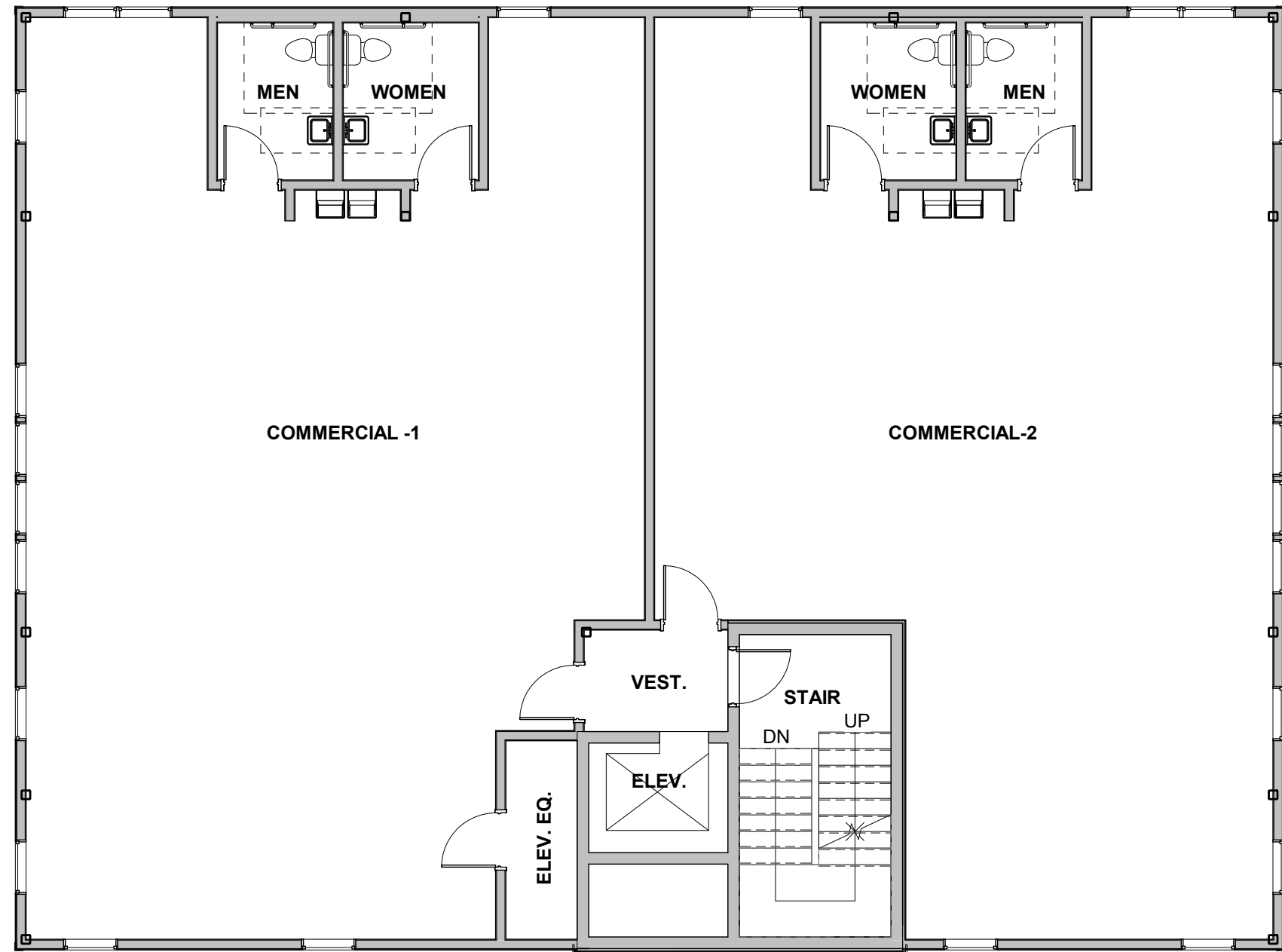
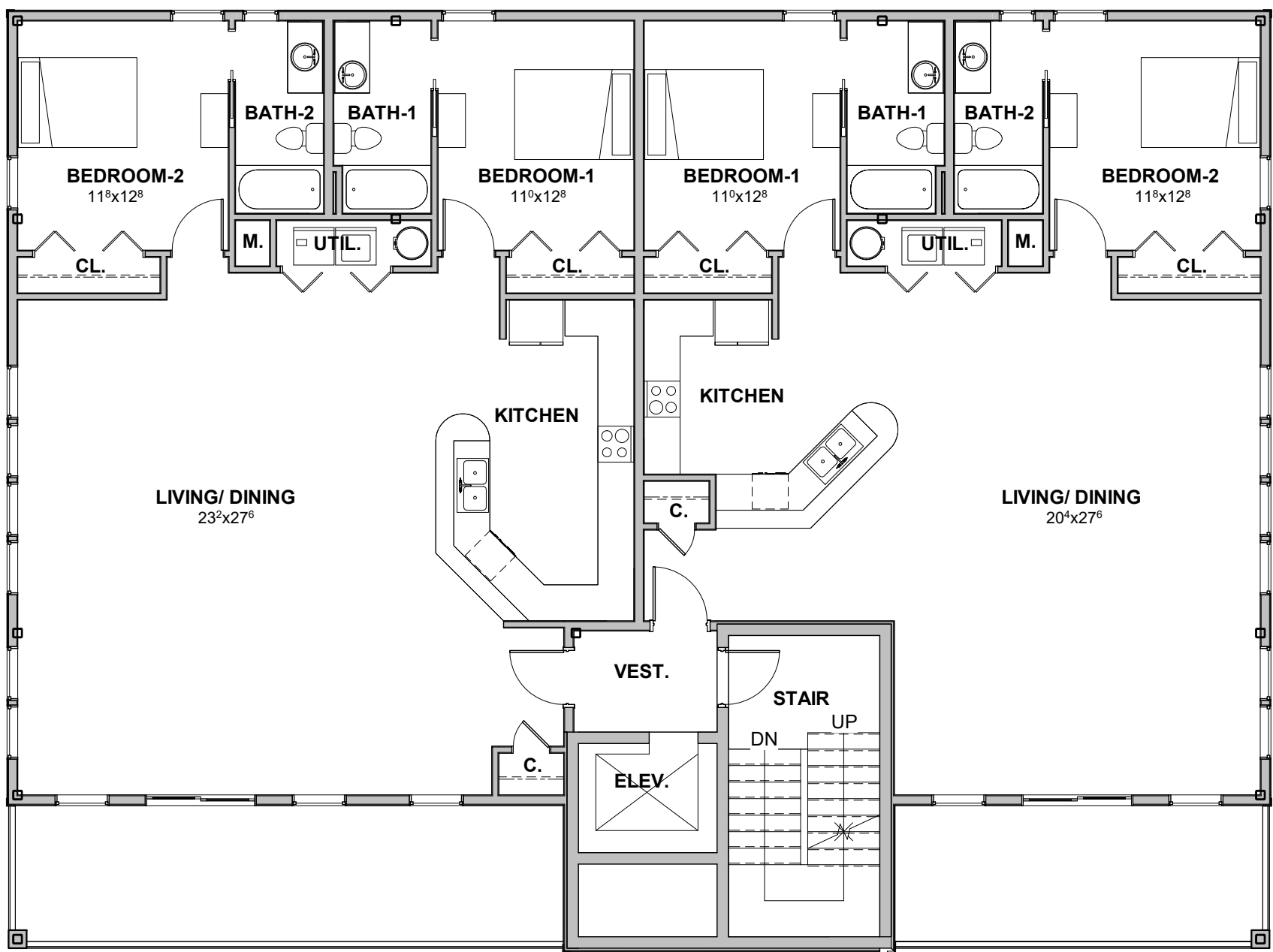


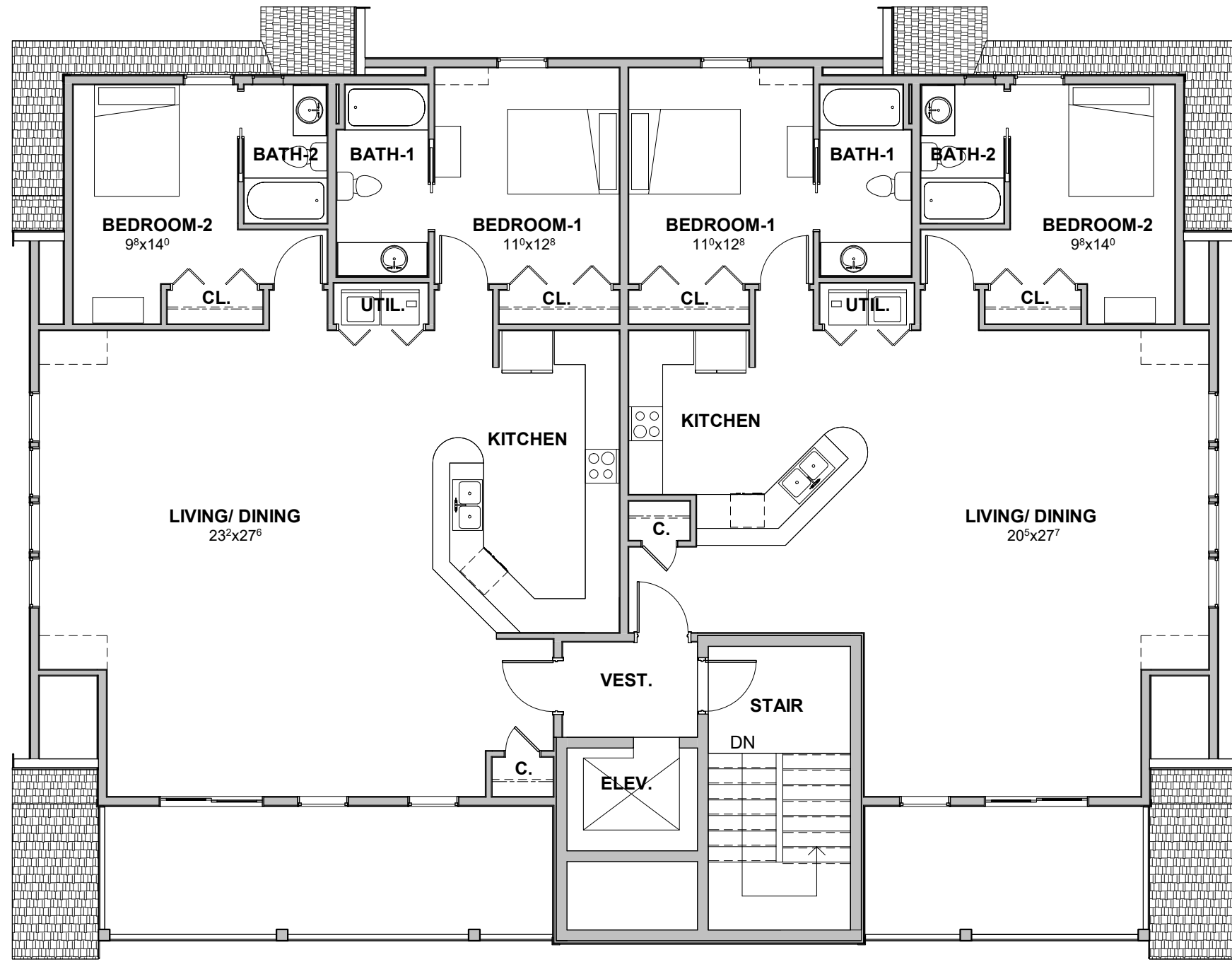
1 Ground Floor Plan
1/8" = 1'-0"



2 Second Floor Plan
1/8" = 1'-0"



3 Third Floor Plan
1/8" = 1'-0"



4 Fourth Floor Plan
1/8" = 1'-0"

Nags Head Design Points Tabulation		
DESIGN ELEMENT	FORMULA/NO. OF POINTS POSSIBLE	POINTS
PORCHES	FIRST FLOOR PORCHES - $p1/b1 \times 150 =$ $p1$ = PERIMETER OF FIRST FLOOR WITH PORCH $b1$ = PERIMETER OF FIRST FLOOR	$0 \times 150 = 0$
	SECOND FLOOR PORCHES - $p2/b2 \times 75 =$ $p2$ = PERIMETER OF SECOND FLOOR WITH PORCH $b2$ = PERIMETER OF SECOND FLOOR	$52/244 \times 75 = 16$
DORMERS (25 POINTS MAX.)	HIP OR GABLE - $n \times 5$	0
	SHED - $n(10) + L =$ n = NO. OF DORMERS L = LINEAR FT. PAST 12'	25
COASTAL WATCH TOWER (10 POINTS MAX.)	10	10
ROOFS	25	25
BUILDING FORM (40 POINTS MAX.)	BUMP OUTS - $f \times 10$	0
	f = FACADE WITH REQUIRED BUMP OUTS COMBINATION BASE FORM	0
SIDING MATERIALS	WOOD SHINGLES = 25	25
	SIMULATED WOOD SHINGLES = 12	0
MISC. DETAILS	WINDOWS = 20	20
	WORKABLE SHUTTERS = 15	15
	EXPOSED RAFTER TAILS = 5	5
	BEAUTY BANDS = 5	5
	COLUMN TRIM = 5	0
	GABLE BRACKET = 5	5
UDO SECTION 10.83 BUILDING AREA OF 10,000 SF OR LESS MAY COMPLY BY ACHIEVING 150 POINTS		150
TOTAL		151



11 Southwest Perspective



12 Northwest Perspective



5 South Elevation
1/8" = 1'-0"



6 East Elevation
1/8" = 1'-0"



8 West Elevation
1/8" = 1'-0"



7 North Elevation
1/8" = 1'-0"

WALL AREA SCHEDULE

ELEVATION	WALL AREA	GLAZING AREA	GLAZING PERCENTAGE
WEST	988 SF	196 SF	19.8 %
SOUTH	1330 SF	177 SF	13.3 %
NORTH	1330 SF	152 SF	11.4 %
EAST	988 SF	196 SF	19.8 %

Project: **BK Associates
Mixed Use Building**
Project No: **21068**

Location: **4413 S Croatan Hwy
Nags Head, NC 27959**

Title: **Town Submittal**

Date: **June 14, 2022**

Scale: **As indicated**

The designer shall not be responsible for any error, omission, defect or deficiency in the contract documents ("error") prepared by the designer or its consultants which in any way impacts the schedule of the project, results in a lack of coordination among the contract documents, delays the completion of the project or which in any other way causes any damage or loss to the owner, contractor, subcontractors, or other entity involved in the project, unless: (i) designer is promptly notified of such error, in any event within 14 days of the date such error was discovered or could reasonably have been discovered; and (ii) designer is given opportunity at the time of discovery to address such error, and, if appropriate, take such steps as are necessary to correct and resolve it. Failure to comply with the provisions of this paragraph shall constitute a waiver of any claim for damages, or a right to offset against designer by owner, contractor or others and shall in no event cause or allow a reduction in the fees otherwise due designer for services provided on the project.



Revisions:

No.	Description	Date

Designed: BBC
Drawn: JPB
Reviewed:
Cad File:

A000

I. NARRATIVE:

BK & ASSOCIATES INTENDS TO CONSTRUCT A 9,921 SF MIXED USE FACILITY CONTAINING COMMERCIAL AND RESIDENTIAL USES. THE CONSTRUCTION WILL INCLUDE PARKING, DRAINAGE AND STORMWATER MANAGEMENT FACILITIES, A SEPTIC SYSTEM WITH TERTIARY TREATMENT AND LPP DRAINFIELD DISPOSAL. THE SITE IS LOCATED ON 0.31 ACRES LOCATED AT 4413 SOUTH CROATAN HIGHWAY IN NAGS HEAD, NORTH CAROLINA. APPROXIMATELY 0.35 ACRES OF THE SITE ARE TO BE DISTURBED. CONSTRUCTION IS ANTICIPATED TO BEGIN IN THE FALL OF 2022.

THE SITE IS LEVEL WITH SANDY SOILS. THE SITE IS MOSTLY GRASSED WITH SOME SHRUB VEGETATION ALONG THE EAST SIDE OF THE SITE. AT THIN LAYER OF BURIED GRAVEL LIES BENEATH MUSH OF THE GRASSED AREAS AS IT WAS FORMERLY AN OVERFLOW PARKING LOT.

DISTURBED AREAS ARE TO BE STABILIZED WITH TEMPORARY/PERMANENT VEGETATION ACCORDING TO THE SEQUENCE OF CONSTRUCTION.

