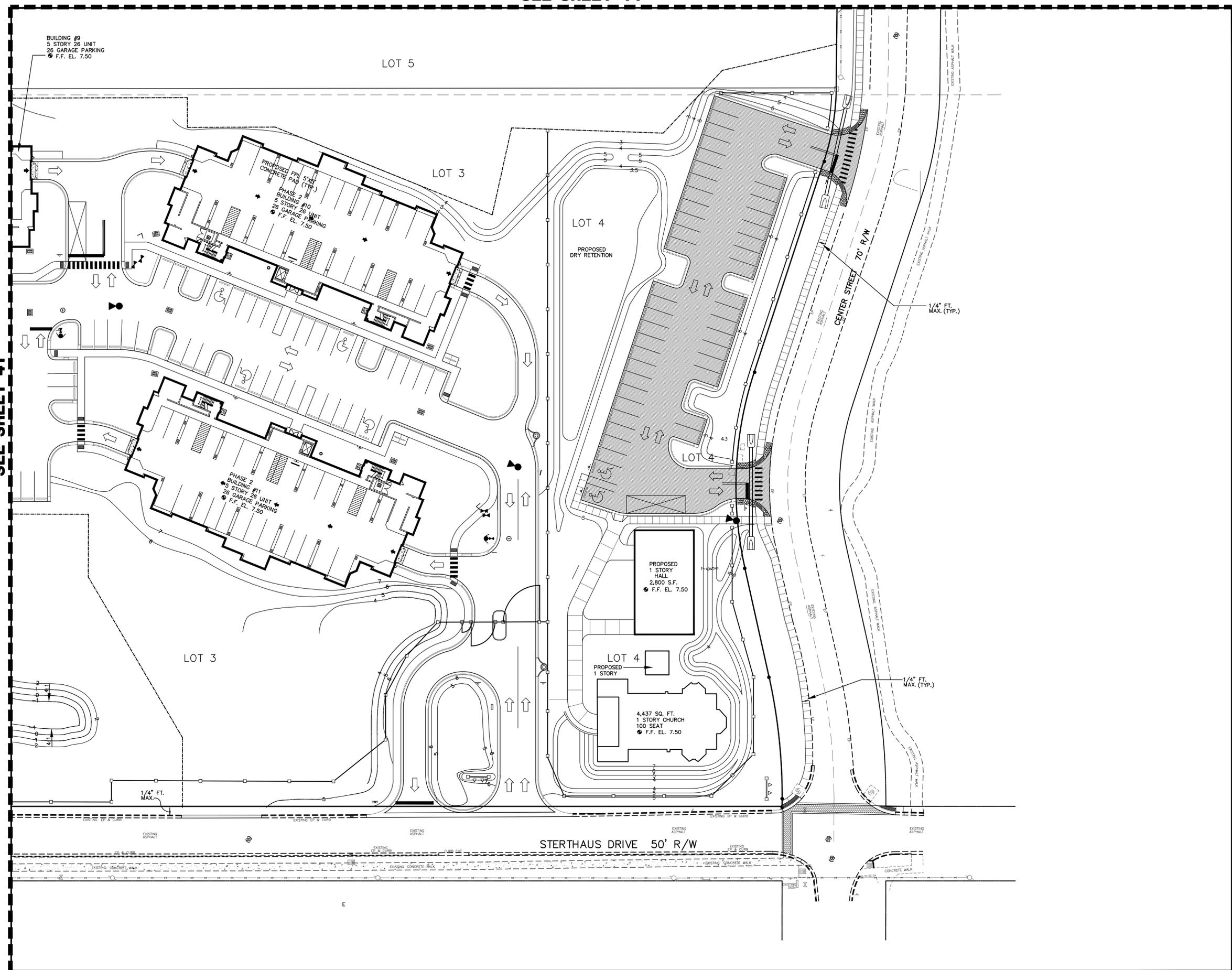


NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS			
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117			
(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com			
CERTIFICATION OF AUTHORIZATION NUMBER: 00003910			
IRRIGATION PLAN			
ORMOND RENAISSANCE CONDOMINIUM			
ORMOND BEACH * FLORIDA			
FILE NO.	13-49SP.DWG	DESIGNER:	P.MYNCHENBERG
DATE:	5.23.14	CADD TECH:	C.HARDEN
SCALE:	1"=30'	SHEET	41 OF 56
			SEAL

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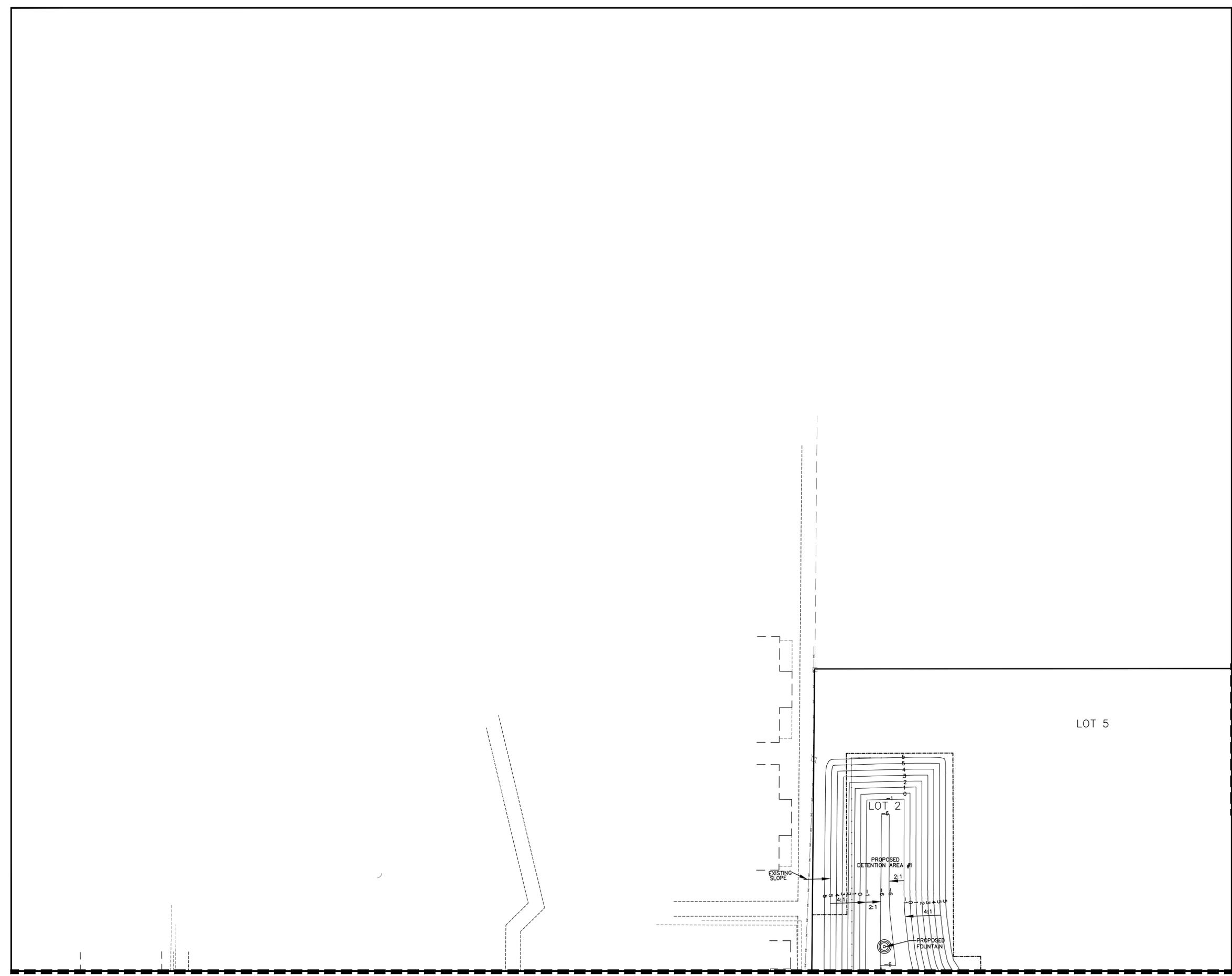
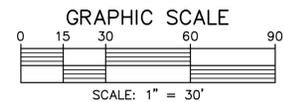
SEE SHEET 44

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NO.	DATE	DESCRIPTION	BY
REVISIONS			
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DATE:	5.23.14	CADD TECH:	C.HARNDEN
SCALE:	1"=30'	SHEET	42 OF 56
			SEAL

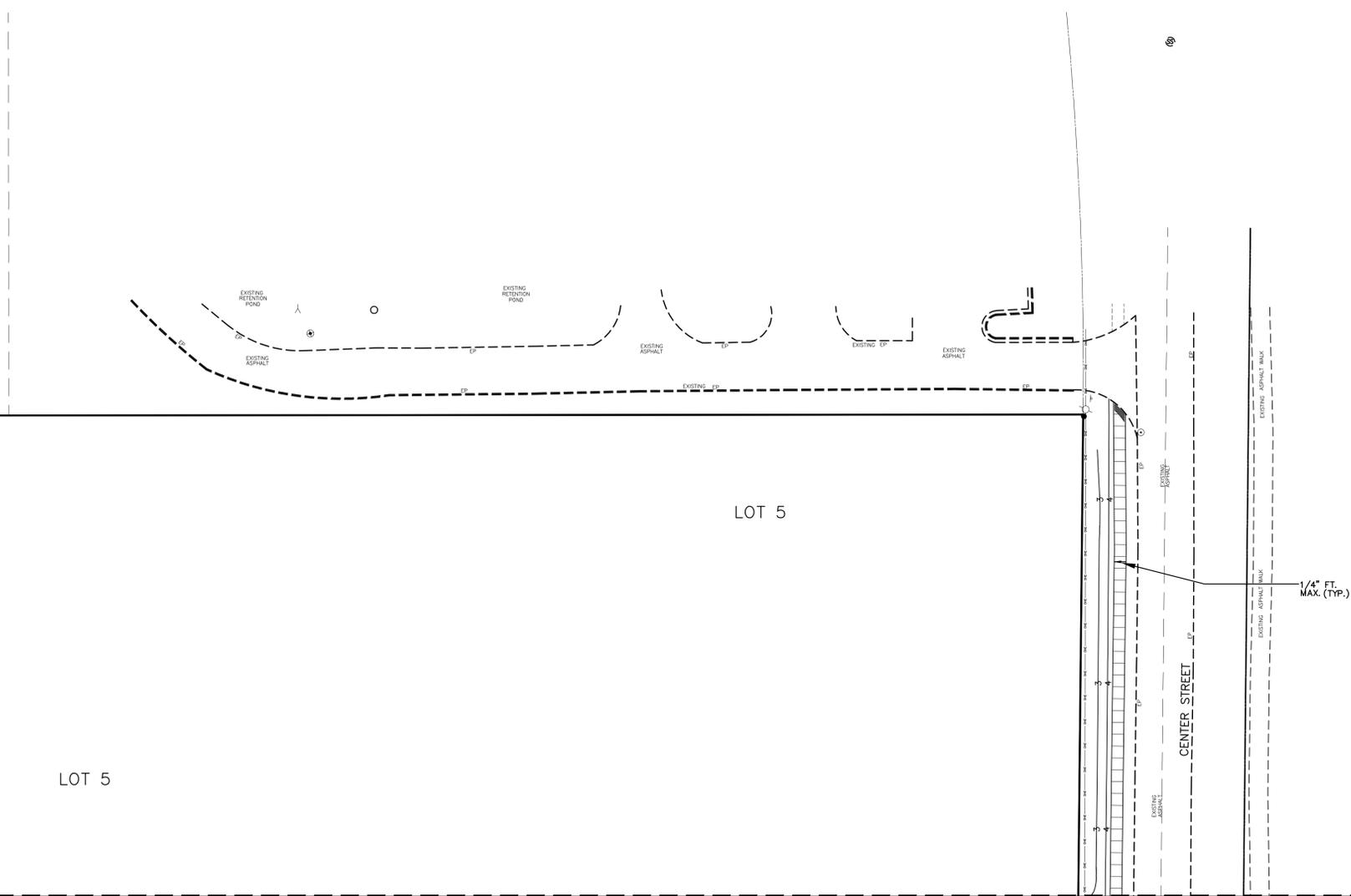
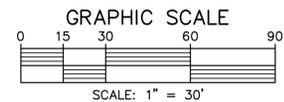
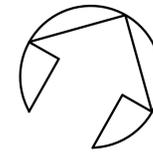
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**SEE SHEET 44**

**SEE SHEET 41**

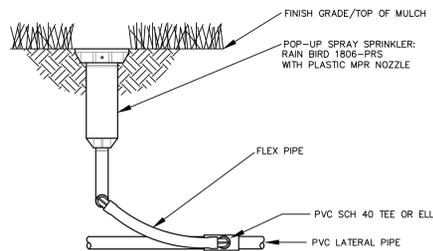
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ORMOND BEACH * FLORIDA			
FILE NO.	13-49SP.DWG	DESIGNER:	P.MYNCHENBERG
DATE:	5.23.14	CADD TECH:	C.HARNDEN
SCALE:	1"=30'	SHEET	43 OF 56
			SEAL



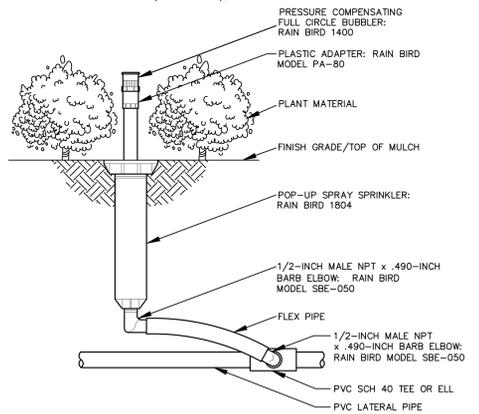
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NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS			
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SCALE:	1"=30'	SHEET	44 OF 56
			SEAL

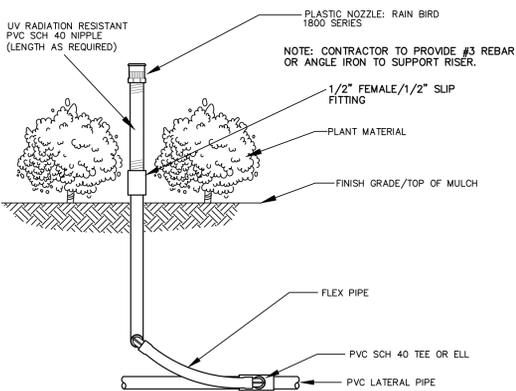


**MODEL 1806-PRS 6" POP-UP**  
FIXED-SPRAY (MPR SERIES), FLEX PIPE, PRESSURE REGULATING

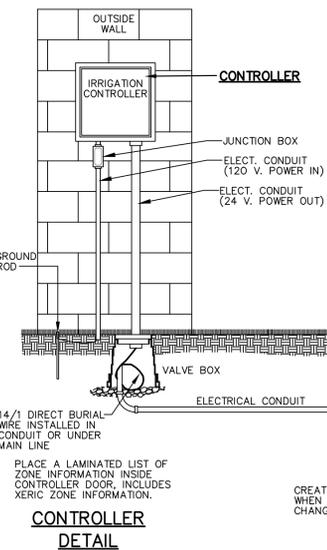


**MODEL 1812-PRS 12" POP-UP**  
FIXED-SPRAY (MPR SERIES), FLEX PIPE, PRESSURE REGULATING

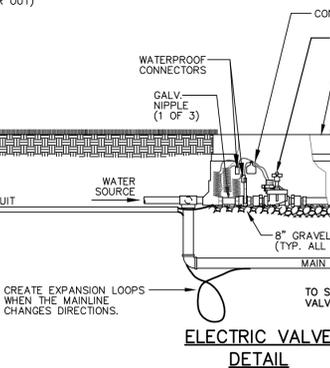
**SPRINKLERS: PRESSURE COMPENSATING FULL-CIRCLE BUBBLER**  
RAIN BIRD N-1400 BUBBLER (MPR SERIES) ON 1804 POP-UP, FLEX PIPE



