40 YEAR CDBG (COMMUNITY DEVELOPMENT BLOCK GRANT) PUBLIC WORKS IMPROVEMENT PROJECT

100% SUBMITTAL

CITY OF HALLANDALE BEACH
BROWARD COUNTY, FL

PROJECT LOCATION

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LOCATION MAP

SECTION 21, TOWNSHIP 51 SOUTH, RANGE 42 EAST

PREPARED FOR:

CITY OF HALLANDALE BEACH

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VERTICAL INFORMATION HEREON IS RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (NAVD88).

Matthew J. Cigale
Florida P.E. No. 74584

July 22, 2015
CTA PROJECT NUMBER: 15-0016-001-01

I. APPLICABLE CODES

A. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF CITY OF HALLNADALE BEACH AND ALL OTHER LOCAL, STATE AND NATIONAL CODES WHERE APPLICABLE.

B. ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER AND IN STRICT COMPLIANCE WITH ALL THE REQUIREMENTS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND ALL STATE AND LOCAL SAFETY AND HEALTH REGULATIONS.

C. ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NATIONAL AMERICAN VERTICAL DATUM OF 1988, (N.A.V.D.), UNLESS OTHERWISE NOTED.

D. WITHIN THE BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION (BCHCED) JURISDICTIONAL RIGHT-OF-WAY, ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH BCHCED "MINIMUM STANDARDS" REQUIREMENTS.

E. TRENCH SAFETY ACT
   1. ALL TRENCH EXCAVATION SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 90-96 OF THE LAWS OF FLORIDA (THE TRENCH SAFETY ACT).
   2. ALL TRENCH EXCAVATION IN EXCESS OF 5 FEET IN DEPTH SHALL BE UNDERTAKEN IN ACCORDANCE WITH O.S.H.A. STANDARD 29 CFR. SECTION 1926.650 SUBPART P.
   3. A TRENCH SAFETY SYSTEM, IF REQUIRED, SHALL BE DESIGNED BY THE CONTRACTOR.

F. ASBESTOS CEMENT PIPE (ACP), AND TRANSITE PIPE, CONTAIN ASBESTOS MATERIAL. ALL ASBESTOS CONTAINING MATERIALS SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH THE CURRENT LOCAL, STATE AND FEDERAL REGULATIONS. THIS INCLUDES THE CUTTING, PLUGGING AND DISPOSAL OF EXISTING ACP OR TRANSITE WATER MAIN PIPES.

G. ALL HANDICAP ACCESSIBLE AREAS TO CONFORM WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT, LATEST EDITION.

H. IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE REQUIREMENTS OF ANY JURISDICTIONAL AUTHORITIES, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

II. PRECONSTRUCTION RESPONSIBILITIES

A. UPON THE RECEIPT OF THE "NOTICE TO PROCEED", THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, UTILITY OWNERS AND CITY OF HALLANDALE BEACH AND THE ENGINEER OF RECORD.

B. THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL CERTIFICATION NUMBER AND FIELD MARKINGS AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION, CALL 811.

C. LOCATION OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE DRAWN FROM AVAILABLE RECORDS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE EXISTING FACILITIES SHOWN OR FOR ANY EXISTING FACILITY NOT SHOWN. THE CONTRACTOR SHALL VERIFY THROUGH VACUUM EXCAVATION & TEST HOLE METHODS, THE ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION. IF AN EXISTING FACILITY IS FOUND TO CONFLICT WITH THE PROPOSED CONSTRUCTION UPON EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD SO THAT APPROPRIATE MEASURES CAN BE TAKEN TO RESOLVE THE ISSUE.

D. THE CONTRACTOR SHALL COORDINATE W/ OTHER UTILITY OWNERS TO LOCATE, IDENTIFY OR RELOCATE EXISTING UTILITIES AS REQUIRED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THIS WORK. IT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

E. FOR STREET EXCAVATION OR CLOSING OR FOR ALTERATION OF ACCESS TO PUBLIC OR PRIVATE PROPERTY, INFORM:
   1. LOCAL POLICE TRAFFIC SERGEANT
   2. LOCAL FIRE DEPARTMENT DISPATCH

G. THE CONTRACTOR SHALL USE EXTREME CAUTION WORKING UNDER, OVER AND AROUND EXISTING ELECTRIC LINES. THE CONTRACTOR SHALL CONTACT THE ELECTRIC SUPPLY COMPANY TO VERIFY LOCATIONS, VOLTAGE AND REQUIRED CLEARANCES, ONSITE, IN RIGHT-OF-WAYS AND IN EASEMENTS, PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF EXISTING LINES.

H. ALL UTILITY / ACCESS EASEMENTS TO BE SECURED PRIOR TO CONSTRUCTION.

I. NO CONSTRUCTION MAY COMMENCE UNTIL THE APPROPRIATE PERMITS HAVE BEEN OBTAINED FROM ALL LOCAL, STATE, AND FEDERAL AGENCIES.

J. ALL REQUIRED GOVERNMENTAL AGENCY BUILDING PERMITS TO BE OBTAINED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY ALL ASSOCIATED PERMIT FEES INCLUDING WATER AND SEWER CONNECTION AND METER FEES.

III. INSPECTIONS

A. THE CONTRACTOR SHALL NOTIFY THE CITY IF HALLANDALE BEACH, ENGINEER OF RECORD, AND ANY OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND 24 HOUR ADVANCED NOTIFICATION PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS, WHERE APPLICABLE:
   1. CLEARING AND FILLING
   2. STORM DRAINAGE SYSTEM (INSTALLATION & TESTING)
   3. SUBGRADE
   4. LIMEROCK BASE
   5. ASPHALTIC CONCRETE
   6. SIDEWALK
   7. LANDSCAPING
   8. FINAL

IV. SHOP DRAWINGS

A. PRIOR TO THEIR CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD FOR THE FOLLOWING: LIFT/ PUMP STATION EQUIPMENT, SANITARY MAINTENANCE ACCESS STRUCTURES, CATCH BASINS, FIRE HYDRANTS, VALVES, PIPE MATERIAL AND ALL REQUIRED ACCESSORIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL OTHER AGENCY APPROVALS IF REQUIRED.

V. TEMPORARY FACILITIES

A. GENERAL:
   IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY.

B. TRAFFIC REGULATION:
   1. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.). CONTRACTOR IS RESPONSIBLE TO PREPARE AND PROCESS A MAINTENANCE OF TRAFFIC (MOT) PLAN AND OBTAIN APPROVAL FROM BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (B.C.T.E.D.) AND CITY OF HALLANDALE BEACH PRIOR TO THE START OF CONSTRUCTION. CONTACT B.C.T.E.D. AT (954) 847-2651. CONTRACTOR IS ALSO RESPONSIBLE FOR IMPLEMENTATION OF THE APPROVED MOT PLAN. ALSO SEE MAINTENANCE OF TRAFFIC SECTION.
   2. 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.
   3. NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS. UNLESS IN ACCORDANCE WITH METHODS APPROVED BY THE ENGINEER OF RECORD AND THE CITY OF HALLANDALE BEACH.
   4. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN ALL TRAFFIC CONTROL DEVICES DURING CONSTRUCTION, ANY DEVICE DAMAGED DURING CONSTRUCTION, SHALL BE PROPERLY RESTORED AT THE CONTRACTORS EXPENSE. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED IN ACCORDANCE WITH CITY OF HALLANDALE BEACH STANDARDS.

VI. STORM DRAINAGE

A. GENERAL:
   1. CATCH BASIN GRATES AND RIM ELEVATIONS AS SHOWN ON PLANS SHALL BE ADJUSTED TO CONFORM TO NEW OR EXISTING GRADES.
   2. DISTANCES AND LENGTHS SHOWN ON PLANS AND PROFILE DRAWINGS ARE REFERENCED TO THE CENTER OF STRUCTURES.

B. MATERIALS:
   1. ADS HIGH PERFORMANCE POLYPROPYLENE STORM GRAY PIPE OR APPROVED EQUAL SHALL MEET THE REQUIREMENTS OF ASTM F2736. RUBBER GASKETS OR OTHER MANUFACTURER SUPPLIED JOINT SEALER SHALL BE USED.
   2. ALL DRAINAGE CATCH BASINS AND STRUCTURES SHALL BE PRECAST CONCRETE AND SHALL MEET THE REQUIREMENTS OF A.S.T.M. SPECIFICATION C-478 AND 65T UNLESS OTHERWISE NOTED IN THE PLANS. THE MINIMUM WALL THICKNESS SHALL BE 6 INCHES AND MINIMUM SLAB THICKNESS SHALL BE 8 INCHES. THE MINIMUM REINFORCING SHALL BE GRADE 60 NO. 4 BARS AT 12 INCHES EACH WAY UNLESS OTHERWISE INDICATED, CONCRETE SHALL BE MINIMUM OF FC=4000 PSI AT 28 DAYS.

C. INSTALLATION
   1. PIPE BEDDING MATERIAL SHALL CONSIST OF WELL GRADED ASTM C33 #67 ROCK (3/4" TO NO. 4), COMPACTED IN 6" MAXIMUM LAYERS TO ACHIEVE 98% OF THE MAXIMUM DENSITY PER AASTHO T-180. BEDDING MATERIAL SHALL BE PLACED MINIMUM 6" BELOW BOTTOM OF PIPE AND EXTEND TO SPRING LINE OF PIPE.
   2. BACKFILL MATERIAL SHALL BE WELL GRADED GRANULAR MATERIAL, WELL TAMPED LAYERS NOT TO EXCEED 6" TO A HEIGHT 12" ABOVE PIPE. REFER TO TRENCH DETAIL WITHIN PLAN SHEETS.
   3. PROVIDE A MINIMUM PROTECTIVE COVER OF 18 INCHES OF COVER OVER STORM SEWER PIPE AND AVOID UNNECESSARY CROSSING BY HEAVY CONSTRUCTION VEHICLES DURING CONSTRUCTION.
   4. THE CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD AND APPLICABLE GOVERNMENTAL ENTITIES AT LEAST 7 DAYS PRIOR TO THE START OF THE CONSTRUCTION AND INSPECTION.
   5. **ALL PIPES AND CATCH BASINS SHALL BE FREE OF ANY CONSTRUCTION DEBRIS, DIRT, ETC PRIOR TO FINAL ACCEPTANCE.**
   6. **ALL STORM DRAINAGE PIPING JOINTS SHALL BE WRAPPED IN FILTER FABRIC (INCLUDING PERFORATED PIPING WITHIN EXFILTRATION TRENCH).**
   7. **SOFT DIGGING AND UNDERGROUND UTILITY EXPLORATIONS SHALL BE INCLUDED IN THE COST OF CATCH BASIN AND PIPING INSTALLLATION.**

VII. PAVING

IX. GENERAL:
   1. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED AND TESTED PRIOR TO FINISHED GRADING AND COMPACTION OF SUBGRADE.
   2. ALL EXISTING PAVEMENT, CUT OR DAMAGED BY CONSTRUCTION, SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
   3. WHERE ANY PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE CLEANLY SAW CUT TO ENSURE A PROPER JOINT.

