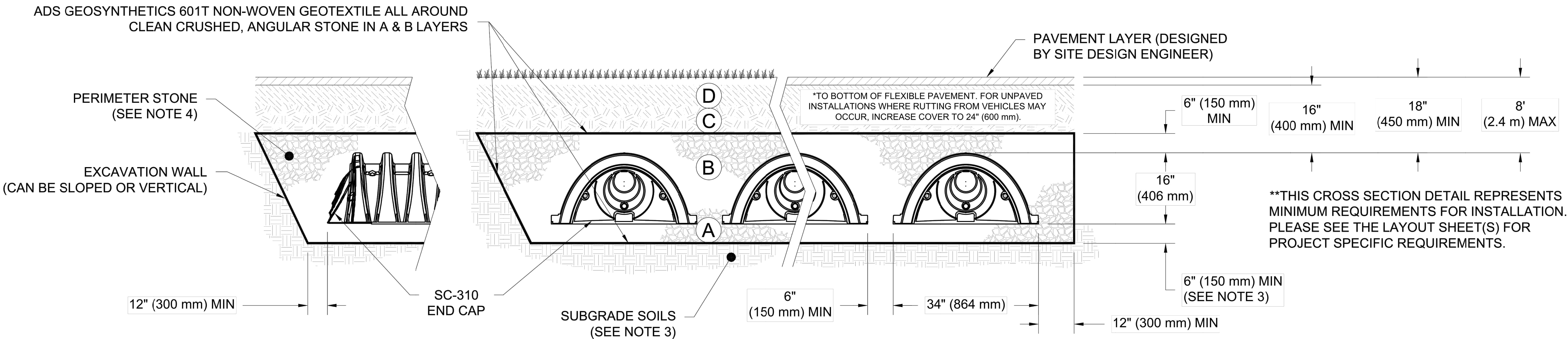


ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

OAKWOOD SOUTH RETAIL
SHOPPING CENTER
HOLLYWOOD, FL

DATE: 07/02/24

DRAWN: MPV

PROJECT #: S420513

CHECKED: ---

REVISED SYSTEM LAYOUTS
INCREASED VOLUME

DESCRIPTION

08/30/24
08/28/24

DHC
DHC

DATE

DRWN

CHKD

StormTech®
Chamber System

1-800-821-6710 | WWW.STORMTECH.COM

4640 TRUEEMAN BLVD
HILLIARD, OH 43026

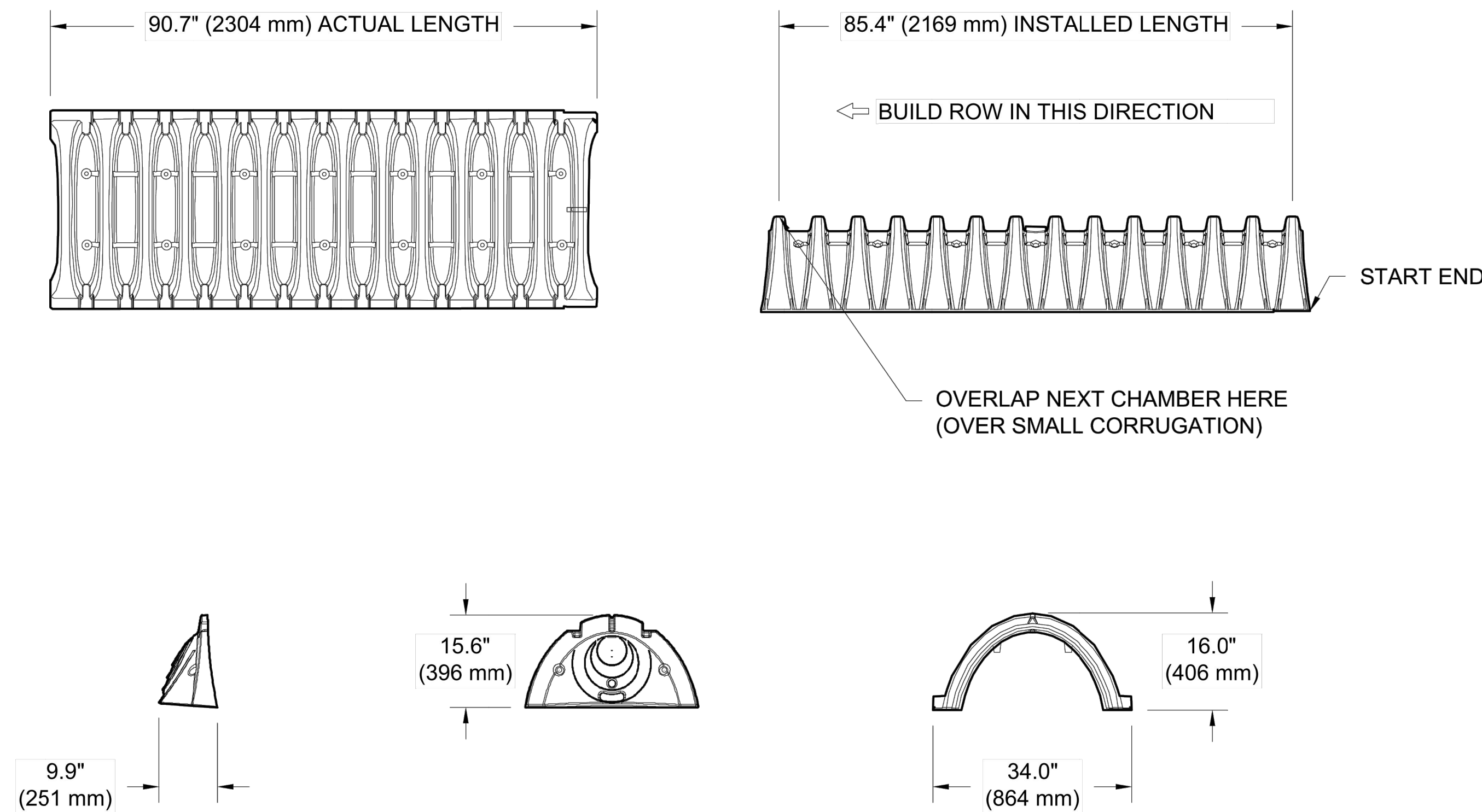


6 SHEET
OF 8