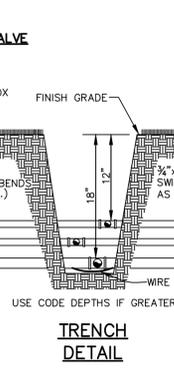
**MODEL: 1800 NOZZLE ON RISER**  
FIXED SPRAY, FLEX PIPE



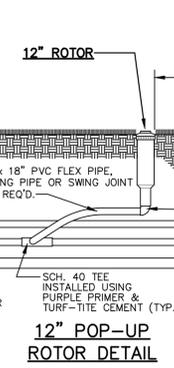
**CONTROLLER DETAIL**



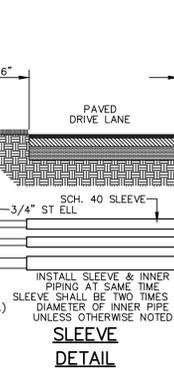
**ELECTRIC VALVE DETAIL**



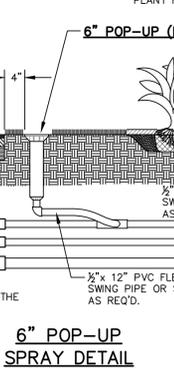
**TRENCH DETAIL**



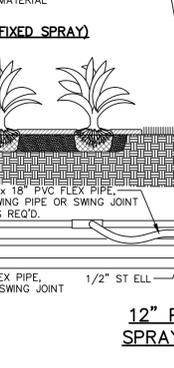
**12" POP-UP ROTOR DETAIL**



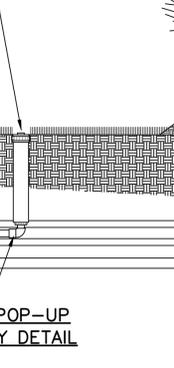
**SLEEVE DETAIL**



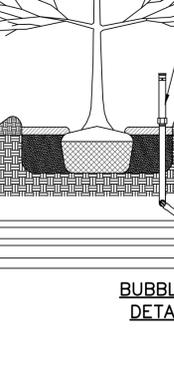
**6" POP-UP SPRAY DETAIL**



**12" POP-UP SPRAY DETAIL**

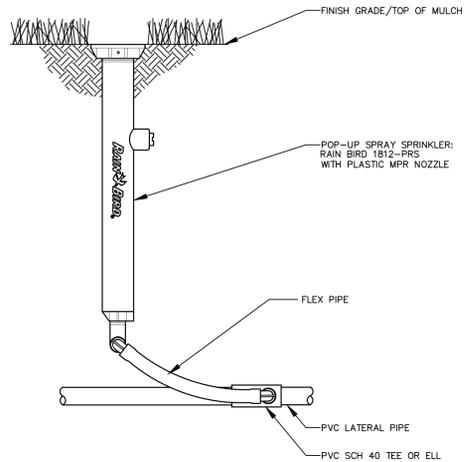


**BUBBLER DETAIL**



**SHRUB SPRAY DETAIL**

**TYPICAL IRRIGATION DETAILS**  
NOTE: REQUIREMENTS VARY; CHECK LOCAL CODES PRIOR TO INSTALLATION.



**MODEL 5500 SERIES POP-UP ROTOR**  
GEAR DRIVE (5500 NOZZLE), FLEX PIPE, PRESSURE REGULATING

**5500 NOZZLE PERFORMANCE DATA CHART**

NOZZLE NO.	PSI	GPM	RADIUS
2	40	1.6	37'
3	40	2.7	39'
4	40	2.9	41'
5	40	3.5	41'
6	40	4.8	45'
8	40	6.4	45'
10	40	7.5	41'
12	40	10.1	39'

**5500 SHORT RADIUS NOZZLE PERFORMANCE DATA CHART**

NOZZLE NO.	PSI	GPM	RADIUS
18S	40	1.5	19'
22S	40	1.6	21'
26S	40	1.9	25'
30S	40	1.8	29'

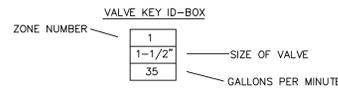
**GENERAL IRRIGATION NOTES**

1. THE CONTRACTOR SHALL REFER TO THE LANDSCAPING PLAN WHEN TRENCHING TO LAY PIPE TO AVOID NEW & EXISTING TREES & LARGE SHRUBS.
2. ALL WIRING FROM THE IRRIGATION CONTROLLER TO THE REMOTE CONTROL VALVES SHALL BE UF-14/1 DIRECT BURIAL CABLE. ALL WIRE SPLICES SHALL BE MADE IN VALVE BOXES USING ONLY RAIN BIRD CONNECTORS & SEALANT.
3. UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE SPRAY HEAD SHALL BE 1/2" PVC PIPING. UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE ROTOR HEAD SHALL BE 3/4" PVC PIPING.
4. ALL MAIN LINE PIPING SHALL BE BURIED TO HAVE A MINIMUM COVER OF 18". ALL LATERAL PIPING DOWNSTREAM OF THE MAIN LINE SHALL BE BURIED TO HAVE A MINIMUM COVER OF 12".
5. THE CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT ON THE EXACT LOCATION OF THE IRRIGATION CONTROLLERS.
6. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS & DIMENSIONS SHOWN ON PLANS AT THE SITE PRIOR TO COMMENCEMENT OF WORK UNDER THIS CONTRACT.
7. ALL IRRIGATION INSTALLATION SHALL CONFORM TO LOCAL CODES & REGULATIONS.
8. ALL PIPING ON THE PLANS IS DIAGRAMMATICALLY ROUTED FOR CLARITY & SHALL BE ROUTED TO AVOID PLANTS. DESIGN MODIFICATIONS SHALL ONLY BE MADE AS NECESSARY TO MEET FIELD CONDITIONS & ONLY UPON APPROVAL OF THE LANDSCAPE ARCHITECT. PIPING SHOWN RUNNING PARALLEL UNDER SIDEWALKS ADJACENT TO PLANTED AREAS IS FOR DESIGN CONVENIENCE ONLY & SHALL BE INSTALLED WITHIN THE PLANTED AREA.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ADJUSTMENT OF THE SPRINKLERS ARC & RADIUS TO ASSURE 100 PERCENT COVERAGE.
10. 115 VOLT, SINGLE PHASE ELECTRICAL POWER FOR THE IRRIGATION CONTROLLERS SHALL BE COORDINATED BY THE IRRIGATION CONTRACTOR WITH THE ELECTRICAL ENGINEERING DRAWINGS. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL HOOK-UP INCLUDING ELECTRICAL MATERIALS.
11. VALVES LOCATED OUTSIDE OF RIGHT-OF-WAY ARE FOR DESIGN PURPOSES ONLY & SHALL BE LOCATED INSIDE OF RIGHT-OF-WAY.
12. ANY CHANGES TO IRRIGATION ZONE PIPING TO BE APPROVED BY THE CITY LANDSCAPE ARCHITECT PRIOR TO WORK BEING DONE.
13. ALL XERIC IRRIGATION ZONES SHALL HAVE RUN TIMES REDUCED OR ELIMINATED AFTER SUFFICIENT PLANT ESTABLISHMENT. THIS NOTE TO APPEAR INSIDE THE CONTROLLER FOR MAINTENANCE PERSONNEL INFORMATION.

**SPECIFIC IRRIGATION NOTES**

1. IRRIGATION SPRAY HEADS SHALL BE PRESSURE REGULATING.
2. SYSTEM SUPPLY REQUIREMENTS ARE: 40 GPM @ 40 PSI AT WATER SOURCE. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF DESIGN FLOW RATE AND PRESSURE DOES NOT EXIST.
3. LATERAL PIPES SHALL BE SIZED SUCH THAT THE WATER VELOCITY DOES NOT EXCEED 5 FEET/SECOND. CONTRACTOR SHALL APPLY THE FOLLOWING TABLE:

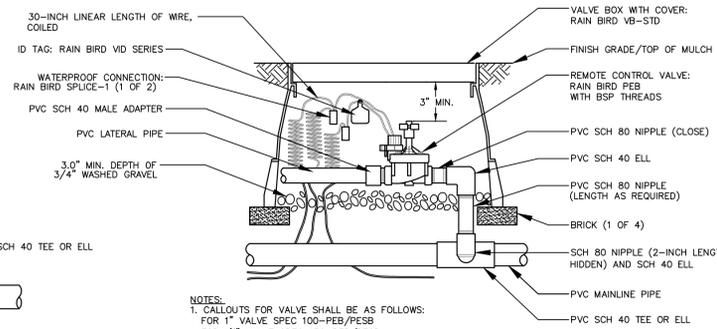
PIPE SIZE (MIN)	FLOW
1/2"	<6 GPM
3/4"	<10 GPM
1"	<15 GPM
1 1/4"	<26 GPM
1 1/2"	<36 GPM
2"	<50 GPM
2 1/2"	<80 GPM
3"	<120 GPM
4"	<200 GPM



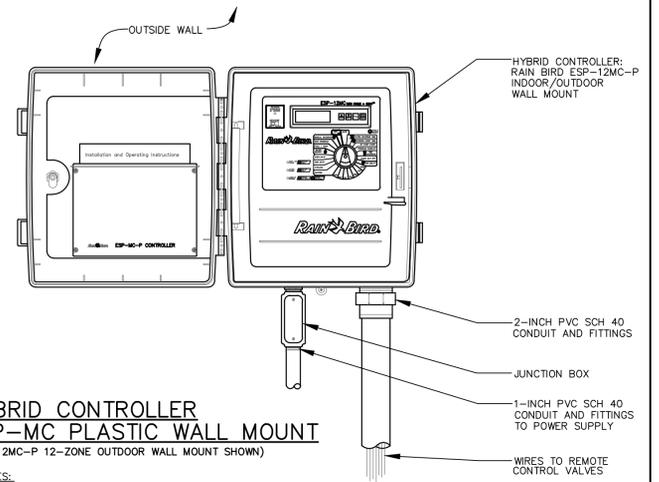
VALVE KEY ID-BOX  
ZONE NUMBER: 1  
SIZE OF VALVE: 1-1/2"  
GALLONS PER MINUTE: 35

**IRRIGATION LEGEND**

- RAIN BIRD 1812-PRS SERIES - 12" POP-UP SPRAY HEAD, INSTALLED AS SHOWN, SEE NOZZLE CHART
- RAIN BIRD 1806-PRS SERIES - 6" POP-UP SPRAY HEAD, INSTALLED AS SHOWN, SEE NOZZLE CHART
- ⊗ RAIN BIRD MODEL 5500 SERIES SPRINKLER-GEAR DRIVE, FULLY ADJUSTABLE
- ⊗ RAIN BIRD PEB OR PESB SERIES - ELECTRIC CONTROL VALVE INSTALLED IN VB-STD VALVE BOX.
- ◀ DENOTES PROPOSED VALVE (SIZE AS SHOWN)
- DENOTES PROPOSED IRRIGATION MAIN, SCH. 40 (SIZE AS SHOWN)
- - - DENOTES PROPOSED IRRIGATION LATERAL SCH. 40 (SIZE AS SHOWN)
- ≡ ≡ ≡ P.V.C. SLEEVE SIZE AS SHOWN
- DENOTES PROPOSED RAIN SENSOR, RAIN BIRD RSD SERIES
- DENOTES PROPOSED RAIN BIRD ESP-MC SERIES CONTROLLER

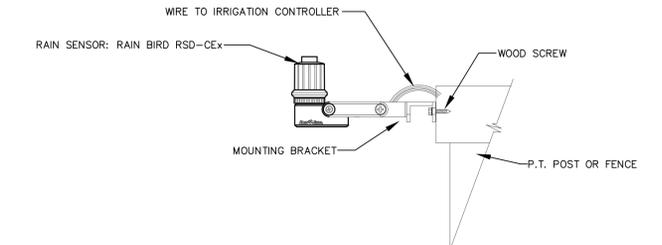


**VALVES: PEB OR PESB SERIES**  
PLASTIC VALVE, ELECTRIC (MODEL PEB SHOWN)

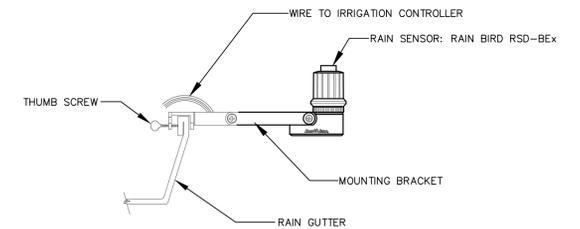


**HYBRID CONTROLLER ESP-MC PLASTIC WALL MOUNT**  
(ESP-12MC-P 12-ZONE OUTDOOR WALL MOUNT SHOWN)

- NOTES:  
1. MODEL NUMBERS FOR DIFFERENT NUMBER OF ZONES ARE AS FOLLOWS:  
ESP-8MC-P FOR 8-ZONE  
ESP-16MC-P FOR 16-ZONE  
ESP-24MC-P FOR 24-ZONE  
ESP-32MC-P FOR 32-ZONE  
ESP-40MC-P FOR 40-ZONE  
2. FOR INDOOR WALL MOUNT, JUST CHANGE NOTATION ON DETAIL.  
3. CONTRACTOR MAY SUBSTITUTE STEEL WALL MOUNT IN LIEU OF PLASTIC WALL MOUNT AT NO ADDITIONAL COST TO THE OWNER.



**MODEL RSD-CEx POST/FENCE MOUNTING**



**MODEL RSD-BEx GUTTER MOUNTING**

**RAIN SENSOR MOUNTING DETAILS**

NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
IRRIGATION DETAILS			
ORMOND RENAISSANCE CONDOMINIUM ORMOND BEACH * FLORIDA			
FILE NO. 13-49LJD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARDEN		
SCALE: NONE	SHEET 45 OF 56	SEAL	



**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".

INDEX  
M-16A  
M-16B  
MARCH 2014

- 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.
- 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.
- 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.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND EROSION CONTROL STRUCTURES 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.
- 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 FOREMENTIONED 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.
- AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. SUFFICIENT GRASS COVERAGE IS TO BE ESTABLISHED WITHIN TWO WEEKS.
- 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.
- 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.
- ABSOLUTELY NO BURYING OF CLEARED MATERIALS IS PERMITTED.
- 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 PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED.
- 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.
- 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).
- 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.
- 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.
- 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.
- 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.
- ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE.
- 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.
- 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:
  - 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.
  - EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE WEEKLY INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES.
  - 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.
  - MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
  - ADD EROSION AND SEDIMENT CONTROL MEASURES AS SITE CONDITIONS CHANGE.

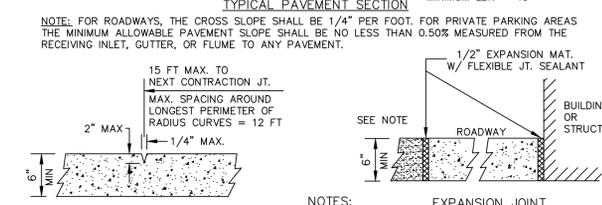
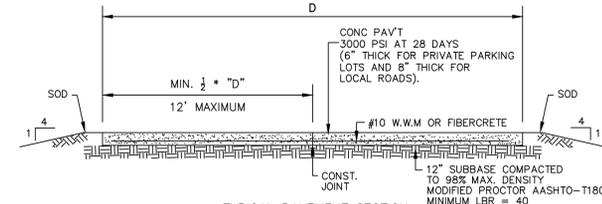
**ROADWAY CONSTRUCTION NOTES**

- ALL RIGHT OF WAY OTHER THAN ROADWAY AREAS SHALL BE SEEDED AND MULCHED OR SODDED. ALL SLOPES GREATER THAN 6% SHALL BE SODDED. THE CITY RESERVES THE RIGHT TO REQUIRE SODDING IN SPECIAL AREAS WHERE EROSION IS A CONCERN.
- THE FOLLOWING WILL BE THE STANDARD PROTECTION FOR DITCHES UNLESS DRAINAGE CALCULATIONS INDICATE OTHERWISE:
 