B. MATERIALS:
   1. LIMEROCK BASE MATERIAL SHALL BE CRUSHED LIMEROCK MIAMI OOLITE WITH A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM (60% FOR LOCAL STREETS, DRIVEWAYS AND PARKING AREAS).
   2. ASPHALT SURFACES FOR ROADWAYS SHALL CONFORM WITH THE FOLLOWING:
      3/4" THICKNESS OF FDOT TYPE S-III ASPHALTIC CONCRETE PAVEMENT (BOTTOM COURSE) . FOLLOWED BY 1" THICKNESS OF FDOT TYPE S-III ASPHALTIC CONCRETE PAVEMENT (WEARING COURSE).
   3. REINFORCED CONCRETE SLABS SHALL BE MIN. 6" THICK AND CONSTRUCTED OF CLASS I CONCRETE WITH A MINIMUM STRENGTH OF 3,000 PSI EXCEPT WHERE OTHERWISE SHOWN ON THE PLANS.
   4. MINIMUM SIDEWALK CONSTRUCTION SHALL BE 6 INCH THICK CONCRETE, MINIMUM 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. SAWCUT CONSTRUCTION JOINTS 5 FOOT O.C. WITHIN 48 HOURS OF PLACING.
   5. CURBS : CONCRETE 3000PSI COMPRESSIVE STRENGTH AT 28 DAYS, SAWCUT CONSTRUCTION JOINTS 10 FOOT (O.C.) WITHIN 48 HOURS OF PLACING.

C. INSTALLATION:
   1. STABILZED SUBGRADE FOR ROADWAYS SHALL BE COMPACTED TO 100% OF MAXIMUM DRY DENSITY AS PER AASTHO T-99-C AND HAVE A MINIMUM L.B.R. OF 40.
   2. LIMEROCK BASE COURSE FOR PAVED AREAS SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY AS PER AASTHO T-180, HAVE A MINIMUM L.B.R. OF 100, AND MINIMUM THICKNESS OF 8".
   3. INSTALLATION OF THE BASE COURSE AND WEARING COURSE SHALL CONFORM WITH THE REQUIREMENTS OF THE F.D.O.T. STANDARD SPECIFICATIONS FOR TYPE "S" ASPHALTIC CONCRETE OR THE LATEST REVISION.

D. TESTING:.
   1. THE FINISHED SURFACE OF THE ASPHALT BASE COURSE AND THAT OF THE ASPHALT WEARING SURFACE SHALL NOT VARY MORE THAN 1/4" FROM THE TEMPLATE. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE CORRECTED.
   2. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY (AT THE CONTRACTORS EXPENSE) CERTIFIED BY THE STATE OF FLORIDA.
   3. ALL TESTING COSTS (PAVING) SHALL BE PAID FOR BY THE CONTRACTOR.
   4. DENSITY TESTS ON THE STABILIZED SUBGRADE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD, AND APPROVED BEFORE ANY LIMEROCK BASE IS CONSTRUCTED.
   5. DENSITY TESTS AND AS-BUILTS ON THE FINISHED LIMEROCK BASE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD (E.O.R.) AND APPROVED BEFORE ANY ASPHALT PAVEMENT IS CONSTRUCTED. INCLUDING AS-BUILTS ON PAVED SWALES AND DRIVEWAYS.

VIII. PAVEMENT MARKING & SIGNAGE

A. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," LATEST EDITION; AND BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS (LATEST EDITION).

IX. DE-WATERING

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING IF DEWATERING PERMIT IS REQUIRED FOR ANY OF THE PROPOSED CONSTRUCTION ACTIVITIES. IF A DEWATERING PERMIT IS REQUIRED, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PREPARE AND SUBMIT A DEWATERING REPORT APPLICATION (PREPARED BY A STATE OF FLORIDA LICENSED ENGINEER OR A REGISTERED PROFESSIONAL GEOLOGIST) TO ALL APPLICABLE AGENCIES FOR PERMIT APPROVAL. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE TESTING AND MONITORING OF THE DEWATERING OPERATIONS AND WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH MEANS AND METHODS OF DEWATERING WHICH WILL BE SET FORTH BY THE DEWATERING PERMIT(S) OBTAINED BY THE CONTRACTOR.

THE CONTRACTOR IS ADVISED THAT THE BROWARD COUNTY ENVIRONMENTAL PROTECTION DIVISION HAS IDENTIFIED THAT THIS PROJECT IS LOCATED WITHIN A 1/4 MILE OF CONTAMINATED SITE(S) AND WITHIN A WELLFIELD ZONE. CONTRACTOR WILL BE REQUIRED TO PROVIDE TESTING AND MONITORING OF THE DEWATERING OPERATIONS AND WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH MEANS AND METHODS OF DEWATERING WHICH WILL BE SET FORTH BY THE DEWATERING PERMIT(S) OBTAINED BY THE CONTRACTOR.

X. NPDES REQUIREMENT

A. AT LEAST TWO (2) DAYS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A CGP "NOTICE OF INTENT (N.O.I.) TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES THAT DISTURB ONE OR MORE ACRES OF LAND" FORM (DEP FORM 62-621.300(4)(B)) TO FDEP NOTICES CENTER. THE CONTRACTOR WILL BE RESPONSIBLE FOR (AT THE CONTRACTORS EXPENSE) (1) ASSISTING THE OWNER(S) WITH PREPARING, COMPLETING, AND FILING THE N.O.I. AND N.O.T. TO FDEP (2) PREPARING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (REQUIRED PRIOR TO THE NOI SUBMITTAL) (3) IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) THAT WAS REQUIRED TO BE DEVELOPED PRIOR TO THE NOI SUBMITTAL, AND (4) RETENTION OF RECORDS REQUIRED BY THE PERMIT, INCLUDING RETENTION OF A COPY OF THE SWPPP AT THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL SITE STABILIZATION. A "NOTICE OF TERMINATION (N.O.T.) OF GENERIC PERMIT COVERAGE" FORM (DEP FORM 62-621.300(6)) MUST BE SUBMITTED TO FDEP TO DISCONTINUE PERMIT COVERAGE, SUBSEQUENT TO COMPLETION OF CONSTRUCTION. FOR ADDITIONAL INFORMATION SEE FDEP WEBSITE: HTTP://WWW.DEP.STATE.FL.US/WATER/STORMWATER/NPDES

AS OF MARCH, 2003 THRESHOLD WILL BE REDUCED TO PROJECTS ONE ACRE OR MORE.

XI. PROJECT CLOSE-OUT

A. CLEAN-UP:
   1. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER, AND 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.
   2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, OR EMPLOYEES, TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THAT END, THE CONTRACTOR SHALL DO, AS REQUIRED, ALL NECESSARY HIGHWAY, DRIVEWAY, WALK AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
   3. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR HAS 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 AND SATISFACTORILY DISPOSED OF DURING THE PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
   4. ALL PROPERTY MONUMENTS OR PERMANENT REFERENCES, REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
   5. ALL UNPAVED SURFACES DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED BEFORE THE CONSTRUCTION.

B. PROJECT RECORD DOCUMENTS (ALSO SEE AS-BUILT AND RECORD DRAWING REQUIREMENTS):
   1. DURING THE DAILY PROGRESS OF THE JOB, THE CONTRACTOR SHALL RECORD ON HIS SET OF CONSTRUCTION DRAWINGS THE EXACT LOCATION, LENGTH, MATERIAL AND ELEVATION OF ANY FACILITY NOT BUILT EXACTLY ACCORDING TO PLANS.
   2. UPON COMPLETION OF DRAINAGE IMPROVEMENTS AND LIMEROCK BASE CONSTRUCTION (AND BEFORE PLACING ASPHALT PAVEMENT) THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD "AS-BUILT" PLANS FOR THESE IMPROVEMENTS, SHOWING THE LOCATIONS AND PERTINENT GRADES OF ALL DRAINAGE INSTALLATIONS AND THE FINISHED ROCK GRADES OF THE ROAD CROWN AND EDGES OF PAVEMENT AT 50 FOOT INTERVALS, INCLUDING LOCATIONS AND ELEVATIONS OF ALL HIGH AND LOW POINTS. ALL "AS-BUILT" INFORMATION ON ELEVATIONS SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.
   3. ALL RECORD DRAWING AND "AS-BUILT" INFORMATION SHALL BE SIGNED AND SEALED/CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.

