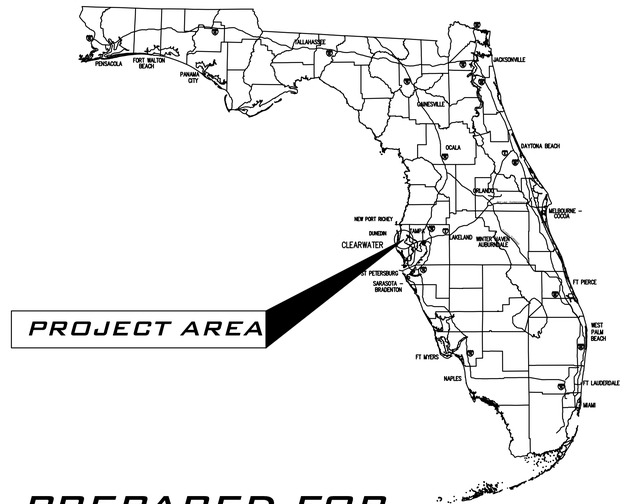
SITE PLAN
FOR
SUMMERDALE DRIVE
2754 SUMMERDALE DRIVE
CLEARWATER, FL 33761

INDEX OF DRAWINGS

VICINITY MAP

SECTION 30, TOWNSHIP 28S, RANGE 16E
CLEARWATER, PINELLAS COUNTY

LOCATION MAP



PREPARED FOR

2754 SUMMERDALE LLC
2770 SUMMERDALE DRIVE, STE A
CLEARWATER, FL 33761

REV.#	DATE	REVISION	BY

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

60% PLAN

CHRISTOPHER A. CHIN, P.E. 84365

A314219900

WORK ORDER NO.	SE22.199.00
DATE:	NOVEMBER 8, 2022
SCALE:	N.T.S.
SHEET NO.	1 OF 8

LEGEND

S.	SET
F.	FOUND
I.R.	IRON ROD
I.P.	IRON PIPE
N&D	NAIL & DISK
C.M.	CONCRETE MONUMENT
(A)	FIELD MEASUREMENT
A	ARC
A/C	AIR CONDITIONER
AC.	ACRES
ADA	AMERICANS WITH DISABILITIES ACT
BFPD	BACK FLOW PREVENTION DEVICE
BOLL	BOLLARD
BSL	BUILDING SETBACK LINE
C	CHORD
(C)	CALCULATED
CB	CATCH BASIN
CBW	CONCRETE BLOCK WALL
CHB	CHORD BEARING
℄	CENTERLINE
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
C.O.	CLEANOUT
CONC.	CONCRETE
CS	CONCRETE SLAB
C.T.	CURB TIE
CTV	CABLE TELEVISION
(D)	DEED
DEP	DEPARTMENT OF ENVIRONMENTAL PROTECTION
DHW	DESIGN HIGH WATER
DLW	DESIGN LOW WATER
EL.	ELEVATION
FF	FINISHED FLOOR
FHA	FIRE HYDRANT ASSEMBLY
FPC	FLORIDA POWER CORPORATION
GI	GRATE INLET
GAV	GAS VALVE
GM	GAS METER
GV	GATE VALVE
GW	GUY WIRE
INV.	INVERT
LF	LINEAR FEET
LFE	LOWEST FLOOR ELEVATION
LP	LIGHT POLE
(M)	MEASURED
MAS	MASONRY
MES	MITERED END SECTION
MH	MANHOLE
MHWL	MEAN HIGH WATER LINE
NAVD	NORTH AMERICA
NGVD	NATIONAL GEODETIC VERTICAL DATUM
O/H	OVERHEAD WIRES
O.R.	OFFICIAL RECORD
PB	PLAT BOOK
PG	PAGE/PAGES
POB	POINT OF BEGINNING
PRM	PERMANENT REFERENCE MONUMENT
PVC	POLYVINYL CHLORIDE
R	RADIUS
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SAN	SANITARY
SCO	SANITARY CLEAN-OUT
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SF	SQUARE FEET
SHW	SEASONAL HIGH WATER
TBM	TEMPORARY BENCHMARK
TOB	TOP OF BERM
TOS	TOE OF SLOPE
TRANS	TRANSFORMER
TWP	TOWNSHIP
UP	UTILITY POLE
WF	WOOD FENCE
WM	WATER METER

PROPOSED LEGEND

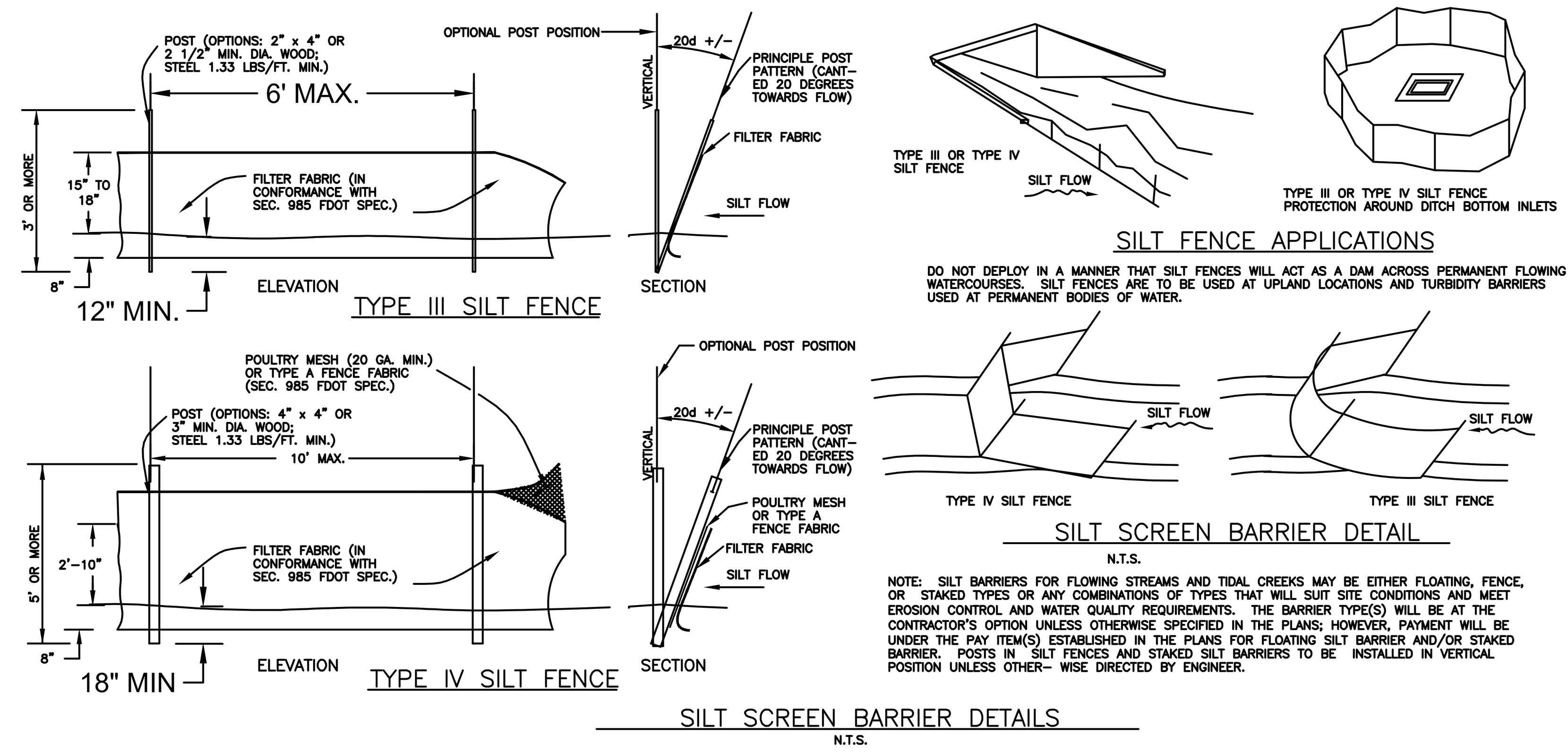
- DIRECTION OF FLOW
- × 19.72 EXISTING ELEVATION
  * ELEVATIONS ARE BASED ON NAVD-88
- 18.87 PROPOSED ELEVATION
- 18.87XX ELEVATION AT TOP OF FEATURE / 18.37XX ELEVATION AT BOTTOM OF FEATURE

GRADING SUFFIXES:
BW = BOTTOM OF WALL
EP = EDGE OF PAVEMENT
G = GROUND
HP = HIGH POINT
ME or MEG = MATCH EXISTING GRADE (ESTIMATED INTERPOLATED VALUE)
MP = MATCH EXISTING EP
TC = TOP OF CURB
TS = TOP OF SIDEWALK
TW = TOP OF WALL

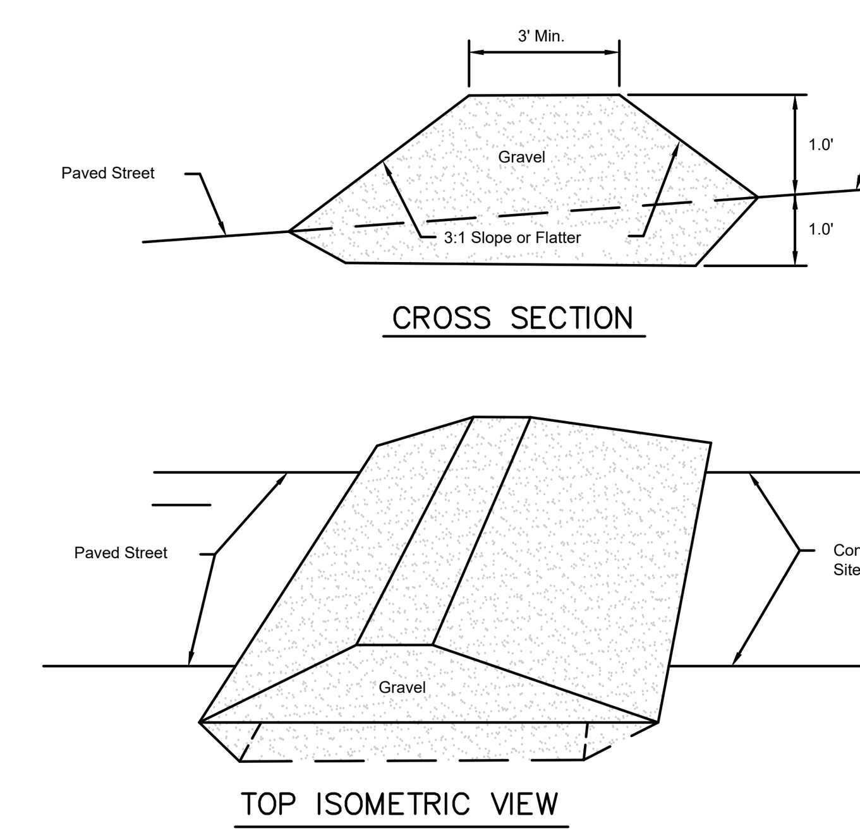
- 6' CHAIN LINK FENCE
- SILT FENCE
- (13) NUMBER OF PROPOSED PARKING SPACES
- REMOVE EXISTING TREE

SYMBOL LEGEND (TAKEN FROM SURVEYOR)

Symbol	Description	Symbol	Description
	BACK FLOW PREVENTION DEVICE		IRRIGATION CONTROL VALVE
	BOLLARD		LIGHT POLE
	CABLE TV BOX		MISCELLANEOUS TREE
	CLEANOUT	MW	MONITORING WELL
	CONCRETE LIGHT POLE		NAIL AND DISK (SET)
	CONCRETE MONUMENT (FOUND)		NAIL & DISK (FOUND)
XWP	CROSS WALK POLE		OAK TREE
	CYPRESS		PALM TREE
	ELECTRIC BOX		PARKING SPACES
E	ELECTRIC METER		PINE TREE
	ELECTRIC TRANSFORMER		POWER/UTILITY WOOD POLE
×0.00	ELEVATION		RECLAIMED WATER METER
	ELEVATION BACK OF CURB / EDGE OF PAVEMENT	RW	RECLAIMED WATER VALVE
	ELEVATION BACK OF CURB / FLOW LINE / EDGE OF PAVEMENT		RED MAPLE
	ELM	S	SANITARY MANHOLE
	FIRE HYDRANT	SCO	SANITARY SEWER CLEANOUT
g	GAS MARKER POST		SIGN
G	GAS VALVE	D	STORM SEWER MANHOLE
	GRATE INLET		TELEPHONE PEDESTAL
	GUY WIRE ANCHOR		TEMPORARY BENCHMARK
	HANDICAP PARKING SPACE		TRAFFIC SIGNAL JUNCTION BOX
	IRON PIPE (FOUND)	W	WATER METER
	IRON ROD (FOUND)		WATER VALVE
	IRON ROD (SET)	×	X-CUT (FOUND)
		YD	YARD DRAIN



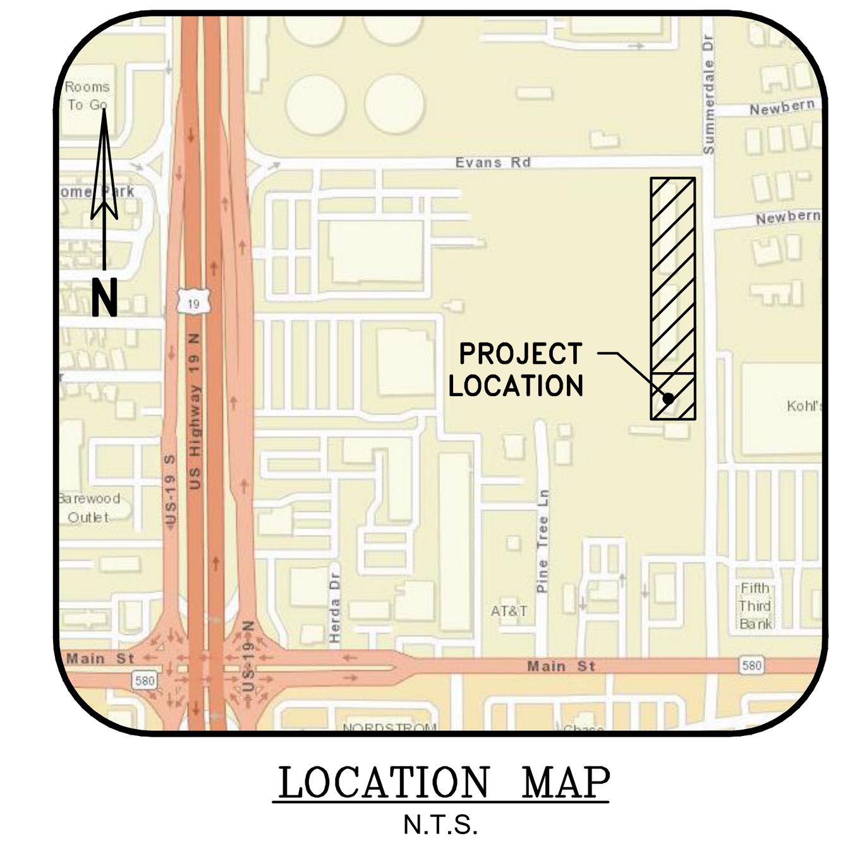
SILT SCREEN BARRIER DETAILS
N.T.S.



TEMPORARY EROSION CONTROL
GRAVEL INTERCEPTOR BERM
N.T.S.

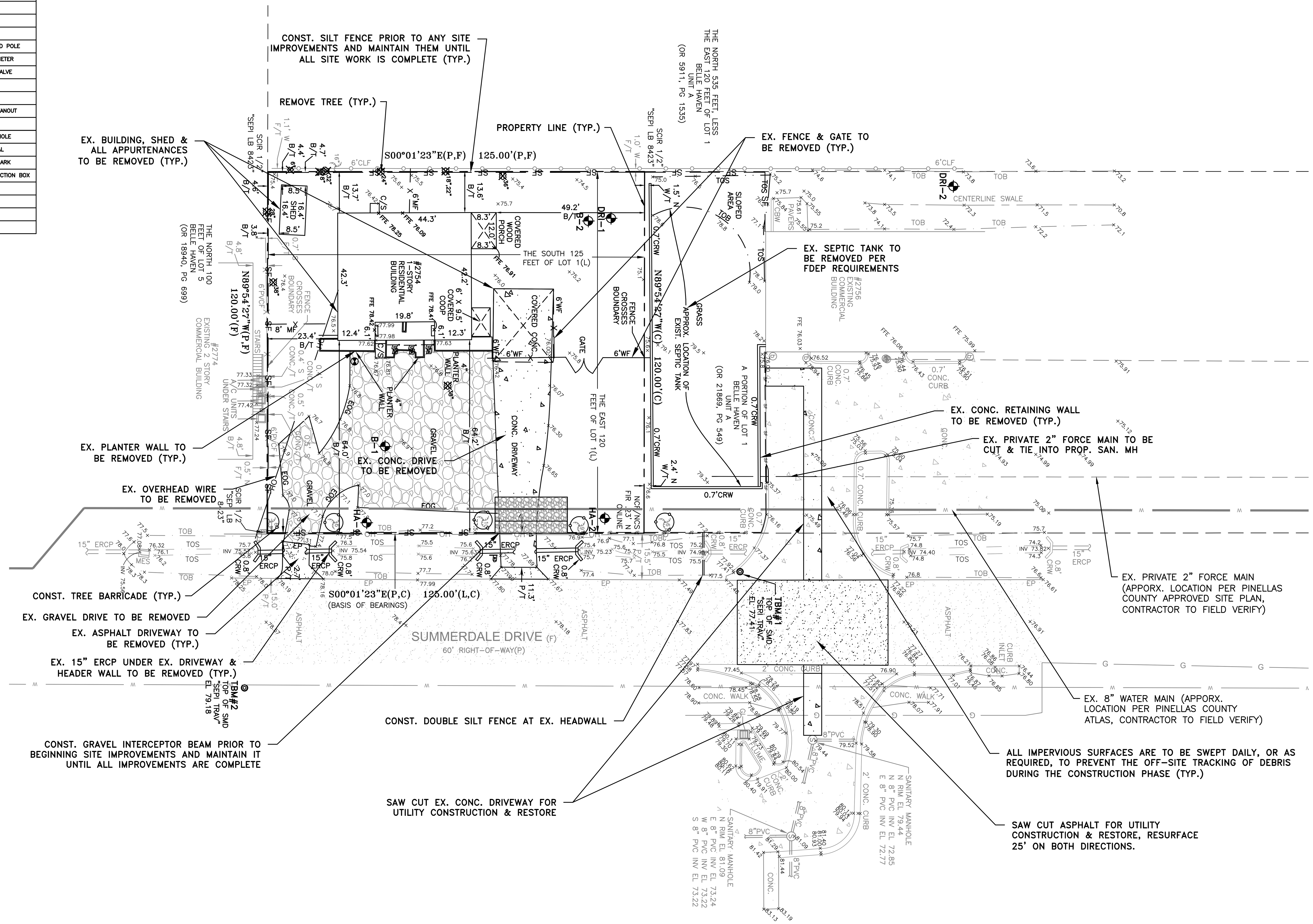
0' 20' 40'
SCALE: 1" = 20'

INVESTIGATE BEFORE YOU EXCAVATE
CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 2 FULL BUSINESS DAYS BEFORE YOU EXCAVATE

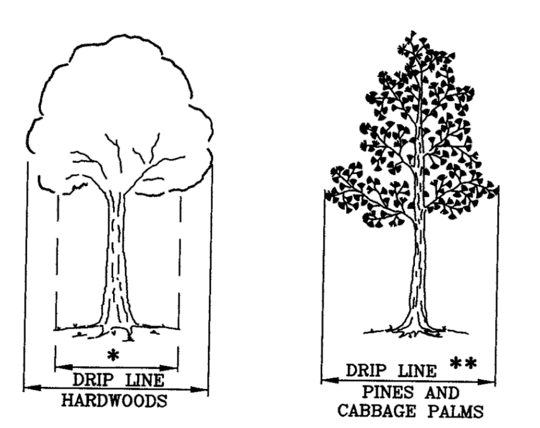


LOCATION MAP
N.T.S.

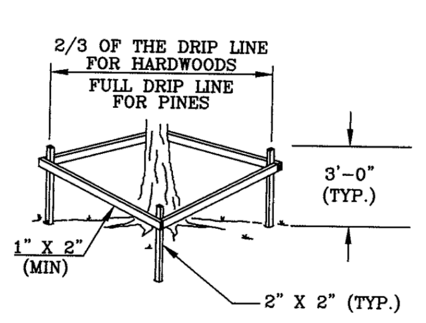
NOTE:
UTILITY DETAILS REQUESTED FROM SUNSHINE WATER SERVICES & UTILITY PERMIT WILL BE PROVIDED TO COUNTY ONCE APPROVED



NOTES:
1. NO TREE SHALL BE REMOVED UNLESS SPECIFICALLY TAGGED FOR REMOVAL BY THE ENGINEER.
2. THE CONTRACTOR SHALL TAKE SPECIAL CARE NOT TO DAMAGE TREES THAT ARE TO REMAIN.
3. ROOTS GREATER THAN 1" DIAMETER SHALL NOT BE CUT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. ALL ROOT PRUNING SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST IN ACCORDANCE WITH ANSI-A300 STANDARDS.
5. STOCKPILED MATERIALS OR UNNECESSARY VEHICULAR TRAFFIC SHALL NOT BE ALLOWED OVER ANY TREE ROOTS SYSTEM.
6. BARRIER SHALL BE CONSTRUCTED WHEN CALLED FOR ON PLANS OR AS DIRECTED BY THE ENGINEER. BARRIERS SHALL BE MAINTAINED IN PLACE UNTIL REMOVAL IS DIRECTED BY THE ENGINEER.
7. COST OF ALL TREE BARRICADES SHALL BE INCLUDED IN PAY ITEM 800-9004 (CLEARING & GRUBBING).
8. SUBSTITUTION FOR WOODEN (1"x 2" MIN.) BEAMS WITH OTHER MATERIALS REQUIRE PRE-APPROVAL BY THE COUNTY ENGINEER.



REQUIRED DISTANCES FROM TREE TRUNK
* 2/3 THE DRIP LINE OR 6 FEET, WHICHEVER IS GREATER.
** DRIP LINE FOR PINES/CONIFERS AND CABBAGE PALMS OR 6 FEET, WHICHEVER IS GREATER.



BARRIER

PINELLAS COUNTY	DETAIL INDEX I.D.: 1111
TREE PROTECTION	DATE: FEB/2016
	IVAN J. FERNANDEZ, P.E. REVISION:

EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM A BOUNDARY AND TOPOGRAPHIC SURVEY, PREPARED BY DEUEL & ASSOCIATES, A SEPI COMPANY
LB #8423 DATE OF FIELD SURVEY: 10/04/2022.

SURVEYOR'S REPORT (PARTIAL):

1. BEARINGS ARE BASED ON THE EAST BOUNDARY LINE OF THE SUBJECT PROPERTY, RECORD BEARING BEING N00°03'23"W.
4. NO EXCAVATION WAS PERFORMED TO VERIFY THE LOCATION OR EXISTENCE OF ANY UNDERGROUND UTILITIES, ENCROACHMENTS, IMPROVEMENTS, STRUCTURES OR FOUNDATIONS. UNDERGROUND UTILITY LINE LOCATIONS (IF SHOWN HEREON) ARE ASSUMED BASED UPON VISIBLE SURFACE EVIDENCE.
6. THIS SURVEY IS NOT INTENDED TO SHOW THE LOCATION OR EXISTENCE OF ANY JURISDICTIONAL, HAZARDOUS OR ENVIRONMENTALLY SENSITIVE AREAS.
7. THE SITE APPEARS TO BE IN FLOOD ZONE X, ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP (FIRM) 12103C0088G, COMMUNITY NUMBER 125139, EFFECTIVE DATE 9/3/2003. DEUEL & ASSOCIATES AND THE SIGNING SURVEYOR HEREON ASSUMES NO LIABILITY FOR THE ACCURACY OF THIS DETERMINATION. ELEVATIONS ON FIRM ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). THE AUTHOR OF THE MAP, THE FEDERAL EMERGENCY MANAGEMENT AGENCY, OR THE LOCAL GOVERNMENTAL AGENCY HAVING JURISDICTION OVER SUCH MATTERS SHOULD BE CONTACTED PRIOR TO ANY JUDGMENTS BEING MADE FROM THIS INFORMATION. THE ABOVE REFERENCED MAP STATES IN THE NOTES TO THE USER THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM" AND "THAT BASE FLOOD ELEVATIONS (BFEs) SHOWN REPRESENT ROUNDED WHOLE-FOOT ELEVATIONS AND THEREFORE MAY NOT EXACTLY REFLECT THE FLOOD ELEVATION DATA PRESENTED IN THE FLOOD INSURANCE STUDY (FIS) REPORT". THE FIS REPORT WAS NOT CONSULTED FOR THIS SURVEY. FLOOD ZONE LIMITS AND LIMIT OF MODERATE WAVE ACTION SHOWN HEREON, IF ANY, WERE SCALED FROM SAID MAP AND ARE APPROXIMATE ONLY.
8. SHOWN ANYWHERE ON THIS SURVEY, THE WORD "CERTIFY" IS UNDERSTOOD TO BE AN EXPRESSION OF A PROFESSIONAL OPINION BASED UPON THE SURVEYOR'S BEST KNOWLEDGE, INFORMATION AND BELIEF, AND THAT IT THUS CONSTITUTES NEITHER A GUARANTEE NOR A WARRANTY.
9. UNLESS OTHERWISE INDICATED, THE PROPERTY DESCRIPTION AND EASEMENTS SHOWN WERE FURNISHED TO DEUEL & ASSOCIATES AND ARE PRESUMED TO BE CORRECT. NO SEARCH OF ANY PUBLIC RECORDS, FOR EASEMENTS, DEEDS, ETC., WAS PERFORMED BY THIS FIRM FOR THE COMPLETION OF THIS SURVEY AND THERE MAY BE ADDITIONAL RESTRICTIONS THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
10. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND MAY BE SUBJECT TO EASEMENTS, RESTRICTIONS, RIGHTS-OF-WAY AND OTHER MATTERS OF RECORD.
11. ELEVATIONS ARE BASED ON CITY OF CLEARWATER BENCHMARK M-13, HAVING AN ELEVATION OF 75.30 FEET NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
12. TREES 4" IN DIAMETER AND LARGER HAVE BEEN LOCATED WITH COMMON NAME AND APPROXIMATE DIAMETER BREAST HIGH. SMALLER TREES, NON-PROTECTED SPECIES (INCLUDING ORNAMENTALS) AND TREES WITHIN JURISDICTIONAL AREAS (IF ANY) HAVE NOT BEEN LOCATED. TREES BY NATURE ARE IRREGULAR IN SIZE AND SHAPE. EVERY EFFORT IS MADE TO ACCURATELY LOCATE TREES. THE TREE LOCATION IS THE CENTER OF THE TREE. THIS LOCATION MAY BE DIFFERENT IF LOCATED FROM A DIFFERENT DIRECTION. ALL TREE LOCATIONS SHOULD BE FIELD CHECKED IF CRITICAL TO DESIGN.
13. THIS MAP IS INTENDED TO BE DISPLAYED AT A SCALE OF 1/20 OR SMALLER.
14. THIS SURVEY IS BASED ON U.S. SURVEY FEET.
15. THE SUBJECT PARCEL CONTAINS 15,000 SQUARE FEET, (0.344 ACRE) MORE OR LESS.

