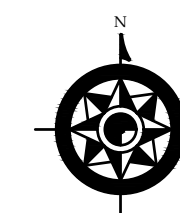


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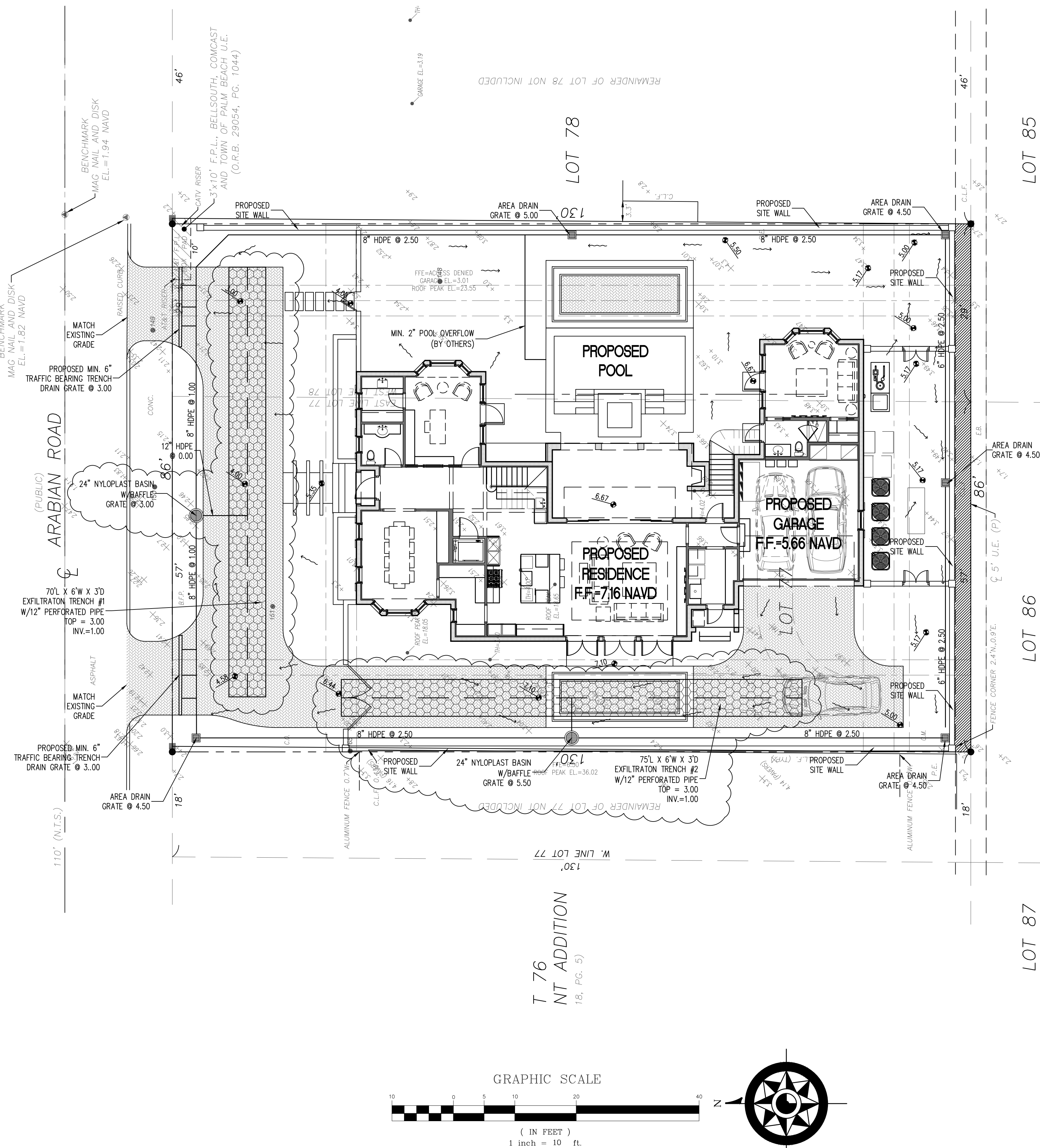
LOCATION MAP
N.T.S.

LEGEND

- 
 EXISTING ELEVATION PER WALLACE SURVEYING (NAVD)
 FLOW DIRECTION
 EXFILTRATION TRENCH
 AREA DRAIN W/STORM PIPING
 24" NYLOPLAST DRAIN BASIN WITH BAFFLE
 PROPOSED FINISH GRADES

NOTES:

1. ALL NEW DRAINAGE TO BE INSTALLED PER PLANS AND EXACT ELEVATIONS WILL BE FIELD DETERMINED PER FIELD CONDITIONS.
2. ALL TRENCH DRAINS AT BOTTOM OF STEP LOCATIONS TO BE FLUSH AGAINST BACK OF STEP.
3. EXFILTRATION TRENCHES TO BE UPDATED ONCE PERCOLATION TEST IS PERFORMED AND SIZED ACCORDINGLY.
4. FURTHER COORDINATION WITH DOWNSPOUTS WILL BE ADDED AND TIED INTO THE PROPOSED DRAINAGE SYSTEM.