XII. ENGINEERS AS-BUILT & RECORD DRAWING REQUIREMENTS

A. AS-BUILTS SHALL BE PREPARED BY THE CONTRACTOR'S LICENSED SURVEYOR FOR THE BELOW:

1. DRAINAGE AS-BUILTS SHALL BE PROVIDED SHOWING OF ALL DRAINAGE PIPING AND STRUCTURES WHICH SHALL INCLUDE THE FOLLOWING INFORMATION:
   a. LOCATION, RIM ELEVATION, INVERTS, BOTTOM OF STRUCTURE, BOTTOM OF POLLUTION RETARDANT BAFFLE AND WEIR ELEVATIONS (IF APPLICABLE) ON DRAINAGE STRUCTURES.
   b. LENGTH AND SIZE OF THE PIPING BETWEEN STRUCTURES. SIZE OF THE PIPING SHALL BE VERIFIED BY THE SURVEY CREW AT THE TIME OF AS-BUILT.
   c. LENGTH AND SIZE OF EXFILTRATION TRENCH BETWEEN STRUCTURES ALONG WITH THE TOP AND BOTTOM ELEVATIONS OF EXFILTRATION TRENCH. LENGTH, SIZE, TOP OF AND BOTTOM OF EXFILTRATION TRENCH SHALL BE VERIFIED BY THE SURVEY CREW AT THE TIME OF AS-BUILT.
   d. CONTROL STRUCTURE AS-BUILTS SHALL INCLUDE, BUT NOT BE LIMITED TO, RIM ELEVATIONS, WEIR & BLEEDER ELEVATIONS, BOTTOM ELEVATION OF THE STRUCTURES, BOTTOM ELEVATION OF POLLUTION RETARDANT BAFFLE, AND INVERTS ELEVATIONS OF PIPING.
   e. CROSSING INFORMATION BETWEEN PROPOSED DRAINAGE PIPING AND EXISTING AND PROPOSED SEWER MAIN, FORCE MAIN, DRAINAGE, WATER MAIN, UTILITIES, ETC.
   f. AS-BUILT OF FINISHED FLOOR ELEVATION(S)
2. ROCK AS-BUILTS SHALL BE PROVIDED FOR APRONS, ROADWAYS, DRIVEWAYS/AISLES, AND PARKING AREAS SHALL PROVIDE THE FOLLOWING:
   a. ROCK ELEVATIONS AT ALL HIGH AND LOW POINTS, AND AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY.
   b. ROCK AS-BUILTS AND LIP OF CURB AS-BUILT ELEVATIONS SHALL BE TAKEN AT ALL LOCATIONS WHERE THERE IS A FINISH GRADE ELEVATION SHOWN ON THE DESIGN PLANS.
   c. ALL CATCH BASIN AND MANHOLE RIM ELEVATIONS SHALL BE SHOWN.
   d. ELEVATIONS AROUND ISLAND AREAS WILL ALSO BE REQUIRED.
   e. WHERE CONCRETE IS TO BE USED AS A FINISHED PRODUCT FOR A ROADWAY, SIDEWALK OR DRIVEWAY AS-BUILTS WILL BE REQUIRED AS INDICATED ABOVE AS WELL AS AS-BUILTS ON THE FINISHED CONCRETE AT LOCATIONS WHERE THERE IS A FINISH GRADE ELEVATION SHOWN ON THE DESIGN PLANS.
   f. AS-BUILTS SHALL BE TAKEN ON ALL PAVED AND UNPAVED SWALES, PRIOR TO PLACEMENT OF ASPHALT OR TOPSOIL/SOD, AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY AND CONFORMANCE TO THE PLAN DETAILS.
   g. AS-BUILT ELEVATIONS AT FRONT AND BACK OF SIDEWALK EVERY 50 FEET AND AT THE PC AND PT ALONG CURVES.
3. LAKE AND CANAL BANK AS-BUILTS SHALL INCLUDE A KEY SHEET OF THE LAKE FOR THE LOCATION OF CROSS SECTIONS LAKE AND CANAL BANK CROSS SECTIONS SHALL BE PLOTTED AT A MINIMUM OF EVERY 100 LF, UNLESS OTHERWISE SPECIFIED. AS-BUILTS SHALL CONSIST OF THE LOCATION AND ELEVATION OF THE TOP OF BANK, EDGE OF WATER AND THE DEEP CUT LINE, WITH THE DISTANCE BETWEEN EACH SHOWN ON THE DRAWING.
4. RETENTION AREA AS-BUILT ELEVATIONS SHALL BE TAKEN AT THE BOTTOM OF THE RETENTION AREA AND AT THE TOP OF BANK. IF THERE ARE CONTOURS INDICATED ON THE DESIGN PLANS, THEN THEY SHALL BE AS-BUILT AS WELL.
5. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PREPARE RECORD DRAWINGS AND "AS-BUILTS" AS PREVIOUSLY DESCRIBED ABOVE, ON FULL SIZE, 24" X 36" REPRODUCIBLE MATERIAL. ALL RECORD DRAWING AND "AS-BUILT". INFORMATION SHALL BE PUT ON THE LATEST ENGINEERING DRAWINGS. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL LAND SURVEYOR. ADDITIONALLY, AN ELECTRONIC COPY OF THESE RECORD DRAWINGS AND "AS-BUILTS", SHALL BE SUBMITTED TO THE ENGINEER OF RECORD IN AUTOCAD, VERSION 2002 OR GREATER.
6. FINAL DELIVERABLES SHALL INCLUDE AN AUTOCAD-COMPATIBLE DIGITAL FILE CONTAINING ALL PERTINENT AS-BUILT INFORMATION (INCLUDING, WATER, SEWER, PAVING, AND DRAINAGE). FILE TO BE SPATIALLY LOCATED WITHIN STATE PLANE COORDINATES.

	DATE:	SCALE:	DESIGN BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
	4/1/15		FA	FA	MJC	MJC

BY:	DATE:	DESCRIPTION:

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40 YEAR CDBG
PUBLIC WORKS
IMPROVEMENT PROJECT

PREPARED FOR:
CITY OF HALLANDALE BEACH

GENERAL NOTES & SPECIFICATIONS

Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

GN-1

SHEET 2 OF 11

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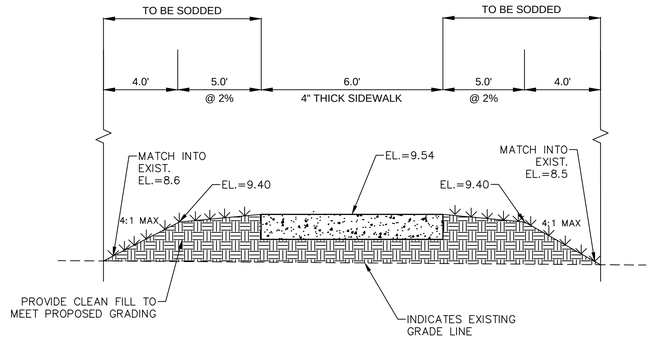


SECTION A–A

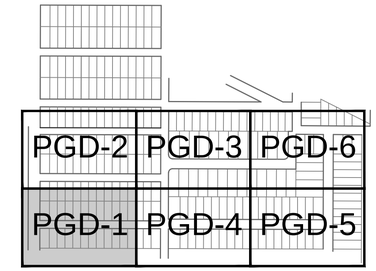
N.T.S.

PROPOSED LEGEND:

- DRAINAGE FLOW DIRECTION
- 0.00 PROPOSED PAVEMENT ELEVATION
- 0.00 PROPOSED CONCRETE ELEVATION

(T) INDICATES THERMOPLASTIC

- PROPOSED CONCRETE SIDEWALK
- CONCRETE SIDEWALK/DRIVEWAY RESTORATION
- CLEAR AND GRADE SWALE (REFER TO DETAIL ON PGDD-2)
- ASPHALT DRIVEWAY RESTORATION
- PAVEMENT RESTORATION
- MILL AND RE-SURFACING
- TYPE – INDICATES STORM DRAIN STRUCTURE TYPE
- G.E.= – INDICATES STORM DRAIN GRATE ELEVATION
- I.E.= – INDICATES STORM DRAIN INVERT ELEVATION
- INDICATES STORM DRAIN STRUCTURE NUMBER
- INDICATES SQUARE STORM DRAINAGE STRUCTURE



KEY MAP
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ALL PROPOSED AND EXISTING ELEVATIONS ARE SHOWN IN N.A.V.D. 1988 DATUM.

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1. ALL EXISTING PAVEMENT MARKINGS AND SIGNING DISTURBED DUE TO PROPOSED CONSTRUCTION ACTIVITIES SHALL BE REPLACED.
2. PAVEMENT MARKINGS ON PAVERS SHALL BE 3M 270/271 TAPE AND APPLIED WITH SURFACE PREPARATION ADHESIVE P-50 AS PER MANUFACTURES SPECIFICATIONS.
3. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", LATEST EDITION, AND BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS (LATEST EDITION.)
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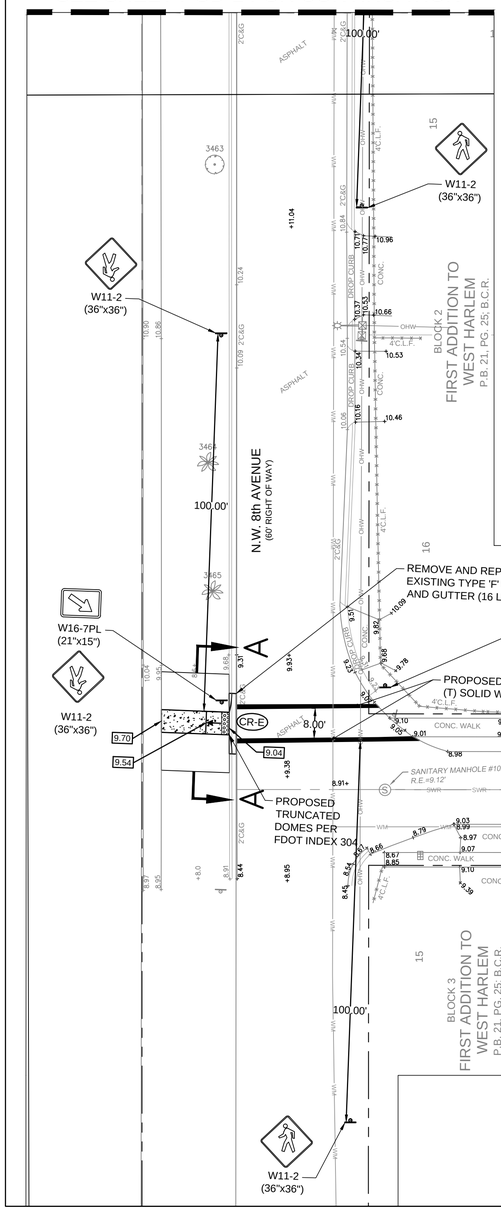
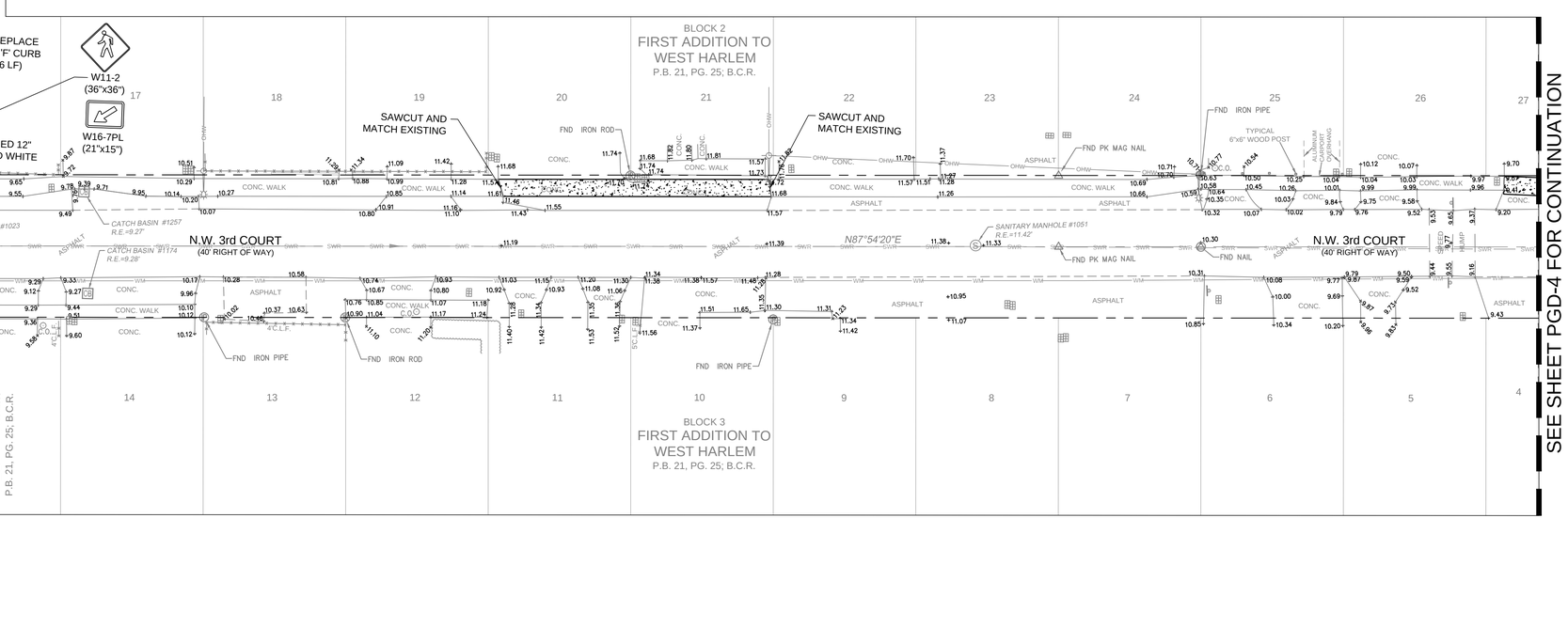
SEE SHEET PGD-2 FOR CONTINUATION