SWALE PROFILE GRADES	PROTECTION REQUIRED
0.2% - 1.0%	SEEDING AND MULCHING
1.0% - 4.0%	SODDING
4.0% AND GREATER	DITCH PAVING
- ALL FRANCHISE UTILITY CROSSINGS, INCLUDING BUT NOT LIMITED TO FPL, BELLSOUTH AND CABLE SHALL BE INSTALLED PRIOR TO INSTALLATION AND COMPACTION OF THE ROAD SUB BASE. ANY CROSSINGS AFTER INSTALLATION OF THE SUB BASE SHALL BE BY DIRECTIONAL BORE.
- THE LIMITS OF STABILIZED SUB BASE SHALL EXTEND TO A DEPTH OF SIX INCHES (6") BELOW THE BOTTOM OF THE BASE AND OUTWARD TO TWELVE INCHES (12") BEYOND THE CURB.
- THE STABILIZING MATERIAL, IF REQUIRED, SHOULD BE A HIGH BEARING VALUE SOIL, SAND-CLAY, LIMEROCK, RECYCLED CONCRETE, SHELL OR OTHER MATERIAL AS APPROVED BY THE CITY AND A LICENSED SOILS ENGINEER.
- THE SUB BASE SHALL BE STABILIZED NOT LESS THAN FORTY (40) POUNDS LIMEROCK BEARING RATIO (LBR). A COMPACTION OF NO LESS THAN NINETY-EIGHT (98%) PERCENT DENSITY BASED ON AASHTO T-180 SHALL BE REQUIRED.
- TESTS FOR SUB BASE BEARING CAPACITY AND COMPACTION SHALL BE DONE AT A MINIMUM OF EVERY 300 FEET AND SHALL BE STAGGERED TO THE LEFT, RIGHT AND AT CENTER LINE OF THE ROADWAY.
- BASES FOR ALL STREETS SHALL HAVE A MINIMUM SIX INCH (6") DEPTH. PRIMING AND SANDING SHALL BE REQUIRED AS SOON AS BEARING CAPACITY AND COMPACTION HAS BEEN ACHIEVED.
- MATERIAL DELIVERY TICKETS SHALL BE PROVIDED TO THE CITY AT THE TIME OF PLACEMENT.
- TESTING OF THE IN-PLACE BASE SHALL BE DONE AT INTERVALS EQUIVALENT TO SUB BASE TESTING AND SHALL CONSIST OF, AS A MINIMUM, MOISTURE CONTENT AND COMPACTION TEST.
- DESIGN MIXES SHALL BE SUBMITTED TO THE CITY FOR THEIR APPROVAL NO LESS THAN THREE (3) WORKING DAYS PRIOR TO ANY ROADWAY CONSTRUCTION.
- ASPHALT SPECIFICATIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER WITH FINAL PLANS TO THE CITY. FLORIDA STATE CERTIFIED BATCH PLANTS MUST THEN CERTIFY THAT THESE APPROVED SPECIFICATIONS HAVE BEEN MET.
- EXTRACTION AND GRADATION TESTS ON ASPHALT MIXES SHALL BE PROVIDED TO THE CITY TO INSURE THAT DESIGN MIXES MEET THE CITY STANDARD SPECIFICATIONS.
- THE ROADWAY CROWN SHALL HAVE A STANDARD ONE QUARTER INCH (1/4") PER FOOT SLOPE.
- ALL ROADWAYS WITH CURB AND GUTTER SECTIONS SHALL HAVE AS A STANDARD A MINIMUM LONGITUDINAL SLOPE OF 0.30%.
- THE FINISHED PAVEMENT EDGE SHALL BE WITHIN ONE QUARTER INCH (1/4") OF THE ADJACENT CONCRETE CURB.
- CONCRETE CURBS SHALL BE PROVIDED ON BOTH SIDES OF ALL STREETS AND CONSTRUCTED WITH 2500 PSI CONCRETE AT 28 DAYS.
- CONCRETE CURBS SHALL BE SAW CUT TO A DEPTH EQUAL TO 1/4 OF CURB THICKNESS AT INTERVALS OF TEN FEET (10') WITH EXPANSION JOINTS AT STREET INTERSECTIONS, STRUCTURES AND ALONG CURVES AT SIXTY FEET (60') INTERVALS. ALL EXPANSION JOINT MATERIAL IS REQUIRED TO BE INSTALLED THROUGH THE ENTIRE DEPTH OF THE CONCRETE CURB.
- AN "X" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF WATER DISTRIBUTION SYSTEM VALVE.
- AN "\*" SHALL BE CUT INTO THE CURB TO MARK THE LOCATION OF ALL VALVES OTHER THAN WATER DISTRIBUTION VALVES.
- A "V" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL SEWER SERVICES.
- A "L" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL RECLAIMED WATER SERVICES.
- A "A" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL WATER SERVICES.
- THREE (3) CONCRETE CYLINDERS SHALL BE TAKEN AND TESTED FOR EVERY THREE HUNDRED (300) FEET OF ROADWAY CONSTRUCTED. TEST RESULTS SHALL THEN BE PROVIDED TO THE CITY AS THEY BECOME AVAILABLE.
- THE DEVELOPER SHALL PROVIDE ALL REQUIRED PAVEMENT MARKINGS ON ALL ROADWAYS PER CITY, COUNTY AND STATE REQUIREMENTS. CENTERLINE STRIPES SHALL BE PROVIDED ON EXTENSIONS OF CITY COLLECTOR OR ARTERIAL ROADS, COUNTY ROADS AND STATE HIGHWAYS ONLY.
- STOP BARS SHALL BE PLACED AT ALL SUBDIVISION ENTRANCES AND INTERSECTIONS CONTAINING CITY COLLECTOR AND ARTERIAL ROADS, COUNTY ROADS AND STATE HIGHWAYS.
- ALL TRAFFIC CONTROL DEVICES PLACED AT INTERSECTIONS, PRIVATE STREETS, PUBLIC STREETS, COUNTY ROADS AND STATE HIGHWAYS WITHIN THE CITY LIMITS SHALL BE INSTALLED ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- THE DEVELOPER IS RESPONSIBLE FOR PAYING FEES FOR ALL STREET LIGHTS PRIOR TO ACCEPTANCE OF THE PROJECT BY THE CITY.
- STANDARD TURNING RADII FOR INTERSECTIONS:
 

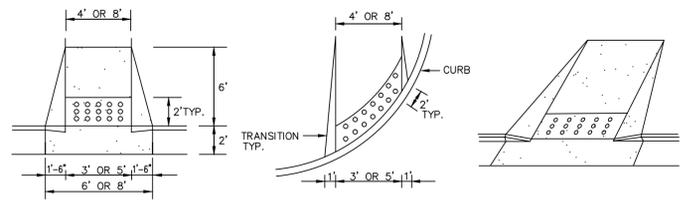
2-LANE ACCESS OR FEEDER	35'
LOCAL TO COLLECTOR	35'
LOCAL OR COLLECTOR TO ARTERIAL	40'
ARTERIAL TO ARTERIAL	50'
- CITY INSPECTOR SHALL BE PRESENT DURING PAVING OF ALL PUBLIC AND PRIVATE ROADS. PAVING SHALL BE PERFORMED DURING NORMAL BUSINESS HOURS, MONDAY THROUGH FRIDAY. PAVING DURING WEEKENDS IS NOT PERMITTED.
- CONSTRUCTION METHODS AND DESIGN FOR CONCRETE PAVEMENT SHALL CONFORM TO FOOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- ALL CONTRACTORS THAT ARE PERFORMING THE CONSTRUCTION OF PUBLIC IMPROVEMENTS (WATER MAIN, SANITARY SEWER MAIN, RECLAIMED WATER MAIN, STORM WATER PIPES AND INLETS AND ALSO CONSTRUCTION OF ROADWAYS) SHALL BE CERTIFIED WITH THE FLORIDA STATE DEPARTMENT OF PROFESSIONAL REGULATIONS (DPR) FOR THE TYPE OF WORK THAT THEY PERFORM. A COPY OF THE VALID LICENSE IS REQUIRED AT PRE CONSTRUCTION MEETING.
- UTILITY DEPTH:
  - HIGH VOLTAGE UTILITIES SUCH AS POWER (FEEDER, SERVICE AND DROPS) SHALL BE BURIED A MINIMUM OF 30 INCHES IN DEPTH.
  - LOW VOLTAGE UTILITIES SUCH AS PHONE AND CABLE TV SHALL BE BURIED A MINIMUM OF 12 INCHES IN DEPTH FOR FEEDER AND SERVICES. SERVICE DROPS SHALL BE BURIED A MINIMUM OF 6 INCHES IN DEPTH.
  - HIGH VOLTAGE UTILITIES INSTALLED PARALLEL TO PRESSURE MAINS SHALL MAINTAIN A MINIMUM FIVE FOOT SEPARATION.
- GEOTECHNICAL TESTING REPORTS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO FINAL SIGN OFF. REPORTS SHALL CLEARLY LABEL PROJECT NAME AND PHASE.

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R-1A  
R-1B  
R-1C  
MARCH 2014



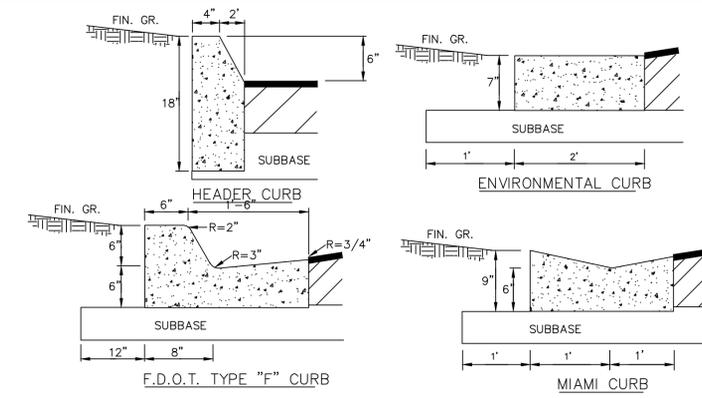
- NOTES:**
- CONTRACTION JTS. MAY BE HAND FORMED, SAWED OR CONSTRUCTED W/ A 1/4" PREMOULDED FILLER JT. JOINTS MUST BE SAWN BETWEEN 4 AND 18 HOURS AFTER CONCRETE HAS BEEN PLACED.
  - EXPANSION JOINTS TO BE PLACED BETWEEN ROADWAY AND CURB. ALSO AT ANY PERMANENT STRUCTURE ABUTTING OR WITHIN THE PAVED AREA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

CONCRETE PAVEMENT DETAILS INDEX  
R-11A  
MARCH 2014

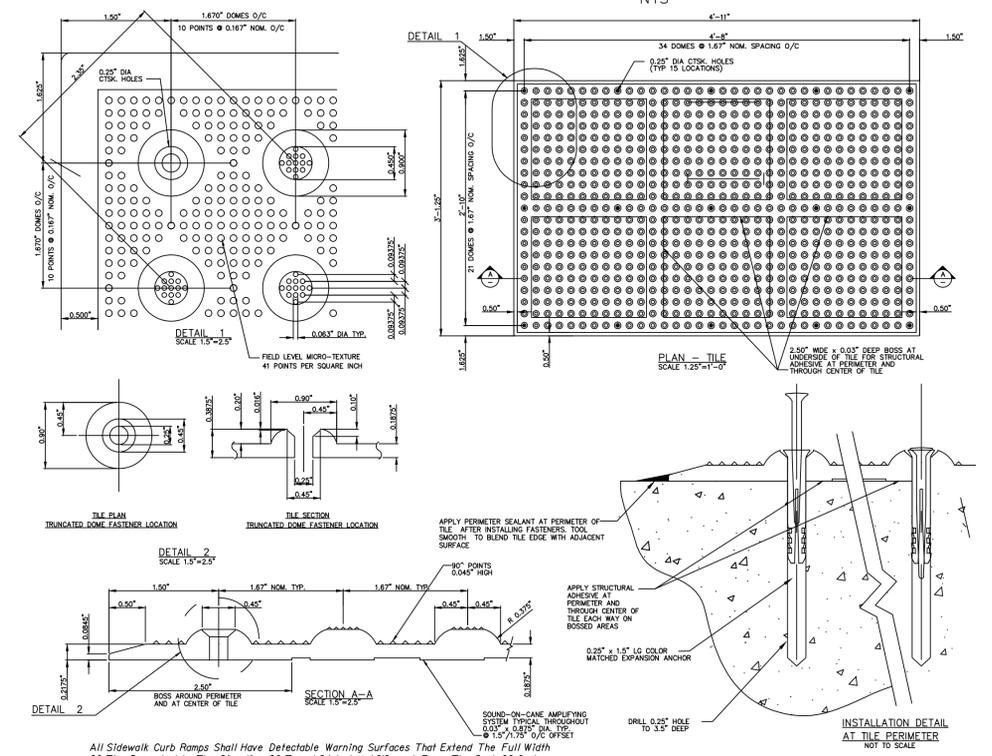


- NOTES:**
- RAMP LOCATIONS ARE TO BE COORDINATED WITH AND IN CONFORMANCE WITH CROSSWALK MARKING DETAILS SHOWN IN THE PLANS.
  - CURBED RAMPS SHALL HAVE FLARED SIDES WITH A MAXIMUM SLOPE OF 12:1.
  - RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE AS SHOWN.
  - RAMPS ARE TO BE CONSTRUCTED AT ALL LOCATIONS SHOWN IN THE PLANS EVEN WHEN A SIDEWALK IS NOT CONSTRUCTED CONCURRENTLY.
  - NO CURB TRANSITION IS NEEDED FOR MIAMI CURBS.
  - ALL RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FOOT INDEX NO. 304 AND HANDICAPPED ACCESSIBILITY REQUIREMENTS IN ACCORDANCE WITH THE AMERICAN DISABILITIES ACT.
- UTILITY DEPTH:  
- HIGH VOLTAGE UTILITIES SUCH AS POWER (FEEDER, SERVICE AND DROPS) SHALL BE BURIED A MINIMUM OF 30 INCHES IN DEPTH.  
- LOW VOLTAGE UTILITIES SUCH AS PHONE AND CABLE TV SHALL BE BURIED A MINIMUM OF 12 INCHES IN DEPTH FOR FEEDER AND SERVICES. SERVICE DROPS SHALL BE BURIED A MINIMUM OF 6 INCHES IN DEPTH.  
- HIGH VOLTAGE UTILITIES INSTALLED PARALLEL TO PRESSURE MAINS SHALL MAINTAIN A MINIMUM FIVE FOOT SEPARATION.
- 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.

SIDEWALK AND BIKE PATH RAMP INDEX  
M-4  
MARCH 2014



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



All Sidewalk Curb Ramps Shall Have Detectable Warning Surfaces That Extend The Full Width Of The Ramp And In The Direction Of Travel 24 Inches (610 mm) From The Back Of Curb.

**NOTE:** 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.

NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com			
CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
<b>PAVING &amp; DRAINAGE DETAILS</b>			
<b>ORMOND RENAISSANCE CONDOMINIUM</b>			
ORMOND BEACH * FLORIDA			
FILE NO. 13-49PD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARNDEN		
SCALE: NONE	SHEET 46 OF 56	SEAL	

**REQUIREMENTS FOR "AS-BUILT" DRAWINGS**

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:

- 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 BEING "AS-BUILT" INFORMATION.
- 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.
- STORM DRAINAGE STRUCTURES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
- 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.
- STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- ALL APPLICABLE TOPOGRAPHIC INFORMATION, PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS DITCHES, LAKES, CANALS, ETC. THAT ARE DEMAILED 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.
- 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 RETENTION VOLUMES.
- STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
- 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.
- 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:

- 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.
- SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- 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.
- 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.
- CURB CUTS OR METAL TABS, USED TO MARK SEWER LATERALS, WATER SERVICES AND WATER VALVES, SHALL BE VERIFIED FOR PRESENCE AND ACCURACY OF LOCATION.
- 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.
- WATER VALVES, TEES, ALL SERVICES, BLOW - OFF 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:

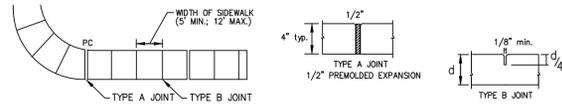
- FOR PERPENDICULAR CROSSINGS OF STORM WATER, SANITARY SEWER, POTABLE WATER, OR RECLAIMED WATER, THE "AS-BUILT" PLANS SHALL CLEARLY INDICATE WHICH UTILITIES ARE LOCATED OVER OR UNDER OTHER UTILITIES, AS NECESSARY.
- WHEN STORM WATER, POTABLE WATER, RECLAIMED WATER, OR SANITARY SEWER IMPROVEMENTS ARE LOCATED WITHIN AN EASEMENT, THE "AS-BUILT" SHALL ACCURATELY DENOTE 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.
- 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.
- INDICATE VERTICAL DATUM REFERENCE ON ALL SHEETS.
- CAD FILE OF "AS-BUILTS" SHALL BE IN STATE PLANE COORDINATES; FILE SHOULD INCLUDE REFERENCE TO PROJECTION. (FLORIDA EAST, NAD83)
- 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.
- 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.