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ARC-23-011

DRAINAGE PLAN FOR:
PROPOSED RESIDENCE
220 ARABIAN ROAD
PALM BEACH, FL

Project #:	22-090
Issue Date:	10/19/22
Drawn By:	AMW
Chkd By:	AMW
Scale:	As Shown



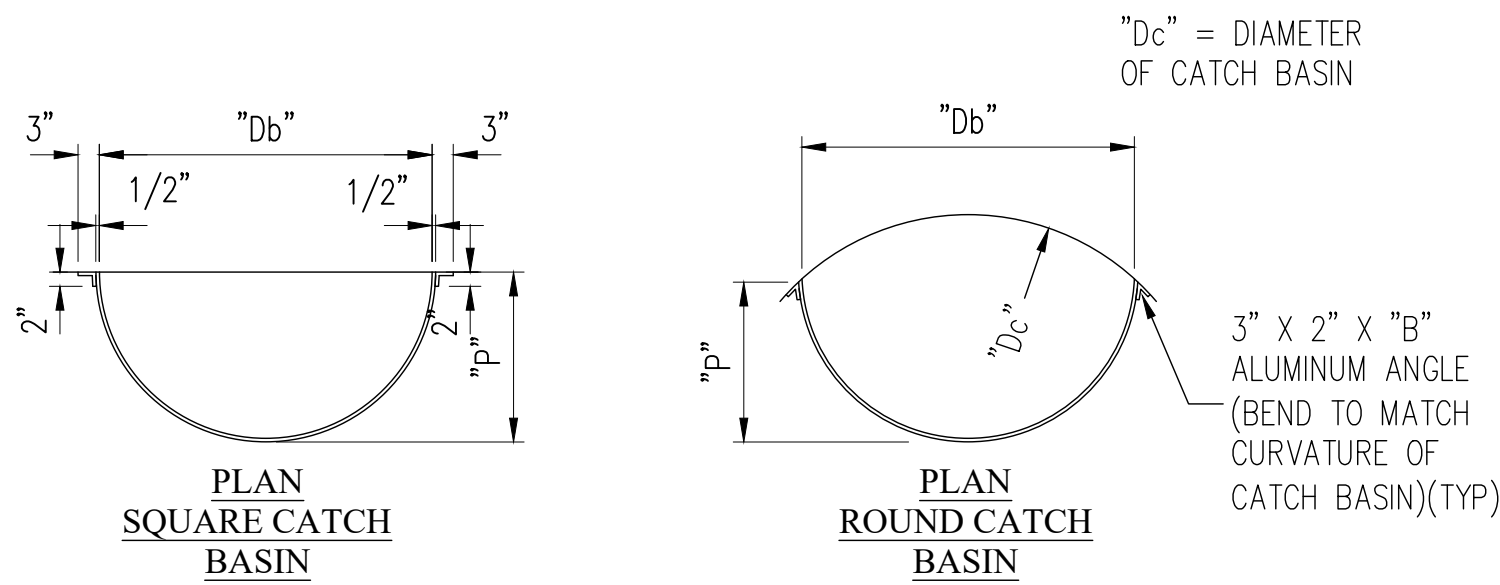
Andre M. Webster, P.E.
Florida PE # 87358

SHEET TITLE

DRAINAGE & GRADING PLAN

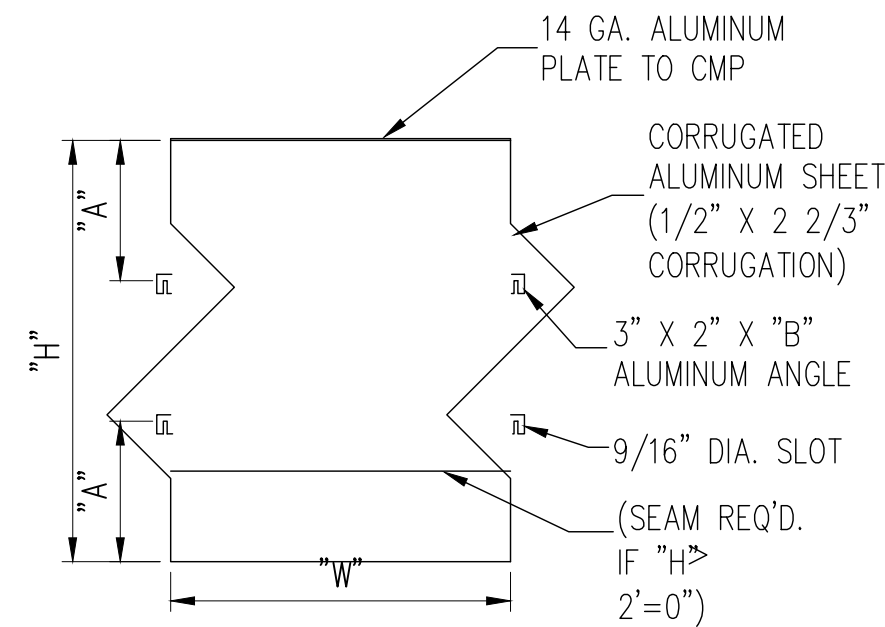
SHEET NUMBER:

C1



PIPE DIA.	BAFFLE DIA.	QUAGE	HEIGHT	WIDTH	DEPTH	EAR LENGTH	PERCENT OF PIPE AREA
12	24	16	33	31	12.5	8	65.3
15	24	16	33	31	12.5	8	65.3
18	24	16	33	31	12.5	8	65.3
21	24	16	33	31	12.5	8	65.3
24	30	16	36	37	15.5	9	78.1
27	36	16	39	43	18.5	10	88.9
30	36	16	42	43	18.5	11	72.0
36	42	16	48	49	21.5	12	68.1
42	48	16	54	55	24.5	14	65.3
48	54	14	60	61	27.5	15	63.3
54	60	14	66	67	30.5	17	61.7
60	66	14	72	73	33.5	18	60.5
66	72	14	78	79	36.5	20	59.5
72	84	14	84	91	42.5	21	68.1