SEE SHEET PGD-4 FOR CONTINUATION

DATE:	4/1/15
SCALE:	1"=20'
DESIGN BY:	FA
DRAWN BY:	FA
CHECKED BY:	MJC
APPROVED BY:	MJC

BY:	DATE:	DESCRIPTION:

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40 YEAR CDBG
PUBLIC WORKS
IMPROVEMENT PROJECT

PREPARED FOR:
CITY OF HALLANDALE BEACH

PAVING, GRADING & DRAINAGE PLAN

Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

PGD-1

SHEET 3 OF 11

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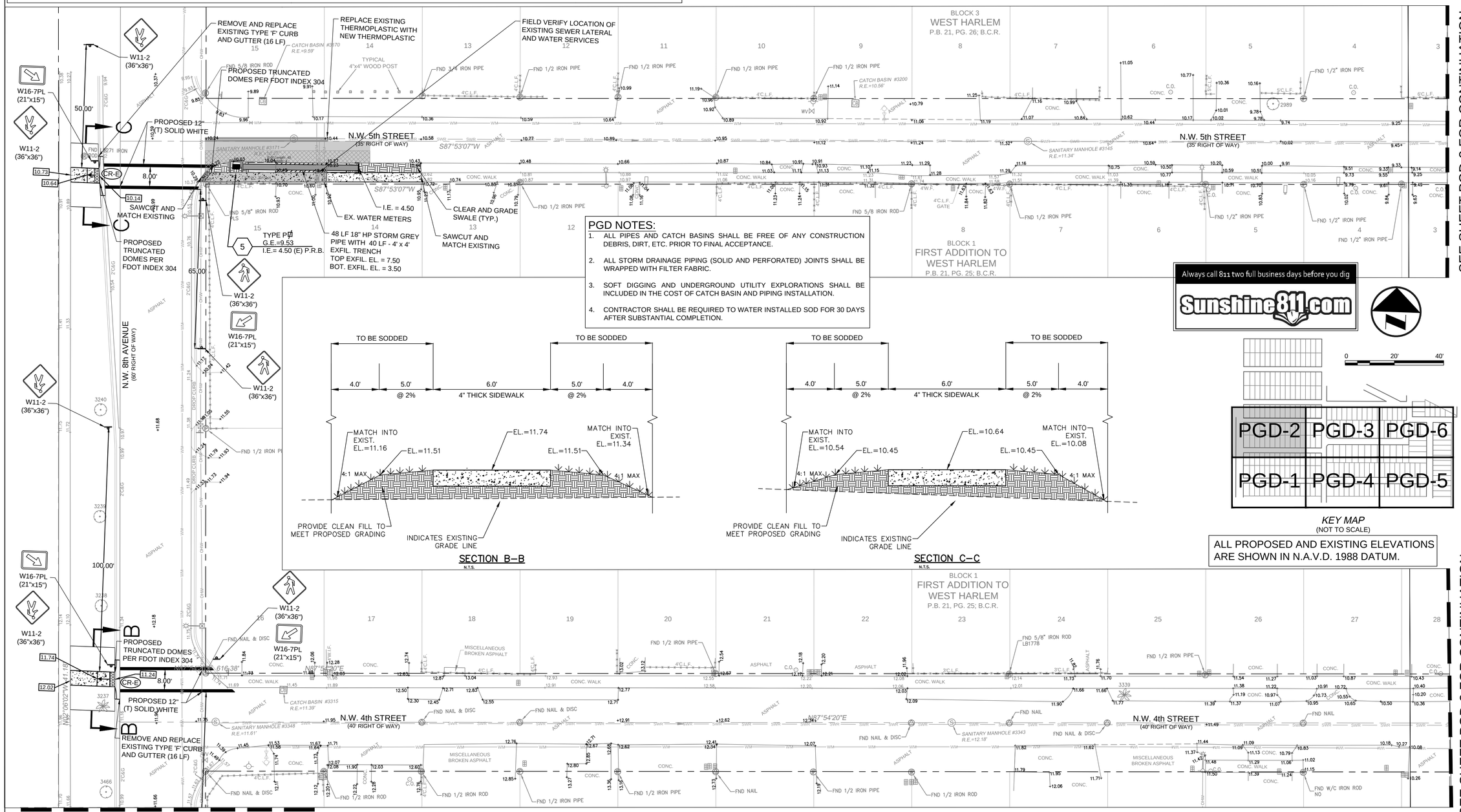

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KEY MAP
(NOT TO SCALE)

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SEE SHEET PGD-3 FOR CONTINUATION

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DESIGN BY:	FA
DRAWN BY:	FA
CHECKED BY:	MJC
APPROVED BY:	MJC
DATE:	
BY:	
DESCRIPTION:	

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PREPARED FOR:
CITY OF HALLANDALE BEACH

40 YEAR CDBG PUBLIC WORKS IMPROVEMENT PROJECT

PAVING, GRADING & DRAINAGE PLAN

Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

PGD-2

SHEET 4 OF 11

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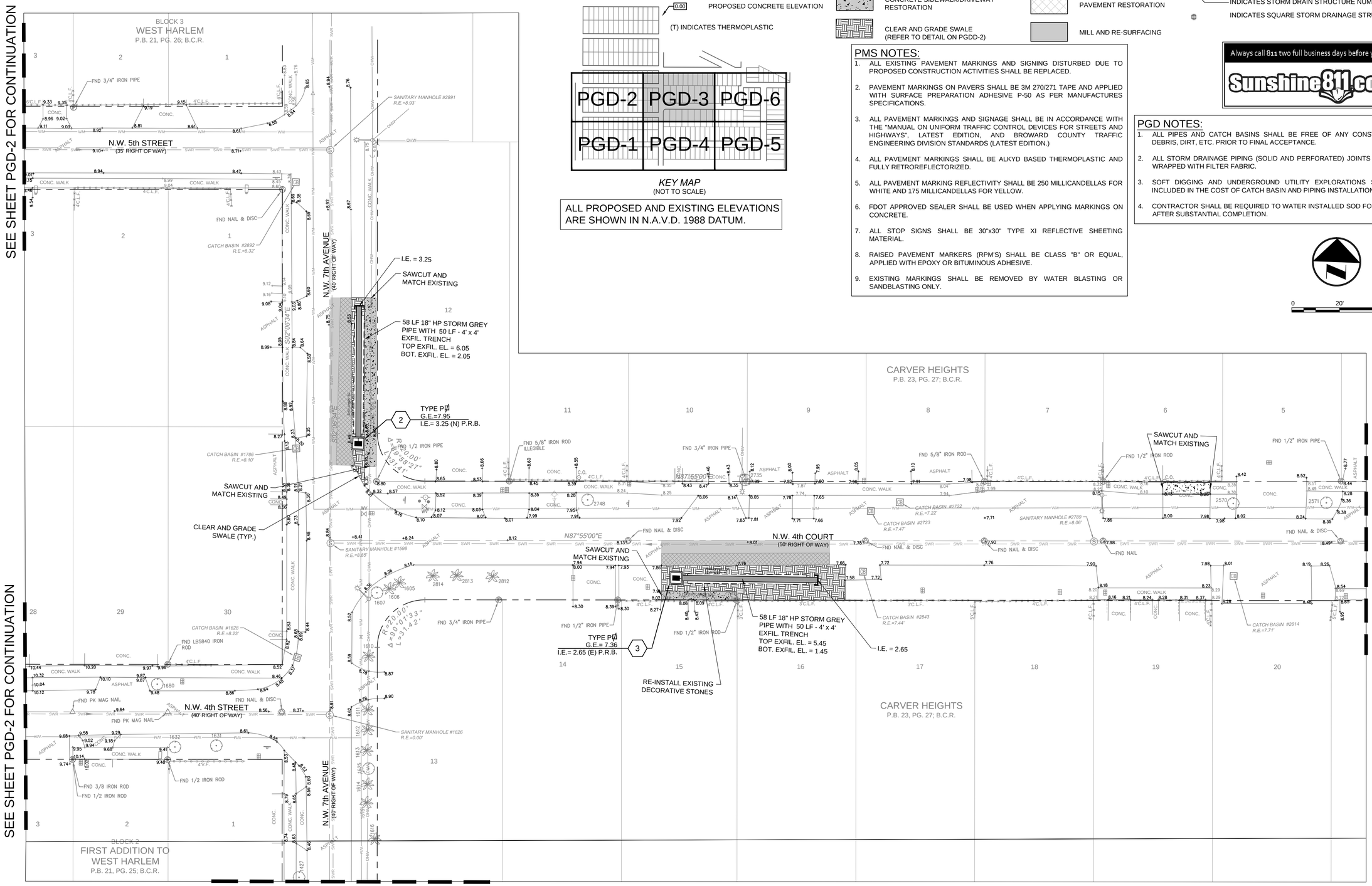

SEE SHEET PGD-2 FOR CONTINUATION

SEE SHEET PGD-5 FOR CONTINUATION

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SCALE:	1"=20'
DESIGN BY:	FA
DRAWN BY:	FA
CHECKED BY:	MJC
APPROVED BY:	MJC
DATE:	
BY:	
DESCRIPTION:	

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40 YEAR CDBG
PUBLIC WORKS
IMPROVEMENT PROJECT

PREPARED FOR:
CITY OF HALLANDALE BEACH

PAVING, GRADING & DRAINAGE PLAN

Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

PGD-3

SHEET 5 OF 11

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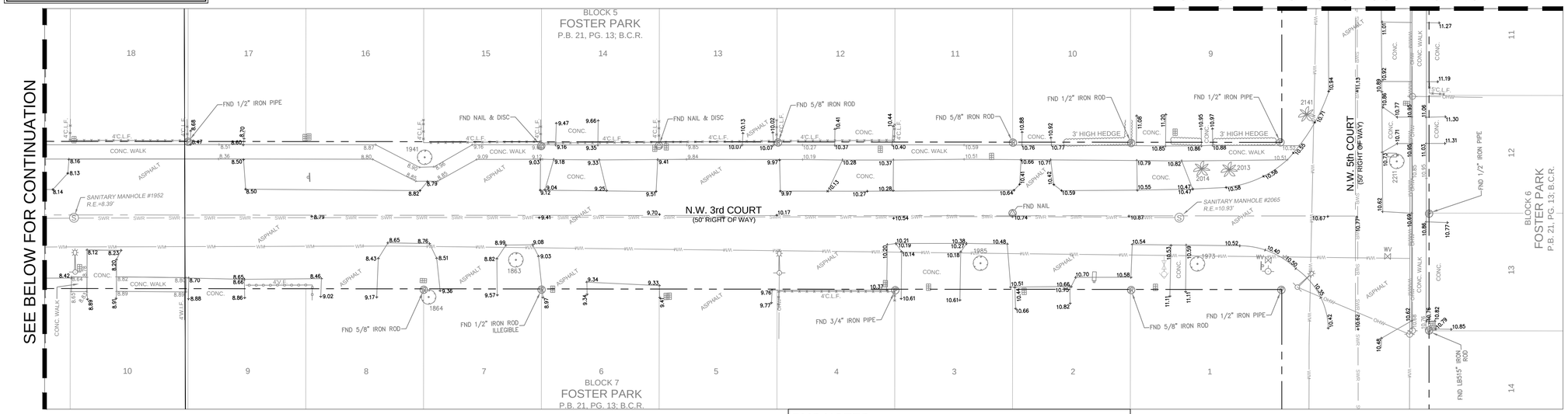