REV.#	DATE	REVISION	BY

DESIGN:	XC
DRAWN:	XC
CHECKED:	CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS
565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE: 727.822.4151
WWW.DEUELENGINEERING.COM
LICENSED BUSINESS NUMBER 8423

2754 SUMMERDALE WAREHOUSE EX. COND./DEMO. & EROSION CONTROL PLAN
PINELLAS COUNTY FLORIDA

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

60% PLAN

CHRISTOPHER A. CHIN, P.E. 84365

WORK ORDER NO.	SE22.199
DATE:	NOVEMBER 8, 2022
SCALE:	1" = 20'
SHEET NO.	2 OF 8

LEGEND

S.	SET
F.	FOUND
I.R.	IRON ROD
I.P.	IRON PIPE
N&D	NAIL & DISK
C.M.	CONCRETE MONUMENT
(A)	FIELD MEASUREMENT
A	ARC
A/C	AIR CONDITIONER
AC.	ACRES
ADA	AMERICANS WITH DISABILITIES ACT
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BOLL	BOLLARD
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PVC	POLYVINYL CHLORIDE
R	RADIUS
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SCO	SANITARY CLEAN-OUT
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TOB	TOP OF BERM
TOS	TOE OF SLOPE
TRANS	TRANSFORMER
TWP	TOWNSHIP
UP	UTILITY POLE
WF	WOOD FENCE
WM	WATER METER

PROPOSED LEGEND

- DIRECTION OF FLOW
- 18.5 — EXISTING ELEVATION (ELEVATIONS ARE BASED ON NAVD-88)
- 18.8 — PROPOSED ELEVATION
- FF 87.70 — ELEVATION AT TOP OF FEATURE
- FF 87.70 — ELEVATION AT BOTTOM OF FEATURE

GRADING SUFFIXES:
BW = BOTTOM OF WALL
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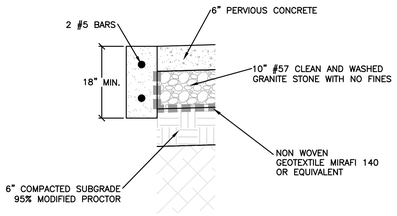
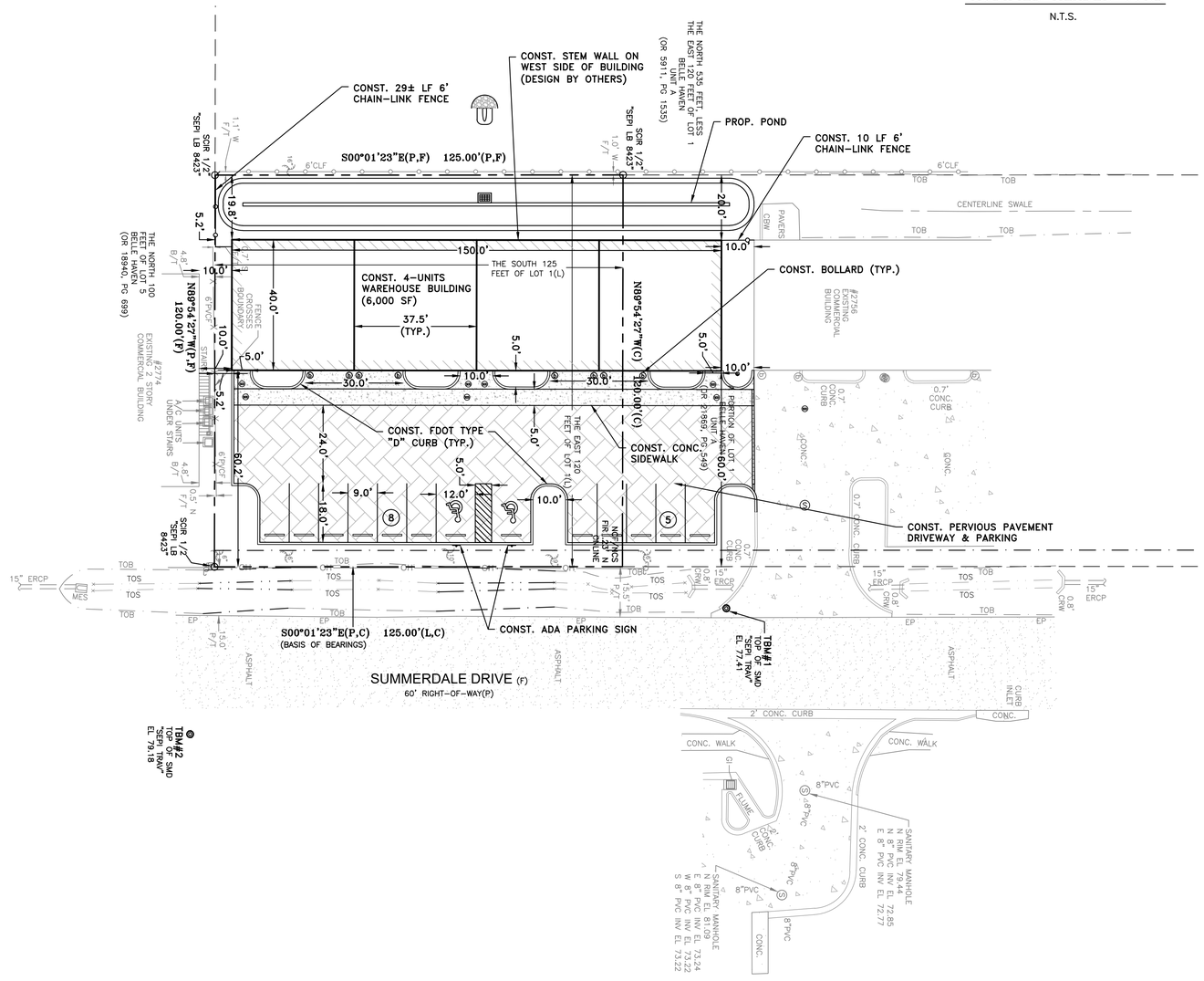
HP = HIGH POINT
ME or MEG = MATCH EXISTING GRADE (ESTIMATED INTERPOLATED VALUE)
MP = MATCH EXISTING EP
TC = TOP OF CURB
TS = TOP OF SIDEWALK
TW = TOP OF WALL

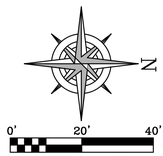
- 6' CHAIN LINK FENCE
- SILT FENCE
- (13) NUMBER OF PROPOSED PARKING SPACES
- REMOVE EXISTING TREE



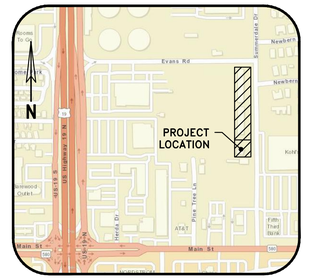
MODIFIED HEADER CURB

N.T.S.





SCALE: 1" = 20'



LOCATION MAP

N.T.S.

CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 2 FULL BUSINESS DAYS BEFORE YOU EXCAVATE

SITE DATA TABLE:

SITE LOCATION: 2754 SUMMERDALE DRIVE CLEARWATER, FL 33761

PROPERTY OWNER:
2754 SUMMERDALE LLC
2770 SUMMERDALE DRIVE STE A
CLEARWATER, FL 33761

CIVIL ENGINEER & SURVEYOR:
DEUEL & ASSOCIATES
565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
(727) 822-4151

LEGAL DESCRIPTION:

(OR 21869, PG 549)

THE EAST 120 FEET OF THE SOUTH 125 FEET OF LOT 1 OF BELLE HAVEN UNIT A, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 25, PAGE(S) 59, OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA.

FLOOD ZONE: X
MAP PANEL ID: 12103C0088G
REVISED MAP: 09/03/2003

PROJECT SUMMARY & SITE DATA:	EXISTING	PROPOSED
TOTAL BUILDING AREA	= 2,053 SF (10.4%)	6,000 SF (30.3%)
TOTAL BUILDING (GFA)	= 2,053 SF	6,000 SF
TOTAL ASPH/CONC./GRAVEL AREA	= 4,894 SF (24.7%)	1,479 SF (7.5%)
TOTAL PERVIOUS CONCRETE AREA	= 0 SF (35.0%)	6,144 SF (31.0%)
TOTAL IMPERVIOUS AREA	= 6,947 SF (35.0%)	13,623 SF (68.7%)
TOTAL GREEN AREA	= 12,887 SF (65.0%)	6,211 SF (31.3%)
TOTAL PROJECT AREA	19,834 SF (0.455 AC)*	

ZONING: CURRENT: R-A; PROPOSED: E-2 PROPOSED USE: MANUFACTURING

LAND USE: COMMERCIAL GENERAL (CG)

PIN: 30-28-16-07236-000-0010

LOT REQUIREMENTS:	REQUIRED	PROPOSED
LOT AREA	12,000 SF	15,000 SF
LOT WIDTH	80 FT	125 FT
LOT DEPTH	100 FT	120 FT
BUILDING SETBACK REQUIREMENTS:		
FRONT(EAST)	5 FT	60 FT
SIDE(NORTH)	0 FT	*10 FT
SIDE(SOUTH)	0 FT	5.2 FT
REAR(WEST)	0 FT	19.8 FT
*SETBACK BETWEEN BUILDINGS		
MAXIMUM LOT COVERAGE (ISR):	0.90	0.69
MAXIMUM FLOOR/AREA RATIO:	0.55	0.30
MAXIMUM BUILDING HEIGHT:	75 FT	<35 FT
NUMBER OF PARKING SPACES:		
MANUFACTURING: 1SP / 1,000 SF	= 6 SP	13 SP
NUMBER OF H.C. PARKING SPACES:	13 SP = 1 HC	2 HC

SOLID WASTE: TRASH CONTAINERS TO BE KEPT INSIDE OF BUILDING AND DEPOSITED ALONG SUMMERDALE DR R/W ON ASSIGNED TRASH COLLECTION DAY.

PINELLAS COUNTY DRS NOTES (ENGINEERING):

1. ALL PUBLIC SIDEWALK THAT IS DAMAGED, BOTH PREVIOUSLY EXISTING DAMAGE OR DAMAGE THAT IS A DIRECT RESULT OF THIS PROJECT, OR THAT DOES NOT MEET ADA CRITERIA SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE COUNTY INSPECTOR.
2. SILT FENCE SHALL BE INSTALLED AT ALL INFLOW POINTS TO STORMWATER MANAGEMENT SYSTEMS AND SHALL BE MAINTAINED FOR THE DURATION OF THE CONSTRUCTION PROJECT. RETAINED SEDIMENT SHALL BE REMOVED AT REGULAR INTERVALS OR AS DIRECTED BY THE COUNTY.

MULTIMODAL IMPACT FEE (TIF)

LAND USE TYPE: COMMERCIAL GENERAL: MANUFACTURING
TIF = $767.00 PER 1000 SQ. FT. OF BUILDING

PROP. BUILDING = 6,000SF x ($767/1000SF) = $4,602.00

TIF = $4,602.00

EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM A BOUNDARY AND TOPOGRAPHIC SURVEY, PREPARED BY DEUEL & ASSOCIATES, A SEPI COMPANY
LB #8423 DATE OF FIELD SURVEY: 10/04/2022.

REV.#	DATE	REVISION	BY

DESIGN: XC
DRAWN: XC
CHECKED: CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

2754 SUMMERDALE WAREHOUSE SITE PLAN

PINELLAS COUNTY FLORIDA

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

60% PLAN

CHRISTOPHER A. CHIN, P.E. 84365

WORK ORDER NO.	SE22.199
DATE:	NOVEMBER 8, 2022
SCALE:	1" = 20'
SHEET NO.	3 OF 8

Nov 08, 2022 - 7:02pm I:\CAD Projects\Projects_SEPI X Drive\2022\SE22.199.00 2754 Summerdale Drive\Engineering\Work\SE22.199-SP.dwg

LEGEND

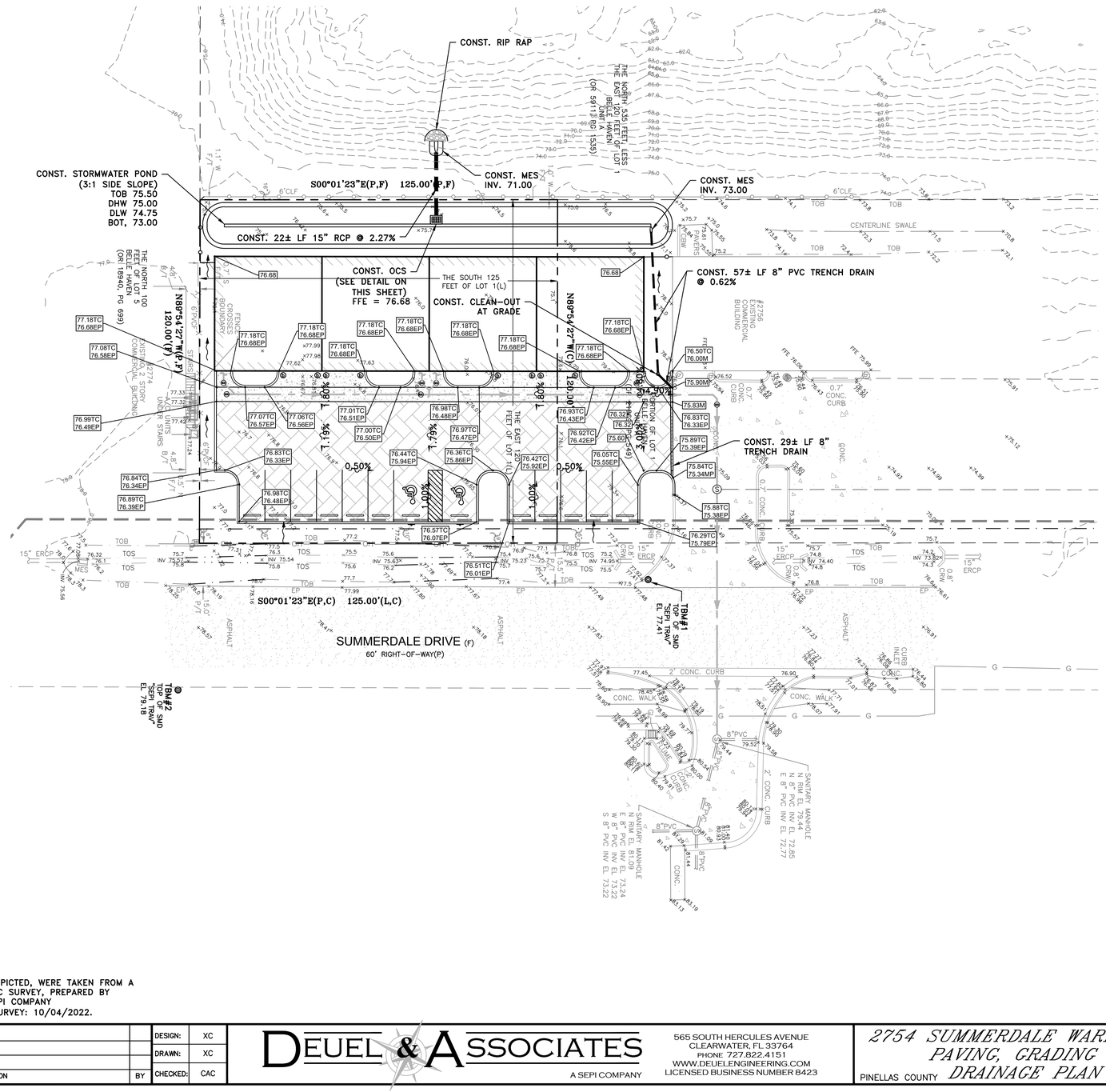
S.	SET
F.	FOUND
I.R.	IRON ROD
I.P.	IRON PIPE
N&D	NAIL & DISK
C.M.	CONCRETE MONUMENT
(A)	FIELD MEASUREMENT
A	ARC
A/C	AIR CONDITIONER
AC.	ACRES
ADA	AMERICANS WITH DISABILITIES ACT
BFPD	BACK FLOW PREVENTION DEVICE
BOLL	BOLLARD
BSL	BUILDING SETBACK LINE
C	CHORD
(C)	CALCULATED
CB	CATCH BASIN
CBW	CONCRETE BLOCK WALL
CHB	CHORD BEARING
℄	CENTERLINE
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
C.O.	CLEANOUT
CONC.	CONCRETE
CS	CONCRETE SLAB
C.T.	CURB TIE
CTV	CABLE TELEVISION
(D)	DEED
DEP	DEPARTMENT OF ENVIRONMENTAL PROTECTION
DHW	DESIGN HIGH WATER
DLW	DESIGN LOW WATER
EL	ELEVATION
FF	FINISHED FLOOR
FHA	FIRE HYDRANT ASSEMBLY
FPC	FLORIDA POWER CORPORATION
GI	GRATE INLET
GAV	GAS VALVE
GM	GAS METER
GV	GATE VALVE
GW	GUY WIRE
INV.	INVERT
LF.	LINEAR FEET
LFE	LOWEST FLOOR ELEVATION
LP	LIGHT POLE
(M)	MEASURED
MAS	MASONRY
MES	MITERED END SECTION
MH	MANHOLE
MHWL	MEAN HIGH WATER LINE
NAVD	NORTH AMERICA
NGVD	NATIONAL GEODETIC VERTICAL DATUM
O/H	OVERHEAD WIRES
O.R.	OFFICIAL RECORD
PB	PLAT BOOK
PG	PAGE/PAGES
POB	POINT OF BEGINNING
PRM	PERMANENT REFERENCE MONUMENT
PVC	POLYVINYL CHLORIDE
R	RADIUS
(R)	RECORD
RCP	REINFORCED CONCRETE PIPE
RCW	RECLAIMED WATER
RNG.	RANGE
R/W	RIGHT-OF-WAY
SAN	SANITARY
SCO	SANITARY CLEAN-OUT
SEC.	SECTION
SF	SQUARE FEET
SHW	SEASONAL HIGH WATER
TBM	TEMPORARY BENCHMARK
TOB	TOP OF BERM
TOS	TOE OF SLOPE
TRANS	TRANSFORMER
TWP	TOWNSHIP
UP	UTILITY POLE
WF	WOOD FENCE
WM	WATER METER

PROPOSED LEGEND

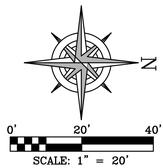
- DIRECTION OF FLOW
- 18.5 EXISTING ELEVATION — ELEVATIONS ARE BASED ON NAVD-88
- 18.6 PROPOSED ELEVATION
- 18.97TOP / 18.37BOT — ELEVATION AT TOP OF FEATURE / ELEVATION AT BOTTOM OF FEATURE

GRADING SUFFIXES:
BW = BOTTOM OF WALL
EP = EDGE OF PAVEMENT
G = GROUND
HP = HIGH POINT
ME or MEG = MATCH EXISTING GRADE (ESTIMATED INTERPOLATED VALUE)
MP = MATCH EXISTING EP
TC = TOP OF CURB
TS = TOP OF SIDEWALK
TW = TOP OF WALL

- 6' CHAIN LINK FENCE
- SILT FENCE
- (13) NUMBER OF PROPOSED PARKING SPACES
- REMOVE EXISTING TREE



EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM A BOUNDARY AND TOPOGRAPHIC SURVEY, PREPARED BY DEUEL & ASSOCIATES, A SEPI COMPANY
LB #8423 DATE OF FIELD SURVEY: 10/04/2022.



LOCATION MAP
N.T.S.

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(800) 432-4770
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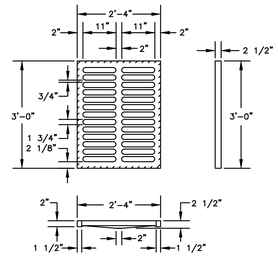
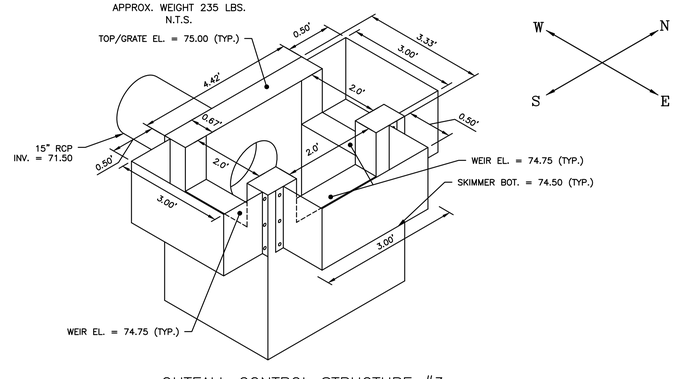


NOTES:
1. SKIMMER TO BE FABRICATED FROM ALUMINUM OR STAINLESS STEEL PLATE AND FASTENED SECURELY TO STRUCTURE WITH STAINLESS STEEL ANCHOR BOLTS.
2. TOP OF CONTROL STRUCTURE TO BE PROVIDED UPON COMPLETION

NORTH SIDE	EAST SIDE	SOUTH SIDE
SKIMMER WIDTH: 3.00'	SKIMMER WIDTH: 3.00'	SKIMMER WIDTH: 3.00'
SKIMMER DEPTH: 0.50'	SKIMMER DEPTH: 0.50'	SKIMMER DEPTH: 0.50'
TOTAL SKIMMER AREA: 1.50SF	TOTAL SKIMMER AREA: 1.50SF	TOTAL SKIMMER AREA: 1.50SF
WEIR WIDTH: 2.00'	WEIR WIDTH: 2.00'	WEIR WIDTH: 2.00'
WEIR HEIGHT: 0.25'	WEIR HEIGHT: 0.25'	WEIR HEIGHT: 0.25'
TOTAL WEIR AREA: 0.50SF	TOTAL WEIR AREA: 0.50SF	TOTAL WEIR AREA: 0.50SF
SKIMMER AREA TO EQUAL OR EXCEED WEIR AREA	SKIMMER AREA TO EQUAL OR EXCEED WEIR AREA	SKIMMER AREA TO EQUAL OR EXCEED WEIR AREA

FDOT TYPE "C" – CAST IRON GRATE
APPROX. WEIGHT 235 LBS.
N.T.S.



