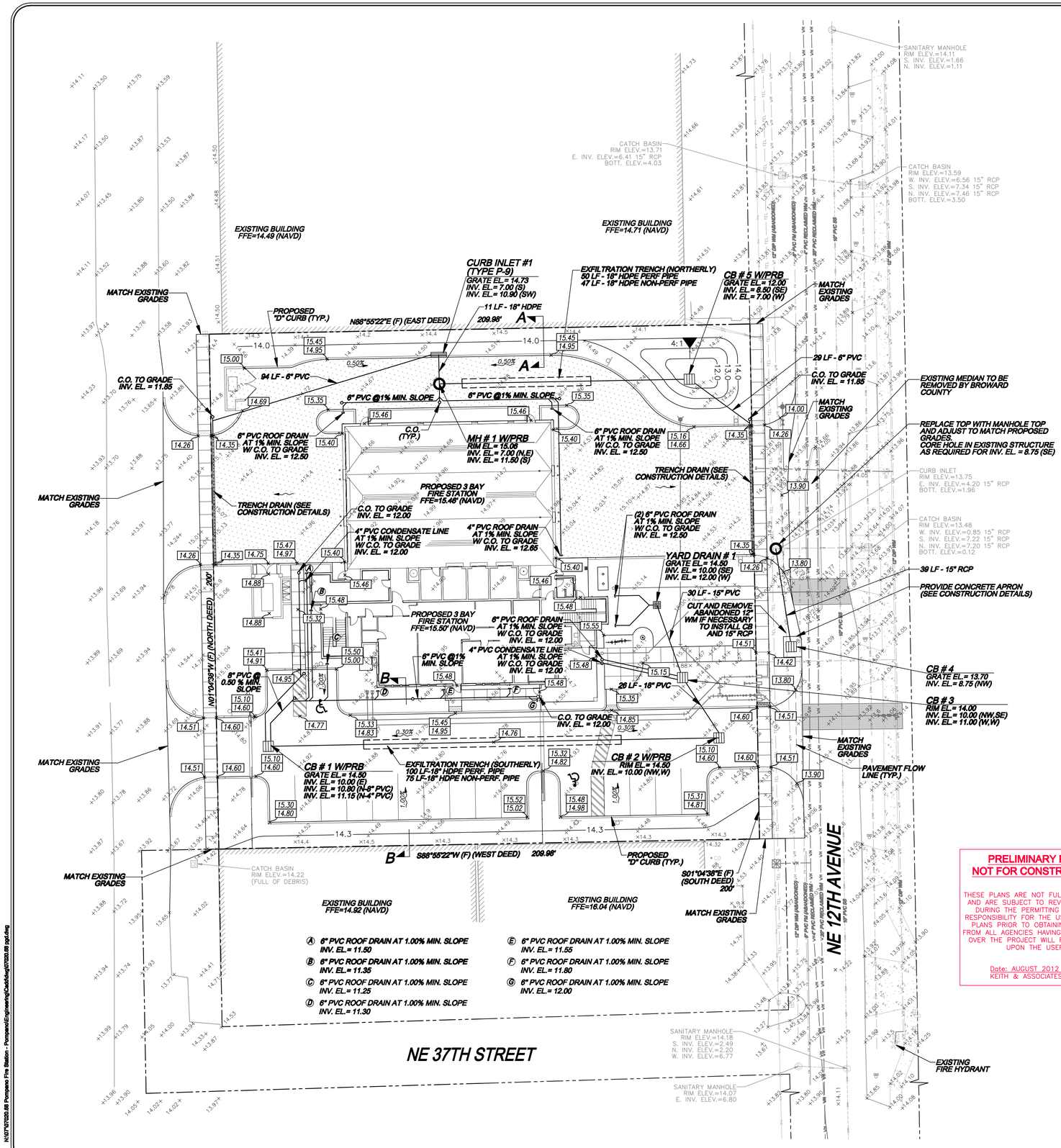


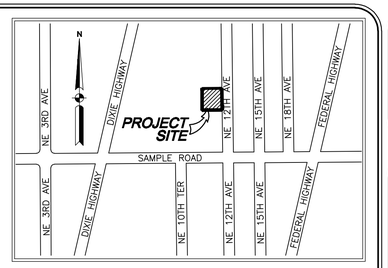
N:\07%\07020.68 Pompano Fire Station - Pompano\Engineering\Cad\dwg\07020.68 bpd.dwg

N

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.



VICINITY MAP
(NOT TO SCALE)

LEGEND

- PROPOSED RECONSTRUCTION – RESTORATION AREA, REFER TO CONSTRUCTION DETAILS
- PROPOSED CONCRETE PAVEMENT, REFER TO ARCHITECTURAL PLANS FOR DETAILS
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED STORM MANHOLE
- 14.50 PROPOSED GRADE ELEVATION
- DIRECTION OF SURFACE FLOW
- PROPOSED SEWER LATERAL WITH CLEANOUT
- PROPOSED WATER SERVICE
- PROPOSED GATE VALVE
- PROPERTY LINE
- EX. OVERHEAD LINE
- EX. TELEPHONE LINE
- EX. STORM LINE
- EX. FORCE MAIN
- EX. WATER MAIN
- EX. SANITARY SEWER MAIN
- EX. WATER METER
- EX. RECLAIMED WATER SERVICE
- EX. WATER VALVE
- EX. FIRE HYDRANT
- EX. DRAINAGE CATCH BASIN
- EX. SEWER MANHOLE
- EX. MANHOLE
- EX. SANITARY CLEANOUT
- EX. WOOD UTILITY POLE
- EX. WOOD UTILITY POLE
- EX. MAILBOX
- 9.1 EX. GRADE ELEVATION

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FAMILIARIZING THEMSELVES WITH ALL OF THE PERMITS PREVIOUSLY ACQUIRED FOR THIS PROJECT. THE CONDITIONS OUTLINED IN THE PERMITS ARE IN FORCE AND FULL EFFECT AS PART OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE TO ENSURE ALL WORK ASSOCIATED WITH THIS PROJECT IS IN COMPLIANCE WITH ALL OF THE REQUIREMENTS OF THESE PERMITS AS WELL AS ANY GOVERNING AGENCY HAVING JURISDICTION OVER THE PROJECT.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING A VALID NPDES PERMIT, UNLESS SUCH PERMIT IS DETERMINED TO BE NON–APPLICABLE BY REGULATORY AGENCY HAVING PROPER JURISDICTION REGARDING THIS MATTER. REGARDLESS OF WHETHER AN NPDES PERMIT IS REQUIRED, THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO CONTAIN ALL UNCONFINED PARTICULATE MATTER WITHIN THE PROJECT BOUNDARIES.
3. CONTRACTOR SHALL ADJUST ALL MANHOLE FRAMES & COVERS, AND EXISTING SIGNAGE/PAVEMENT MARKINGS AFFECTED BY THE PROPOSED IMPROVEMENTS & NEW LAYOUT. CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY RELOCATION AND GRADE ADJUSTMENTS WITHIN PROJECT LIMITS AND FOR COORDINATION WITH APPLICABLE UTILITY COMPANIES PRIOR TO ADJUSTMENTS. CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 1–800–432–4770.
5. INFORMATION AS THE LOCATION OF EXISTING UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS AS SHOWN ON THE DRAWINGS ARE NOT GUARANTEED AS TO THE ACCURACY. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO SATISFY HIMSELF AS TO THE EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO SAID UTILITIES AS A RESULT OF CONSTRUCTION ACTIVITIES.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING CONFLICTS BETWEEN ALL EXISTING UTILITIES WITH PROPOSED STRUCTURES AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ALL CONFLICTS.
7. ALL WASTE MATERIAL/DEBRIS TO BE PROPERLY DISPOSED OF OFF–SITE BY CONTRACTOR.
8. ALL AREAS OUTSIDE THE PROJECT LIMITS DAMAGED BY THE CONSTRUCTION WORK MUST BE RESTORED TO ITS ORIGINAL CONDITION, INCLUDING AREAS COVERED WITH SOD, CONCRETE, AND PAVEMENT.
9. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS SAFE AND ADEQUATE PEDESTRIAN AND VEHICULAR ACCESS THROUGHOUT CONSTRUCTION OPERATIONS.
10. CONTRACTOR IS RESPONSIBLE FOR PROVIDING MAINTENANCE OF TRAFFIC THROUGHOUT CONSTRUCTION. THE MOT SHALL BE PERFORMED IN ACCORDANCE TO THE MUTCD AND FDOT STANDARDS AND SHALL BE APPROVED BY THE CITY, THE ENGINEER AND ANY OTHER APPLICABLE AGENCIES PRIOR TO STARTING CONSTRUCTION OF THE PROJECT.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY RECORD DRAWINGS TO THE ENGINEER OF RECORD. ONCE THE RECORD DRAWINGS ARE APPROVED BY THE ENGINEER OF RECORD, THE ENGINEER WILL SUBMIT FINAL CERTIFICATION PACKAGES WITH COPIES OF THE RECORD DRAWINGS TO THE AGENCIES FOR CERTIFICATION APPROVALS AND PERMIT CLOSE–OUTS. THE RECORD DRAWINGS SHALL INDICATE ALL INFORMATION REQUIRED BY THE CITY, ENGINEER OF RECORD AND ALL AGENCIES HAVING JURISDICTION. THE RECORD DRAWINGS PROVIDED BY THE CONTRACTOR SHALL BE SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR CURRENTLY REGISTERED IN THE STATE OF FLORIDA AND SHALL BE FIRST REVIEWED BY THE CONTRACTOR TO ASSURE THEY ARE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER OF RECORD AND ALL PERMITTING AGENCIES IN ORDER TO OBTAIN FINAL CERTIFICATION APPROVALS AND PERMIT CLOSE–OUTS. THE PROJECT WILL NOT BE CONSIDERED COMPLETE UNTIL ALL FINAL CERTIFICATIONS HAVE BEEN APPROVED AND PERMITS HAVE BEEN CLOSED–OUT.
12. CONTRACTOR IS RESPONSIBLE FOR CLEARING/GRUBBING WITHIN THE PROJECT LIMITS. REFER TO LANDSCAPE PLANS FOR VEGETATION AND TREE REMOVAL REQUIREMENTS.

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

Date: AUGUST 2012
KEITH & ASSOCIATES, INC.

08.06.2012 BID-PERMIT SET

DATE:	11/29/ 2011
SCALE:	1" = 20'
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

REVISION	DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 53256
(FOR THE FIRM)

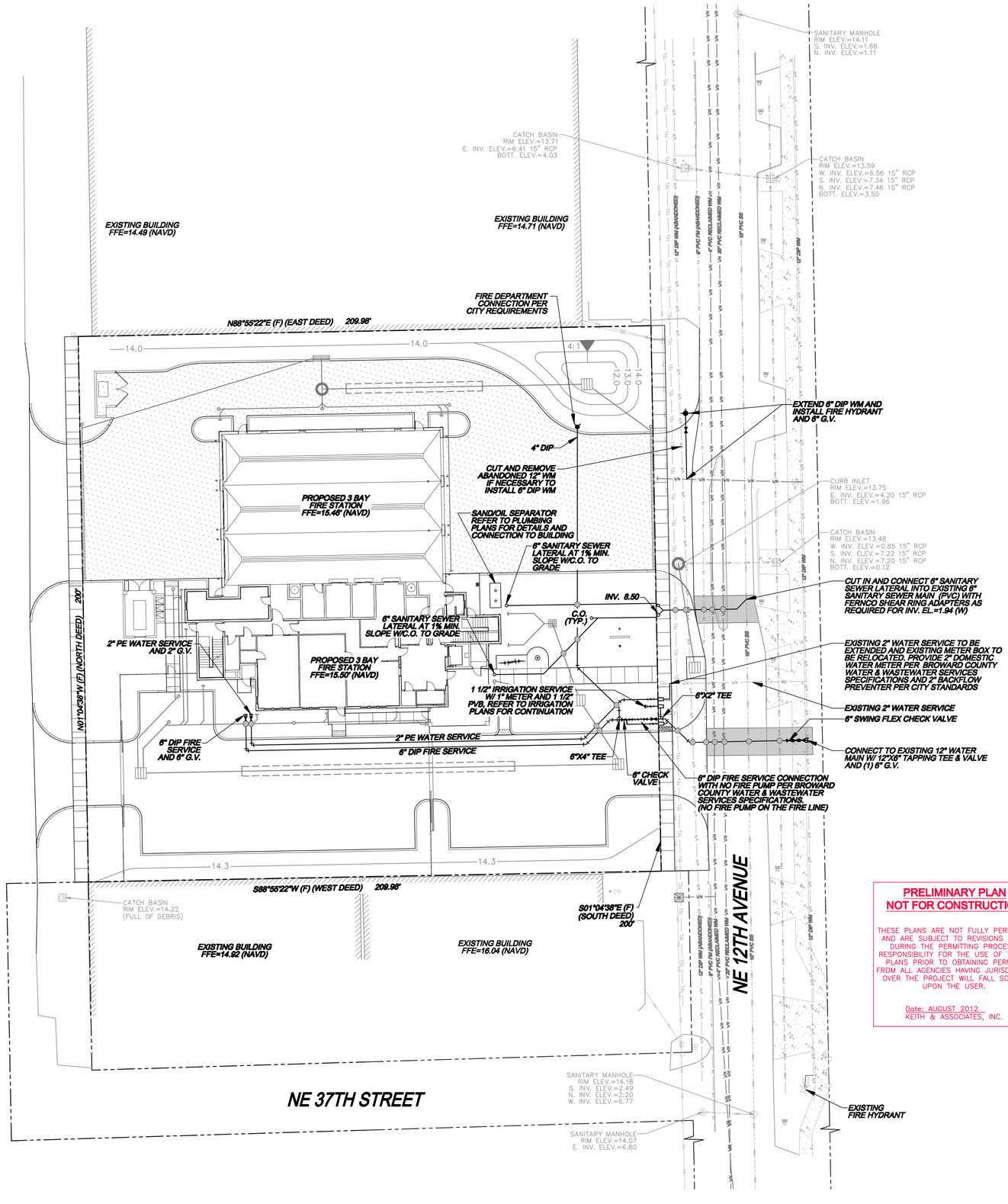
KEITH
4 Consulting Engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

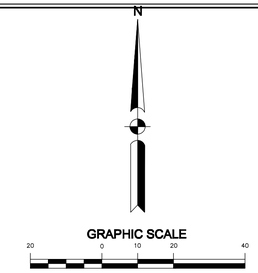
CITY OF POMPANO BEACH FIRE STATION 103
PAVING, GRADING & DRAINAGE PLAN

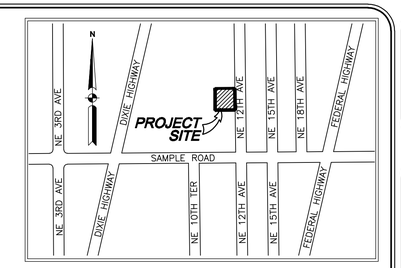
CITY OF POMPANO BEACH — BROWARD COUNTY, FLORIDA

SHEET NO. C-1

PROJECT NO. 07020.68







VICINITY MAP
(NOT TO SCALE)

LEGEND

- PROPOSED RECONSTRUCTION – RESTORATION AREA, REFER TO CONSTRUCTION DETAILS
- PROPOSED CONCRETE APRON, REFER TO ARCHITECTURAL PLANS FOR DETAILS
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- PROPOSED YARD DRAIN
- PROPOSED STORM MANHOLE
- PROPOSED SEWER LATERAL WITH CLEANOUT
- PROPOSED WATER SERVICE
- PROPOSED GATE VALVE
- PROPERTY LINE
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- EX. DRAINAGE CATCH BASIN
- EX. SEWER MANHOLE
- EX. MANHOLE
- EX. SANITARY CLEANOUT
- EX. WOOD UTILITY POLE
- EX. WOOD UTILITY POLE
- EX. MAILBOX

UTILITY CROSSINGS:
CONTRACTOR SHALL VERIFY LOCATION AND SIZE OF EXISTING UTILITIES, AND ADJUST AS NEEDED (TYP.). CONTRACTOR SHALL PROVIDE CROSSING INFORMATION INCLUDING FG, BOP, TOP AND CLEARANCE (TYP.)

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

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Date: AUGUST 2012
KEITH & ASSOCIATES, INC.