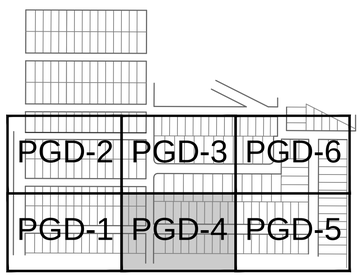

KEY MAP
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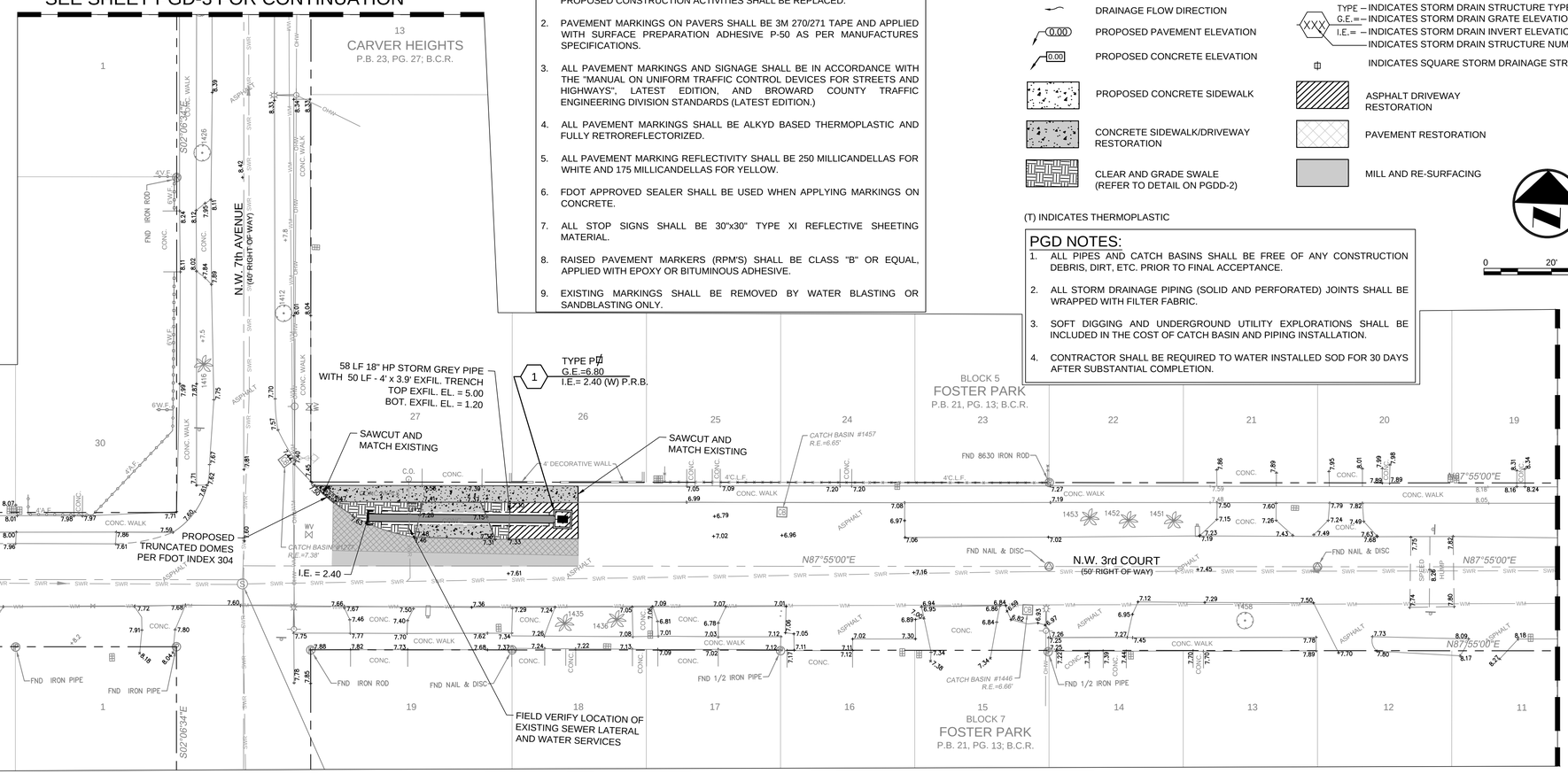

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DATE:	4/1/15
SCALE:	1"=20'
DESIGN BY:	FA
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40 YEAR CDBG PUBLIC WORKS IMPROVEMENT PROJECT

PREPARED FOR:
CITY OF HALLANDALE BEACH

PAVING, GRADING & DRAINAGE PLAN

Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

PGD-4

SHEET 6 OF 11

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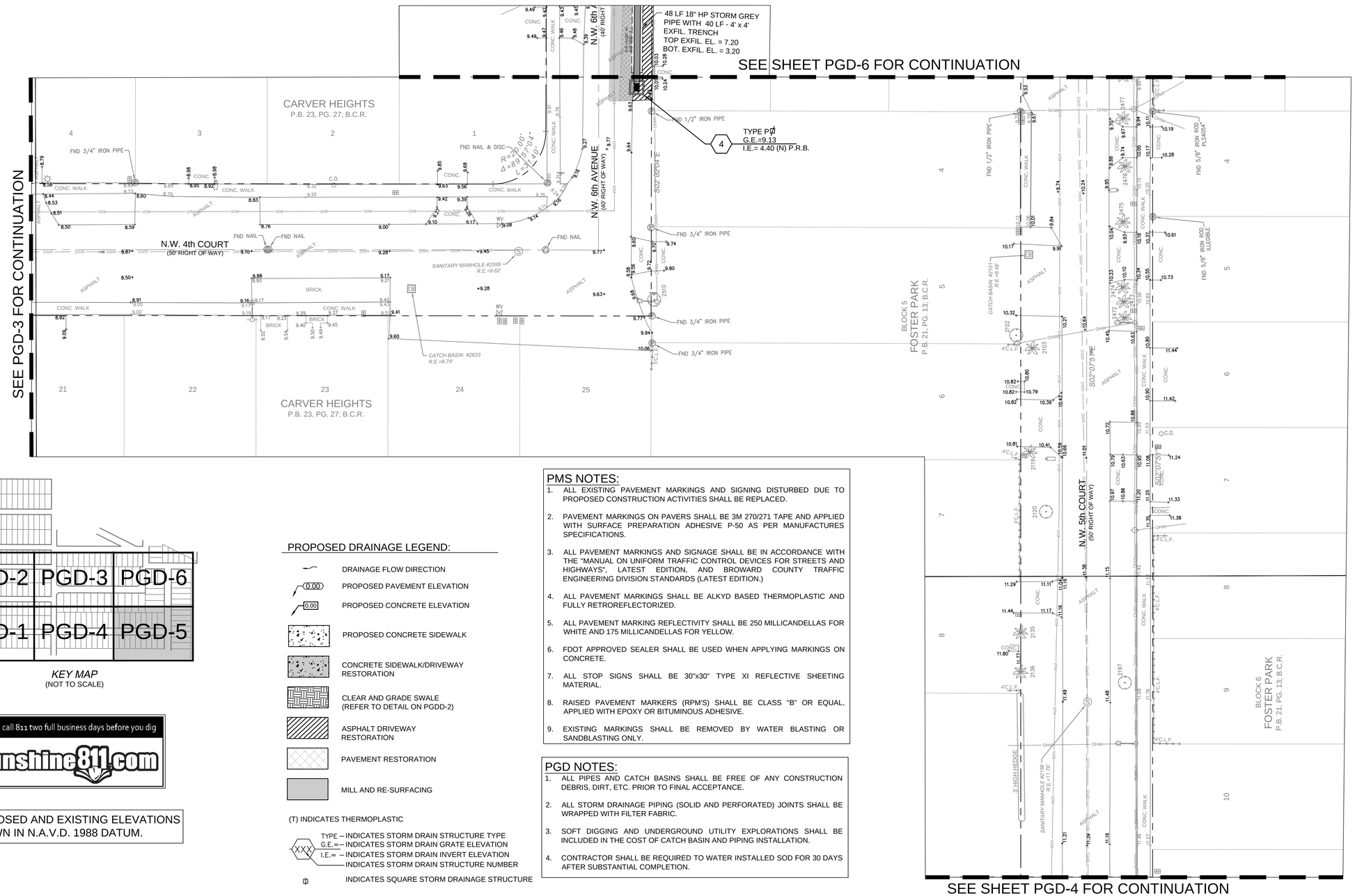

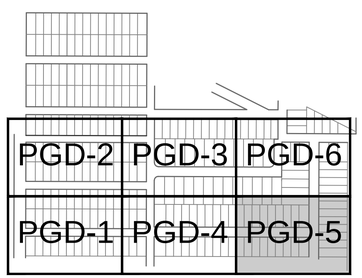

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DESIGN BY:	FA
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PGD-5

SHEET 7 OF 11

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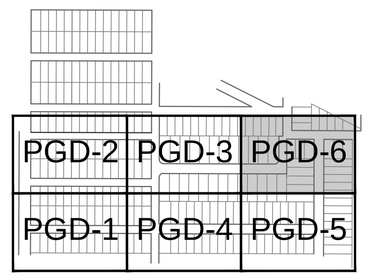
1. ALL EXISTING PAVEMENT MARKINGS AND SIGNING DISTURBED DUE TO PROPOSED CONSTRUCTION ACTIVITIES SHALL BE REPLACED.
2. PAVEMENT MARKINGS ON PAVERS SHALL BE 3M 270/271 TAPE AND APPLIED WITH SURFACE PREPARATION ADHESIVE P-50 AS PER MANUFACTURES SPECIFICATIONS.
3. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", LATEST EDITION, AND BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS (LATEST EDITION.)
4. ALL PAVEMENT MARKINGS SHALL BE ALKYD BASED THERMOPLASTIC AND FULLY RETROREFLECTORIZED.
5. ALL PAVEMENT MARKING REFLECTIVITY SHALL BE 250 MILLICANDELLAS FOR WHITE AND 175 MILLICANDELLAS FOR YELLOW.
6. FDOT APPROVED SEALER SHALL BE USED WHEN APPLYING MARKINGS ON CONCRETE.
7. ALL STOP SIGNS SHALL BE 30"x30" TYPE XI REFLECTIVE SHEETING MATERIAL.
8. RAISED PAVEMENT MARKERS (RPM'S) SHALL BE CLASS "B" OR EQUAL, APPLIED WITH EPOXY OR BITUMINOUS ADHESIVE.
9. EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SANDBLASTING ONLY.