OUTFALL CONTROL STRUCTURE #3
SCALE: N.T.S. MODIFIED FDOT TYPE "C" INLET

REV.#	DATE	REVISION	BY

DESIGN: XC
DRAWN: XC
CHECKED: CAC

DEUEL & ASSOCIATES
A SEPI COMPANY
565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM
LICENSED BUSINESS NUMBER 8423

2754 SUMMERDALE WAREHOUSE PAVING, GRADING & DRAINAGE PLAN
PINELLAS COUNTY FLORIDA

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

60% PLAN

CHRISTOPHER A. CHIN, P.E. 84365

WORK ORDER NO.	SE22.199
DATE:	NOVEMBER 8, 2022
SCALE:	1" = 20'
SHEET NO.	4 OF 8

Nov 08, 2022 - 7:03pm J:\CAD Projects\Projects_SEPI X Drive\2022\SE22.199.00 2754 Summerdale Drive\Engineering\Xrefs\SE22.199-PGP.dwg

LEGEND

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I.P.	IRON PIPE
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TWP	TOWNSHIP
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PROPOSED LEGEND

- DIRECTION OF FLOW
- 18.5 — EXISTING ELEVATION — ELEVATIONS ARE BASED ON NAVD-88
- 18.8 PROPOSED ELEVATION
- FF 8.97(2) — ELEVATION AT TOP OF FEATURE
- EP 8.37(2) — ELEVATION AT BOTTOM OF FEATURE

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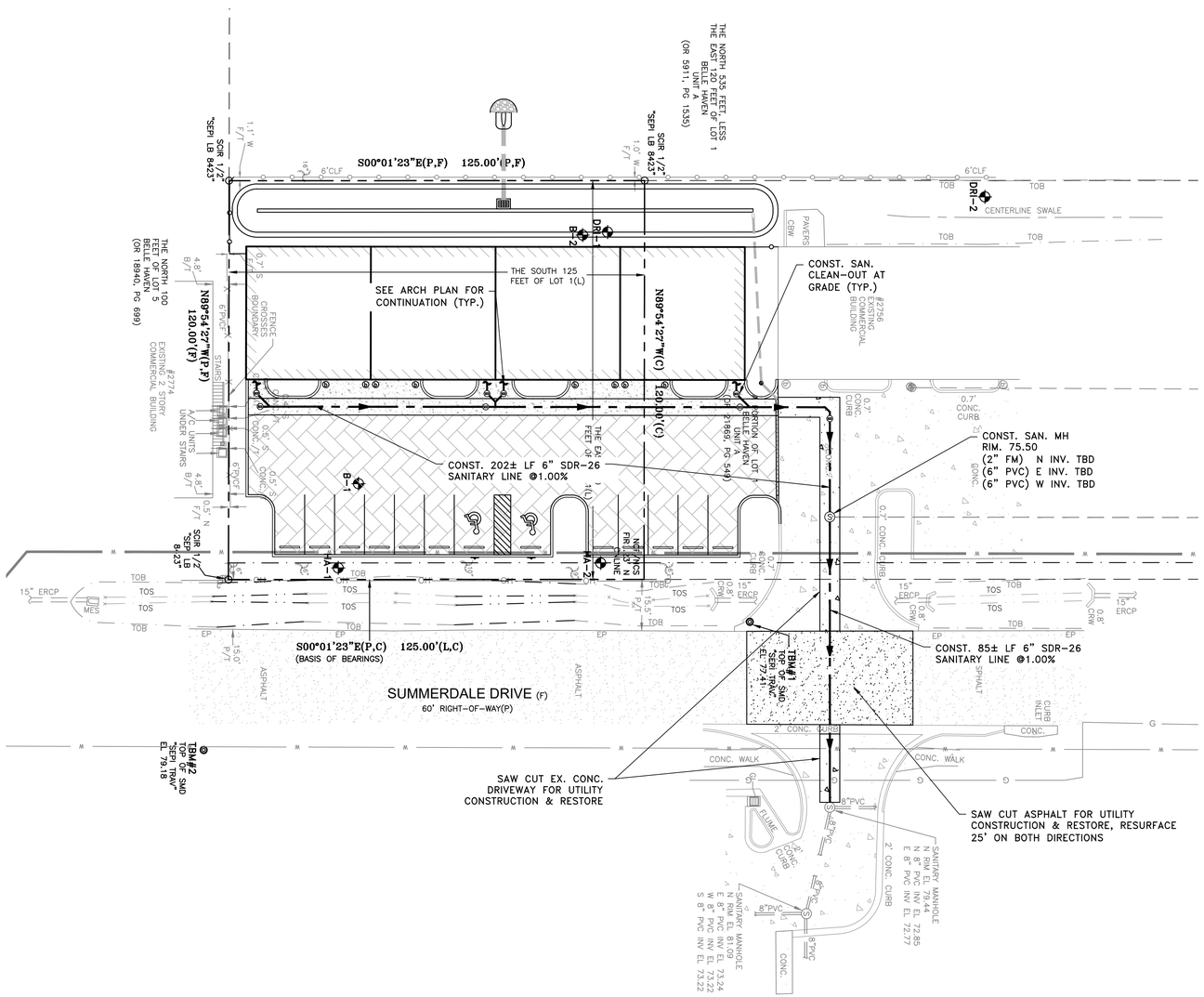

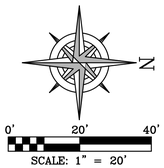

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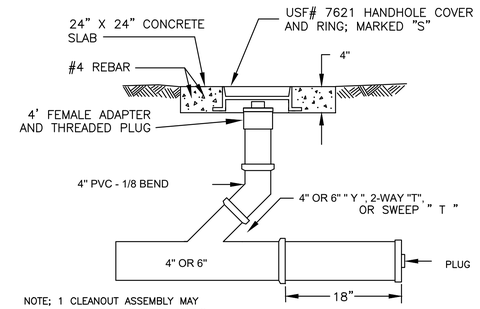
LOCATION MAP
N.T.S.



NOTE; 1 CLEANOUT ASSEMBLY MAY HAVE CEMENT WELD JOINTS
USF# 7621 REQUIRED IF LOCATED IN SIDEWALK OR DRIVEWAY.

SEWER CLEANOUT DETAIL
N.T.S.

EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM A BOUNDARY AND TOPOGRAPHIC SURVEY, PREPARED BY DEUEL & ASSOCIATES, A SEPI COMPANY
LB #8423 DATE OF FIELD SURVEY: 10/04/2022.

REV.#	DATE	REVISION	BY

DESIGN: XC
DRAWN: XC
CHECKED: CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

2754 SUMMERDALE WAREHOUSE UTILITY PLAN

PINELLAS COUNTY — FLORIDA

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60% PLAN

CHRISTOPHER A. CHIN, P.E. 84365

WORK ORDER NO. SE22.199
DATE: NOVEMBER 8, 2022
SCALE: 1" = 20'
SHEET NO. 5 OF 8

Nov 08, 2022 - 7:01pm \\Qub Projects\Projects_SEPI X Drive\2022\SE22.199.00 2754 Summerdale Drive\Engineering\Civil\SE22.199-UTL.dwg

DEFINITIONS:

Regulatory Speed (In Work Zones)
The maximum permitted travel speed posted for the work zone is indicated by the regulatory speed limit signs. This work zone speed must be shown or noted in the plans. This speed should be used as the minimum design speed to determine runout lengths, departure rates, flare rates, lengths of need, clear zone widths, taper lengths, crash cushion requirements, marker spacings, superelevation and other similar features.

Advisory Speed
The maximum recommended travel speed through a curve or a hazardous area.

Travel Way
The portion of the roadway for the movement of vehicles. For traffic control through work zones, travel way may include the temporary use of shoulders and any other permanent or temporary surface intended for use as a lane for the movement of vehicular traffic.

a. Travel Lane: The designated widths of roadway pavement marked to carry through traffic and to separate it from opposing traffic or traffic occupying other traffic lanes.

b. Auxiliary Lane: The designated widths of roadway pavement marked to separate speed change, turning, passing and climbing maneuvers from through traffic.

Detour, Lane Shift, and Diversion
A detour is the redirection of traffic onto another roadway to bypass the temporary traffic control zone. A lane shift is the redirection of traffic onto a different section of the permanent pavement. A diversion is the redirection of traffic onto a temporary roadway, usually adjacent to the permanent roadway and within the limits of the right of way.

Aboveground Hazard
An aboveground hazard is any object, material or equipment other than traffic control devices that encroaches upon the travel way or that is located within the clear zone which does not meet the Department's safety criteria, i.e., anything that is greater than 4" in height and is firm and unyielding or doesn't meet breakaway requirements.

TEMPORARY TRAFFIC CONTROL DEVICES:

1. All temporary traffic control devices shall be ON the Department's Approved Products List (APL). Ensure the appropriate APL number is permanently marked on the device in a readily visible location.

2. All temporary traffic control devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate shall be removed or covered. Do not store temporary traffic control devices on the shoulder, sidewalk, or other roadway facility not affected by the work when work is suspended.

3. Arrow Boards, Portable Changeable Message Signs, Radar Speed Display Trailer, Portable Regulatory Signs, and any other trailer mounted device shall be delineated with a channelizing device placed at each corner when in use and shall be moved outside the travel way and clear zone or be shielded by a barrier or crash cushion when not in use.

OVERHEAD WORK:

Work is only allowed over a traffic lane when one of the following options is used:

OPTION 1 (OVERHEAD WORK USING A MODIFIED LANE CLOSURE)

Overhead work using a modified lane closure is allowed if all of the following conditions are met:

a. Work operation is located in a signalized intersection and limited to signals, signs, lighting and utilities.
b. Work operations are 60 minutes or less.
c. Speed limit is 45 mph or less.
d. Aerial lift equipment in the work area has high-intensity, rotating, flashing, oscillating, or strobe lights operating.
e. Aerial lift equipment is placed directly below the work area to close the lane.
f. Traffic control devices are placed in advance of the vehicle/equipment closing the lane using a minimum 100 foot taper.
g. Volume or complexity of the roadway may dictate additional devices, signs, flagmen and/or a traffic control officer.

OPTION 2 (OVERHEAD WORK ABOVE AN OPEN TRAFFIC LANE)

Overhead work above a open traffic lane is allowed if all of the following conditions are met:

a. Work operation is located on a utility pole, light pole, signal pole, or their appurtenances.
b. Work operations are 60 minutes or less.
c. Speed limit is 45 mph or less.
d. No encroachment by any part of the work activities and equipment within an area bounded by 2 feet outside the edge of travel way and 18 feet high.
e. Aerial lift equipment in the work area has high-intensity, rotating, flashing, oscillating, or strobe lights operating.
f. Volume or complexity of the roadway may dictate additional devices, signs, flagmen and/or a traffic control officer.
g. Adequate precautions are taken to prevent parts, tools, equipment and other objects from falling into open lanes of traffic.
h. Other Governmental Agencies, Rail facilities, or Codes may require a greater clearance. The greater clearance required prevails as the rule.

OPTION 3 (OVERHEAD WORK ADJACENT TO AN OPEN TRAFFIC LANE)

Overhead work adjacent to an open traffic lane is allowed if all of the following conditions are met:

a. Work operation is located on a utility pole, light pole, signal pole, or their appurtenances.
b. Work operations are 1 day or less.
c. Speed limit is 45 mph or less.
d. No encroachment by any part of the work activities and equipment within 2 foot from the edge of travel way up to 18' height. Above 18' in height, no encroachment by any part of the work activities and equipment over the open traffic lane (except as allowed in Option 2 for work operations of 60 minutes or less).
e. Aerial lift equipment in the work area has high-intensity, rotating, flashing, oscillating, or strobe lights operating.
f. Volume or complexity of the roadway may dictate additional devices, signs, flagmen and/or a traffic control officer.
g. Adequate precautions are taken to prevent parts, tools, equipment and other objects from falling into open lanes of traffic.
h. Other Governmental Agencies, Rail facilities, or Codes may require a greater clearance. The greater clearance required prevails as the rule.

OVERHEAD WORK: (Cont.)

OPTION 4 (OVERHEAD WORK MAINTAINING TRAFFIC WITH NO ENCROACHMENT BELOW THE OVERHEAD WORK AREA)

Traffic shall be detoured, shifted, diverted or paced as to not encroach in the area directly below the overhead work operations in accordance with the appropriate index drawing or detailed in the plans. This option applies to, but not limited to, the following construction activities:

a. Beam, girder, segment, and bent/pier cap placement.
b. Form and falsework placement and removal.
c. Concrete placement.
d. Railing construction located at edge of deck.
e. Structure demolition.

OPTION 5 (CONDUCTOR/CABLE PULLING ABOVE AN OPEN TRAFFIC LANE)

Overhead cable and/or de-energized conductor installations initial pull to proper tension shall be done in accordance with the appropriate Index or temporary traffic control plan.

Continuous pulling operations of secured cable and/or conductors are allowed over open lane(s) of traffic with no encroachment by any part of the work activities, materials or equipment within the minimal vertical clearance above the travel way. The utility shall take precautions to ensure that pull ropes and conductors/cables at no time fall below the minimum vertical clearance.

On Limited Access facilities, a site specific temporary traffic control plan is required. The temporary traffic control plan shall include:

a. The temporary traffic control set up for the initial pulling of the pull rope across the roadway.
b. During pulling operations, advance warning consisting of no less than a Changeable Message Sign upstream of the work area with alternating messages, "Overhead Work Ahead" and "Be Prepared to Stop" followed by a traffic control officer and police vehicle with blue lights flashing during the pulling operation.

RAILROADS:

Railroad crossings affected by a construction project should be evaluated for traffic controls to reduce queuing on the tracks. The evaluation should include as a minimum: traffic volumes, distance from the tracks to the intersections, lane closure or taper locations, signal timing, etc.

SIGHT DISTANCE:

1. Tapers: Transition tapers should be obvious to drivers. If restricted sight distance is a problem (e.g., a sharp vertical or horizontal curve), the taper should begin well in advance of the view obstruction. The beginning of tapers should not be hidden behind curves.

2. Intersections: Traffic control devices at intersections must provide sight distances for the road user to perceive potential conflicts and to traverse the intersection safely. Construction equipment and materials shall not restrict intersection sight distance.

ABOVEGROUND HAZARD:

1. Aboveground hazards (see definitions) are to be considered work areas during working hours and treated with appropriate work zone traffic control procedures. During nonworking hours, all objects, materials and equipment that constitute an aboveground hazard must be stored/placed outside the travel way and clear zone or be shielded by a barrier or crash cushion.

2. For aboveground hazards within a work zone the clear zone required should be based on the regulatory speed posted during construction.

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FDOT FY 2022-23 STANDARD PLANS	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES	102-600	2 of 11

FLAGGER CONTROL:

Regulatory Speed (In Work Zones)
Where flaggers are used, a FLAGGER symbol or legend sign must replace the WORKERS symbol or legend sign.

The flagger must be clearly visible to approaching traffic for a distance sufficient to permit proper response by the motorist to the flagging instructions, and to permit traffic to reduce speed or to stop as required before entering the work site. Flaggers shall be positioned to maintain maximum color contrast between the Flagger's high-visibility safety apparel and equipment and the work area background.

Hand-Signaling Devices
STOP/SLOW paddles are the primary hand-signaling device. The STOP/SLOW paddle shall have an octagonal shape on a rigid handle. If the STOP/SLOW paddle is placed on a rigid staff, the minimum length of the staff, measured from the bottom of the paddle to the end of the staff that rests on the ground, must not be less than 6 ft. STOP/SLOW paddles shall be at least 24 inches wide with letters at least 6 inches high and should be fabricated from light semirigid material. The background of the STOP face shall be red with white letters and border. The background of the SLOW face shall be orange with black letters and border. When used at night-time, the STOP/SLOW paddle shall be retroreflectorized.

Flag use is limited to immediate emergencies, intersections, and when working on the centerline or shared left turn lanes where two (2) flaggers are required and there is opposing traffic in the adjacent lanes. Flags, when used, shall be a minimum of 24 inches square, made of a good grade of red material, and securely fastened to a staff that is approximately 36 inches in length. When used at nighttime, flags shall be retroreflectorized red.

Flashlight, lantern or other lighted signal that will display a red warning light shall be used at night.

Flagger Stations
Flagger stations shall be located far enough in advance of the work area so that approaching road users will have sufficient distance to stop before entering the work area. When used at nighttime, the flagger station shall be illuminated.

SURVEY WORK ZONES:

The SURVEY CREW AHEAD symbol or legend sign shall be the principal Advance Warning Sign used for Traffic Control Through Survey Work Zones and may replace the ROAD WORK AHEAD sign when lane closures occur, at the discretion of the Party Chief.

When Traffic Control Through Work Zones is being used for survey purposes only, the END ROAD WORK sign as called for on certain 102 Series of Indexes should be omitted.

Survey Between Active Traffic Lanes or Shared Left Turn Lanes
The following provisions apply to Main Roadway Traffic Control Work Zones. These provisions must be adjusted by the Party Chief to fit roadway and traffic conditions when the Survey Work Zone includes intersections.

(A) A STAY IN YOUR LANE (MOT-1-06) sign shall be added to the Advance Warning Sign sequence as the second most immediate sign from the work area.

(B) Elevation Surveys-Cones may be used at the discretion of the Party Chief to protect prism holder and flagger(s). Cones, if used, may be placed at up to 50' intervals along the break line throughout the work zone.

SURVEY WORK ZONES: (Cont.)

(C) Horizontal Control-With traffic flow in the same direction, cones shall be used to protect the backsight tripod and/or instrument. Cones shall be placed at the equipment, and up to 50' intervals for at least 200' towards the flow of traffic.

(D) Horizontal Control-With traffic flow in opposite directions, cones shall be used to protect the backsight tripod and/or instrument. Cones shall be placed at the equipment, and up to 50' intervals for at least 200' in both directions towards the flow of traffic.

SIGNS:

SIGN MATERIALS
Mesh signs and non-retroreflective vinyl signs may only be used for daylight operations. Non-retroreflective vinyl signs must meet the requirements of Specifications Section 994.

Retroreflective vinyl signs meeting the requirements of Specification Section 994 may be used for daylight or night operations not to exceed 1 day except as noted in the Indexes.

Rigid or Lightweight sign panels may be used in accordance with the vendor APL drawing for the sign stand to which they are attached.

INTERSECTING ROAD SIGNING
Signing for the control of traffic entering and leaving work zones by way of intersecting crossroads shall be adequate to make drivers aware of work zone conditions. When Work operations exceed 60 minutes, place the ROAD WORK AHEAD sign on the side street entering the work zone.

ADJOINING AND/OR OVERLAPPING WORK ZONE SIGNING
Adjoining work zones may not have sufficient spacing for standard placement of signs and other traffic control devices in their advance warning areas or in some cases other areas within their traffic control zones. Where such restraints or conflicts occur or are likely to occur, any of the following methods will be employed to avoid conflicts and prevent conditions that could lead to misunderstanding on the part of the traveling public as to the intended travel way by the traffic control procedure applied:

(A) For scheduled projects the engineer in responsible charge of project design will resolve anticipated work zone conflicts during the development of the project traffic control plan. This may entail revision of plans on preceding projects and coordination of plans on succeeding projects.

(B) Unanticipated conflicts arising between adjoining in progress highway construction projects will be resolved by the Resident Engineer for projects under his residency, and, by the District Construction Engineer for in progress projects under adjoining residencies.

(C) The District Maintenance Engineer will resolve anticipated and occurring conflicts within scheduled maintenance operations.

(D) The Unit Maintenance Engineer will resolve conflicts that occur within routine maintenance works; between routine maintenance work, unscheduled work and/or permitted work; and, between unit controlled maintenance works and highway construction projects.

SIGNS: (Cont.)

SIGN COVERING AND INTERMITTENT WORK STOPPAGE SIGNING
Existing or temporary traffic control signs that are no longer applicable or are inconsistent with intended travel paths shall be removed or fully covered.

Sign blanks or other available coverings must completely cover the existing sign. Rigid sign coverings shall be the same size as the sign it is covering, and bolted in a manner to prevent movement.

Sign covers are incidental to work operations and are not paid for separately.

SIGNING FOR DETOURS, LANE SHIFTS AND DIVERSIONS
Detours should be signed clearly over their entire length so that motorists can easily determine how to return to the original roadway. The reverse curve (W1-4) warning sign should be used for the advanced warning for a lane shift. A diversion should be signed as a lane shift.

EXTENDED DISTANCE ADVANCE WARNING SIGN
Advance Warning Signs shall be used at extended distance of one-half mile or more when limited sight distance or the nature of the obstruction may require a motorist to bring their vehicle to a stop. Extended distance Advanced Warning Signs may be required on any type roadway, but particularly be considered on multilane divided highways where vehicle speed is generally in the higher range (45 MPH or more).

UTILITY WORK AHEAD SIGN
The UTILITY WORK AHEAD (W21-7) sign may be used as an alternate to the ROAD WORK AHEAD or the ROAD WORK XX FT (W20-1) sign for utility operations on or adjacent to a highway.

LENGTH OF ROAD WORK SIGN
The length of road work sign (G20-1) bearing the legend ROAD WORK NEXT_____ MILES is required for all projects of more than 2 miles in length. The number of miles entered should be rounded up to the nearest mile. The sign shall be located at begin construction points.

GROOVED PAVEMENT AHEAD SIGN
The GROOVED PAVEMENT AHEAD sign is required 500 feet in advance of a milled or grooved surface open to traffic. The W8-15P placard shall be used in conjunction with the GROOVED PAVEMENT AHEAD sign.

END ROAD WORK SIGN
The END ROAD WORK sign (G20-2) should be installed on all projects, but may be omitted where the work operation is less than 1 day. The sign should be placed approximately 500 feet beyond the end of a construction or maintenance project unless other distance is called for in the plans. When other Construction or Maintenance Operations occur within 1 mile this sign should be omitted and signing coordinated in accordance with Index 102-600, ADJOINING AND/OR OVERLAPPING WORK ZONE SIGNING.

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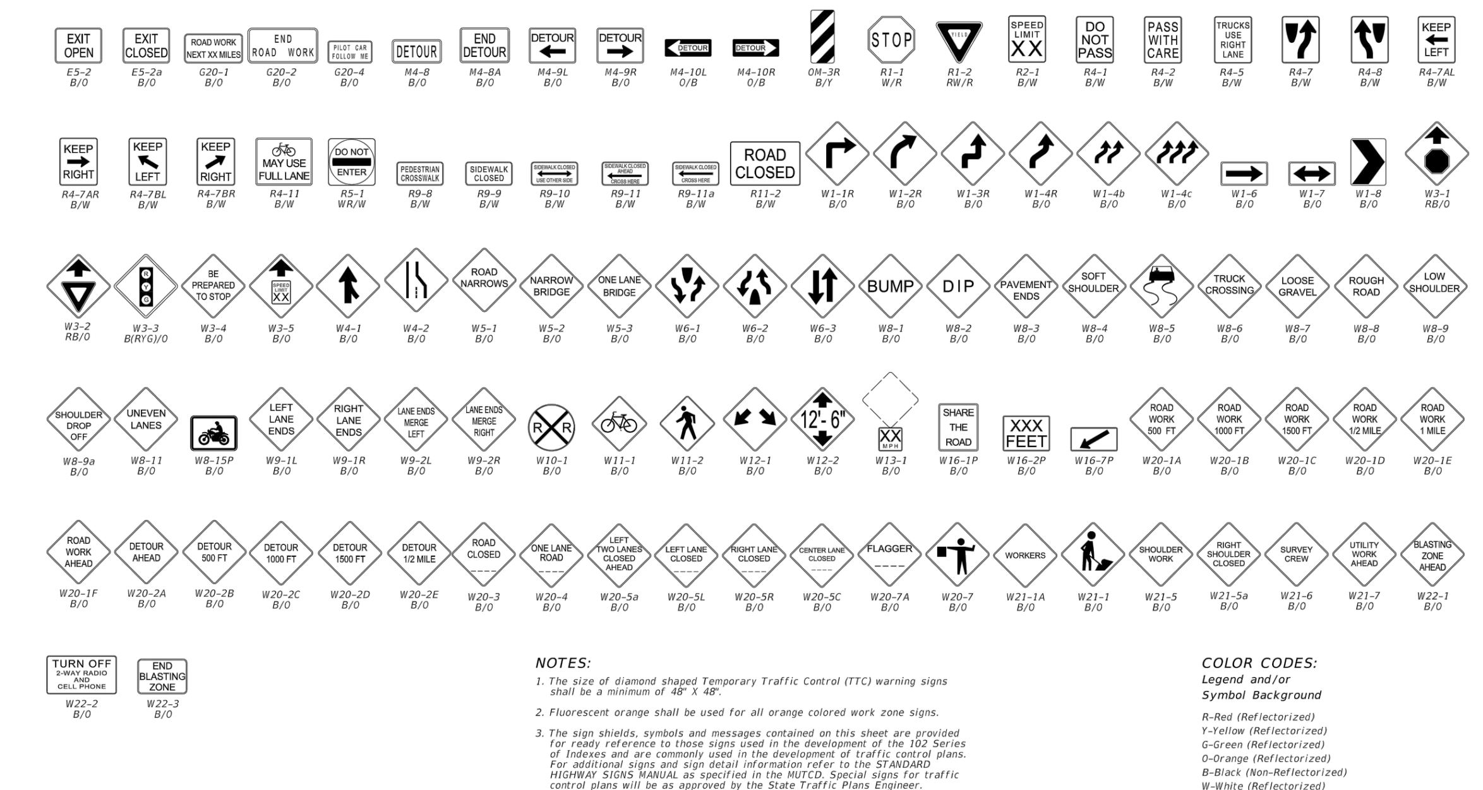

NOTES:

1. The size of diamond shaped Temporary Traffic Control (TTC) warning signs shall be a minimum of 48" X 48".

2. Fluorescent orange shall be used for all orange colored work zone signs.

3. The sign shields, symbols and messages contained on this sheet are provided for ready reference to those signs used in the development of the 102 Series of Indexes and are commonly used in the development of traffic control plans. For additional signs and sign detail information refer to the STANDARD HIGHWAY SIGNS MANUAL as specified in the MUTCD. Special signs for traffic control plans will be as approved by the State Traffic Plans Engineer.

The sign codes shown on this sheet are for the purpose of identifying cell names found in the Traffic Control Cell Library (TC2.Cel).

The STANDARD HIGHWAY SIGNS MANUAL should be referenced for the official sign codes for use in the development of traffic control plans.

See Index 700-102 for MOT sign details.

COLOR CODES:
Legend and/or Symbol Background

R-Red (Reflectorized)
Y-Yellow (Reflectorized)
G-Green (Reflectorized)
O-Orange (Reflectorized)
B-Black (Non-Reflectorized)
W-White (Reflectorized)

COMMONLY USED WARNING AND REGULATORY SIGNS IN WORK ZONES

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NOTES:

1. Cover or deactivate pedestrian traffic signal display(s) controlling closed crosswalks.

2. Place pedestrian LCDs across the full width of the closed sidewalk.

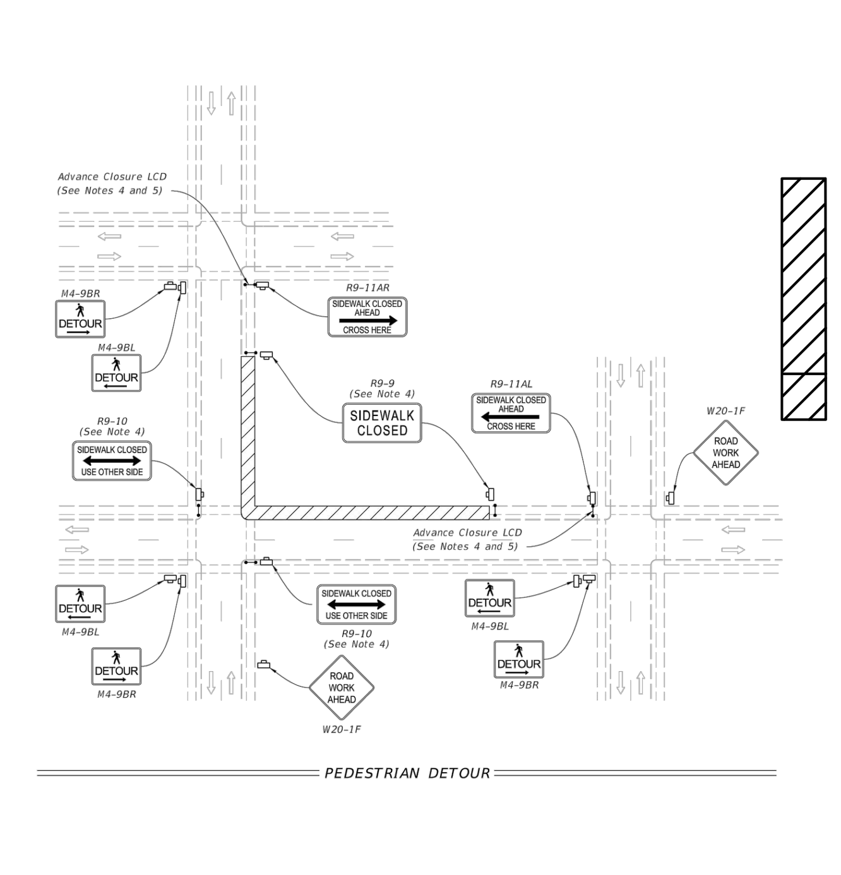
3. For post mounted signs located near or adjacent to a sidewalk, maintain a minimum 7' clearance from the bottom of the sign panel to the surface of the sidewalk.