II. SOILS DESCRIPTION:

SOIL TYPES AS MAPPED IN THE SOIL SURVEY OF DARE COUNTY:

NEWHAN FINE SAND (NeC)

III. CONSTRUCTION SEQUENCE:

- OBTAIN SITE PLAN APPROVAL
- OBTAIN ALL NECESSARY ENVIRONMENTAL PERMITS
- FLAG OR STAKE WORK LIMITS
- HOLD PRE-CONSTRUCTION MEETING (SEE NOTE 1)

PHASE ONE:

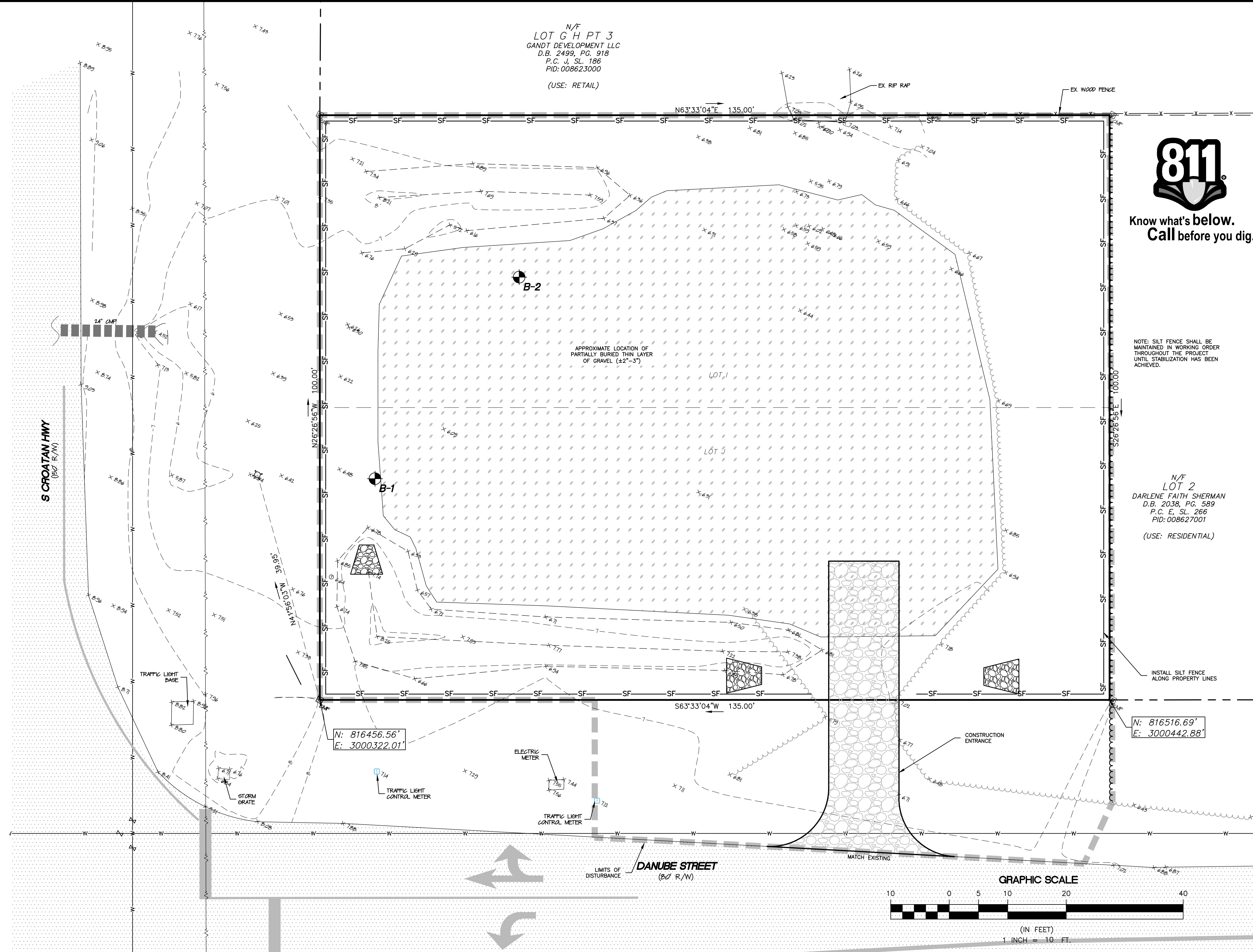
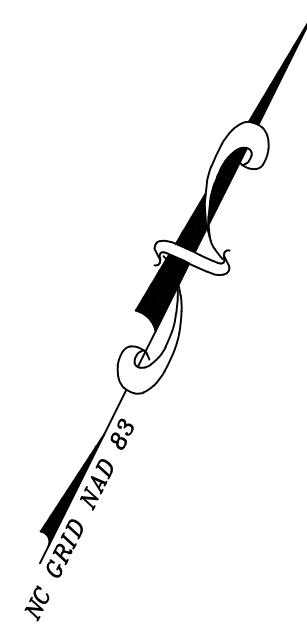
- INSTALL SILT FENCING
- INSTALL CONSTRUCTION FENCING AND ENTRANCE
- CLEAR LOT OF EXISTING VEGETATION AS SHOWN

PHASE TWO:

- PLACE FILL MATERIALS
- COMMENCE CONSTRUCTION OF NEW BUILDING
- ROUGH GRADE STORMWATER MANAGEMENT BASIN AND INSTALL PORTIONS OF THE DRAINAGE SYSTEM AS NEEDED
- INSTALL SEPTIC SYSTEM TANKS AND TEST FOR LEAKAGE
- INSTALL WATER AND FIRE SERVICES
- INSTALL LPP DRAINFIELD AND COMPLETE TESTING OF SEPTIC SYSTEM
- INSTALL REMAINDER OF DRAINAGE AND NEW PAVEMENT
- SEED, FERTILIZE AND WATER DISTURBED AREA TO ACHIEVE PERMANENT STABILIZATION

IV. SEDIMENTATION AND EROSION CONTROL NOTES:

1. PRE-CONSTRUCTION CONFERENCE:
PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL WALK THE SITE WITH THE OWNER'S REPRESENTATIVE AND A REPRESENTATIVE OF THE TOWN OF NAGS HEAD IN ORDER TO IDENTIFY AND MARK SPECIFIC ELEMENTS WHICH ARE TO BE PROTECTED. TREES SHALL BE PROTECTED IN ACCORDANCE WITH THE NORTH CAROLINA EROSION AND SEDIMENTATION CONTROL HANDBOOK.
2. INSTALLATION OF EROSION CONTROL MEASURES:
PRIOR TO COMMENCEMENT OF ANY LAND DISTURBING ACTIVITIES, ALL EROSION AND SEDIMENTATION CONTROL MEASURES IDENTIFIED ON THIS PLAN SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS AND ALL PERMIT CONDITIONS.
3. UTILITIES:
PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL HAVE THE APPROPRIATE UNDERGROUND UTILITIES LOCATED. CONTACT NC811 AT 811 OR 800-632-4949. UTILITIES SHOWN ARE TAKEN FROM EXISTING RECORDS, FIELD OBSERVATIONS AND/OR UTILITY LOCATING SERVICE AND ARE NOT GUARANTEED TO BE ACCURATE OR COMPLETE.
4. ACCESS TO SITE:
ALL CONSTRUCTION TRAFFIC SHALL UTILIZE THE CONSTRUCTION ENTRANCE AS DESIGNATED ON THIS PLAN.
5. LIMITS OF DISTURBANCE:
THE CONTRACTOR SHALL ENSURE THAT AREAS OUTSIDE OF THE LIMITS OF LAND DISTURBING AS WELL AS EXISTING IMPROVEMENTS SPECIFICALLY NOTED TO REMAIN ARE NOT ADVERSELY IMPACTED BY ANY CLEARING ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND/OR REPLACEMENT OF ITEMS DAMAGED OUTSIDE THE LIMITS OF DISTURBANCE OR OTHERWISE NOTED TO REMAIN.
6. STABILIZATION:
EXPOSED SWALES, DITCHES, DIKES OR OTHER SLOPES STEEPER THAN 3(H):1(V) SHALL BE STABILIZED WITH A TEMPORARY OR PERMANENT GROUND COVER WITHIN 7 CALENDAR DAYS. ALL OTHER EXPOSED EARTHEN AREAS SHALL BE STABILIZED WITH A TEMPORARY OR PERMANENT GROUND COVER WITHIN 14 CALENDAR DAYS OF THE COMPLETION OF ANY PHASE OF GRADING.
7. INSPECTIONS REQUIRED:
SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED, MAINTAINED AND REPAIRED AS NECESSARY BY THE CONTRACTOR. THE SITE SHALL BE INSPECTED WEEKLY AND AFTER ANY RAINFALL EVENT EQUAL OR GREATER THAN 0.5 INCHES OVER A 24 HOUR PERIOD.
8. CORRECTIVE MEASURES:
ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION UNTIL WORK IS COMPLETE AND ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED. IF EXCESSIVE WIND EROSION OR STORM WATER RUNOFF DEVELOPS DURING TIME OF CONSTRUCTION IN ANY LOCATION ON THE PROJECT SITE, ADDITIONAL SAND OR SILT FENCE SHALL BE INSTALLED AS DIRECTED BY ENGINEER, SEE SAND OR SILT FENCE DETAIL.
9. DEBRIS REMOVAL:
ALL CLEARING DEBRIS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF IN A LAWFUL MANNER. NO BURNING OF DEBRIS ON SITE IS PERMITTED. NO ON-SITE BURNING IS PERMITTED UNLESS OTHERWISE APPROVED BY THE LOCAL FIRE MARSHALL, MUNICIPAL AGENCY OF JURISDICTION AND THE OWNER.
10. EXCAVATION AND EMBANKMENT:
ANY OFF-SITE MATERIAL BROUGHT ONTO TO THE SITE TO BE USED FOR GRADING FILL SHALL BE OBTAINED FROM A PERMITTED BORROW PIT. FILL SHALL CONFORM TO PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT. NO BORROW IS PERMITTED FROM THE SITE.
11. EXISTING INFORMATION:
THE EXISTING SURVEY AND SITE TOPOGRAPHIC INFORMATION SHOWN IS BASED UPON SURVEY INFORMATION PROVIDED BY J.H. MILLER, JR. LAND SURVEYING ON FEBRUARY 11, 2022



Know what's below.
Call before you dig.

NOTE: SILT FENCE SHALL BE MAINTAINED IN WORKING ORDER THROUGHOUT THE PROJECT UNTIL STABILIZATION HAS BEEN ACHIEVED.

N/F
LOT 2
DARLENE FAITH SHERMAN
D.B. 2038, PG. 589
P.C. E, SL. 266
PID: 008627001
(USE: RESIDENTIAL)

SEEDING SCHEDULE

APRIL 1 - MAY 15 PERMANENT SEEDING

SPECIES	RATE
K-31 FESCUE	3 LB/1000 SF
COMMON BERMUDAGRASS	1 LB/1000 SF
WINTER RYE GRAIN	3 LB/1000 SF

NOTE: DELETE RYE GRAIN IF OVERSEEDING ESTABLISHED RYE OR FESCUE. DELETE FESCUE IF OVERSEEDING ESTABLISHED FESCUE.

MAY 15 - JULY 15 PERMANENT SEEDING

SPECIES	RATE
K-31 FESCUE	3 LB/1000 SF
COMMON BERMUDAGRASS	1 LB/1000 SF
GERMAN MILLET	3 LB/1000 SF

NOTE: DELETE MILLET IF OVERSEEDING ESTABLISHED MILLET OR FESCUE. DELETE FESCUE IF OVERSEEDING ESTABLISHED FESCUE.

AUGUST 15 - APRIL 1 TEMPORARY SEEDING

SPECIES	RATE
K-31 FESCUE	3 LB/1000 SF
WINTER RYE GRAIN	5 LB/1000 SF

SOIL AMENDMENTS

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 500 LB PER ACRE OF 10-10-10 FERTILIZER.

MULCH

USE JUTE, EXCELSIOR MATTING OR OTHER EFFECTIVE CHANNEL LINING MATERIAL TO COVER BOTTOM AND SIDES OF SWALES. ANCHOR MATTING PER MANUFACTURER'S RECOMMENDATIONS. OVERSEEDING IS ALSO AN ACCEPTABLE METHOD OF TEMPORARY STABILIZATION.

MAINTENANCE

A MINIMUM OF 3 WEEKS IS REQUIRED TO FOR ESTABLISHMENT. INSPECT AND REPAIR MULCH FREQUENTLY. FERTILIZE THE FOLLOWING SPRING WITH 50 LB/ ACRE NITROGEN.

SITE STABILIZATION REQUIREMENTS

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETER AND HOW ZONES)

NOTE:
APPLICABLE AT ALL POINTS OF INGRESS & EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.

NOTES:

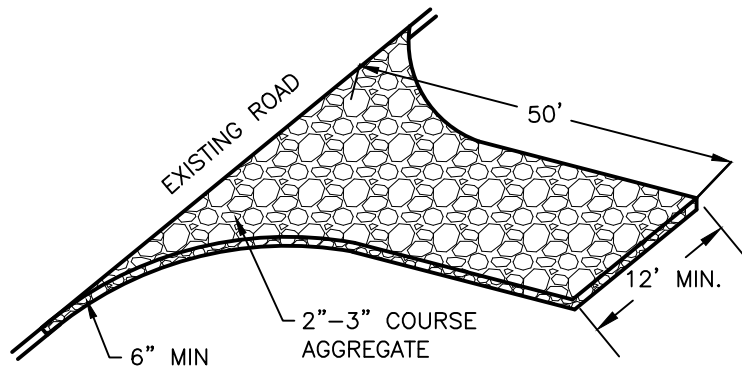
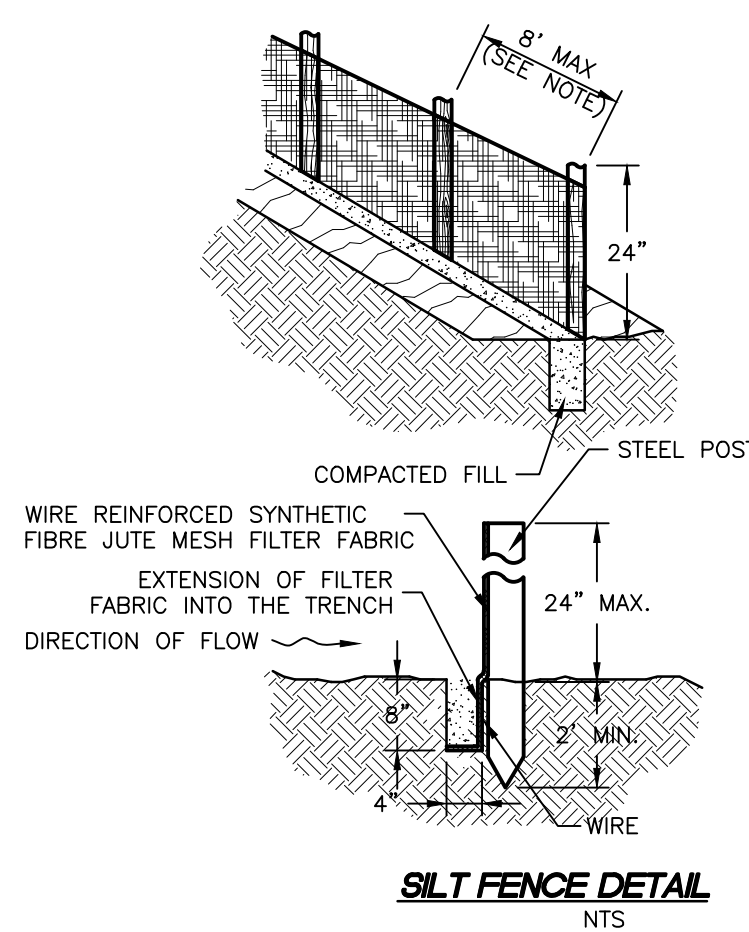
1. WASHED STONE (#4 STONE OR 2" TO 3" AGGREGATE). PAD TO BE 50'L X 20'W X 6"D AT A MINIMUM.
2. TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
3. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
4. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOP DRESSING WITH STONE SHALL BE NECESSARY.

CONSTRUCTION ENTRANCE DETAIL

NTS

NOTES:

1. 6" POST SPACING FOR NON-WIRE REINFORCED FENCE. 8" POST SPACING PERMITTED IF FENCE CONTAINS REINFORCING WIRE.
2. 4" MINIMUM OVERLAP REQUIRED (ATTACHED AT POSTS) WHEN JOINING SECTIONS OF SILT FENCE.
3. SILT FENCE SHALL BE ATTACHED TO STEEL POSTS USING A MINIMUM OF 3 WIRE OR PLASTIC TIES.