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SC-310 TECHNICAL SPECIFICATION

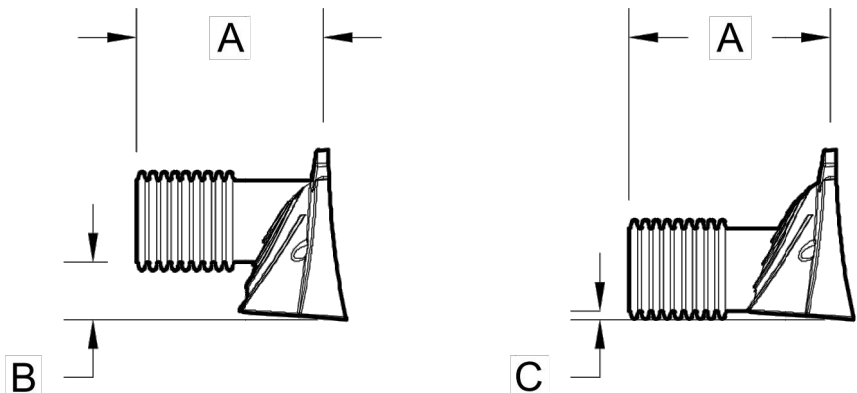
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET	(0.88 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC			---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC			---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC			---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

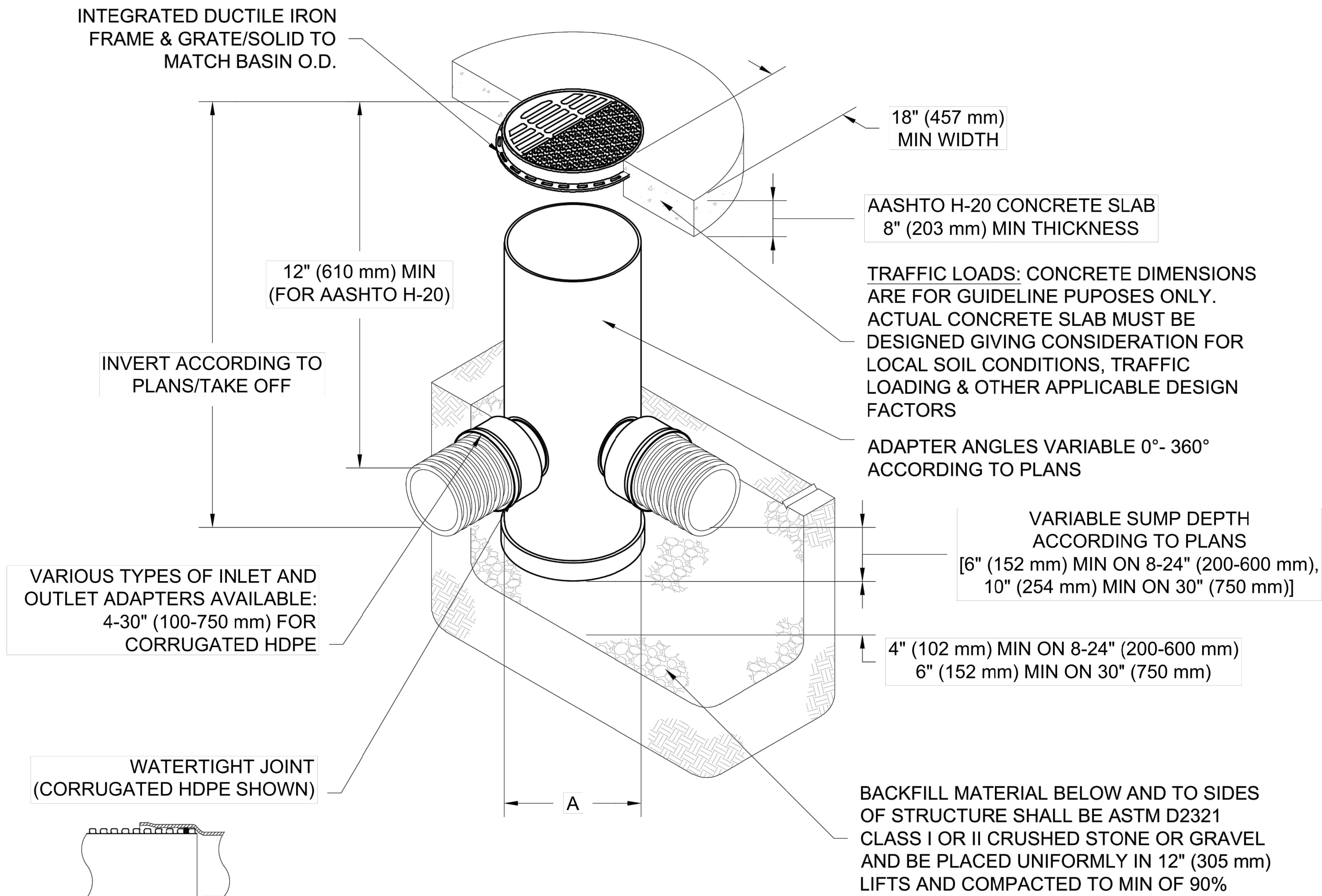
ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