4. "Sidewalk Closed" signs (R9-XX) may be mounted on pedestrian LCDs in accordance with the manufacturer's instructions.

5. Omit the Advance Closure LCD if it blocks access to other pedestrian facilities (e.g., transit stops, residences, or business entrances).

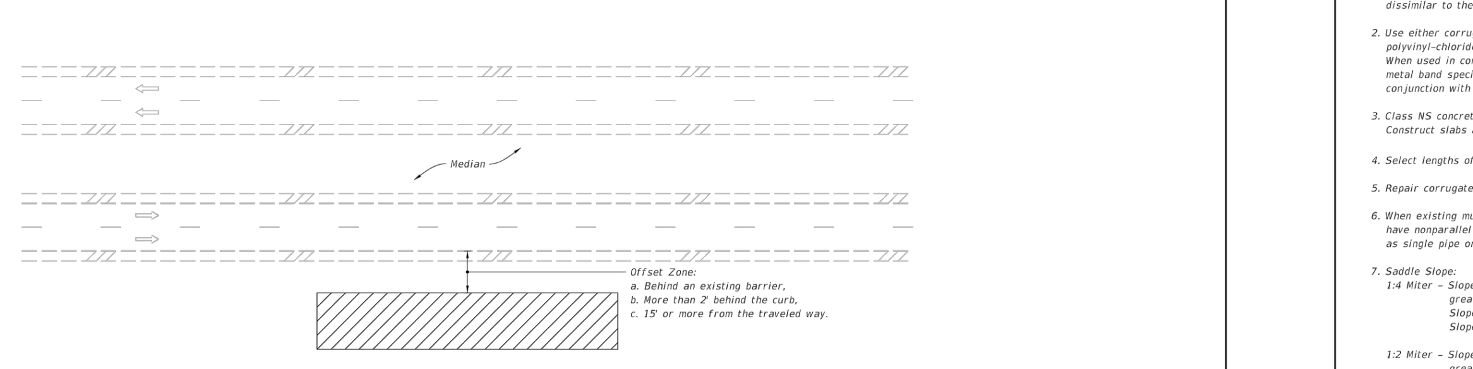
SYMBOLS:

- Work Area
- Work Zone Sign
- Pedestrian Longitudinal Channelizing Device (LCD)
- Lane Identification and Direction of Traffic



PEDESTRIAN DETOUR

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FDOT FY 2022-23 STANDARD PLANS	SIDEWALK CLOSURE	102-660	1 of 2



MULTILANE ROADWAY SHOWN, TWO-LANE ROADWAY SIMILAR

NOTES:

1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work beyond the shoulder.

2. Use Index 102-602 when the work operation (excluding establishing and terminating the work area) requires that two or more work vehicles cross the Offset Zone in any one hour period.

3. Use Index 102-660 when Work Area encroaches a Sidewalk.

SYMBOLS:

- Work Area
- Lane Identification and Direction of Traffic

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FDOT FY 2022-23 STANDARD PLANS	TWO-LANE AND MULTILANE ROADWAY, WORK BEYOND THE SHOULDER	102-601	1 of 1

GENERAL NOTES:

1. Unless otherwise designated in the plans, concrete pipe mitered end sections may be used with any type of cross drain pipe; corrugated steel pipe mitered end sections may be used with any type of cross drain pipe except aluminum pipe; and, corrugated aluminum mitered end sections may be used with any type of cross drain pipe except steel pipe. When bituminous coated metal pipe is specified for cross drain pipe, construct the mitered end sections with like pipe or concrete pipe. When the mitered end section pipe is dissimilar to the cross drain pipe, construct a concrete jacket in accordance with Index 430-001.

2. Use either corrugated metal or concrete mitered end sections for corrugated polyethylene pipe (HDPE), polyvinyl-chloride pipe (PVC), steel reinforced polyethylene pipe (SRPE), and polypropylene pipe (PP). When used in conjunction with corrugated mitered end sections, make connection using either a formed metal band specifically designated to join HDPE, PVC, SRPE, or PP pipe, with metal pipe. When used in conjunction with a concrete mitered end sections, construct concrete jacket in accordance with Index 430-001.

3. Class NS concrete cast-in-place reinforced slabs are required for all sizes of cross drain pipes. Construct slabs at 5½" thick, unless 3" thickness is called for in the Plans.

4. Select lengths of concrete pipe that avoid excessive connections in the assembly of the mitered end section.

5. Repair corrugated metal pipe galvanizing that is damaged during beveling and perforating.

6. When existing multiple cross drain pipes are spaced other than the dimensions shown in this Index, have nonparallel axes, or non-uniform sections, either construct the mitered end sections separately as single pipe or collectively as multiple pipe end sections as directed by the Engineer.

7. Saddle Slope:
1:4 Miter - Slope to ℄ of pipe for round pipes less than or equal to 18" diameter and 1:1 for round pipes greater than or equal to 24" diameter.
Slope to the major axis for elliptical pipes 24"x38" or smaller and 1:2 for pipes 29"x45" or larger.
Slope to the span line for pipe arch 28"x20" or smaller and 1:2 for pipe arch 35"x24" or larger.

1:2 Miter - Slope to ℄ of pipe for round pipes less than or equal to 18" diameter and 1:2 for round pipes greater than or equal to 24" diameter.
Slope to the major axis for elliptical pipes 29"x45" or smaller and 1:1 for pipes 34"x53" or larger.
Slope 1:1 for all pipe arch sizes.

8. Quantities shown are for estimating purposes only.

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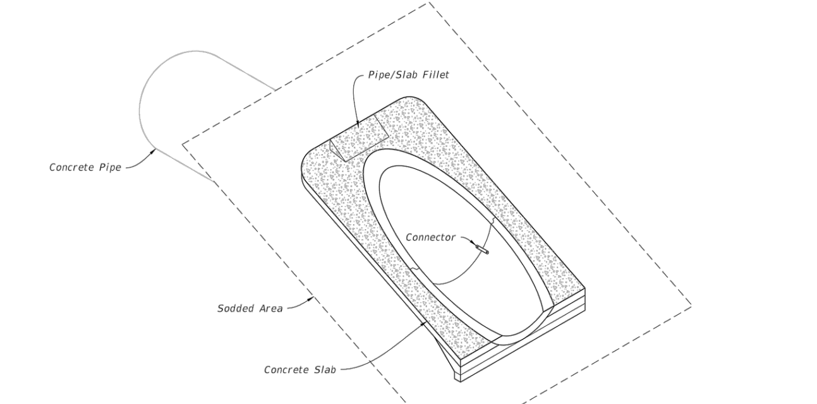
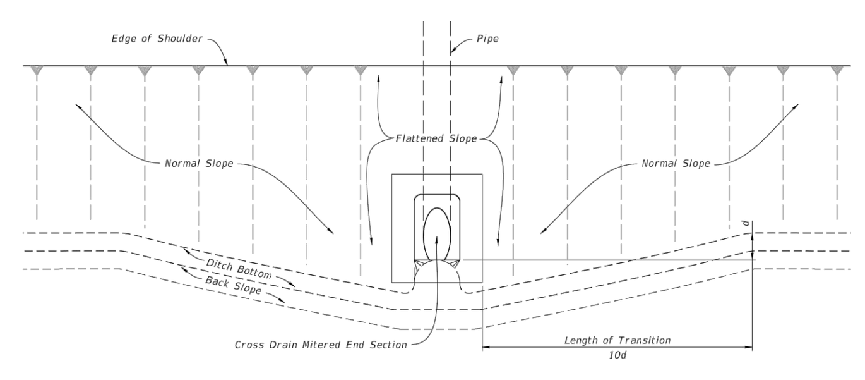


CROSS DRAIN MITERED END SECTION
(Concrete Pipe Shown, Corrugated Metal Pipe Similar)



SLOPE AND DITCH TRANSITIONS

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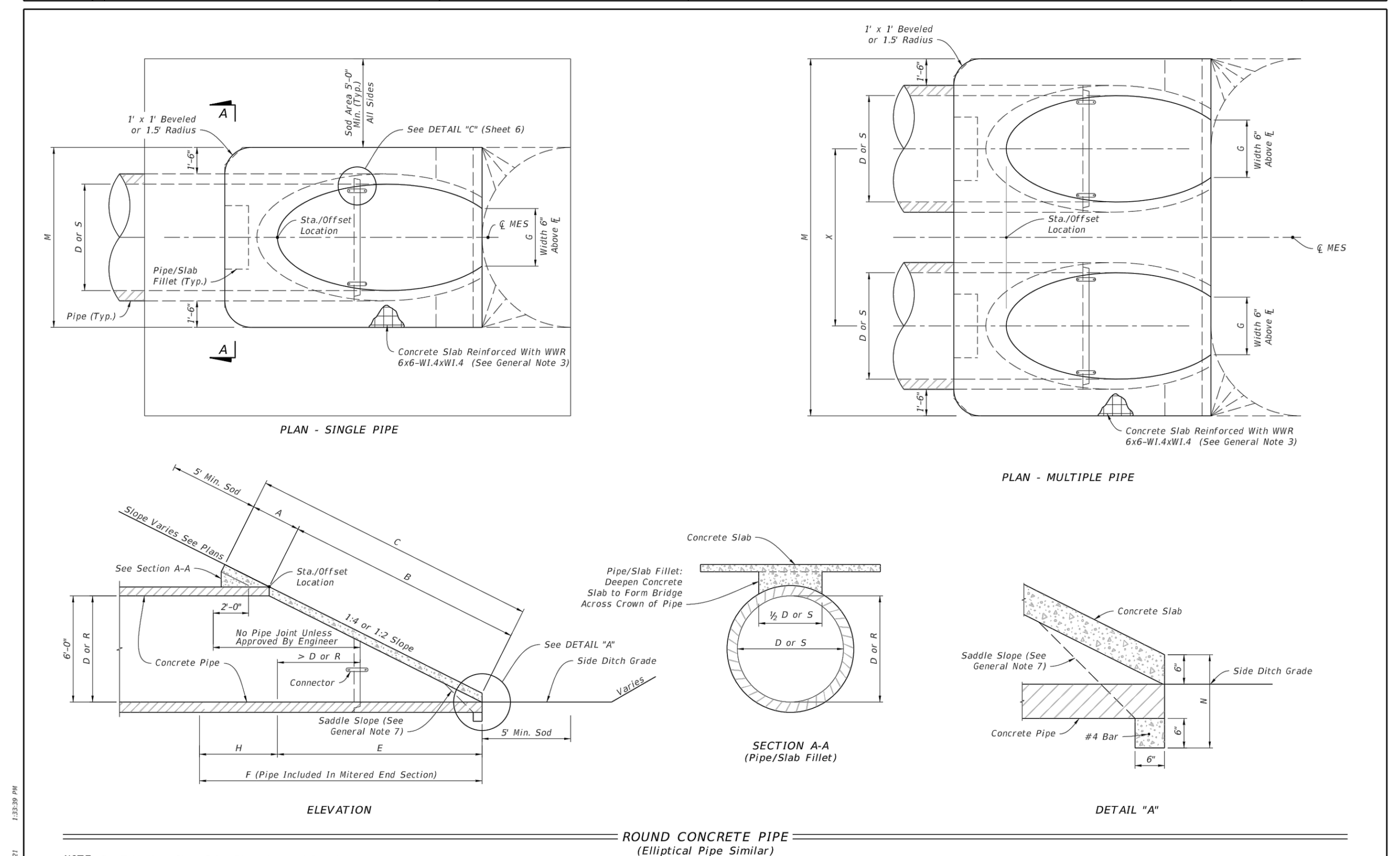

ROUND CONCRETE PIPE
(Elliptical Pipe Similar)

NOTE: See Table 1 on Sheet 3 for Dimensions and Quantities.

SINGLE AND MULTIPLE CONCRETE PIPE

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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TABLE 1
SINGLE AND MULTIPLE CONCRETE PIPE DIMENSIONS AND QUANTITIES

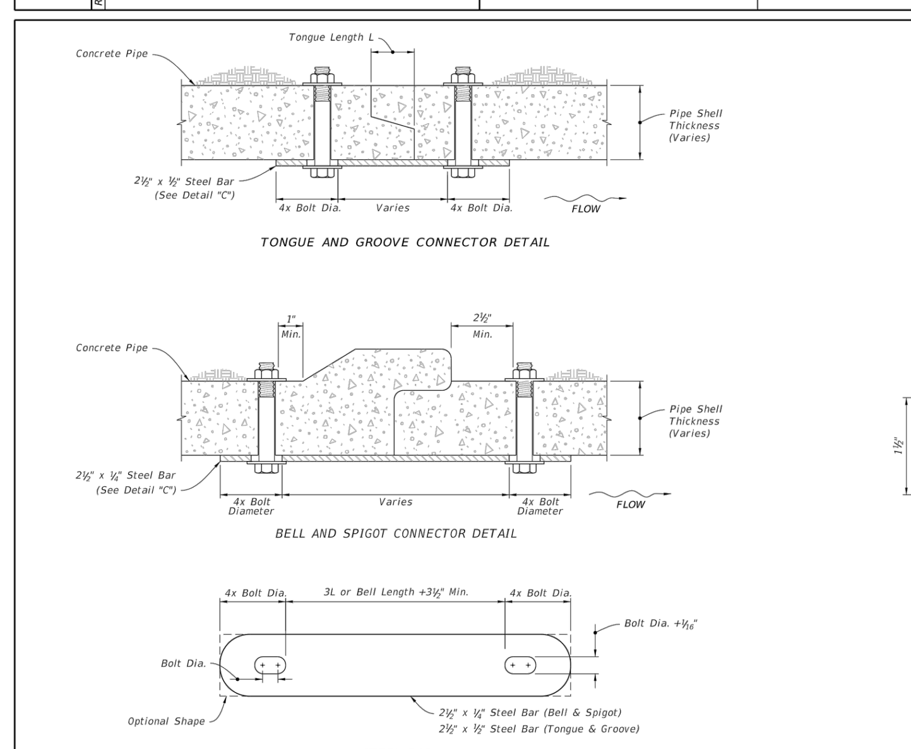
		Dia. D	Rise R	Span S	X	A	B	C	E	F	G	H	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad. Pipe	N	5½" Conc. Slab (CY) (See General Note 3) Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	3" Conc. Slab (CY) (See General Note 3) Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	Sodding (SY) Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe
Round Concrete Pipe	1:2 Slope	15"	—	—	2'-7"	1.92'	2.18'	4.10'	2.06'	5'	1.22'	2.9'	4.63'	7.21'	9.79'	12.37'	1.19'	0.38	0.58	0.77	0.96	0.27	0.41	0.54	0.67	21	24	27	30
		18"	—	—	2'-10"	1.97'	2.74'	4.71'	2.56'	6'	1.41'	3.4'	4.92'	7.75'	10.58'	13.42'	1.21'	0.44	0.65	0.87	1.09	0.31	0.45	0.60	0.75	22	25	28	31
		24"	—	—	3'-5"	2.06'	3.85'	5.91'	3.56'	7'	1.73'	3.4'	5.50'	8.92'	12.33'	15.75'	1.25'	0.54	0.83	1.12	1.42	0.39	0.59	0.79	1.00	24	28	32	35
		30"	—	—	4'-3"	2.15'	4.95'	7.10'	4.56'	8'	2.00'	3.4'	6.08'	10.33'	14.58'	18.83'	1.29'	0.66	1.09	1.50	1.91	0.46	0.76	1.04	1.32	26	31	35	40
		36"	—	—	5'-1"	2.25'	6.08'	8.33'	5.56'	9'	2.24'	3.4'	6.67'	11.75'	16.83'	21.92'	1.33'	0.81	1.38	1.95	2.51	0.55	0.94	1.33	1.71	28	34	39	45
		42"	—	—	6'-0"	2.34'	7.21'	9.55'	6.56'	10'	2.45'	3.4'	7.25'	13.25'	19.25'	25.25'	1.38'	0.97	1.70	2.45	3.19	0.66	1.15	1.66	2.15	30	37	43	50
		48"	—	—	6'-9"	2.43'	8.33'	10.76'	7.56'	11'	2.65'	3.4'	7.83'	14.58'	21.33'	28.08'	1.42'	1.13	2.04	2.93	3.84	0.76	1.37	1.96	2.57	32	39	47	54
		54"	—	—	7'-8"	2.52'	9.44'	11.96'	8.56'	12'	2.83'	3.4'	8.42'	16.08'	23.75'	31.42'	1.46'	1.31	2.44	3.58	4.72	0.87	1.62	2.38	3.14	34	42	51	59
		60"	—	—	8'-6"	2.62'	10.56'	13.18'	9.56'	14'	3.00'	4.4'	9.00'	17.50'	26.00'	34.50'	1.50'	1.51	2.89	4.28	5.68	0.99	1.90	2.81	3.73	36	45	55	64
		66"	—	—	9'-2"	2.71'	11.68'	14.39'	10.56'	15'	3.18'	4.4'	9.58'	18.75'	27.92'	37.08'	1.54'	1.68	3.25	4.84	6.43	1.11	2.15	3.21	4.27	38	48	58	68
		72"	—	—	10'-0"	2.80'	12.80'	15.60'	11.56'	16'	3.30'	4.4'	10.16'	20.16'	30.16'	40.16'	1.58'	1.89	3.74	5.59	7.45	1.24	2.46	3.68	4.90	40	51	62	73
	1:4 Slope	15"	—	—	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.0'	4.63'	7.21'	9.79'	12.37'	1.19'	0.57	0.87	1.15	1.44	0.40	0.61	0.80	1.00	23	26	29	32
		18"	—	—	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.0'	4.92'	7.75'	10.58'	13.42'	1.21'	0.66	0.99	1.31	1.65	0.47	0.69	0.91	1.14	25	28	31	35
		24"	—	—	3'-5"	2.53'	7.18' △	9.71'	7.03' △	11'	1.73'	4.0'	5.50'	8.92'	12.33'	15.75'	1.25'	0.85	1.30	1.75	2.20	0.60	0.90	1.21	1.52	28	32	36	40
		30"	—	—	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	4.0'	6.08'	10.33'	14.58'	18.83'	1.29'	1.10	1.74	2.39	3.05	0.76	1.19	1.63	2.07	31	36	41	46
		36"	—	—	5'-1"	2.87'	11.31' ◇	14.18'	11.03' ◇	15'	2.24'	4.0'	6.67'	11.75'	16.83'	21.92'	1.33'	1.32	2.21	3.08	3.96	0.89	1.48	2.05	2.63	34	40	46	52
		42"	—	—	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	4.0'	7.25'	13.25'	19.25'	25.25'	1.38'	1.58	2.76	3.91	5.09	1.05	1.82	2.57	3.34	38	44	51	58
		48"	—	—	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	4.0'	7.83'	14.58'	21.33'	28.08'	1.42'	1.85	3.30	4.73	6.17	1.21	2.15	3.07	4.00	41	48	56	63
		54"	—	—	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	4.0'	8.42'	16.08'	23.75'	31.42'	1.46'	2.14	3.95	5.77	7.58	1.39	2.55	3.72	4.88	44	52	61	69
		60"	—	—	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	4.0'	9.00'	17.50'	26.00'	34.50'	1.50'	2.45	4.66	6.87	9.07	1.59	3.02	4.44	5.86	47	56	66	75
		66"	—	—	9'-2"	3.73'	21.62'	25.35'	21.03'	25'	3.18'	4.0'	9.58'	18.75'	27.92'	37.08'	1.54'	2.88	5.54	8.18	10.84	1.91	3.66	5.40	7.15	49	59	69	80
		72"	—	—	10'-0"	3.91'	23.68'	27.59'	23.03'	27'	3.30'	4.0'	10.16'	20.16'	30.16'	40.16'	1.58'	3.54	6.61	9.87	13.13	2.12	4.18	6.24	8.30	52	63	74	85
Elliptical Concrete Pipe	1:2 Slope	—	12"	18"	2'-10"	1.97'	1.62'	3.59'	1.56'	4'	1.50'	2.4'	4.92'	7.75'	10.58'	13.42'	1.21'	0.30	0.49	0.67	0.85	0.19	0.33	0.45	0.57	21	24	27	30
		—	14"	23"	3'-4"	2.01'	1.99'	4.00'	1.89'	5'	1.90'	3.1'	5.38'	8.71'	12.04'	15.38'	1.23'	0.37	0.59	0.81	1.02	0.25	0.40	0.55	0.69	22	26	29	33
		—	19"	30"	4'-0"	2.11'	2.92'	5.03'	2.73'	6'	2.37'	3.3'	6.04'	10.04'	14.04'	18.04'	1.27'	0.50	0.80	1.09	1.39	0.34	0.55	0.75	0.95	24	28	33	37
		—	24"	38"	5'-0"	2.20'	3.85'	6.05'	3.56'	7'	2.85'	3.4'	6.79'	11.79'	16.79'	21.79'	1.31'	0.62	1.03	1.45	1.86	0.43	0.71	1.00	1.28	26	31	37	42
		—	29"	45"	5'-11"	2.34'	4.79'	7.13'	4.39'	8'	3.19'	3.6'	7.50'	13.42'	19.33'	25.25'	1.38'	0.75	1.30	1.84	2.39	0.52	0.90	1.27	1.65	28	34	41	47
		—	34"	53"	7'-0"	2.43'	5.72'	8.15'	5.23'	9'	3.57'	3.8'	8.25'	15.25'	22.25'	29.25'	1.42'	0.90	1.61	2.32	3.03	0.62	1.11	1.60	2.09	30	37	45	53
		—	38"	60"	7'-10"	2.52'	6.46'	8.98'	5.89'	9'	3.95'	3.1'	8.92'	16.75'	24.58'	32.42'	1.46'	1.03	1.89	2.74	3.60	0.70	1.29	1.87	2.46	31	40	49	57
		—	43"	68"	8'-11"	2.62'	7.39'	10.01'	6.73'	10'	4.28'	3.3'	9.67'	18.58'	27.50'	36.42'	1.50'	1.19	2.26	3.33	4.40	0.81	1.54	2.26	2.99	33	43	53	63
		—	48"	76"	9'-11"	2.71'	8.33'	11.04'	7.56'	11'	4.59'	3.4'	10.42'	20.33'	30.25'	40.17'	1.54'	1.38	2.65	3.93	5.21	0.93	1.79	2.66	3.53	35	46	57	68
		—	53"	83"	10'-8"	2.80'	9.26'	12.06'	8.39'	12'	4.77'	3.6'	11.08'	21.75'	32.42'	43.08'	1.58'	1.55	3.03	4.50	5.96	1.04	2.04	3.03	4.02	37	49	61	73
		—	58"	91"	11'-8"	2.90'	10.19'	13.09'	9.23'	13'	5.01'	3.8'	11.83'	23.50'	35.17'	46.83'	1.63'	1.75	3.47	5.20	6.93	1.17	2.33	3.49	4.66	39	52	65	78
	1:4 Slope	—	12"	18"	2'-10"	2.36'	3.06'	5.42'	3.03'	5'	1.50'	2.0'	4.92'	7.75'	10.58'	13.42'	1.21'	0.45	0.68	0.92	1.14	0.30	0.45	0.61	0.76	23	26	29	32
		—	14"	23"	3'-4"	2.44'	3.75'	6.19'	3.70'	6'	1.90'	2.3'	5.38'	8.71'	12.04'	15.38'	1.23'	0.53	0.83	1.13	1.42	0.36	0.56	0.76	0.95	24	28	32	35
		—	19"	30"	4'-0"	2.62'	5.47'	8.09'	5.36'	8'	2.37'	2.6'	6.04'	10.04'	14.04'	18.04'	1.27'	0.74	1.15	1.57	1.98	0.51	0.79	1.08	1.36	27	32	36	40
		—	24"	38"	5'-0"	2.79'	7.18'	9.97'	7.03'	10'	2.85'	3.0'	6.79'	11.79'	16.79'	21.79'	1.31'	0.97	1.57	2.19	2.81	0.68	1.10	1.53	1.96	30	36	41	47
		—	29"	45"	5'-11"	3.05'	8.90'	11.95'	8.70'	12'	3.19'	3.3'	7.50'	13.42'	19.33'	25.25'	1.38'	1.22	2.07	2.92	3.77	0.86	1.45	2.04	2.63	33	40	46	53
		—	34"	53"	7'-0"	3.22'	10.62'	13.84'	10.36'	13'	3.57'	2.6'	8.25'	15.25'	22.25'	29.25'	1.42'	1.48	2.62	3.77	4.92	1.02	1.81	2.60	3.39	36	44	52	59
		—	38"	60"	7'-10"	3.39'	11.99'	15.38'	11.70'	15'	3.95'	3.3'	8.92'	16.75'	24.58'	32.42'	1.46'	1.72	3.12	4.53	5.92	1.18	2.14	3.10	4.05	38	47	56	65
		—	43"	68"	8'-11"	3.56'	13.71'	17.27'	13.36'	17'	4.28'	3.6'	9.67'	18.58'	27.50'	36.42'	1.50'	2.02	3.78	5.56	7.32	1.38	2.58	3.79	4.99	41	51	61	71
		—	48"	76"	9'-11"	3.73'	15.43'	19.16'	15.03'	19'	4.59'	4.0'	10.42'	20.33'	30.25'	40.17'	1.54'	2.34	4.49	6.64	8.79	1.59	3.05	4.51	5.97	44	55	66	77
		—	53"	83"	10'-8"	3.91'	17.15'	21.06'	16.70'	20'	4.77'	3.3'	11.08'	21.75'	32.42'	43.08'	1.58'	2.66	5.17	7.66	10.16	1.80	3.50	5.19	6.88	47	59	71	83
		—	58"	91"	11'-8"	4.08'	18.87'	22.95'	18.36'	22'	5.01'	3.6'	11.83'	23.50'	35.17'	46.83'	1.63'	3.02	5.98	8.95	11.90	2.04	4.04	6.05	8.05	50	63	76	89

B △ 6.42' E △ 6.25' Dimensions permitted to allow use of 8' standard pipe lengths.