FINAL DRAWING
NOT FOR
CONSTRUCTION

EROSION AND SEDIMENT CONTROL PLAN

BK ASSOCIATES

4413 S CROATAN HIGHWAY

NORTH CAROLINA

DARE COUNTY

NAGS HEAD TOWNSHIP

NAGS HEAD

DATE:	06/14/2022	SEE NOTES
SURVEYED:		MJM
DESIGNED:		KCA
DRAWN:		MJM
CHECKED:		
FILE:		08621A

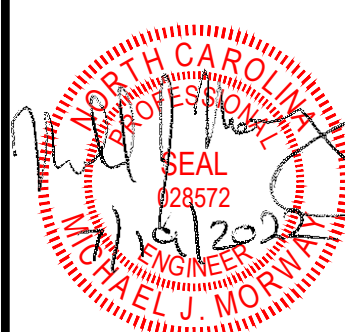
SCALE:
1" = 10'

C101

PROJ. NO. 08621A

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK
1	07/12/2022	PER THE COMMENTS		



Albemarle & Associates, Ltd.
P.O. Box 999
Kill Devil Hills, NC 27748
Phone: (252) 441-2113
www.albemarleassociates.com
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Albemarle & Associates, Ltd.
Engineering • Environmental • Land Planning



SITE PLAN NOTES:

- OWNER: BK ASSOCIATES
C/O HARRY S. BAWA
441 RIVERGATE DRIVE
RICHMOND, VA 23238
- THE OWNER INTENDS TO CONSTRUCT A 9,921 SF, 3-STORY COMMERCIAL / MIXED USE STRUCTURE OVER PARKING. THE FIRST FLOOR WILL CONTAIN TWO UNITS TO BE UTILIZED FOR ANY USE WHICH IS ALLOWED IN C-2 ZONING UNDER "MIXED USE DEVELOPMENT" THAT REQUIRES NO MORE THAN 8 PARKING SPACES AND 150 GALLONS PER DAY FOR SEPTIC SYSTEM CAPACITY (AND OTHERWISE MEETS BUILDING AND ANY ZONING CODES). THE SECOND AND THIRD FLOOR WILL EACH CONTAIN TWO (2) APARTMENTS, EACH WITH TWO-BEDROOM (TOTAL OF FOUR APARTMENTS).
- THE PROPERTY IS LOTS I & J, BLOCK C1, ROANOKE SOUND SHORES, RESUBDIVISION, SECTION 3, M.B. 2, PG. 114. RECORDED IN D.B. 2066, PG. 216.
DARE COUNTY PIN# 0801 09 06 3533, DARE CO. PARCEL ID: 029172000
PROPERTY ADDRESS: 4413 S CROATAN HIGHWAY, NAGS HEAD, NORTH CAROLINA
- THE SITE IS LOCATED IN FIRM ZONE X, FIRM MAP NUMBER 3730080100K, EFFECTIVE JUNE 19, 2020. (SUBJECT TO CHANGE BY FEMA)
- ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE SPECIFIED. ELEVATIONS SHOWN ARE HEREON PER NAVD88.
- AREAS SHOWN ARE BY COORDINATE METHOD.
- EXISTING FEATURES AND SURVEY INFORMATION PROVIDED BY J. H. MILLER LAND SURVEYING
- THERE ARE NO DELINEATED WETLANDS ON THE PROJECT SITE.
- THE PROPERTY IS ZONED C-2 AND MIXED-USE DEVELOPMENT IS A SPECIAL USE.
- PARKING REQUIREMENTS:
COMMERCIAL / OFFICE = 7 SPACES
MULTIFAMILY = (2 SPACES / DWELLING) X 4 DWELLINGS = 8 SPACES
REDUCTION = 1 PARKING SPACE PER BIKE RACK (REQUIRED SPECIAL USE APPROVAL) = (-1) SPACE
TOTAL REQUIRED PARKING = 14 SPACES
PROVIDED PARKING = 14 SPACES
- SETBACKS:
FRONT: 15' (ARTICLE 10.90.2.1.1)
SIDE: 5' (ARTICLE 8.2.1)
SIDE (CORNER): 15' (ARTICLE 8.6.3.4)
REAR: 25' (ARTICLE 8.2.1)
ACCESSORY STRUCTURES: 5' (ARTICLE 8.6.3.5.1)
SETBACKS EXCLUDE OUTERMOST 3' OF EAVES, GUTTERS, UNCOVERED HANDICAP RAMPS AND UNCOVERED STEPS (ARTICLE 8.3.6.3.1)
- LOT COVERAGE:
55% (ARTICLE 8.2.1 - DISTRICT DEVELOPMENT STANDARDS / PRIMARY ZONING DISTRICTS)
200 SF MAX COVERAGE MAY BE EXCLUDED IF ONE OR MORE BIKE RACKS ARE PROVIDED (ARTICLE 8.6.6.7.4 - DISTRICT DEVELOPMENT STANDARDS / APPLICATION OF DIMENSIONAL REQUIREMENTS)
- BUILDING HEIGHT:
MAX ALLOWABLE - 42' IF BUILDING USES 8/12 ROOF PITCH (ARTICLE 8.6.4.2), EXCLUSIONS APPLY.
- MIXED USE DEVELOPMENT:
RESIDENTIAL COMPONENT SHALL NOT EXCEED 66% OF THE TOTAL GROSS FLOOR AREA OF A BUILDING CONTAINING 3 HABITABLE FLOORS (ARTICLE 7.35.2)
TOTAL FLOOR AREA: 9,921 SF
RESIDENTIAL FLOOR AREA: 6,281 SF (63.3%)
- LOT AREA = 13,500 SF; ALLOWABLE COVERAGE 55% (7425.00 SF)
COVERAGE IS AS FOLLOWS:
BUILDING 3,640.00 SF
CONCRETE-STANDARD 1,705.44 SF
CONCRETE-PERMEABLE 947.72 SF
DUMPSTER PAD 80.00 SF
SIDEWALK 58.50 SF
PROPOSED COVERAGE 6,431.14 SF (47.64%)
BIKE RACK - 20 SF (BIKE RACKS ARE EXCLUDED WHEN 20 SF OR LESS)
POROUS CONCRETE 1,414.50 * 0.67 = 947.72 SF



- CONCRETE MONUMENT FOUND
IRON ROD FOUND
RIGHT OF WAY
PROPERTY BOUNDARY
ADJACENT PROPERTY LINE
OVERHEAD ELECTRIC
PROPOSED LIGHT POLES
EXISTING CONTOURS
PROPOSED CONTOURS
EXISTING SPOT ELEVATIONS
PROPOSED SPOT ELEVATIONS
EXISTING TREELINE
PROPOSED TREELINE
EXISTING FENCE
PROPOSED FENCE
EXISTING PAVEMENT
PROPOSED STANDARD CONCRETE
PROPOSED PERVIOUS PAVEMENT

- EXISTING DROP INLET
PROPOSED CURB INLET
PROPOSED DROP INLET
PROPOSED DRAIN BASIN
FLARED END SECTION
RIP RAP
STORMWATER FLOW ARROW
EXISTING DRAINAGE PIPE
PROPOSED DRAINAGE PIPE
EXISTING DITCH/SWALE
PROPOSED DITCH/SWALE
PROPOSED SANITARY VALVE
PROPOSED SANITARY CLEANOUT
EXISTING FIRE HYDRANT
EXISTING WATER VALVE
PROPOSED WATER METER
PROPOSED WATER VALVE
EXISTING WATERLINE
HANDICAP PARKING
SIGNAGE
TRAFFIC FLOW ARROWS
SILT FENCE
LIMITS OF CONSTRUCTION

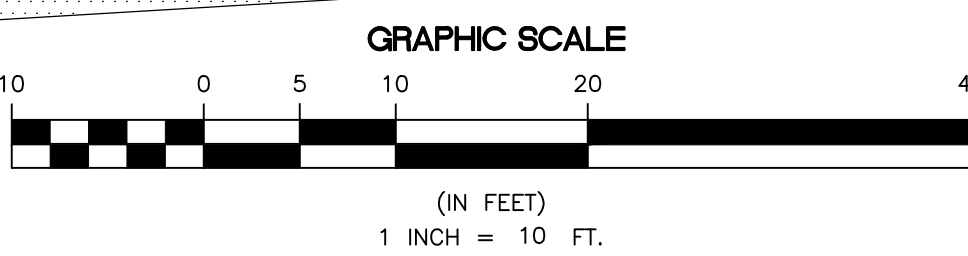
LEGEND

LANDSCAPING, BUFFERING AND VEGETATION PRESERVATION

- BUFFERYARDS SHALL CONTAIN 3 TREES, 15 SHRUBS AND 30 ORNAMENTAL GRASSES OR HERBACEOUS PLANTS PER EVERY 100 FEET (ARTICLE 10.93.2.1)
- GENERAL:**
- AT A MINIMUM, 50% OF THE NUMBER OF PLANTS SHALL BE LOCALLY ADAPTED EVERGREEN SPECIES (ARTICLE 10.93.2.4)
 - TREES SHALL BE A MINIMUM OF 5' HEIGHT AT TIME OF PLANTING WITHIN THE COMMERCIAL TRANSITIONAL BUFFER AND 3' IN HEIGHT AND 1" DIAMETER (MEASURED AT 18" ABOVE GRADE) IN OTHER LOCATIONS.
 - SHRUBS SHALL BE A MINIMUM OF 18" HEIGHT AT TIME OF PLANTING. 50% OF THESE SHALL BE SPECIES THAT ARE EXPECTED TO REACH A HEIGHT OF 5' WITHIN THREE YEARS
- COMMERCIAL TRANSITIONAL PROTECTIVE YARDS:**
- SHALL BE AT LEAST 10' IN WIDTH CONSIST OF TWO ROWS OF THE REQUIRED BUFFERYARD (ARTICLE 1.93.2.1.1). TREES AND SHRUBS SHALL BE A MINIMUM OF 5' AT TIME OF PLANTING (ARTICLE 10.93.3.2.3) AND ORNAMENTAL GRASSES OR HERBACEOUS PLANTS ARE NOT REQUIRED (ARTICLE 10.93.3.2.4)
- BUILDINGS ADJACENT TO STREET FRONTAGE:**
- PLANTINGS ALONG BUILDING WALLS ADJACENT TO STREET FRONT SHALL BE AS SHOWN ON THIS PLAN
- INTERIOR PARKING LOTS LANDSCAPING:**
- EXTERIOR PARKING AREA (NON-COVERED) IS 1,250 SF WHICH REQUIRES A PARKING LOT LANDSCAPE AREA OF AT LEAST 125 SF (PROVIDED).
- VEGETATION PRESERVATION / PLANTING REQUIREMENTS:**
- THE SITE WAS PREVIOUSLY CLEARED AND IS MOSTLY GRASSED. THE EASTERN EDGE DOES HAVE SOME EXISTING VEGETATION BUT THIS WILL NOT MEET THE REQUIRED COMMERCIAL TRANSITIONAL BUFFER. THEREFORE, PLANS INCLUDE PLANTING A MINIMUM OF 15% OF THE TOTAL LOT AREA (2,025 SF).
 - NEW LANDSCAPING INCLUDES 7 TREES (Ø 100 SF/TREE) AND 32 SHRUBS (Ø 50 SF/SHRUB) FOR A TOTAL OF 2,300 SF. THIS EXCLUDES BUILDING FOUNDATION LANDSCAPING.



- TREES
(RECOMMENDED - JAPANESE BLACK PINE, RED BAY WILD OLIVE, CREPE MYRTLE)
- SHRUBS
(RECOMMENDED - JAPANESE PITTSPOURUM, NORTHERN BAYBERRY, YEDDO HAWTHORNE, OLEANDER, DWARF WITH ALDER)
- ORNAMENTAL GRASSES OR HERBACEOUS PLANTS (<30" TALL)
(RECOMMENDED - SEASIDE GOLDEN ROD, BLANKET FLOWER, CYPRUS LAVENDER COTTON, BUTTERFLY WEED, PURPLE CONEFLOWER)
- NOTE: A MINIMUM OF 50% OF THE BUFFER PLANTS SHALL BE LOCALLY ADAPTED EVERGREEN.



FINAL DRAWING
NOT FOR
CONSTRUCTION

SITE PLAN AND LANDSCAPING PLAN

BK ASSOCIATES
4413 S CROATAN HIGHWAY

NORTH CAROLINA
DARE COUNTY
NACS HEAD TOWNSHIP
NACS HEAD

DATE:	06/14/2022	SEE NOTES			
SURVEYED:		MJM			
DESIGNED:		MJM			
DRAWN:		KCA			
CHECKED:		MJM			
FILE:		08621A			
SCALE:					
1" = 10'					
C201					
PROJ. NO. 08621A					

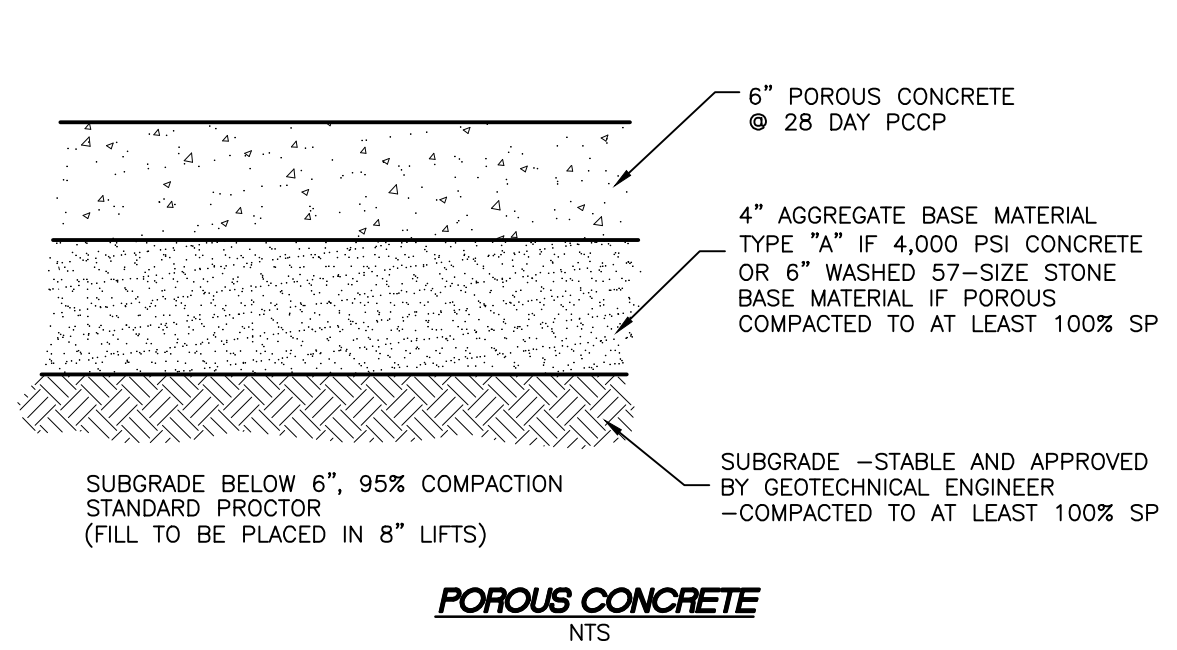
REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK
1	07/19/2022	PER TBC COMMENTS		



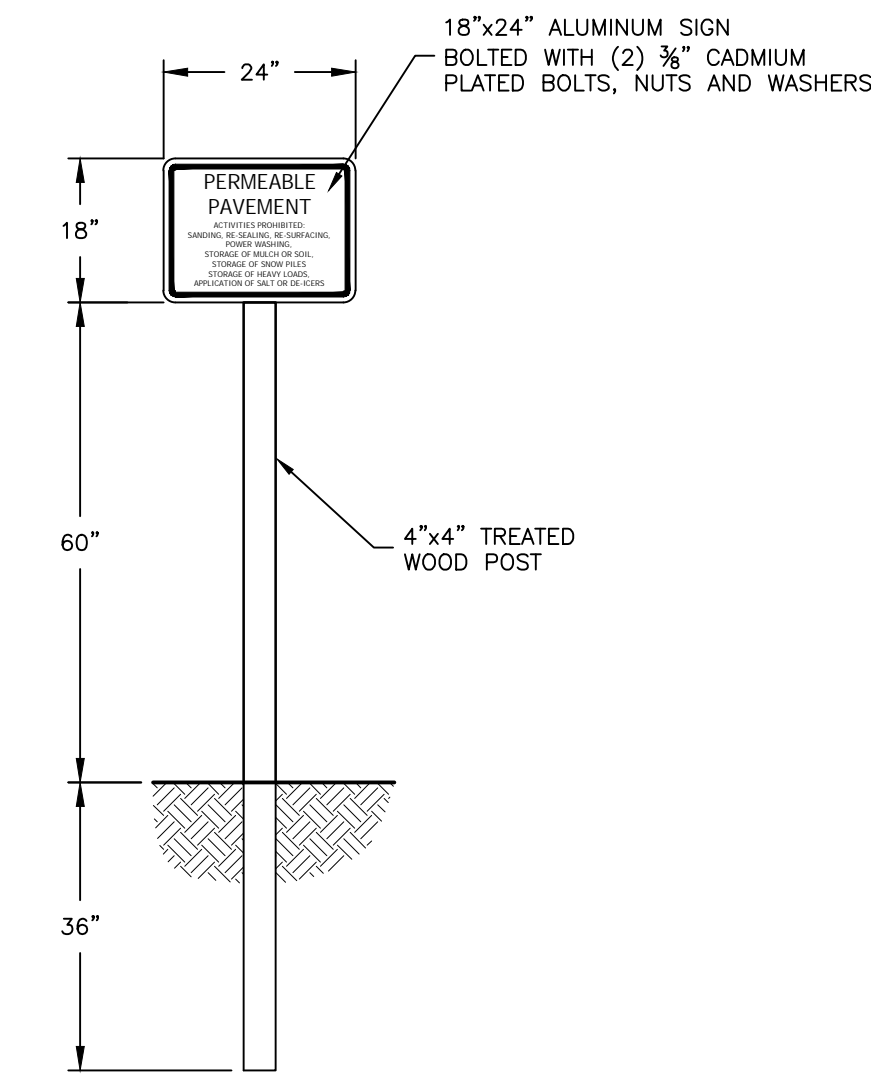
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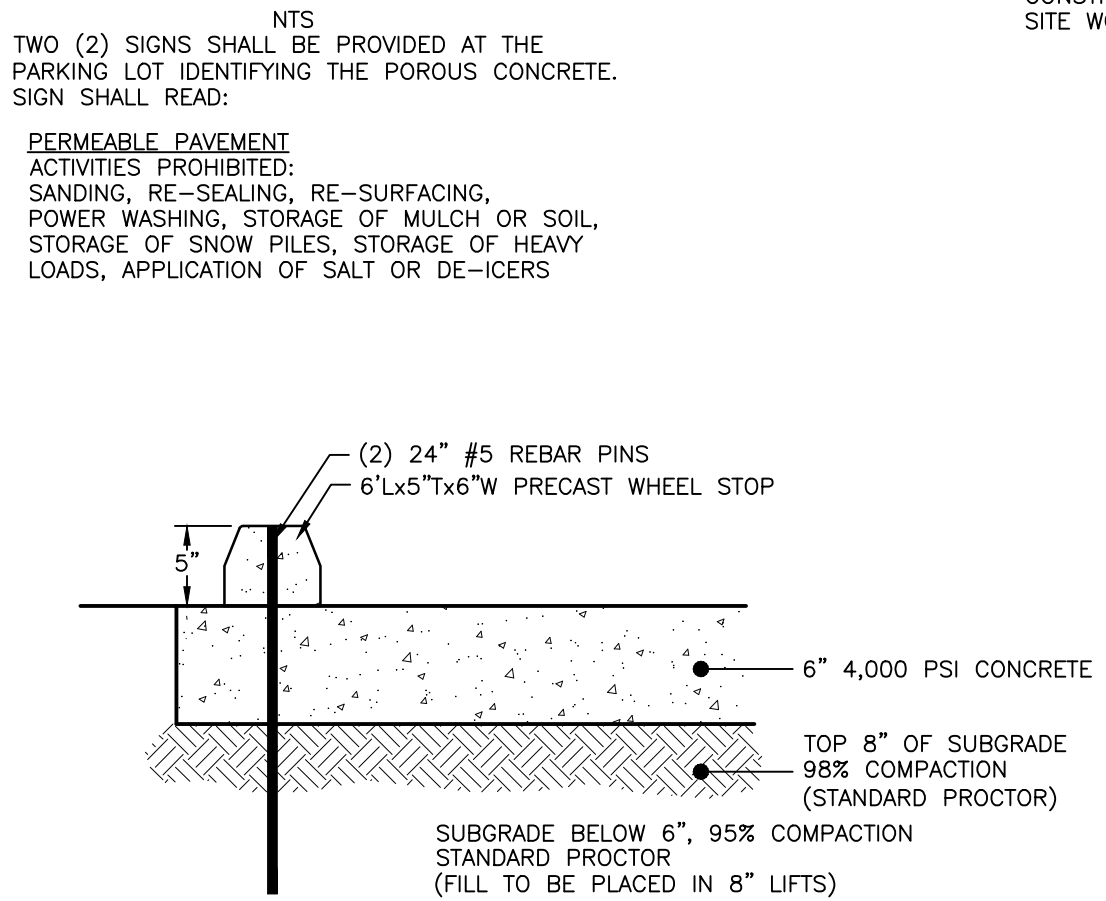
Porous Concrete Notes:

- 1. CONTRACTOR QUALIFICATION: CONTRACTORS SHALL HAVE SUCCESSFULLY INSTALLED PERVIOUS CONCRETE AT LEAST THREE TIMES IN THE LAST THREE YEARS. LIKEWISE, THE CONCRETE SUPPLIER SHALL HAVE PRODUCED PERVIOUS CONCRETE FOR AT LEAST THREE PROJECTS IN THE LAST THREE YEARS.
- 2. MIX DESIGN: THE CONTRACTOR SHALL SUBMIT A PROPOSED MIX DESIGN WITH PROPORTIONS OF MATERIALS PRIOR TO WORK. CEMENT CONTENT SHALL NOT BE LESS THAN 600 LBS PER CY. AGGREGATE SHALL BE AT LEAST 2000 LBS/CY. CONCRETE COMPRESSIVE STRENGTH SHALL BE AT LEAST 2500 PSI. POROSITY SHALL BE 20% BY VOLUME. PERMEABILITY SHALL BE AT LEAST 3 GAL/SF/MIN. SLUMP SHALL BE NO GREATER THAN 3/4 INCH.
- 3. CEMENT: CEMENT SHALL BE PORTLAND CEMENT TYPE 1 OR 2 (ASTM C150) OR TYPE IP OR IS (ASTM C595 OR C1157).
- 4. AGGREGATE: AGGREGATE SHALL BE COURSE (3/8" TO NO. 89 PER ASTM D 448). AGGREGATE SHALL BE TRIPLED WASHED PRIOR TO MIX.
- 5. AIR ENTRAINING AGENT: SHALL COMPLY WITH ASTM C 260.
- 6. ADMIXTURES: TYPE A, B & D SHALL COMPLY WITH ASTM D 494.
- 7. SUBGRADE: SUBGRADE SHALL BE COMPACTED TO 92% MAXIMUM DRY DENSITY (AASHTO T 98).
- 8. MIXING: CONCRETE SHALL BE MIXED AT THE SPEED SPECIFIED BY THE MANUFACTURER FOR 75 TO 100 REVOLUTIONS.
- 9. PLACEMENT: CONCRETE SHALL BE PLACED WITHIN 1 HOUR OF MIXING UNLESS OTHERWISE APPROVED. UPON DISCHARGE, CONCRETE SHALL BE INSPECTED. CEMENT SHALL CONTAIN A WET METALLIC SHEEN. DISCHARGE SHALL BE PLACED AS CLOSE TO FINAL POSITION AS POSSIBLE. CONCRETE SHALL NOT BE PULLED OR SHOVELLED INTO FINAL PLACEMENT. CONCRETE SHALL BE PLACED WITHIN FORMS AND COMPACTED WITH A ROLLER APPLYING AT LEAST 10 PSI PRESSURE.
- 10. CURING: PAVEMENT SHALL BE COVERED WITH A MIN. 6 MIL THICK POLYETHYLENE SHEET WITHIN 20 MINUTES OF PLACEMENT.
- 11. TEST PANELS: PRIOR TO PLACEMENT OF PERVIOUS CONCRETE, THE CONTRACTOR SHALL PLACE AT LEAST 2 TEST PANELS. TEST PANELS SHALL BE AT LEAST 225 SF. TEST PANELS SHALL BE TESTED FOR COMPACTED THICKNESS, VOID SPACE UNIT WEIGHT AND POROSITY. COMPACTED THICKNESS SHALL BE WITHIN 1/4" (MINUS) AND 1/2" (PLUS) DESIGN THICKNESS. VOID SPACE SHALL BE WITHIN 5%. CORES FOR TEST PANELS SHALL BE TAKEN 7 DAYS AFTER PLACEMENT OF TEST PANELS.
- 12. JOINTING: SHALL BE INSTALLED AT 40 INTERVALS AT A DEPTH OF 1/4 THE PAVEMENT THICKNESS. CONTROL JOINT SHALL ALIGN WITH SUB-BASE BENCHES. TRANSVERSE JOINTS SHALL BE PLACED WHENEVER OPERATIONS ARE SUSPENDED FOR A PERIOD OF TIME WHERE CONCRETE BEGINS TO HARDEN. BONDING AGENTS SHALL BE SPRAYED UPON THE JOINT. EXPANSION JOINTS SHALL BE PLACED WHERE PERVIOUS CONCRETE BORDERS OTHER STRUCTURES OR SLABS, INCLUDING CONCRETE SIDEWALKS.
- 13. PHASING: POROUS CONCRETE SHALL NOT BE PLACED UNTIL ANY POTENTIAL SOURCE OF SEDIMENT OR OTHER CONTAMINATION IS STABILIZED AND NO LONGER POSES A THREAT TO THE POROUS CONCRETE.



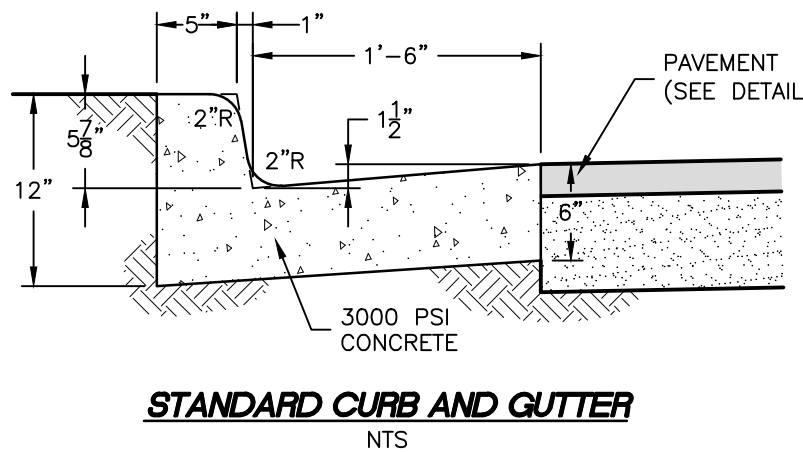
Permeable Interlocking Paver (PICP) Notes:

- 1. PERMEABLE PAVEMENT SHALL CONSIST OF PERMEABLE INTERLOCKING CONCRETE PAVERS CONSTRUCTED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DETAILS. SELECTION OF PERMEABLE PAVEMENT SHALL BE MADE BY THE DEVELOPER AND IS NOT AT THE DISCRETION OF THE CONTRACTOR.
- 2. CONTRACTOR SHALL COMPLY WITH NCDEQ STANDARDS.
- 3. UNDERDRAIN BENEATH PERMEABLE PAVEMENT IS NOT REQUIRED UNLESS OTHERWISE SHOWN ON THE PROJECT PLANS.
- 4. SUBGRADE SHALL BE GRADED AT THE SLOPES SHOWN ON THE GRADING PLAN, ACCOUNTING FOR DEPTHS PRESCRIBED IN THE PAVEMENT SECTION. IN NO CASE SHALL SUBGRADE SLOPE EXCEED 2%.
- 5. SUBGRADE SHALL BE GRADED WHEN DRY.
- 6. PERMEABLE PAVEMENT SHALL BE PROTECTED FROM SEDIMENT. IT IS HIGHLY RECOMMENDED THAT PAVEMENT BE CONSTRUCTED ONLY AFTER SITE WORK IN THE VICINITY OF THE PAVEMENT IS COMPLETED AND STABILIZED WITH PERMANENT VEGETATION AND HEAVY CONSTRUCTION TRAFFIC IS NO LONGER ANTICIPATED. IF PAVEMENT IS CONSTRUCTED PRIOR TO THE COMPLETION AND STABILIZATION OF SITE WORK, PAVEMENT SHALL BE PROTECTED FROM SEDIMENT THROUGH SILT FENCING OR OTHER APPROVED MEANS.



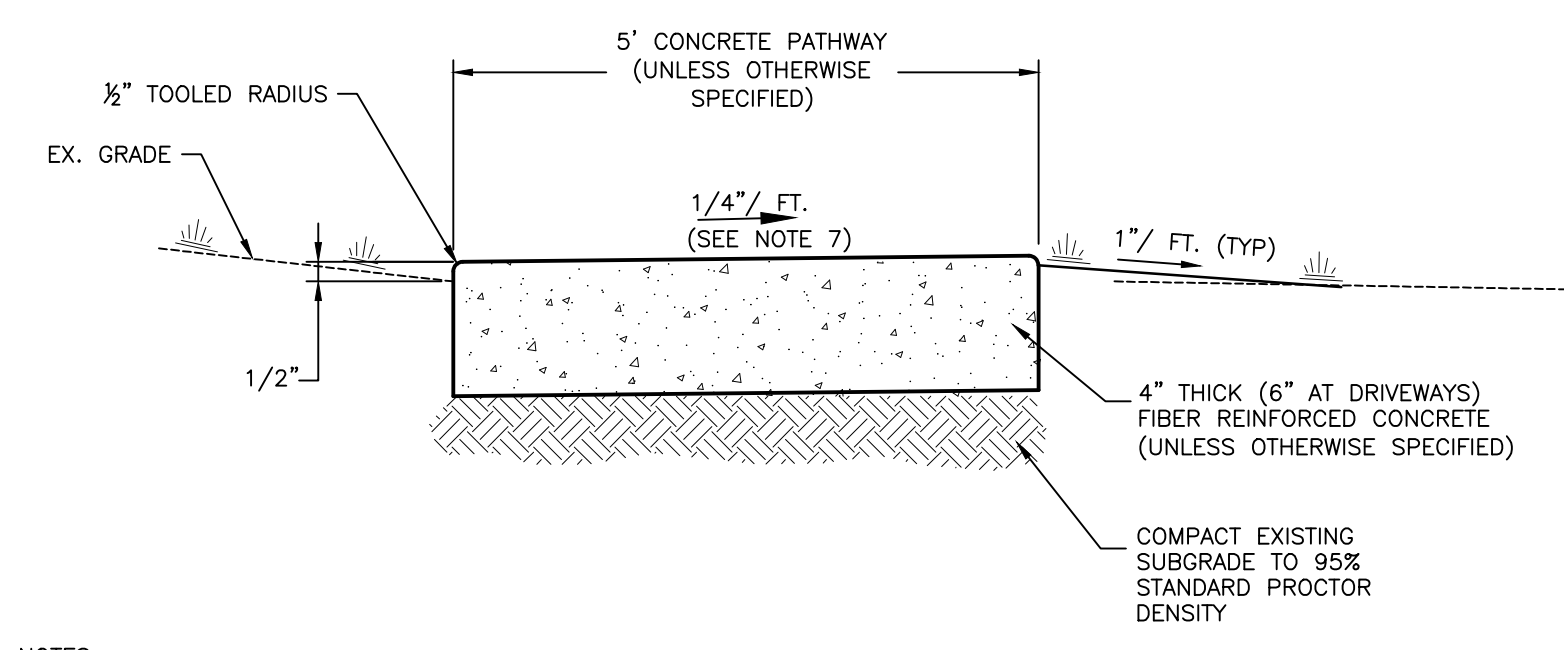
NOTE: CONFIRM PAVEMENT THICKNESS WITH GEOTECHNICAL REPORT.