NYLOPLAST DRAIN BASIN

NTS



NOTES

- 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION: WWW.NYLOPLAST-US.COM
- TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

OAKWOOD SOUTH RETAIL SHOPPING CENTER HOLLYWOOD, FL

DATE: 07/02/24 DRAWN: MPV PROJECT #: S420513 CHECKED: ---

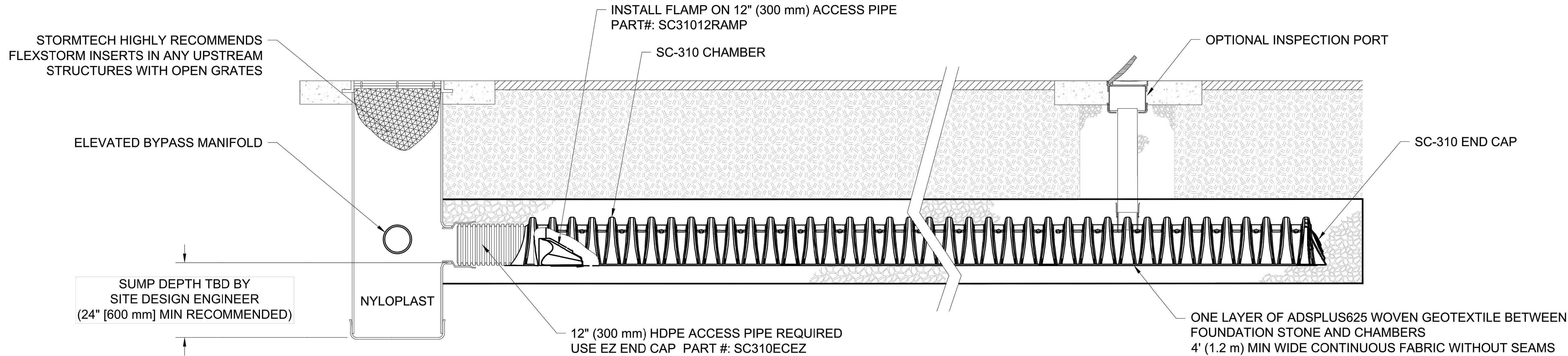
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4640 TRUEMAN BLVD HILLIARD, OH 43026

ADS

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SC-310 ISOLATOR ROW PLUS DETAIL
NTS

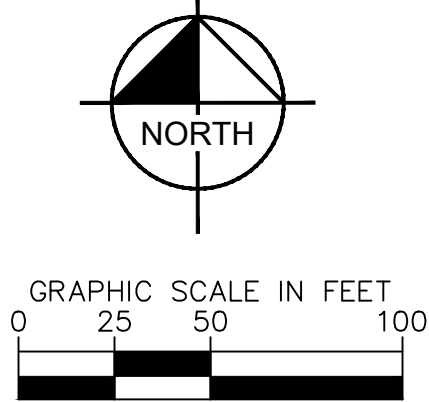
INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR PLUS ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

<div></div> <div>4640 TRUEEMAN BLVD HILLIARD, OH 43026</div>	<div><div>StormTech® Chamber System</div><div>1-800-821-6710 WWW.STORMTECH.COM</div></div>								OAKWOOD SOUTH RETAIL SHOPPING CENTER HOLLYWOOD, FL				
								DATE: 07/02/24		DRAWN: MPV			
								PROJECT #:		S420513		CHECKED: ---	
								DATE		DESCRIPTION			
								08/30/24		DHC		---	
								08/28/24		DHC		---	
								DATE		DRWN		CHKD	



	PROPERTY LINE
	UTILITY EASEMENT
	WATER MAIN (WM)
	SANITARY MAIN
	ELECTRIC
	GAS
	STORM PIPE
	FDC
	GATE VALVE
	90° BEND
	45° BEND
	22.5° BEND
	11.25° BEND
	TEE
	SEWER MANHOLE
	TRANSFORMER
	EXISTING SEWER MANHOLE

POTABLE WATER IMPACT			
	Use	Calculation	Total
Existing	Regal Cinemas Movie Theater	4 GPD per seat (4 GPD/seat x 2,504 seats)	10,016 GPD
Proposed	Retail (Commercial) 120,000 SF	1.01 GPD per SF (120,000 s.f. x0.1 GPD)	12,000 GPD
Total Existing and Proposed			(-) 1,984 GPD

SANITARY SEWER IMPACT			
	Use	Calculation	Total
Existing	Regal Cinemas Movie Theater	4 GPD per seat (4 GPD/seat x 2,504 seats)	10,016 GPD
Proposed	Retail (Commercial) 120,000 SF	0.1 GPD per s.f. (0.1 GPD x 120,000 s.f.)	12,000 GPD
Total Existing and Proposed			(-) 1,984 GPD

ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.

CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.

SANITARY SEWER PIPE SHALL BE AS FOLLOWS:

- 6" PVC SDR35 PER ASTM D2688 FOR LINES LESS THAN 12' DEEP
- 8" PVC SDR26 PER ASTM D3034, FOR PIPES MORE THAN 12' DEEP
- 6" PVC SCHEDULE 40

DUCTILE IRON PIPE PER AWWA C150

WATER LINES SHALL BE AS FOLLOWS:

- 6" AND LARGER, PVC C-900 PER ASTM D 2241 CLASS 200 UNDER
- COUNTY ROADS, OTHER CLASS 150
- 8" AND LARGER DUCTILE IRON PIPE PER AWWA C150
- SMALLER THAN 6" EITHER COPPER TUBE TYPE "1" (SOFT) PER ANSI
- 816.22 OR COPR. 200 P.S.I., PER ANSI D1784 AND D2241.

MINIMUM TRENCH WIDTH SHALL BE:

- ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THURST BLOCKING AS CALLED OUT IN SPECIFICATIONS.
- ALL JOINTS ARE TO BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).

CONTRACTOR SHALL MAINTAIN A MINIMUM OF 4'-0" COVER ON ALL WATER LINES.

IN THE EVENT OF A TRENCH, CONFLICT BETWEEN WATER LINES AND SANITARY LINES, STORM LINES OR EXISTING LINES, THE WATER TRENCH LIDS WITH LANDSCAPED AREAS, BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING. THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THURST BLOCKING AS REQUIRED TO MAINTAIN A MINIMUM TRENCH CLEARANCE, MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 30).

UNDERGROUND CULVERT SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.

TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS WITH PAVED AREAS, AND TO BE ONE FOOT ABOVE THE FINISHED ELEVATIONS OF UNPAVED AREAS.

ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.

EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.

REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.

CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES (ANY CITY) WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND THEREFORE THE LOCATION AND ELEVATION OF UTILITIES IN THE FIELD THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST KNOW THAT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY POSSIBLE REQUEST EXACT LOCATION AND ELEVATION OF UTILITIES.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE CONTRACTOR SHALL BE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES. THIS AND THE FINAL CONNECTIONS OF THE SERVICE SHALL BE COMPLETED 30 DAYS PRIOR TO STORE POSSESSION.

CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.

REFER TO BUILDING PLANS FOR SITE LIGHTING ELECTRICAL PLAN.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, INSPECTED AND APPROVED BEFORE BACKFILLING.

REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.

CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING WATER MAINS, FORCE MAINS, SANITARY SEWER AND STORM MAINS AND MAINTAIN MINIMUM CLEARANCES BETWEEN WATER MAINS AND OTHER UTILITIES AT ALL POINTS ALONG THEIR LENGTH AS REQUIRED IN THE ATTACHED DETAIL SHEETS.

CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES. THIS AND THE FINAL CONNECTIONS OF THE SERVICE SHALL BE COMPLETED 30 DAYS PRIOR TO STORE POSSESSION.

THE ENTIRE FIRE SERVICE FROM BUILDING TO CONNECTION POINT IS TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR HOLDING A "CONTRACTOR V" LICENSE IN ACCORDANCE WITH THE CITY OF GREGORY.

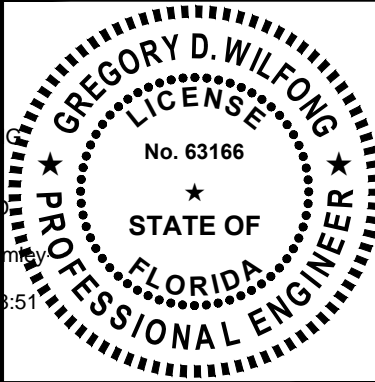
ALL UTILITY MAIN LENGTHS SHOWN ARE APPROXIMATE

GREGORY

GREGORY
D
WILFONG



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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106