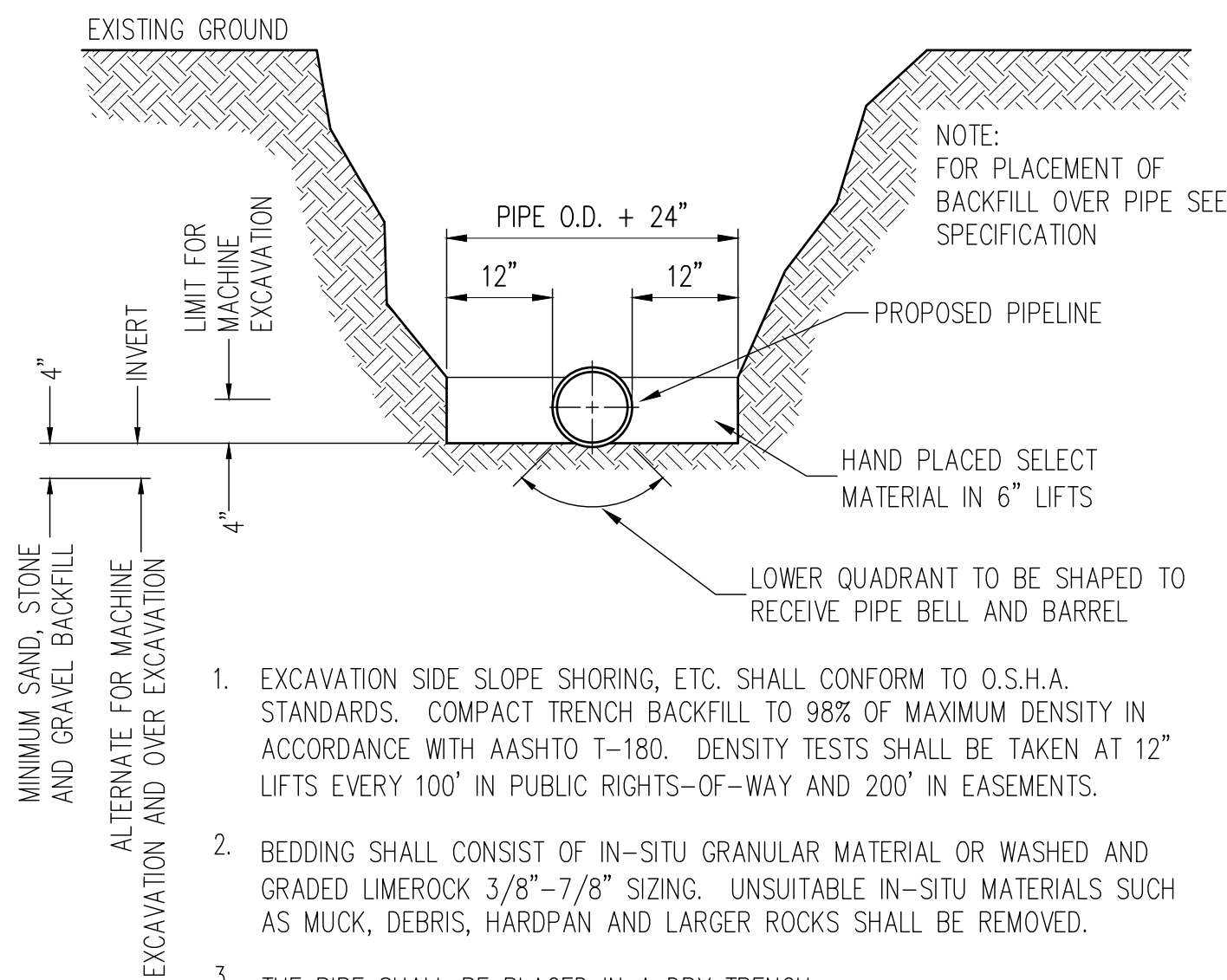
NOTE: ALL DIMENSIONS ARE IN INCHES.
CONTRACTOR TO CONFIRM THAT BAFFLE
WILL FIT STRUCTURE I.D.



ELEVATION

BAFFLE DETAIL

N.T.S.