Concrete Pavement and Wheel Stop Detail



Standard Curb and Gutter

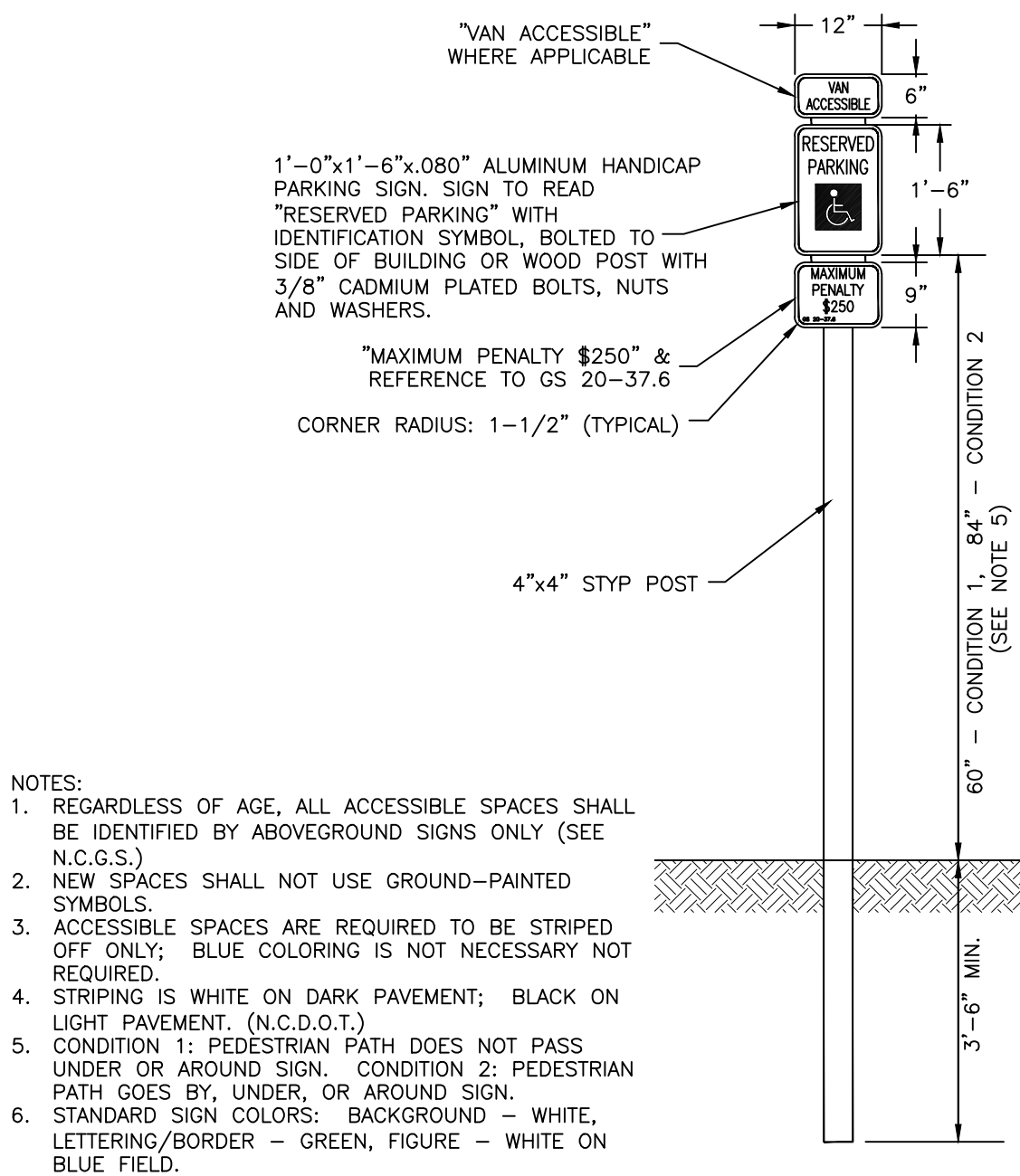
FINAL DRAWING NOT FOR CONSTRUCTION



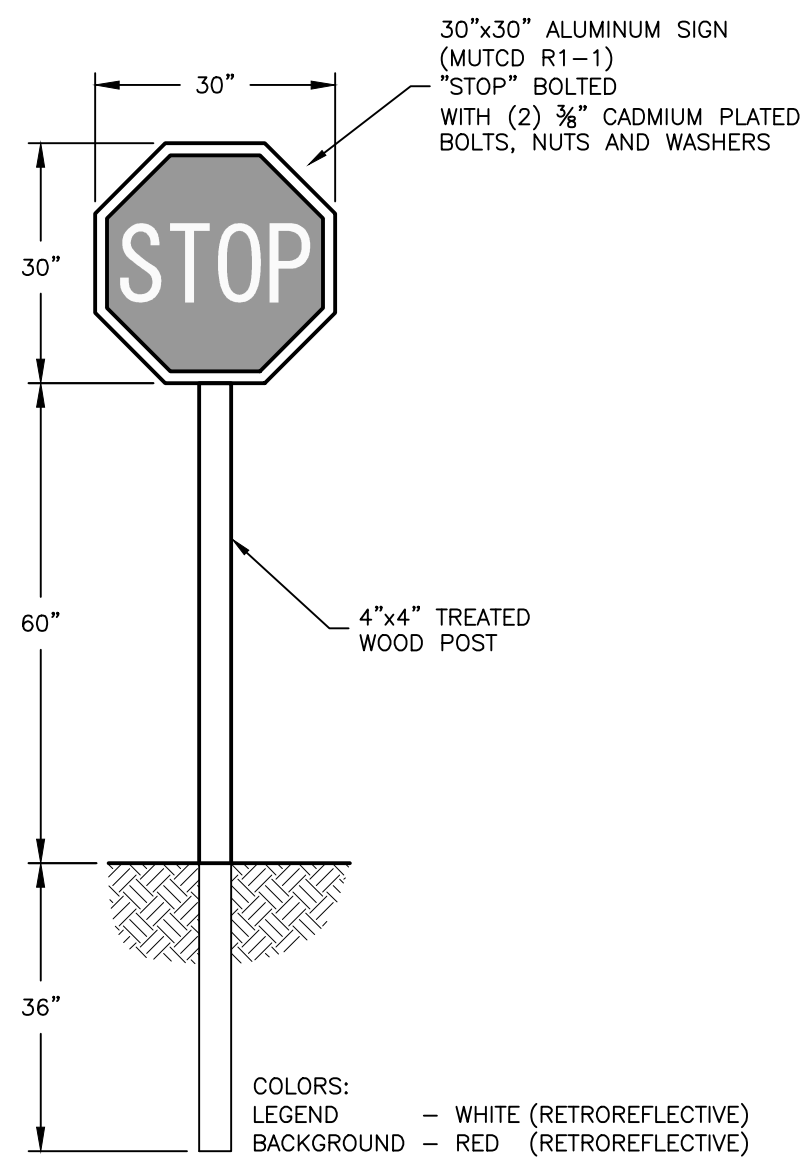
Concrete Sidewalk Detail

- 1. ALL CONCRETE SHALL BE 3,000 PSI, 4" THICK, UNLESS NOTED OTHERWISE. DRIVE APRONS AND PATHWAY AT DRIVEWAYS SHALL BE 6" THICK CONCRETE SHALL BE PREPARED IN ACCORDANCE WITH ACI 211.1, ACI 301 AND ASTM C94.
- 2. CONTROL JOINTS SHALL BE PLACED PERPENDICULAR TO THE EDGE OF PAVEMENT AT 5' SPACING. CONTROL JOINTS SHALL BE SAWED.
- 3. EXPANSION JOINTS SHALL BE PLACED AT THE END OF EACH SECTION OF CONSTRUCTION INCLUDING THE LOCATIONS THAT PAVEMENT ABUTS EXISTING PAVEMENT AND AT 30' INTERVALS. EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK AND CONFORM TO ASTM D 1751.
- 4. LONGITUDINAL SLOPE SHALL NOT EXCEED 5%.
- 5. A BROOMED SURFACE FINISH SHALL BE PROVIDED UNLESS OTHERWISE APPROVED BY THE OWNER.
- 6. TESTING SHALL BE PROVIDED BY THE CONTRACTOR.
- 7. REFER TO PLANS FOR SLOPE DIRECTION.

Concrete Sidewalk Detail



Handicapped Parking Sign Detail



Stop Sign Detail

- 1. REGARDLESS OF AGE, ALL ACCESSIBLE SPACES SHALL BE IDENTIFIED BY ABOVEGROUND SIGNS ONLY (SEE N.C.G.S.).
- 2. NEW SPACES SHALL NOT USE GROUND-PAINTED SYMBOLS.
- 3. ACCESSIBLE SPACES ARE REQUIRED TO BE STRIPED OFF ONLY. BLUE COLORING IS NOT NECESSARY NOT REQUIRED.
- 4. STRIPING IS WHITE ON DARK PAVEMENT; BLACK ON LIGHT PAVEMENT. (N.C.D.O.T.).
- 5. CONDITION 1: PEDESTRIAN PATH DOES NOT PASS UNDER OR AROUND SIGN. CONDITION 2: PEDESTRIAN PATH GOES BY, UNDER, OR AROUND SIGN.
- 6. STANDARD SIGN COLORS: BACKGROUND - WHITE, LETTERING/BORDER - GREEN, FIGURE - WHITE ON BLUE FIELD.

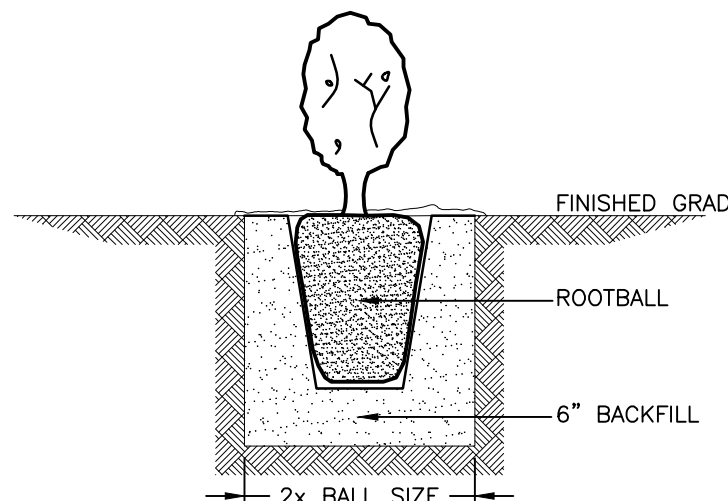
Landscape Notes:

PREPARATION: LAYOUT TREE AND SHRUB LOCATIONS AND AREAS AND SECURE LANDSCAPE DESIGNERS APPROVAL BEFORE START OF PLANTING WORK. MAKE MINOR ADJUSTMENTS AS MAY BE REQUESTED. FINE GRADE LAWN AREAS TO A SMOOTH, EVEN SURFACE WITH LOOSE, UNIFORM FINE TEXTURE. ROLL, RAKE AND DRAG LAWN AREAS. REMOVE RIDGES AND FILL DEPRESSIONS, AS REQUIRED TO MEET FINAL GRADE. LIMIT FINE GRADING TO AREAS THAT CAN BE PLANTED IMMEDIATELY AFTER GRADING.

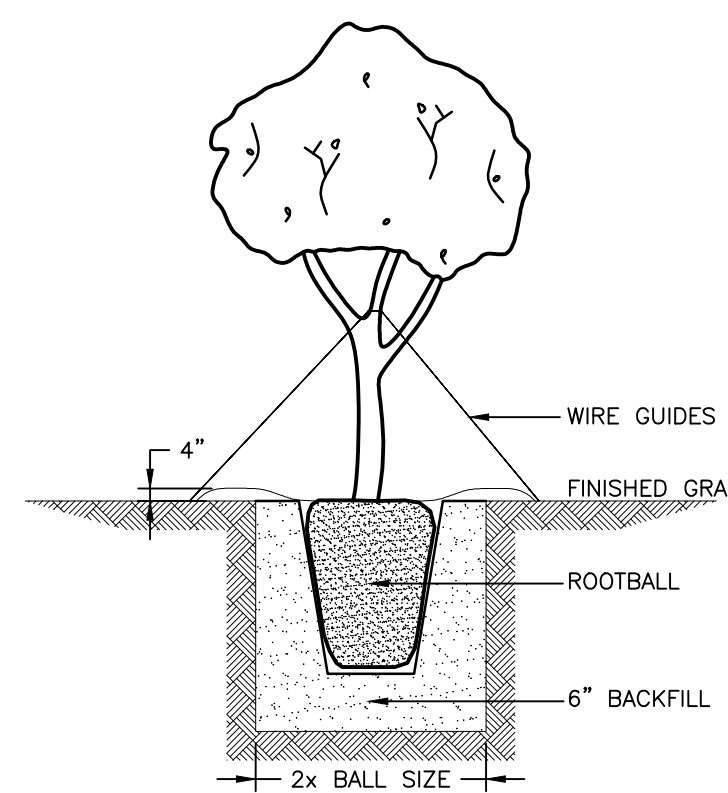
EXCAVATION FOR TREES AND SHRUBS: EXCAVATE PITS, BEDS AND TRENCHES WITH VERTICAL SIDES AND WITH BOTTOM OF EXCAVATION SLIGHTLY RAISED AT CENTER TO PROVIDE PROPER DRAINAGE. LOOSEN HARD SOIL MIXTURE, PLUMB AND IN THE CENTER OF THE PIT OR TRENCH, WITH THE TOP OF THE ROOT BALL AT THE SAME ELEVATION AS ADJACENT FINISHED LANDSCAPE GRADES. WHEN SET, PLACE ADDITIONAL BACKFILL AROUND BASE AND SIDES OF ROOT BALL, AND WORK EACH LAYER TO ELIMINATE Voids AND AIR POCKETS. WHEN EXCAVATION IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL. MULCH PITS, TRENCHES AND PLANTED AREAS. PROVIDE NOT LESS THAN 3" THICKNESS OF MULCH AND FINISH LEVEL WITH ADJACENT GRADE.

PLANTING TREES AND SHRUBS: SET BALLED AND BURLAPPED AND POTTED STOCK ON LAYER OF COMPACTED PLANTING SOIL MIXTURE, PLUMB AND IN THE CENTER OF THE PIT OR TRENCH, WITH THE TOP OF THE ROOT BALL AT THE SAME ELEVATION AS ADJACENT FINISHED LANDSCAPE GRADES. WHEN SET, PLACE ADDITIONAL BACKFILL AROUND BASE AND SIDES OF ROOT BALL, AND WORK EACH LAYER TO ELIMINATE Voids AND AIR POCKETS. WHEN EXCAVATION IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL. MULCH PITS, TRENCHES AND PLANTED AREAS. PROVIDE NOT LESS THAN 3" THICKNESS OF MULCH AND FINISH LEVEL WITH ADJACENT GRADE.

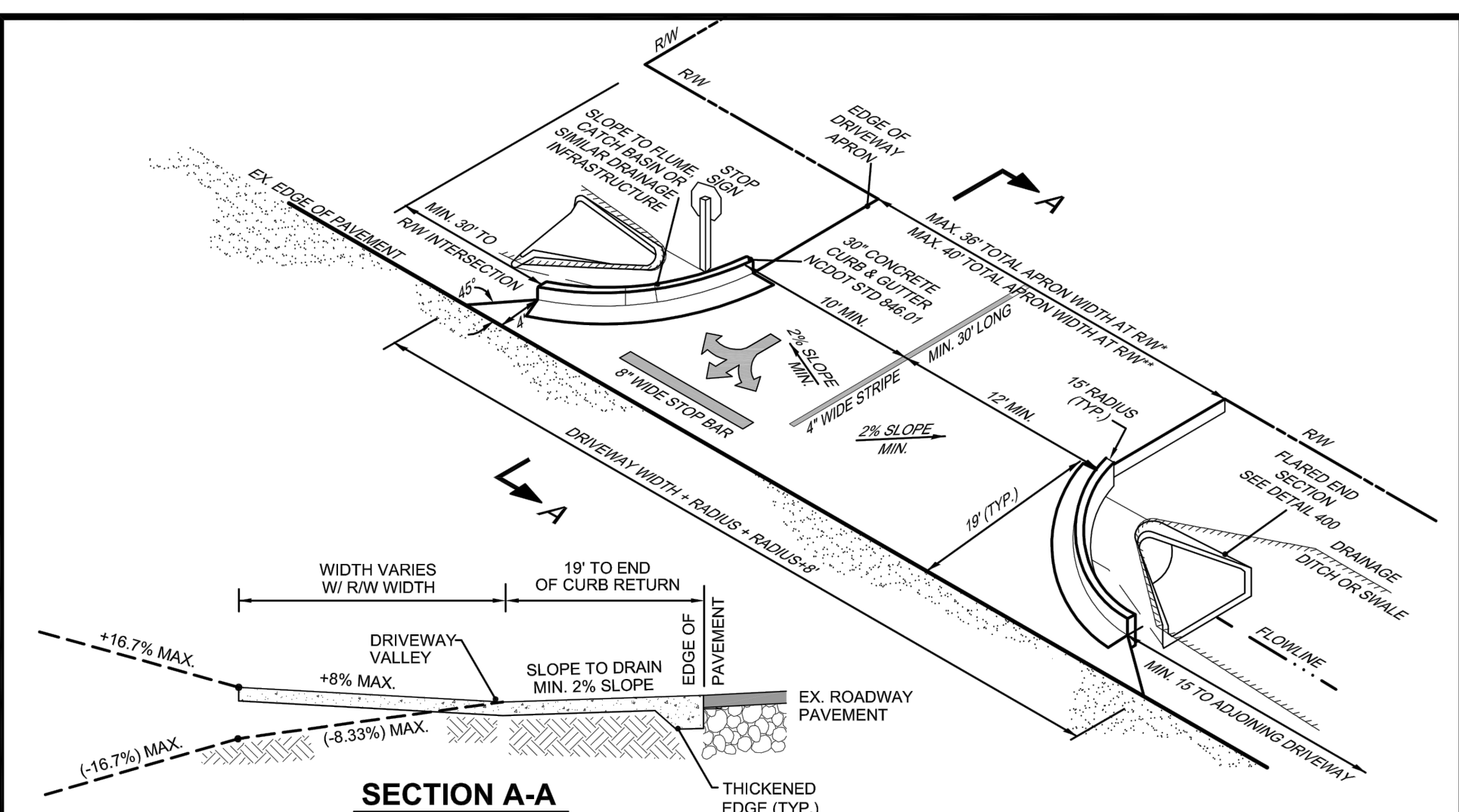
CLEAN-UP AND PROTECTION: DURING LANDSCAPE WORK, KEEP PAVEMENTS CLEAN AND WORK AREA IN AN ORDERLY CONDITION. PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRUCKS AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED LANDSCAPE WORK AS DIRECTED.



Shrub Planting Detail

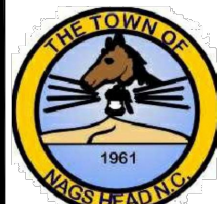


Tree Planting Detail



Notes:

- 1. All driveways must meet the current Town driveway requirements and NCDOT requirements for spacing, sight distance, and offsets from property lines and intersections.
- 2. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or Public Works Director.
- 3. Driveway width shall not exceed 36' when not served by tractor/trailer traffic (AASHTO WB-40).
- 4. Driveway width shall not exceed 40' when served by tractor/trailer traffic (AASHTO WB-40).
- 5. Driveway aprons shall be constructed of a min. 4" thick, 3000 psi concrete or 6" ABC base course with a 2" asphalt surface course.