KHA PROJECT 147507131	DATE 9/3/2024	SCALE AS SHOWN
DESIGNED BY	SHB	
DRAWN BY	SHB	
CHECKED BY	GDW	

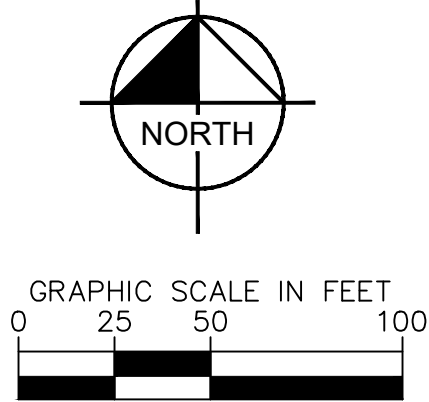
SEWER PLAN

OAKWOOD SOUTH RETAIL SHOPPING CENTER

CITY OF HOLLYWOOD
FL

SHEET NUMBER
C-400

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UTILITY LEGEND	
	PROPERTY LINE
	UTILITY EASEMENT
	WATER MAIN (WM)
	SANITARY MAIN
	ELECTRIC
	GAS
	STORM PIPE
	FDC
	GATE VALVE
	90° BEND
	45° BEND
	22.5° BEND
	11.25° BEND
	TEE
	SEWER MANHOLE
	TRANSFORMER
	EXISTING SEWER MANHOLE
	FIRE HYDRANT

FIRE UTILITY NOTE

- ALL UNDERGROUND FIRE MAIN WORK MUST BE COMPLETED BY FIRE PROTECTION CONTRACTOR HOLDING A CLASS I, II, OR V LICENSE PER FS 633.102.
- WATER SUPPLY AND ANY NEW HYDRANTS SHALL BE IN PLACE PRIOR TO ACCUMULATION OF COMBUSTIBLE MATERIALS PER NFPA 1 (2021 ED.) SECTION 16.5.3.1.1.
- BE ADVISED THAT NFPA 1 (2021 EDITION) SECTION 11.10.2 REQUIRES THAT MINIMUM RADIO SIGNAL STRENGTH FOR FIRE DEPARTMENT COMMUNICATIONS SHALL BE MAINTAINED AT A LEVEL DETERMINED BY THE AHJ FOR ALL NEW AND EXISTING BUILDINGS. -- IF AT ANY TIME (INCLUDING THE CONSTRUCTION PHASE), FIRE DEPARTMENT PERSONNEL DETERMINE THAT THE MINIMUM RADIO SIGNAL STRENGTH IS NOT BEING MET, A TWO-WAY RADIO COMMUNICATION ENHANCEMENT SYSTEM MAY BE REQUIRED TO BE INSTALLED AS DETERMINED BY THE AHJ.

- UTILITY NOTES**
- ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
 - CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
 - SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
8" PVC SDR35 PER ASTM D 3034, FOR PIPES LESS THAN 12' DEEP
8" PVC SDR35 PER ASTM D 3034, FOR PIPES MORE THAN 12' DEEP
6" PVC SCHEDULE 40
DUCTILE IRON PIPE PER AWWA C150
 - WATER LINES SHALL BE AS FOLLOWS:
6" AND LARGER, PVC C-900 PER ASTM D 2241 CLASS 200 UNDER COUNTY ROADS, OTHERWISE CLASS 150
6" AND LARGER DUCTILE IRON PIPE PER AWWA C150
SMALLER THAN 6" EITHER COPPER TUBE TYPE 1" (SOFT) PER ANSI 816.22 OR PVC, 200 P.S.I., PER ASTM D1784 AND D2241.
 - MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
 - ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING AS CALLED OUT IN SPECIFICATIONS.
 - ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
 - CONTRACTOR SHALL MAINTAIN A MINIMUM OF 4'-0" COVER ON ALL WATER LINES.
 - IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING. THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE, MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
 - UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
 - TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS WITHIN PAVED AREAS, AND TO BE ONE FOOT ABOVE FINISHED GROUND ELEVATIONS WITH WATER TIGHT LIDS WITHIN LANDSCAPED AREAS.
 - ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
 - EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
 - REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
 - CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES (ANY CITY) WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
 - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES. THIS AND THE FINAL CONNECTIONS OF THE SERVICE SHALL BE COMPLETED 30 DAYS PRIOR TO STORE POSSESSION.
 - CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
 - REFER TO BUILDING PLANS FOR SITE LIGHTING ELECTRICAL PLAN.
 - UNDERGROUND UTILITY LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
 - REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING WATER MAINS, FORCE MAINS, SANITARY SEWER AND STORM MAINS AND MAINTAIN MINIMUM CLEARANCES BETWEEN WATER MAINS AND OTHER UTILITIES AT ALL POINTS ALONG THEIR LENGTH AS REQUIRED IN THE PLANS, DETAILS AND SPECIFICATIONS.
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 - ALL UTILITY MAIN LENGTHS SHOWN ARE APPROXIMATE.