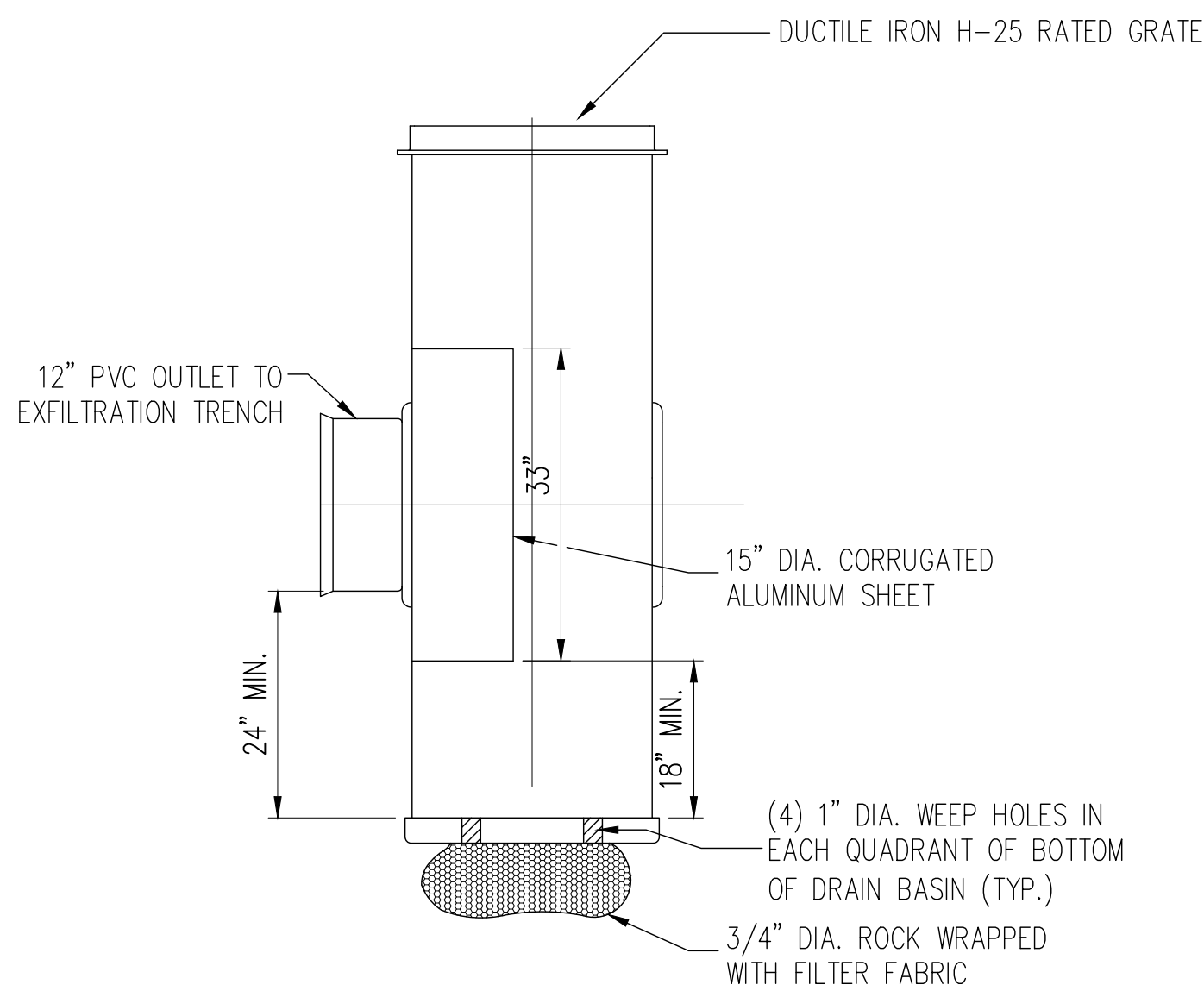


- EXCAVATION SIDE SLOPE SHORING, ETC. SHALL CONFORM TO O.S.H.A. STANDARDS. COMPACT TRENCH BACKFILL TO 98% OF MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180. DENSITY TESTS SHALL BE TAKEN AT 12" LIFTS EVERY 100' IN PUBLIC RIGHTS-OF-WAY AND 200' IN EASEMENTS.
- BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"-7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS, HARDPAN AND LARGER ROCKS SHALL BE REMOVED.
- THE PIPE SHALL BE PLACED IN A DRY TRENCH.
- BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, HARDPAN AND DEBRIS.
- SEE SEPARATE DETAIL FOR "PIPE INSTALLATION UNDER EXISTING PAYEMENT-OPEN CUT.
- THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT/CONTRACT DOCUMENTS.

TRENCH AND BACKFILL DETAIL

N.T.S.

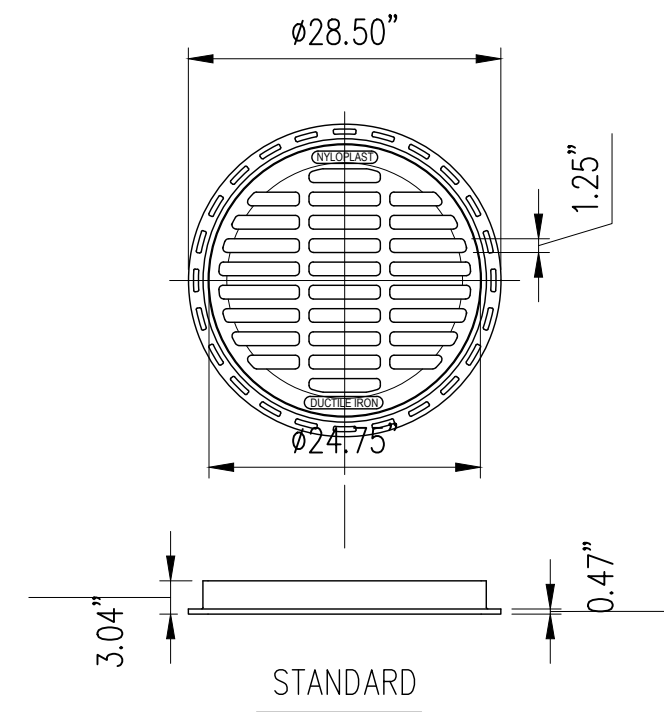
24" NYLOPLAST DRAIN BASIN



NOTE:

INLET TO HAVE MIN. 24" SUMP AND MIN. 18" CLEARANCE
BETWEEN BOTTOM OF BAFFLE AND BOTTOM OF INLET

24" DUCTILE IRON GRATE



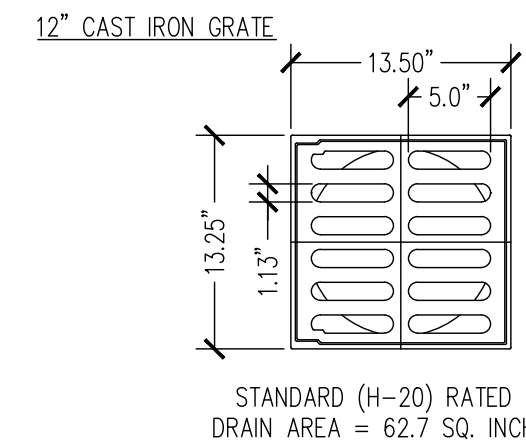
APPROX. DRAIN AREA = 194.60 SQ.IN.
APPROX. WEIGHT WITH FRAME = 124.00 LBS.