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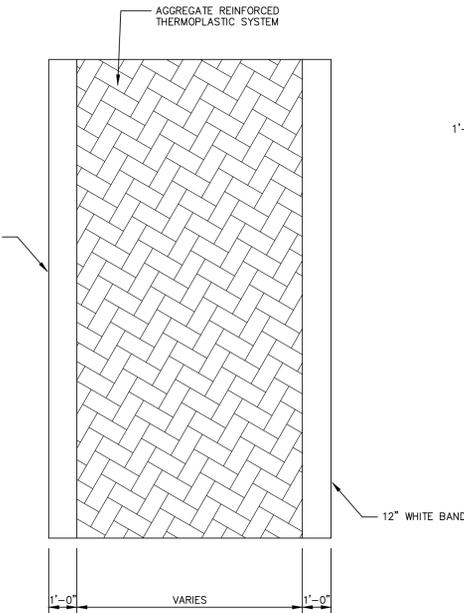
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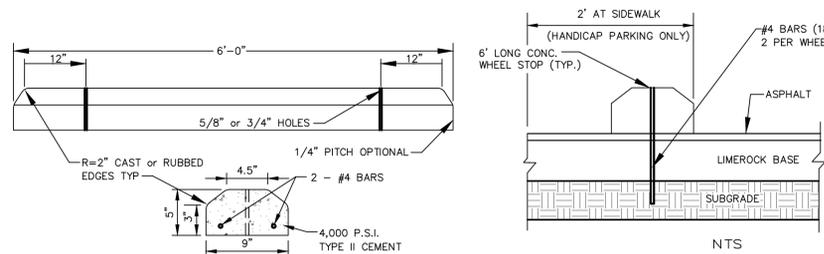


- SIDEWALKS, BIKEPATHS, RAMPS, AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF FLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3 INCHES, A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 2500 P.S.I. IN 28 DAYS, AND A MINIMUM UNIFORM THICKNESS OF 4 INCHES WHERE INTENDED SOLELY FOR PEDESTRIAN TRAFFIC, AND 6 INCHES THICK WHERE MOTOR VEHICLES ARE LIKELY TO CROSS. SIDEWALKS SHALL BE 5 FOOT WIDE UNLESS OTHERWISE SHOWN ON PLANS.
- 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.
- 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.
- 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 TACTILE 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.
- 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 FOOT STANDARDS AND SPECIFICATIONS AND SHALL BE RUBBER, PLASTIC OR OTHER APPROVED NON-BIOGRADABLE ELASTOMERIC MATERIAL. WOOD IS PROHIBITED.
- 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'.
- 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.
- 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.
- 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.
- 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 ADJUTING 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.
- SIDEWALKS LOCATED WITHIN THE RIGHT-OF-WAY SHALL NOT BE TINTED, STAINED, COLORED, OR COATED.
- ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, REPAIRED, AND SLOPED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.

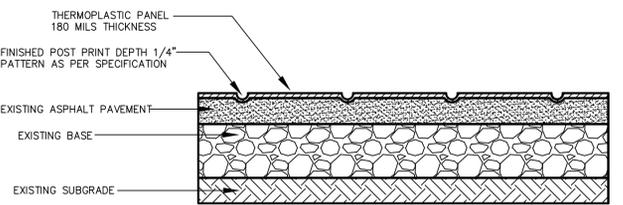
**SIDEWALK, RAMP, AND DRIVEWAY APRON CONSTRUCTION REQUIREMENTS**



- NOTES:
- CROSSWALK THERMOPLASTIC SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



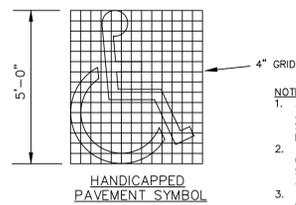
- NOTES:
- CENTER WHEEL STOP IN EACH SALL
- WHEEL STOP DETAIL**



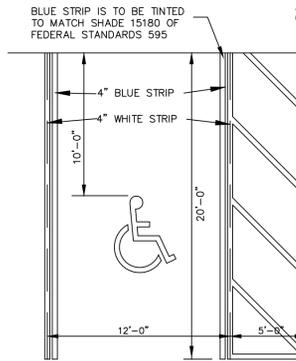
**TYPICAL SECTION THROUGH CROSSWALK**

**INDEX**

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MARCH 2012

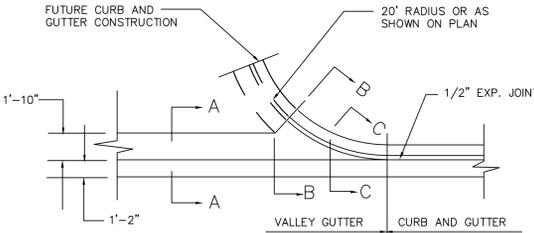


USE OF PAVEMENT SYMBOL IN HANDICAPPED PARKING SPACES IS REQUIRED. WHEN USED THE SYMBOL SHALL BE 5 FT. HIGH AND WHITE IN COLOR. TO BE INSTALLED IN ACCORDANCE WITH FOOT STANDARD INDEX #17346

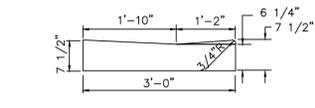


**TYPICAL MARKINGS FOR HANDICAPPED PARKING**

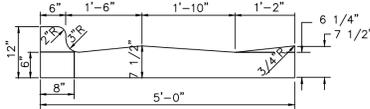
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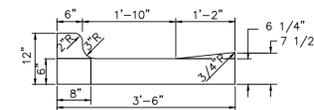
**PLAN**



**SECTION "A"- "A"**

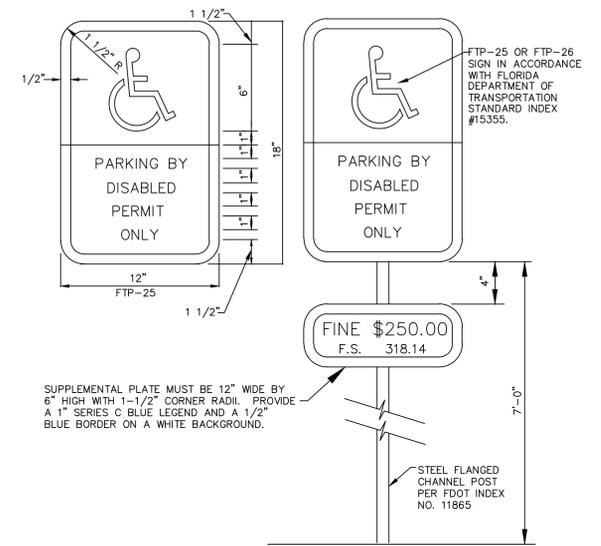


**SECTION "B"- "B"**



**SECTION "C"- "C"**

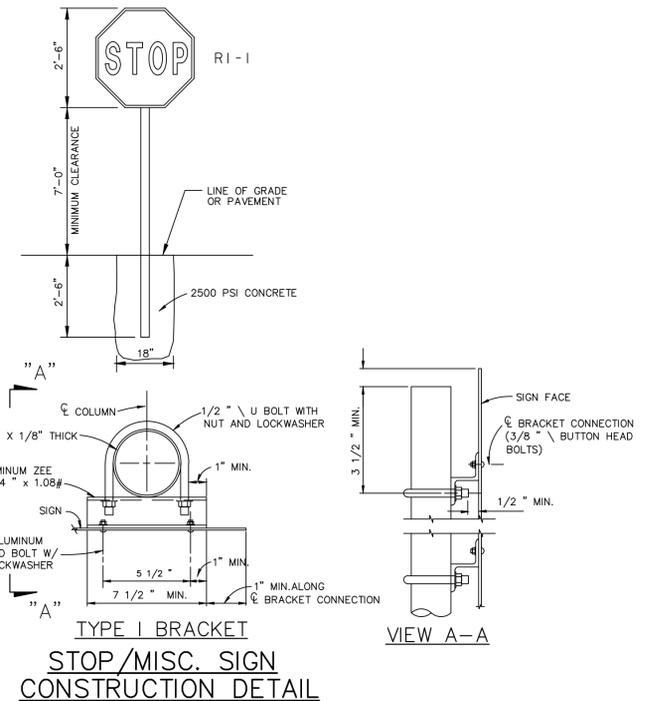
**VALLEY GUTTER**



- TOP PORTION OF SIGN TO HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
- BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
- SIGN MAY BE FABRICATED ON ONE PANEL OR TWO.
- POINTS ARE TO BE MOUNTED AT STANDARD HEIGHT. (7' FROM PAVEMENT TO BOTTOM OF SIGN.)

**HANDICAP PARKING SIGN DETAIL**

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M-12B  
MARCH 2014



**TYPE I BRACKET STOP/MISC. SIGN CONSTRUCTION DETAIL**

NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
<b>PAVING &amp; DRAINAGE DETAILS</b>			
<b>ORMOND RENAISSANCE CONDOMINIUM</b>			
ORMOND BEACH * FLORIDA			
FILE NO. 13-49PD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARDEN		
SCALE: NONE	SHEET 47 OF 56	SEAL	

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 ENTERING 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).

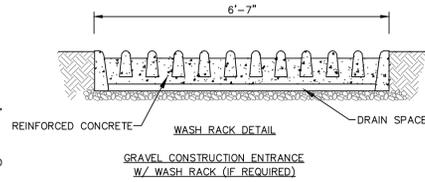
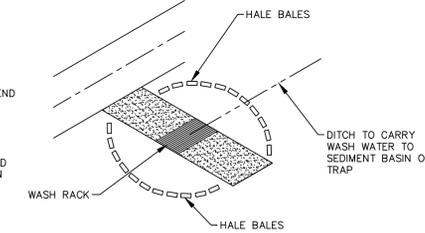
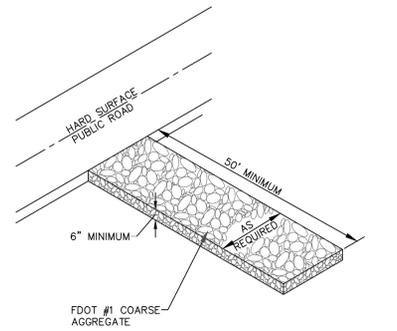
**WASHING**  
IF CONDITIONS OF THE SITE ARE SUCH THAT THE MAJORITY OF THE MUD IS NOT REMOVED BY THE VEHICLES TRAVELING OVER THE GRAVEL, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING A PUBLIC ROAD. WASH WATER MUST BE CARRIED AWAY FROM THE ENTRANCE TO A SETTLING AREA TO REMOVE SEDIMENT. 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.

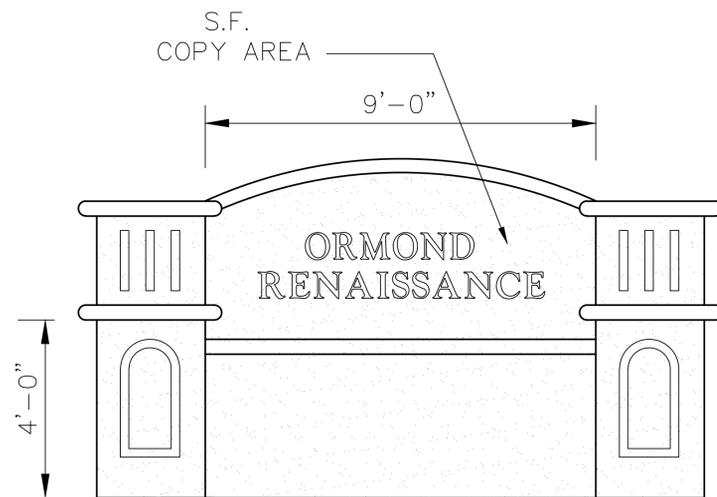
**MAINTENANCE**  
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE, AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED,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



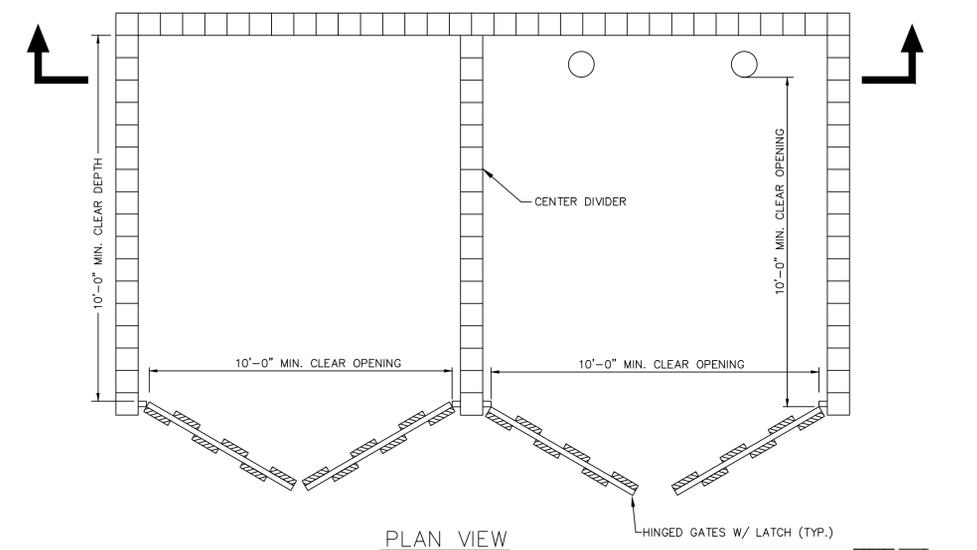
NOTE: COMPLY WITH FDOT REQUIREMENTS FOR SOIL TRACKING PREVENTION DEVICE IN FDOT ROADWAY ROW (INDEX NO. 106)

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

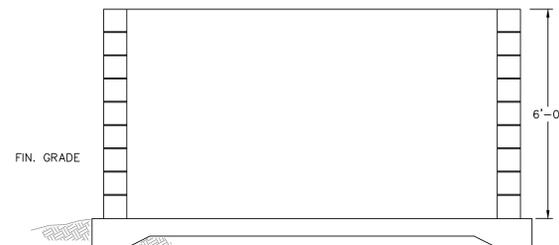
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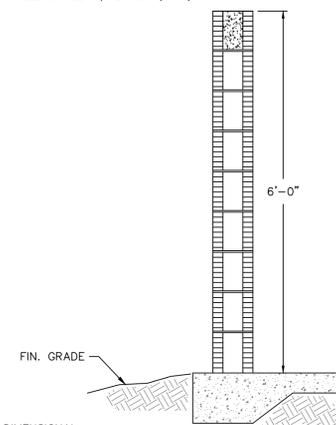
SIGN ELEVATION



PLAN VIEW



SECTION



WALL SECTION

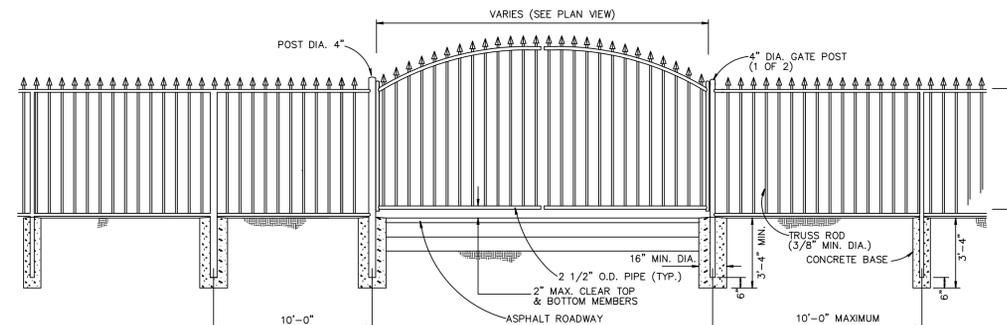
- NOTES:**
- BLOCK MUST BE FINISHED WITH STUCCO OR BRICK VENEER PAINTED TO MATCH BUILDING.
  - DUMPSTER STRUCTURE SHALL MEET THE REQUIREMENTS OF CHAPTER 2, ARTICLE 3, 2-50, J OF THE LAND DEVELOPMENT CODE (LDC).
  - SHRUB PLANTINGS REQUIRED (MIN. 3-FOOT WIDE PLANTING AREA) AROUND PERIMETER WALLS (EXCEPT OPENING), OR APPROVED EQUAL.
  - 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.
  - DUMPSTER ENCLOSURE HEIGHT MAY BE INCREASED TO A MAXIMUM HEIGHT OF EIGHT (8) FEET.
  - IF BOLLARDS ARE INSTALLED CLEAR DEPTH MUST BE MEASURED FROM BOLLARDS TO GATES.

- NOTE TO DESIGNER:**
- THIS DETAIL REFLECTS CITY DIMENSIONAL REQUIREMENTS FOR THE DUMPSTER ENCLOSURE ONLY.
  - PROVIDE PROPOSED WALL MATERIAL AND HORIZONTAL AND VERTICAL WALL REINFORCING REQUIREMENTS.
  - PROVIDE PROPOSED SLAB DESIGN REQUIREMENTS INCLUDING REINFORCING.
  - PROVIDE ANY OTHER CONSTRUCTION DETAILS THAT MAY BE REQUIRED.