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DATE:	11/28/ 2011
SCALE:	1" = 20'
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

REVISION	DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 53256
(FOR THE FIRM)

KEITH
4. Consulting Engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7028

CITY OF POMPANO BEACH
FIRE STATION 103
WATER & SEWER PLAN

BROWARD COUNTY, FLORIDA

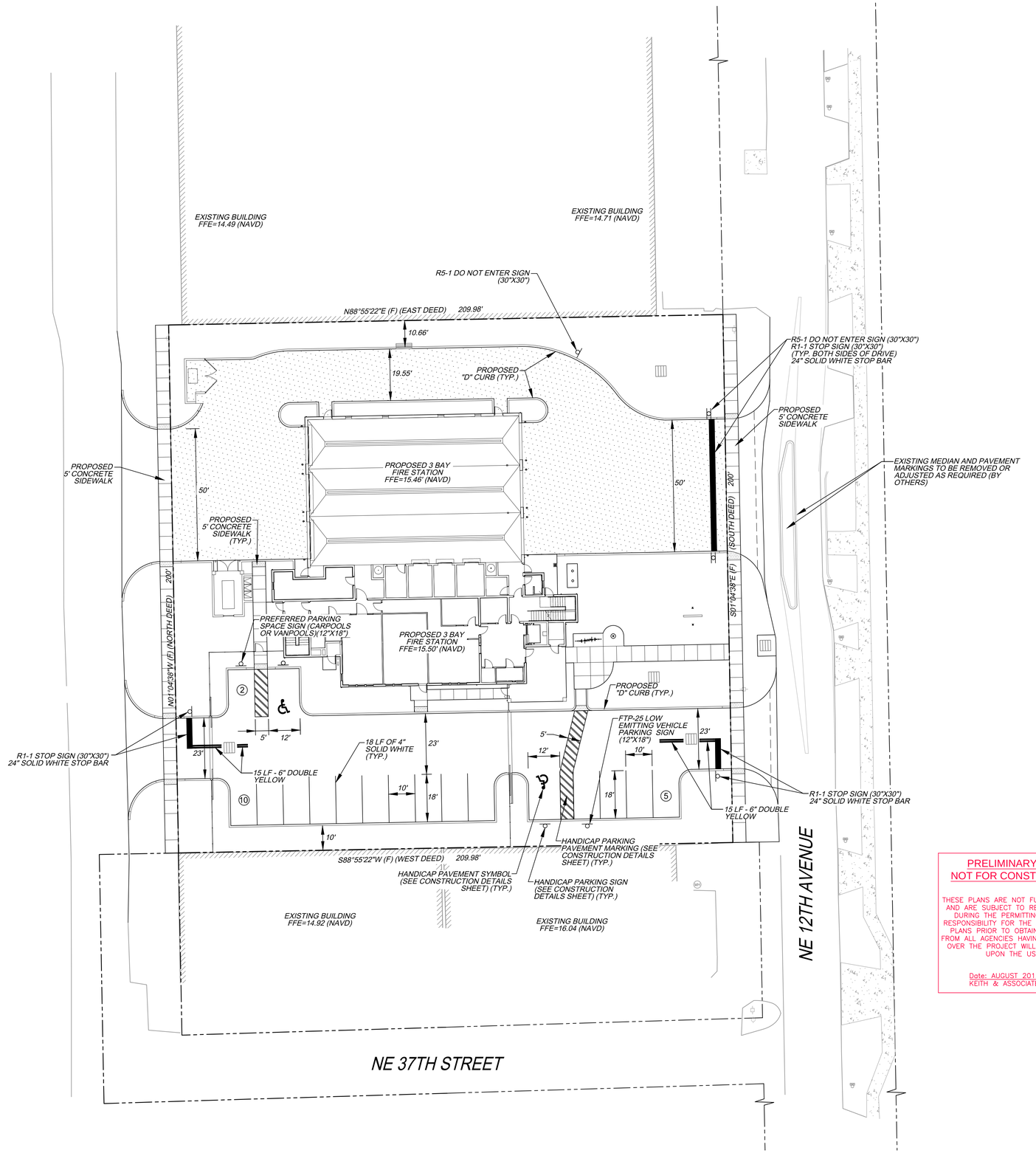
CITY OF POMPANO BEACH

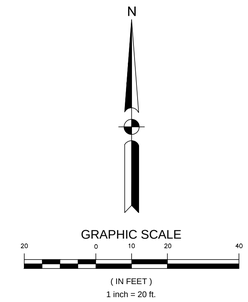
08.06.2012 BID-PERMIT SET

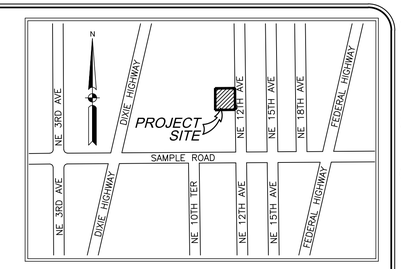
SHEET NO. C-2

PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cad\dwg\07020.68 wa.dwg







VICINITY MAP
(NOT TO SCALE)

LEGEND

- (8) PROPOSED PARKING SPACES
- PROPOSED TRUNCATED DOMES
- PROPOSED CONCRETE APRON, REFER TO ARCHITECTURAL PLANS FOR DETAILS
- PROPOSED SIGN
- PROPERTY LINE
- EX. WATER METER
- EX. RECLAIMED WATER SERVICE
- EX. WATER VALVE
- EX. FIRE HYDRANT
- EX. DRAINAGE CATCH BASIN
- EX. SEWER MANHOLE
- EX. MANHOLE
- EX. SANITARY CLEANOUT
- EX. WOOD UTILITY POLE
- EX. WOOD UTILITY POLE
- EX. MAILBOX

GENERAL NOTES - PAVEMENT MARKING AND SIGNAGE

1. EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SANDBLASTING ONLY.

2. ALL EXISTING TRAFFIC CONTROL SIGNAGE AND PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TRAFFIC CONTROL SIGNAGE AND PAVEMENT MARKINGS WILL BE REMOVED OR RELOCATED BY THE CONTRACTOR.

3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND CURRENT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS.

4. ALL MARKINGS WITHIN R/W SHALL BE THERMOPLASTIC. MARKINGS SHALL CONFORM TO FDOT STANDARD SPECIFICATIONS, SECTION 711, DESIGN STANDARDS, INDEX 17346, AND THE BROWARD COUNTY TRAFFIC ENGINEERING DEPARMENT STANDARDS AND SPECIFICATIONS.

5. SEE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS FOR PLACEMENT OF RPM'S. RPM'S SHALL BE CLASS "B" OR EQUIVALENT, APPLIED WITH EPOXY OR BITUMINOUS ADHESIVE.

6. FDOT APPROVED SEALER SHALL BE USED WHEN APPLYING MARKINGS ON CONCRETE.

7. VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF SIGN POSTS.

8. ALL PAVEMENT MARKINGS ON PAVER SYSTEMS SHALL BE 3M 270ES/271ES TAPE AND APPLIED AS PER MANUFACTURES SPECIFICATIONS.

9. ALL PAVEMENT MARKINGS AND SIGNING DAMAGED DURING CONSTRUCTION, SHALL BE RESTORED TO BROWARD COUNTY TRAFFIC ENGINEERING STANDARD (CURRENT EDITION).

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

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Date: AUGUST 2012
KEITH & ASSOCIATES, INC.

08.06.2012 BID-PERMIT SET

DATE:	11/29/2011
SCALE:	1" = 20'
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

DATE	REVISION
7-13-2012	GENERAL REV. FOR 100% DRAWINGS

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 33256
(FOR THE FIRM)

KEITH
a consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF
AUTHORIZATION NUMBER - 7928

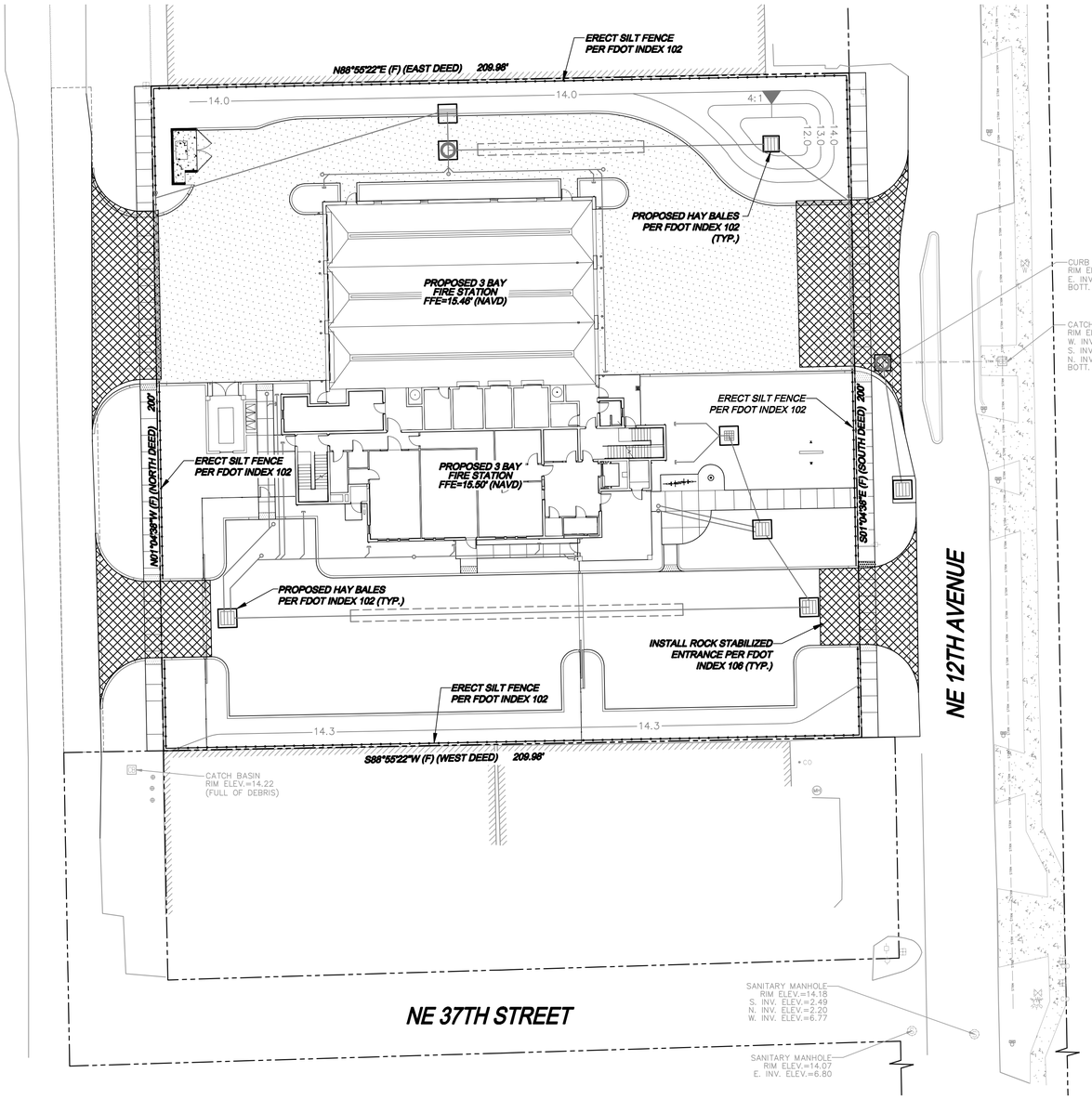
CITY OF POMPANO BEACH
FIRE STATION 103
PAVEMENT MARKING AND SIGNAGE PLAN

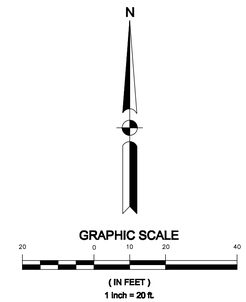
CITY OF POMPANO BEACH — BROWARD COUNTY, FLORIDA

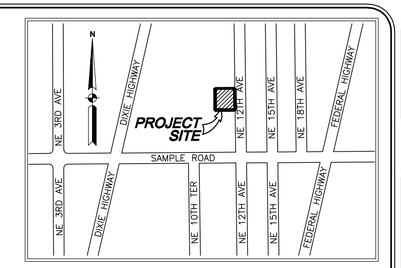
SHEET NO. C-3

PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cad\dwg\07020.68 pms.dwg







VICINITY MAP
(NOT TO SCALE)

LEGEND

- PROPOSED CATCH BASIN WITH HAY BALES
- PROPOSED YARD DRAIN WITH HAY BALES
- PROPOSED STORM MANHOLE WITH HAY BALES
- PROPOSED SILT FENCE
- PROPOSED ROCK STABILIZED ENTRANCE PER FDOT INDEX 106
- PROPOSED CONCRETE APRON, REFER TO ARCHITECTURAL PLANS FOR DETAILS
- PROPERTY LINE
- EX. WATER METER
- EX. WATER VALVE
- EX. FIRE HYDRANT
- EX. DRAINAGE CATCH BASIN
- EX. SEWER MANHOLE
- EX. MANHOLE
- EX. SANITARY CLEANOUT
- EX. WOOD UTILITY POLE
- EX. WOOD UTILITY POLE
- EX. MAILBOX
- EX. STORM LINE

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN FLORIDA (HEREAFTER REFERRED TO AS FL GUIDELINES).
2. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION SHALL BE MADE OF ALL INSTALLED EROSION CONTROL MEASURES AND REPAIRS SHALL BE CONDUCTED TO ENSURE THEIR CONTINUING FUNCTION AS DESIGNED.
3. CATCH BASIN, INLETS AND STORM SEWER MANHOLES STRUCTURES WITHIN SITE WILL BE PROTECTED DURING FILLING OPERATIONS FROM SEDIMENT RUNOFF AND DEBRIS BY PLACING A FILTER FABRIC MATERIAL IN THE FRAME AND GRATE/MANHOLE COVER. PREVENTIVE METHODS MUST BE UTILIZED AROUND THESE STRUCTURES (DURING FILLING OPERATIONS) BY GRADING TO DRAIN AWAY FROM STRUCTURES AND ANY OTHER METHODS APPROVED BY THE CITY ENGINEER OR DESIGN ENGINEER OF RECORD.
4. THE CONTRACTOR SHALL INSTALL A SOIL TRACKING PREVENTION DEVICE AS PER FDOT DESIGN STANDARDS INDEX 106. THE CONTRACTOR SHALL TAKE MEASURES TO INSURE THE CLEANUP OF SEDIMENTS THAT HAVE BEEN TRACKED BY VEHICLES OR HAVE BEEN TRANSPORTED BY WIND OR STORM WATER ABOUT THE SITE OR ONTO NEARBY ROADWAYS. STABILIZED CONSTRUCTION ENTRANCES AND CONSTRUCTION ROADS, IF APPROPRIATE, SHALL BE IMPLEMENTED IN ORDER TO REDUCE OFFSITE TRACKING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FAMILIARIZING THEMSELVES WITH ALL OF THE PERMITS PREVIOUSLY ACQUIRED FOR THIS PROJECT. THE CONDITIONS OUTLINED IN THE PERMITS ARE IN FORCE AND FULL EFFECT AS PART OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL WORK ASSOCIATED WITH THIS PROJECT IS IN COMPLIANCE WITH ALL OF THE REQUIREMENTS OF THESE PERMITS.
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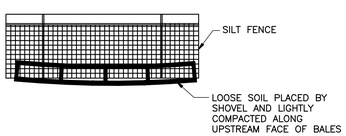
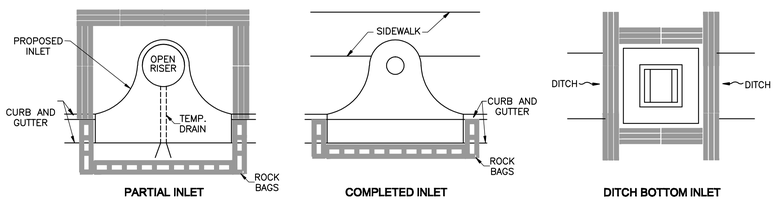


NOTE:
1. DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING COURSES. SILT FENCES ARE TO BE PLACED AT UPLAND LOCATIONS.
2. BALES TO BE STAKED AT THE DIRECTION OF THE ENGINEER, CITY, BCEPD OR SFWMD.
3. WHERE THE SILT FENCE IS USED AS SLOPE PROTECTION, IT IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.

BALES BACKED BY SILT FENCE
PER FDOT INDEX 102



NOTE:
1. ANCHOR BALES WITH 2 STAKES PER BALE.
2. WHEN USED IN CONJUNCTION WITH A SILT FENCE, HAY BALES SHALL BE PLACED ON THE UPSTREAM SIDE OF THE FENCE.

PROTECTION AROUND INLETS OR SIMILAR STRUCTURES
PER FDOT INDEX 102

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NOT FOR CONSTRUCTION

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DRAWN BY: D.C.
DESIGN BY: S.B.
CHECKED BY: J.T.

REVISION
DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 53256
(FOR THE FIRM)

KEITH
& Associates
Consulting Engineers, L.L.C.
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

CITY OF POMPANO BEACH FIRE STATION 103
STORMWATER POLLUTION PREVENTION PLAN

CITY OF POMPANO BEACH
BROWARD COUNTY, FLORIDA

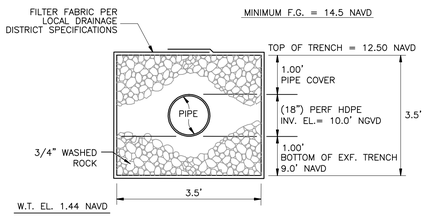
SHEET NO. C-4
PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cadd\Aug\07020.68 swpp.dwg

STRUCTURE No.	FRAME & GRATE	COMMENTS		
		GRATE/RIM EL.	INV. EL.	P.R.B.
CATCH BASIN 1	USF 4155-6209	14.50	10.00 (E), 10.80 (N), 11.15 (N)	(E)
CATCH BASIN 2	USF 4155-6209	14.50	10.00 (NW,W)	(W)
CATCH BASIN 3	USF 4155-6209	14.00	10.00 (NW,SE), 11.00 (W,W)	
CATCH BASIN 4	USF 4155-6209	13.70	8.75 (NW)	
CATCH BASIN 5	USF 4155-6209	12.00	8.50 (SE), 7.00 (W)	(W)
CURB INLET 1	P-9	14.73	7.00 (S), 10.90 (SW)	
MANHOLE 1	USF 420	15.06	7.00 (N,E), 11.50 (S)	(E)
YARD DRAIN 1	PER MANUFACTURER	14.50	10.00 (SE), 12.00 (W)	

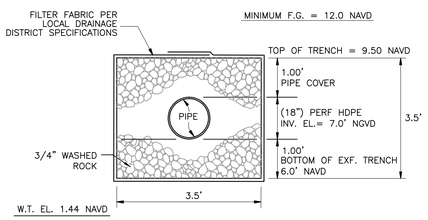
NOTE: LOCKING GRATES TO BE PROVIDED AS REQUIRED BY THE CITY OF POMPANO BEACH

STRUCTURE SCHEDULE



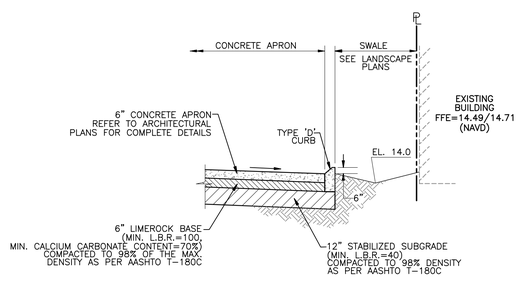
EXFILTRATION TRENCH SECTION (SOUTHERLY)

N.T.S.