PGD NOTES:

1. ALL PIPES AND CATCH BASINS SHALL BE FREE OF ANY CONSTRUCTION DEBRIS, DIRT, ETC. PRIOR TO FINAL ACCEPTANCE.
2. ALL STORM DRAINAGE PIPING (SOLID AND PERFORATED) JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.
3. SOFT DIGGING AND UNDERGROUND UTILITY EXPLORATIONS SHALL BE INCLUDED IN THE COST OF CATCH BASIN AND PIPING INSTALLATION.
4. CONTRACTOR SHALL BE REQUIRED TO WATER INSTALLED SOD FOR 30 DAYS AFTER SUBSTANTIAL COMPLETION.



KEY MAP
(NOT TO SCALE)

PROPOSED DRAINAGE LEGEND:

- DRAINAGE FLOW DIRECTION
- 0.00 PROPOSED PAVEMENT ELEVATION
- 0.00 PROPOSED CONCRETE ELEVATION

(T) INDICATES THERMOPLASTIC

- PROPOSED CONCRETE SIDEWALK
- CONCRETE SIDEWALK/DRIVEWAY RESTORATION
- CLEAR AND GRADE SWALE (REFER TO DETAIL ON PGDD-2)
- ASPHALT DRIVEWAY RESTORATION
- PAVEMENT RESTORATION
- MILL AND RE-SURFACING

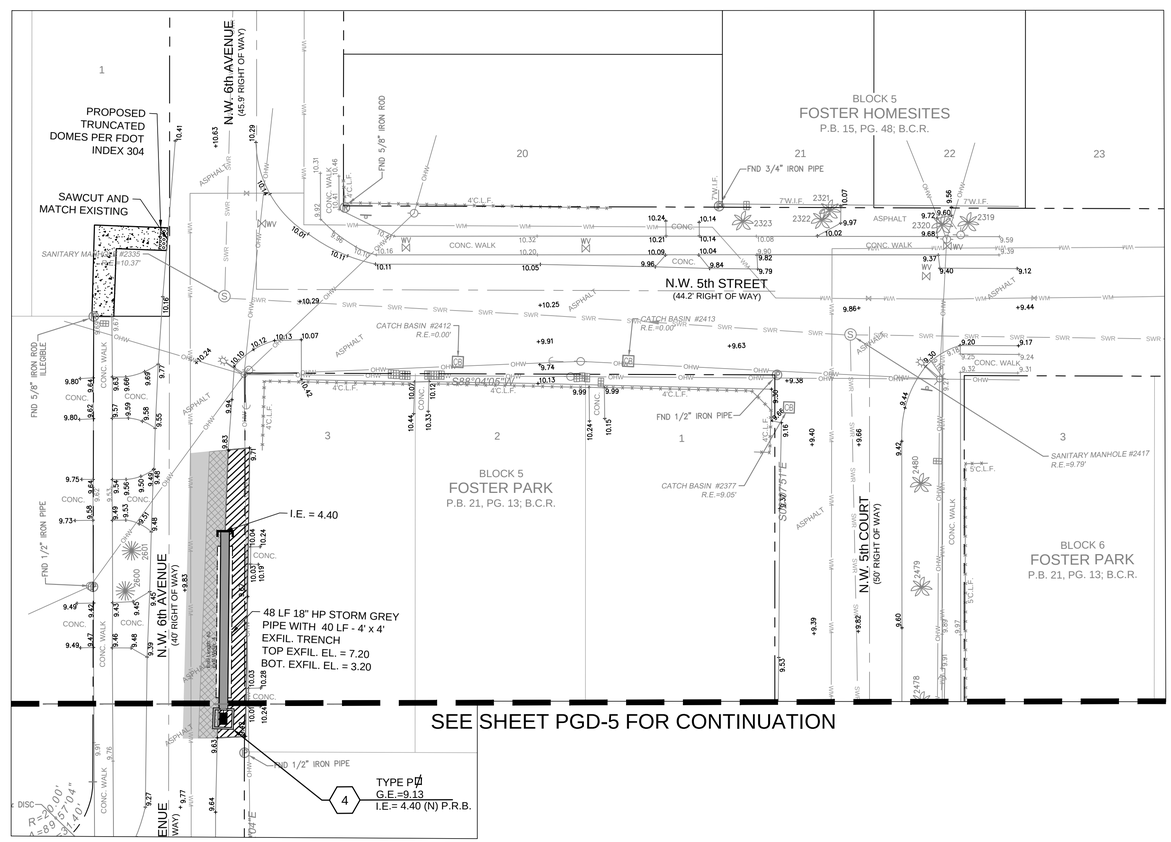
TYPE – INDICATES STORM DRAIN STRUCTURE TYPE
G.E.= – INDICATES STORM DRAIN GRATE ELEVATION
I.E.= – INDICATES STORM DRAIN INVERT ELEVATION
– INDICATES STORM DRAIN STRUCTURE NUMBER

INDICATES SQUARE STORM DRAINAGE STRUCTURE

0 20' 40'

Always call 811 two full business days before you dig
Sunshine811.com

ALL PROPOSED AND EXISTING ELEVATIONS ARE SHOWN IN N.A.V.D. 1988 DATUM.



SEE SHEET PGD-5 FOR CONTINUATION

DATE:	4/1/15
SCALE:	1"=20'
DESIGN BY:	FA
DRAWN BY:	FA
CHECKED BY:	MJC
APPROVED BY:	MJC

DATE:	BY:	DESCRIPTION:

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FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS No. 271
FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS No. C000114

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40 YEAR CDBG PUBLIC WORKS IMPROVEMENT PROJECT

PREPARED FOR:
CITY OF HALLANDALE BEACH

PAVING, GRADING & DRAINAGE PLAN

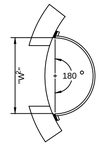
Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

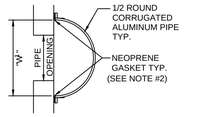
PGD-6

SHEET 8 OF 11

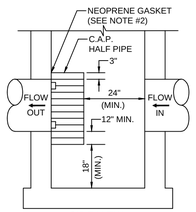
R:\Engineering\2015\15-0016-001-01-Hallandale Beach Sidewalk Improvements\Drawings\15-0016-001-01-PGD.dwg [PGD-6] Jul 22, 2015 10:48am FABRAHIM



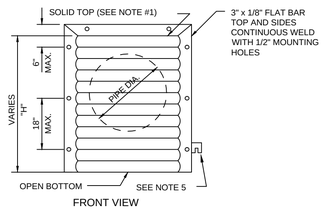
TOP VIEW
ROUND STRUCTURE



TOP VIEW
RECTANGULAR STRUCTURE



SIDE VIEW



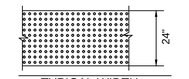
FRONT VIEW

PIPE DIA.	W[1] (IN)	W[2] (IN)	T (GAUGE)	H (IN)
15"	21"	30"	16	VARIES
18"	30"	36"	16	VARIES
24"	36"	42"	16	VARIES
30"	42"	48"	14	VARIES
36"	54"	54"	14	VARIES
42"	60"	60"	14	VARIES
48"	72"	72"	14	VARIES

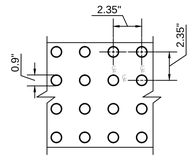
1. RECTANGULAR STRUCTURE
2. ROUND STRUCTURE

NOTES:
1. ALUMINUM SHEET OF SAME THICKNESS (GAUGE) AS PIPE SHALL BE WELDED TO CLOSE OPENING AT THE TOP.
2. NEOPRENE ADHESIVE BACKED GASKET, OR APPROVED EQUAL (1" x 2") SHALL BE INSTALLED ON THE SIDES AND TOP OF ALL BAFFLES.
3. POLLUTION RETARDANT BAFFLE TO BE FASTENED IN PLACE WITH 3/8"x4" STAINLESS STEEL "RED HEADS", OR APPROVED EQUAL.
4. FIBERGLASS BAFFLES ARE NOT PERMITTED.
5. MOUNTING BRACKETS MAY BE ADDED TO FLAT BARS TO EASE INSTALLATION IN ROUND STRUCTURES. SPACING TO MATCH HOLES IN FLAT BARS.

POLLUTION RETARDANT BAFFLE (PRB)
N.T.S.



TYPICAL WIDTH



PLAN VIEW

PROFILE

DETECTABLE WARNING SURFACES SHALL CONFORM WITH THE FLORIDA ACCESSIBILITY CODE 2012.

705.1 GENERAL. DETECTABLE WARNINGS SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES AND SHALL COMPLY WITH 705.
705.1.1 DOME SIZE. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE SHALL HAVE A BASE DIAMETER OF 0.9 INCHES (23 MM) MINIMUM TO 1.4 INCHES (36 MM) MAXIMUM, A TOP DIAMETER OF 50% OF THE BASE DIAMETER MINIMUM TO 65% OF THE BASE DIAMETER MAXIMUM, AND A HEIGHT OF 0.2 INCHES (5 MM).
705.1.2 DOME SPACING. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE SHALL HAVE A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41 MM) MINIMUM AND 2.4 INCHES (61 MM) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65 INCHES (16 MM) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON SQUARE GRID.
705.1.3 CONTRAST. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

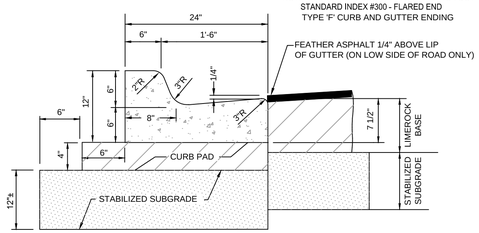
NOTE:

1. ALL DETECTABLE WARNING STRIPS MUST BE IMBEDDED INTO THE CONCRETE. BOLTING THE WARNING STRIPS IS NOT AN ACCEPTABLE WAY OF FASTENING THE WARNING STRIPS TO THE CONCRETE.

2. ALL TRUNCATED DOMES SHALL BE MANUFACTURED BY ARMOR-TILE OR APPROVED EQUAL.

DETECTABLE WARNING DETAIL-TRUNCATED DOME
N.T.S.

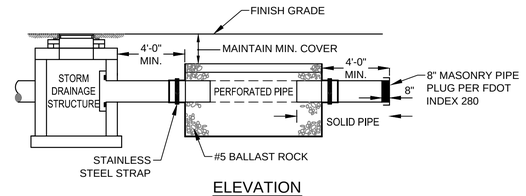
NOTE: IN BROWARD COUNTY R/W REFER TO FDOT STANDARD INDEX #300 - FLARED END TYPE 'F' CURB AND GUTTER ENDING



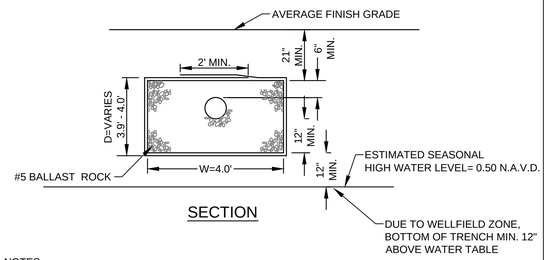
NOTE :

WHEN USED ON HIGH SIDE OF ROADWAYS THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6" INSTEAD OF 7 1/2".