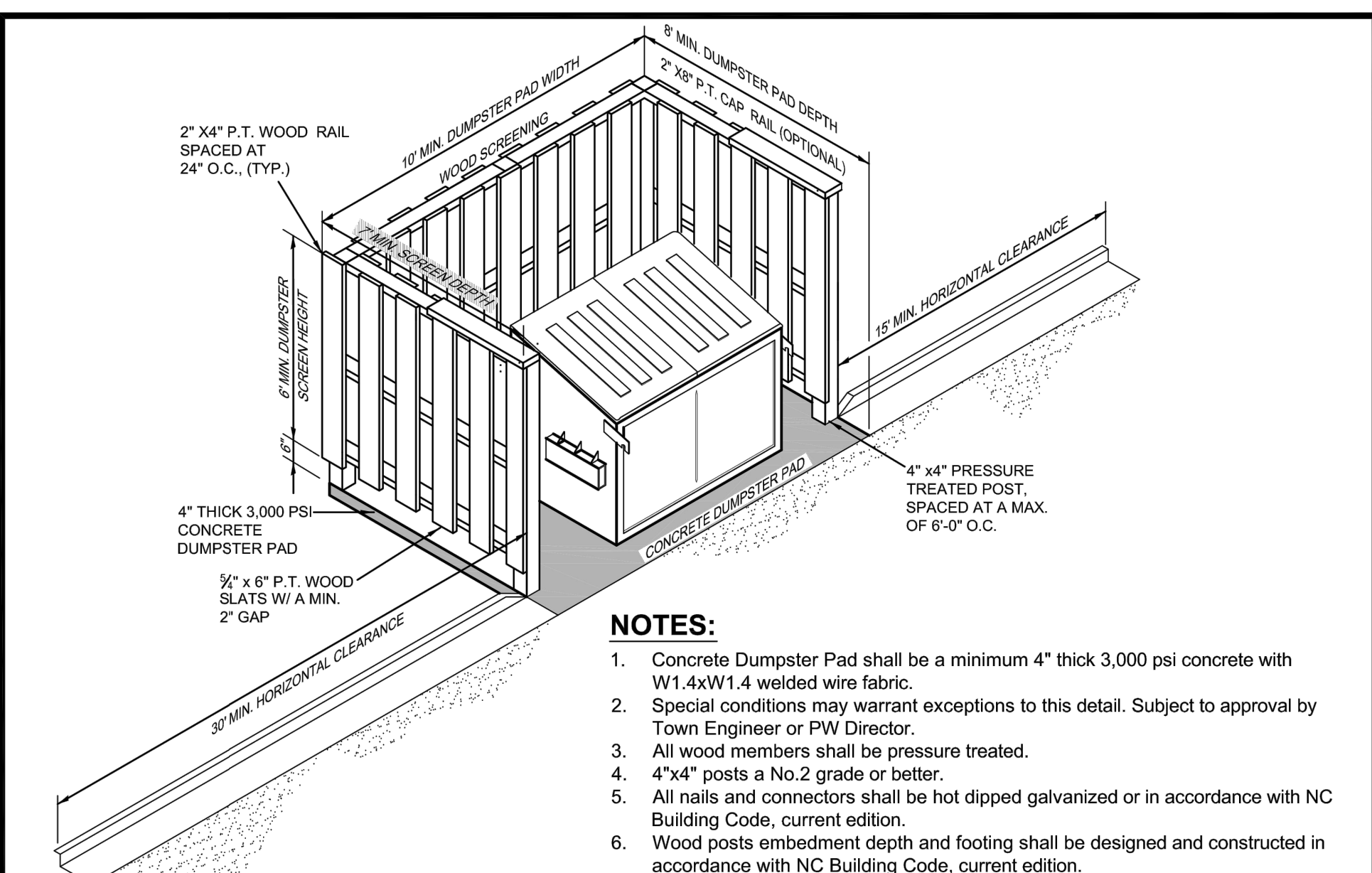


TOWN OF NAGS HEAD
DEPARTMENT OF PUBLIC WORKS
P.O. BOX 99
NAGS HEAD, NC 27959
252.441.1122 • www.nagshadnc.gov

TYPICAL COMMERCIAL DRIVEWAY DETAIL
SMALL PARKING LOT LAYOUT

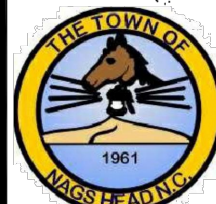
SCALE: NONE
ISSUE DATE: 7-9-2015
REVISION DATE:
SHEET NO. 1 OF 1
DRAWN BY: DMF

DETAIL NO.: 200



Notes:

- 1. Concrete Dumpster Pad shall be a minimum 4" thick 3,000 psi concrete with W1.4xW1.4 welded wire fabric.
- 2. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or PW Director.
- 3. All wood members shall be pressure treated.
- 4. 4"x4" posts a No.2 grade or better.
- 5. All nails and connectors shall be hot dipped galvanized or in accordance with NC Building Code, current edition.
- 6. Wood posts embedment depth and footing shall be designed and constructed in accordance with NC Building Code, current edition.
- 7. Alternative screening material may be considered on a case by case basis.
- 8. A minimum 16' vertical clearance shall be provided at the dumpster pad.
- 9. Multiple bulk container layouts shall be reviewed & approved by the PW Director.



TOWN OF NAGS HEAD
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TYPICAL COMMERCIAL DUMPSTER PAD
WITH WOOD SCREEN DETAIL

SCALE: NONE
ISSUE DATE: 7-9-2015
REVISION DATE:
SHEET NO. 1 OF 1
DRAWN BY: DMF

DETAIL NO.: 203



Albemarle & Associates, Ltd.
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REVISIONS		
NO.	DATE	DESCRIPTION
1	07/10/2022	PER THE COMMENTS

BUFFER AND SITE PLAN DETAILS

BK ASSOCIATES

4413 S CROATAN HIGHWAY

NORTH CAROLINA
DARE COUNTY
NACS HEAD TOWNSHIP
NACS HEAD

DATE: 06/14/2022

SURVEYED: SEE NOTES

DESIGNED: M/M

DRAWN: R/A

CHECKED: M/M

FILE: 08621A

SCALE: 1" = 10'

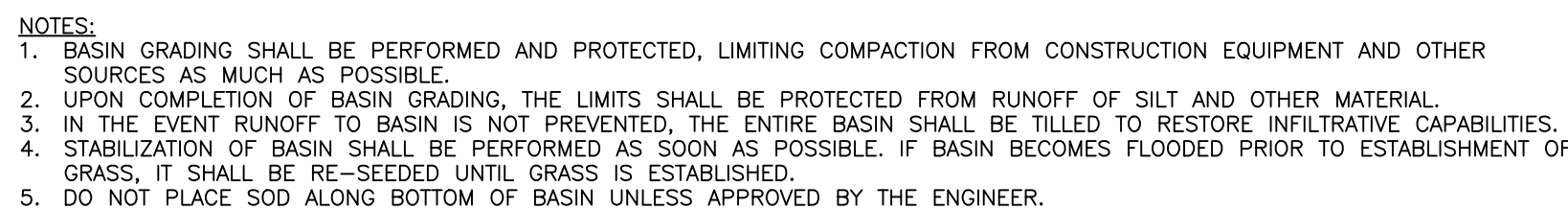
C202

PROJ. NO. 08621A

1. ALL CONSTRUCTION TRAFFIC SHALL UTILIZE THE CONSTRUCTION ENTRANCE AS DESIGNATED.
2. PRIOR TO COMMENCEMENT OF ANY LAND DISTURBING ACTIVITIES, ALL EROSION AND SEDIMENTATION CONTROL MEASURES IDENTIFIED ON THIS PLAN SHALL BE INSTALLED IN ACCORDANCE WITH THE EROSION CONTROL PLAN.
3. THE CONTRACTOR SHALL ENSURE THAT AREAS OUTSIDE OF THE LIMITS OF LAND DISTURBANCE AS WELL AS TRAILS SPECIFICALLY NOTED FOR PROTECTION ARE NOT ADVERSELY IMPACTED BY ANY CLEARING ACTIVITIES.
4. PRIOR TO FILLING THE SITE, THE CONTRACTOR SHALL STRIP AND STOCKPILE TOPSOIL IN ACCORDANCE WITH GEOTECHNICAL REPORTS AT THE LOCATION. AREAS WHICH ARE TO BE FILLED SHALL BE RAISED IN COMPACTED SEQUENTIAL LIFTS NOT TO EXCEED 8 INCHES IN DEPTH. FILL MATERIAL SHALL BE CLEAN, WELL GRADED SAND, FILL LOCATED BENEATH PAVEMENT SHALL BE COMPACTED PER GEOTECHNICAL REPORT. TOPSOIL STOCKPILED CAN BE USED ON SITE FOR RESPRAD UPON COMPLETION OF FILL AND USED WITHIN STORMWATER TREATMENT AREA.
5. LIMITS OF SLOPES AND GRADING SHALL BE IN ACCORDANCE WITH THE LIMITS SHOWN HEREON.
6. EXISTING TOPOGRAPHY HAS BEEN PROVIDED BY SURVEY ISSUED BY J.H. MILLER, JR. LAND SURVEYING, DATED FEBRUARY 10, 2022 AND IS BASED UPON NAD 1988.

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT NC ONE CALL (811) TO LOCATE UNDERGROUND UTILITIES.
2. ALL STORM SEWERS SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. STORM SEWERS SHALL BE SMOOTH INTERIOR, DOUBLE WALLED HDPE WITH GASKETED CONNECTIONS UNLESS OTHERWISE NOTED.
3. DROP INLETS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED PER NC DOT 840.
4. END SECTIONS SHALL BE PROVIDED WITH OUTLET PROTECTION (SEE DETAIL ON THIS SHEET).
5. INSTALLATION OF STORMWATER MANAGEMENT MEASURES SHALL BE IN ACCORDANCE WITH THIS PLAN AND REQUIREMENTS STIPULATED BY THE DIVISION OF WATER QUALITY STORMWATER PERMIT.
6. SEE SITE PLAN NOTES FOR AS-BUILT REQUIREMENTS. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL SUBMIT A FINAL SURVEY. THE SURVEY SHALL INCLUDE ALL SITE IMPROVEMENTS AND STORMWATER MANAGEMENT FEATURES WITH ELEVATIONS.

1. UPON ACCEPTANCE BY THE OWNER, IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE NECESSARY MAINTENANCE SO THAT THE STORMWATER SYSTEM WILL FUNCTION AS INTENDED.
2. AFTER EVERY RUNOFF PRODUCING RAINFALL EVENT AND AT LEAST MONTHLY, INSPECT THE STORMWATER MANAGEMENT POND FOR EROSION, TRASH ACCUMULATION, VEGETATIVE COVER, AND GENERAL CONDITION. ALSO INSPECT THE INFLOW STRUCTURES, OUTLET STRUCTURE, RIP-RAP AND BARS FOR OBSTRUCTION. REMOVE ANY BLOCKAGE AND REPAIR THE STRUCTURE TO APPROVED DESIGN SPECIFICATIONS
3. REPAIR ERODED AREAS IMMEDIATELY, RE-SEED AS NECESSARY TO MAINTAIN ADEQUATE VEGETATIVE COVER, REMOVE TRASH AS NEEDED.
4. CHECK FOR SEDIMENTATION WITHIN THE BASIN ANNUALLY. IF DEPOSITION OF MATERIAL IS OBSERVED WITHIN THE SYSTEM, REESTABLISH DESIGN GRADES AS INDICATED ON APPROVED SITE PLAN. INSPECT BASIN WALLS AND STRUCTURES TO ENSURE THAT THEY ARE MAINTAINED AT THEIR DESIGN ELEVATIONS. IF EROSION OCCURS, REESTABLISH DESIGN ELEVATIONS AS INDICATED ON APPROVED SITE PLAN.



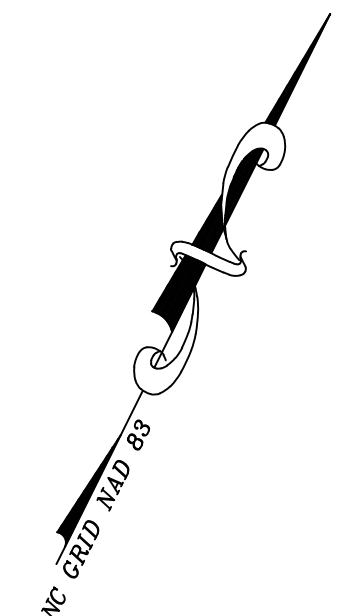
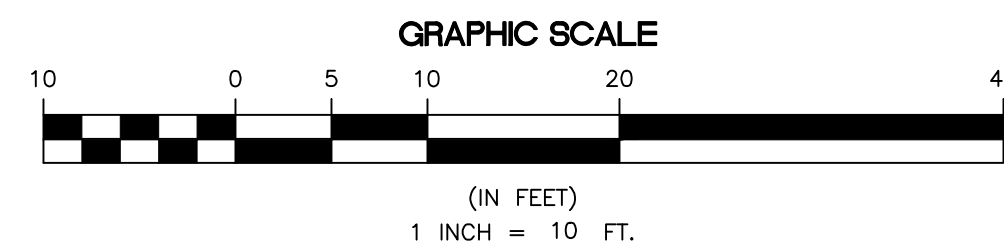
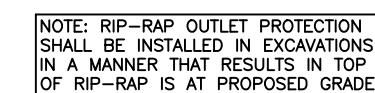
D	OUTLET W/ DITCH			OUTLET W/O DITCH		
	CLASS B RIPRAP	CLASS I RIPRAP	CLASS I RIPRAP	CLASS B RIPRAP	CLASS I RIPRAP	CLASS I RIPRAP
	TONS	FAIR (cy)	S.Y.	TONS	FAIR (cy)	S.Y.
12"	2	5	5	2	5	1
15"	2	7	7	3	7	1
18"	3	10	9	4	10	2
24"	5	14	15	7	15	3
30"	8	21	21	11	22	5
36"	11	28	29	15	30	7
42"	15	37	39	20	39	10
48"	—	—	49	26	50	—
54"	—	—	60	33	62	—
60"	—	—	73	40	75	—
66"	—	—	87	48	89	—
72"	—	—	102	57	104	—

NOTE:
 FOR CALCULATION PURPOSES
 CLASS B RIPRAP = 100 LBS./FT.
 CLASS I RIPRAP = 105 LBS./FT.

SECTION A-A
 PIPE OUTLET WITH DITCH

SECTION B-B
 PIPE OUTLET WITHOUT DITCH

H = RIPRAP TO TOP OF PIPE (MAX. H = D + T)
 T = 15" CLASS I RIPRAP, UNLESS OTHERWISE SHOWN ON PLANS
 T = 12" CLASS B RIPRAP, UNLESS OTHERWISE SHOWN ON PLANS

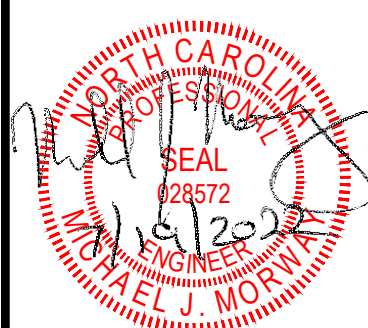


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BK ASSOCIATES
4413 S CROATAN HIGHWAY

NAGS HEAD
NAGS HEAD TOWNSHIP
DARE COUNTY
NORTH CAROLINA

DATE:	06/14/2022
SURVEYED:	SEE NOTES
DESIGNED:	MJM
DRAWN:	KCA
CHECKED:	MJM
FILE:	08621A

SCALE:
1" = 10'

C301

PROJ. NO. 08621A



Hit the Tab key or mouse over the page to see all interactive elements.