POTABLE WATER IMPACT			
	Use	Calculation	Total
Existing	Regal Cinemas Movie Theater	4 GPD per seat (4 GPD/seat x 2,504 seats)	10,016 GPD
Proposed	Retail (Commercial) 120,000 SF	0.1 GPD per SF (120,000 s.f. x 0.1 GPD)	12,000 GPD
Total Existing and Proposed			(+) 1,984 GPD

SANITARY SEWER IMPACT			
	Use	Calculation	Total
Existing	Regal Cinemas Movie Theater	4 GPD per seat (4 GPD/seat x 2,504 seats)	10,016 GPD
Proposed	Retail (Commercial) 120,000 SF	0.1 GPD per SF (120,000 s.f. x 0.1 GPD)	12,000 GPD
Total Existing and Proposed			(+) 1,984 GPD

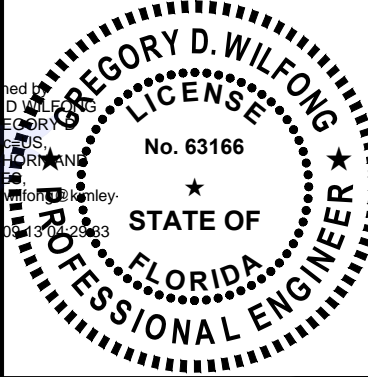
OAKWOOD SOUTH
RETAIL SHOPPING
CENTER

CITY OF HOLLYWOOD FL

WATER PLAN

Kimley»Horn

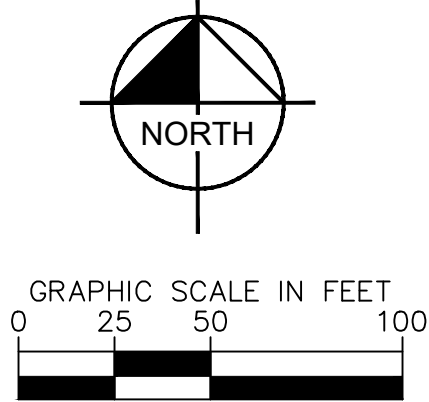
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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106



KHA PROJECT 147507131	DATE 9/3/2024	SCALE AS SHOWN	DESIGNED BY SHB	DRAWN BY SHB	CHECKED BY GDW
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SHEET NUMBER
C-401

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UTILITY LEGEND	
	PROPERTY LINE
	UTILITY EASEMENT
	WATER MAIN (WM)
	SANITARY MAIN
	ELECTRIC
	GAS
	STORM PIPE
	FDC
	GATE VALVE
	90° BEND
	45° BEND
	22.5° BEND
	11.25° BEND
	TEE
	SEWER MANHOLE
	TRANSFORMER
	EXISTING SEWER MANHOLE

UTILITY NOTES

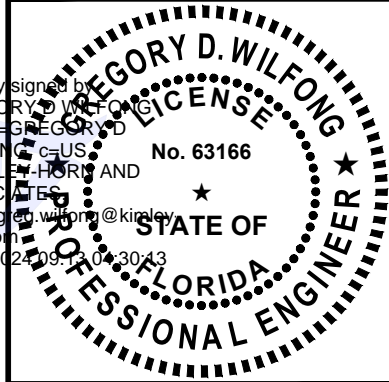
- ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
- CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
8" PVC SDR35 PER ASTM D 3034, FOR PIPES LESS THAN 12" DEEP
8" PVC SDR35 PER ASTM D 3034, FOR PIPES MORE THAN 12" DEEP
6" PVC SCHEDULE 40
DUCTILE IRON PIPE PER AWWA C150
- WATER LINES SHALL BE AS FOLLOWS:
6" AND LARGER, PVC C-900 PER ASTM D 2241 CLASS 200 UNDER COUNTY ROADS, OTHERWISE CLASS 150
6" AND LARGER DUCTILE IRON PIPE PER AWWA C150
SMALLER THAN 6" EITHER COPPER TUBE TYPE "L" (SOFT) PER ANSI 816.22 OR PVC, 200 P.S.I., PER ASTM D1784 AND D2241.
- MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
- ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING AS CALLED OUT IN SPECIFICATIONS.
- ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
- CONTRACTOR SHALL MAINTAIN A MINIMUM OF 4'-0" COVER ON ALL WATER LINES.
- IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE, MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
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- ALL UTILITY MAIN LENGTHS SHOWN ARE APPROXIMATE.

GREGORY D. WILFONG
D
WILFONG

NO.	REVISIONS	DATE	BY

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K/A PROJECT	147507131
DATE	9/3/2024
SCALE	AS SHOWN
DESIGNED BY	SHB
DRAWN BY	SHB
CHECKED BY	GDW