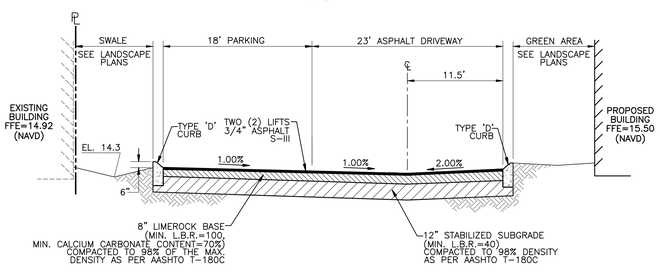
EXFILTRATION TRENCH SECTION (NORTHERLY)

N.T.S.



SECTION A-A

N.T.S.



SECTION B-B

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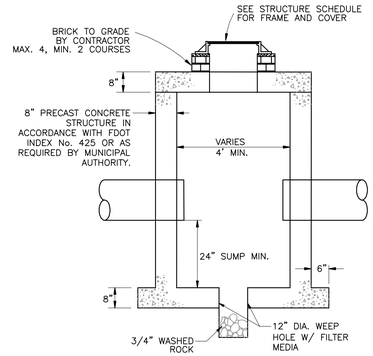
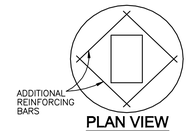


NOTES:
1. STRUCTURE MANUFACTURER AND/OR CONTRACTOR SHALL CONFIRM ALL STEEL REINFORCEMENT MEETS FDOT STANDARDS PER INDEX 200, SECTION 415 AND 425 PRIOR TO SUBMITTING ANY SHOPDRAWINGS FOR APPROVAL.
2. USE WEEP HOLE ONLY WHEN BOTTOM OF STRUCTURE IS ABOVE THE WATER TABLE ELEVATION.

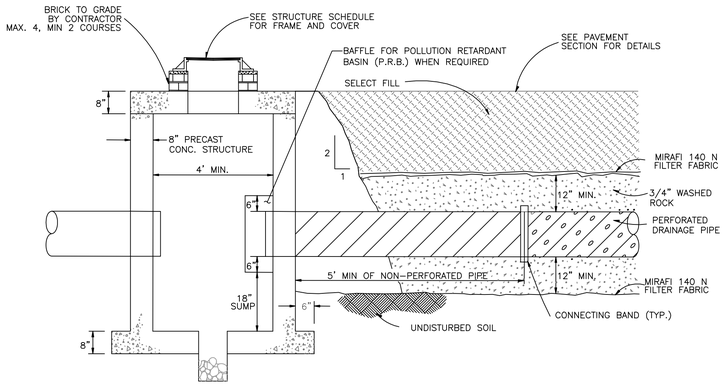
TYPICAL CATCH BASIN / MANHOLE

N.T.S.



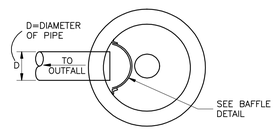
PLAN VIEW TOP SLAB FOR CATCH BASINS

PLAN VIEW TOP SLAB FOR MANHOLES

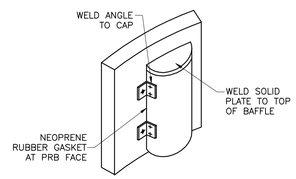


CATCH BASIN W/P.R.B. AND EXFILTRATION TRENCH

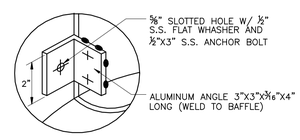
N.T.S.



PLAN VIEW



BAFFLE DETAIL

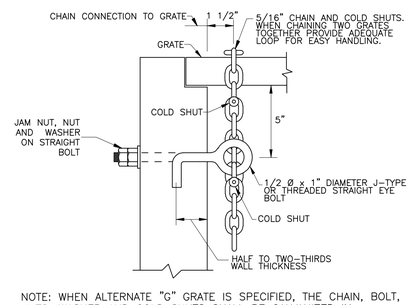


BRACKET DETAIL

NOTE:
BAFFLE TO BE A SECTION OF CAP CUT IN HALF. CAP FOR BAFFLE SHALL BE THE NEXT STANDARD PIPE DIAMETER LARGER THAN THE INFLOW/OUTFLOW PIPE.

POLLUTION RETARDANT BAFFLE DETAIL

N.T.S.



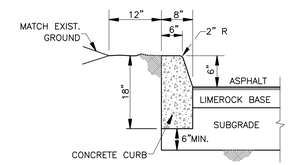
NOTE: WHEN ALTERNATE "G" GRATE IS SPECIFIED, THE CHAIN, BOLT, NUTS, WASHER AND COLD SHUTS SHALL BE GALVANIZED IN ACCORDANCE WITH SPECIFICATIONS FOR THE GRATE.

COST OF EYE BOLT AND CHAIN TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR INLETS.

EYE BOLT AND CHAIN FOR LOCKING GRATES

(COPB DETAIL NO. 413-1, LATEST REVISION: JUNE 1996)

N.T.S.



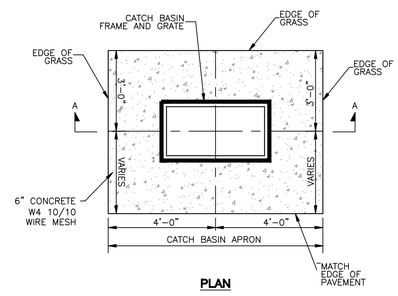
TYPE 'D' CURB

N.T.S.

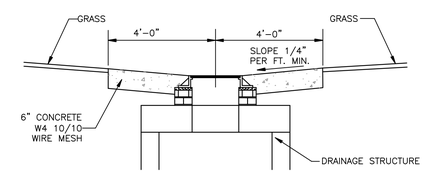
PROFILE STRAIGHT END

3' TRANSITION CURB

N.T.S.



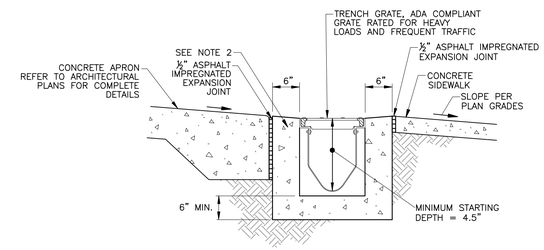
PLAN



SECTION A-A

CONCRETE APRON DETAILS

N.T.S.



NOTES:
1. TRENCH DRAIN BY ACO – KS100S HEAVY DUTY, O.E.
2. 3,000 PSI MIN. CONCRETE STRENGTH. CONCRETE TO BE VIBRATED TO ELIMINATE AIR POCKETS.
3. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.

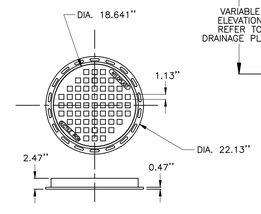
TRENCH DRAIN DETAIL

N.T.S.

PRELIMINARY PLAN NOT FOR CONSTRUCTION

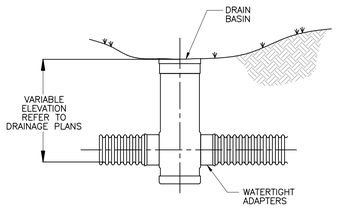
THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

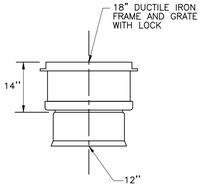
Date: AUGUST 2012
KEITH & ASSOCIATES, INC.



NOTES:
1. STANDARD GRATE HAS H-25 HEAVY DUTY RATING
2. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
3. MATERIAL: DUCTILE IRON
4. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
5. NYLOPLAST LOCKING OPTION ALTERNATIVE: USE 3/8" HEX BOLT & NUT IN 3 OR 4 EQUALLY SPACED PLACES TO SECURE FRAME TO BASIN BODY (FIELD DRILL SIDE WALL OF CASTING FRAME & DRAIN BASIN FOR FIELD INSTALLATION OF BOLTS).

STANDARD GRATE/COVER WITH NYLOPLAST LOCKING OPTION





INLINE DRAIN

YARD DRAIN DETAILS

N.T.S.

08.06.2012 BID-PERMIT SET

DATE:	11/29/2011
SCALE:	N.T.S.
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

REVISION

DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 33256
(FOR THE FIRM)

KEITH
4 consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

CITY OF POMPANO BEACH FIRE STATION 103

CONSTRUCTION DETAILS

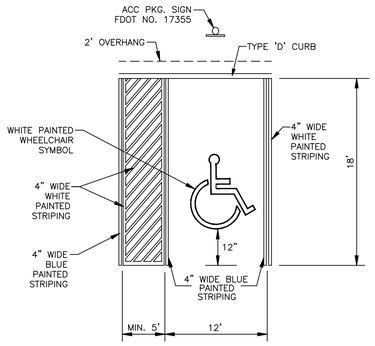
CITY OF POMPANO BEACH

BROWARD COUNTY, FLORIDA

SHEET NO. C-5

PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cadd\dwg\07020.68 const dtls.dwg

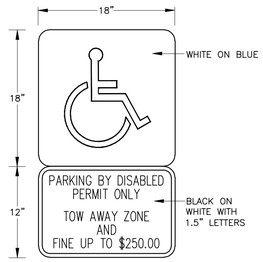


NOTE

HANDICAP PARKING SPACES SHALL BE PROMINENTLY OUTLINED WITH PAINT AND POSTED WITH A FIXED POLE SIGN (NOT LESS THAN 84" FROM THE GROUND IN HEIGHT) CLEARLY MARKED "HANDICAPPED PARKING" OR THE INTERNATIONAL WHEELCHAIR SYMBOL AND CAPTION "PARKING BY DISABLE PERMIT ONLY – $250 FINE". PROVIDE 4" BLUE STRIPING AS INDICATED.

TYPICAL HANDICAP PARKING

N.T.S.



1. TOP PORTION OF SIGN SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL.

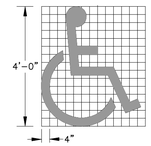
2. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.

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

4. SIGNS ARE TO BE MOUNTED AT A HEIGHT OF 7'–0" FROM PAVEMENT TO BOTTOM OF SIGN.

HANDICAP PARKING SIGN

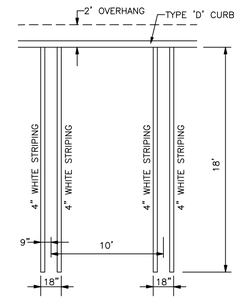
N.T.S.



USE OF PAVEMENT SYMBOL IN HANDICAP PARKING SPACES IS REQUIRED, THE SYMBOL SHALL BE 4 FT. HIGH AND WHITE IN COLOR.

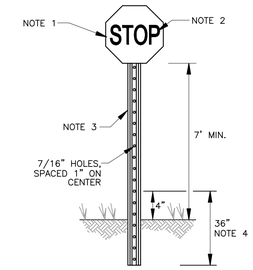
HANDICAP PAVEMENT SYMBOL

N.T.S.



PARKING STALL DETAILS

N.T.S.

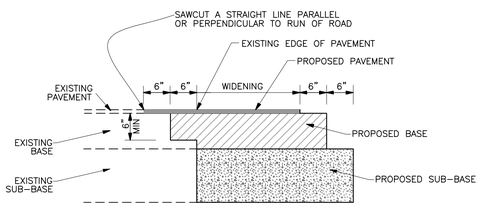


NOTES:

1. REGULATORY SIGN
R1–1 (30"X30") DEPICTED. THE TOP OF THE STOP SIGN SHALL BE MOUNTED FLUSH TO THE TOP OF THE POST WHEN NO STREET ID IS PRESENT. ANY SIGN INSTALLED BACK TO BACK WITH THE STOP SIGN SHALL BE SMALLER THAN THE STOP SIGN.
2. STOP, DO NOT ENTER OR YIELD
DIAMOND GRADE (3M VIP 3990 WHITE) OR EQUIVALENT. PRESSURE SENSITIVE RED TRANSLUCENT INK SILK SCREENED CLEAR COATED OR EC FILM 1172 RED OR EQUIVALENT OVER DIAMOND GRADE.
3. SQUARE TUBE SIGN POST
THE SQUARE TUBE SIGN POST SHALL BE 2" SQUARE AND INSERTED WITHIN THE SQUARE TUBE ANCHOR POST. THE SIGN SHALL BE SECURED TO THE ANCHOR POST WITH A #18 GRADE FIVE THREADED STEEL ZINC BOLT, 5/16" BY 2.5" WITH A 5/16" FLAT WHASER AND NUT.
4. SQUARE TUBE ANCHOR BASE POST
THE SQUARE TUBE ANCHOR BASE POST SHALL BE 12 GAUGE STEEL, 2.25" SQUARE AND 36" IN LENGTH. THE BASE MUST BE DRIVEN INTO THE GROUND WITH 4" REMAINING ABOVE THE SURFACE.
5. POST SPECIFICATIONS
ALL POST SHALL BE QUICK PUNCH, 14 GAUGE, GRADE 50 STEEL. THE POSTS SHALL BE HOT–DIPPED IN GALVANIZED ZINC COATING AND FINISHED WITH CONVERSION COATING AND A CLEAR ORGANIC TOP COAT.

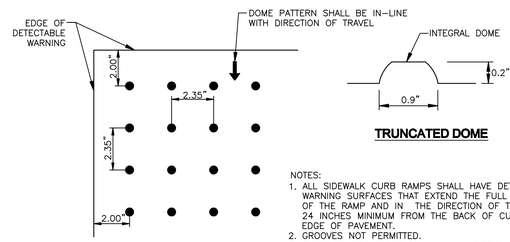
STOP SIGN DETAIL

N.T.S.



SAWCUT / WIDENING DETAIL

N.T.S.



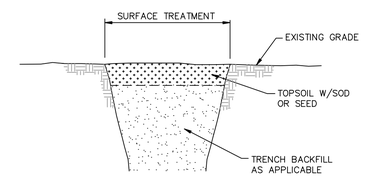
TRUNCATED DOME

PLAN VIEW

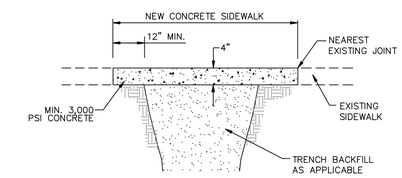
NOTES:
1. ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES MINIMUM FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
2. GROOVES NOT PERMITTED.
3. REFER TO FBC/FACBC 11–4.7.7, 11–4.29.2, 11–4.29.5/ANSI A117.1–1986

DETECTABLE WARNING DETAIL ("TRUNCATED DOMES")

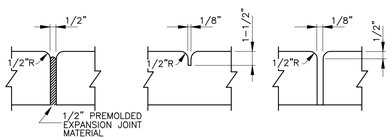
N.T.S.



SWALE RESTORATION (TYPE I)



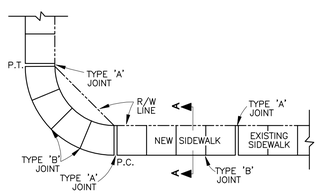
SIDEWALK RESTORATION (TYPE II)



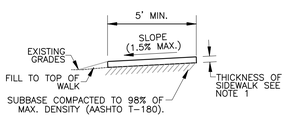
TYPE 'A' TYPE 'B' TYPE 'C'

SIDEWALK JOINTS

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
'A'	JOINT SHALL BE PLACED AT P.C. & P.T. OF CURVES, JUNCTION OF EXISTING SIDEWALKS, EVERY 60' ON NEW SIDEWALKS AND WHERE SIDEWALKS ABUT CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES.
'B'	JOINT SHALL BE PLACED 5'–0" CENTER
'C'	JOINT SHALL BE PLACED AT 20' INTERVALS



PLAN



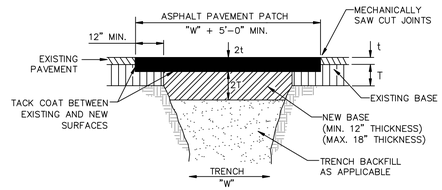
SECTION "A-A"

NOTES:

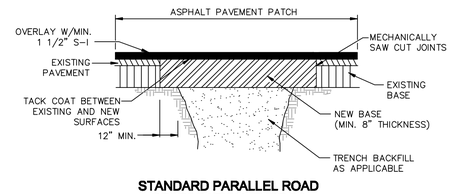
1) SIDEWALK THICKNESS SHALL BE 4" THICK. THICKNESS IN TRAFFIC LOADING AREAS AND IN DRIVEWAYS SHALL BE 6".
2) SIDEWALK RAMPS PER FDOT INDEX # 304.
3) CONCRETE TO BE 3,000 PSI IN 28 DAYS.
4) CURE ALL CONCRETE WITH CLEAN SAND, PLASTIC MEMBRANE OR OTHER APPROVED METHOD.
5) SIDEWALK FOUNDATION SHALL BE COMPACTED TO A FIRM, EVEN SURFACE, TRUE TO GRADE AND CROSS SECTION, AND SHALL BE MOIST AT THE TIME CONCRETE IS PLACED.
6) ALL CONSTRUCTION SHALL CONFORM TO LOCAL CONSTRUCTION CODES AND STANDARDS.

