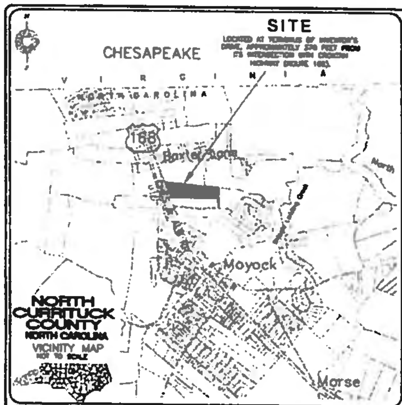
# CONSTRUCTION DRAWINGS FOR

# HIDDEN OAKS

## 67 LOT RESIDENTIAL SUBDIVISION, PHASE 1 & PHASE 2

## MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA




Sheet List Table

| Sheet Number | Sheet Title |
|---|---|
| 1 | COVER SHEET, DEVELOPMENT NOTES AND SITE LOCATION |
| 2 | DEVELOPMENT OVERVIEW AND PHASING PLAN |
| 3 | EXISTING SITE FEATURES AND PROPOSED DEMOLITION PLAN |
| 4 | EXISTING SITE FEATURES AND PROPOSED DEMOLITION PLAN |
| 5 | EXISTING SITE FEATURES AND PROPOSED DEMOLITION PLAN |
| 6 | GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN |
| 7 | GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN |
| 8 | GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN |
| 9 | SEDIMENTATION AND EROSION CONTROL PLAN |
| 10 | SEDIMENTATION AND EROSION CONTROL PLAN |
| 11 | SEDIMENTATION AND EROSION CONTROL PLAN |
| 12 | WATERLINE EXTENSION AND WASTEWATER COLLECTION PLAN |
| 13 | WATERLINE EXTENSION AND WASTEWATER COLLECTION PLAN |
| 14 | WATERLINE EXTENSION AND WASTEWATER COLLECTION PLAN |
| 15 | LANDSCAPING, BUFFERING, LIGHTING AND SIGNAGE PLAN |
| 16 | LANDSCAPING, BUFFERING, LIGHTING AND SIGNAGE PLAN |
| 17 | PLAN AND PROFILE - ARROWHEAD EXTENSION |
| 18 | PLAN AND PROFILE - SHADY OAKS WAY |
| 19 | PLAN AND PROFILE - SHADY OAKS WAY CON'T |
| 20 | PLAN AND PROFILE - HERITAGE TREE MANOR |
| 21 | PLAN AND PROFILE - GUMBERRY TRACE |
| 22 | PLAN AND PROFILE - OAK BEND COURT |
| 23 | PLAN AND PROFILE - FORCE MAIN |
| 24 | PLAN AND PROFILE - FORCE MAIN CON'T |
| 25 | ROADWAY, GRADING AND DRAINAGE CONSTRUCTION DETAILS |
| 26 | GRADING, DRAINAGE AND STORMWATER DETAILS |
| 27 | EROSION AND SEDIMENT CONTROL CONSTRUCTION DETAILS |
| 28 | WASTEWATER COLLECTION CONSTRUCTION DETAILS |
| 29 | WASTEWATER COLLECTION CONSTRUCTION DETAILS CON'T |
| 30 | WASTEWATER LIFT STATION CONSTRUCTION DETAILS |

GENERAL NOTES:

DEVELOPMENT NOTES:

THE FOLLOWING PERMITS ARE REQUIRED PRIOR TO PROJECT CONSTRUCTION:

North Carolina One-Call Center Inc.

811 Know what's below. Call before you dig.

LOT MINIMUM BUILDING PAD AND FIRST FLOOR ELEVATION TABLE (SEE TYPICAL LOT EXHIBIT SHEET 30 FOR ADDITIONAL DETAILS)