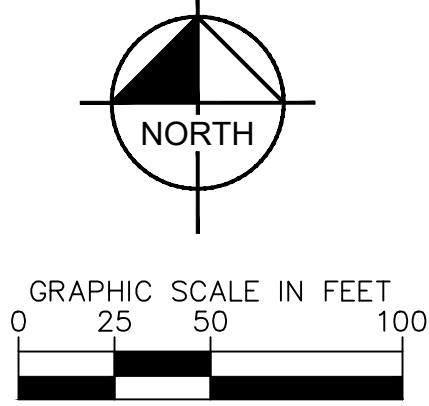
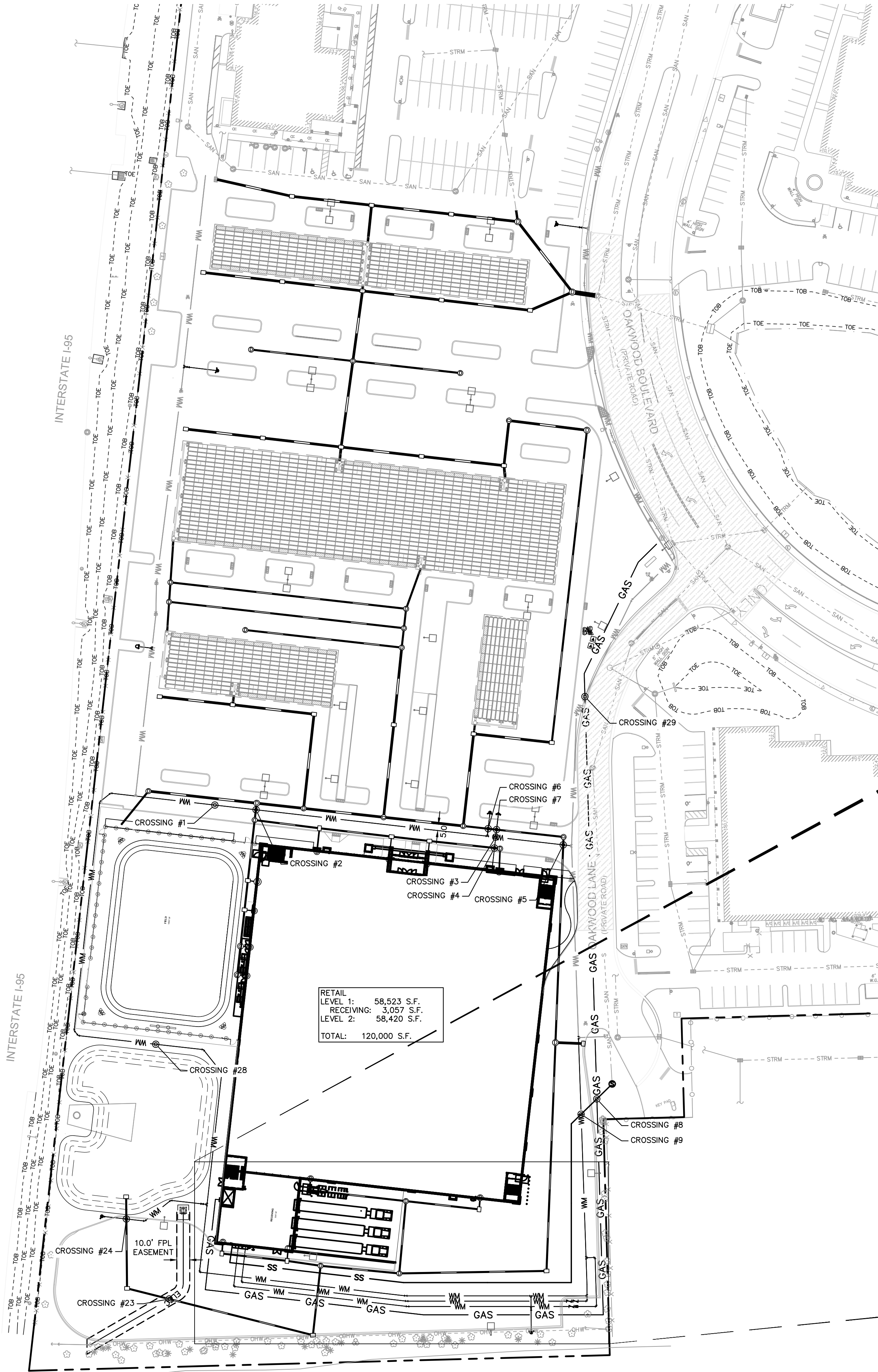
OAKWOOD SOUTH
RETAIL SHOPPING
CENTER