SIDEWALK DETAIL

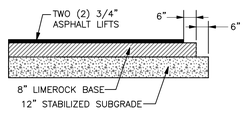
N.T.S.



PERPENDICULAR ROAD CROSSINGS (TYPE III)



STANDARD PARALLEL ROAD RESTORATION (TYPE IV)



ASPHALTIC CONCRETE VEHICULAR:
2–3/4" LIFTS, FDOT TYPE S–III ASPHALT SURFACE COURSE SHALL CONFORM TO THE REQUIREMENTS OF FDOT STANDARDS SPECIFICATIONS SECTIONS 330 AND 331. SECOND LIFT OF ASPHALT SHALL NOT BE PLACED UNTIL FINAL LANDSCAPE/HARDSCAPE HAS BEEN INSTALLED.

PRIME AND TACK COAT:
LIMEROCK BASE COURSE SHALL CONFORM TO THE REQUIREMENTS OF FDOT STANDARDS SPECIFICATIONS SECTION 300.
APPLICATION RATES:
PRIME COAT – 0.10 GALLONS PER SQ. YD.
TACK COAT – 0.08 GALLONS PER SQ. YD.

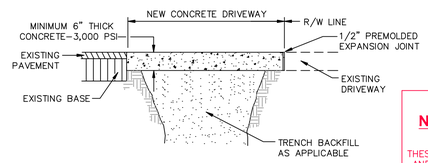
BASE:
8" LIMEROCK BASE COMPACTED TO 98% OF MAXIMUM DENSITY (AASHTO T–180), LIMEROCK BASE TO CONFORM WITH THE REQUIREMENTS OF FDOT SPECIFICATIONS SECTIONS 200 AND 911.

SUBGRADE:
12" STABALIZED SUBGRADE COMPACTED TO 98% OF MAXIMUM DENSITY (AASHTO T–180); MINIMUM LBR = 40.

GROUND ADJACENT TO PAVEMENT HAVING RUNOFF SHALL BE GRADED TWO INCHES LOWER THAN THE EDGE OF PAVEMENT TO ALLOW FOR THE PLACEMENT OF SOD.

ASPHALT PAVEMENT DETAIL (TYP.)

N.T.S.



CONCRETE DRIVEWAY RESTORATION (TYPE V)

PRELIMINARY PLAN NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

Date: AUGUST 2012
KEITH & ASSOCIATES, INC.

SURFACE RESTORATION

(COPB DETAIL NO. 306–1, 306–2, 306–3, LATEST REVISION: MAY 2010)

N.T.S.

08.06.2012 BID-PERMIT SET

DATE: 11/29/2011
SCALE: N.T.S.
DRAWN BY: D.C.
DESIGN BY: S.B.
CHECKED BY: J.T.

REVISION	DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 33256
(FOR THE FIRM)

KEITH
4 consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

CITY OF POMPANO BEACH FIRE STATION 103

CONSTRUCTION DETAILS

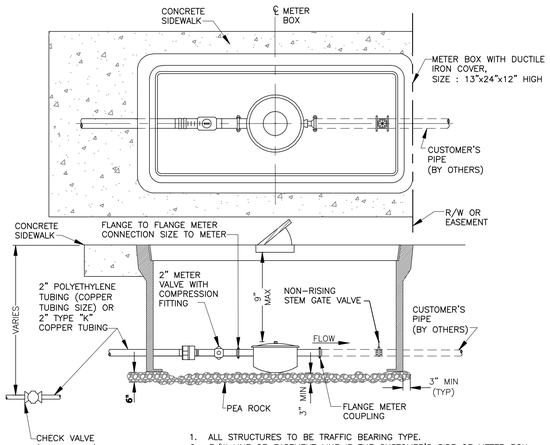
CITY OF POMPANO BEACH

BROWARD COUNTY, FLORIDA

SHEET NO. C-6

PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cadd\dwg\07020.68 const dtls.dwg

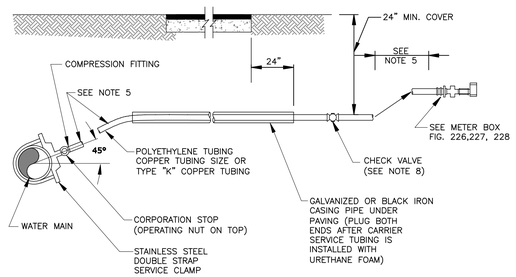


METER SIZE	LAYING LENGTH (IN)	HEIGHT (IN)
1 ½"	13	6 ⅞"
2"	17	7 1/32"

1. ALL STRUCTURES TO BE TRAFFIC BEARING TYPE.
2. R/W LINE OR EASEMENT LINE IS THE CUSTOMER'S SIDE OF METER BOX.
3. WWS RESPONSIBILITY ENDS AT THE CUSTOMER'S SIDE OF METER.
4. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL, WITH A MINIMUM RADIUS SHALL BE 21" FOR 2" TUBING.
5. ALL METERS WILL BE SUPPLIED AND INSTALLED BY WWS. METER HAS IRON PIPE THREAD MALE CONNECTION ON EACH END.
6. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL LINE UP WITH THE BACK EDGE OF THE SIDEWALK.
7. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID.
8. THE CHECK VALVE IS TO BE INSTALLED 5 FEET BEFORE THE METER VALVE.
9. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE x 6" THICK CONCRETE COLLAR AT GRADE.

METER INSTALLATION FOR 1 1/2" OR 2" METERS (BCWWS DETAIL NO. 228)

N.T.S.

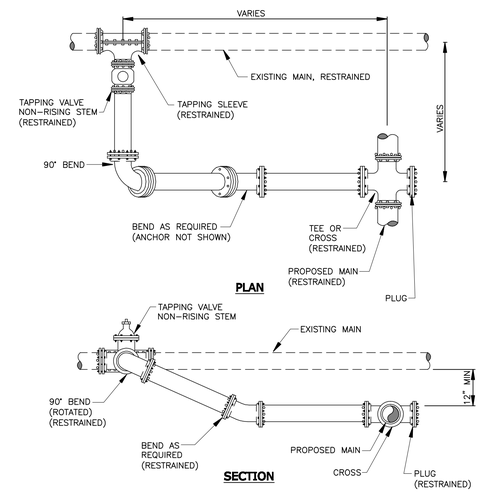


1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTER. NO TAPS SHALL BE CLOSER THAN 18" TO A JOINT.
2. 1" SERVICE REQUIRE A 2" MINIMUM INSIDE DIAMETER CASING PIPE.
3. 2" SERVICE REQUIRE A 3" MINIMUM INSIDE DIAMETER CASING PIPE.
4. ALL CASING PIPE SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVING STREETS.
5. FOR 1" SERVICE LINES THE MINIMUM RADIUS SHALL BE 14". FOR 2" SERVICE LINES THE MINIMUM RADIUS SHALL BE 21".
6. ALL CASING PIPE ENDS SHALL BE FILED SMOOTH WITH NO BURRS AND SEALED WITH URETHANE FOAM.
7. THE POLYETHYLENE OR COPPER TUBING SHALL BE ONE CONTINUOUS PIECE FROM THE CORPORATION STOP TO THE CHECK VALVE. NO JOINTS WILL BE PERMITTED BETWEEN THESE POINTS.
8. THE CHECK VALVE IS TO BE INSTALLED 5 FEET BEFORE THE METER VALVE.

THIS DETAIL APPLIES ONLY TO RESIDENTIAL ROADS WITH LESS THAN 70' R.O.W. (NO MEDIAN) OR WITHIN EASEMENTS

TYPE 1 WATER SERVICE CONNECTION (BCWWS DETAIL NO. 221)

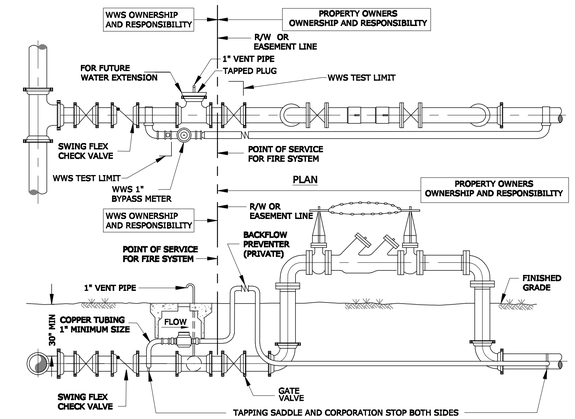
N.T.S.



ALL JOINTS TO BE RESTRAINED BY APPROVED METHODS.

TYPICAL CONNECTION TO EXISTING MAIN (BCWWS DETAIL NO. 131)

N.T.S.

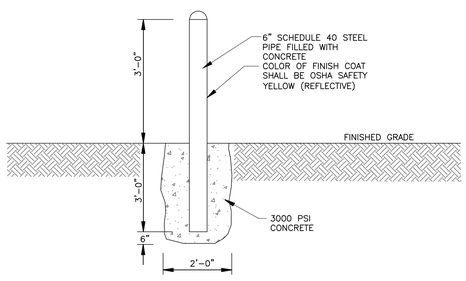


1. THE DOUBLE CHECK VALVE SHALL BE PRIVATELY OWNED BY PROPERTY OWNER.
2. FIRE SYSTEM TO BE CONSTRUCTED/TESTED IN ACCORDANCE WITH NFPA STDS. & ALL APPLICABLE CODES.
3. METER BOX AND SERVICE LINE SHALL BE IN ACCORDANCE WITH WWS STANDARD DETAIL FOR WATER METER INSTALLATION AND NFP STDS & CODES. USE TYPE "K" COPPER TUBING AND BRASS OR COPPER FITTINGS.
4. BACKFLOW PREVENTER FOLLOWING THE METER SHALL BE THE SAME TYPE DEVICE (DEGREE OF HAZARD) AS THE FIRE MAIN DEVICE. THIS SHALL BE PRIVATELY OWNED BY THE PROPERTY OWNER. METER BOX SHALL BE SUPPLIED BY CONTRACTOR.
5. EXTENT OF WWS OWNERSHIP IS LIMITED TO THE BYPASS METER AND ALL PIPING PRIOR TO THE POINT OF SERVICE FOR THE FIRE SYSTEM AS SHOWN ON THIS DRAWING VIA PLAN AND PROFILE ABOVE.
6. 1" VENT PIPE TO BE REMOVED AFTER WWS APPROVAL.

DEDICATED FIRE SYSTEM

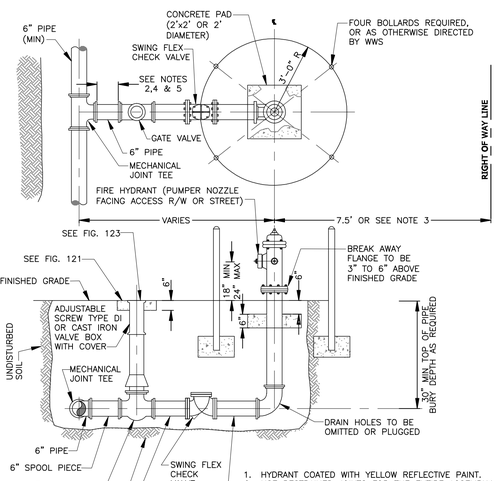
TYPE 1 PRIVATE FIRE PROTECTION 4", 6" AND 8" DIAMETER CONNECTION (BCWWS DETAIL NO. 235)

N.T.S.



BOLLARD (BCWWS DETAIL NO. 194)

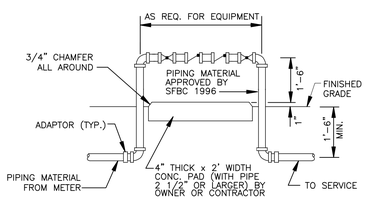
N.T.S.



1. HYDRANT COATED WITH YELLOW REFLECTIVE PAINT.
2. USE RESTRAINED JOINTS FOR THE ENTIRE ASSEMBLY SHOWN.
3. HYDRANT SET BACK SHALL CONFORM TO FDOT AND BCHCED REQUIREMENTS, WHERE APPLICABLE.
4. GATE VALVE IS NORMALLY LOCATED NEXT TO TEE.
5. IF DISTANCE FROM MAIN LINE TO FIRE HYDRANT IS GREATER THAN 20 FEET ANOTHER GATE VALVE WILL BE PROVIDED CLOSE TO THE HYDRANT. THIS SECOND VALVE SHALL BE INSTALLED WITHIN 5' OF THE FIRE HYDRANT. CHECK VALVE SHALL BE WITHIN 3' OF FIRE HYDRANT UNLESS CHECK VALVE INTEGRAL TO HYDRANT ASSEMBLY.
6. HYDRANT FEED PIPE MAY BE TAPPED FOR A SERVICE LINE UPSTREAM OF THE ISOLATION GATE VALVE.

FIRE HYDRANT INSTALLATION (BCWWS DETAIL NO. 231)

N.T.S.



USE MEGALUGS AT ALL PIPE JOINTS 3" AND LARGER

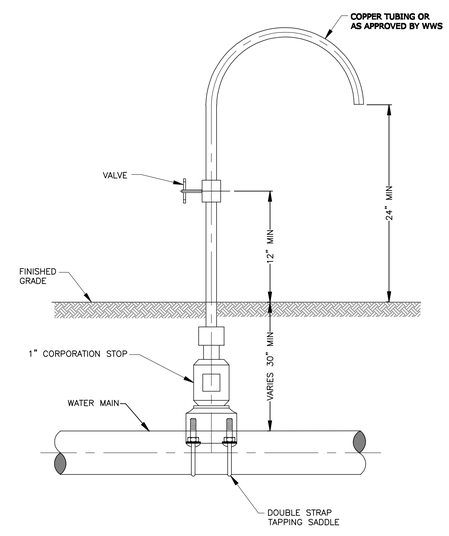
PLEASE SEE METER INSTALL DIMENSION LIST ON STANDARD No. 106.4

SMALL UNITS UNI-STRUT SUPPORT

BACKFLOW PREVENTER SHALL BE AT LEAST THE SAME SIZE AS THE LINE IN WHICH THEY ARE INSTALLED (FBC-P TABLE 603.1(d)).

BACKFLOW PREVENTER (COPB DETAIL NO. 106-1, LATEST REVISION: MARCH 2009)

N.T.S.



1. SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
2. CORPORATION STOP SHALL BE CLOSED AND PLUGGED/CAPPED WITH A BRASS FITTING AFTER HEALTH DEPARTMENT CLEARANCE.
3. SAMPLING POINTS MAY BE PLACED AT THE ENDS OF WATER SERVICES BEFORE THE METERS AND ON BLOW OFFS FOR TERMINAL WATER MAINS, WHERE SERVICES AND BLOW OFFS ARE REQUIRED BY THE PLANS.

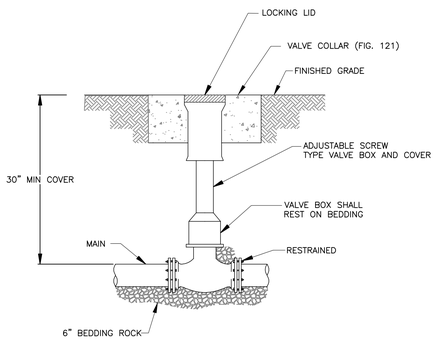
SAMPLING POINT (BCWWS DETAIL NO. 206)

N.T.S.

PRELIMINARY PLAN NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

Date: AUGUST 2012
KEITH & ASSOCIATES, INC.



1. WHEN VALVE IS NOT LOCATED IN PAVEMENT, PLACE AN APPROPRIATE PAVEMENT REFLECTOR MARKER IN THEDRIVE LANE, ADJACENT TO THE VALVE.
2. OPERATOR EXTENSION SHAFT SHALL BE PROVIDED WHEN OPERATING NUT IS MORE THAN 24" BELOW TOP OF VALVE BOX.
3. PVC PIPE OR DUCTILE IRON PIPE IS NOT ACCEPTABLE FOR VALVE BOX RISER.

VALVE BOX DETAIL (BCWWS DETAIL NO. 123)

N.T.S.