B ◇ 10.40' E ◇ 10.10' Dimensions permitted to allow use of 12' standard pipe lengths.

CONCRETE PIPE DIMENSIONS AND QUANTITIES

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/19			FDOT FY 2022-23 STANDARD PLANS	CROSS DRAIN MITERED END SECTION	430-021	3 of 6

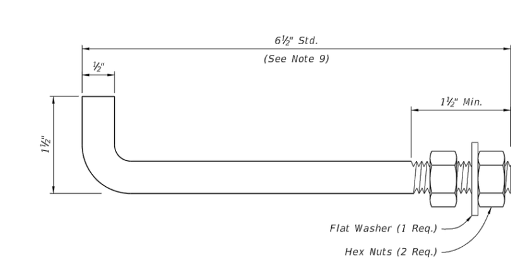


NOTES:

1. Use galvanized steel for all bars, bolts, nuts, and washers.
2. Two connectors required per joint, located 60° right and left of bottom center of pipe.
3. Bolt holes in pipe shell are to be drilled.

Bolt Dia.	Pipe Dia.
⅜"	15" to 36"
⅝"	42" to 72"

CONCRETE PIPE CONNECTION DETAIL
DETAIL "C"



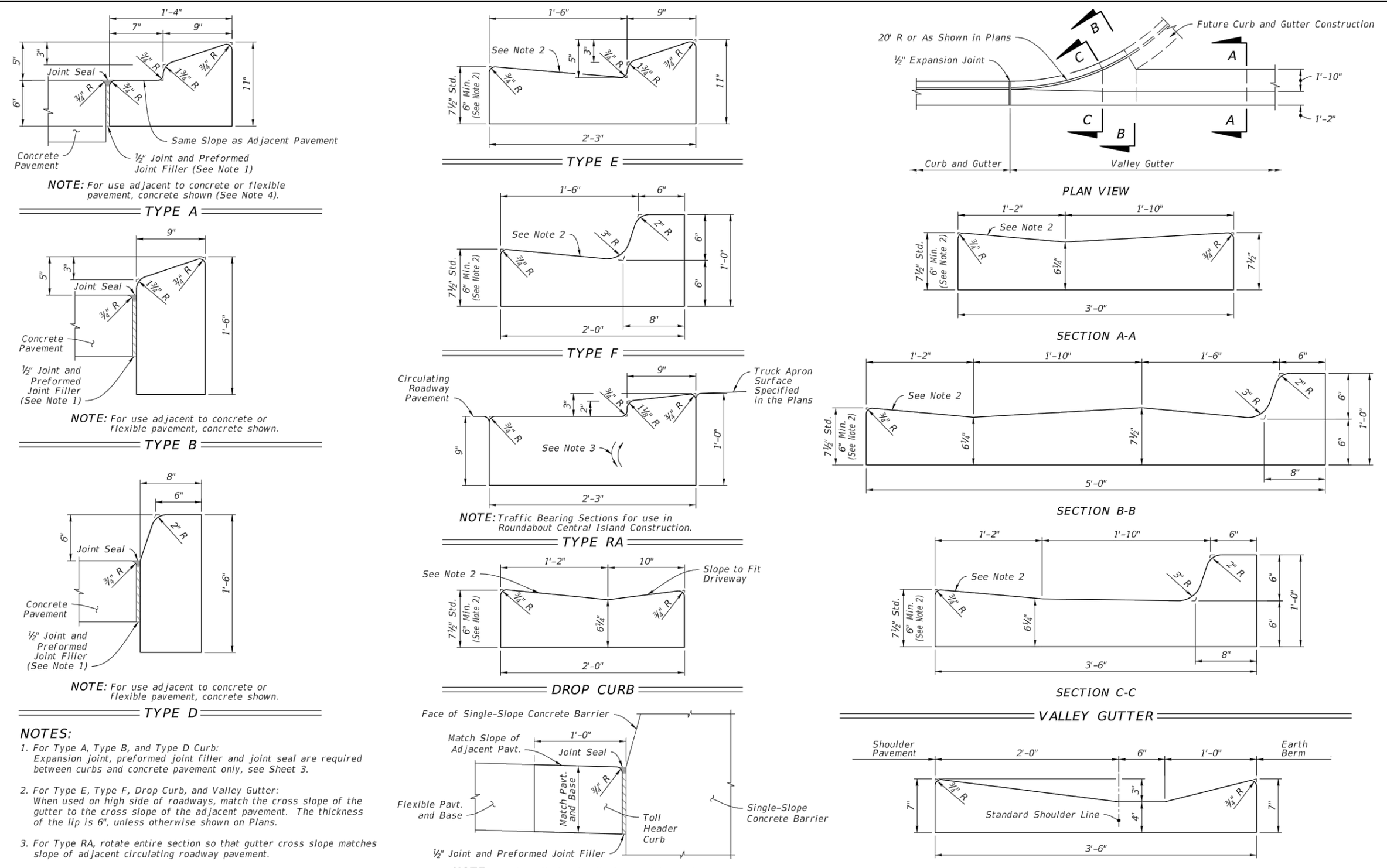
NOTES:

1. Anchors required for CMP only.
2. Use galvanized steel for all anchors, nuts, and washers.
3. Bend anchor where required to center in concrete slab.
4. Repair damaged surfaces after bending.
5. Space anchors a distance equal to four (4) corrugations.
6. Place the anchors in the outside crest of corrugation.
7. Place flat washers on inside wall of pipe.
8. Drill or punch holes in the mitered end pipe; burning not permitted.
9. A 6" x ½" bolt substitution is permitted.

CORRUGATED METAL PIPE (CMP) ANCHOR DETAIL
DETAIL "D"

CONCRETE PIPE CONNECTION AND CORRUGATED PIPE ANCHOR DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/19			FDOT FY 2022-23 STANDARD PLANS	CROSS DRAIN MITERED END SECTION	430-021	6 of 6



NOTES:

1. For Type A, Type B, and Type D Curb: Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see Sheet 3.

2. For Type E, Type F, Drop Curb, and Valley Gutter: When used on high side of roadways, match the cross slope of the gutter to the cross slope of the adjacent pavement. The thickness of the lip is 6", unless otherwise shown on Plans.

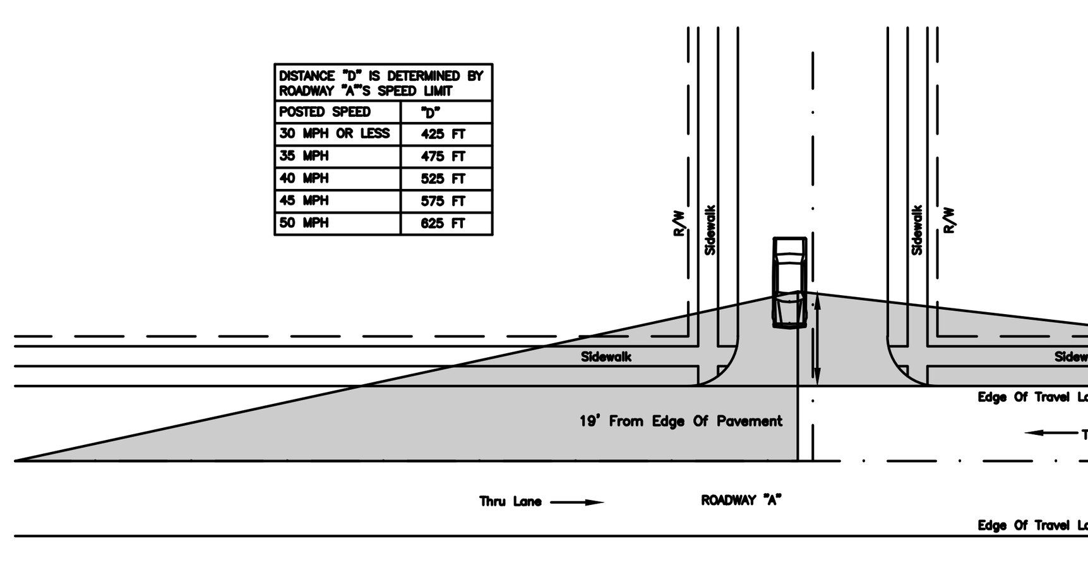
3. For Type RA, rotate entire section so that gutter cross slope matches slope of adjacent circulating roadway pavement.

4. For details depicting usage of Type A Curb adjacent to flexible pavement see Sheet 3.

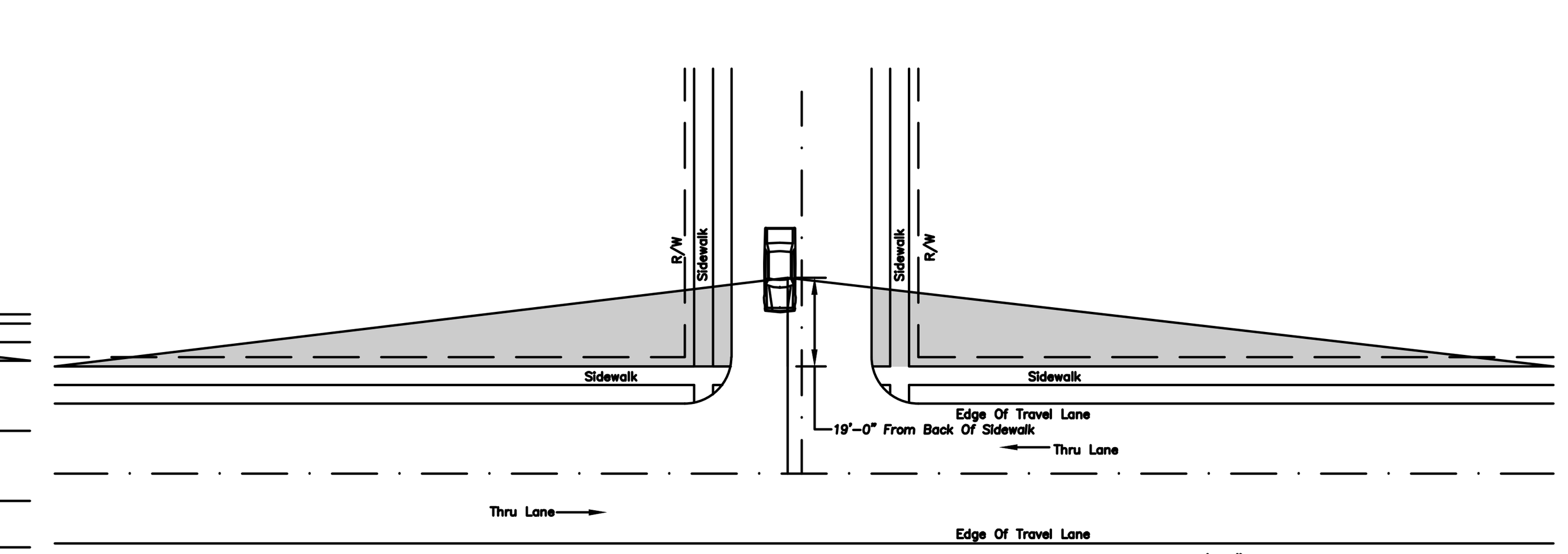
CONCRETE CURB AND GUTTER

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/21			FDOT FY 2022-23 STANDARD PLANS	CURB AND GUTTER	520-001	2 of 3

DISTANCE "D" IS DETERMINED BY ROADWAY "A"'S SPEED LIMIT	
POSTED SPEED	"D"
30 MPH OR LESS	425 FT
35 MPH	475 FT
40 MPH	525 FT
45 MPH	575 FT
50 MPH	625 FT



VISIBILITY TRIANGLE FOR ROADWAY TRAFFIC
PINELLAS COUNTY, FLORIDA
N.T.S.



VISIBILITY TRIANGLE FOR SIDEWALK TRAFFIC
PINELLAS COUNTY, FLORIDA
N.T.S.

REV.#	DATE	REVISION	BY	DESIGN:	XC
				DRAWN:	XC
				CHECKED:	CAC

DEUEL & ASSOCIATES
A SEPI COMPANY
565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM
LICENSED BUSINESS NUMBER 8423

2754 SUMMERDALE WAREHOUSE CONSTRUCTION DETAILS

PINELLAS COUNTY FLORIDA

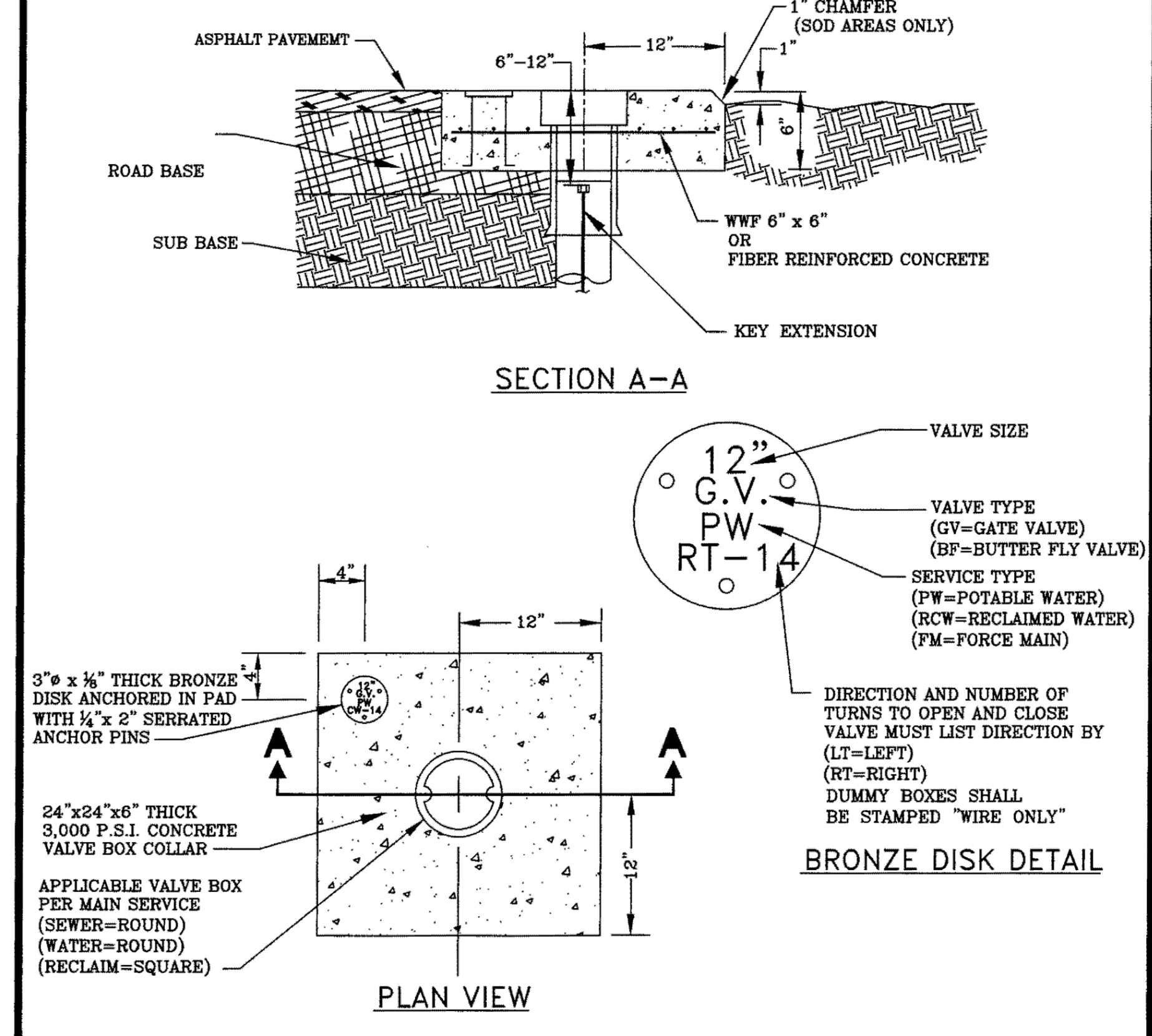
I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

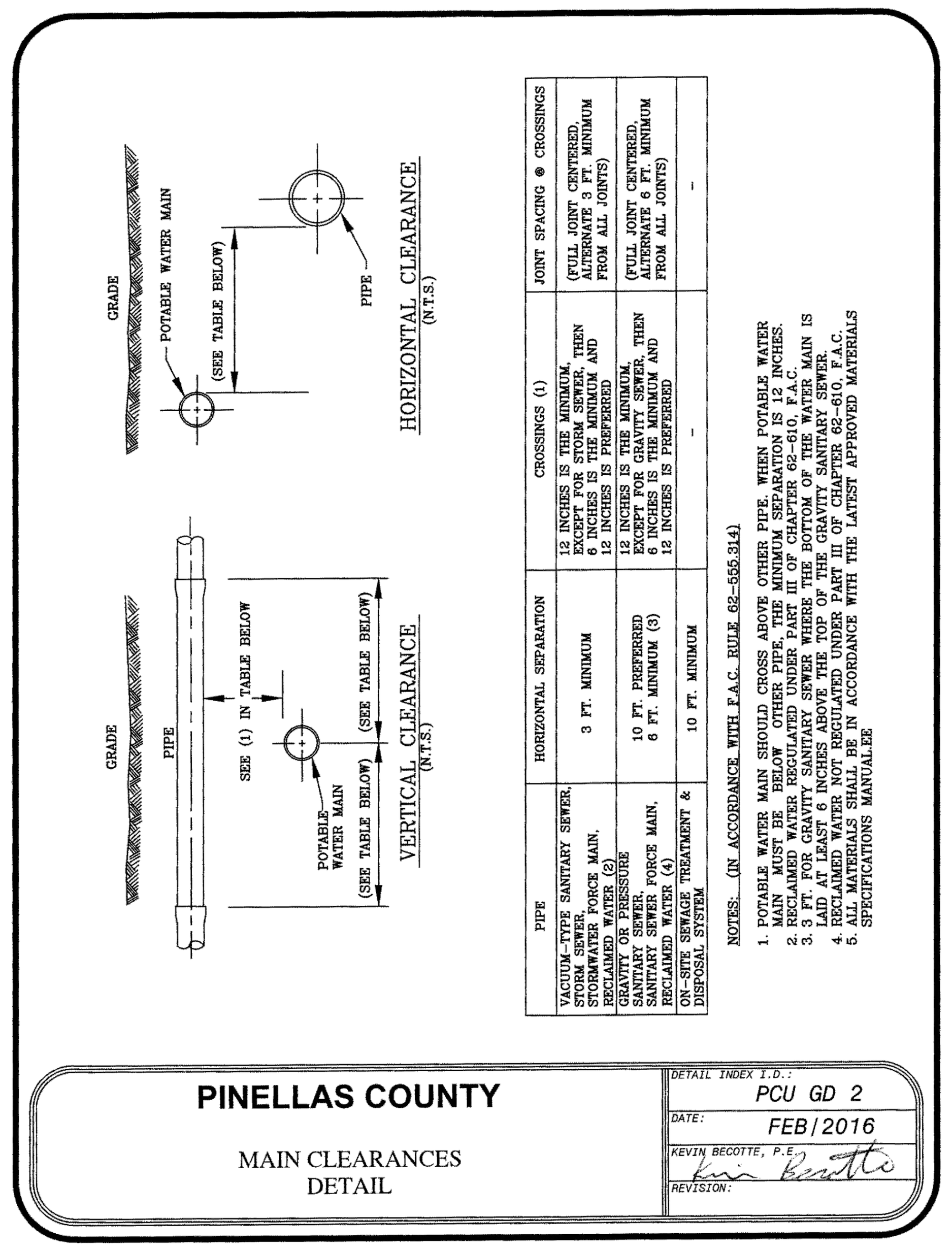
60% PLAN

CHRISTOPHER A. CHIN, P.E. 84365

WORK ORDER NO.	SE22.199
DATE:	NOVEMBER 8, 2022
SCALE:	N.T.S.
SHEET NO.	6 OF 8

NOTES
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF VALVE IS LOCATED WITHIN A SIDEWALK CONCRETE COLLAR MAY BE ELIMINATED AND DISK SET FLUSH DIRECTLY IN SIDEWALK.
3. BRONZE DISK REQUIRED: FOR ALL VALVES, AND DUMMY BOXES.
4. THE 24"x24"X6" THICK CONCRETE VALVE BOX COLLAR CAN BE INSTALLED BELOW THE FRICTION COARSE AND THE BRONZE DISK ANCHORED IN A NEAR-BY CURB OR SIDEWALK.
5. ALL VALVES/BOXES SHALL BE LOCATED BY MEANS OF A PERPENDICULAR 6"x2' BLUE STRIPE ACROSS THE CURB. THE DISTANCE FROM THE BACK OF THE CURB TO THE VALVE SHALL BE STENCILED ON THE CURB WITH NUMBERS FOUR INCHES HIGH, PAINTED BLUE, BY THE CONTRACTOR.





SANITARY SEWER MANHOLE CONSTRUCTION NOTES

ALL MANHOLES
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. PRECAST MANHOLE SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF ASTM C-478 WITH 4000 P.S.I., TYPE II PORTLAND CEMENT.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER FRAME.
4. ALL KEYED JOINTS SHALL BE SEALED WITH TWO CONTINUOUS RINGS OF FLEXIBLE JOINT SEALANT, OR APPROVED EQUAL.
5. ALL INTERIOR AND EXTERIOR MANHOLE SURFACES SHALL BE PREPARED FOR COATING AND COATED IN ACCORDANCE WITH P.C.U. STANDARD SPECIFICATIONS AND APPROVED MATERIAL SPECIFICATIONS. INSIDE COATING OF MANHOLE MAY BE ELIMINATED IF USING P.C.U. APPROVED LINING SYSTEM.
6. MANHOLE BASE AND BOTTOM SECTION SHALL BE MONOLITHICALLY CAST.
7. ALL PIPE PENETRATIONS IN MANHOLE SHALL BE PRECAST OR CORE DRILLED.
8. MANHOLE COVER SHALL BE EQUIPPED WITH AN INFLOW PROTECTOR.
9. A DROP CONNECTION IS REQUIRED WHERE THE PIPE INVERT IS GREATER THAN 2' ABOVE THE MANHOLE INVERT. FOR DROPS 2' OR LESS A FLUME SHALL BE CONSTRUCTED.
10. ALL MANHOLES 5' IN DIAMETER OR GREATER SHALL REQUIRE THE USE OF A DOUBLE RING AND COVER.
11. ALL MANHOLES WITH A DEPTH OF 14' OR GREATER SHALL BE DESIGNED FOR ANTI-FLOATATION AND SHALL REQUIRE SUBMITTAL OF CALCULATIONS.

INSIDE DROP MANHOLES
12. THERE SHALL BE NO MORE THAN 2 INSIDE DROPS PER MANHOLE.
13 WHEN USING A 90° BEND ON RISER, IT SHALL BE ROTATED BETWEEN 22½° AND 45° IN THE DIRECTION OF FLOW AND GROUTED INTO BENCH.
14. ALL FORCE MAIN CONNECTIONS REQUIRE THE USE OF A FORCE MAIN HOOD WITH INSIDE DROP BOWL.
15. ALL INSIDE DROPS SHALL BE CONSTRUCTED USING P.V.C. SDR-35 PIPE.

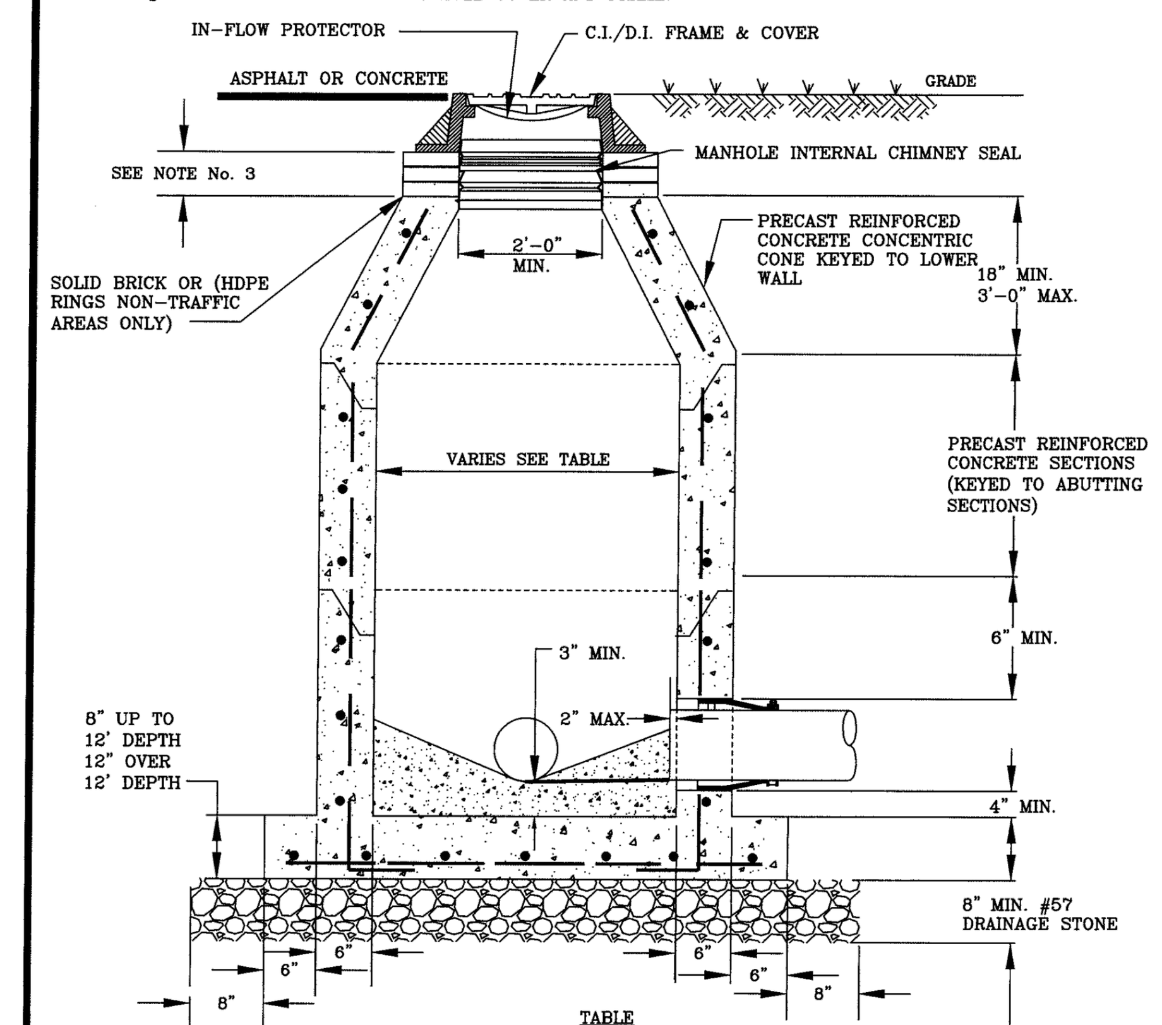
OUTSIDE DROP MANHOLES
16. OUTSIDE DROP PIPING SHALL BE CONSTRUCTED USING THE SAME MATERIAL AS THE MAIN LINE.