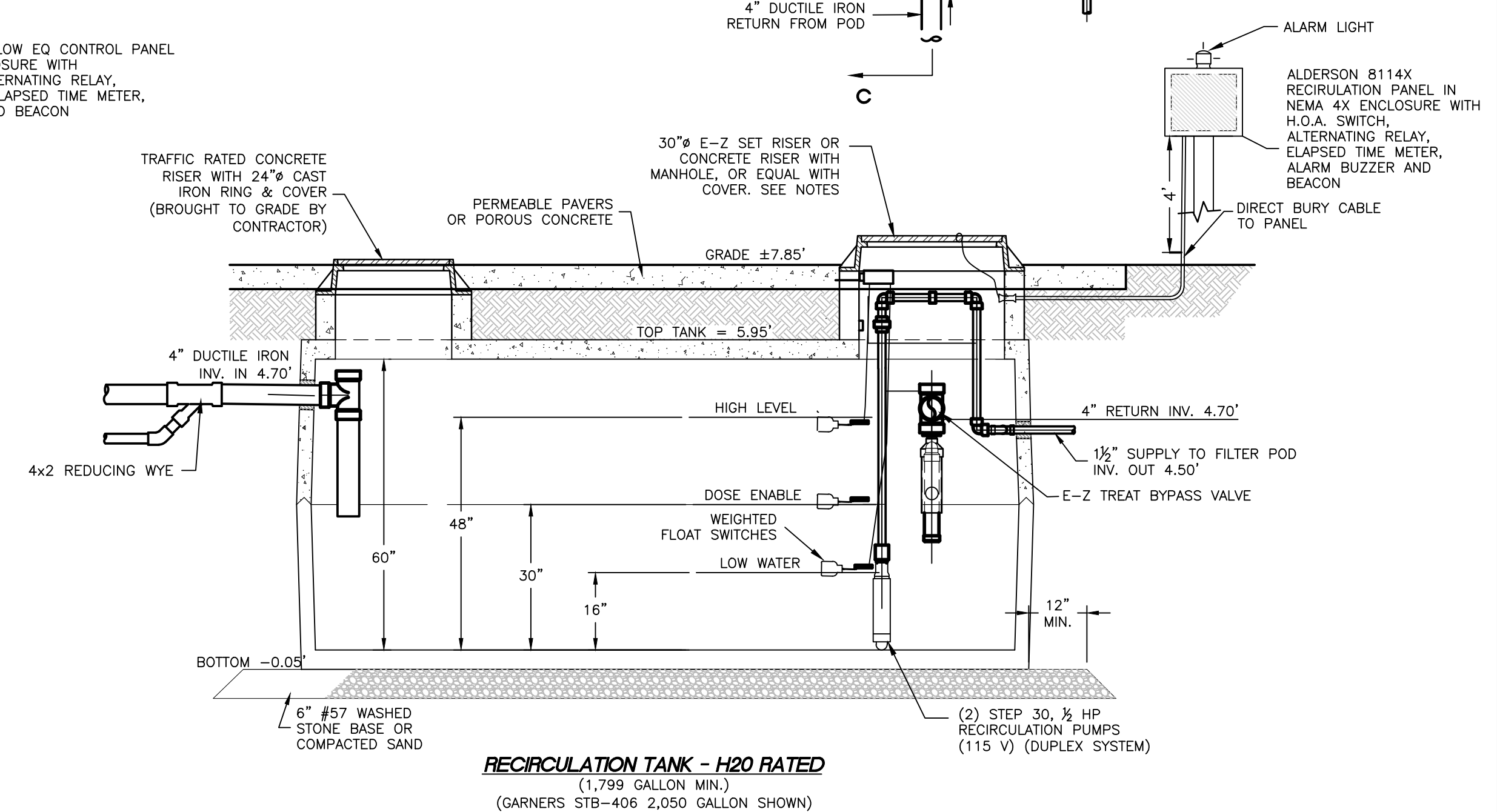
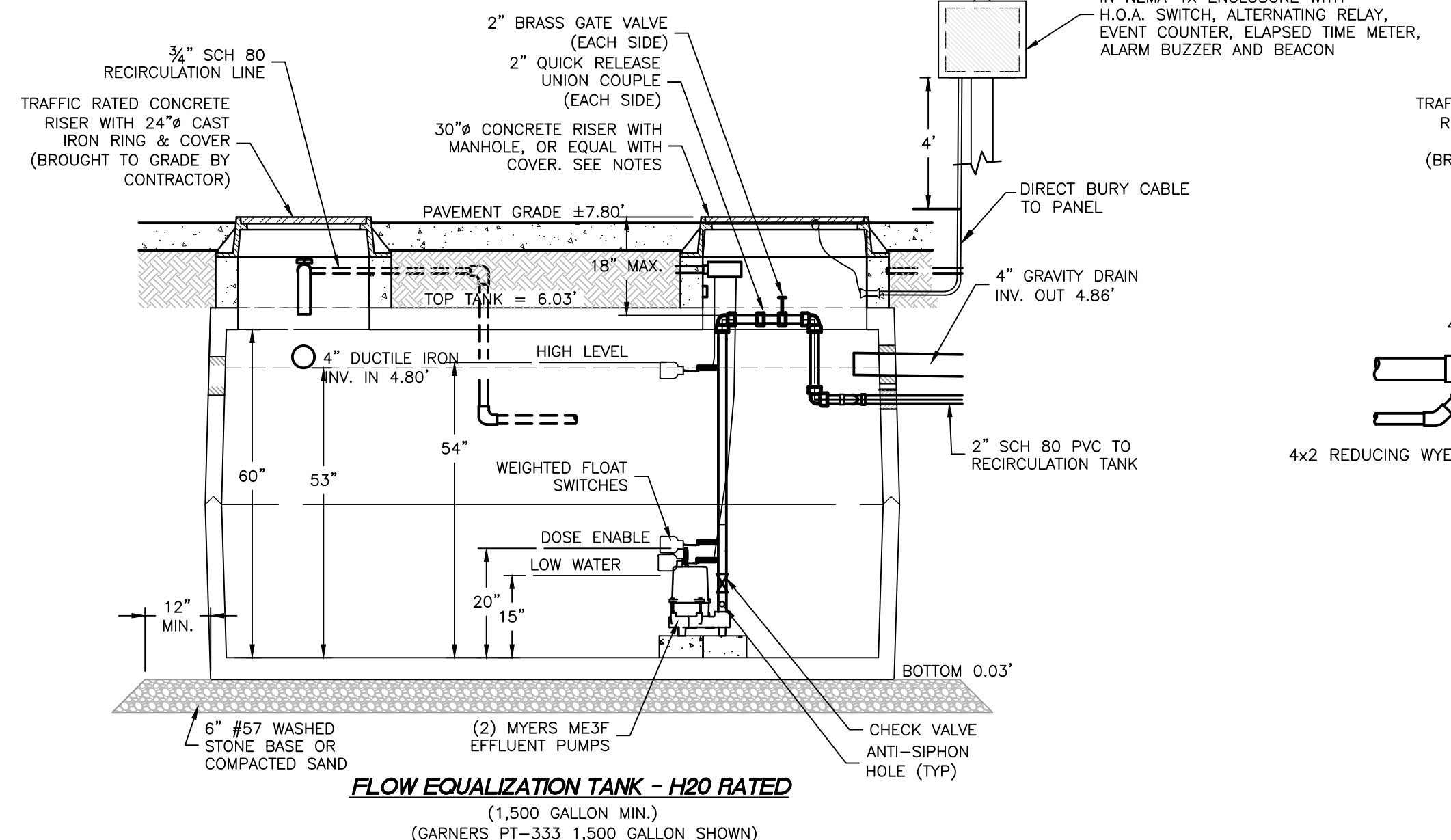
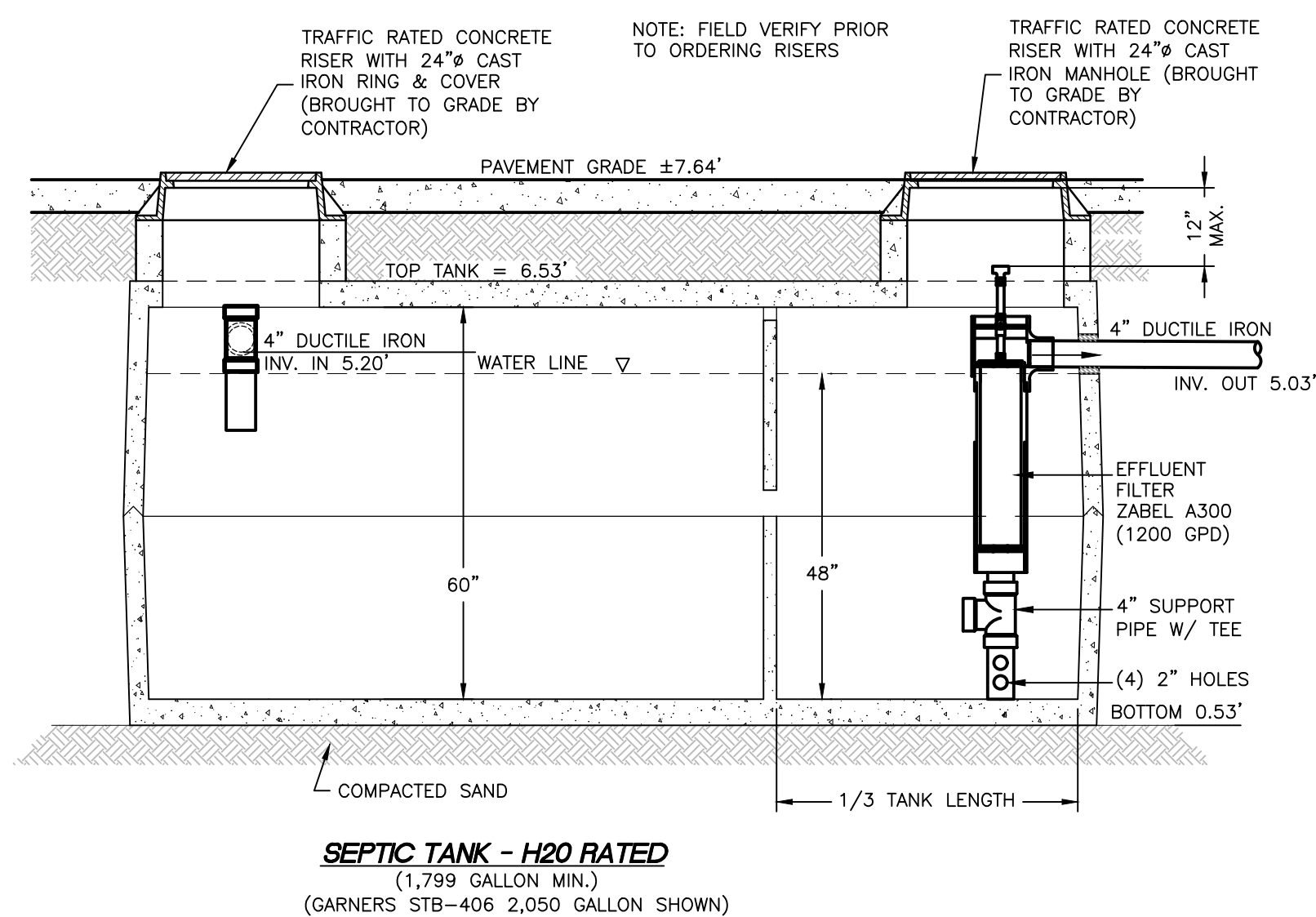
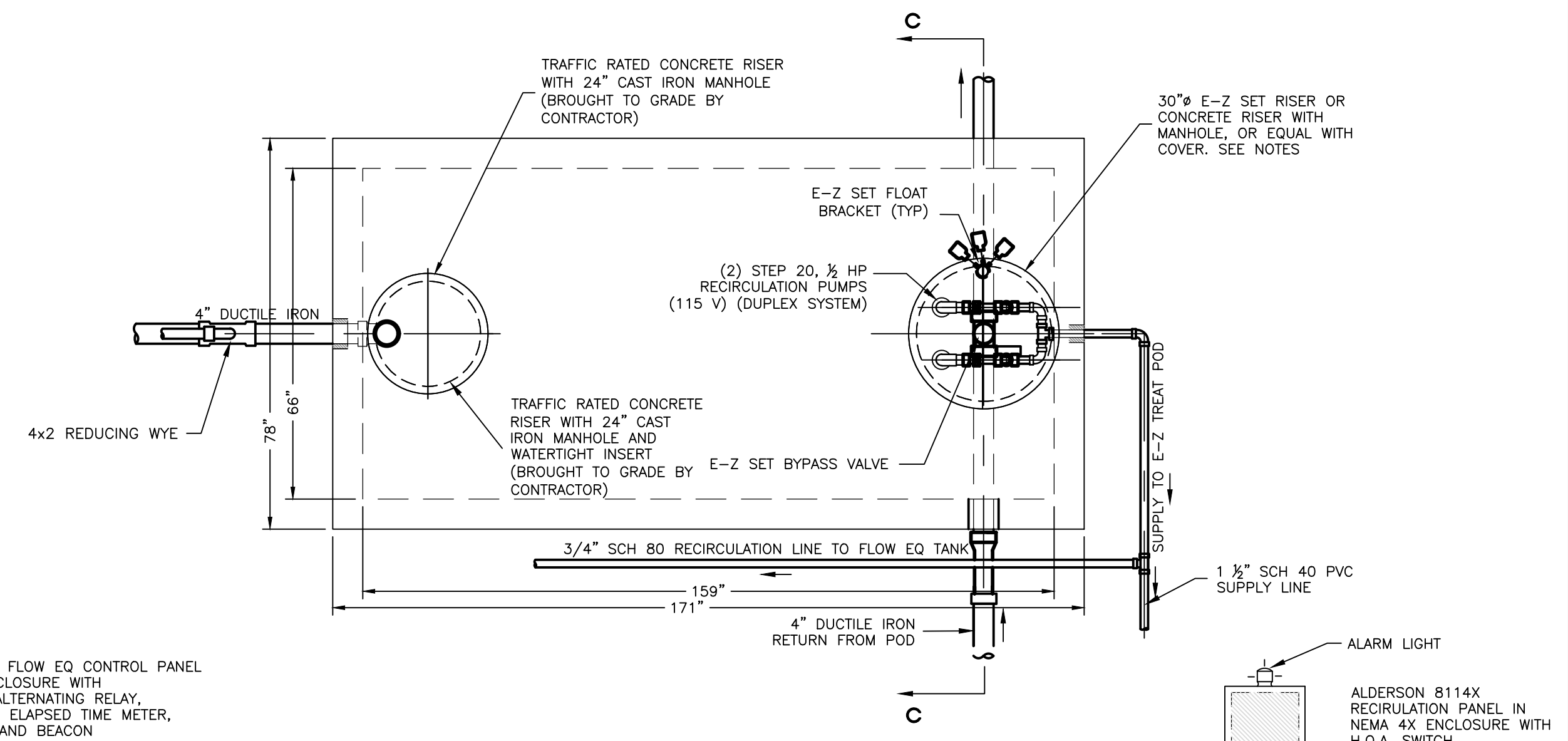
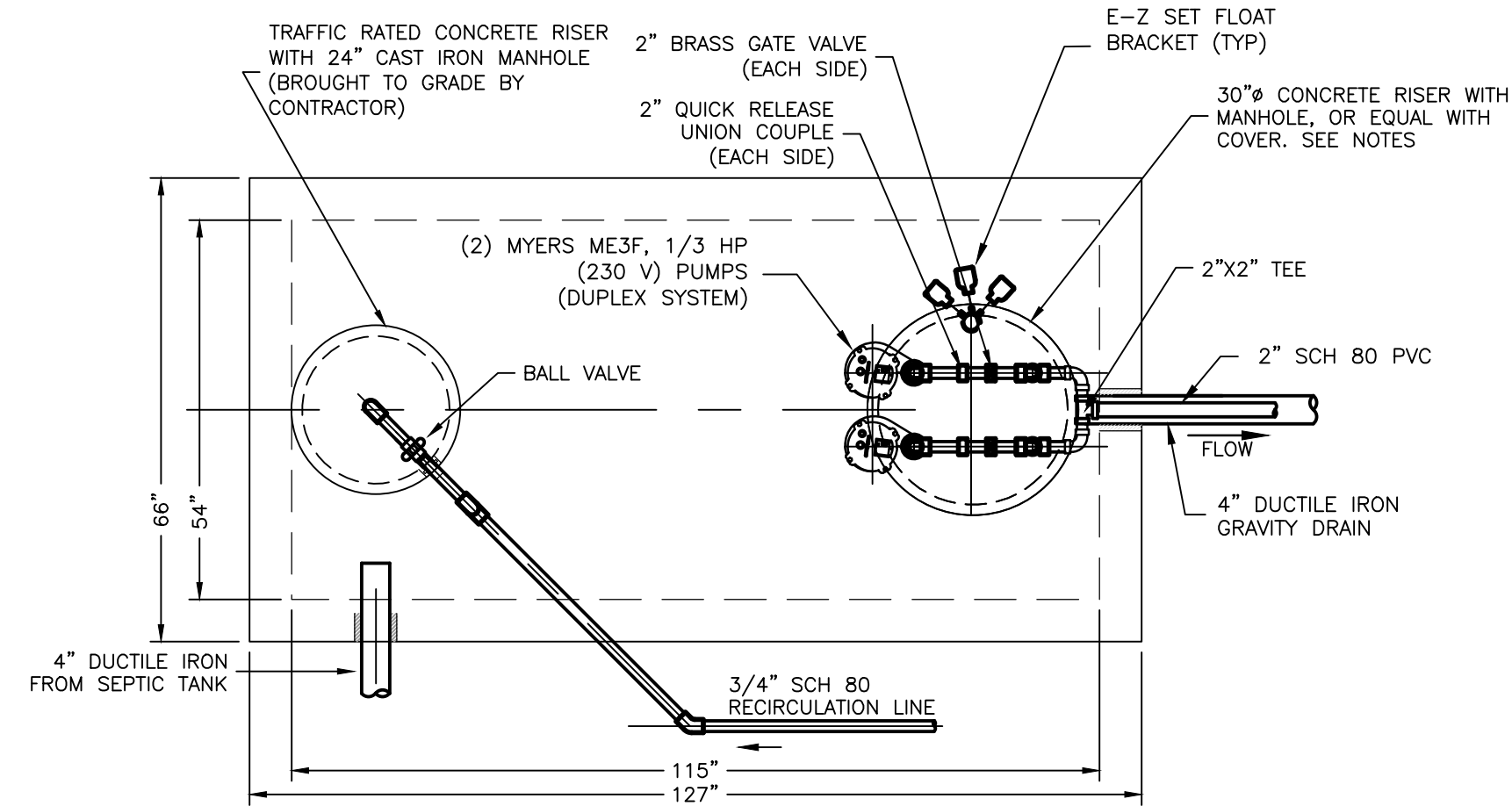
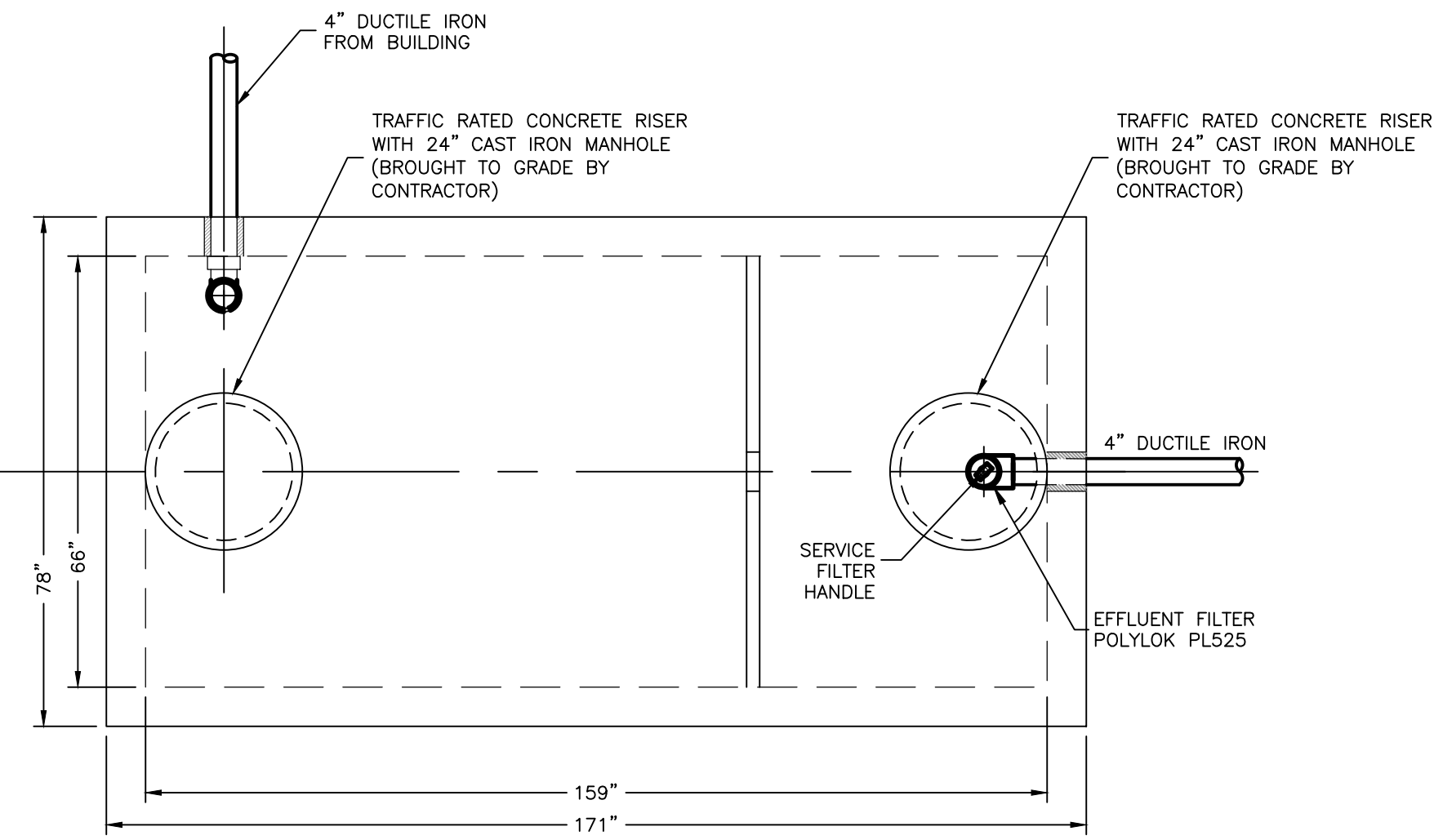
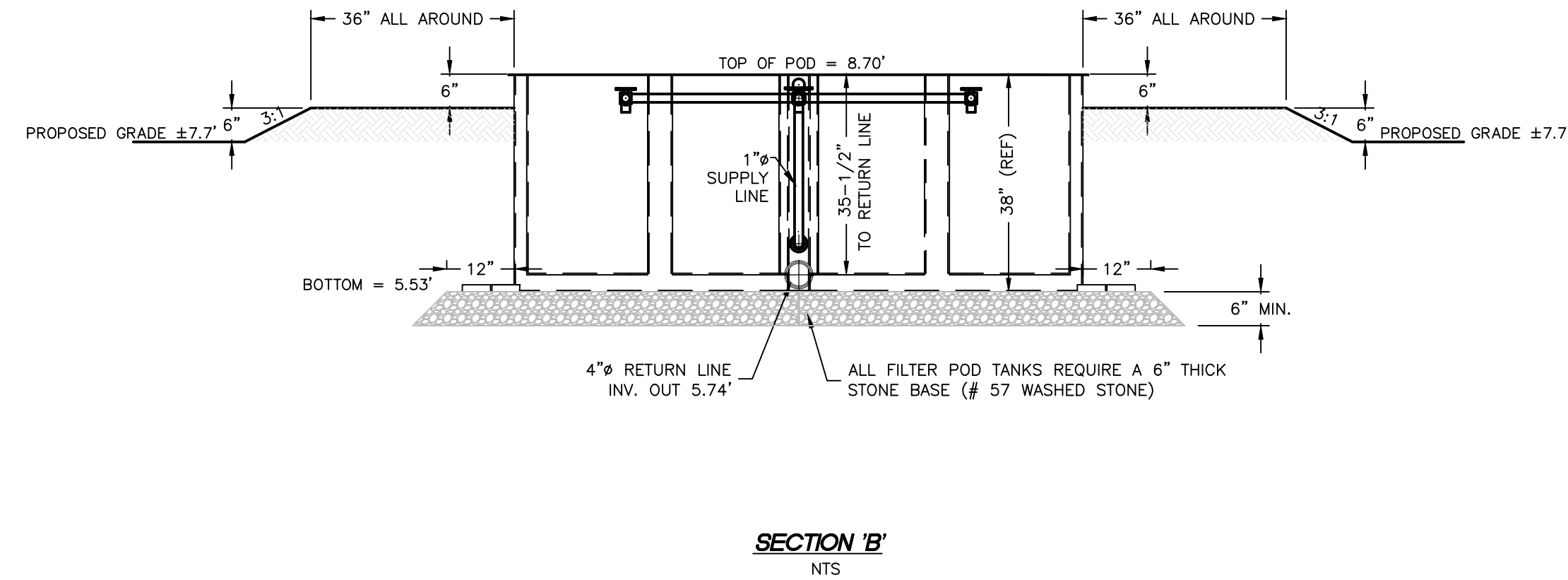
DATE:	06/14/2022
SURVEYED:	SEE NOTES
DESIGNED:	MJM
DRAWN:	KCA
CHECKED:	MJM
FILE:	08621A