08.06.2012 BID-PERMIT SET

DATE:	11/29/2011
SCALE:	N.T.S.
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

REVISION

DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 33256
(FOR THE FIRM)

KEITH
A consulting engineers inc.
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7628

CITY OF POMPANO BEACH FIRE STATION 103
WATER AND SEWER DETAILS

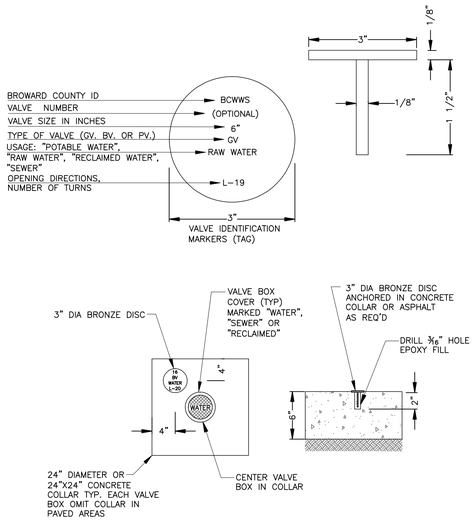
BROWARD COUNTY, FLORIDA

CITY OF POMPANO BEACH

SHEET NO. C-7

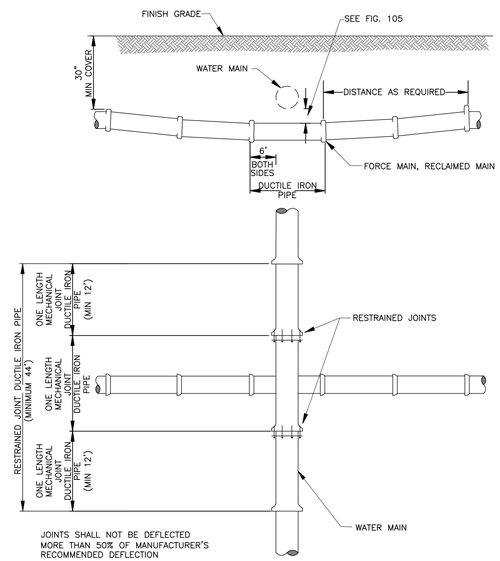
PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cadd\dwg\07020.68 ws dtls.dwg



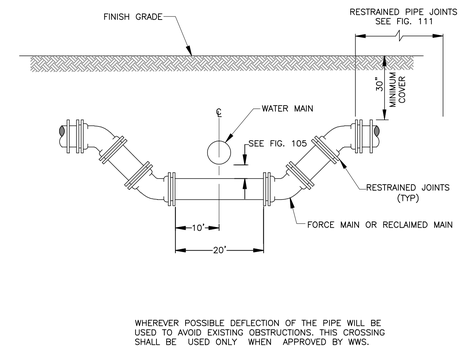
VALVE COLLAR AND IDENTIFICATION MARKER (BCWWS DETAIL NO. 121)

N.T.S.



STANDARD UTILITY CROSSING (BCWWS DETAIL NO. 106)

N.T.S.



WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN APPROVED BY WWS.

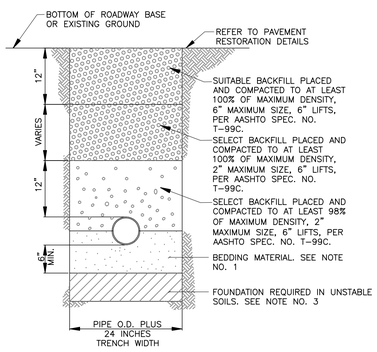
SPECIAL UTILITY CROSSING (BCWWS DETAIL NO. 107)

N.T.S.

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

Date: AUGUST 2012
KEITH & ASSOCIATES, INC.



1. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAX. SIZE, COMPACTED TO AT LEAST 100% OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-99C.

2. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.

3. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS, A FOUNDATION IS REQUIRED AS DETERMINED BY THE ENGINEER OF RECORD.

TYPICAL TRENCH BACKFILL (BCWWS DETAIL NO. 180)

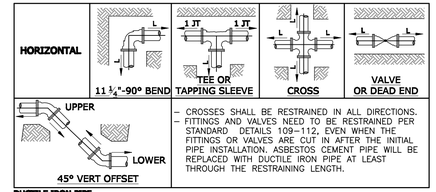
N.T.S.

WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1) (4)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum Water Main
VACUUM SANITARY SEWER	Water Main 10 ft. preferred 3 ft. minimum	Water Main 12 inches preferred 6 inches min	Alternate 3 ft. minimum Water Main
GRAVITY SANITARY SEWER,(3) SANITARY SEWER FORCE MAIN, RECLAIMED WATER	Water Main 10 ft. preferred 6 ft. minimum	Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum Water Main
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 ft. minimum	——	——

(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) 18" VERTICAL MINIMUM SEPARATION REQUIRED BY WWS, UNLESS OTHERWISE APPROVED.

WATER MAIN SEPARATION (BCWWS DETAIL NO. 105)



- CROSSES SHALL BE RESTRAINED IN ALL DIRECTIONS.
- FITTINGS AND VALVES NEED TO BE RESTRAINED PER STANDARD DETAILS 109-112, EVEN WHEN THE FITTINGS OR VALVES ARE CUT IN AFTER THE INITIAL PIPE INSTALLATION. ASBESTOS CEMENT PIPE WILL BE REPLACED WITH DUCTILE IRON PIPE AT LEAST THROUGH THE RESTRAINING LENGTH.

DUCTILE IRON PIPE

	HORIZONTAL, L (FEET)						45° VERTICAL OFFSET (FEET)	
Diameter	11 ¼°	22 ½°	45°	90°	Tee or Cross	Valves and Dead End	UPPER	LOWER
4	1	2	4	10	3	20	9	3
6	2	3	6	14	11	28	12	4
8	2	4	8	17	20	37	16	5
10	2	5	19	21	27	44	19	6
12	3	5	10	24	34	52	22	6

PVC PIPE

	HORIZONTAL, L (FEET)						45° VERTICAL OFFSET (FEET)	
Diameter	11 ¼°	22 ½°	45°	90°	Tee or Cross	Valves and Dead End	UPPER	LOWER
4	2	3	5	12	5	32	14	3
6	2	4	7	16	18	45	19	5
8	3	5	9	21	31	59	25	6
10	3	5	11	25	43	71	30	7
12	3	6	12	29	55	83	35	7

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V6.1 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SAND (SW, SP, GW)
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%
MINIMUM COVER: 3.0 FT SAFETY FACTOR: 1.5 BARE PIPE
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

SINGLE FITTING RESTRAINED JOINT 150 PSI TEST PRESSURE

RESTRAINED JOINT REQUIREMENTS SINGLE FITTING (BCWWS DETAIL NO. 109)

STRAIGHT REDUCER

DUCTILE IRON PIPE

SMALL SIDE / DIAMETER	6"	8"	10"	12"
4"	15'	27'	36'	45'
6"		16'	27'	38'
8"			15'	28'
10"				16'

PVC PIPE

SMALL SIDE / DIAMETER	6"	8"	10"	12"
4"	24'	43'	58'	72'
6"		25'	44'	61'
8"			24'	44'
10"				25'

TEE REDUCER

DUCTILE IRON PIPE

BRANCH SIZE / DIAMETER	6"	8"	10"	12"
4"	1'	1'	1'	1'
6"		6'	1'	1'
8"			15'	10'
10"				23'

PVC PIPE

BRANCH SIZE / DIAMETER	6"	8"	10"	12"
4"	1'	1'	1'	1'
6"		9'	1'	1'
8"			24'	16'
10"				37'

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V6.1 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SAND (SW, SP, GW)
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%
MINIMUM COVER: 3.0 FT SAFETY FACTOR: 1.5 BARE PIPE
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

RESTRAINED REDUCING FITTING 150 PSI TEST PRESSURE

RESTRAINED JOINT REQUIREMENTS REDUCED FITTING (BCWWS DETAIL NO. 112)

DATE:	11/29/2011
SCALE:	N.T.S.
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

REVISION	DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 33256
(FOR THE FIRM)

KEITH
4 consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

CITY OF POMPANO BEACH FIRE STATION 103

WATER AND SEWER DETAILS

BROWARD COUNTY, FLORIDA

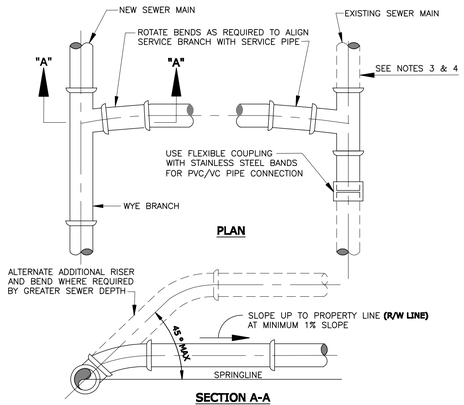
CITY OF POMPANO BEACH

08.06.2012 BID-PERMIT SET

SHEET NO. C-8

PROJECT NO. 07020.68

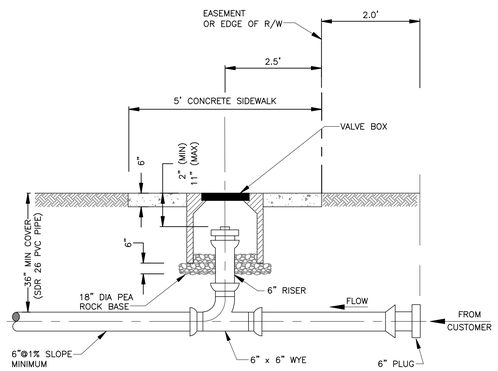
N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cad\dwg\07020.68 ws dtls.dwg



1. SINGLE SERVICE CONNECTIONS SHALL USE 6" SDR 26 PVC PIPE AND FITTINGS.
2. USE RISER CONNECTIONS WHERE INVERT OF SEWER IS MORE THAN 7'-0" DEEP.
3. WHERE BELL OF WYE AND SPIGOT OF EXISTING MAIN ARE NOT COMPATIBLE, USE A SECOND FLEXIBLE COUPLING.
4. RIGID COUPLINGS MAY BE USED IN LIEU OF FLEXIBLE COUPLINGS.
5. MAINTAIN 36" MINIMUM COVER FROM TOP OF SERVICE TO FINISH GRADE; WHERE NOT TECHNICALLY FEASIBLE CONTACT WWS ENGINEERING.
6. PVC SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH MINIMUM STANDARDS OF THE UNI-BELL HANDBOOK OF PVC PIPE DESIGN AND CONSTRUCTION, LATEST EDITION.

WYE SEWER SERVICE CONNECTION (BCWWS DETAIL NO. 331)

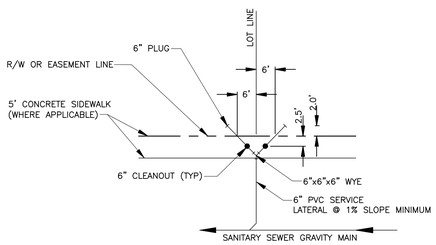
N.T.S.



1. THE CLEAN OUT SHALL BE INSTALLED IN THE MIDDLE OF THE SIDEWALK. THIS DIMENSION WILL VARY DEPENDING UPON THE WIDTH OF THE SIDEWALK. 2.5' APPLIES TO 5' SIDEWALK WIDTH. IF SIDEWALKS DO NOT EXIST, THE CLEAN OUT SHALL BE INSTALLED 2.5' FROM THE RIGHT OF WAY LINE.
2. A NEW SECTION OF SIDEWALK SHALL BE POURED AROUND THE VALVE BOX WHEN WORKING IN AN AREA WITH EXISTING SIDEWALKS.
3. IN GRASS AREA USE 24"x24" OR 24" DIAMETER CONCRETE COLLAR.

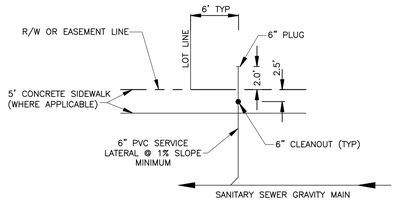
SEWER SERVICE CONNECTION AT PROPERTY LINE OR EASEMENT LINE PROFILE (BCWWS DETAIL NO. 341)

N.T.S.



TYPICAL DOUBLE SERVICE LATERAL DETAIL

NTS



TYPICAL SINGLE SERVICE LATERAL DETAIL

NTS

SEWER SERVICE CONNECTION AT PROPERTY LINE OR EASEMENT LINE PLAN (BCWWS DETAIL NO. 342)

N.T.S.

MINIMUM AS-BUILT DRAWING REQUIREMENTS

AS USED IN THIS DOCUMENT, THE TERM 'AS-BUILT DRAWING' REFERS TO DRAWINGS SIGNED AND SEALED BY A FLORIDA REGISTERED SURVEYOR AND MAPPER (PSM). AS-BUILT DRAWINGS ARE NOT PROVIDED TO WWED UNLESS REQUESTED BY WWED. AS-BUILT INFORMATION WILL BE PROVIDED TO THE ENGINEER OF RECORD WHO WILL PREPARE OR HAVE PREPARED RECORD DRAWINGS BASED ON AS-BUILT INFORMATION PROVIDED BY THE PSM AND FROM INFORMATION PROVIDED BY THE ENGINEER'S STAFF.

THE AS-BUILT DRAWINGS COVER SHEET WILL BE SIGNED, SEALED AND DATED BY THE PSM. THE COVER SHEET WILL INCLUDE THE PSM'S NAME, BUSINESS NAME, PSM NUMBER, ADDRESS AND TELEPHONE NUMBER AND CONTAIN THE FOLLOWING STATEMENT:
"I HEREBY CERTIFY THAT THE AS-BUILT LOCATION INFORMATION OF THE POTABLE WATER, RECLAIMED WATER, SANITARY SEWER AND DRAINAGE FACILITIES SHOWN ON THESE DRAWINGS CONFORMS TO THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA, CHAPTER 5J-17.050(10)(I) (FLORIDA ADMINISTRATIVE CODE), AS ADOPTED BY THE DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, AND THAT SAID AS-BUILTS ARE TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF."

AS-BUILTS WILL CONTAIN THE INFORMATION ON THE DESIGN DRAWINGS, PLUS THE FOLLOWING ADDITIONAL REQUIREMENTS:
1. AS-BUILTS ARE TO DOCUMENT CHANGES BETWEEN THE DESIGN AND CONSTRUCTION. ALL INFORMATION THAT IS INCORRECT DUE TO CHANGES DURING CONSTRUCTION WILL BE CORRECTED. INCORRECT OR NO LONGER RELEVANT INFORMATION WILL BE ERASED OR STRUCK THROUGH. ANY WWS FACILITIES CONSTRUCTED IN A HORIZONTAL OR VERTICAL LOCATION MATERIALLY DIFFERENT (ONE-TENTH FOOT HORIZONTAL, ONE-TENTH FOOT VERTICAL) THAN THE DESIGN LOCATION WILL HAVE THEIR DESIGN LOCATION STRUCK THROUGH AND WILL BE REDRAFTED AT THE CONSTRUCTED LOCATION. DESIGN DRAWING DIMENSIONING TO WATER AND SEWER FACILITIES WILL BE CORRECTED AS NECESSARY.
2. DRAWINGS WILL BE A COMPLETE SET INCLUDING COVER SHEET, INDEX (IF ONE WAS INCLUDED IN THE APPROVED DESIGN DRAWINGS) AND ANY OTHER SHEETS INCLUDED IN THE APPROVED DESIGN SET. STANDARD DETAIL SHEETS ARE NOT NECESSARY.
3. DRAWINGS WILL INCLUDE THE MINIMUM AS-BUILT AND RECORD DRAWING CONTENTS DESCRIBED ELSEWHERE IN THIS DOCUMENT.

MINIMUM RECORD DRAWING REQUIREMENTS

AS USED IN THIS DOCUMENT, THE TERM 'RECORD DRAWING' REFERS TO THE FINAL DRAWING SET SIGNED AND SEALED BY THE ENGINEER OF RECORD. THE ENGINEER OF RECORD WILL PREPARE OR HAVE PREPARED RECORD DRAWINGS BASED ON AS-BUILT INFORMATION PROVIDED BY A PSM AND FROM INFORMATION PROVIDED BY THE ENGINEER'S STAFF. THE ENGINEER OF RECORD SHALL RETAIN THE SIGNED AND SEALED 'AS-BUILT' DRAWINGS PROVIDED BY THE PSM WITH THE OTHER PROJECT RECORDS FOR POSSIBLE REVIEW BY WWED UPON REQUEST.

AT THE ENGINEER OF RECORD'S OPTION, THE PSM CAN PREPARE RECORD DRAWINGS IN LIEU OF AS-BUILTS. IF USING THIS OPTION THE ENGINEER OF RECORD MUST COORDINATE WITH THE PSM SO THE RECORD DRAWINGS CONTAIN INFORMATION PROVIDED BY THE ENGINEER'S STAFF.

IF THE RECORD DRAWINGS ARE PREPARED BY THE ENGINEER OF RECORD, EACH SHEET OF THE RECORD DRAWINGS MUST BE SIGNED AND SEALED BY THE ENGINEER OF RECORD. THE COVER SHEET IS TO BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND SHALL INCLUDE THE FOLLOWING STATEMENT:
"I CERTIFY THAT THESE RECORD DRAWINGS HAVE BEEN REVIEWED BY ME OR BY INDIVIDUAL(S) UNDER MY DIRECT SUPERVISION AND THAT THESE DRAWINGS INCORPORATE THE INFORMATION CONTAINED IN THE CERTIFIED AS-BUILTS. TO THE BEST OF MY KNOWLEDGE AND BELIEF THESE RECORD DRAWINGS SUBSTANTIALLY REFLECT THE POTABLE WATER, RECLAIMED WATER, SANITARY SEWER AND DRAINAGE FACILITIES AS CONSTRUCTED. THE ACCURACY OF THESE RECORD DRAWINGS IS RELIANT ON THE ACCURACY APPLIED BY THE SURVEYOR THAT PREPARED THE CERTIFIED AS-BUILTS, WHICH WAS [INCLUDE THE SURVEYOR'S NAME, BUSINESS NAME, PSM NUMBER, ADDRESS AND TELEPHONE NUMBER]. THE SURVEYOR HAS CERTIFIED TO ME THAT THE AS-BUILT LOCATION INFORMATION OF THE POTABLE WATER, RECLAIMED WATER, SANITARY SEWER AND DRAINAGE FACILITIES CONFORMS TO THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA, CHAPTER 5J-17.050(10)(I) (FLORIDA ADMINISTRATIVE CODE)."