DUAL-USE DUMPSTER ENCLOSURE

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MARCH 2014

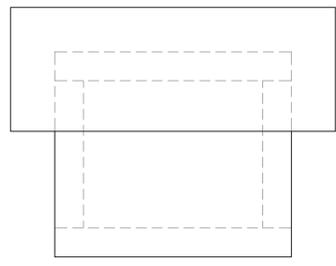
NOTE: SEE SITE PLAN FOR VARIATION



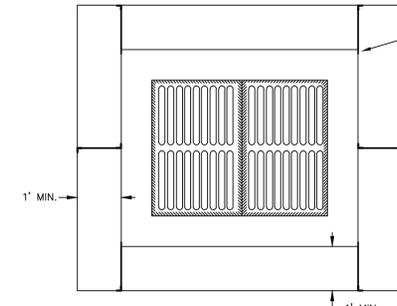
SWING GATE ELEVATION

- 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.
  - 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.
  - DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW THE COMPONENT BEING INSTALLED.
  - ALL PIPES AND STRUCTURES SHALL BE PLACED TRUE TO LINES AND GRADES AS DEPICTED ON THE APPROVED PLANS.
  - ALL PIPE JOINTS SHALL BE PROPERLY HONED AND FILTER FABRIC LINED USING A METHOD TO HOLD THE FABRIC IN PLACE DURING BACKFILL.
  - BACKFILL AND COMPACT TO THE SPRING-LINE (CENTER OF PIPE) ELEVATION AND REQUEST CITY INSPECTION AND APPROVAL BEFORE CONTINUING.
  - ALL WORK COVERED WITHOUT CITY INSPECTION WILL BE REQUIRED TO BE EXCAVATED AND INSPECTED AT THE CONTRACTOR'S EXPENSE.
  - 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.
  - 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.
  - 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.
  - STORM DRAINAGE PIPES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE A MINIMUM OF FIFTEEN (15) INCH RCP DIAMETER OR EQUIVALENT.
  - 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.
  - STORM INLETS SHALL BE SPACED IN SUCH A MANNER AS TO ACCEPT ONE HUNDRED (100) PERCENT OF THE DESIGN STORM RUNOFF.
  - WET DETENTION PONDS SHALL BE EIGHT (8) FEET MINIMUM TO TWELVE (12) FEET MAXIMUM DEPTH BELOW THE DESIGN LOW OR NORMAL WATER STAGE.
  - MAXIMUM DISTANCES BETWEEN INLETS AND/OR JUNCTION BOXES:
- | PIPES SIZE (INCHES) | LENGTH OF RUN (FEET) |
|---------------------|----------------------|
| 15                  | 150                  |
| 18                  | 300                  |
| 24 OR GREATER       | 400                  |
- ALL SWALES, DITCHES, AND DRY RETENTION POND SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (H:V) AND SHALL BE SODDED.
  - ALL RETENTION POND BACKSLOPES SHALL BE NO STEEPER THAN 3:1 (H:V) AND SHALL BE SODDED.
  - NORMAL ROADSIDE SWALES SHALL BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18" BELOW THE OUTSIDE EDGE OF PAVEMENT OR CONCRETE CURB.
  - CONCRETE EROSION CONTROL MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES.
  - A MINIMUM ONE FOOT (1') FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND WET RETENTION PONDS.
  - A MINIMUM SIX INCH (6") FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND DRY RETENTION PONDS.
  - POND INFLOW SHALL GENERALLY BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
  - 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.
  - SOIL EROSION CONTROL MEASURES SATISFACTORY TO THE CITY, SHALL BE EMPLOYED DURING CONSTRUCTION AND UPON COMPLETION OF THE PONDS.
  - 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.
  - 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.
  - 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.
  - THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY DEWATERING PERMITS THAT MAY BE REQUIRED.
  - CULVERTS CROSSING RIGHT-OF-WAYS SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY.
  - ALL STORM WATER DISCHARGE FROM RETENTION/DETENTION PONDS ARE REQUIRED TO BE CHANNELLED INTO DEFINED DRAINAGE PATHS TO EXISTING WATER BODIES, WETLANDS, DITCHES, ETC.
  - THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELETYPE 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.

NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com			
CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
PAVING & DRAINAGE DETAILS			
ORMOND RENAISSANCE CONDOMINIUM ORMOND BEACH * FLORIDA			
FILE NO. 13-49PD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARDEN		
SCALE: NONE	SHEET 48 OF 56	SEAL	

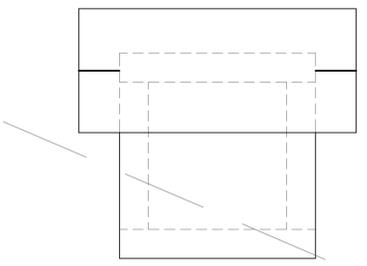


FRONT ELEVATION

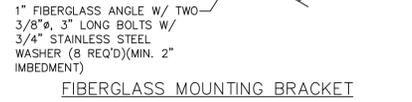
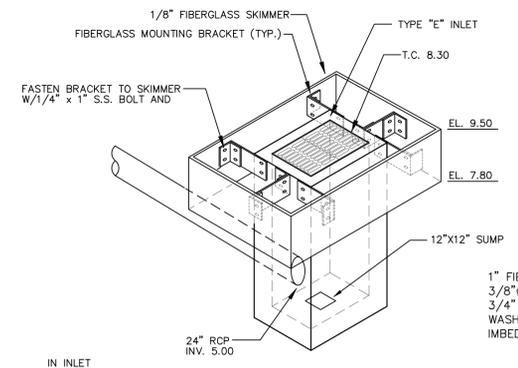


PLAN

TWO 3/8"Ø, 3" LONG BOLTS W/  
3/4" STAINLESS STEEL WASHER  
(8 REQ'D)(MIN. 2" IMBEDMENT)



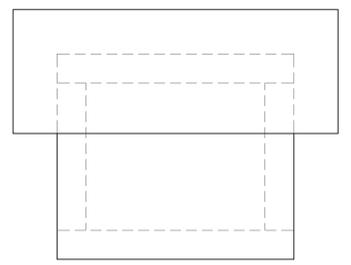
SIDE ELEVATION



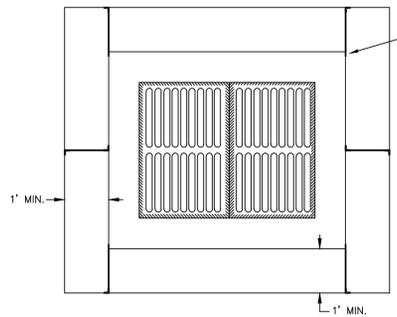
FIBERGLASS MOUNTING BRACKET

IN INLET  
ESTABLISH LEAK PROFF  
CONNECTION USING  
NON-SHRINK GROUT

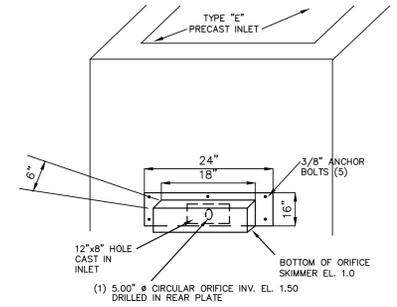
**E INLET CONTROL STRUCTURE 'B'**  
(BASIN 'B')



FRONT ELEVATION

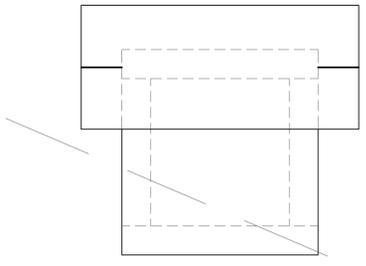


PLAN

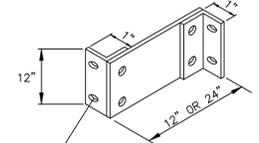
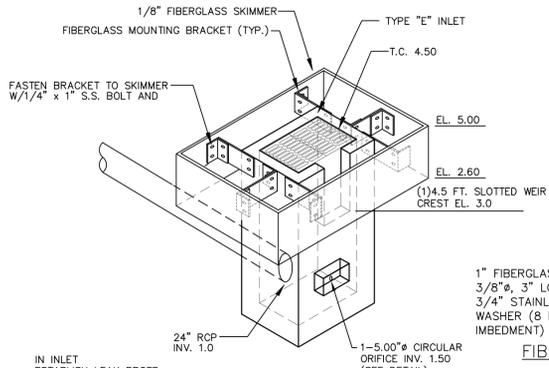


DETAIL OF ORIFICE SKIMMER

N.T.S.  
• ORIFICE SKIMMER TO BE MADE OF 1/8" ALUMINUM.  
• ADDITIONAL BOARDS MAY BE REQUIRED TO CONSTRUCT SKIMMER TO THE DESIGN ELEVATION.  
• CONTRACTOR TO PROVIDE ADDITIONAL SUPPORT FOR THE INLET GRATE IF REQUIRED.



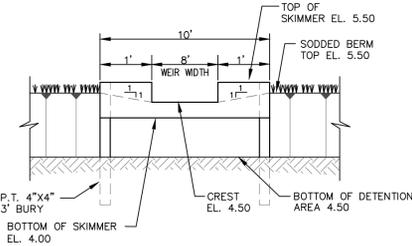
SIDE ELEVATION



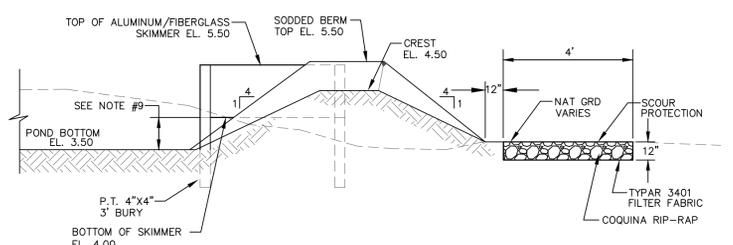
FIBERGLASS MOUNTING BRACKET

IN INLET  
ESTABLISH LEAK PROFF  
CONNECTION USING  
NON-SHRINK GROUT

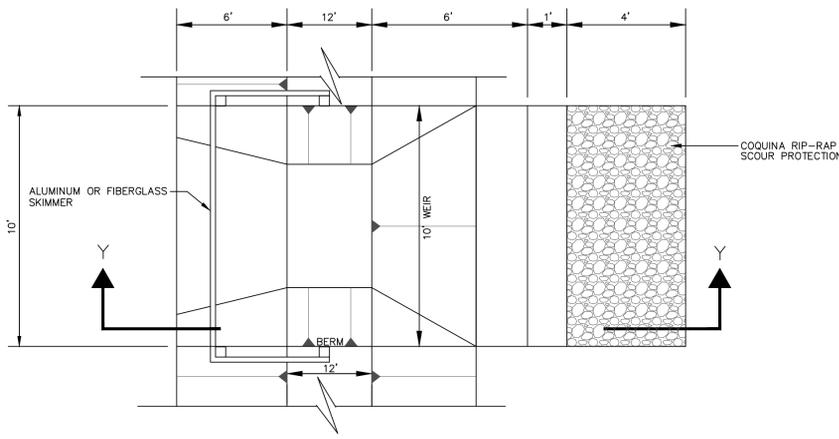
**E INLET CONTROL STRUCTURE 'A'**  
(BASIN 'A')



FRONT ELEVATION



SECTION "Y-Y"

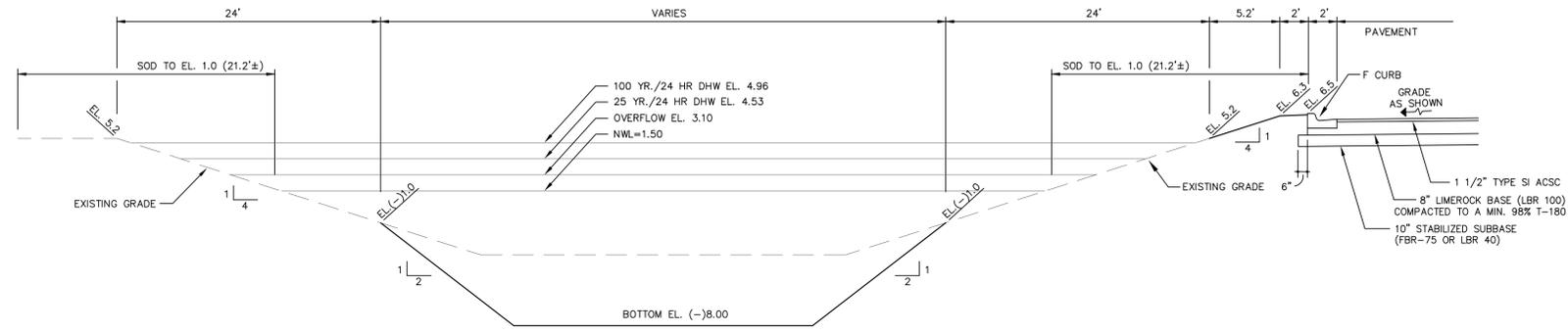


PLAN VIEW OF WEIR/SKIMMER  
N.T.S.

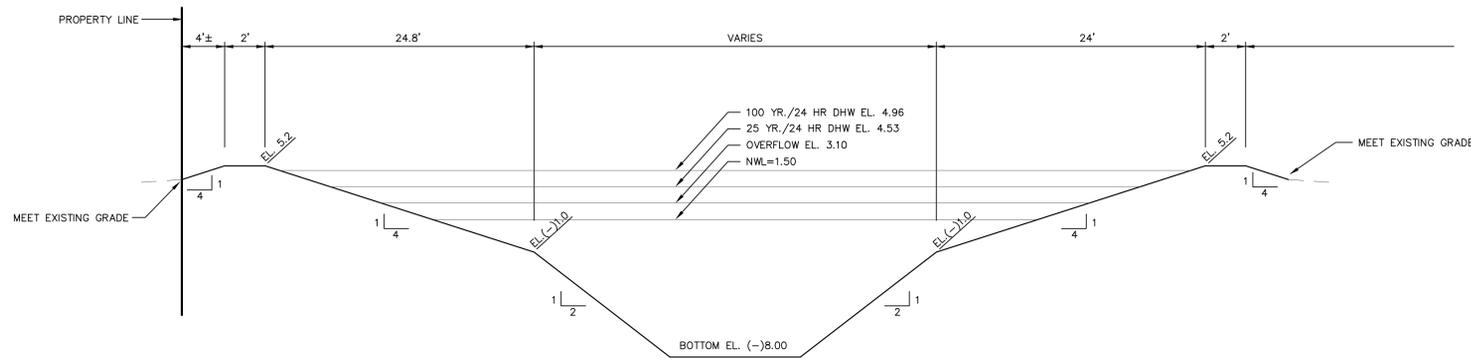
**CONTROL STRUCTURE SODDED WEIR WITH SKIMMER DETAILS**

- NOTES:
- CONTRACTOR SHALL SLOPE THE TOP OF BERM DOWN TO THE CREST ELEVATION AT A SLOPE WHICH DOES NOT EXCEED 2:1 (H:V) SEE NOTE #10.
  - CONTRACTOR SHALL STABILIZE ALL EARTHWORK & SOD ALL AREAS AROUND WEIR.
  - A NOTCH SHALL BE CUT OUT OF THE SKIMMER AT THE DESIGN CREST ELEVATION.
  - ADDITIONAL POSTS MAY BE REQUIRED TO ACHIEVE THE REQUIRED WEIR DIMENSIONS.
  - ALL FASTENERS SHALL BE STAINLESS STEEL SCREWS.
  - ALL PRESSURE-TREATED POSTS SHALL BE PREMIUM GRADE & FREE OF CRACKS & KNOTHOLES.
  - FIBERGLASS MAY BE SUBSTITUTED IN LIEU OF ALUMINUM.
  - CONTRACTOR SHALL STABILIZE WEIR SLOPES WITH GEOWEB CW20V TO AVOID EROSION. (CONTACT ALCOA @ 800-548-3424).
  - A MINIMUM OF 9" IS REQUIRED BETWEEN THE BOTTOM OF THE SKIMMER & THE POND BOTTOM. IF THE 9" DOES NOT EXIST, THE CONTRACTOR SHALL OVEREXCAVATE THE POND BOTTOM & SLOPE BACK TO THE POND AT A SLOPE OF NO STEEPER THAN 4:1 (H:V).
  - CONTRACTOR MAY EXTEND THE LENGTH OF THE SKIMMER AS NEEDED TO AVOID ADDITIONAL CUTTING. HOWEVER, AT NO TIME SHALL THE WIDTH OF THE WEIR BE CHANGED.