TYPE 'F' CURB & GUTTER
N.T.S. REFER TO FDOT INDEX 300 FOR NOTES AND DETAILS



ELEVATION

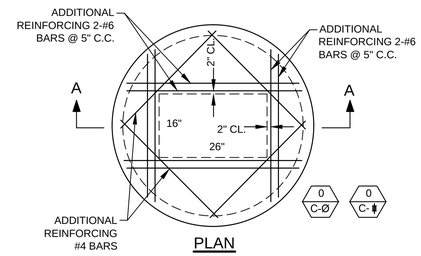


SECTION

NOTES:

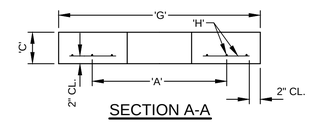
1. PIPES SHALL CONNECT TO ADDITIONAL CATCH BASINS AS REQUIRED.
2. BALLAST ROCK SHALL BE FROM FRESH WATER WASHED FREE OF DELETERIOUS MATTER.
3. TRENCH TO BE LINED WITH MIRAFI 140 N OR APPROVED EQUIVALENT TYPE FILTER FABRIC. OVERLAP TRENCH LINING MATERIAL A MINIMUM OF 2' AT TOP OF TRENCH. CLOSE ENDS AND STRAP AROUND PIPE.
4. BIO-BARRIER SHALL BE INSTALLED ADJACENT TO EXFILTRATION TRENCH WHEN EXISTING OR PROPOSED TREES ARE LOCATED WITHIN 10.0' OF CENTERLINE OF PIPE. INSTALLATION OF BIO-BARRIER SHALL BE IN ACCORDANCE WITH BIO-BARRIER DETAIL (SEE LANDSCAPE DRAWING DETAILS).

EXFILTRATION TRENCH DETAIL
SCALE: N.T.S.



PLAN

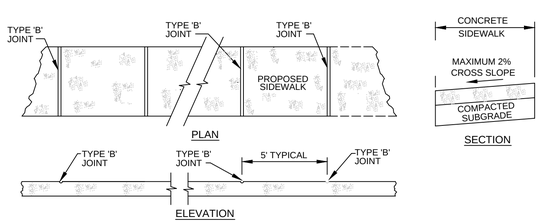
CATCH BASIN



SECTION A-A

"A"	"C"	"G"	"H"
3'-6"	8"	4'-6"	# 4 @ 6" C.C.E.W.
4'-0"	8"	5'-4"	# 4 @ 6" C.C.E.W.
5'-0"	8"	6'-4"	# 4 @ 6" C.C.E.W.
6'-0"	10"	7'-4"	# 5 @ 6" C.C.E.W.
7'-0"	10"	8'-4"	# 5 @ 6" C.C.E.W.
8'-0"	10"	9'-8"	# 5 @ 6" C.C.E.W.
10'-0"	12"	11'-8"	# 6 @ 5" C.C.E.W.

PRECAST CONCRETE-TOP SLAB
SCALE: N.T.S.



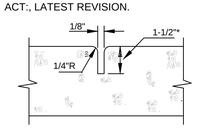
NOTES:

1. SIDEWALK SHALL BE MINIMUM 4" THICK. SIDEWALK INSTALLED THRU DRIVEWAYS AND SUBJECT TO VEHICULAR TRAFFIC SHALL BE MINIMUM 6" THICK.

2. SUBGRADE BELOW SIDEWALK SHALL BE COMPACTED TO 98% OF MAX DENSITY PER A.A.S.H.T.O. T-180.

3. CONCRETE STRENGTH SHALL BE MIN. 3000 PSI @ 28 DAYS.

4. SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE "AMERICAN WITH DISABILITY ACT:, LATEST REVISION.

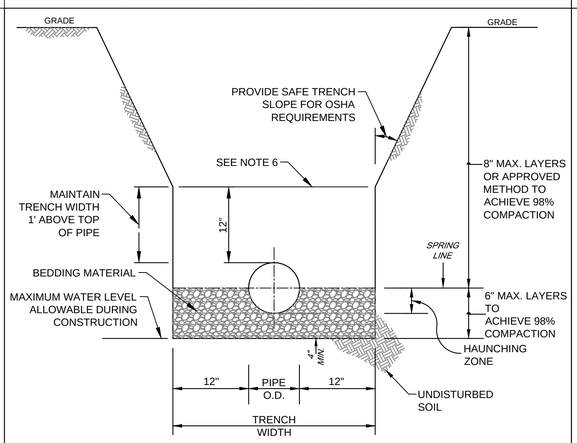


*SAWCUT 1-1/2" DEEP

TYPE 'B' JOINT

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
'B'	5 FEET CENTER TO CENTER ON SIDEWALKS.

SIDEWALK DETAILS
N.T.S.



NOTES:

1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED MEANS OF CONSTRUCTION.

2. BEDDING MATERIAL SHALL CONSIST OF WELL GRADED ASTM C33 #67 ROCK (3/4" TO No.4) AND BE PLACED TO SPRING LINE OF PIPE.

3. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.

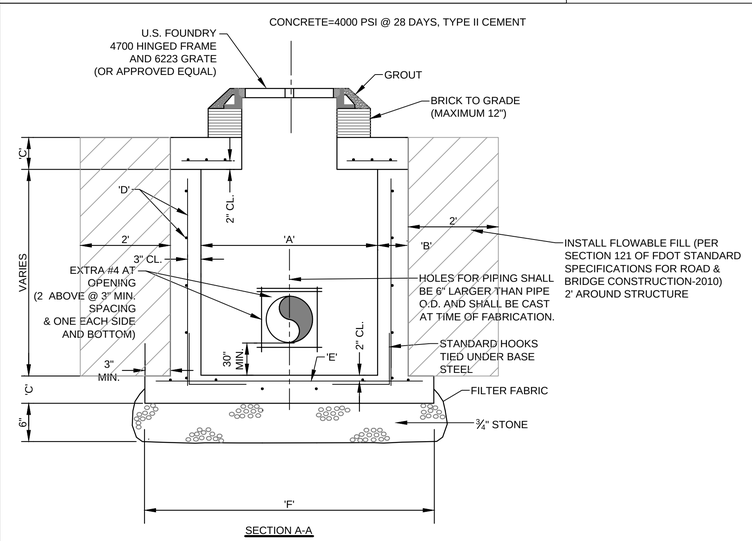
4. REFER TO SPECIFICATIONS FOR EXCAVATION IN MUCK OR OTHER UNSUITABLE MATERIAL.

5. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.

6. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL (WITHIN 12" OF TOP OF PIPE).

7. THOROUGHLY WORK IN AND TAMP THE BEDDING MATERIAL IN THE HAUNCHING ZONE BEFORE PLACING AND COMPACTING REMAINDER OF BACKFILL.

TRENCH DETAIL
SCALE: N.T.S.



SECTION A-A

TYPE	"A"	"B"	"C"	"D"	"E"	"F"
P	3'-6"	6"	8"	# 4 @ 12" C.C.E.W.	#4 @ 12" C.C.E.W.	5'-0"
C-4	4'-0"	8"	8"	# 4 @ 12" C.C.E.W.	#4 @ 12" C.C.E.W.	6'-4"
C-5	5'-0"	8"	8"	# 5 @ 12" C.C.E.W.	#5 @ 12" C.C.E.W.	7'-4"
C-6	6'-0"	8"	10"	# 6 @ 12" C.C.E.W.	#5 @ 6" C.C.E.W.	8'-4"
C-7	7'-0"	10"	10"	# 5 @ 12" C.C.V.E.F.	#5 @ 6" C.C.E.W.	9'-4"
C-8	8'-0"	10"	10"	# 5 @ 6" C.C.H.E.F.	#5 @ 6" C.C.E.W.	10'-4"
C-10	10'-0"	10"	10"		5 @ 6" C.C.E.W.	12'-4"

REINFORCEMENT SHALL BE ASTM A615/A615M GRADE 60 STEEL

PRECAST SQUARE DRAINAGE STRUCTURES
SCALE: N.T.S.

DATE:	4/1/15
SCALE:	NTS
DESIGN BY:	FA
DRAWN BY:	FA
CHECKED BY:	MJC
APPROVED BY:	MJC
DATE:	
BY:	
DESCRIPTION:	

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40 YEAR CDBG
PUBLIC WORKS
IMPROVEMENT PROJECT

PREPARED FOR:
CITY OF HALLANDALE BEACH

PAVING, GRADING & DRAINAGE DETAILS

Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

PGDD-1

SHEET 9 OF 11

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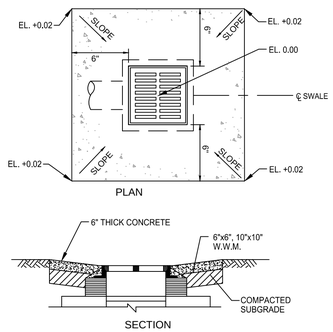
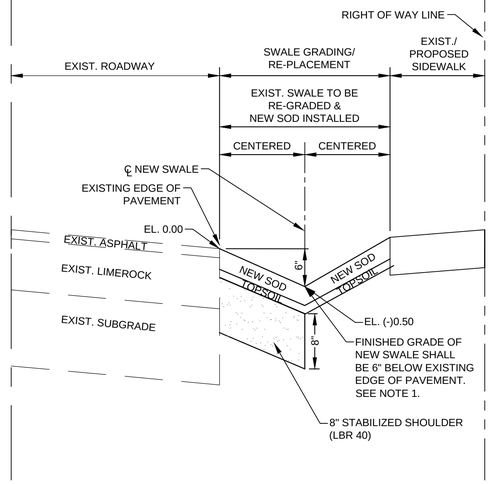


NOTES:

1. APRON AROUND CATCH BASIN TO BE 6" THICK CONCRETE ON COMPACTED SUBGRADE.
2. FOR CATCH BASINS CONSTRUCT 6" WIDE (MIN.) APRON ON ALL (4) SIDES.
3. CONCRETE APRON SHALL BE INSTALLED AROUND ALL CATCH BASINS.

CATCH BASIN APRON DETAIL

SCALE: N.T.S.

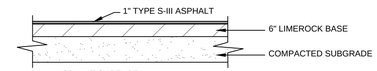


NOTES:

1. CONTRACTOR TO ACCOUNT FOR SOD THICKNESS (APPROX. 3"). INSTALL BOTTOM OF SOD 3" BELOW FINISHED GRADE OF PROPOSED SWALE, EXIST. OR PROPOSED SIDEWALK, & EXIST. EDGE OF PAVEMENT SO THAT MOWED TOP OF SOD WILL BE FLUSH WITH INTENDED FINISHED GRADE/TOP OF SIDEWALK/EGDE OF PAVEMENT.

CLEAR & GRADE SWALE DETAIL

SCALE: N.T.S.



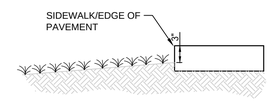
1" ASPHALT SURFACE
1" TYPE S-III

6" LIMEROCK BASE
MIN. LBR-100 COMPACTED TO
98% MAX. DRY DENSITY PER A.S.T.M. T-180 PROCTOR METHOD.
(APPLY A PRIME COAT TO BASE PRIOR TO ASPHALT LIFT)

COMPACTED SUBGRADE
COMPACTED TO 98% OF MAX. DENSITY PER A.A.S.H.T.O. T-180.