IF THE RECORD DRAWINGS ARE PREPARED BY THE PSM IN LIEU OF AS-BUILTS, EACH SHEET OF THE RECORD DRAWINGS MUST BE SIGNED AND SEALED BY THE ENGINEER OF RECORD. THE COVER SHEET IS TO BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND SHALL INCLUDE THE FOLLOWING STATEMENT:
"I CERTIFY THAT THESE RECORD DRAWINGS HAVE BEEN REVIEWED BY ME OR BY INDIVIDUAL(S) UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF THESE RECORD DRAWINGS SUBSTANTIALLY REFLECT THE POTABLE WATER, RECLAIMED WATER, SANITARY SEWER AND DRAINAGE FACILITIES AS CONSTRUCTED."

IN ADDITION TO SIGNING AND SEALING BY THE ENGINEER OR RECORD, THE COVER SHEET WILL BE SIGNED, SEALED AND DATED BY THE PSM THE RECORD DRAWINGS. THE COVER SHEET WILL INCLUDE THE PSM'S NAME, BUSINESS NAME, PSM NUMBER, ADDRESS AND TELEPHONE NUMBER AND CONTAIN THE FOLLOWING STATEMENT:
"I HEREBY CERTIFY THAT THE AS-BUILT LOCATION INFORMATION OF THE POTABLE WATER, RECLAIMED WATER, SANITARY SEWER AND DRAINAGE FACILITIES SHOWN ON THESE RECORD DRAWINGS CONFORMS TO THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA, CHAPTER 5J-17.050(10)(I) (FLORIDA ADMINISTRATIVE CODE), AS ADOPTED BY THE DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, AND THAT SAID RECORD DRAWINGS ARE TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF."

IF THE RECORD DRAWINGS ARE PREPARED BY A PSM BASED ON AS-BUILTS PREPARED BY A DIFFERENT PSM, EACH SHEET OF THE RECORD DRAWINGS MUST BE SIGNED AND SEALED BY THE ENGINEER OF RECORD. THE COVER SHEET IS TO BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND SHALL INCLUDE THE FOLLOWING STATEMENT:
"I CERTIFY THAT THESE RECORD DRAWINGS HAVE BEEN REVIEWED BY ME OR BY INDIVIDUAL(S) UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF THESE RECORD DRAWINGS SUBSTANTIALLY REFLECT THE POTABLE WATER, RECLAIMED WATER, SANITARY SEWER AND DRAINAGE FACILITIES AS CONSTRUCTED."

IN ADDITION TO SIGNING AND SEALING BY THE ENGINEER OR RECORD, THE COVER SHEET WILL BE SIGNED, SEALED AND DATED BY THE PSM THAT PREPARED THE RECORD DRAWINGS. THE COVER SHEET WILL INCLUDE THE PSM'S NAME, BUSINESS NAME, PSM NUMBER, ADDRESS AND TELEPHONE NUMBER AND CONTAIN THE FOLLOWING STATEMENT:
"I CERTIFY THAT THESE RECORD DRAWINGS HAVE BEEN REVIEWED BY ME OR BY INDIVIDUAL(S) UNDER MY DIRECT SUPERVISION AND THAT THESE DRAWINGS INCORPORATE THE INFORMATION CONTAINED IN THE CERTIFIED AS-BUILTS. THE ACCURACY OF THESE RECORD DRAWINGS IS RELIANT ON THE ACCURACY APPLIED BY THE SURVEYOR THAT PREPARED THE CERTIFIED AS-BUILTS, WHICH WAS [INCLUDE THE SURVEYOR'S NAME, BUSINESS NAME, PSM NUMBER, ADDRESS AND TELEPHONE NUMBER]. THE SURVEYOR HAS CERTIFIED TO ME THAT THE AS-BUILT LOCATION INFORMATION OF THE POTABLE WATER, RECLAIMED WATER, SANITARY SEWER AND DRAINAGE FACILITIES CONFORMS TO THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA, CHAPTER 5J-17.050(10)(I) (FLORIDA ADMINISTRATIVE CODE)."

RECORD DRAWINGS WILL CONTAIN THE INFORMATION IN THE DESIGN AND AS-BUILT DRAWINGS (INCLUDING COVER SHEET, OVERALL LAYOUT, BLOWUPS, DETAILS, STANDARD DETAILS, LEGENDS, ETC.), PLUS THE FOLLOWING ADDITIONAL REQUIREMENTS:
1. NUMBER OF SUBMITTALS. TWO PAPER SETS ARE REQUIRED FOR THE FIRST AND EACH SUBSEQUENT SUBMITTAL, EXCEPT FOR 'DEVELOPER' PROJECTS WHERE FOUR SETS ARE REQUIRED FOR THE FIRST SUBMITTAL. WWED CONSULTANTS ARE REQUIRED TO SUBMIT RECORD DRAWINGS IN AUTOCAD FORMAT IN ADDITION TO THE PAPER SETS. CHECK WITH WWED'S GIS GROUP FOR MORE INFORMATION ON THE FORMAT OF THE AUTOCAD SUBMITTAL.
2. DRAWINGS ARE TO SHOW AS CONSTRUCTED INFORMATION, NOT DOCUMENT CHANGES BETWEEN THE DESIGN AND CONSTRUCTION. ANY WWS FACILITIES CONSTRUCTED IN A HORIZONTAL OR VERTICAL LOCATION DIFFERENT (ONE-TENTH FOOT HORIZONTAL, ONE-TENTH FOOT VERTICAL) THAN THE DESIGN LOCATION WILL HAVE THEIR DESIGN LOCATION ERASED AND WILL BE REDRAFTED AT THE CONSTRUCTED LOCATION. ALL INFORMATION THAT IS INCORRECT DUE TO CHANGES DURING CONSTRUCTION WILL BE CORRECTED. INCORRECT INFORMATION WILL NOT BE STRUCK THROUGH; IT WILL BE ERASED AND REPLACED WITH THE CORRECTED INFORMATION. ANY INFORMATION THAT IS NO LONGER RELEVANT DUE TO CHANGES DURING CONSTRUCTION WILL BE DELETED. DESIGN DRAWING DIMENSIONING TO WATER AND SEWER FACILITIES WILL BE CORRECTED AS NECESSARY.
3. DRAWINGS WILL BE A COMPLETE SET INCLUDING COVER SHEET, INDEX (IF ONE WAS INCLUDED IN THE APPROVED DESIGN DRAWINGS) STANDARD DETAILS AND ANY OTHER SHEETS INCLUDED IN THE APPROVED DESIGN SET.
4. DRAWINGS WILL INCLUDE THE MINIMUM AS-BUILT AND RECORD DRAWING CONTENTS DESCRIBED ELSEWHERE IN THIS DOCUMENT.

MINIMUM AS-BUILT AND RECORD DRAWING CONTENTS

1. THE AMOUNT OF INFORMATION REQUIRED ON AS-BUILT AND RECORD DRAWINGS WILL REQUIRE THE DRAWING AUTHOR TO ORGANIZE ITS PRESENTATION IN ORDER TO MAKE THE DRAWINGS READABLE. ON OCCASION, IT MAY BE NECESSARY TO PUT WATER AND SEWER INFORMATION ON SEPARATE SHEETS, AND/OR USE A TABLE TO SHOW COORDINATE INFORMATION.
2. SHOW THE LOCATION OF EASEMENTS USED BY THE WATER AND SEWER FACILITIES.
3. INDICATE PIPE JOINT LOCATIONS WHERE WATER AND SEWER OR RECLAIMED WATER PIPING CROSSES.
4. INDICATE THE LENGTH OF GRAVITY SEWER PIPING AND ACTUAL SLOPE BETWEEN MANHOLE CENTERS.
5. SHOW ALL ABANDONED IN PLACE FACILITIES INCLUDING THE EXTENT AND METHOD OF ABANDONMENT.
6. SHOW ELEVATIONS TO THE NEAREST TENTH OF A FOOT FOR:
   a. TOP OF PIPE FOR WATER MAINS, FORCE MAINS AND RECLAIMED WATER MAINS AT VERTICAL DEFLECTION POINTS AND EVERY 200 FEET ALONG STRAIGHT RUNS.
   b. TOP OF PIPE OF WATER OR SEWER FACILITIES WHERE THEY CROSS ALL OTHER FACILITIES (DRAINAGE, TELEPHONE, CABLE TV, ELECTRIC, ETC.)
7. SHOW ELEVATIONS TO THE NEAREST ONE HUNDREDTH OF A FOOT FOR:
   a. MANHOLE RIMS.
   b. INVERTS OF EVERY GRAVITY SEWER PIPE AND FORCE MAIN CONNECTIONS TO MANHOLES.
   c. LIFT STATION TOP OF SLAB, BOTTOM OF WET WELL, INFLUENT PIPE INVERT AND CONTROL SET POINTS.
8. COORDINATES WILL BE PROVIDED FOR WWS MAINTAINED FACILITIES, INCLUDING:
   a) WATER MAINS, FORCE MAINS AND RECLAIMED WATER MAINS AT DEFLECTION POINTS AND EVERY 200 FEET ALONG STRAIGHT RUNS.
   b) THE CENTER OF EACH MANHOLE, FITTING, VALVE, BLOW OFF, HYDRANT, WATER METER BOX, SEWER CLEANOUT, LIFT STATION WETWELL, DOUBLE DETECTOR CHECK OR OTHER NON-PIPE WATER OR SEWER FACILITY.
   c) THE LOCATION OF EACH CONNECTION TO EXISTING FACILITIES.
   d) THE CORNERS (VERTICES) OF ALL EASEMENTS BEING GRANTED TO THE COUNTY AS A PART OF THE PROJECT.
   e) OTHER LOCATIONS DESIGNATED BY WWED.
9. SHOW THE CHANGED LOCATION OF ANY NON-WATER/SEWER FEATURES SO THEY ARE AT THE VISUALLY CORRECT LOCATION RELATIVE TO WWS MAINTAINED FACILITIES.

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

Date: AUGUST 2012
KEITH & ASSOCIATES, INC.

08.06.2012 BID-PERMIT SET

DATE:	11/29/2011
SCALE:	N.T.S.
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

REVISION	DATE

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 33286
(FOR THE FIRM)

KEITH
a consulting engineers inc.
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7628

CITY OF POMPANO BEACH FIRE STATION 103
WATER AND SEWER DETAILS

CITY OF POMPANO BEACH
BROWARD COUNTY, FLORIDA

SHEET NO. C-9

PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cad\dwg\07020.68 ws dtls.dwg

GENERAL NOTES

1. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES AND TOPOGRAPHY HAVE BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT GUARANTEED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITIES AND TOPOGRAPHY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL UTILITIES, BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL GIVE TIMELY NOTIFICATION TO ALL UTILITY COMPANIES WITH FACILITIES IN THE AREA.
3. THE TOPOGRAPHIC SURVEY INCLUDED WITH THIS SET OF PLANS REFLECTS PREDEMOLITION CONDITIONS AND DOES NOT REFLECT THE SITE CONDITIONS AFTER DEMOLITION. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE IN DETERMINING THE REQUIRED EARTHWORK FOR THE PROPOSED DEVELOPMENT OF THE SITE. THIS INCLUDES, BUT IS NOT LIMITED TO, ANY EXCAVATION/DREDGE AND FILL ACTIVITIES REQUIRED AT ANY PHASE OF THE PROJECT. THE CONTRACTOR SHALL USE THE FINAL APPROVED (RELEASED FOR CONSTRUCTION) PLANS, SURVEYS, GEOTECHNICAL REPORTS, AND ANY OTHER AVAILABLE INFORMATION FOR DETERMINING THE AMOUNT OF EXCAVATION/DREDGING AND FILLING REQUIRED. ANY QUANTITIES INCLUDED IN THE APPROVED PERMITS WERE ESTIMATED BY THE ENGINEER FOR PURPOSES OF OBTAINING THE PERMIT AND UNDER NO CIRCUMSTANCES SHALL BE USED BY THE CONTRACTOR IN LIEU OF PERFORMING THEIR OWN EARTHWORK CALCULATIONS REQUIRED FOR COST ESTIMATING AND BIDDING THE PROJECT.
4. THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR READING AND FAMILIARIZING THEMSELVES WITH ANY AND ALL AVAILABLE GEOTECHNICAL REPORTS PREPARED BY OTHERS AND/OR ANY RECOMMENDATIONS WRITTEN OR IMPLIED BY THE GEOTECHNICAL ENGINEER FOR THIS PROJECT. THE GEOTECHNICAL CONDITIONS AND RECOMMENDATIONS OUTLINED IN THESE REPORTS ARE IN FORCE AND IN FULL EFFECT AS PART OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL THE WORK ASSOCIATED WITH THIS PROJECT IS IN COMPLIANCE WITH THE GEOTECHNICAL ENGINEERS RECOMMENDATIONS. KEITH AND ASSOCIATES, INC. IS NOT RESPONSIBLE FOR THE SUITABILITY OR UNSUITABILITY OF THE SOILS ENCOUNTERED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MEANS AND METHODS OF CONSTRUCTION USED CAN AND WILL ALLOW FOR THE SUCCESFUL COMPLETION OF THE REQUIRED SITE IMPROVEMENTS.
5. THE CONTRACTOR SHALL ENSURE THAT THE AVAILABLE GEOTECHNICAL INFORMATION IS SUFFICIENT FOR HIS COMPLETE UNDERSTANDING OF THE SOIL CONDITIONS FOR THE SITE. IF ADDITIONAL GEOTECHNICAL INVESTIGATION IS REQUIRED BY THE CONTRACTOR, THIS ADDITIONAL WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. HOWEVER, IF THE CONTRACTOR CONSIDERS A CHANGE ORDER IS REQUIRED IT SHALL BE SUBMITTED TO THE OWNER AND/OR ENGINEER. THE OWNER AND/OR ENGINEER WILL AT THEIR OWN DISCRETION REVIEW AND APPROVE THE CHANGE ORDER, UNLESS THE WORK IS CONSIDERED INCIDENTAL TO THE SUCCESSFUL COMPLETION OF THE PROJECT.
6. THE CONTRACTOR AND/OR CONTRACTOR'S SURVEYOR SHALL VERIFY ALL SITE GEOMETRY SHOWN AND/OR REFERENCED IN THE ENGINEERING PLANS BY PREPARING A GEOMETRIC CONTROL PLAN PRIOR TO STAKE-OUT. IF AND WHEN DISCREPANCIES ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.

I. APPLICABLE CODES

A. GENERAL

ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF POMPANO BEACH, BROWARD COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT (BCEPD), BROWARD COUNTY HEALTH DEPARMENT (BCHRS), SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND ALL OTHER LOCAL AND NATIONAL CODES WHERE APPLICABLE.

B. CONSTRUCTION SAFETY

ALL CONSTRUCTION SHALL BE DONE IN CONFORMANCE WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

C. TRENCH SAFETY ACT

CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLIANCE WITH THE STATE OF FLORIDA TRENCH SAFETY ACT.

D. SURVEY DATA

1. ALL ELEVATIONS ON THE PLANS OR REFERENCED IN THE SPECIFICATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NGVD).
2. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SAFEGUARD ALL EXISTING STRUCTURES, UTILITIES, AND SURVEY MARKERS.

II. PRECONSTRUCTION RESPONSIBILITIES

A. UPON RECEIPT OF NOTICE OF AWARD AND PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, ALL AFFECTED UTILITY OWNERS, THE ENGINEER AND CONTRACTOR.

B. THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL CERTIFICATION NUMBER AT (800) 638-4097 AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH HE FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. HE IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.

D. CONTRACTOR MUST RETURN THE AREA IMPACTED BY PROPOSED IMPROVEMENTS TO PRE-CONSTRUCTION CONDITIONS INCLUDING ALL LANDSCAPE, IRRIGATION, PAVEMENT MARKINGS, CURB AND GUTTER, DRIVEWAYS, AND PAVEMENT.

E. CONTRACTOR TO SUBMIT MAINTENANCE OF TRAFFIC PLAN(S) IN ACCORDANCE WITH FDOT AND BROWARD COUNTY REQUIREMENTS, AND SUBMIT FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.

III. INSPECTIONS

A. THE CONTRACTOR SHALL NOTIFY THE CITY OF POMPANO BEACH, BROWARD COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT (BCEPD), BROWARD COUNTY WATER AND WASTEWATER SERVICES AND THE ENGINEER OF RECORD AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS:

1. STORM DRAINAGE
2. SANITARY SEWER
3. WATER SYSTEM
4. SUBGRADE – SUBMIT AND HAVE APPROVED DENSITIES PRIOR
5. LIMEROCK BASE – SUBMIT AND HAVE APPROVED DENSITIES AND AS-BUILTS PRIOR TO THE PLACEMENT OF ANY ASPHALT.
6. CONCRETE FLATWORK/CURBING
7. ASPHALTIC CONCRETE
8. FINAL INSPECTION

B. FINAL INSPECTION/WALK THROUGH MUST BE CONDUCTED AND ALL PUNCH LIST ITEMS MUST BE COMPLETED AND APPROVED PRIOR TO THE APPROVAL OF THE SYSTEM.

IV. SHOP DRAWINGS

A. PRIOR TO THEIR CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE CITY OF POMPANO BEACH, BCWWS AND THE ENGINEER OF RECORD FOR THE ITEMS LISTED BELOW BUT NOT BE LIMITED TO:

DRAINAGE	WATER	SEWER
1. STRUCTURES:	1. FIRE HYDRANTS	1. MANHOLES
CATCH BASINS	2. VALVES	2. LIFT STATION:
MANHOLES	3. BACK FLOW PREVENTOR	WETWELL
HEADWALLS	4. DDCV	HATCHES
2. GRATES/TOPS	5. METER BOX	VALVES
3. YARD DRAINS		PUMP DATA
		ELECTRICAL PANEL

CATALOGUE LITERATURE SHALL BE SUBMITTED FOR DRAINAGE, WATER AND SEWER PIPES, FITTINGS, AND APPURTENANCES.