STANDARD GRATE HAS H-25 HEAVY DUTY RATING
SOLID COVER HAS H-25 HEAVY DUTY RATING
PEDESTRIAN GRATE HAS H-10 MEDIUM DUTY RATING

QUALITY: MATERIALS SHALL CONFORM TO ASTM
A536 GRADE 70-50-05

MATERIAL: DUCTILE IRON

PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST
PRICE INCLUDES FRAME & GRATE/COVER



STANDARD (H-20) RATED
DRAIN AREA = 62.7 SQ. INCH

HINGED GRATE COVER
FOR EASY ACCESS

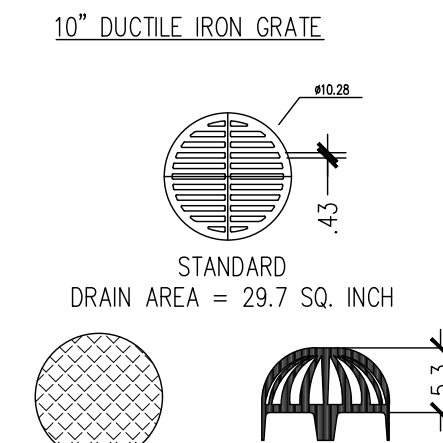
PEDESTRIAN (H-10) RATED
DRAIN AREA = 51.0 SQ. INCH

SOLID GRATE

NOTE:

TYPE OF GRATES & INLETS TO BE COORDINATED WITH ENGINEER
& LANDSCAPE ARCHITECT

PIPE MATERIAL MAY BE PVC, ADS, NDS, OR APPROVED EQUAL



STANDARD
DRAIN AREA = 29.7 SQ. INCH

SOLID

DOMED

CASTINGS ARE RATED FOR LIGHT
WHEEL LOAD TRAFFIC

QUALITY: MATERIAL SHALL CONFORM TO
ASTM A48 - CLASS 30B

PAINT: CASTINGS ARE FURNISHED
WITH BLACK PAINT

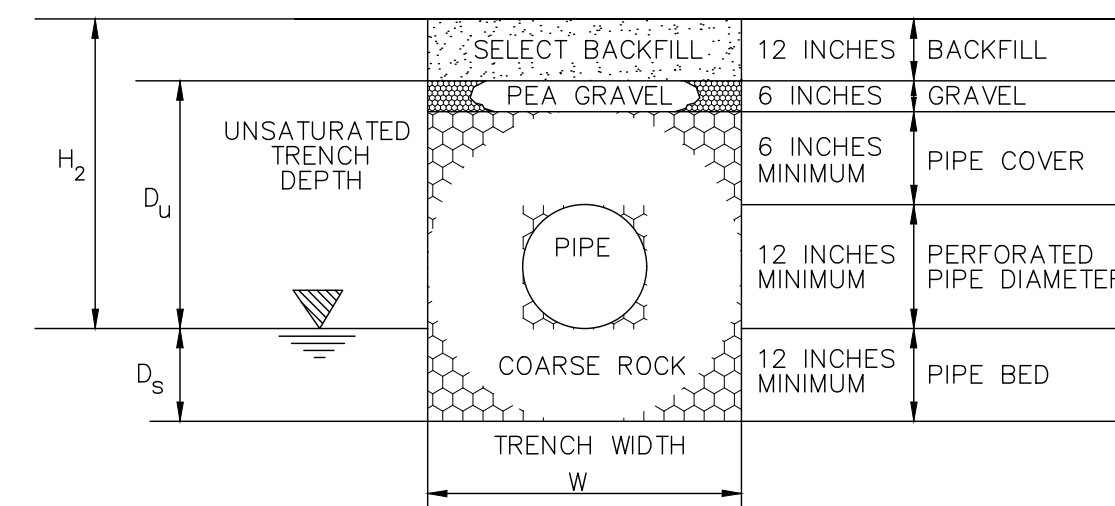
MATERIAL: CAST IRON

QUALITY: MATERIAL SHALL CONFORM TO
ASTM A48 - CLASS 30B

PAINT: CASTINGS ARE FURNISHED WITH
A BLACK PAINT

AREA DRAIN DETAIL

TYPICAL EXFILTRATION TRENCH



$$L = \frac{V}{K(H_2W + 2H_2D_u - D_u^2 + 2H_2D_s) + (1.39 \times 10^{-4})WD_u}$$

L = LENGTH OF TRENCH REQUIRED (FEET)

V = VOLUME TREATED (ACRE-INCHES)

W = TRENCH WIDTH (FEET)

K = HYDRAULIC CONDUCTIVITY (CFS/FT.² - FT.HEAD)

H₂ = DEPTH TO WATER TABLE (FEET)

D_u = NON-SATURATED TRENCH DEPTH (FEET)

D_s = SATURATED TRENCH DEPTH (FEET)

PROPOSED RESIDENCE
220 ARABIAN ROAD
PALM BEACH, FLORIDA

EXISTING STORMWATER MANAGEMENT CALCULATIONS

SITE PLAN DATA

Total Lot Area = 11,180 sq.ft. ±

Impervious Area = 5,155 sq.ft. ±

Pervious Area = 6,025 sq.ft. ±

ESTIMATED RUNOFF VOLUME

Impervious Runoff Volume:
2" x 5,155 sq.ft. x 1 ft./12 in. = 859 cu.ft.