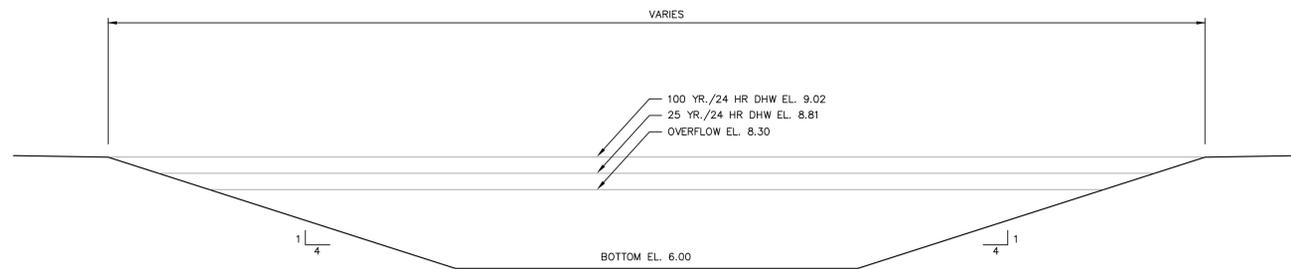
NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
PAVING & DRAINAGE DETAILS			
ORMOND RENAISSANCE CONDOMINIUM ORMOND BEACH * FLORIDA			
FILE NO. 13-49PD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARNDEN		
SCALE: NONE	SHEET 49 OF 56	SEAL	



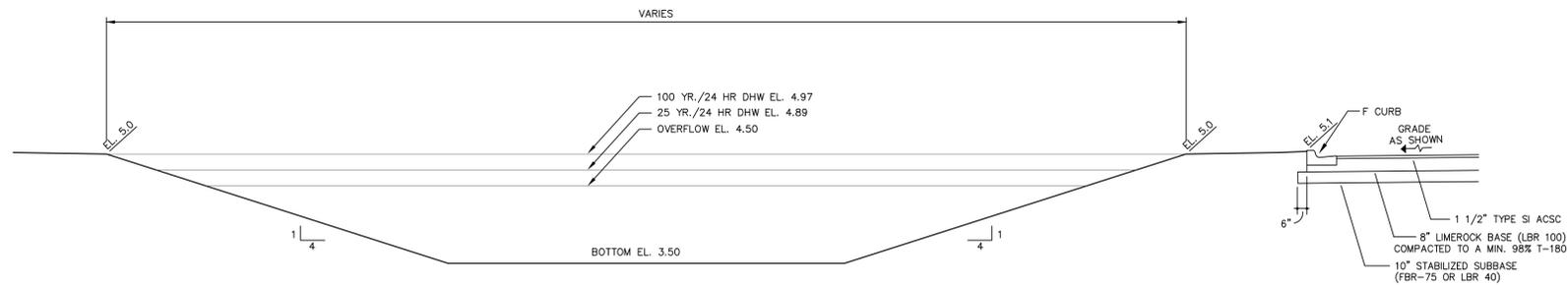
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POND "A1"



SECTION "A2"-"A2"  
POND "A2"



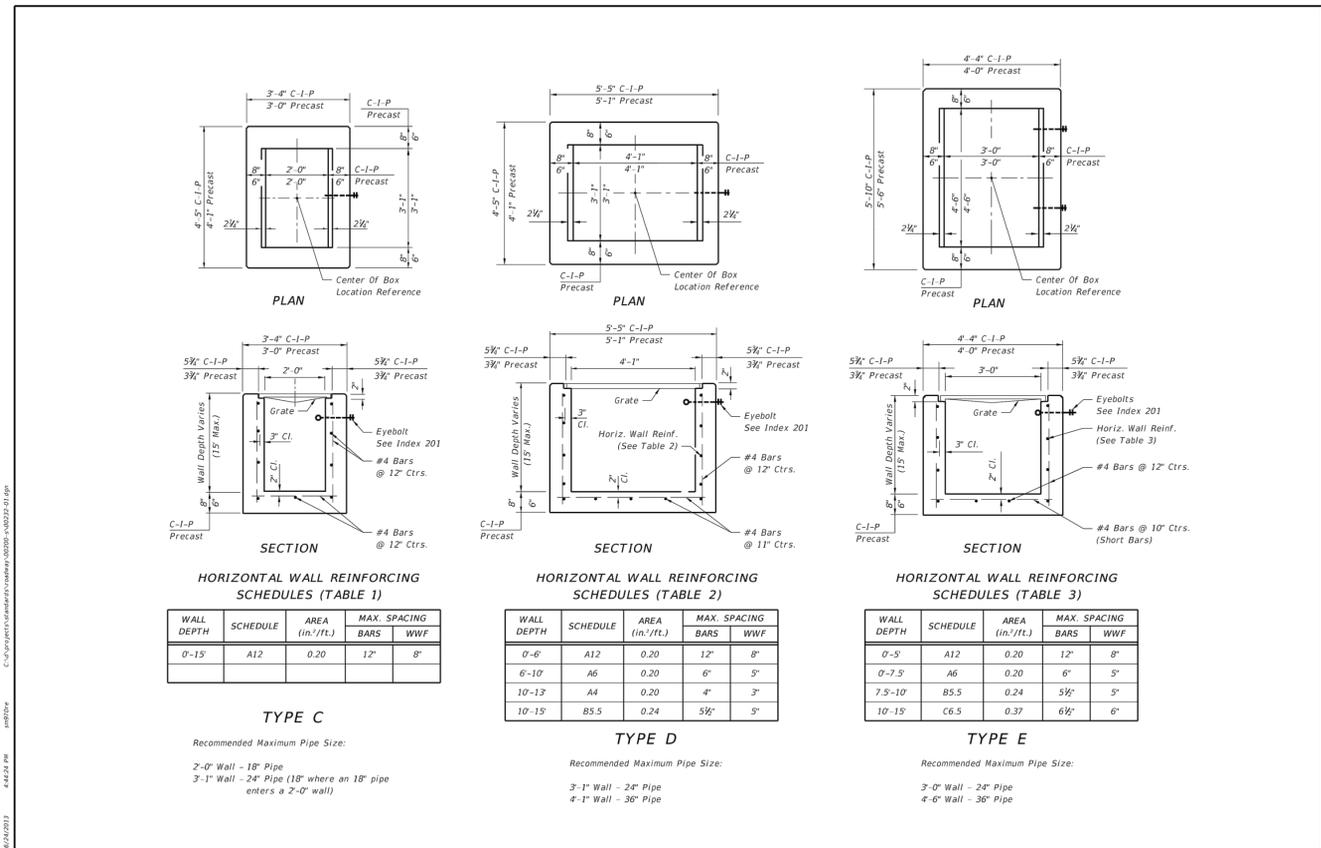
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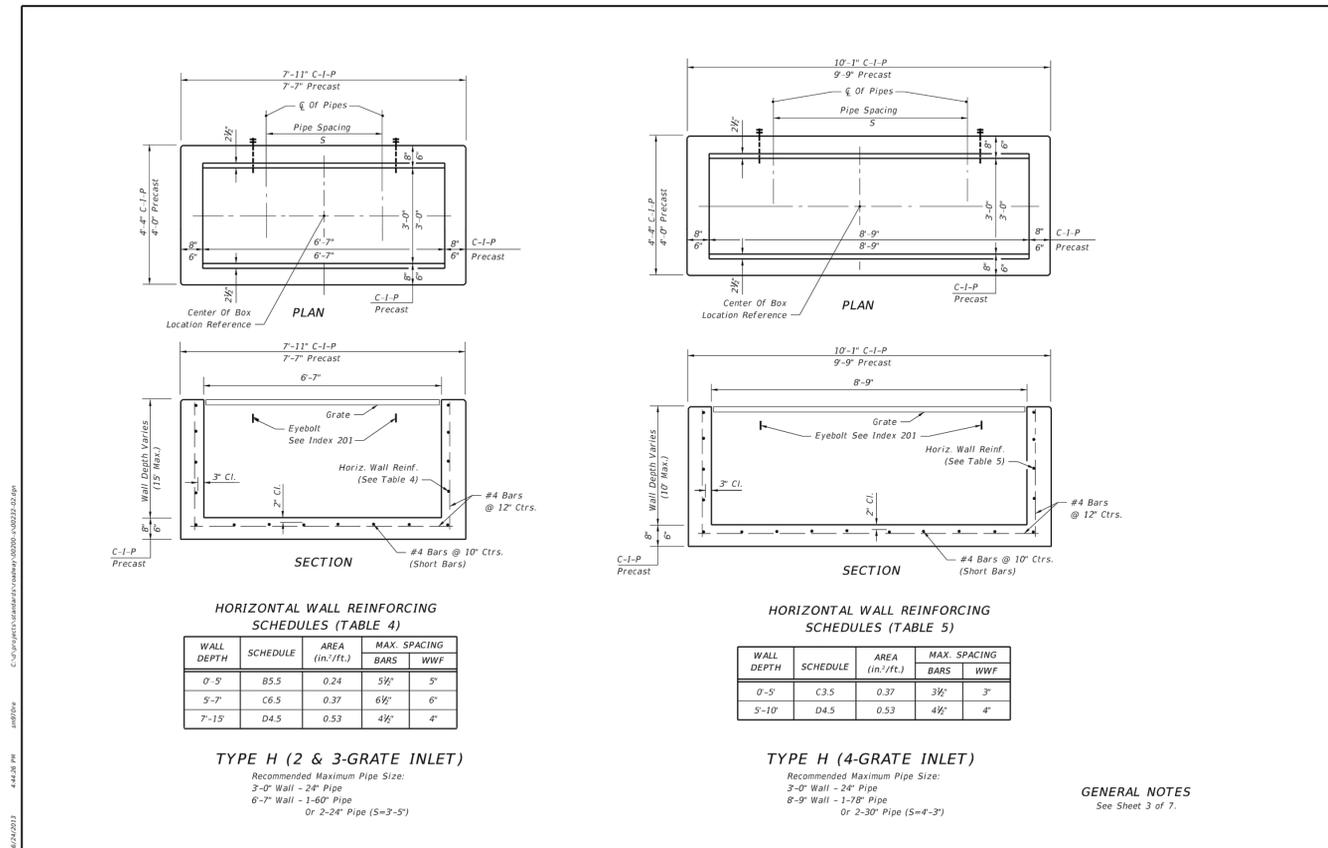
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NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
PAVING & DRAINAGE DETAILS			
ORMOND RENAISSANCE CONDOMINIUM ORMOND BEACH * FLORIDA			
FILE NO. 13-49PD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARDEN		
SCALE: NONE	SHEET 50 OF 56	SEAL	

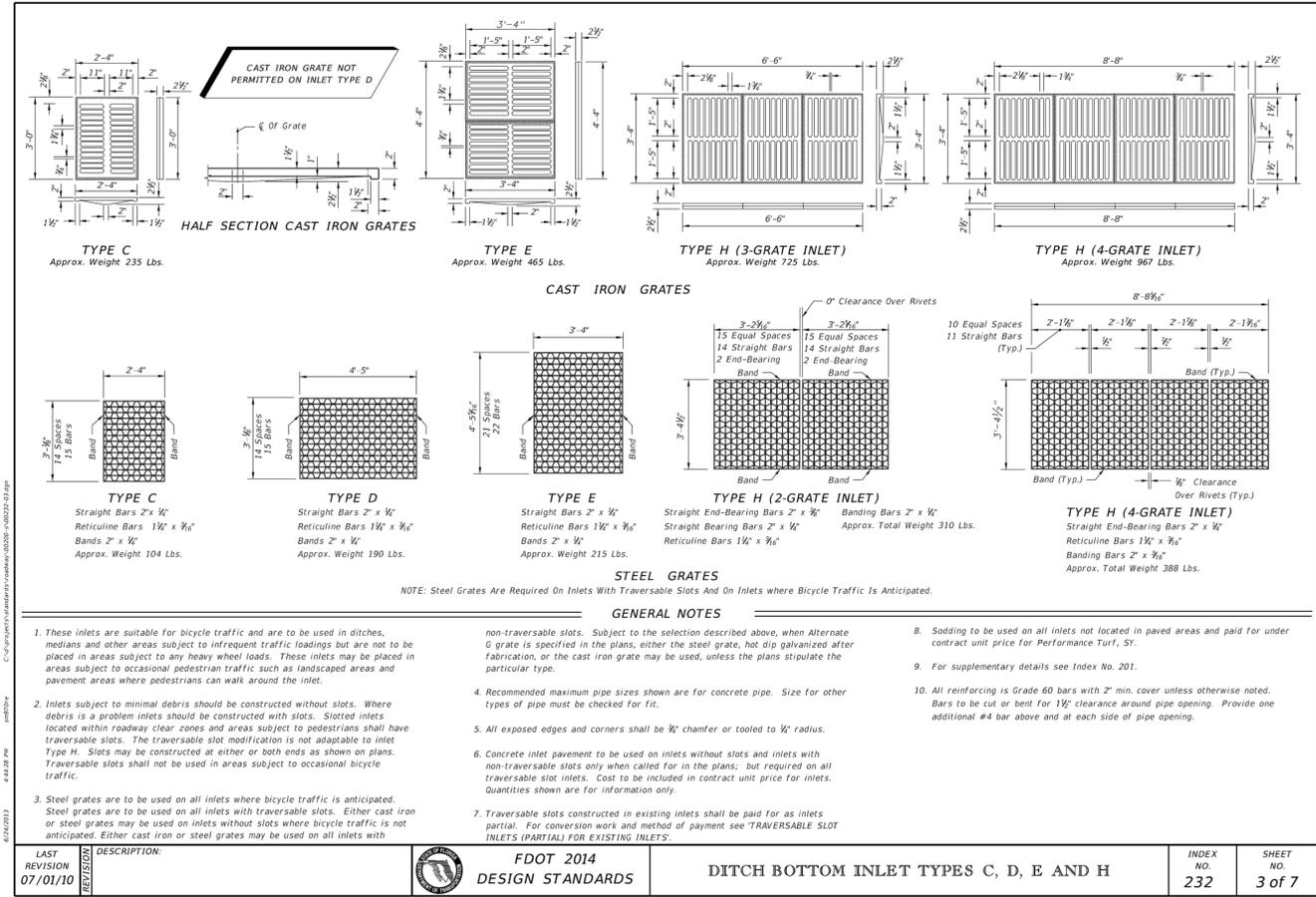




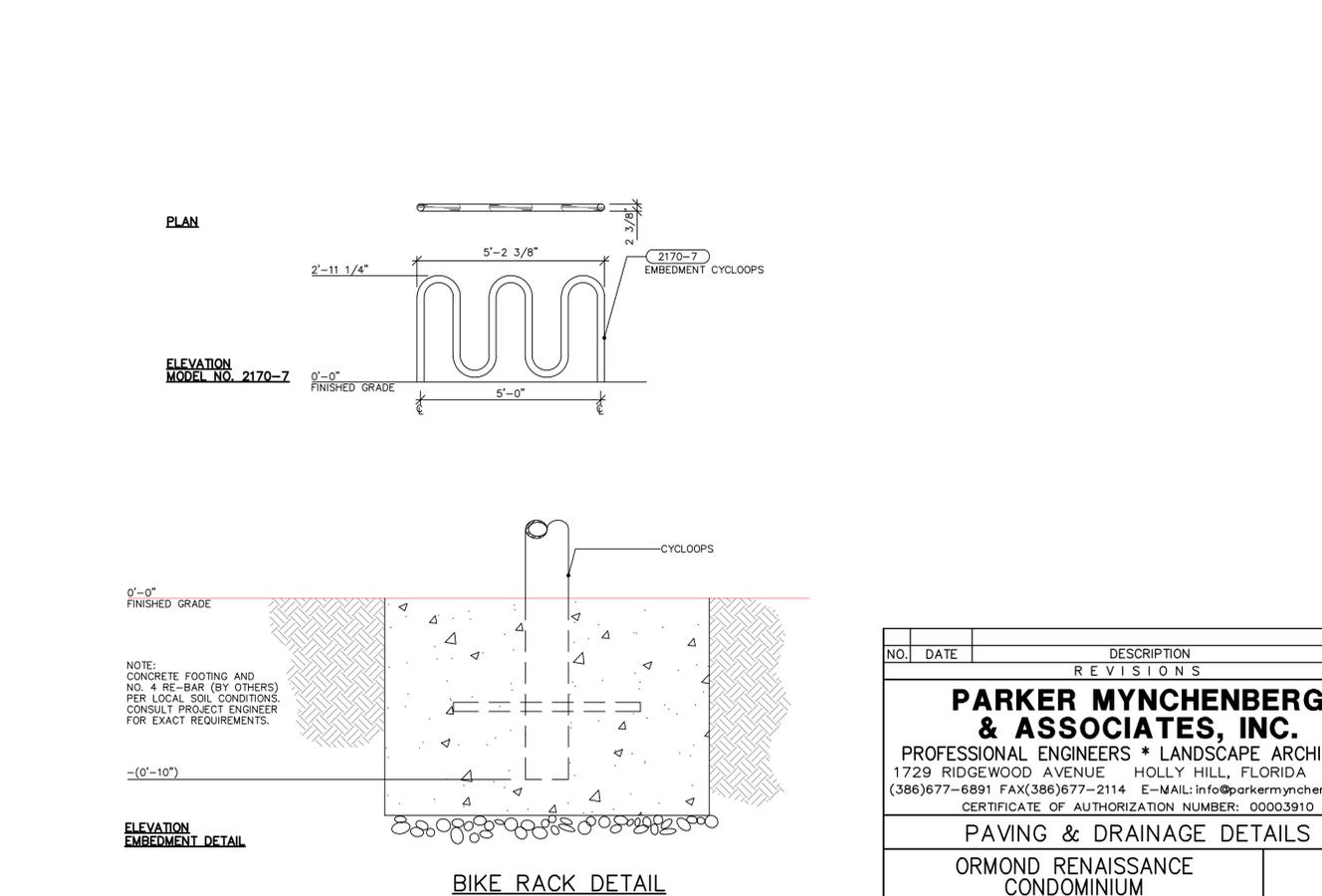
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07/01/05				232	1 of 7