B. PRIOR TO SUBMITTING SHOP DRAWINGS TO THE ENGINEER, THE CONTRACTOR SHALL REVIEW AND APPROVE THE DRAWINGS, AND SHALL NOTE IN RED ANY DEVIATIONS FROM THE ENGINEER'S PLANS OR SPECIFICATIONS.

C. INDIVIDUAL SHOP DRAWINGS FOR ALL PRECAST STRUCTURES ARE REQUIRED. CATALOGUE LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.

V. TEMPORARY FACILITIES

A. TEMPORARY UTILITIES

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO HIS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.

B. TRAFFIC REGULATION

ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.

C. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEPT BROOM CLEAN TO THE DIRECTION OF THE ENGINEER.

D. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER COURSES, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED, SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION TO THE DIRECTION OF THE ENGINEER.

VI. SIGNING AND MARKING

A. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

B. REFLECTIVE PAVEMENT MARKERS SHALL BE CLASS B MARKERS MANUFACTURED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 706 AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES.

C. ALL MARKINGS WITHIN R/W SHALL BE THERMOPLASTIC. ALL ON-SITE MARKINGS SHALL BE PAINT EXCEPT 24" SOLID WHITE STOP BARS WHICH SHALL BE THERMOPLASTIC.

VII. PROJECT CLOSEOUT

A. CLEANING UP

THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER OR CITY OF POMPANO BEACH, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, EMPLOYEES OR THOSE OF HIS SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED ALL NECESSARY HIGHWAY OR DRIVEWAY, WALK AND LANDSCAPING WORK, SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.

B. PROJECT RECORD DOCUMENTS

1. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF WORK ITEMS COMPLETED.
2. PRIOR TO THE PLACEMENT OF ANY ASPHALT OR CONCRETE PAVEMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER "AS-BUILT" PLANS SHOWING LIMEROCK BASE GRADES, AND ALL DRAINAGE, WATER, AND SEWER IMPROVEMENTS. PAVING OPERATIONS SHALL NOT COMMENCE UNTIL THE ENGINEER AND THE APPROVING AGENCY HAS REVIEWED / APPROVED THE "AS-BUILTS".
3. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR SUBGRADE SHALL BE PROVIDED TO THE ENGINEER AND/OR THE CITY OF POMPANO BEACH PRIOR TO PLACING LIMEROCK BASE MATERIAL.
4. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR LIMEROCK BASE SHALL BE PROVIDED TO THE ENGINEER AND/OR THE CITY OF POMPANO BEACH PRIOR TO PLACING ASPHALT.
5. ALL "AS-BUILT" INFORMATION SUBMITTED TO THE ENGINEER SHALL FIRST BE REVIEWED BY THE CONTRACTOR TO ASSURE THEY ARE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER THAT THE INFORMATION PROVIDES A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.
6. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF "AS-BUILT" CONSTRUCTION DRAWINGS AND A DIGITAL COPY. THESE DRAWINGS SHALL BE MADE TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR.
7. ALL "AS-BUILT" INFORMATION ON ELEVATIONS OF WATER, SANITARY SEWAGE, PAVING, AND DRAINAGE SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR.
8. AS-BUILT DRAWINGS ARE TO REPRESENT ACTUAL FIELD CONSTRUCTION OF THE IMPROVEMENTS. THEY ARE TO BE SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR ALONG WITH THE PROPER CERTIFICATION STATEMENT (FURTHER DESCRIBED BELOW). THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE FIRM OF THE CERTYFING SURVEYOR ALONG WITH THE OWNER/DEVELOPER WILL ALSO BE INCLUDED.
9. THE AS-BUILT DRAWINGS ARE TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:

- "AS-BUILT" IN LARGE BOLD LETTERS.
- APPLICABLE SCALES: PLANS, PROFILES, DETAILS.
- LOCATION SKETCH AND NORTH ARROW. SPECIFY SECTION, TOWNSHIP, AND RANGE.
- IDENTIFY RIGHT-OF-WAY LINES AND CLEARLY SHOW PROPERTY BOUNDARY LINES. GIVE THE NAMES OF STREETS AND PUBLIC RIGHTS-OF-WAY ALONG WITH WIDTHS OF PROPOSED STREETS.
- LOCATION AND ELEVATION OF BENCH MARKS AND SOURCE.
- IDENTIFY SECTION LINES/REFERENCE POINTS.
- LOCATION OF BUILDING LINES, ADDRESS OF BUILDING(S) (BUILDING NUMBER) AND LOT/BLOCK OF EACH UNIT. SHOW BUILDING FINISH FLOOR ELEVATIONS.
- FULLY IDENTIFY ALL EASEMENTS WITH THEIR WIDTHS AS SHOWN ON THE APPROVED DESIGN DRAWINGS. CLEARLY SHOW ALL UTILITIES TO BE COVERED BY AN EASEMENT AND VERIFY THEY ARE WITHIN THE REQUIRED EASEMENT.
- ALL PLANNED INSTALLATIONS PER THE APPROVED DESIGN DRAWINGS SHALL BE SHOWN ON THE AS-BUILT DRAWINGS, INCLUDING THE BUILDINGS, STORM DRAINAGE, OTHER UTILITIES, ASPHALT ROADWAYS, CONCRETE WALKS, ETC.
- ANY CHANGES TO THE PLANNED INSTALLATIONS MADE DURING CONSTRUCTION MUST BE SHOWN ON THE AS-BUILT DRAWINGS.
- DISTANCES FROM RIGHT-OF-WAY LINES TO UTILITIES.
- SERVICE LINES TO BE LOCATED AT MAIN AND TERMINUS.
- TYPE OF PIPE – SIZE AND MATERIAL.
- METER SIZE AND LOCATION.
- UNLESS INSTRUCTED BY THE ENGINEER OR UTILITY PROVIDER, THE WATER AND SEWER SYSTEM WILL BE LOCATED WITH STATION AND OFFSET FROM A BASELINE USING THE MANHOLES OF THE SEWER SYSTEM AS THE BASELINE. IF IT IS NOT PRACTICAL TO UTILIZE THE SEWER SYSTEM MANHOLES AS A BASELINE THEN THE SURVEYOR WILL CONTACT THE ENGINEER OF RECORD SO THAT A SUBSITUTE BASELINE MAY BE CHOSEN.
- ELEVATIONS OF THE WATER SYSTEM WILL BE TAKEN AND SHOWN AT THE:
  - A. TOP OF PIPE EVERY 100 FEET AND AT ALL DEFLECTION POINTS OR CHANGES IN DIRECTION.
  - B. TOP OF ALL FITTINGS INCLUDING THE BENDS, TEES, GATE VALVES, BACKFLOW PREVENTORS, DDCV, FIRE HYDRANTS, ETC.
  - C. TIE-INS TO EXISTING LINES.
  - D. THE ENDS OF ALL WATER SERVICES TO THE BUILDING OR HOMES OR WHERE THE WATER LINE TERMINATES.
- ELEVATIONS OF THE SEWER SYSTEM WILL BE TAKEN AND SHOWN AT:
  - A. ALL STRUCTURES TO INCLUDE THE RIM AND INVERTS
  - B. THE STUB ENDS OF ALL SEWER LATERALS INCLUDING THE INVERTS OF ALL CLEANOUTS.
- THE LENGTH, SIZE, MATERIAL AND SLOPE OF ALL SEWER MAINS WILL BE SHOWN.
- DRAINAGE STRUCTURES SHALL SHOW THE RIM/GRATE ELEVATION AND INVERTS OF ALL PIPES. PIPE INFORMATION WILL INCLUDE THE SIZE, MATERIAL AND LENGTH AND IF ITS PERFORATED OR NON-PERFORATED. THE LENGTH AND WIDTH WILL ALSO BE SHOWN FOR ANY ADJOINING EXFILTRATION TRENCH.
- ROADWAY ELEVATIONS WILL BE SHOWN AT THE CROWN, EDGE OF PAVEMENT, HIGH AND LOW POINTS, AND RIGHT OF WAY LINE AT 100' (MAX.) OR FRACTION THEREOF AND AT EVERY LOCATION ON THE APPROVED DESIGN DRAWINGS SHOWN WITH AN ELEVATION. IF THE AS-BUILT ROADWAY ELEVATIONS SHOWN WERE NOT TAKEN ON FINISH ASPHALT OR CONCRETE, A NOTE WILL BE BOLDLY SHOWN INDICATING WHAT STAGE OF CONSTRUCTION THE ELEVATIONS WERE TAKEN, (SUCH AS FINISH ROCK, FIRST LIFT OF ASPHALT, ETC.)
- LAKE, POND, CANAL, AND/OR WATERWAYS SHALL BE CROSS-SECTIONED AT 100 FOOT (MAX.) INTERVALS OR FRACTIONS THEREOF. THE CROSS SECTION SHALL BE REFERENCED TO A PROPERTY LINE OR EASEMENT LINE IF POSSIBLE OR PRACTICAL. ELEVATIONS WILL BE SHOWN AT THE TOP OF BANK, EDGE OF WATER, PLANTED WETLAND VEGETATION, SLOPE BREAKPOINT(S), AND BOTTOM. THE DESIGN TEMPLATE SHALL BE SHOWN SUPERIMPOSED ON EACH SECTION.
- PERIMETER BERMS SHALL BE CROSS-SECTIONED AT 100 FOOT (MAX.) INTERVALS OR FRACTIONS THEREOF. THE CROSS SECTION SHALL BE REFERENCED TO THE PROPERTY LINE WITH ELEVATIONS SHOWN AT THE TOP OF BERM, PROPERTY LINE, AND TOE OF BERM.
- DRAINAGE SWALES SHALL HAVE FLOWLINE ELEVATIONS SHOWN AT 100 FOOT (MAX.) INTERVALS OR FRACTION THEREOF.
- DRY RETENTION AREAS SHALL SHOW TOP AND BOTTOM ELEVATIONS AT 100 FOOT (MAX.) GRID POINTS OR FRACTION THEREOF.
- IDENTIFY PRIVATE SYSTEMS SUCH AS LIFT STATIONS, SEWER, WATER AND DRAINAGE LINES AND FORCE MAINS, NOT MAINTAINED BY THE CITY OF POMPANO BEACH OR UTILITY PROVIDERS.
- LOCATE AND IDENTIFY ANY ABANDONED UTILITY LINES.
- THE FOLLOWING CERTIFICATION STATEMENT SHALL APPEAR ON ALL AS-BUILT SUBMITTALS:

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THE AS-BUILT MEASUREMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AS SURVEYED IN THE FIELD UNDER MY DIRECTION ON ________________, 2____.

___________________________, P.L.S. # _______________

"RECORD DRAWING'

THE INFORMATION SHOWN ON THIS RECORD DRAWING WAS SUPPLIED BY: ___________________________ REGISTERED LAND SURVEYOR # ________________ IN THE STATE OF FLORIDA.
THE ENGINEER'S SIGNATAURE AND SEAL AFFIXED TO THIS DRAWING IS ONLY TO BE INTERPRETED TO CONFIRM THAT THE INFORMATION PROVIDED HAS BEEN REVIEWED FOR CONFORMANCE WITH ALL APPLICABLE ENGINEERING DESIGN STANDARDS

VIII. STORM DRAINAGE

A. CONTRACTOR MAY UTILIZE ONE OF THE FOLLOWING MATERIALS ON A SIZE FOR SIZE BASIS:

1. ALUMINUM (CAP)
   - a. PIPE SHALL BE ALUMINUM, MANUFACTURED IN CONFORMANCE WITH ASTM B-209.
   - b. PIPE SHALL BE SPIRAL RIB DRAINAGE PIPE WITH $\frac{3}{4}$"X$\frac{3}{4}$ RIBS, APPROXIMATELY 7-1/2" ON CENTER. GAUGE THICKNESS SHALL MEET FDOT STANDARD 945-1.
   - c. PIPE COUPLING BANDS SHALL BE 12" WIDE (MIN.) STANDARD SPLIT BANDS OF THE SAME ALLOY AS THE PIPE AND MAY BE ONE GAUGE LIGHTER THAN THE PIPE.
   - d. POLYURETHANE OR OTHER SEALANT SHALL BE USED WITH COUPLING BANDS ON ALL PIPE.
2. REINFORCED CONCRETE (RCP)
   - a. CONCRETE PIPE FOR STORM SEWERS SHALL CONFORM TO ASTM C76 (AASHTO M170) OR LATEST REVISION; CLASS 1 OR AS SHOWN ON PLANS. ALL PIPE SHALL HAVE MODIFIED TONGUE AND GROOVE JOINTS, AND HAVE RUBBER GASKETS, UNLESS OTHERWISE SPECIFIED.
3. HIGH DENSITY POLYETHYLENE (HDPE) CORRUGATED AND SMOOTH
4. BEDDING AND INITIAL BACKFILL OVER DRAINAGE PIPE SHALL BE SAND WITH NO ROCK LARGER THAN 1" DIAMETER.
5. BACKFILL MATERIAL UNDER PAVED AREAS SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
6. BACKFILL MATERIAL UNDER AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
7. CATCH BASINS SHALL BE PRECAST WITH 3,000 PSI (MIN.) CONCRETE STRENGTH (28 DAY COMPRESSIVE STRENGTH) WITH GRADE 40 REINFORCING STEEL.
8. TRENCH WIDTH SHALL BE SUFFICIENT TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIALS.
9. FOUNDATION AND BEDDING SHALL MEET THE REQUIREMENTS OF AASHTO M 145, A-1, A-2-4. A-2-5, A-3, OR AS RERQUIRED BY THE CITY OF POMPANO BEACH. A STABLE AND UNIFORM BEDDING SHALL BE PROVIDED FOR THE PIPE AND ANY PROTRUDING FEATURES OF ITS JOINT AND/OR FITTINGS.
10. STRUCTURAL BACKFILL SHALL ALSO MEET THE REQUIREMENTS OF AASHTO M 145, A-1, A-2-4, A-2-5, A-3, OR AS REQUIRED BY THE CITY OF POMPANO BEACH.

IX. PAVING

A. GENERAL

1. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO THE CONSTRUCTION OF THE LIMEROCK BASE AND PRIOR TO THE PLACEMENT OF THE PAVEMENT.
2. ALL STREET CORNER PAVEMENT RADII SHALL BE 35 FEET UNLESS OTHERWISE NOTED ON THE PLANS.

B. MATERIALS

1. LIMEROCK BASE MATERIAL SHALL HAVE A MINIMUM OF 70% CARBONATES (CALCIUM AND MAGNESIUM) WITH A MINIMUM LBR OF 100.
2. PRIME COAT AND TACK COAT SHALL MEET FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARDS.
3. ASPHALTIC CONCRETE SHALL BE EQUAL TO FDOT TYPE S-III AND A MINIMUM OF 1 1/2" COMPACTED THICKNESS, PLACED IN TWO (2) 3/4" LIFTS.

C. INSTALLATION

1. LIMEROCK BASE MATERIAL SHALL BE 8" THICK AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T-180, PLACED IN TWO OR MORE EQUAL LIFTS, AND SHALL HAVE A MINIMUM OF 70% CARBONATES (CALCIUM AND MAGNESIUM) WITH A MINIMUM LBR OF 100.
2. 12" STABILIZED SUBGRADE, MINIMUM LBR 40, COMPACTED TO 98% MAXIMUM DRY DENSITY PER AASHTO T-180.
3. PRIME COAT SHALL BE PLACED ON ALL FINAL COURSE LIMEROCK BASES IN ACCORDANCE WITH FDOT STANDARDS.
4. TACK COAT SHALL BE PLACED AS REQUIRED IN ACCORDANCE WITH FDOT STANDARDS.
5. ALL PAVED AREAS SHALL BE DEMUCKED. REMOVE ALL SOIL OF TYPE A-5, A-7, AND A-8.
6. REPLACE MUCK IN SWALE AND RETENTION AREAS WITH CLEAN FILL. USE 2" TOPSOIL AND SOD.

D. TESTING

ALL SUBGRADE, LIMEROCK AND ASPHALT TESTS REQUIRED SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER.