Pervious Runoff Volume:
0.4" x 6,025 sq.ft. x 1 ft./12 in. = 201 cu.ft.

Total Basin Volume to be Retained = 1,060 cu.ft.

EXFILTRATION TRENCH CALCULATIONS (SFWM ANALYSIS)

Exfiltration Trench #1

L = Total Length of Trench Provided = 70 ft
W = Trench Width = 6.00 ft
K = Hydraulic Conductivity = 0.00005 cfs/sq.ft. per ft. of head
H₂ = Depth to Water Table = 1.50 ft
D_u = Non-Saturated Trench Depth = 1.50 ft
D_s = Saturated Trench Depth = 1.50 ft

V = Volume Treated = 518 cu.ft. each

Exfiltration Trench #2

L = Total Length of Trench Provided = 75 ft
W = Trench Width = 6.00 ft
K = Hydraulic Conductivity = 0.00005 cfs/sq.ft. per ft. of head
H₂ = Depth to Water Table = 1.50 ft
D_u = Non-Saturated Trench Depth = 1.50 ft
D_s = Saturated Trench Depth = 1.50 ft

V = Volume Treated = 555 cu.ft. each

VT=Total Volume Treated = 1,073 cu.ft.

No:	Revisions:	Date:
1	PER ToFPB	07-05-23

DRAINAGE PLAN FOR:
PROPOSED RESIDENCE
220 ARABIAN ROAD
PALM BEACH, FL

Project #:	22-090
Issue Date:	10/19/22
Drawn By:	AMW
Chkd By:	AMW
Scale:	As Shown

STATE OF
FLORIDA
No. 87358
Andre M. Webster, P.E.
Professional Engineer
Florida License #87358

SHEET TITLE
**DRAINAGE &
GRADING DETAILS**

SHEET NUMBER:

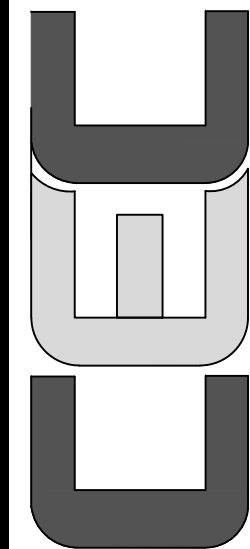
C2

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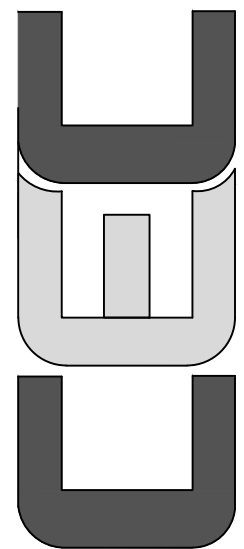


CIVIL ENGINEERING CONSULTING, INC.
CERTIFICATE OF AUTHORIZATION #33369
8195 WHITE ROCK CIRCLE
BOYNTON BEACH, FL 33436
Phone: 561-847-0398

andre@cec-fl.com
www.cec-fl.com



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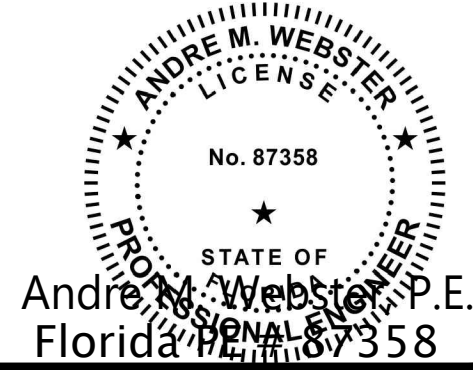


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No:	Revisions:	Date:

EROSION CONTROL PLAN FOR:
PROPOSED RESIDENCE
220 ARABIAN ROAD
PALM BEACH, FL

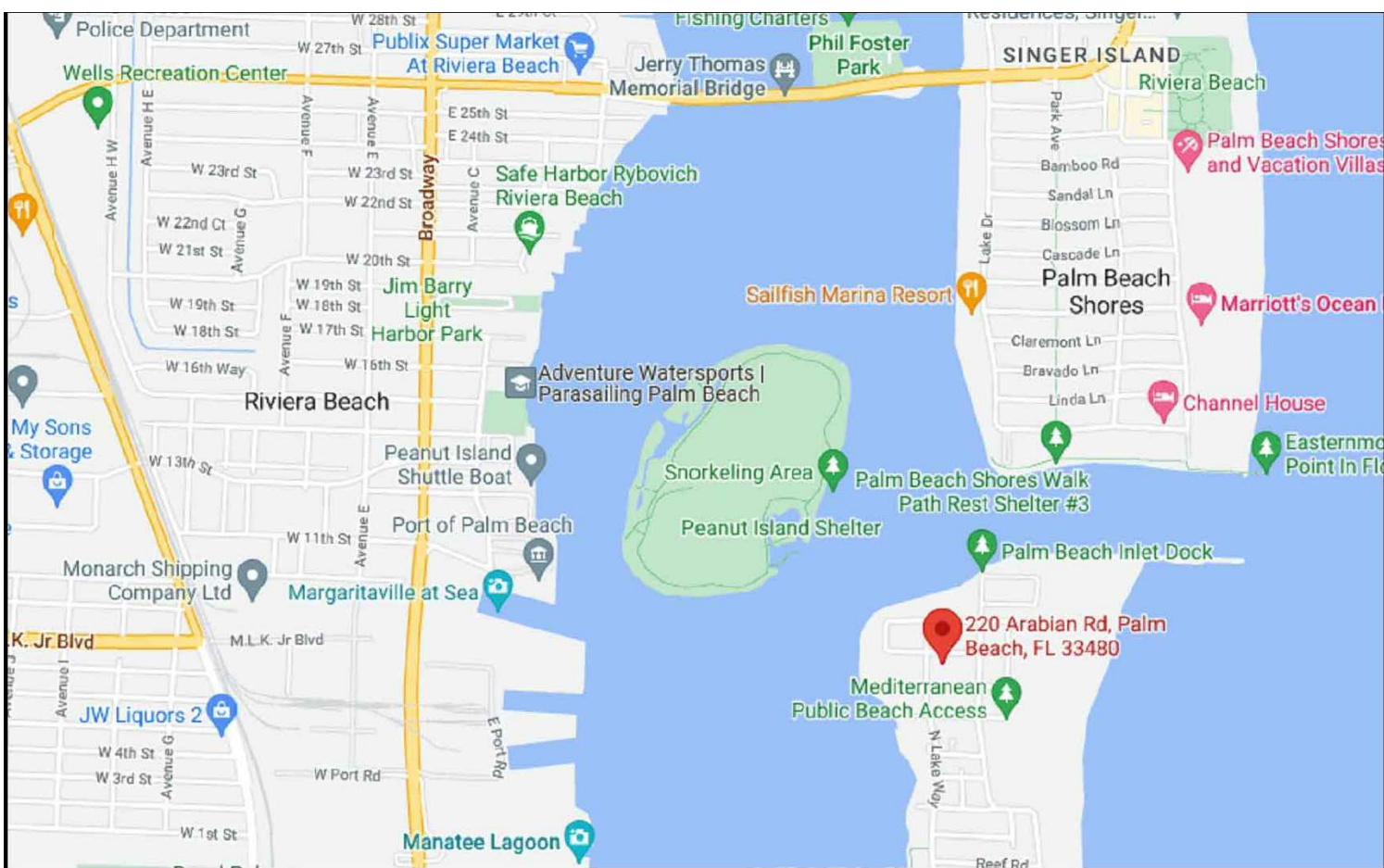
Project #:	22-090
Issue Date:	08/29/22
Drawn By:	AMW
Chkd By:	AMW
Scale:	As Shown



EROSION CONTROL
PLAN

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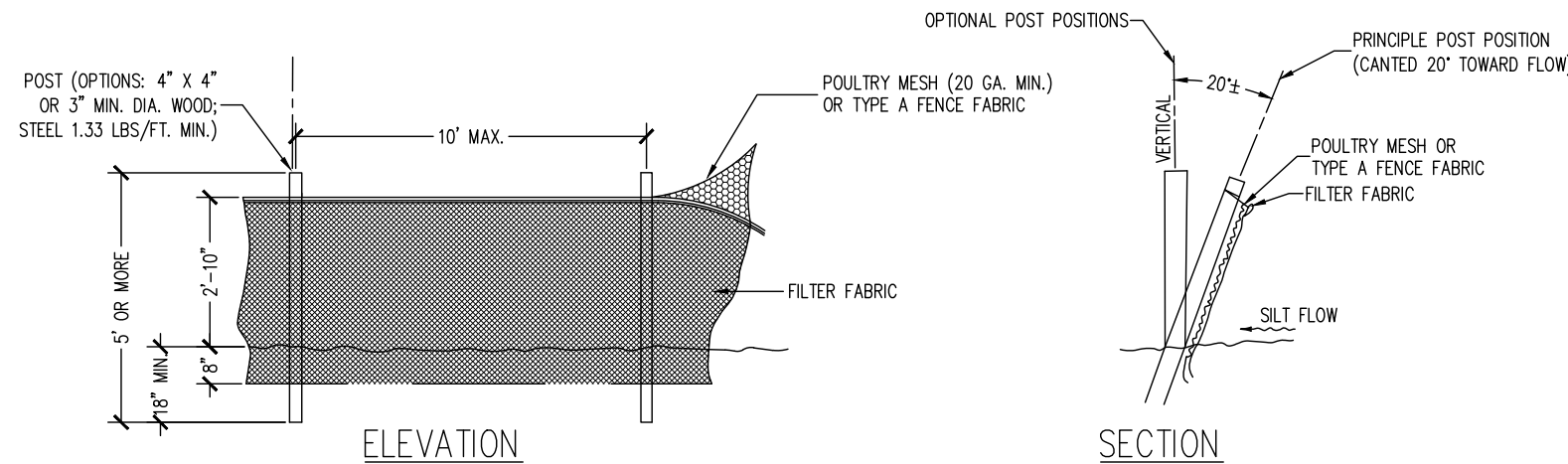
EC1