ASPHALT DRIVEWAY DETAIL

SCALE: N.T.S.



NOTE: CONTRACTOR TO ACCOUNT FOR SOD THICKNESS (APPROX. 3"). INSTALL BOTTOM OF SOD 3" BELOW FINISHED GRADE OF SWALE/SIDEWALK/EDGE OF PAVEMENT SO THAT MOWED TOP OF SOD WILL BE FLUSH WITH INTENDED FINISHED GRADE/TOP OF SIDEWALK/EGDE OF PAVEMENT.

SOD INSTALLATION DETAIL

SCALE: N.T.S.

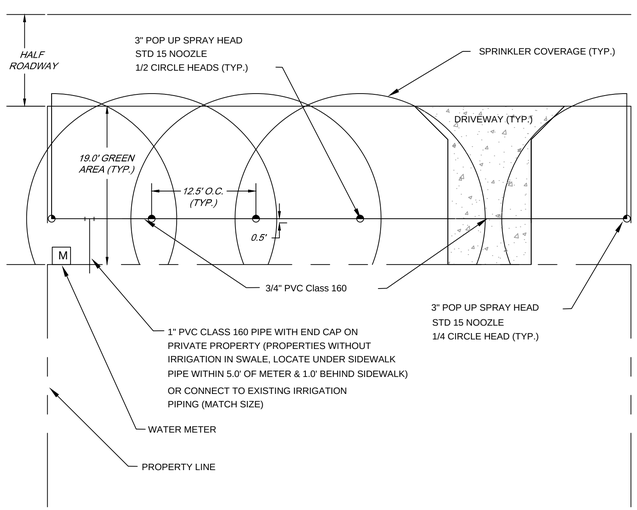
1. AFTER SOD HAS BEEN INSTALLED, WATER 2-3 TIMES A DAY FOR THE FIRST TWO WEEKS DEPENDING ON WEATHER CONDITIONS. WATER SOD TO THE POINT WHERE THE SOD HAS ABSORBED THE WATER, BUT MAKE SURE IT IS NOT TO THE POINT WHERE IT IS SOGGY.

2. AFTER FIRST TWO WEEKS, WATER ONCE A DAY FOR AN ADDITIONAL TWO WEEKS. KEEPING THE SOD MOIST, BUT NOT SOGGY.

3. CONTRACTOR SHALL CONTINUE WATER INSTALLED SOD FOR 30 DAYS AFTER SUBSTANTIAL COMPLETION.

SOD WATERING SCHEDULE

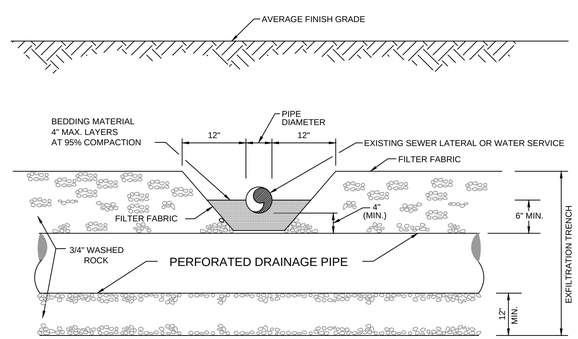
SCALE: N.T.S.



NOTES: 1. ALL JOINTS SHALL BE SOLVENT WELD
2. CORNER LOTS SHALL BE PAID FOR AS ONE (1) LOT

TYPICAL LOT IRRIGATION RESTORATION/INSTALLATION

SCALE: N.T.S.



EXISTING SANITARY SEWER LATERAL & WATER SERVICE CROSSING EXFILTRATION TRENCH DETAIL

SCALE: N.T.S.

DATE:	4/1/15
SCALE:	NTS
DESIGN BY:	FA
DRAWN BY:	FA
CHECKED BY:	MJC
APPROVED BY:	MJC

BY:	DATE:	DESCRIPTION:

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FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS No. 271
FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS No. C000114

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40 YEAR CDBG
PUBLIC WORKS
IMPROVEMENT PROJECT

PREPARED FOR:
CITY OF HALLANDALE BEACH

PAVING, GRADING & DRAINAGE DETAILS

Matthew J. Cigale
Florida P.E. No. 74584

PROJECT NO.
15-0016-001-01

PGDD-2

SHEET 10 OF 11

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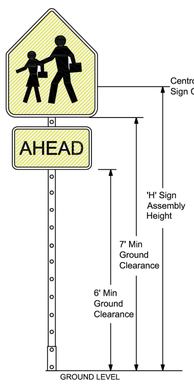
GROUND SIGN ASSEMBLY DETAIL

GUIDE TO USE THIS STANDARD:

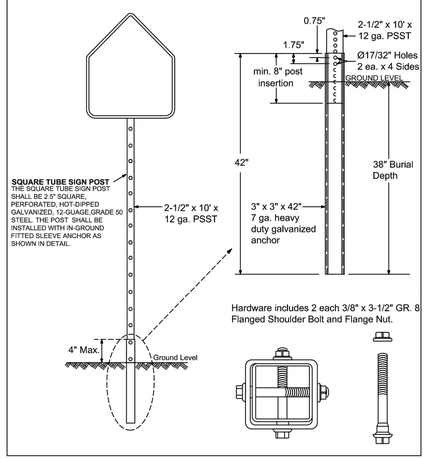
1. Calculate the Total Panel Area and the centroid 'C' for an individual sign or a sign cluster.
2. Determine the height 'H' from the groundline for the individual sign or the cluster.
3. Consult the Post Size Table and find the intersection point.
4. Design the post and the foundation according to the required Post Size and Assembly Details.



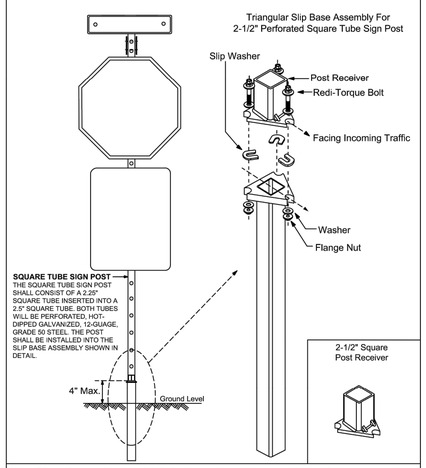
Post Size Table

Total Panel Area (sf)	'H' Sign Assembly Height (ft) (measure from ground) 8	8.5	9	9.5	10
3					
4					
5			Sign Post with 3" x 7 ga. Square Anchor		
6					
7					
8					
9					
10					
11					
12					
13			Sign Post with Triangular Slip Base Assembly		
14					
15					
16					
17					
18			Two Post Installation Required with Triangular Slip Base		
19					
20+					

Sign Post with 3" x 7 ga. Square Anchor



Sign Post with Triangular Slip Base



Note: Dimensions and certain details for the parts used to assemble the slip base connections are intentionally not shown. Slip base connections are patented manufactured products that are in compliance with NCHRP 350 crash test criteria. The base connection details are only shown on this plan to illustrate how the parts are assembled. The complete assembly must be designed to withstand 150 mph Base Wind Speed per 2013 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 6th edition and interims.

BROWARD COUNTY FLORIDA

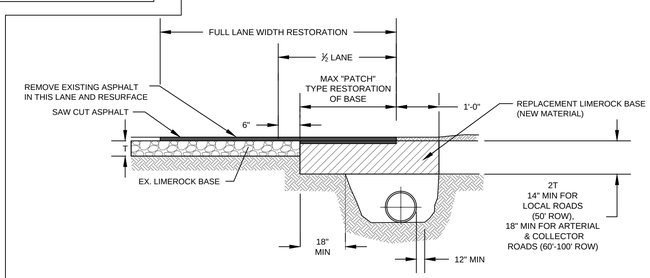
PUBLIC WORKS DEPARTMENT

TRAFFIC ENGINEERING DIVISION

Our Best Nothing Less. BROWARD COUNTY

REV DATE: 03/17/2015	SCALE: N.T.S.
	DESIGN BY: Yves d'Anjou, P.E.
	DRAWN BY: Stephon Ramoutar
SHEET 1 OF 1	CHECKED BY: Andrew Sebo, P.E., PTOE

GROUND SIGN ASSEMBLY DETAIL



TYPICAL RESTORATION OF LESS THAN 1/2 LANE OF ROCK BASE

NOTES:

1. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70% (60% FOR LOCAL STREETS).

2. BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM (LOOSE MEASUREMENT) LAYERS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180 AND TESTED PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYER.

3. BACKFILL SHALL BE PLACED AND COMPACTED IN 8" LAYERS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED FACILITY.

4. ALL EDGES OF EXISTING ASPHALT PAVEMENT THAT SHALL ABUT RESURFACING SHALL BE SAWCUT IN STRAIGHT LINES PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO RESURFACING.

5. RESURFACING MATERIAL SHALL BE CONSISTENT WITH SURROUNDING SURFACE, AND SHALL BE APPLIED A MINIMUM OF 3/4" AND A MAXIMUM OF 2" IN THICKNESS.

6. TRAFFIC STRIPES SHALL NOT BE PLACED DIRECTLY ON TOP OF THE JOINT.

7. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, MINIMUM 14" FOR LOCAL ROADS (50' ROW) AND MINIMUM 18" FOR ARTERIAL & COLLECTOR ROADS (60'-100' ROW), MAXIMUM 18".

8. MINIMUM ONE FULL LANE WIDTH SHALL BE RESTORED.

9. ASPHALT PAVEMENT INSTALLATION SEQUENCING:

1.) FIRST LIFT: 1" TYPE S-III ASPHALT. TACK COAT BETWEEN LIFTS. SHALL BE PAID UNDER PAVEMENT RESTORATION PAY ITEM.
2.) SECOND LIFT: 1" TYPE S-III ASPHALT. SECOND LIFT SHALL IMMEDIATELY FOLLOW FIRST LIFT IN ORDER TO MATCH EXISTING TOP OF ASPHALT ELEVATION. SHALL BE PAID UNDER PAVEMENT RESTORATION PAY ITEM.
3.) MILL 1" OF FULL LANE WIDTH (INCLUDES 2.) SECOND LIFT) TO COMPLETE FULL LANE WIDTH RESTORATION. TACK COAT BETWEEN LIFTS. SHALL BE PAID UNDER THE MILL EXISTING ASPHALT PAY ITEM.
4.) FINAL LIFT (FRICTION COURSE) TO COMPLETE FULL LANE WIDTH RESTORATION SHALL BE 1" TYPE S-III ASPHALTIC CONCRETE AND PAID UNDER THE ASPHALT OVERLAY PAY ITEM.

RESTORATION OF FLEXIBLE PAVEMENT LONGITUDINAL CUTS USING LIMEROCK BASE (FOR PARALLEL UTILITY INSTALLATION)

DATE:	4/1/15
SCALE:	NTS
DESIGN BY:	FA
DRAWN BY:	FA
CHECKED BY:	MJC
APPROVED BY:	MJC

BY:	DATE:	DESCRIPTION:

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PGDD-3

SHEET 11 OF 11

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