SCALE:
1" = 10'

C401

PROJ. NO. 08621A

NOTE: ALL DIMENSIONS, INVERTS, ELEVATIONS ARE BASED UPON TANK MODEL NOTED IN DETAILS. IF ANOTHER TANK IS USED, PROVIDE PLAN REVISIONS FOR ENGINEERS APPROVAL BEFORE ORDERING MATERIAL.

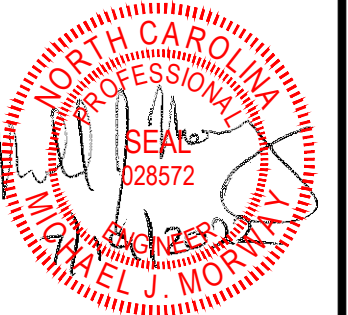


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Engineering - Environmental - Land Planning

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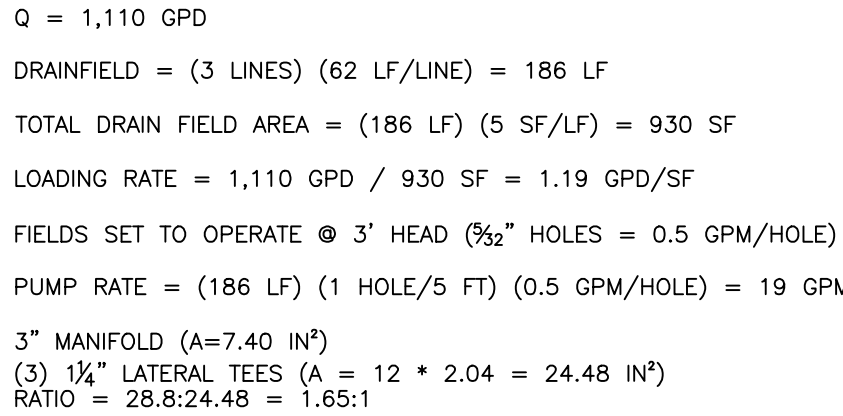
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4413 S CROATAN HIGHWAY

SURVEYED:	SEE NOTES
DESIGNED:	MJM
DRAWN:	KCA
CHECKED:	MJM
FILE:	08621A

SCALE:
AS SHOWN

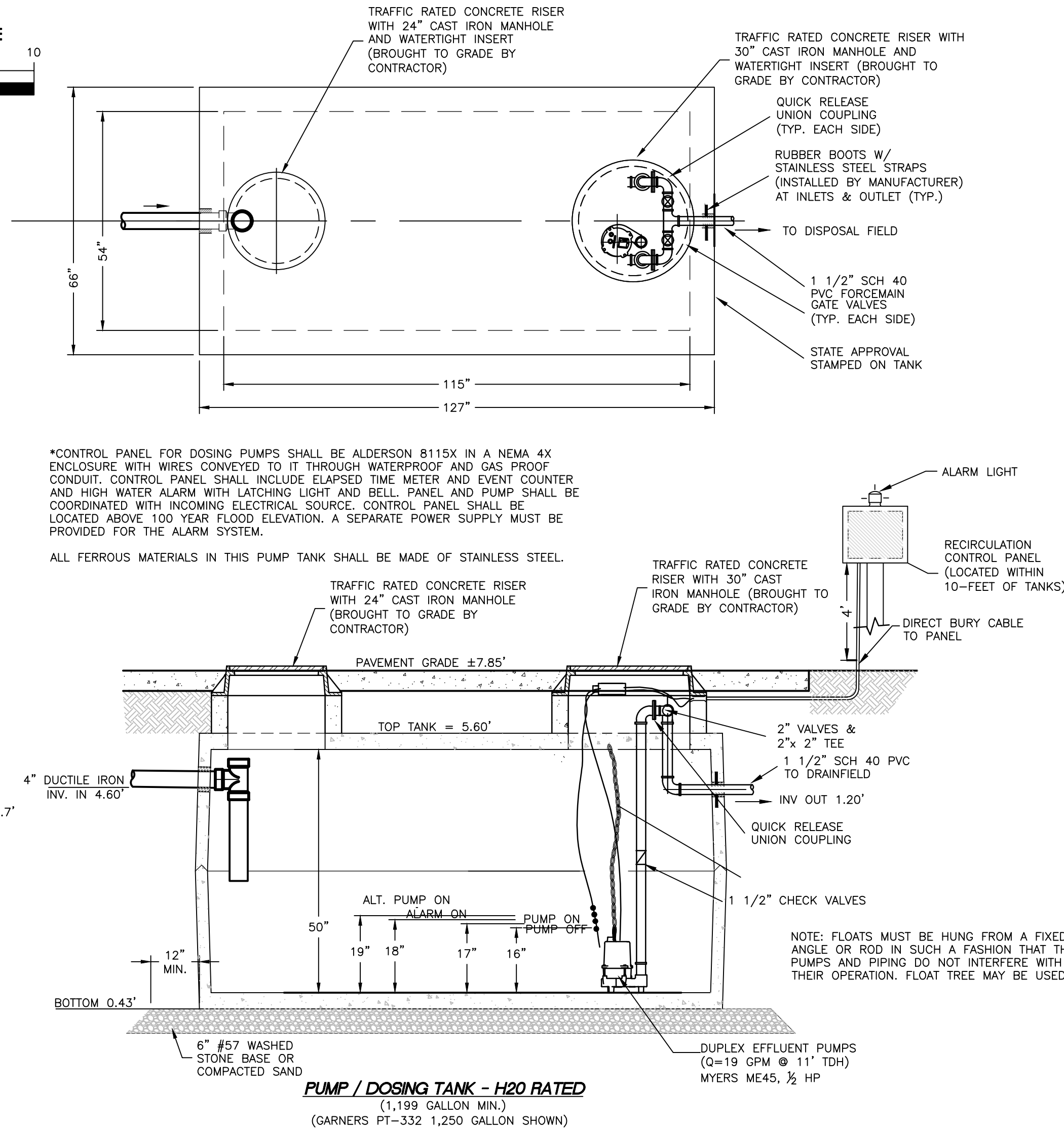
C402

PROJ. NO. 08621A



1. OWNER: BK ASSOCIATES
441 RIVERGATE DR
RICHMOND, VA 23238
2. THE PROPOSED PROJECT IS THE CONSTRUCTION 3-STORY (OVER PARKING) 9,921 SF MIX-USE FACILITY WITH FOUR (4) TWO BEDROOM APARTMENTS ABOVE. THE FIRST FLOOR WILL CONTAIN 2 SEPARATED OFFICES.
3. THE DESIGN FLOW IS 1,110 GPD. BASED UPON THE FOLLOWING:
RESIDENTIAL
(4-2 BEDROOM APARTMENTS)(120 GPD/BEDROOM) = 960 GPD
OFFICE
(6 EMPLOYEES)(25 GPD/SEAT) = 150 GPD
TOTAL REQUIRED = 1,110 GPD (MIN.)
4. THE PROPOSED L.T.A.R.F. OF 1.2 GPD/SF FOR THE PROJECT IS BASED UPON A DISPOSAL FIELD THAT IS 930 SF. THERE IS 186 LINEAR FEET OF DRAIN LINE.
5. SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEWAGE RULES SECTION 15 NCAC 18A.1900 CURRENT EDITION.
6. THE ENGINEER SHALL INSPECT SYSTEM INSTALLATION.
7. UPP FIELDS ARE TO OPERATED @ 3.0' PRESSURE HEAD AT ENDS OF LATERALS.
8. ALL DISTURBED SOIL SHALL BE STABILIZED AS SOON AS POSSIBLE BY GRADING AND SEEDING.
9. ALL MANHOLE RISERS SHALL BE WATERTIGHT, CONFORM TO NORTH CAROLINA CODE 15A NCAC 18A-1954, AND BROUGHT TO FINISHED GRADE BY CONTRACTOR, UNLESS OTHERWISE NOTED.
10. ALL TANK INLETS AND OUTLETS SHALL BE FITTED WITH PRECAST BOOTS.
11. ALL TANK DIMENSIONS INCLUDING INLET/OUTLET LOCATIONS AND INVERT ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO INSTALLATION.
12. ALL DISPOSAL FIELD FILL MATERIAL SHALL COME FROM A RE-APPROVED SOURCE
13. NO MODIFICATIONS TO THIS PLAN SHALL BE MADE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND DARE COUNTY HEALTH DEPARTMENT.
14. AS-BUILT PLANS ARE REQUIRED TO BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THE WORK.
15. REFER TO SPECIFICATION AND DESIGN CALCULATION MANUAL FOR

1. THIS PLAN DETAILS THE INSTALLATION OF THE LPP DRAINAGE. THE DRAINFIELD CONSISTS OF (3) 62" LPP DRAINLINES, 1/4" LINES AND A 3" MANHOLE.
2. SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEWAGE RULES SECTION 15 NCAC 18A.1900 CURRENT EDITION.
3. LPP FIELDS ARE TO OPERATED @ 3.0' PRESSURE HEAD AT ENDS OF LATERALS.
4. ALL DISPOSAL FIELD FILL MATERIAL SHALL COME FROM A PRE-APPROVED SOURCE.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL NOTIFY NC-ONE-CALL PRIOR TO CONSTRUCTION (2 WORKING DAYS).
6. HORIZONTAL AND VERTICAL ORIENTATION OF EXISTING UNDERGROUND UTILITIES ARE NOT KNOWN. THE CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. THE CONTRACTOR SHALL SUBMIT A LIST OF MATERIALS FOR APPROVAL TO THE ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION.
8. ROUTINE INSPECTIONS DURING CONSTRUCTION WILL BE PROVIDED BY THE ENGINEER AND DARE COUNTY HEALTH DEPARTMENT. THESE INSPECTIONS DO NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATION AND RESPONSIBILITY FOR CONSTRUCTING THE SYSTEM IN STRICT ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
9. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY AGENCY WITHIN HIS JURISDICTION. THE CONTRACTOR SHALL MAINTAIN AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY AND PROTECTION.
10. NO MODIFICATIONS TO THIS PLAN SHALL BE MADE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND LOCAL HEALTH DEPARTMENT. ANY FIELD CHANGES TO THE PLANS SHALL BE APPROVED BY THE ENGINEER AND LOCAL HEALTH DEPARTMENT AND SHALL BE ACCURATELY INDICATED ON THE AS-BUILT DRAWINGS.
11. ALL COMPONENTS OF THE SYSTEM SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS, SPECIFICATIONS, AND THESE PLANS. AFTER TESTING IS COMPLETED AND ALL COMPONENTS OF THE WASTEWATER SYSTEM ARE ACCEPTED BY THE OWNER, THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO THE COUNTY HEALTH DEPARTMENT ANY DISCREPANCIES NOTED DURING INSPECTION OF THE AS-BUILT FACILITIES SHALL BE CORRECTED BY THE CONTRACTOR WITHIN 30 DAYS IF NECESSARY.
12. THE CONTRACTOR SHALL REPAIR ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THOSE EXISTING PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE OWNER RESERVES THE RIGHT TO STOP WORK IF AND WHEN, IN THE SOLE OPINION OF THE OWNER, CLEANUP, RESTORATION OR PUBLIC SAFETY ARE NOT BEING PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DISTURBED AREAS SHALL BE GRADED TO DRAIN AND STABILIZED AS SOON AS POSSIBLE.



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