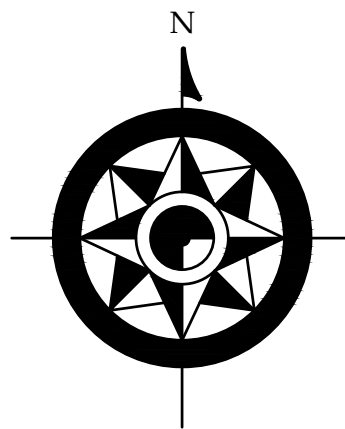
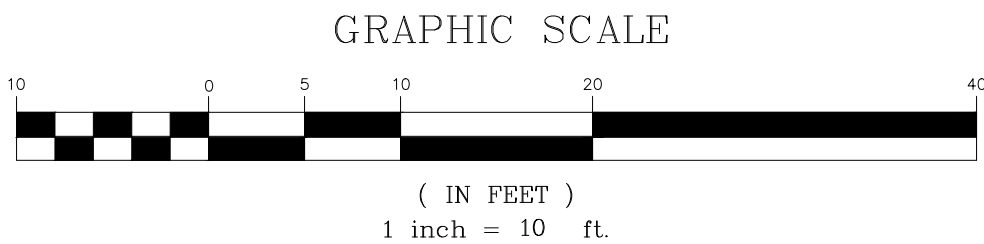
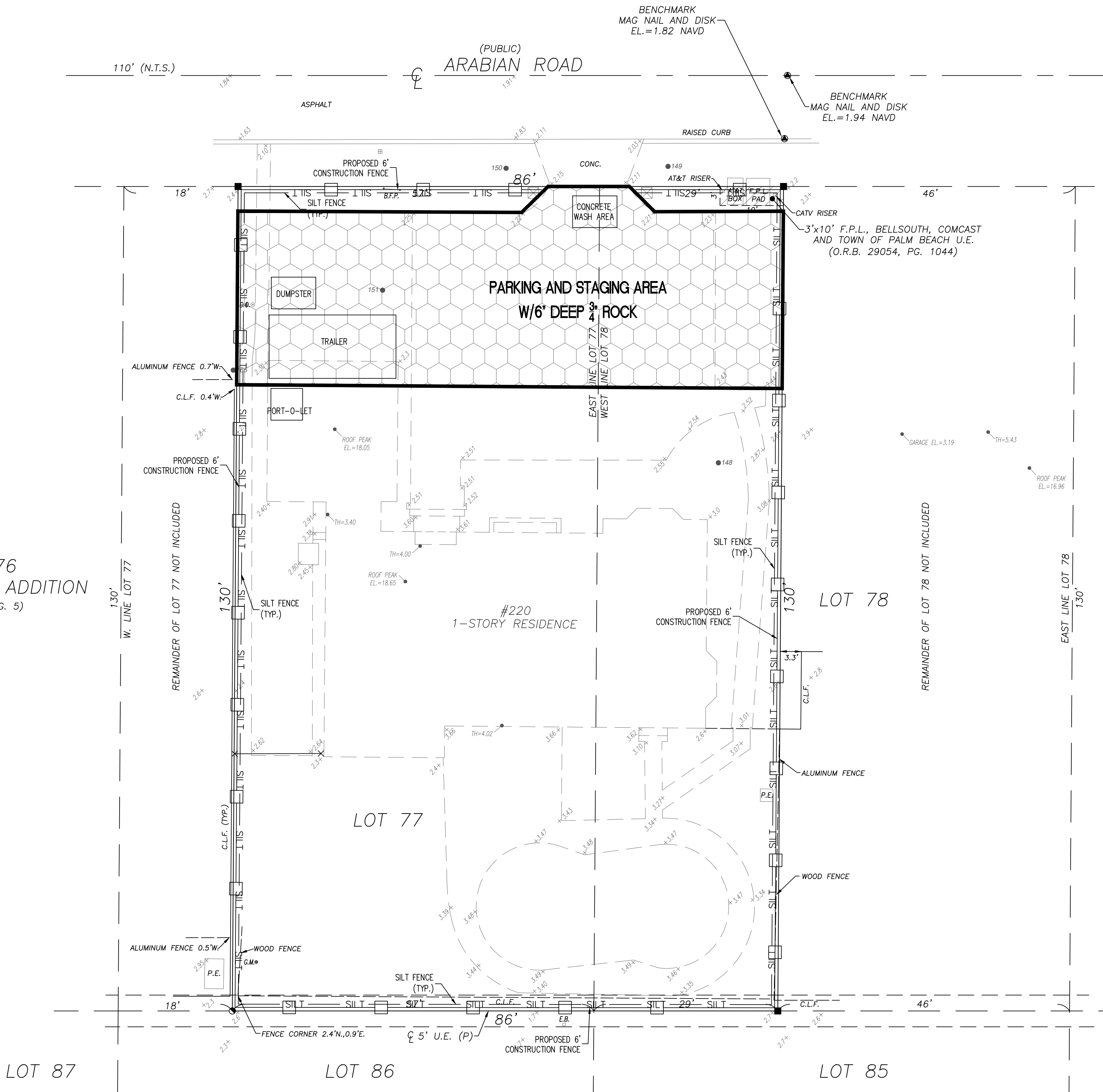
LOCATION MAP
N.T.S.

LEGEND

- EXISTING ELEVATION PER WALLACE SURVEYING (NAVD)
- CONSTRUCTION STAGING AREA
- SILT FENCE



SILT FENCE DETAIL
N.T.S.



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