TABLE

DIA.	FOR PIPES	CASTING SIZE CLEAR OPENING
4'-0"	24" & UNDER	22.375"
5'-0"	30" & 36" ALL INSIDE DROP AND AIR RELEASE MANHOLES	35"
6'-0"	42" & OVER	48"

PINELLAS COUNTY
MANHOLE CONSTRUCTION NOTES
DETAIL INDEX I.D.: PCU SD 1
DATE: FEB/2016
KEVIN BECOTTE, P.E.
REVISION:

NOTES:
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIALS SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.

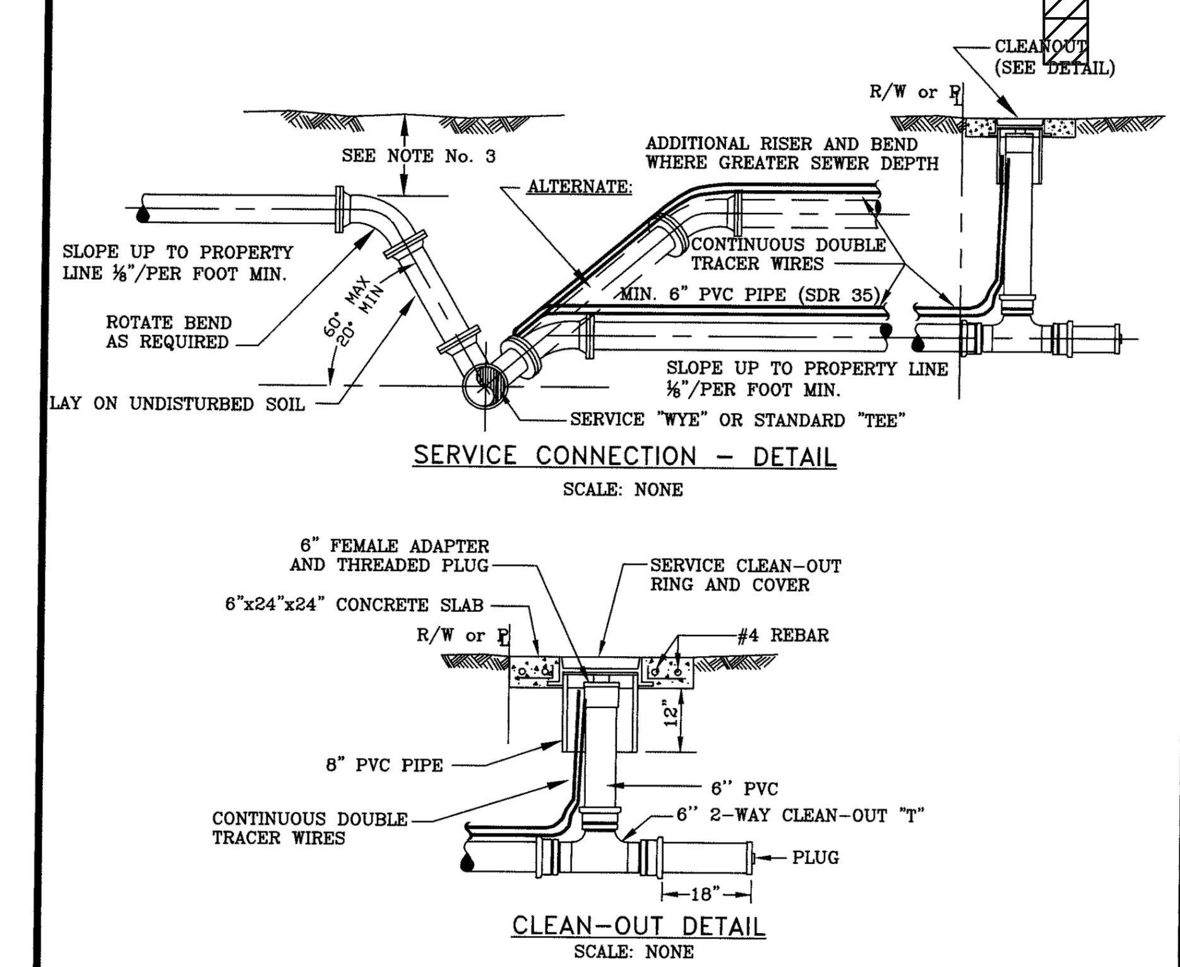


TABLE

DIA.	FOR PIPES	CASTING SIZE CLEAR OPENING
4'-0"	24" & UNDER	22.375"
5'-0"	30" & 36" ALL INSIDE DROP AND AIR RELEASE MANHOLES	35"
6'-0"	42" & OVER	48"

PINELLAS COUNTY
STANDARD MANHOLE (PRE-CAST) DETAIL
DETAIL INDEX I.D.: PCU SD 1a
DATE: FEB/2016
KEVIN BECOTTE, P.E.
REVISION:

NOTES:
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. SERVICE CONNECTIONS MAY NOT HAVE BEEN SHOWN ON PLAN/PROFILE SHEETS. SERVICE CONNECTION LOCATIONS SHALL BE DETERMINED IN THE FIELD AND CONNECTIONS CONSTRUCTED ACCORDANCE WITH P.C.U. APPROVED TECHNICAL SPECIFICATIONS, MATERIALS MANUAL & THESE DETAILS. FOR NEW DEVELOPMENT, THE SERVICE CONNECTION SHALL BE CONSTRUCTED IN THE CENTER OF THE LOT.
3. MINIMUM DEPTH UNDER ROADWAY 42" MINIMUM DEPTH AT PROPERTY LINE 36" (OR AS REQUIRED FOR SERVICE).
4. SERVICE LINES SHALL BE A MIN. OF 6" TO ALL RESIDENCES.
5. NO DOUBLE WYE UNITS SHALL BE PERMITTED ON SERVICE LINE. ALL RESIDENCES SHALL BE SERVED BY A SINGLE SERVICE.
6. RISERS SHALL BE INSTALLED ON ALL WYES (BOTH PRESENT & FUTURE SERVICES).
7. RISERS SHALL PREFERABLY FOLLOW SLOPE OF BANK TO REQUIRED DEPTH.
8. THE TRACER WIRE SHALL START AT THE CLEAN-OUT AND RUN ALONG THE SEWER SERVICE TO THE MAIN AND BACK TO THE CLEAN-OUT AS ONE CONTINUOUS WIRE.



PINELLAS COUNTY STORMWATER MANUAL NOTES ON CONSTRUCTION AND MAINTENANCE
(AS TAKEN FROM CHAPTER 6- CATALOGUE OF STORMWATER BEST MANAGEMENT PRACTICES)

6.3 UNDERGROUND STORAGE AND RETENTION:

6.3.6. CONSTRUCTION REQUIREMENTS

THE FOLLOWING CONSTRUCTION PROCEDURES ARE REQUIRED TO AVOID DEGRADATION OF UNDERGROUND RETENTION SYSTEM INFILTRATION CAPACITY DUE TO CONSTRUCTION PRACTICES:

(a) THE LOCATION OF UNDERGROUND RETENTION SYSTEM SHALL BE CLEARLY MARKED AT THE SITE TO PREVENT UNNECESSARY VEHICULAR TRAFFIC ACROSS THE AREA CAUSING SOIL COMPACTION.
(b) DURING CONSTRUCTION, EROSION AND SEDIMENT CONTROLS SHALL BE USED TO MINIMIZE THE AMOUNT OF SOIL, ESPECIALLY THE AMOUNT OF FINES, AND DEBRIS ENTERING THE SYSTEM.
(c) DURING CONSTRUCTION, INLET PIPES SHALL BE TEMPORARILY PLUGGED, TO PREVENT SOIL AND DEBRIS FROM ENTERING THE SYSTEM.
(d) THE UNDERGROUND RETENTION SYSTEM SHOULD NOT BE PLACED INTO OPERATION UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED AND THE PRETREATMENT SUMPS ARE CONSTRUCTED.

6.3.1. INSPECTIONS, OPERATION AND MAINTENANCE

(a) GENERAL: REGULAR, ROUTINE INSPECTION AND MAINTENANCE IS AN IMPORTANT COMPONENT OF THIS TYPE OF UNDERGROUND SYSTEM TO ENSURE THAT IT FUNCTIONS IN A SATISFACTORY MANNER. THE MAINTENANCE INTERVALS FOR AN UNDERGROUND RETENTION SYSTEM ARE TYPICALLY MORE FREQUENT THAN STANDARD "DRY" RETENTION PONDS. THE PERFORMANCE OF THE UNDERGROUND SYSTEM WILL BE RELATED TO THE EFFECTIVENESS OF THE UP-GRADIENT SEDIMENT/TRASH REMOVAL DEVICES (REFER TO FIGURES 6.2.2 AND 6.2.3), AND THE FREQUENCY OF INSPECTIONS AND MAINTENANCE ACTIVITIES FOR ALL OF THE UNDERGROUND RETENTION SYSTEM'S COMPONENTS.

THE GUIDELINES OUTLINED BELOW ARE INTENDED TO PROVIDE A COMPREHENSIVE SCHEDULE THAT GIVES REASONABLE ASSURANCE THAT THE COUNTY REQUIREMENTS AND RECOMMENDATIONS ARE BEING MET.

(b) INDICATION OF SYSTEM FAILURE: STANDING WATER OVER SUB-GRADE SOILS AT THE BOTTOM OF THE UNDERGROUND RETENTION SYSTEM 72 HOURS AFTER A STORM EVENT TYPICALLY INDICATES SYSTEM FAILURE. LONG TERM SYSTEM FAILURES ARE GENERALLY THE RESULT OF INADEQUATE/IMPROPER O&M PROCEDURES WITHIN THE UP-GRADIENT SEDIMENT / TRASH REMOVAL DEVICES, AND/OR WITHIN THE UNDERGROUND RETENTION SYSTEM ITSELF.
(c) SUB-GRADE SOIL MAINTENANCE THE SUB-GRADE SOILS AT THE BOTTOM OF THIS SYSTEM ARE THE ONLY MECHANISM TO PROVIDE WATER QUALITY TREATMENT (SOIL INFILTRATION OF THE RTV). THEREFORE, THE DESIGNED HYDRAULIC CONDUCTIVITY RATES WITHIN THIS SOIL MUST BE MAINTAINED. INSPECTION PORTS AND ACCESS MANHOLES/TRENCH GRATES ARE PROVIDED TO FACILITATE ONGOING INSPECTION AND MAINTENANCE ACTIVITIES. FAILURE TO REPAIR INFLOW/OUTFLOW SCOUR EROSION DAMAGE, OR TO REMOVE DETRIMENTAL MATERIALS (I.E., TRASH, CLAYS, LIME ROCK DEBRIS, ORGANIC MATTER, ETC.), WILL RESULT IN LOWER SOIL HYDRAULIC CONDUCTIVITY RATES, AND SUBSEQUENT SYSTEM FAILURE. MANUAL METHODS CAN BE USED FOR THIS REQUIRED MAINTENANCE. HOWEVER, THE USE OF A VACUUM TRUCK FOR CONTAMINATE REMOVAL MAY BE A MORE PRACTICAL MEANS OF PROVIDING FOR THE REMOVAL OF THESE DETRIMENTAL MATERIALS AND SEDIMENTS. DISPOSAL OF THESE CONTAMINATES SHALL BE IN AN APPROVED LANDFILL FACILITY.
(d) RECOMMENDED INSPECTION FREQUENCY
  (1) AFTER A LARGE STORM EVENT OF GREATER THAN ONE (1) INCH OF RAINFALL: TO ENSURE THE (CONTINUED) FREE FLOW OF STORMWATER, INSPECT THE SYSTEM AND REMOVE ACCUMULATED TRASH AND DEBRIS FROM THE UPGRADIENT SEDIMENT/TRASH REMOVAL DEVICES, AND THE INFLOW AND OUTFLOW POINTS OF THE DOWN-GRADIENT UNDERGROUND RETENTION SYSTEM.
  (2) EVERY 6 MONTHS: PERFORM A COMPREHENSIVE INSPECTION OF THE UNDERGROUND RETENTION SYSTEM FOR ACCUMULATED TRASH, DEBRIS AND ORGANIC MATTER, AND REMOVE/DISPOSE OF THESE CONTAMINATES TO ENSURE UNIMPEDED STORMWATER FLOW. AS APPROPRIATE, CLEAN THE SURFACE OF THE SUB-GRADE SANDS BY RAKING, AND CHECK FOR ACCUMULATIONS IN THE VARIOUS UNDERGROUND AREAS.IF THE SEDIMENT/CONTAMINATE ACCUMULATION IS GREATER THAN TWO (2) INCHES, A VACUUM TRUCK AND/OR SIMILAR EQUIPMENT MAY BE NECESSARY FOR REMOVAL OPERATIONS. REMOVED CONTAMINATES SHALL BE TAKEN TO AN APPROVED OFFSITE LANDFILL.
  (3) ANNUALLY, DURING SEPTEMBER-NOVEMBER: MONITORING OF THE DRAWDOWN TIME FOR THE STORMWATER THROUGH THE SUB-GRADE SANDS SHALL BE DONE TO ENSURE RECOVERY WITHIN 72 HOURS AFTER THE LAST RAINFALL EVENT. MONITORING AND OBSERVATION OF THE DRAWDOWN TIMES CAN BE DONE VISUALLY THROUGH THE INSPECTION PORTS OR OBSERVATION WELL AFTER A STORM EVENT THE DRAWDOWN OF THE WATER QUALITY TREATMENT VOLUME (RTV) MUST RECOVER WITHIN 72 HOURS AFTER THE STORM EVENT. IF APPROPRIATE, POSTCONSTRUCTION HYDRAULIC CONDUCTIVITY TESTING OF THE NON-COMPACTED SOIL FLOOR [AND THEIR SUBSEQUENT (CERTIFIED) REPORTS] SHALL BE PERFORMED BY THE APPROPRIATE FLORIDA LICENSED PROFESSIONAL. ANY POSTCONSTRUCTION SOIL TESTING REPORTS SHALL BE SUBMITTED TO THE COUNTY UPON REQUEST.
  (4) DRAWDOWN TIMES THAT EXCEED 72 HOURS ARE INDICATIVE OF SUB-GRADE CLOGGING, AND WILL LIKELY REQUIRE THE REMOVAL OF CONTAMINATES AND RAKING OF THE SUB-GRADE SOILS. THE ACTUAL DEPTH OF REMOVAL CAN BE DONE VISUALLY BY LOOKING AT THE DISCOLORATION OF THE ENTRAPPED FINE SILTS, HYDROCARBONS (GREASES, OILS), AND ORGANIC MATTER. IF REQUIRED, REPLACEMENT SUB-GRADE SOILS MUST MEET THE DESIGN SPECIFICATIONS UNDER THE ORIGINAL PERMIT AUTHORIZATION.
  (5) IN ADDITION TO THE SUB-GRADE SOILS, OTHER ELEMENTS OF THE STORMWATER MANAGEMENT SYSTEM SUCH AS PIPES, INLETS, GEOTEXTILE FABRIC, GRAVEL, SEDIMENT/TRASH REMOVAL DEVICES, ETC., ARE TO BE INSPECTED AND REPAIRED/REPLACED IF NEEDED.

(e) RECOMMENDED MAINTENANCE ACTIVITIES
  (1) MONITOR FACILITY FOR SEDIMENT ACCUMULATION IN THE PIPE (WHEN USED) AND STORAGE VOLUME RECOVERY (I.E., DRAWDOWN CAPACITY). OBSERVATION WELLS AND INSPECTION PORTS SHOULD BE CHECKED FOLLOWING 3 DAYS MINIMUM DRY WEATHER. FAILURE TO PERCOLATE STORED RUNOFF TO THE DESIGN TREATMENT VOLUME LEVEL WITHIN 72 HOURS INDICATES BINDING OF SOIL WITHIN THE SYSTEM WITH FINE SOLIDS. REDUCTIONS IN STORAGE VOLUME DUE TO SEDIMENT IN THE DISTRIBUTION PIPE, ALSO REDUCES EFFICIENCY. MINOR MAINTENANCE MEASURES CAN RESTORE INFILTRATION RATES TO ACCEPTABLE LEVELS SHORT TERM. MAJOR MAINTENANCE (TOTAL REHABILITATION) IS REQUIRED TO REMOVE ACCUMULATED SEDIMENT IN MOST CASES OR TO RESTORE RECOVERY RATE WHEN MINOR MEASURES ARE NO LONGER EFFECTIVE OR CANNOT BE PERFORMED BECAUSE OF DESIGN CONFIGURATION. .
  (2) INSPECT APPURTENANCES SUCH AS SEDIMENTATION AND OIL AND GRIT SEPARATION TRAPS OR CATCH BASINS AS WELL AS DIVERSION DEVICES AND OVERFLOW WEIRS WHEN USED. DIVERSION FACILITIES AND OVERFLOW WEIRS SHOULD BE FREE OF DEBRIS AND READY FOR SERVICE. SEDIMENTATION AND OIL/GRIT SEPARATORS SHOULD BE SCHEDULED FOR CLEANING WHEN SEDIMENT DEPTH APPROACHES CLEANOUT LEVEL. CLEANOUT LEVELS SHOULD BE ESTABLISHED NOT LESS THAN 1 FOOT BELOW CONTROL ELEVATION OF THE CHAMBER.
(f) AS-NEEDED TO PROLONG SERVICE:
  (1) REMOVE SEDIMENT FROM SEDIMENT OR OIL/GREASE TRAPS, CATCH BASIN INLETS, MANHOLES, AND OTHER APPURTENANT STRUCTURES AND DISPOSE OF PROPERLY.
  (2) REMOVE DEBRIS FROM THE OUTFALL OR "SMART BOX" (DIVERSION DEVICE IN THE CASE OF OFF-LINE FACILITIES).
(g) AS-NEEDED TO MAINTAIN 72-HOUR INFILTRATION RATE:
  (1) PERIODIC CLEAN-OUT/REHABILITATION OF THE SYSTEM TO REMOVE ANY ACCUMULATED TRASH, SEDIMENT AND OTHER INFLOW DEBRIS AND REMEDIATE ANY CLOGGING OF PERFORATED PIPES, AGGREGATES AND GEOTEXTILE FABRICS.
  (2) TOTAL REPLACEMENT OF THE SYSTEM. IN SOME CASES, THE SYSTEM, MAY NOT BE ABLE TO BE REHABILITATED SUFFICIENTLY TO RESTORE THE DESIGN STORAGE AND INFILTRATION RATE. IN THESE CASES, COMPLETE REPLACEMENT OF THE SYSTEM MAY BE NECESSARY. DURING REPLACEMENT, ANY REMOVED SEDIMENT, CONTAMINATED SOIL, COARSE AGGREGATE, AND FILTER CLOTH SHALL BE DISPOSED OF PROPERLY

6.6 PERVIOUS PAVEMENT SYSTEMS

6.6.7. CONSTRUCTION REQUIREMENTS

THE FOLLOWING CONSTRUCTION PROCEDURES ARE REQUIRED TO ASSURE THAT THE PERVIOUS PAVEMENT IS PROPERLY PREPARED AND INSTALLED SUCH THAT THE DESIRED INFILTRATION RATE IS OBTAINED:

(a) THE LOCATION AND DIMENSIONS OF THE PERVIOUS PAVEMENT SHALL BE VERIFIED ONSITE PRIOR TO ITS CONSTRUCTION. ALL DESIGN REQUIREMENTS INCLUDING PERVIOUS PAVEMENT DIMENSIONS AND DISTANCES TO FOUNDATIONS, SEPTIC SYSTEMS, AND WELLS NEED TO BE VERIFIED.
(b) THE LOCATION OF PERVIOUS PAVEMENT AREAS SHALL BE CLEARLY MARKED AT THE SITE TO PREVENT UNNECESSARY VEHICULAR TRAFFIC ACROSS THE AREA CAUSING SOIL COMPACTION.
(c) EXCAVATION SHALL BE DONE BY LIGHTWEIGHT EQUIPMENT TO MINIMIZE SOIL COMPACTION. TRACKED, CLEATED EQUIPMENT DOES LESS SOIL COMPACTION THAN EQUIPMENT WITH TIRES.
(d) ONCE THE SUBGRADE ELEVATION HAS BEEN REACHED, THE AREA SHALL BE INSPECTED FOR MATERIALS THAT COULD PUNCTURE OR TEAR THE FILTER FABRIC, SUCH AS TREE ROOTS, AND ASSURE THEY ARE NOT PRESENT.
(e) THE IN-SITU (OR IMPORTED) SUBGRADE SOIL (BELOW THE PERVIOUS PAVEMENT SYSTEM) SHALL BE COMPACTED TO A MAXIMUM OF 92% - 95% MODIFIED PROCTOR DENSITY (ASTM D-1557) TO A MINIMUM DEPTH OF 24 INCHES.
(f) THE SPECIFIED FILTER FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS.
(g) THE AGGREGATE MATERIAL SHALL BE INSPECTED PRIOR TO PLACEMENT TO ENSURE IT MEETS SIZE SPECIFICATIONS AND IS WASHED TO MINIMIZE FINES AND DEBRIS. IT SHOULD BE SPREAD UNIFORMLY TO THE APPROPRIATE THICKNESS.
(h) THE PERVIOUS PAVEMENT MATERIAL SHALL BE INSTALLED BY A CONTRACTOR TRAINED AND CERTIFIED BY THE PRODUCT MANUFACTURER TO INSTALL THE PROPOSED PERVIOUS PAVEMENT SYSTEM ACCORDING TO APPROVED DESIGN SPECIFICATIONS.
(i) STORMWATER SHALL NOT BE DIRECTED ONTO THE PERVIOUS PAVEMENT FROM ADJACENT CONTRIBUTING AREAS UNTIL AFTER THEY ARE STABILIZED TO PREVENT SEDIMENT FROM ENTERING AND CLOGGING THE PERVIOUS PAVEMENT. ALL EROSION AND SEDIMENT CONTROLS SHALL REMAIN IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA IS FULLY STABILIZED.
(j) BEFORE THE PERVIOUS PAVEMENT IS PLACED INTO OPERATION, SIGNS SHALL BE INSTALLED AT ALL ENTRANCES ADVISING USERS THAT THEY ARE ENTERING A PERVIOUS PAVEMENT PARKING LOT AND THAT VEHICLES WITH HEAVY WHEEL LOHP OR MUDDY TIRES SHOULD NOT ENTER.
(k) AN APPLICANT MAY PROPOSE ALTERNATIVE CONSTRUCTION PROCEDURES TO ASSURE THAT THE DESIGN INFILTRATION RATE OF THE PERVIOUS PAVEMENT IS MET.

6.6.1. INSPECTION, OPERATION AND MAINTENANCE

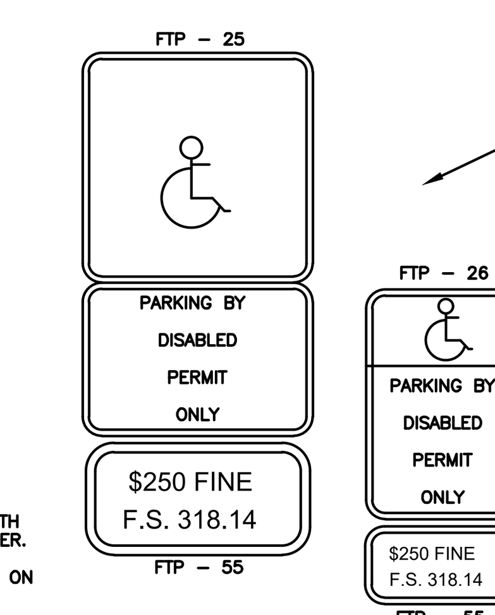
MAINTENANCE ISSUES ASSOCIATED WITH PERVIOUS PAVEMENTS ARE RELATED TO CLOGGING OF THE POROUS SURFACES WHICH REDUCES OR PREVENTS INFILTRATION THEREBY SLOWING RECOVERY OF THE STORMWATER TREATMENT VOLUME AND OFTEN RESULTING IN STANDING WATER AND THE DESIGNED NUISANCE FLOODING.

TO DETERMINE IF THE PERVIOUS PAVEMENT IS PROPERLY FUNCTIONING OR WHETHER IT NEEDS MAINTENANCE REQUIRES THAT EITHER AN INSPECTION BE WITHIN 72 HOURS OF A STORM AND THAT THE ERIK DEVICES BE USED TO TEST THE INFILTRATION RATE AS SPECIFIED BELOW.