X. UTILITY OWNERS

A.	CITY OF POMPANO BEACH	(954) 786-4060
B.	FLORIDA POWER AND LIGHT	(305) 442-5966
C.	TECO PEOPLES GAS COMPANY	(954) 453-0811
D.	BELL SOUTH TELEPHONE CO.	(954) 723-2540
E.	BROWARD COUNTY WWS	(954) 831-0916

GENERAL SPECIFICATIONS FOR SEWER SYSTEMS

1. PVC FOR FORCE MAINS (8" MAX. SIZE) SHALL CONFORM TO ANSI/AWWA C900-97 AND C902-88 AND HAVE A DR OF 18 FOR CLASS 150 AND A DR OF 14 FOR CLASS 200.
2. DIP SHALL BE EPOXY-LINED AND SEAL COATED IN ACCORDANCE WITH ANSI/AWWA C151/A21.51-02 AND C104/A21.4-95. PRESSURE CLASS 350 FOR PIPE 4" THRU 24" IN DIAMETER.
3. FITTINGS FOR FORCE MAINS SHALL BE CAST IRON OR DUCTILE IRON, MECHANICAL JOINT, MEETING ANSI/AWWA C110/A21.10-98 AND EPOXY-LINED AND SEALCOATED PER ANSI/AWWA C151/A21.51-02 AND ANSI/AWWA C104/A21.4-95.
4. VALVES 4" AND LARGER SHALL BE RESILIENT SEAT WITH NON-RISING STEM AND COMPLY WITH ANSI/AWWA C509-01.
5. THE MINIMUM DEPTH OF COVER FROM TOP OF PIPE TO FINISH GRADE IS 36" FOR PVC AND 30" FOR DIP.
6. ALL INSTALLATION AND TESTING SHALL COMPLY WITH ANSI/AWWA C600-99.
7. MAXIMUM FORCE MAIN PIPE DEFLECTION IS 75% OF MANUFACTURER'S MAXIMUM ALLOWABLE DEFLECTION.
8. FORCE MAINS, FITTINGS AND VALVES SHALL BE TESTED UNDER AN AVERAGE PRESSURE GREATER THAN 150 PSI FOR A MINIMUM PERIOD OF 2 HOURS AND SHALL NOT EXCEED THE LEAKAGE PER THE FOLLOWING FORMULA:

$$Q = \frac{LD\,(P)^{1/2}}{148{,}000}$$

Q = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
L = TOTAL LENGTH OF PIPE TESTED IN FEET
D = DIAMETER OF THE PIPE TESTED IN INCHES
P = AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH

9. GRAVITY LINES SHALL BE LAMPED TO DETERMINE ALIGNMENT AND TIGHTNESS OF THE JOINTS AND TESTED FOR INFILTRATION/EXFILTRATION. ALL TESTING SHALL BE WITNESSED BY THE BCWWS, ENGINEER AND OWNERS REPRESENTATIVE.
10. LEAKAGE TESTS ARE SPECIFIED REQUIRING THAT: 1) THE LEAKAGE EXFILTRATION OR INFILTRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM: 2) EXFILTRATION OR INFILTRATION TESTS BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET; AND 3) AIR TESTS, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC PIPE, AND FOR OTHER MATERIALS APPROPRIATE TEST PROCEDURES. THE ALLOWABLE LIMITS OF INFILTRATION OR EXFILTRATION OF MANHOLES SHALL NOT EXCEED A RATE OF 4 GALLONS PER MANHOLE PER 24 HOURS.
11. APPROPRIATE GRAVITY SEWER DEFLECTION TESTS ARE SPECIFIED FOR ALL FLEXIBLE PIPE. TESTING IS REQUIRED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM. TESTING REQUIREMENTS SPECIFY: 1) NO PIPE SHALL EXCEED A DEFLECTION OF 5%; 2) USING A RIGID BALL OR MANDREL FOR THE DEFLECTION TEST WITH A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATIONS, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED; AND 3) PERFORMING THE TEST WITHOUT MECHANICAL PULLING DEVICES.
12. PRECAST CONCRETE STRUCTURES SHALL BEAR THE STAMP OF A CERTIFIED ENGINEERING TESTING LABORATORY, SIGNED AND DATED, CERTIFYING THAT THEY MEET THE REQUIREMENTS OF ASTM C-478 FOR CONCRETE STRENGTH, STEEL REINFORCEMENT AREA AND PLACEMENT. STRUCTURES MUST BE INSPECTED BY BCWWS, THE ENGINEER AND OWNERS REPRESENTATIVE PRIOR TO INSTALLATION.
13. CONCRETE FOR PRECAST STRUCTURES OR CAST-IN-PLACE STRUCTURES SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. CEMENT USED IN STRUCTURES SHALL BE TYPE II.
14. MINIMUM WALL/BASE THICKNESS FOR PRECAST STRUCTURES SHALL BE 8 INCHES.
15. REINFORCING STEEL FOR STRUCTURES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615 AND A-305. SPLICES SHALL HAVE A MINIMUM LAP OF 24 BAR DIAMETERS. MINIMUM COVER OVER REINFORCEMENT SHALL BE 2 INCHES.
16. OPENINGS IN PRECAST STRUCTURES SHALL BE CAST AT THE TIME OF MANUFACTURE.
17. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (PIPE, PRECAST STRUCTURE, ETC.) TO THE ENGINEER OF RECORD, THE CITY AND BCWWS FOR APPROVAL.
18. ALL STRUCTURES SHALL BE SET PLUMB TO LINE AND GRADE AND REST ON A FIRM SUBGRADE, PROVIDING UNIFORM BEARING UNDER THE BASE.
19. MANHOLE SECTIONS SHALL BE JOINED WITH A MASTIC COMPOUND PRODUCING A WATERTIGHT SEAL. THE REMAINING SPACE SHALL BE FILLED WITH CEMENT MORTAR AND FINISHED SO AS TO PRODUCE A SMOOTH CONTINUOUS SURFACE INSIDE AND OUTSIDE THE WALL SECTION.
20. ALL SPACES AROUND PIPES ENTERING OR LEAVING MANHOLES SHALL BE COMPLETELY FILLED WITH NON-SHRINKING GROUT.
21. ALL GRAVITY SEWER PIPE SHALL BE PVC OR DIP. PVC PIPE SHALL CONFORM TO ASTM D-3034, SDR 35 (UNLESS OTHERWISE SPECIFIED), WITH PUSH-ON RUBBER GASKET JOINTS. DIP SHALL CONFORM TO THE SPECIFICATIONS FOR FORCE MAINS.
22. PVC LINES ENTERING OR LEAVING STRUCTURES SHALL HAVE MANHOLE ADAPTER COUPLINGS PER CITY OF POMPANO BEACH.
23. CONNECTIONS TO EXISTING MAINS, AND OPENING/CLOSING OF EXISTING VALVES SHALL BE MADE UNDER THE DIRECTION AND/OR SUPERVISION OF THE UTILITIES DEPARTMENT.
24. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF POMPANO BEACH AND BROWARD COUNTY WATER AND WASTEWATER SERVICES "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND APPLICABLE CODES.
25. TWO COATS OF BITUMASTIC 300 M OR APPROVED EQUAL SHALL BE APPLIED TO THE OUTSIDE AND TWO COATS TO THE INSIDE OF THE MANHOLES (MINIMUM 8 MILS. THICK PER COAT)
26. DUCTILE IRON SEWER PIPE FOR GRAVITY MAINS SHALL BE PRESSURE CLASS 350 EPOXY-LINED.
27. CLEANOUTS SHALL BE INSTALLED AT ALL SEWER SERVICES EXCEEDING 75' IN LENGTH (EVERY 75' MAX.) WITH A CLEANOUT AT THE PROPERTY LINE, EASEMENT LINE, OR 5' FROM BUILDING. THE CONTRACTOR SHALL COORDINATE THE LOCATION THE BUILDING CLEANOUT (5' FROM THE BUILDING) AND ELEVATION OF THE END OF THE SEWER SERVICE WITH THE BUILDING PLUMBING CONTRACTOR.
28. ALL SEWER MAINS AND SERVICES, UP TO AND INCLUDING THE END OF THE SERVICE, SHALL BE CONSTRUCTED WITHIN UTILITY EASEMENTS AS SPECIFIED ON PLANS.
29. THE ENTIRE SYSTEM SHALL BE CLEANED PRIOR TO LAMPING OF THE LINES.
30. THE CONTRACTOR, AT NO EXPENSE TO THE OWNER, CITY OR COUNTY, SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS AND SHALL CONDUCT ALL TESTING REQUIRED, UNDER THE DIRECTION OF THE ENGINEER.
31. LABORATORY AND FIELD DENSITY TESTS, WHICH, IN THE OPINION, OF THE ENGINEER ARE NECESSARY TO ESTABLISH COMPLIANCE WITH THE COMPACTION REQUIREMENTS OF THESE SPECIFICATIONS, SHALL BE CONDUCTED AT THE EXPENSE OF THE DEVELOPER. TESTS SHALL BE MADE AT SUCH DEPTHS AND LOCATIONS AS SELECTED BY THE ENGINEER.
32. TRENCH BACKFILL WHICH DOES NOT COMPLY WITH THE SPECIFIED DENSITIES, AS INDICATED BY SUCH TESTS, SHALL BE REWORKED AND RECOMPACTED UNTIL THE REQUIRED COMPACTION IS ACHEIVED, WITH ANY RESULTING COST BORNE BY THE CONTRACTOR.
33. AFTER ALL OTHER TESTING HAS BEEN SUCCESSFULLY COMPLETED, A TELEVISION INSPECTION OF ANY OR ALL LINES SHALL BE MADE. ANY DEFECTIVE WORK OR NECESSARY CORRECTIONS BROUGHT OUT DURING THIS INSPECTION MUST BE CORRECTED BY THE CONTRACTOR, AT HIS EXPENSE, BEFORE THE LINES CAN BE ACCEPTED FOR MAINTENANCE BY THE BCWWS/CITY. ALL MUD, SAND, DEBRIS AND OTHER DEPOSITS SHALL BE REMOVED BY APPROVED METHODS.

WATER AND SEWER SEPARATION NOTES

1. SANITARY SEWERS AND FORCE MAINS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS AND FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHENEVER POSSIBLE.

   WHERE SANITARY SEWERS AND FORCE MAINS MUST CROSS A WATER MAIN WITH LESS THAN 12 INCHES OF VERTICAL DISTANCE, BOTH THE SEWER/FORCE MAIN AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 6 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.

   ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPE CENTERED ON THE CROSSING). WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 12 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.
2. A MINIMUM 6 FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

   IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 6 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE TOP OF THE SEWER/FORCE MAIN.

   WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 12 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
3. ALL DIP SHALL BE PRESSURE CLASS 350 (4" THRU 24"). ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED.

GENERAL SPECIFICATIONS FOR WATER SYSTEMS

1. PIPE SHALL BE PVC C-900, CLASS 150 (OR APPROVED EQUIVALENT) AND CONFORM TO ANSI/AWWA C900-07 AND C902-88 (LATEST REVISION). DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF AWWA C-151 ANSI STANDARD A21.51-02 (LATEST REVISION) W/ 4'' TO 24'' BEING OF PRESSURE CLASS 350 AND 30'' TO 64'' BEING OF PRESSURE CLASS 250.
2. FITTINGS SHALL BE DUCTILE IRON, MECHANICAL JOINT, OR EQUIVALENT, MEETING ANSI/AWWA C110/A21.10-03 AND CEMENT-LINED AND SEAL-COATED PER ANSI/AWWA C151/A21.51-02 AND ANSI/AWWA C104/A21.4-03 (OR LATEST REVISION).
3. VALVES 4" AND LARGER SHALL BE RESILIENT SEAT WITH NON-RISING STEM AND COMPLY WITH ANSI/AWWA C509-01.
4. THE MINIMUM DEPTH FROM TOP OF PIPE TO FINISHED GRADE IS 36" FOR PVC AND 30" FOR DIP.
5. ALL PIPE, FITTINGS AND VALVES SHALL BE TESTED UNDER AN AVERAGE PRESSURE GREATER THAN 150 PSI FOR A MINIMUM PERIOD OF 2 HOURS AND SHALL NOT EXCEED THE LEAKAGE PER THE FOLLOWING FORMULA:

$$Q = \frac{LD\,(P)^{1/2}}{148{,}000}$$

Q = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
L = TOTAL LENGTH OF PIPE TESTED IN FEET
D = DIAMETER OF THE PIPE TESTED IN INCHES
P = AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH

6. ALL INSTALLATION AND TESTING SHALL COMPLY WITH ANSI/AWWA C600-05.
7. DISINFECTION SHALL COMPLY WITH ANSI/AWWA C651-05.
8. MAXIMUM PIPE/JOINT DEFLECTION AT 75% OF MANUFACTURER'S MAXIUM ALLOWABLE DEFLECTION.
9. ALL FIRE HYDRANTS SHALL BE OF THE DRY-BARREL TYPE AND SHALL CONFORM IN DESIGN, MATERIAL AND WORKMANSHIP TO AWWA C502-05. HYDRANTS SHALL HAVE A FIVE AND ONE-QUARTER INCH MAIN VALVE OPENING AND A THREE-WAY NOZZLE ARRANGEMENT.

   THE DEPTH OF BURY, MEASURED FROM THE BOTTOM OF THE CONNECTING PIPE TO THE GROUND LINE OF THE HYDRANT SHALL BE THREE FEET SIX INCHES (MINIMUM). EXACT DEPTH AT EACH LOCATION SHALL BE DETERMINED BY DEPTH OF LINE TO WHICH THE HYDRANT IS CONNECTED.

   TWO – 2 1/2 INCH HOSE NOZZLES AND ONE – 4 1/2 INCH PUMP NOZZLE CONNECTION THREADS SHALL CONFORM TO NFPA NO. 194 (ANSI B26) STANDARD FOR SCREW THREADS AND GASKETS FOR FIRE HOSE COUPLINGS.

   HYDRANTS SHALL BE SUPPLIED WITH ACCESSORIES TO INCLUDE MECHANICAL JOINT FOLLOWER RINGS WITH SETSCREWS AND AT LEAST ONE ADJUSTABLE HYDRANT WRENCH WITH SPANNER INCLUDED WITH EVERY TEN HYDRANTS SUPPLIED. BARREL EXTENSION SECTIONS SHALL NOT BE ALLOWED ON NEW FIRE HYDRANTS, EXCEPT BY SPECIAL PERMISSION FROM THE UTILITY DEPARTMENT.

   MANUFACTURERS: MUELLER MODEL SUPER CENTURION 250 5¼" SIZE (REFERENCE CATALOG NO. A-423) AND AMERICAN-DARLING (MODEL B-62B AND B-84B, CLOW 2500) OR APPROVED EQUAL.

   PAINTING: COLOR TO BE SPECIFIED BY CITY AND/OR UTILITY PROVIDER. THE OUTSIDE OF THE HYDRANT ABOVE FINISHED GRADE SHALL BE THOROUGHLY CLEANED USING A COMMERCIAL GRADE SAND BLASTING TO BARE METAL AND PRIMED WITH RUST-OLEUM No. 1060 HEAVY DUTY RUST INHIBITIVE PRIME.

   PAVEMENT REFLECTORS:
   ONE BI-DIRECTIONAL BLUE TRAFFIC REFLECTOR SHALL BE AFFIXED TO THE PAVEMENT BY AN EPOXY ADHESIVE. REFLECTORS ARE 4" x 4" x 3/4" AND REFLECTIVE IN TWO DIRECTIONS: REFLECTORS SHALL BE AFFIXED TO THE PAVEMENT OPPOSITE EACH FIRE HYDRANT IN THE CENTER OF THE TRAFFIC LANE DIRECTLY IN FRONT OF AND IN THE CLOSEST TRAFFIC LANE TO THE HYDRANT.

   THERE SHALL BE NO SHRUBBERY PLANTED WITHIN 6 FEET OF ANY FIRE HYDRANT.
10. NO ALLOWABLE LEAKAGE FOR FIRE HYDRANTS.
11. CONNECTIONS TO EXISTING MAINS, OPENING/CLOSING OF EXISTING VALVES SHALL BE MADE UNDER THE DIRECTION AND/OR SUPERVISION OF BCWWS.
12. ALL WATER SERVICES SHALL BE CONSTRUCTED TO WITHIN 5' OF THE BUILDING OR TO THE PROPERTY LINE, UNLESS OTHERWISE SHOWN.
13. THE ENTIRE SYSTEM SHALL BE FLUSHED AND SHALL BE CLEAN PRIOR TO DISINFECTION PROCEDURES.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEANS TO ISOLATE ALL NEW WATER MAIN CONSTRUCTION FROM EXISTING MAINS UNTIL ALL TESTING OF THE NEW MAINS HAS BEEN SATISFACTORILY COMPLETED AND ACCEPTED.
15. FINAL INSPECTION MUST BE ARRANGED WITH THE ENGINEER BY WRITTEN NOTIFICATION A MINIMUM OF 48 HOURS IN ADVANCE.
16. ALL JOINTS TO BE RESTRAINED USING "MEGALUG" (OR APPROVED EQUAL) IN COMPLIANCE WITH ALL APPLICABLE AWWA STANDARDS.
17. ALL WORK SHALL COMPLY WITH THE TRENCH SAFETY PROGRAM.
18. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (PIPE, FITTINGS, FIRE HYDRANTS, ETC.) TO THE ENGINEER OF RECORD, BCWWS AND/OR THE CITY FOR APPROVAL.
19. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF POMPANO BEACH AND BCWWS "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND OTHER APPLICABLE CODES.
20. DEFLECT WATER MAINS AS NECESSARY TO AVOID CONFLICTS WITH OTHER UTILITIES.
21. THE CONTRACTOR SHALL COORDINATE THE LOCATION AND ELEVATION OF THE ENDS OF THE WATER SERVICES WITH THE BUILDING PLUMBING CONTRACTOR.

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

Date: AUGUST 2012
KEITH & ASSOCIATES, INC.

CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF POMPANO BEACH AND BROWARD COUNTY MINIMUM DESIGN AND CONSTRUCTION STANDARDS.

IF ANY OF THE GENERAL NOTES LISTED ABOVE ARE IN CONFLICT WITH THE CITY OF POMPANO BEACH AND/OR BROWARD COUNTY, THE MORE STRINGENT STANDARD SHALL CONTROL

08.06.2012 BID-PERMIT SET

CITY OF POMPANO BEACH
FIRE STATION 103
CONSTRUCTION NOTES
BROWARD COUNTY, FLORIDA
CITY OF POMPANO BEACH

KEITH & ASSOCIATES INC
consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

JAMES A. THIELE, P.E.
FLORIDA REG. NO. 33256
(FOR THE FIRM)

DATE:	11/29/2011
SCALE:	N.T.S.
DRAWN BY:	D.C.
DESIGN BY:	S.B.
CHECKED BY:	J.T.

REVISION	DATE

SHEET NO. C-10

PROJECT NO. 07020.68

N:\07\07020.68 Pompano Fire Station - Pompano\Engineering\Cadd\dwg\07020.68 const not.dwg