CITY OF HOLLYWOOD

FL

DRY UTILITY PLAN

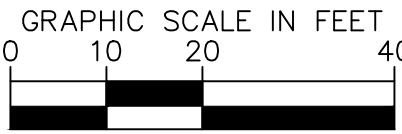
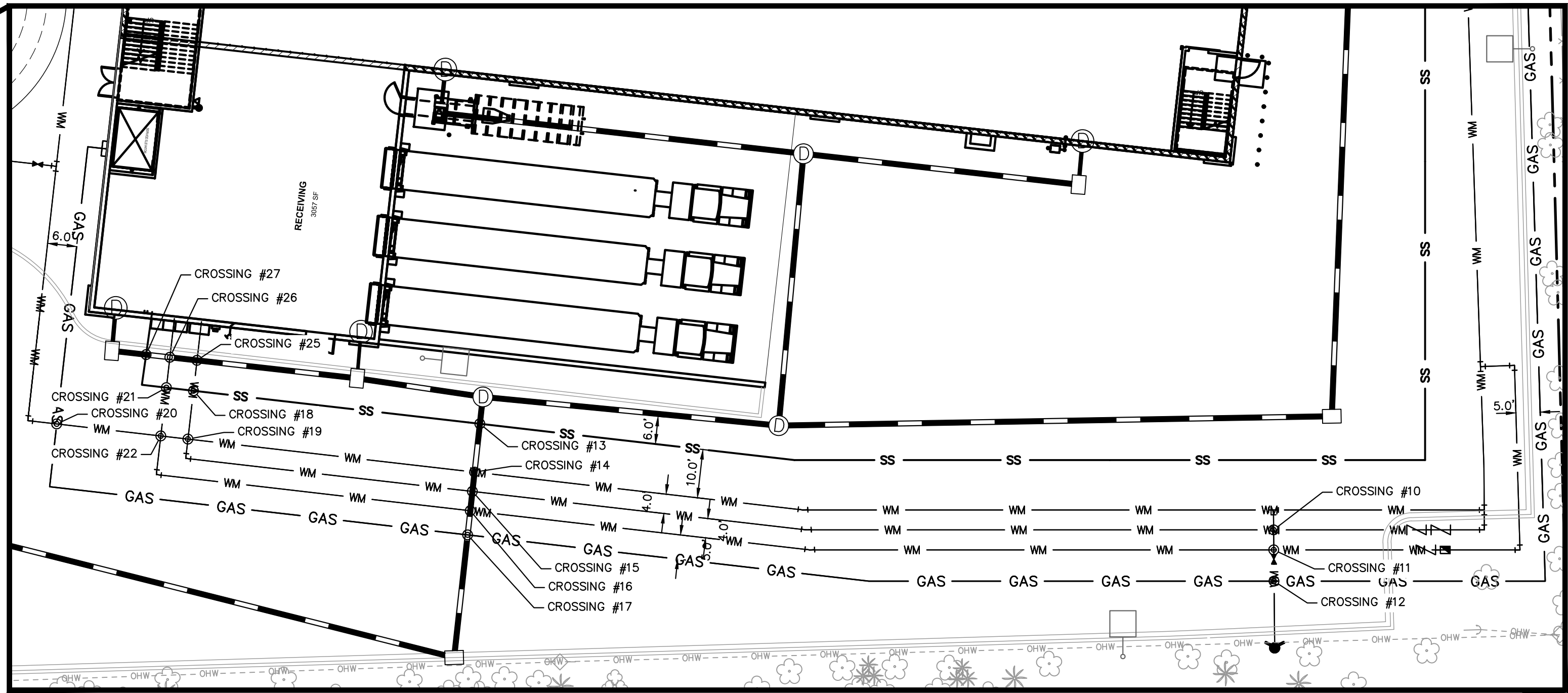
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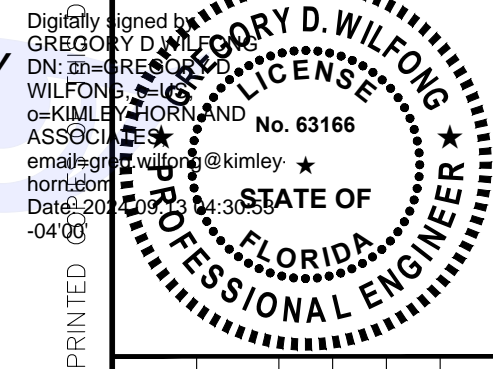
UTILITY CROSSING TABLE		
CROSSING	UTILITIES	INVERT EL.
1	12" STORM	3.48
	8" WATER	2.44
2	12" STORM	4.61
	8" WATER	3.49
3	8" WATER	3.62
	6" WATER	2.12
4	12" STORM	4.97
	6" WATER	2.62
5	12" STORM	3.98
	8" WATER	2.94
6	12" STORM	4.61
	6" WATER	3.52
7	12" STORM	4.61
	6" WATER	2.62
8	2" GAS	3.14
	6" SANITARY	1.45
9	8" WATER	2.91
	6" SANITARY	1.87
10	8" WATER	3.11
	6" WATER	2.11
11	3" WATER	3.53
	6" WATER	2.11
12	2" GAS	3.63
	6" WATER	2.11
13	6" SANITARY	4.75
	12" STORM	2.35
14	8" WATER	3.47
	12" STORM	2.35
15	8" WATER	3.39
	12" STORM	2.35

UTILITY CROSSING TABLE		
CROSSING	UTILITIES	INVERT EL.
16	3" WATER	3.73
	12" STORM	2.35
17	2" GAS	3.73
	12" STORM	2.35
18	6" SANITARY	5.37
	8" WATER	4.30
19	8" WATER	3.53
	8" WATER	2.54
20	2" GAS	5.43
	8" WATER	4.42
21	6" SANITARY	5.42
	3" WATER	4.32
22	3" WATER	4.02
	8" WATER	2.54
23	12" STORM	3.98
	ELECTRIC DUCT	2.83
24	12" STORM	3.98
	6" WATER	2.92
25	8" WATER	3.70
	12" STORM	2.70
26	3" WATER	4.11
	12" STORM	2.73
27	6" SANITARY	5.54
	12" STORM	2.75
28	12" STORM	3.48
	8" WATER	2.48
29	8" WATER	2.86*
	2" GAS	1.86

*ASSUMED DEPTH



GREGORY D. WILFONG
D
WILFONG



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CHECKED BY CDW

UTILITY CROSSING PLAN

OAKWOOD SOUTH
RETAIL SHOPPING
CENTER

FL

CITY OF HOLLYWOOD

SHEET NUMBER
C-403

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REGISTRY NO. 35106

REVISIONS

DATE

BY

NO.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY GREGORY D. WILFONG, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED TO THE SEAL. DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE DIGITAL SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.