LAST REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	DITCH BOTTOM INLET TYPES C, D, E AND H	INDEX NO.	SHEET NO.
07/01/05				232	2 of 7



LAST REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	DITCH BOTTOM INLET TYPES C, D, E AND H	INDEX NO.	SHEET NO.
07/01/10				232	3 of 7



LAST REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	DITCH BOTTOM INLET TYPES C, D, E AND H	INDEX NO.	SHEET NO.
07/01/05				232	3 of 7

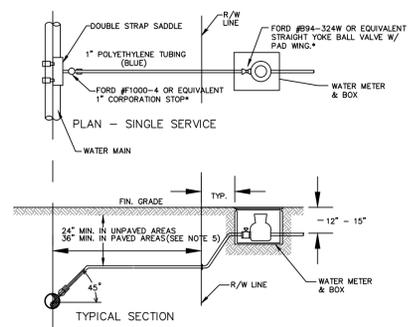
NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS			
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117			
(386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com			
CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
<b>PAVING &amp; DRAINAGE DETAILS</b>			
<b>ORMOND RENAISSANCE CONDOMINIUM</b>			
ORMOND BEACH * FLORIDA			
FILE NO.	13-49PD.DWG	DESIGNER:	P.MYNCHENBERG
DATE:	5.23.14	CADD TECH:	C.HARDEN
SCALE:	NONE	SHEET	52 OF 56
			SEAL

**GENERAL NOTES  
WATER SYSTEM CONSTRUCTION**

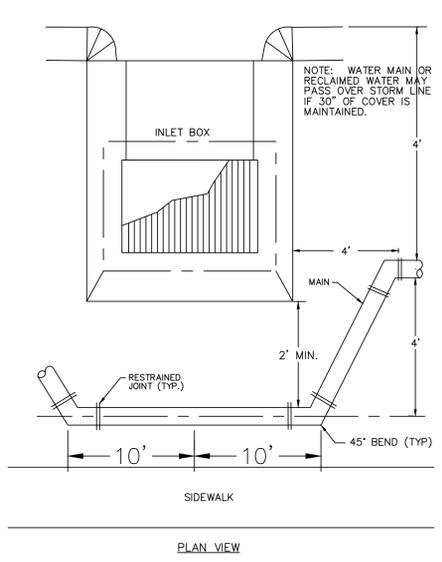
- THE CITY'S PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING LAID.
- ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- 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.
- 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.
- 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.
- WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR); POLYBUTYLENE SHALL NOT BE ALLOWED.
- 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.
- WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 500 FEET.
- AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
- APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
  - STANDARD GATE VALVES LESS THAN 48" DIAMETER RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).
  - TAPPING VALVES AND MECHANICAL TAPPING SLEEVE SHALL BE STAINLESS STEEL. (AWWA C-509)
- ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
- WATER VALVES SHALL BE COMPLETELY OPENED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF UTILITY DEPARTMENT PERSONNEL.
- 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.
- 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.
- AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.
- 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 ENCASMENT MAY BE USED AS APPROVED BY THE CITY.
- 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.
- WATER MAINS SHALL BE AWWA C-900 CL. 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED.
- 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.
- 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.
- 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.
- ALL WATER SERVICES SHALL BE MARKED WITH A "A" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.
- 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.
- UNIFLANCE 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.
- TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.
- NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.
- ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.
- SUBMIT ASSEMBLY CERTIFICATION FOR ALL BACKFLOW PREVENTERS TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.
- 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.
- SEE CHART BELOW FOR WATER MAIN SIZE AND MATERIALS.

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MARCH 2014

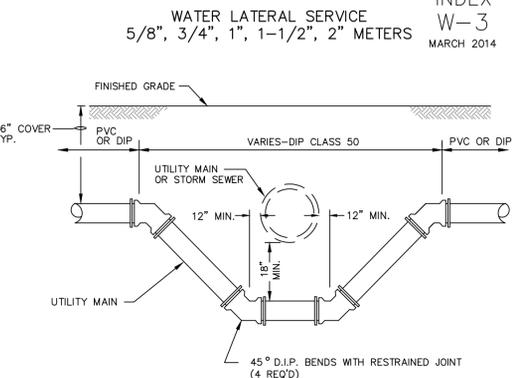
VALVE SCHEDULE	
FORD OR EQUIVALENT	
WATER SERVICES	
VALVES AT MAIN	
1"	F1000-4
1 1/2"	BB1-666 (REQ. C84-66 PACK JOINT COUPLING)
2"	BB1-777 (REQ. C84-77 PACK JOINT COUPLING)
VALVES AT METER	
1"	B94-324W
1 1/2"-2"	BF43-777W



- NOTES:
- HDPE SHALL BE 200 PSI NSF APPROVED, SDR 9, MEETING ASTM D1248. TUBING SHALL BE ENDOT ENDOTRACE (OR APPROVED EQUAL).
  - REDUCED PRESSURE BACKFLOW PREVENTERS ARE REQUIRED FOR ALL COMMERCIAL SERVICES. TO BE INSTALLED BY A CERTIFIED TECHNICIAN AT OWNERS EXPENSE
  - ALL SERVICE TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVAL OR WITHIN 2'-0" OF BELL OR SPIGOT ENDS.
  - METERS 3" AND LARGER SHALL BE PLACED IN A VAULT TO BE CONSTRUCTED BY DEVELOPER IN ACCORDANCE WITH ARTICLE 4.04B4 LDC.
  - 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.
  - 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
  - WATER METERS INSTALLED IN AREAS SERVED BY RECLAIMED WATER OR AN ALTERNATE IRRIGATION SUPPLY SHALL BE EQUIPPED WITH DUAL CHECK BACKFLOW PREVENTERS.
  - WATER METERS SHALL BE RADIO READ.



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

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MARCH 2014

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

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)					
FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
PIPE SIZE (IN.) :					
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.

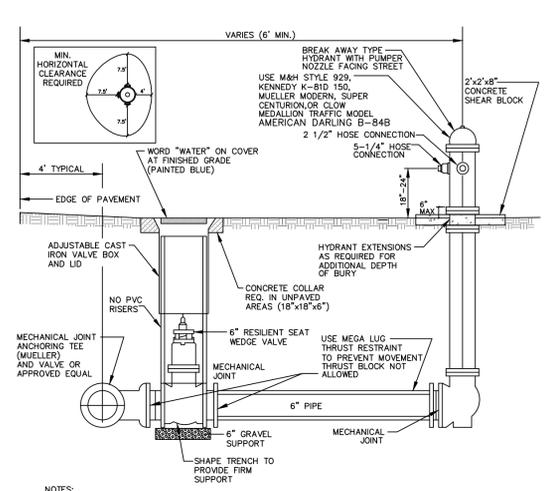
SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)					
FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
PIPE SIZE (IN.) :					
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (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.

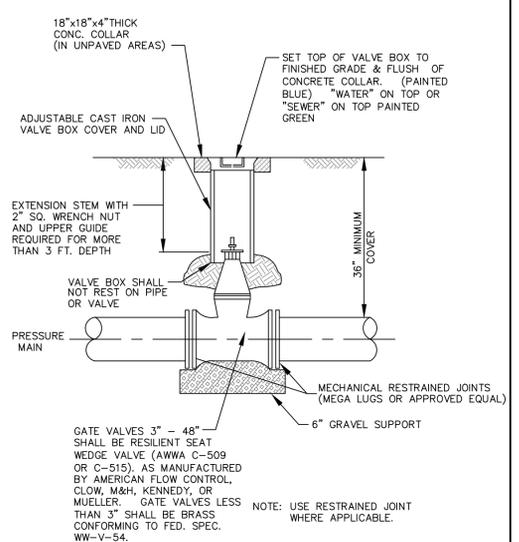
VALUES IN PARENTHESIS ARE FOR PIPE ENCASED IN POLYETHYLENE.

PVC AND D.I.P. RESTRAINED JOINT TABLE  
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- NOTES:
- ALL JOINTS SHALL BE RESTRAINED
  - HYDRANTS TO BE PAINTED SAFETY YELLOW (PUBLIC) OR RED (PRIVATE).
  - 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
  - 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 (AKROLOX 218), OR TWO COMPONENT POLYURETHANE PAINT.
  - HOSE CONNECTIONS TO BE AMERICAN STANDARD THREADED.
  - THE HYDRANT SHOE WILL BE COATED INSIDE WITH FUSION BONDED EPOXY. 6 MIL MINIMUM
  - 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.
  - RESTRAINED JOINTS REQUIRED. THRUST BLOCKS NOT PERMITTED.
  - BOLTS SHALL BE 316 STAINLESS STEEL
  - 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.

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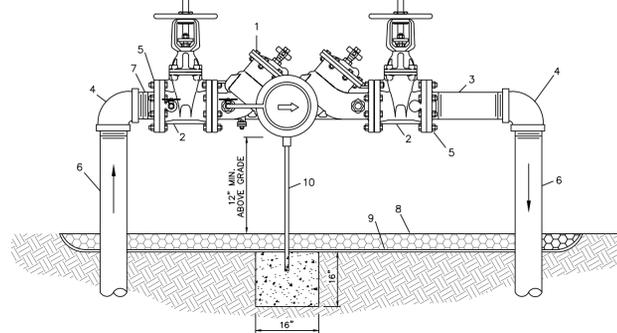
NOTE: USE RESTRAINED JOINT WHERE APPLICABLE.

GATE VALVE AND VALVE BOX

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W-2  
MARCH 2014

NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
WATER SYSTEM DETAILS			
ORMOND RENAISSANCE CONDOMINIUM ORMOND BEACH * FLORIDA			
FILE NO. 13-49WD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARDEN		
SCALE: NONE	SHEET 53 OF 56	SEAL	

ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM,  
WILKINS MODEL 375, WATTS MODEL 009 WITH OS&Y VALVES,



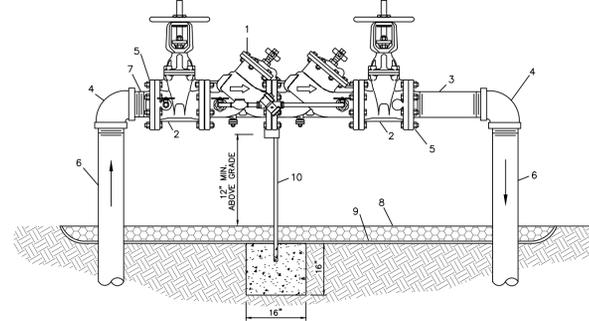
M A T E R I A L S		
ITEM	QUANT.	DESCRIPTION
1	1	3", 4" VALVE, REDUCED PRESSURE BACKFLOW PREVENTER
2	2	3", 4" VALVE, GATE, C.I., F-F
3	1	3", 4" NIPPLE, PVC., D.I., BRASS, OR COPPER (12" LONG) (OPT.)
4	2	3", 4" ELBOW, PVC., D.I., BRASS, OR COPPER - 90°
5	2	3", 4" FLANGE
6	2	3", 4" PIPE, PVC, D.I., BRASS OR COPPER (42" LONG)
7	1	3", 4" NIPPLE, PVC., D.I., BRASS OR COPPER (6" LONG)
8	*	PEA GRAVEL
9	*	PLASTIC LINER
10	1	PIPE SUPPORT / CONCRETE FOUNDATION

NOTE: -FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.  
-ASSEMBLY SHALL BE PAINTED FOREST GREEN.  
-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.  
C-900 OR D.I. PIPE AND FITTINGS SHALL BE RESTRAINED. COPPER PIPE AND FITTINGS SHALL BE SWEATED. BRASS PIPE AND FITTINGS SHALL BE THREADED. NO GALVANIZED PIPE OR FITTINGS ALLOWED.

REDUCED PRESSURE BACKFLOW PREVENTER  
(POTABLE WATER) 3" OR 4"

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ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM,  
WILKINS MODEL 350ADA, WATTS MODEL 757 DCDA OS&Y,  
AME'S COLT 300 (OS&Y), WATTS MODEL 709 DCDA



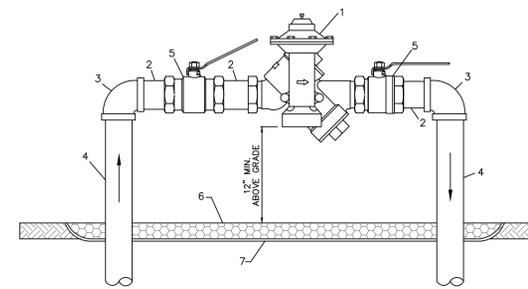
M A T E R I A L S		
ITEM	QUANT.	DESCRIPTION
1	1	4", 6", 8", 10" VALVE, DOUBLE CHECK BACKFLOW PREVENTER
2	2	4", 6", 8", 10" VALVE, GATE, C.I., F-F
3	1	4", 6", 8", 10" NIPPLE, PVC., BRASS, OR D.I., (12" LONG) (OPT.)
4	2	4", 6", 8", 10" ELBOW, PVC., BRASS, OR D.I., - 90°
5	2	4", 6", 8", 10" FLANGE, STEEL PIPE, SCREW-TYPE
6	2	4", 6", 8", 10" PIPE, PVC., BRASS, OR D.I. (42" LONG)
7	1	4", 6", 8", 10" NIPPLE, PVC., BRASS, OR D.I. (6" LONG)
8	*	PEA GRAVEL
9	*	PLASTIC LINER
10	1	PIPE SUPPORT / CONCRETE FOUNDATION

NOTE: -FIELD ADJUST AND CUT ITEM 6 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.