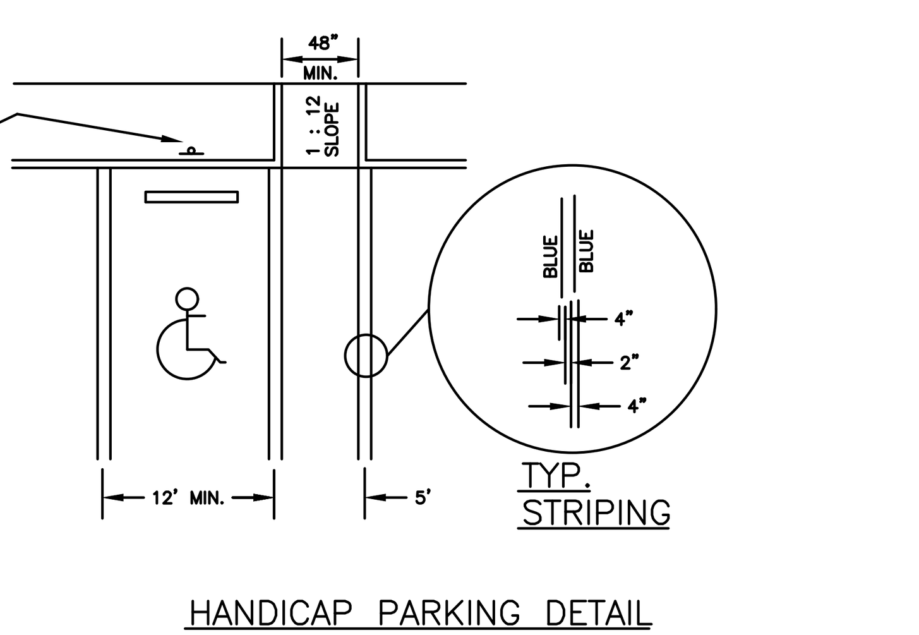
(a) INSPECTION ITEMS:
  (1) INSPECT PERVIOUS PAVEMENT FOR STORAGE VOLUME RECOVERY WITHIN THE PERMITTED TIME, GENERALLY LESS THAN 72 HOURS. DETERMINE IF NUISANCE FLOODING IS OCCURRING IN THOSE AREAS OF THE PARKING LOT THAT WERE DESIGNED TO FLOOD IF THE PERVIOUS PAVEMENT WAS FAILING. NUISANCE FLOODING INDICATES THAT THE REQUIRED TREATMENT VOLUME IS NOT INFILTRATING BECAUSE OF A REDUCTION OF THE INFILTRATION RATE AND A NEED TO RESTORE SYSTEM PERMEABILITY.
  (2) USE THE ERIK INFILTROMETERS AT LEAST ONCE EVERY TWO (2) YEARS TO TEST IF THE VERTICAL HYDRAULIC CONDUCTIVITY IS LESS THAN 2.0 INCHES PER HOUR OR IS LESS THAN THE PERMITTED DESIGN PERCOLATION RATE IN ANY OF THE REQUIRED ERIK INFILTROMETERS. IF ANY OF THE ERIK INFILTROMETERS HAVE RATES LESS THAN THE PERMITTED RATE, MAINTENANCE ACTIVITIES SHALL BE UNDERTAKEN TO RESTORE THE PERMEABILITY OF THE PERVIOUS PAVEMENT. THE RESULTS OF THE ERIK INFITROMETER TESTING SHALL BE SUBMITTED TO THE COUNTY IF REQUESTED.
  (3) INSPECT ALL EDGE CONSTRAINTS AND OVERFLOW AREAS TO DETERMINE IF ANY EROSION IS OCCURRING AND REPAIR AS NEEDED.

(b) MAINTENANCE ACTIVITIES AS-NEEDED TO PROLONG SERVICE:
  (1) VACUUM SWEEPING WILL BE CONDUCTED ANNUALLY AND WHENEVER THE VERTICAL HYDRAULIC CONDUCTIVITY IS LESS THAN 2.0 INCHES PER HOUR OR IS LESS THAN THE PERMITTED DESIGN PERCOLATION RATE IN ANY OF THE REQUIRED ERIK INFILTROMETERS. VACUUM SWEEPING WILL BE DONE ON AN AS-NEEDED BASIS ON PERVIOUS PAVEMENTS LOCATED IN AREAS THAT ARE SUBJECT TO WIND TRANSPORTED SOILS (NEAR SAND DUNES OR OTHER COASTAL AREAS) OR OTHER CONDITIONS WHERE EXCESSIVE SOIL OR OTHER DEBRIS DEPOSITION IS EXPECTED TO OCCUR (FROM ADJACENT LANDSCAPING MULCH AND LEAF LITTER, FROM AREAS WITH HIGH LEAF FALL, FUGITIVE SANDS AND LIME ROCK FINES FROM ADJACENT CONSTRUCTION SITES, ETC.).
  (2) A REMEDIATION PLAN SHALL BE SUBMITTED TO THE COUNTY SHOULD VACUUM SWEEPING FAIL TO IMPROVE THE VERTICAL HYDRAULIC CONDUCTIVITY TO A RATE GREATER THAN 2.0 INCHES PER HOUR, OR EQUAL TO OR GREATER THAN THE PERMITTED DESIGN PERCOLATION RATE, OR RESOLVE THE NUISANCE PONDING. THE REMEDIATION PLAN SHALL BE PREPARED AND SUBMITTED TO THE COUNTY FOR REVIEW AND APPROVAL.
  (3) REPAIR EROSION NEAR EDGE CONSTRAINTS OR OVERFLOWS AND ASSURE THAT THE CONTRIBUTING DRAINAGE AREA IS STABILIZED AND NOT A SOURCE OF SEDIMENTS

NOTES:
TOP PORTION OF FTP 25 & 26 SHALL HAVE A REFLECTIVE SYMBOL AND BORDER.
BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
FTP 25 & 26 MAY BE FABRICATED ON ONE PANEL OR TWO.
FTP 25 MAY BE SUBSTITUTED FOR THE FTP 26 IN AREAS WHERE SPACE IS LIMITED.
SIGNS ARE TO BE MOUNTED AT STANDARD HEIGHT. (7' FROM PAVEMENT TO BOTTOM OF SIGN).



HANDICAP SIGNS
F.D.O.T. INDEX 17355 - n.t.s.



HANDICAP PARKING DETAIL

			DESIGN:	XC
			DRAWN:	XC
REV.#	DATE	REVISION	BY	CHECKED: CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

2754 SUMMERDALE WAREHOUSE
CONSTRUCTION DETAILS
PINELLAS COUNTY FLORIDA

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

60% PLAN
CHRISTOPHER A. CHIN, P.E. 84365

WORK ORDER NO.	SE22.199
DATE:	NOVEMBER 8, 2022
SCALE:	N.T.S.
SHEET NO.	7 OF 8

Nov 08, 2022 - 7:05pm I:\CAD Projects\Projects_SEPI X Drive\2022\SE22.199.00 2754 Summerdale Drive\Engineering\Acad\SE22.199-Details-SPECS.dwg

GENERAL CONSTRUCTION NOTES

1. ALL RIGHT-OF-WAY INSTALLATIONS WILL BE IN ACCORDANCE WITH PRACTICES REFERENCED IN THE STATE OF FLORIDA UTILITIES ACCOMMODATIONS MANUAL.

2. ALL DESIGN AND CONSTRUCTION MUST CONFORM TO THE MINIMUM STANDARDS SET DOWN IN PINELLAS COUNTY LAND DEVELOPMENT, ZONING AND/OR RELATED ORDINANCES, AND MINIMUM TESTING FREQUENCY REQUIREMENTS.

3. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.

4. THE CONTRACTOR SHALL CHECK THE PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.

5. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES, AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES, IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, IN ADVANCE OF CONSTRUCTION, BY CALLING "SUNSHINE" AT 1-800-432-4770. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES NOT INCLUDED IN THE "SUNSHINE" PROGRAM.

6. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR.

7. ALL UNDERGROUND UTILITIES MUST BE IN PLACE AND TESTED OR INSPECTED PRIOR TO BASE AND SURFACE CONSTRUCTION.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, AND SCHEDULE INSPECTIONS ACCORDING TO AGENCY INSTRUCTION.

9. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE OWNER'S ENGINEER, SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS WHICH ARE FROM THIS SITE. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE. ALL SHOP DRAWINGS ARE TO BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER'S ENGINEER.

10. AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES, AND SUPPLY THEM WITH ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER, OR WITHOUT AGENCY INSPECTOR PRESENT, MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

11. BACKFILL MATERIAL SHALL BE SOLIDLY TAMPED AROUND PIPES IN 6" LAYERS UP TO A LEVEL OF AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE. IN AREAS TO BE PAVED, BACKFILL SHALL BE COMPACTED TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

12. SITE WORK CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3,000 P.S.I. IN 28 DAYS, UNLESS OTHERWISE NOTED.

13. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ADDITIONAL COSTS ARE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION IS TO BE ALLOWED.

14. ALL DISTURBED AREAS WHICH ARE NOT TO BE SODDED, ARE TO BE SEEDED AND MULCHED TO DOT STANDARDS, AND MAINTAINED UNTIL A SATISFACTORY STAND OF GRASS, ACCEPTABLE TO THE REGULATORY AGENCY AND ENGINEER OF RECORD, HAVE BEEN OBTAINED. ANY WASHOUTS, REGRADING, RESEEDING, AND GRASSING WORK, AND OTHER EROSION WORK REQUIRED, WILL BE PERFORMED BY THE CONTRACTOR, UNTIL THE SYSTEM IS ACCEPTED FOR MAINTENANCE, BY THE REGULATORY AGENCY AND ENGINEER OF RECORD.

15. THE SOILS ENGINEER IS TO SUPPLY THE ENGINEER WITH A PHOTOCOPY OF ALL COMPACTION TESTS, AND ASPHALT RESULTS. THE SOILS ENGINEER IS TO CERTIFY TO THE ENGINEER OF RECORD, IN WRITING, THAT ALL TESTING REQUIREMENTS, REQUIRED BY THE LOCAL REGULATORY AGENCY, AND THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), FOR THE IMPROVEMENTS, AS REQUIRED BY THE ENGINEERING CONSTRUCTION DRAWINGS, HAVE BEEN SATISFIED.

16. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED PLANS AND PERMITS AT THE CONSTRUCTION SITE.

17. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS FOR CONSTRUCTION SITE SAFETY.

18. ALL SODDING, SEEDING AND MULCHING SHALL INCLUDE WATERING AND FERTILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE OWNER.

19. SAFE PEDESTRIAN TRAFFIC IS TO BE MAINTAINED AT ALL TIMES.

20. SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH THE US DEPARTMENT OF TRANSPORTATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE FLORIDA DEPARTMENT OF TRANSPORTATION'S "DESIGN STANDARDS" INDEXES 600 THROUGH 670 (LATEST EDITIONS).

21. ANY SIDEWALK WHICH BECOMES UNDERMINED MUST BE REMOVED AND REPLACED. SIDEWALKS ARE TO BE RECONSTRUCTED WITHIN THREE (3) DAYS AFTER REMOVAL. WHEN EXISTING SIDEWALK IS REMOVED, IT IS TO BE REMOVED TO THE NEAREST JOINT.

22. PLACE EXPANSION JOINTS WHERE 4" AND 6" CONCRETE ABUT.

23. PLACE EXPANSION JOINT BETWEEN BACK-OF-CURB AND CONCRETE DRIVEWAY.

24. SAW CUT EXISTING EDGE-OF-PAVEMENT PRIOR TO REMOVAL OF CURB AND PLACEMENT OF ASPHALT.

25. COMPACTION FOR PIPE BACKFILL SHALL COMPLY WITH AASHTO T-99 (100 %).

26. DISTURBED AREA WITHIN THE RIGHT-OF-WAY WILL BE COMPACTED TO 100% OF MAXIMUM DENSITY AND SODDED.

27. DO NOT DISTURB EXISTING UNDERDRAIN OR STORM SYSTEMS. IF FILTRATION BED IS DISTURBED, CONTACT THE AREA INSPECTOR WITH THE CITY HIGHWAY DEPARTMENT FOR ASSISTANCE.

28. COORDINATE THE CUTTING OF DRIVEWAYS WITH OWNER PRIOR TO CUT. ALL DRIVEWAYS WILL BE IN PASSABLE CONDITION AT END OF WORK DAY.

29. CONCRETE DRIVEWAYS PERMITTED TO BE CUT ARE TO BE RESTORED WITH 6" OF 3000 PSI CONCRETE WITH 6" X 6" 10 GAUGE WIRE WELDED FABRIC. PLACE 1/2" EXPANSION JOINT BETWEEN BACK OF CURB AND NEW DRIVE. ANY PORTION OF DRIVEWAY AT OR NEAR CUTS THAT BECOMES UNDERMINED WILL BE REMOVED PRIOR TO CONCRETE BEING PLACED. EXISTING CRACKS IN DRIVEWAYS ARE TO BE DOCUMENTED AS PRE-EXISTING OR THAT SECTION REPLACED AT THE CITY HIGHWAY DEPARTMENT'S OPTION. AREA BENEATH PATCH TO BE MECHANICALLY TAMPED PRIOR TO PLACING CONCRETE. MINIMUM REPAIR WIDTH TO BE 5' WITH NO SECTION LEFT SMALLER THAN 5'.

30. ASPHALT DRIVES PERMITTED TO BE CUT ARE TO BE RESTORED UTILIZING THE SAME MATERIAL AS EXISTING BASE WITH MINIMUM 6" THICKNESS, COMPACTED AND PRIMED. ASPHALT IS TO MATCH EXISTING THICKNESS WITH A MINIMUM OF 1 1/2" THICKNESS. ASPHALT TO BE PC-3 OR ALTERNATE APPROVED BY THE COUNTY HIGHWAY DEPARTMENT PRIOR TO USE. ASPHALT IS TO BE COMPACTED TO ACHIEVE DENSITY REQUIREMENTS FOR PC-3. RECEIPTS AND DELIVERY TICKETS SHOULD REFLECT SUPPLIER AND HIS CERTIFICATION AS TO TYPE OF ASPHALT SUPPLIED.

31. TYPE OF SOD USED TO RESTORE OWNER-MAINTAINED AREA IN RIGHT OF WAY SHALL BE COORDINATED WITH OWNER.

32. NO STOCKPILING OF MATERIAL IN ROADWAY OR ON SIDEWALK; ALL DIRT AND DEBRIS WILL BE REMOVED FROM JOB SITE DAILY. ROHP AND SIDEWALK TO BE SWEPT DAILY AS PART OF DAILY CLEAN-UP.

33. ANY PORTION OF THE ROADWAY THAT SUSTAINS EXCESSIVE CONSTRUCTION RELATED DAMAGE, IN THE OPINION OF THE COUNTY HIGHWAY DEPARTMENT, SHALL BE REPAIRED AT CONTRACTOR EXPENSE IN A MANNER SPECIFIED BY THE COUNTY HIGHWAY DEPARTMENT.

34. THE PERMITTEE'S ATTENTION IS DIRECTED TO THE PROVISIONS OF THE TRENCH SAFETY ACT (FLORIDA STATUTES, SECTION 553.60 ET. SEQ.) AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS (29 C.F.R. SECTION 1926.650, SUBPART P) WHICH SHALL APPLY TO CONSTRUCTION, OPERATION AND MAINTENANCE PURSUANT TO THIS PERMIT.

35. NOTIFY PROPERTY OWNERS REGARDING SPRINKLER SYSTEM, PLANTS AND MAIL BOXES THAT WILL BE DISTURBED DURING CONSTRUCTION PRIOR TO STARTING WORK.

36. PRIOR TO COMMENCEMENT OF WORK AND/OR PRIOR TO START OF RESTORATION, COORDINATE THROUGH A "WALK-THROUGH" WITH THE COUNTY HIGHWAY DEPARTMENT REPRESENTATIVE TO ENSURE MUTUAL AGREEMENT REGARDING SUCH MATTERS AS EXTENT OF ROADWAY TO BE OVERLAID AFTER PATCHING, THE EXTENT OF DRIVEWAY REPLACEMENT - ESPECIALLY CONCRETE, ETC.

37. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND EASILY ACCESSIBLE PAVED OR UNPAVED PATHWAY FOR PEDESTRIAN TRAFFIC THROUGH THE WORK ZONE FOR THE DURATION OF THE CONSTRUCTION PROJECT. IF THE PATHWAY LIES ALONG A DESIGNATED SCHOOL-WALKING ROUTE THEN THE CONTRACTOR MUST PROVIDE ADEQUATE SUPERVISION AND/OR GUIDANCE TO THE SCHOOL AGED STUDENTS AS THEY TRAVERSE THRU THE WORK ZONE.

GRADING AND DRAINAGE NOTES

1. ALL DELETERIOUS SUBSTANCE MATERIAL, (I.E. MUCK, PEAT, BURIED DEBRIS), IS TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS, OR AS DIRECTED BY THE OWNER'S ENGINEER, OR OWNER'S SOIL TESTING COMPANY. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER. EXCAVATED AREAS ARE TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING, OR SHORING, AS NECESSARY. TRENCHES SHALL BE KEPT DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED. DEWATERING SHALL BE USED AS REQUIRED.

3. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) UNLESS OTHERWISE NOTED ON PLANS.

4. PVC STORM PIPE, 12" AND SMALLER SHALL CONFORM TO AWWA C-900, CLASS 150 STANDARDS, UNLESS OTHERWISE NOTED.

5. ALL DRAINAGE STRUCTURE GRATES AND COVERS WITHIN TRAFFIC AREAS SHALL BE TRAFFIC RATED FOR H-20 LOADINGS.

6. THE CONTRACTOR IS TO SOD THE RETENTION/DETENTION POND AS INDICATED ON PLANS WITHIN ONE WEEK FOLLOWING CONSTRUCTION OF THE POND.

7. MATERIALS AND CONSTRUCTION METHODS FOR STREETS AND STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY.

PAVING NOTES

1. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE OWNER'S ENGINEER FOR APPROVAL.

2. THE CONTRACTOR IS TO PROVIDE A 1/2" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER, AT ABUTMENT OF CONCRETE AND ANY STRUCTURE.

3. ALL PAVEMENT MARKINGS SHALL BE MADE WITH TRAFFIC PAINT IN ACCORDANCE TO FDOT STANDARD SPECIFICATIONS 971-12 OR 971-13. PARKING STALL STRIPING TO BE 4" WIDE PAINTED WHITE STRIPES.

4. THE CONTRACTOR IS TO INSTALL EXTRA BASE MATERIAL WHEN THE DISTANCE BETWEEN THE PAVEMENT ELEVATION AND THE TOP OF THE PIPE OR BELL IS LESS THAN TWELVE (12) INCHES.

5. STANDARD INDEXES REFER TO THE LATEST EDITION OF FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS".

PAVING, GRADING & DRAINAGE TESTING AND INSPECTION REQUIREMENTS

1. THE STORM DRAINAGE PIPING AND FILTRATION SYSTEM SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S SOILS ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL.

2. THE CONTRACTOR SHALL MAINTAIN THE STORM DRAINAGE SYSTEMS UNTIL FINAL ACCEPTANCE OF THE PROJECT.

3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE TESTING SCHEDULE FOUND IN THE ENGINEERING CONSTRUCTION DRAWINGS. UPON COMPLETION OF THE WORK, THE SOILS ENGINEER MUST SUBMIT CERTIFICATIONS TO THE OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.

WATER SYSTEM NOTES

1. ALL WATER MAINS SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.

2. ALL WATER SYSTEM WORK SHALL CONFORM WITH LOCAL REGULATORY STANDARDS AND SPECIFICATIONS.

3. ALL DUCTILE IRON PIPE SHALL BE CLASS 52 IN ACCORDANCE WITH ANSI A 21.50 (AWWA C 150) AND ANSI A 21.31 (AWWA C 151) AND PIPE SHALL RECEIVE EXTERIOR BITUMINOUS COATING IN ACCORDANCE WITH ANSI A 21.6, A 21.8 OR A 21.51 AND SHALL BE MORTAR LINED, STANDARD THICKNESS, AND BITUMINOUS SEALED IN ACCORDANCE WITH ANSI A (AWWA C 104-71).

4. ALL FITTINGS LARGER THAN 2" SHALL BE DUCTILE IRON CLASS 53 IN ACCORDANCE WITH AWWA C-110 WITH A PRESSURE RATING OF 350 PSI. JOINTS SHALL BE MECHANICAL JOINTS IN ACCORDANCE WITH AWWA C-111. FITTINGS SHALL BE CEMENT MORTAR LINED AND COATED IN ACCORDANCE WITH AWWA C-104.

5. ALL PVC WATER MAINS 4" THROUGH 12" SHALL BE IN ACCORDANCE WITH AWWA C-900. PIPE SHALL BE CLASS 150 AND MEET THE REQUIREMENTS OF SDR 18 IN ACCORDANCE WITH ASTM D-2241.

6. WATER MAIN PIPING OF LESS THAN 4" SHALL BE PER PVC SDR26.

7. ALL FITTINGS 2" AND SMALLER SHALL BE PVC SDR21 WITH PUSH ON JOINTS.

8. ALL GATE VALVES 2" OR LARGER SHALL BE RESILIENT SEAT OR RESILIENT WEDGE MEETING THE REQUIREMENTS OF AWWA C509

9. ALL FIRE HYDRANTS SHALL MEET THE REQUIREMENTS OF AWWA C502 AND SHALL BE APPROVED BY THE LOCAL UTILITY AND FIRE MARSHAL.

10. THE CONTRACTOR IS TO INSTALL TEMPORARY BLOW-OFFS AT THE END OF WATER SERVICE LATERALS TO ASSURE ADEQUATE FLUSHING AND DISINFECTION.

11. THRUST BLOCKING SHALL BE PROVIDED AT ALL FITTINGS AND HYDRANTS AS SHOWN ON DETAILS.

12. MATERIALS AND CONSTRUCTION METHODS FOR WATER DISTRIBUTION SYSTEM SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY CODES.

13. THE IRRIGATION SYSTEM SHALL HAVE COLOR CODED PIPING AND LABELING ON THE PIPE TO INSURE DIFFERENTIATION FROM POTABLE WATER PIPING.

WATER SYSTEM TESTING AND INSPECTION REQUIREMENTS

1. THE PERMIT HOLDER SHALL MAKE THE APPLICABLE TESTS PRESCRIBED IN SECTIONS 312.2 THROUGH 312.9 OF THE 2004 FLORIDA BUILDING CODES, AS UPDATED, TO DETERMINE COMPLIANCE WITH THE PROVISIONS OF THIS CODE. THE PERMIT HOLDER SHALL GIVE REASONABLE ADVANCE NOTICE TO THE CODE OFFICIAL WHEN THE PLUMBING WORK IS READY FOR TESTS. THE EQUIPMENT, MATERIAL, POWER AND LABOR NECESSARY FOR THE INSPECTION AND TEST SHALL BE FURNISHED BY THE PERMIT HOLDER, AND THE PERMIT HOLDER SHALL BE RESPONSIBLE FOR DETERMINING THAT THE WORK WILL WITHSTAND THE TEST PRESSURE PRESCRIBED IN THE ABOVE MENTIONED SECTIONS. ALL PLUMBING SYSTEM PIPING SHALL BE TESTED WITH EITHER WATER OR, FOR PIPING SYSTEMS OTHER THAN PLASTIC, BY AIR. AFTER THE PLUMBING FIXTURES HAVE BEEN SET AND THEIR TRAPS FILLED WITH WATER, THE ENTIRE DRAINAGE SYSTEM SHALL BE SUBMITTED TO FINAL TESTS. THE CODE OFFICIAL SHALL REQUIRE THE REMOVAL OF ANY CLEANOUTS IF NECESSARY TO ASCERTAIN WHETHER THE PRESSURE HAS REACHED ALL PARTS OF THE SYSTEM.

2. ALL COMPONENTS OF THE WATER SYSTEM, INCLUDING FITTINGS, HYDRANTS, CONNECTIONS, AND VALVES SHALL REMAIN UNCOVERED UNTIL PROPERLY PRESSURE TESTED AND ACCEPTED BY THE OWNER'S ENGINEER AND THE CODE OFFICIAL. CONTRACTOR TO NOTIFY OWNER'S ENGINEER AND CODE OFFICIAL 48 HOURS IN ADVANCE OF PERFORMING TESTS.

HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR SEWER FORCE MAINS AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST FIVE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST FIVE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST FIVE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

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

SANITARY SEWER NOTES

1. ALL SANITARY SEWER MAINS & LATERALS SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.

2. ALL SANITARY SEWER MAINS & SERVICE LATERALS SHALL BE CONSTRUCTED OF POLYVINYL CHLORIDE PIPE, SDR 35 OR AS OTHERWISE INDICATED ON THE CONSTRUCTION DRAWINGS.

3. ALL SANITARY SEWER WORK SHALL CONFORM WITH LOCAL REGULATORY STANDARDS AND SPECIFICATIONS.

4. PRIOR TO COMMENCING WORK WHICH REQUIRES CONNECTING NEW WORK TO EXISTING LINES OR APPURTENANCES, THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING CONNECTION POINT AND NOTIFY OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

5. PVC PIPE AND FITTINGS SHALL CONFORM TO ASTM SPECIFICATIONS DESIGNATION D-3034-77C, MA SDR 35. INSTALLATION OF SDR 35 PIPE SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF ASTM SPECIFICATION SECTION D2321. ALL SANITARY SEWER PIPELINES SHALL BE SOLID GREEN IN COLOR.

6. ALL PVC FORCE MAINS SHALL BE CLASS 200, SDR 21, COLOR GREEN, WITH A GREEN MAGNETIC TAPE A MINIMUM OF 2" WIDE, PLACED 1 FOOT BELOW THE PROPOSED GRADE. THE PRINTING ON THE MAGNETIC TAPE SHOULD READ "FORCEMAIN".

7. ALL DUCTILE IRON PIPE SHALL BE CLASS 52 IN ACCORDANCE WITH ANSI A 21.50 (AWWA C 150) AND ANSI A21.51 (AWWA C 151). DUCTILE IRON PIPE SHALL RECEIVE INTERIOR AND EXTERIOR BITUMINOUS COATING IN ACCORDANCE WITH ANSI A 21.6, A 21.8, OR A 21.51.