DOUBLE CHECK DETECTOR BACKFLOW PREVENTER  
(DEDICATED FIRE LINE) 2 1/2" - 10"

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MARCH 2014

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



M A T E R I A L S		
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

REDUCED PRESSURE BACKFLOW PREVENTER  
(POTABLE WATER & IRRIGATION)  
3/4", 1", 1 1/2", OR 2"

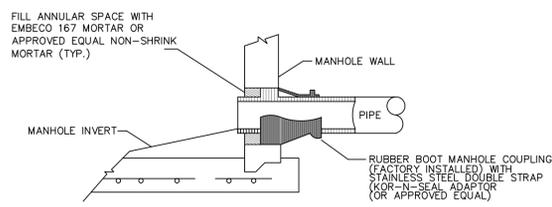
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NO.	DATE	DESCRIPTION	BY
R E V I S I O N S			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
WATER SYSTEM DETAILS			
ORMOND RENAISSANCE CONDOMINIUM ORMOND BEACH * FLORIDA			
FILE NO. 13-49WD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARNDEN		
SCALE: NONE	SHEET 54 OF 56	SEAL	

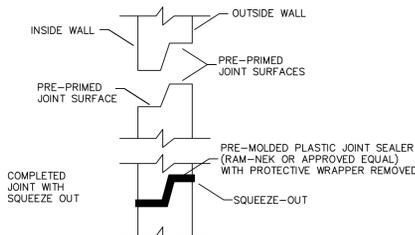
**SANITARY SEWER CONSTRUCTION GENERAL NOTES** INDEX  
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MARCH 2014

- THE CITY'S PUBLIC UTILITY DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY SEWER CONSTRUCTION.
- 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).
- 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.
- MINIMUM ALLOWABLE SANITARY SEWER SLOPES ALLOWED ARE:  
8" PIPE 0.40%  
10" PIPE 0.30%  
12" PIPE 0.22%
- SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY THE CITY.
- 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.
- 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.
- 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.
- 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 TAPE 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).
- MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
- 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.
- THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
- 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).
- NO DOGHOUSE TYPE MANHOLES ARE PERMITTED WITHIN THE CITY OF ORMOND BEACH.
- INDIVIDUAL SANITARY SERVICE CONNECTORS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, BUT TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS.
- 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.
- FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
- 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.
- 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.
- SEE CHART ON DETAIL INDEX S-1C FOR FORCE MAIN AND REUSE PIPE SIZE AND MATERIALS.
- THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELETYPE ANY AND ALL SANITARY SEWER MAIN LINES AND LATERALS PRIOR TO ANY FINAL ACCEPTANCE, AND RESERVES THE RIGHT TO REQUEST WATER AND AIR TESTING.
- ALL SEWER MAINS PRIOR TO ACCEPTANCE BY THE CITY SHALL BE TELETYPE 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 LOSS DESCRIBING THE CONDITION OF THE LINES SHALL ACCOMPANY THE DVD SUBMISSION TO THE CITY.
- CONTRACTORS SHALL BE REQUIRED TO TELETYPE 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.
- 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.
- 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.
- SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT Y OR BY A METAL TAB SET INTO THE PAVEMENT.
- 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 6" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL PERSONALLY INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.
- 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.
- 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.
- 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.



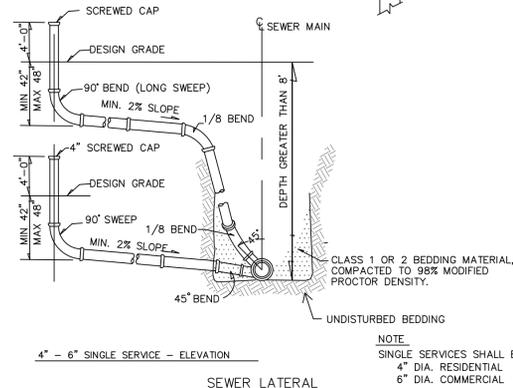
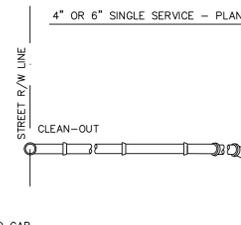
MANHOLE PIPE CONNECTION



NOTE: ALL CONNECTIONS TO EXISTING SANITARY SEWER MANHOLES SHALL UTILIZE A CORING METHOD AND THE IN-FIELD INSTALLATION OF A RUBBER BOOT INTO THE MANHOLE AND THEN SECURED WITH A STAINLESS STEEL DOUBLE STRAP.

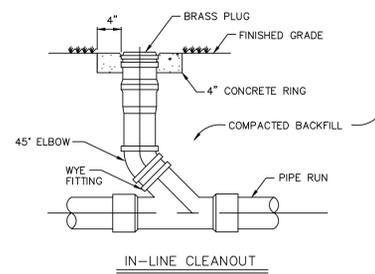
PRECAST JOINT CONNECTION

RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL

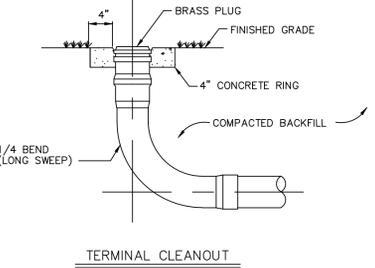


NOTE: USE OF STYRENE MATERIAL WILL NOT BE PERMITTED.

SEWER LATERAL DETAIL



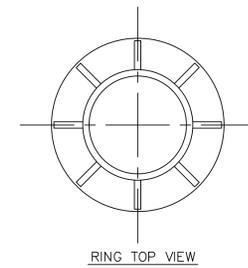
IN-LINE CLEANOUT



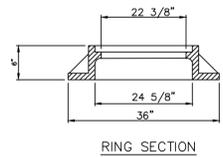
TERMINAL CLEANOUT

NOTE: CONCRETE COLLAR REQUIRED IN UNPAVED AREAS

CLEANOUT DETAIL



RING TOP VIEW



RING SECTION

NOTE: MANHOLE RING AND COVER SHALL CONFORM TO FDOT STANDARD INDEX 201, SHEET 1 OF 6, AS SHOWN IN ROADWAY TRAFFIC DESIGN STANDARDS.

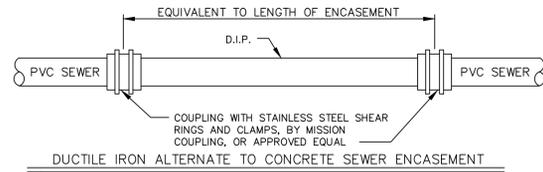
NOTE: YEAR STAMP TO MATCH CASTING YEAR

U. S. FOUNDRY 195E-ORS ("O" RING SEAL) OR APPROVED EQUAL

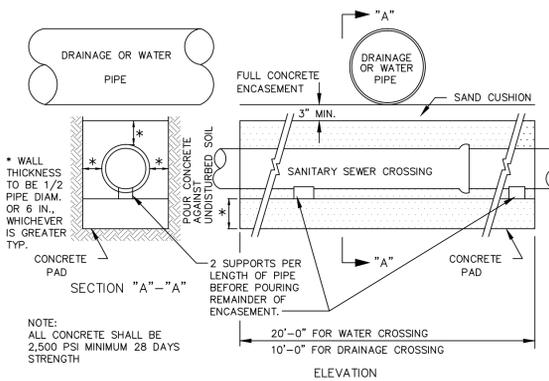
COVER TYPE	LOAD RATING	COVER WEIGHT	TOTAL WEIGHT
BJ	HEAVY DUTY	200	350

FOR MANHOLES IN FL. D.O.T. R/W OR AS DETERMINED BY THE CITY. THE COVER TYPE SHALL BE - BJ HEAVY DUTY 200 LBS W/ ORS.

MANHOLE RING AND COVER DETAIL



DUCTILE IRON ALTERNATE TO CONCRETE SEWER ENCASEMENT

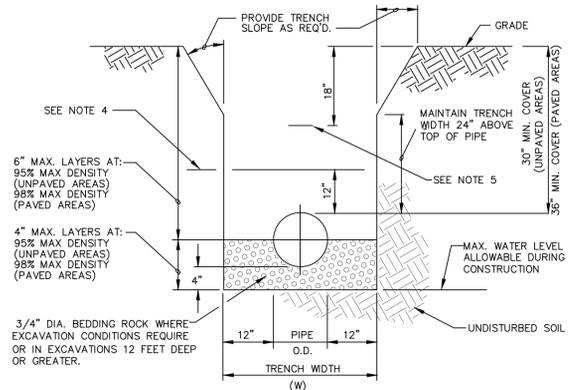


\* WALL THICKNESS TO BE 1/2 PIPE DIAM. OR 6 IN., WHICHEVER IS GREATER TYP.

NOTE: ALL CONCRETE SHALL BE 2,500 PSI MINIMUM 28 DAYS STRENGTH

WATER MAIN SHALL BE LOCATED ABOVE ENCASEMENT AS SHOWN ON PLANS OR DETERMINED IN THE FIELD. USE ENCASEMENT WHERE VERTICAL CLEARANCE BETWEEN WATER MAIN AND SEWER IS LESS THAN 18 INCHES.

SANITARY SEWER CROSSING



PIPE INSTALLATION DETAIL

NOTES:

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

PIPE INSTALLATION

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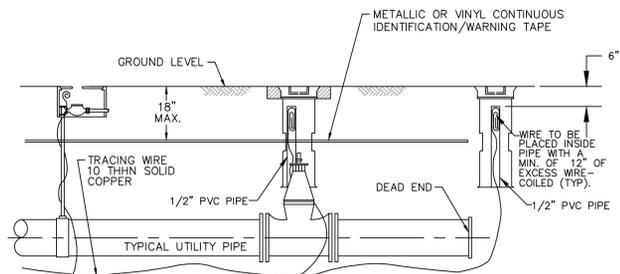
FORCE MAIN & REUSE MAIN STANDARDS		
DIAMETER	MATERIAL	STANDARD
2" - 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" - 12"	PVC 1120 / CLASS 100	AWWA C 900
14" - 36" (16" - 24" DR - 18) (30" - 36" DR - 21)	PVC 1120	AWWA C 905
ALL SIZES	HDPE (DIPS) DR 13.5	ASTM F 714

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

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NO.	DATE	DESCRIPTION	BY
REVISIONS			
<b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>			
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com CERTIFICATE OF AUTHORIZATION NUMBER: 00003910			
SEWER SYSTEM DETAILS			
ORMOND RENAISSANCE CONDOMINIUM ORMOND BEACH * FLORIDA			
FILE NO. 13-49SD.DWG	DESIGNER: P.MYNCHENBERG		
DATE: 5.23.14	CADD TECH: C.HARDEN		
SCALE: NONE	SHEET 55 OF 56	SEAL	



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 THIN SOLID COPPER TRACING WIRE. IF PIPE IS INSTALLED BY DIRECTIONAL BORE, USE (2) 10 THIN SOLID COPPER TRACING WIRE.

THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 50' 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.

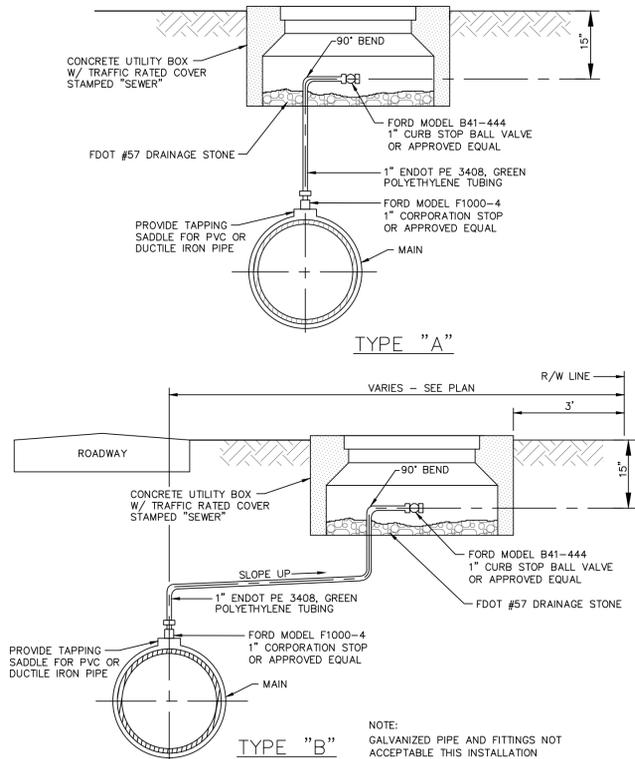
TRACING WIRE BETWEEN INTERVALS SHALL BE INSTALLED SO AS TO PROVIDE CONTINUOUS CURRENT WHEN LINE LOCATION EQUIPMENT IS CONNECTED TO THE TRACING WIRE. WIRE BRANCHING FROM MAIN LINES SHALL BE LINKED BY A CITY APPROVED CONNECTOR SUCH AS KING # 2011 SAFETY SEALED CONNECTORS OR APPROVED EQUAL.

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

- 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.
- FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION.
- 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.
- DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN.
- WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NUT.

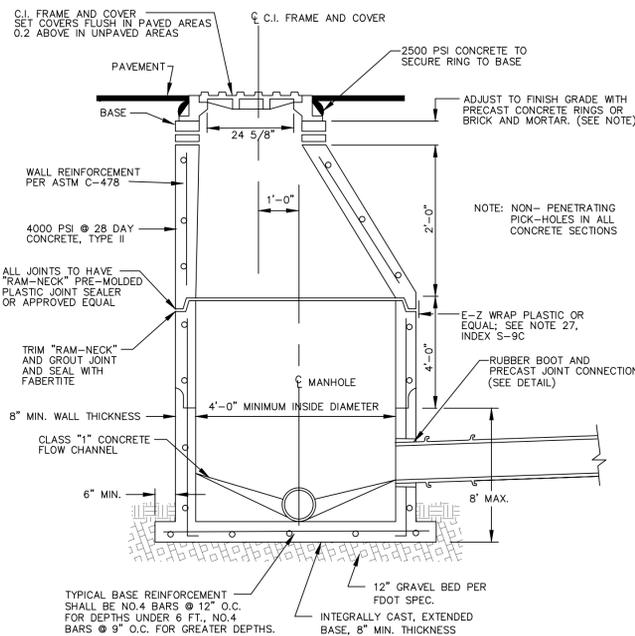
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MANUAL AIR RELEASE VALVE

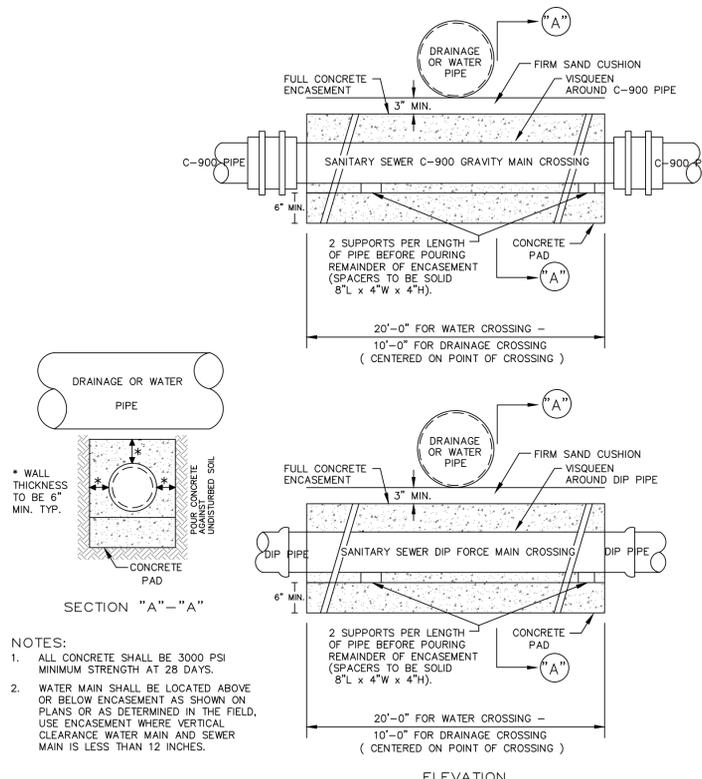
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- NOTES:
- THE TOP OF THE CONE SHOULD BE SET 2 1/2" MIN. - 12" MAX. BELOW THE BOTTOM OF THE MANHOLE COVER FRAME TO ACCOMMODATE FUTURE GRADE CHANGES (USE BRICK AND MORTAR OR PRECAST CONCRETE RINGS).
  - THE INSIDE OR OUTSIDE OF MANHOLES SHALL NOT BE COATED, EXCEPT MANHOLES WHICH RECEIVE DISCHARGE FROM A FORCE MAIN AND ANY MANHOLES LOCATED WITHIN 200' OF A LIFT STATION OR ANY MANHOLES OUTSIDE OF THE RIGHT-OF-WAY. A SULFIDE CORROSION-RESISTANT MATERIAL SHALL BE USED AS LINER FOR THOSE MANHOLES THAT MEET THE CONDITIONS STATED ABOVE. THE LINER SHALL BE EITHER FIBERGLASS OR PVC OR AS APPROVED BY THE CITY ENGINEER.
  - NO DOGHOUSE TYPE MANHOLES SHALL BE PERMITTED WITHIN THE CITY OF ORMOND BEACH.

TYPE "A" PRECAST MANHOLE

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- NOTES:
- ALL CONCRETE SHALL BE 3000 PSI MINIMUM STRENGTH AT 28 DAYS.
  - WATER MAIN SHALL BE LOCATED ABOVE OR BELOW ENCASEMENT AS SHOWN ON PLANS OR AS DETERMINED IN THE FIELD. USE ENCASEMENT WHERE VERTICAL CLEARANCE WATER MAIN AND SEWER MAIN IS LESS THAN 12 INCHES.

SANITARY SEWER CONCRETE ENCASEMENT

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