8. ALL SANITARY SEWER GRAVITY MAINS OR SANITARY SEWER FORCEMAINS THAT REQUIRE D.I.P. ARE TO BE POLYLINED OR EPOXY LINED.

9. ALL SANITARY SEWER COVERS SHALL BE TRAFFIC RATED FOR H-20 LOADING.

SANITARY SEWER TESTING AND INSPECTION REQUIREMENTS

1. ALL GRAVITY SEWER PIPING SHALL BE SUBJECT TO A TELEVISION INSPECTION BY THE OWNER'S CONTRACTOR. CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE INSPECTION. A PINELLAS COUNTY CONSTRUCTION INSPECTOR WILL BE NOTIFIED 48 HOURS PRIOR TO THE VIDEO INSPECTION. THE VIDEO INSPECTION OF ALL SANITARY SEWER PIPING WILL INCLUDE A MANDREL TEST AND A RECORDED VIDEO INSPECTION WILL BE PROVIDED TO THE PC INSPECTOR

2. THE CONTRACTOR SHALL PERFORM AN EXFILTRATION TEST ON ALL GRAVITY SEWERS INSTALLED IN ACCORDANCE WITH THE REGULATION AGENCY HAVING JURISDICTION. MAXIMUM ALLOWABLE LEAKAGE RATE: 200 GPD PER INCH PIPE DIAMETER PER MILE. TEST RESULTS ARE TO BE SUBMITTED TO THE REGULATORY AGENCY FOR APPROVAL. COORDINATION AND NOTIFICATION OF ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.

3. ALL FORCE MAINS SHALL BE SUBJECT TO A HYDROSTATIC PRESSURE TEST IN ACCORDANCE WITH THE REGULATORY AGENCY HAVING JURISDICTION. SAID TESTS ARE TO BE CERTIFIED BY THE ENGINEER OF RECORD AND SUBMITTED TO THE REGULATORY AGENCY FOR APPROVAL. COORDINATION AND NOTIFICATION OF ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.

S.W.F.W.M.D. / EROSION CONTROL NOTES

1. DURING CONSTRUCTION SEDIMENT IS TO REMAIN ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES PRIOR TO INITIATING AND DURING ALL PHASES OF LAND CLEARING AND CONSTRUCTION TO PREVENT SOIL EROSION AND SILTATION.

2. ROUGH EXCAVATE RETENTION AREAS.

3. DIRECT ALL SURFACE DRAINAGE TOWARD RETENTION AREA DURING CONSTRUCTION.

4. AFTER PAVING, GRADE RETENTION AREAS TO CONTOURS, SHAPE AS SHOWN AND SOD.

5. ALL DISTURBED CONDITIONS SHALL BE RESTORED TO NATURAL CONDITIONS OR BETTER.

6. ALL SIDE SLOPES OF RETENTION OR SWALE AREAS SHALL BE STABILIZED BY VEGETATION OR OTHER MATERIALS TO MINIMIZE EROSION AND PROTECT THE STORMWATER BASIN.

NOTE: PLAN CONFLICTS, SHOWN OR UNSHOWN, WITH OTHER EXISTING SITE IMPROVEMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ADJUSTMENTS AND PROTECT OR REINSTALL ALL DISTURBED EXISTING UTILITIES, PHONE LINES, POWER LINES, POWER SUPPORT CABLES, SPRINKLER LINES AND CONTROLS, MECHANICAL PIPELINES OR UNDERGROUND POWER CABLES AND RETURN EXISTING CONCRETE WALKS, DUMPSTER PHP, FENCE, HANDRAIL, VALVES, HYDRANTS, GUY WIRES, ELECTRIC BOXES AND PIPELINES WHICH SHALL BE REPAIRED OR REINSTALLED AS INCIDENTAL TO THE COST 0F WORK SHOWN HEREUNDER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE ANY CONFLICTS PRIOR TO AWARD OF THE CONTRACT.

NOTE: REQUIRED EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT CONSTRUCTION. FAILURE TO INSTALL OR PROPERLY MAINTAIN THESE BARRICADES WILL RESULT IN ENFORCEMENT ACTION WHICH MAY INCLUDE CITATIONS, AS PROVIDED BY CHAPTERS 40D-4 & 40D-40 F.A.C. INITIATION OF CIVIL PENALTY PROCEDURES PURSUANT TO SECTION 373.129. F.A.C. CAN RESULT IN A PENALTY NOT TO EXCEED $10,000 PER OFFENSE WITH EACH DATE DURING WHICH SUCH VIOLATION OCCURS CONSTITUTING A OFFENSE.

<u>MAINTENANCE AND OPERATIONS INSPECTIONS FOR STORMWATER DISCHARGE FACILITY</u>

1. ALL SODDED AREAS SHALL BE MOWED AND MAINTAINED PROPERLY.

2. UNDER NO CIRCUMSTANCES SHALL THE RETENTION AREA BE FILLED WITH ANY OTHER SUBSTANCE THAN STORMWATER.

3. SWALE AREAS SHALL BE KEPT CLEAN AND FREE OF ANY OBSTRUCTIONS.

4. IF DAMAGE TO THE SYSTEM DOES OCCUR, THE SYSTEM SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.

<u>OPERATION & MAINTENANCE OF THE STORMWATER SYSTEM</u>

1. THE OWNER SHALL PERIODICALLY MONITOR THE STORMWATER SYSTEM (PIPE CONVEYANCE SYSTEM AND RETENTION POND) FOR SILT AND SEDIMENTATION BUILD UP. THE PIPE CONVEYANCE SYSTEM SHALL BE FLUSHED, AS DEEMED NECESSARY NO LESS THAN TWICE A YEAR. ALL MATERIAL SHALL BE COLLECTED DOWNSTREAM AND REMOVED. THE RETENTION POND SHALL BE KEPT MOWED AND THE BOTTOM FREE OF DEBRIS. IF WATER STANDS IN THE POND MORE THAN 48 HOURS THE OWNER SHALL RAKE AND/OR SCARIFY THE POND BOTTOM, AS DEEMED NECESSARY AND NO LESS THAN TWICE A YEAR TO RESTORE THE PERCOLATION CHARACTERISTICS OF THE POND. THE OWNER WILL BE RESPONSIBLE TO MAKE SURE THAT TO THE BEST OF HIS ABILITY NOTHING ENTERS THE SYSTEM BESIDES STORMWATER THAT COULD DETERIORATE THE FUNCTIONING CAPABILITIES OF THE SYSTEM, I.E. GASOLINE, OIL, GREASE, CHEMICALS, ETC.

2. THE POND UNDERDRAIN SYSTEM SHALL BE INSPECTED ANNUALLY AND RETROFITTED AND FLUSHED SEMI-ANNUALLY. CLOGGED OR SPENT FILTER MATERIAL SHALL BE DISPOSED OF IN ALL MANNERS AS WITH THE HANDLING OF HAZARDOUS WASTE. THE SPENT FILTER MATERIAL SHALL BE DISPOSED OF IN A PERMITTED FACILITY.

CLEARING AND GRUBBING NOTES

1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.

2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE, WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.

3. THE CONTRACTOR SHALL CLEAR AND GRUB, ONLY THOSE PORTIONS OF THE SITE, NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.

4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.

5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.

6. THE CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS FOR REMOVING ANY EXISTING STRUCTURES.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES TO DISCONNECT OR REMOVE THEIR FACILITIES PRIOR TO REMOVING OR DEMOLISHING

8. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING A VISUAL INSPECTION OF THE SITE AND WILL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL UNDERGROUND AND ABOVE GROUND STRUCTURES THAT WILL NOT BE INCORPORATED WITH THE NEW FACILITIES. SHOULD ANY DISCREPANCIES EXIST WITH THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING THE OWNER AND REQUESTING A CLARIFICATION OF THE PLANS PRIOR TO DEMOLITION.

9. DURING CONSTRUCTION, ALL STORM SEWER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.

10. ALL EROSION AND SILTATION CONTROL METHODS SHALL BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.

11. WHEN CONSTRUCTION IS COMPLETED, THE RETENTION/DETENTION AREAS WILL BE RESHAPED, CLEANED OF SILT, MUD AND DEBRIS, AND RE-SODDED IN ACCORDANCE TO THE PLANS.

12. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS, WATERWAYS, AND EXISTING WETLANDS.

13. THE SILT FENCE WILL NOT BE TRENCHED IN WHERE ADJACENT TO TREES DESIGNATED TO REMAIN. THE SILT FENCE MUST BE SECURED THROUGH THE PLACEMENT OF FILL OVER THE LOWER LIP OF THE BARRICADE.

PINELLAS COUNTY RIGHT OF WAY NOTES

1. ALL PROPOSED WORK MUST COMPLY WITH F.D.O.T. INDEX NO. 700

2. ALL R.O.W. INSTALLATIONS WILL BE IN ACCORDANCE WITH PRACTICES REFERENCED IN THE STATE OF FLORIDA UTILITIES ACCOMMODATIONS MANUAL.

3. ALL DESIGN AND CONSTRUCTION MUST CONFORM TO THE MINIMUM STANDARDS SET DOWN IN PINELLAS COUNTY LAND DEVELOPMENT, ZONING AND/OR RELATED ORDINANCES, AND MINIMUM TESTING FREQUENCY REQUIREMENTS.

4. SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH THE U.S. DEPARTMENT OF TRANSPORTATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE FLORIDA DEPARTMENT OF TRANSPORTATION'S "STANDARD PLANS" INDEXES 102-600 THROUGH 102-670 (LATEST EDITIONS).

5. INSTALLATIONS INVOLVING CONCRETE AND ASPHALT DRIVEWAY, IN GOOD CONDITION, MUST BE ACCOMPLISHED BY JACK AND BORE OR PUSHING. NO JETTING IS ALLOWED.

6. COMPACTION FOR PIPE BACKFILL SHALL COMPLY WITH AASHTO T-99(100%).

7. DISTURBED AREA WITHIN THE R.O.W. WILL BE COMPACTED TO 100% OF MAXIMUM DENSITY AND SODDED.

8. ANY PORTION OF THE ROADWAY THAT SUSTAINS EXCESSIVE CONSTRUCTION RELATED DAMAGE, IN THE OPINION OF PINELLAS COUNTY HIGHWAY DEPARTMENT, SHALL BE REPAIRED AT CONTRACTOR EXPENSE IN A MANNER SPECIFIED BY PINELLAS COUNTY HIGHWAY DEPARTMENT.

9. SAFE PEDESTRIAN TRAFFIC IS TO BE MAINTAINED AT ALL TIMES.

10. ANY SIDEWALK WHICH BECOMES UNDERMINED MUST BE REMOVED AND REPLACED. SIDEWALKS ARE TO BE RECONSTRUCTED WITHIN THREE(3) DAYS AFTER REMOVAL. WHEN EXISTING SIDEWALK IS REMOVED, IT IS TO BE REMOVED AT THE NEAREST JOINT.

11. NO STOCKPILING OF MATERIAL IN ROADWAY OR ON SIDEWALK; ALL DIRT OR DEBRIS WILL BE REMOVED FROM THE JOB SITE DAILY. ROHP AND SIDEWALKS ARE TO BE SWEPT DAILY AS PART OF DAILY CLEAN-UP.

12. PLACE EXPANSION JOINT BETWEEN BACK-OF-CURB AND CONCRETE SIDEWALK AND BETWEEN CONCRETE DRIVEWAY AND CONCRETE SIDEWALK.

13. PLACE EXPANSION JOINTS WHERE 4" AND 6" CONCRETE ABUT.

14. PRIOR TO COMMENCEMENT OF WORK AND/OR PRIOR TO START OF RESTORATION, COORDINATE THROUGH A "WALK-THROUGH" WITH PINELLAS COUNTY HIGHWAY DEPARTMENT REPRESENTATIVE TO ENSURE MUTUAL AGREEMENT REGARDING SUCH MATTERS AS EXTENT OF ROADWAY TO BE OVERLAID AFTER PATCHING, THE EXTENT OF DRIVEWAY REPLACEMENT -- ESPECIALLY CONCRETE, ETC.

15. HANDICAP RAMPS SHALL BE INSTALLED ACCORDING TO FDOT IND.#304

15. REMOVE & REPLACE ANY EXISTING SIDEWALK WITHIN PINELLAS COUNTY R.O.W. THAT HAS BEEN DAMAGED DUE TO DEMOLITION AND PORTIONS NOT MEETING A.D.A. REQUIREMENTS.

16. A MINIMUM REQUIRED SIDEWALK SHOULDER CLEAR ZONE OF 2' FROM THE EDGE OF THE SIDEWALK WITH A MAXIMUM SLOPE OF 3/4" PER LINEAR FOOT. NO PERMANENT OBSTACLES ARE ALLOWED IN THIS AREA.

17. LANE CLOSURES MUST BE SCHEDULED 48 HOURS IN ADVANCE WITH PINELLAS COUNTY PUBLIC WORKS AND SHALL NOT OCCUR DURING PEAK HOURS PERIODS OF 7AM TO 9AM AND 4PM TO 6PM.

18. ALL RIGHT-OF-WAY INSTALLATIONS WILL BE IN ACCORDANCE WITH PRACTICES REFERENCED IN THE STATE OF FLORIDA UTILITIES ACCOMMODATIONS MANUAL.

19. PROVIDE A MINIMUM OF 3' COVER OVER UTILITIES AT ALL DITCH CROSSINGS.

20. THE PERMITTEE'S ATTENTION IS DIRECTED TO THE PROVISIONS OF THE TRENCH SAFETY ACT (FLORIDA STATUTES, SECTION 553.60 ET. SEQ.) AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS (29 C.F.R. SECTION 1926.650, SUBPART P) WHICH SHALL APPLY TO CONSTRUCTION, OPERATION AND MAINTENANCE PURSUANT TO THIS PERMIT.

21. UPON COMPLETION OF THE PROJECT, THE ENGINEER OF RECORD SHALL COMPLETE THE ORIGINAL CERTIFICATION OF PROJECT COMPLETION FORM AND SUBMIT 2 ORIGINAL COPIES OF RECORD DRAWINGS, ELECTRONIC FILES (BOTH PDF AND DWG) AND INDEPENDENT TESTING REPORTS FOR WORK PERFORMED WITHIN PINELLAS COUNTY RIGHTS-OF-WAY.

22. A CERTIFICATE OF OCCUPANCY INSPECTION CANNOT BE REQUESTED OR SCHEDULED UNTIL ALL PROJECT COMPLETION DOCUMENTS HAVE BEEN SUBMITTED TO PINELLAS COUNTY ENGINEERING DEPARTMENT. RECORD DRAWING DOCUMENTS MUST BE SUBMITTED AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO THE REQUESTING OR SCHEDULING OF A CO. CO INSPECTIONS MUST BE SCHEDULED TWO (2) DAYS IN ADVANCE AND ARE ONLY AVAILABLE ON MONDAYS, WEDNESDAYS OR FRIDAYS.

LANDSCAPE NOTES

1. WARNING: ABOVE-GROUND AND/OR UNDERGROUND UTILITIES MAY BE IN THE AREA OF THIS PROJECT. PROCEED WITH CAUTION: CALL 1-800-432-4770 48 HOURS PRIOR TO CONSTRUCTION.

2. ALL TRIMMING UNDERTAKEN ON A TREE PROTECTED BY THE PROVISIONS OF THE LAND DEVELOPMENT CODE SHALL BE PRUNED IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A-300 PRUNING STANDARDS.

3. A ONE HUNDRED PERCENT (100%) COVERAGE IRRIGATION SYSTEM SHALL BE INSTALLED FOR ALL LANDSCAPED AREAS. SHALLOW WELLS, OPEN SURFACE WATER BODIES, OR RECLAIMED WATER MUST BE USED AS A SOURCE OF IRRIGATION WATER. THE IRRIGATION SYSTEM SHALL NOT BE CONNECTED TO CITY, COUNTY, OR MUNICIPAL WATER SOURCES UNLESS IT CAN BE DEMONSTRATED THAT THESE OTHER SOURCES ARE NOT AVAILABLE.

4. IN THE EVENT THE IRRIGATION SYSTEM IS CONNECTED TO THE PUBLIC POTABLE WATER SUPPLY, THE IRRIGATION SYSTEM SHALL INCLUDE AN APPROVED BACK FLOW PREVENTER AT THE SERVICE CONNECTION (POINT OF CONNECTION).

5. THE IRRIGATION SYSTEM MUST UTILIZE LOW VOLUME DESIGN SUCH AS LOW TRAJECTORY HEHP OR SOAKER HOSES TO PROVIDE DIRECT APPLICATION AND LOW EVAPORATION. SYSTEMS THAT OVER SPRAY AREAS THAT DO NOT REQUIRE IRRIGATION, SUCH AS PAVED AREAS WILL NOT BE ACCEPTABLE. HIGH IRRIGATION NEED AREAS MUST NOT OVER SPRAY LOW NEED AREAS.

6. HIGH WATER DEMAND LANDSCAPE AREAS SUCH AS TURF MUST BE SERVED BY A SEPARATE IRRIGATION ZONE THAN LOW WATER NEED AREAS, SUCH AS PLANTER BEDS OR MULCHED AREAS WITH TREES. IN NO CASE SHALL ANY PLANTED VEGETATION AREA BE MORE THAN 50' FROM A WATER SUPPLY HOSE BIBB.

7. THE IRRIGATION SYSTEM MUST BE OPERATED BY AN IRRIGATION CONTROLLER CAPABLE OF DIFFERENTIATING BETWEEN THE SCHEDULES OF HIGH AND LOW WATER DEMAND AREAS. CONTROLLERS MUST HAVE MULTIPLE CYCLE START CAPACITY AND A FLEXIBLE CALENDAR PROGRAM ABLE TO BE SET TO COMPLY WITH LOCAL OR WATER MANAGEMENT DISTRICT IMPOSED RESTRICTIONS.

8. THE AUTOMATIC IRRIGATION SYSTEM MUST BE EQUIPPED WITH A RAIN SENSOR DEVICE OR SWITCH WHICH WILL OVERRIDE THE IRRIGATION CYCLE OF THE SPRINKLER SYSTEM WHEN ADEQUATE RAINFALL HAS OCCURRED. GROUND MOISTURE SENSING DEVICES ARE ENCOURAGED WHERE APPROPRIATE.

9. UNDERGROUND IRRIGATION SHALL NOT BE INSTALLED WITHIN THE DRIP LINES OF EXISTING TREES UNLESS ROOT PROTECTION MEASURES ARE PROVIDED.

10. SOILS WITHIN ALL PLANTING AREAS SHALL BE SUITABLE OR AMENDED FOR PROPOSED PLANTINGS WITH REGARDS TO PH, SOIL TEXTURE, SOIL STRUCTURE, AND SEASONAL HIGH WATER TABLE.

11. ALL AREAS DISTURBED DURING CONSTRUCTION OR NOT DESIGNATED FOR TREES AND SHRUBS, SHALL RECEIVE SOD IN ORDER TO STABILIZE SOIL AND CONTROL STORMWATER RUNOFF.

12. PER THE NEW FLORIDA BUILDING CODE, ALL IRRIGATION LINES AND HEHP MUST BE MAINTAINED A MINIMUM DISTANCE OF ONE FOOT FROM ALL STRUCTURES.

13. ALL PLANT MATERIAL SHALL BE FLORIDA #1 OR BETTER AS GIVEN IN, "GRADES AND STANDARDS FOR NURSERY PLANTS", LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.

14. LOCATION OF PLANTS ON THE PLAN ARE DIAGRAMMATIC. THE PLANT MATERIAL LIST IS PROVIDED FOR THE CONVENIENCE OF THE LANDSCAPE CONTRACTOR; SHOULD THERE BE ANY DISCREPANCY BETWEEN THE PLANT LIST AND THE PLAN, THE PLAN SHALL PREVAIL.

15. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO INSURE THAT ALL PLANT BED AREAS HAVE PROPER DRAINAGE FOR OPTIMUM GROWTH OF LANDSCAPE MATERIAL.

16. THE CONTRACTOR SHALL INSURE THAT ALL PLANTING ISLANDS AND OTHER AREAS SHALL BE CLEAN OF TRASH, CONSTRUCTION DEBRIS, OR OTHER WASTE MATERIALS TO A DEPTH OF 24" PRIOR TO LANDSCAPE INSTALLATION.

17. ALL PLANT BEDS AND TREE RINGS SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE AND THEN TOP-DRESSED WITH 3" DEEP PINE BARK NUGGETS. TREE RINGS SHALL BE A MINIMUM 24" RADIUS. ALL TREES SHALL BE STAKED.

18. ANY NEW SOD SHALL BE ARGENTINE BAHIA.CONTRACTOR SHALL DETERMINE EXACT QUANTITIES IN THE FIELD. SOD AREAS SHALL BE MAINTAINED BY THE CONTRACTOR FROM THE TIME OF INSTALLATION TO THE TIME OF FINAL ACCEPTANCE.

19. TREES SHALL NOT BE TOPPED OR IMPROPERLY PRUNED. THE SHAPING OF TREES TO FORM CIRCLES, OVALS, SQUARES AND OTHER HARD EDGED GEOMETRIC PATTERNS IS PROHIBITED. NOT MORE THAN ONE-THIRD OF THE TREE CANOPY SHALL BE TRIMMED OR PRUNED IN ANY YEAR UNLESS IT IS DEAD.

20. TREES, SHRUBS AND GROUND COVER SHALL BE INSTALLED IN PLANT PITS THAT ARE TWICE THE DIAMETER OF THE PLANT ROOT BALL. SOIL BACK FILL SHALL BE AERATED. CONTRACTOR SHALL ADD LOW NITROGEN CONTENT FERTILIZER TABLETS TO EACH PLANT PIT AT TIME OF PLANTING.

21. ALL HEDGE MATERIAL MUST BE 24" HIGH AT TIME OF INSTALLATION PLANTED 2½' TO 3' ON CENTER AND MAINTAINED AT A MINIMUM HEIGHT OF 3 FEET.

22. ALL LANDSCAPE MATERIALS PLANTED WITHIN THE SITE VISIBILITY TRIANGLES MUST BE MAINTAINED AT A HEIGHT NO GREATER THAN 36".

23. ALL EXOTIC SPECIES, I.E., BRAZILIAN PEPPER (<u>SCHINUS TEREBINTHIFOLIUS</u>), PUNK TREE (<u>MELALEUCA QUINQUENERVIA</u>), AND CHINESE TALLOW (<u>SAPIUM SEBIFERUM</u>) MUST BE REMOVED AS A CONDITIONS OF SITE DEVELOPMENT. EXOTIC TREES AND SHRUBS SHALL BE CUT FLUSH WITH FINISH GRADE. RESULTING STUMPS SHALL BE REMOVED FROM THE SITE OR TREATED WITH AN APPROVED HERBICIDE. CONTRACTOR SHALL TREAT CUT STUMPS WITH GARLON 3A, TROOPER, OR RODEO HERBICIDE TO THE CAMBIUM LAYER AS PER MANUFACTURER'S INSTRUCTIONS, AT THE RECOMMENDED STRENGTH TO PREVENT RE-GROWTH. APPLY HERBICIDE IMMEDIATELY AFTER TRUNKS ARE CUT TO PREVENT SAP FROM SEALING WOUNDS. WHERE NECESSARY DUE TO THEIR PROXIMITY TO PROTECTED PLANT MATERIAL, HAND REMOVAL WILL BE REQUIRED. SHOULD THIS REMOVAL BE TO A DEGREE THAT A POTENTIAL FOR EROSION IS CREATED, THE AREA MUST BE RESTABILIZED WITH SUITABLE MATERIAL. REMOVE ALL WASTE MATERIALS PRODUCED BY THIS WORK FROM THE SITE AND DISPOSE OF THEM IN A LEGAL MANNER.

24. ORGANIC MULCH AND/OR DROUGHT TOLERANT GROUND COVERS WILL BE INSTALLED IN ALL INTERIOR LANDSCAPE PLANTER BEDS.

25. BE ADVISED THAT THE HEALTHY SURVIVAL OF ALL REQUIRED LANDSCAPE MATERIAL IS THE CONTINUING RESPONSIBILITY OF THE PROPERTY OWNER AND IS ENFORCEABLE UNDER SECTION 166-56 OF THE PINELLAS COUNTY LAND DEVELOPMENT CODE.

AMERICANS WITH DISABILITIES ACT (ADA) NOTES:

ADA ACCESSIBLE PATHS SHALL MEET THE FOLLOWING:

1. ADA PATH SHALL HAVE A MAXIMUM 1:48 (2.03%) CROSS SLOPE.

2. IF THE ADA PATH DOES NOT TERMINATE AT A DRIVE AISLE AND HAS A LONGITUDINAL SLOPE THAT IS GREATER THAN 1:20 (5.00%) AND LESS THAN 1:12 (8.33%) ADA RAILINGS WILL BE REQUIRED.

3. IN THE EVENT THE ADA PATH IS CONSTRUCTED WITH A LONGITUDINAL SLOPE THAT IS GREATER THAN 1:12 (8.33%) OR THE CROSS SLOPE IS GREATER THAN 1:48 (2.03%) WILL REQUIRE THAT PORTION OF SIDEWALK BE REMOVED AND REBUILT BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEVELOPER/OWNER.

NOTICE TO ALL CONTRACTORS AND DEVELOPERS

THE DOMESTIC WATER SYSTEM AND THE STORM DRAIN FILTER SYSTEM FOR THIS PROJECT <u>MUST</u> BE INSPECTED BY OUR OFFICE IN ORDER THAT THEY BE CERTIFIED TO THE APPROPRIATE GOVERNMENTAL AGENCY. IT IS, THEREFORE, <u>IMPERATIVE</u> THAT OUR OFFICE BE NOTIFIED AT LEAST 24 HOURS PRIOR TO BACKFILLING OVER THESE FACILITIES. FAILURE TO DO SO WILL RESULT IN THESE FACILITIES HAVING TO BE UNCOVERED AND INSPECTED BEFORE A CERTIFICATE OF OCCUPANCY IS ISSUED. YOUR CERTIFICATE OF OCCUPANCY WILL BE WITHHELD UNTIL THE MATTER IS RESOLVED.

DEUEL & ASSOCIATES (727) 822-4151

REV.#	DATE	REVISION	BY

DESIGN: XC
DRAWN: XC
CHECKED: CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS
565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

2754 SUMMERDALE WAREHOUSE SPECIFICATIONS

PINELLAS COUNTY FLORIDA

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

60% PLAN

CHRISTOPHER A. CHIN, P.E. 84365

WORK ORDER NO.	SE22.199
DATE:	NOVEMBER 8, 2022
SCALE:	N.T.S.
SHEET NO.	8 OF 8