SURVEY LEGEND

PLAN LEGEND

PROFILE LEGEND

LANDSCAPING + BUFFERING LEGEND

SOILS LEGEND

| | |
|---|---|
| At | AUGUSTA FINE SANDY LOAM |
| Ro | ROANOKE FINE SANDY LOAM |

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COVER SHEET, DEVELOPMENT NOTES AND SITE LOCATION

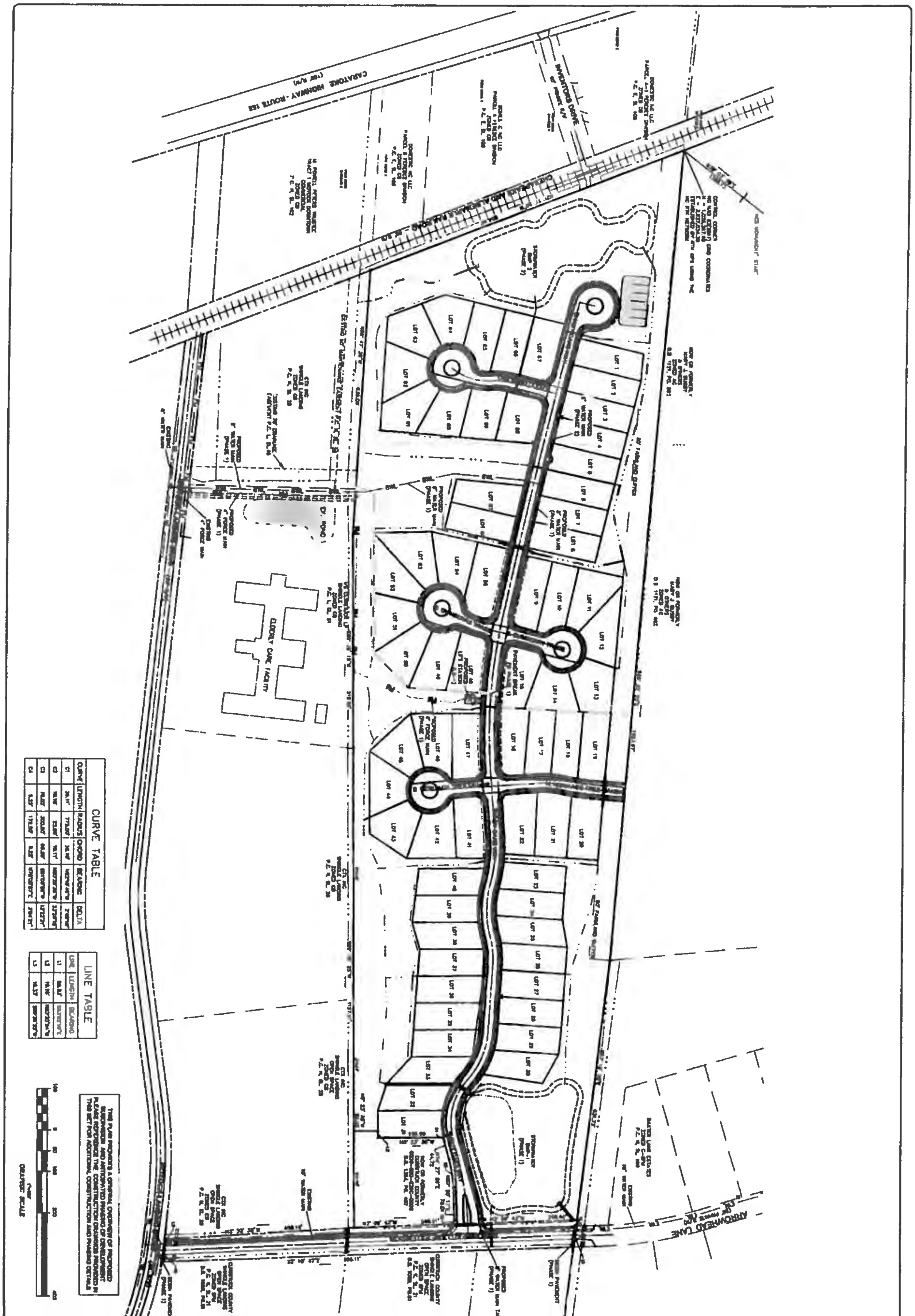
HIDDEN OAKS

MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

SHEET 1 of 30

4551




# HIDDEN OAKS

MOYOCK TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

SITE DEVELOPMENT PLANS

## DEVELOPMENT OVERVIEW AND PHASING PLAN

REVISIONS

SHEET 2 of 30

4551

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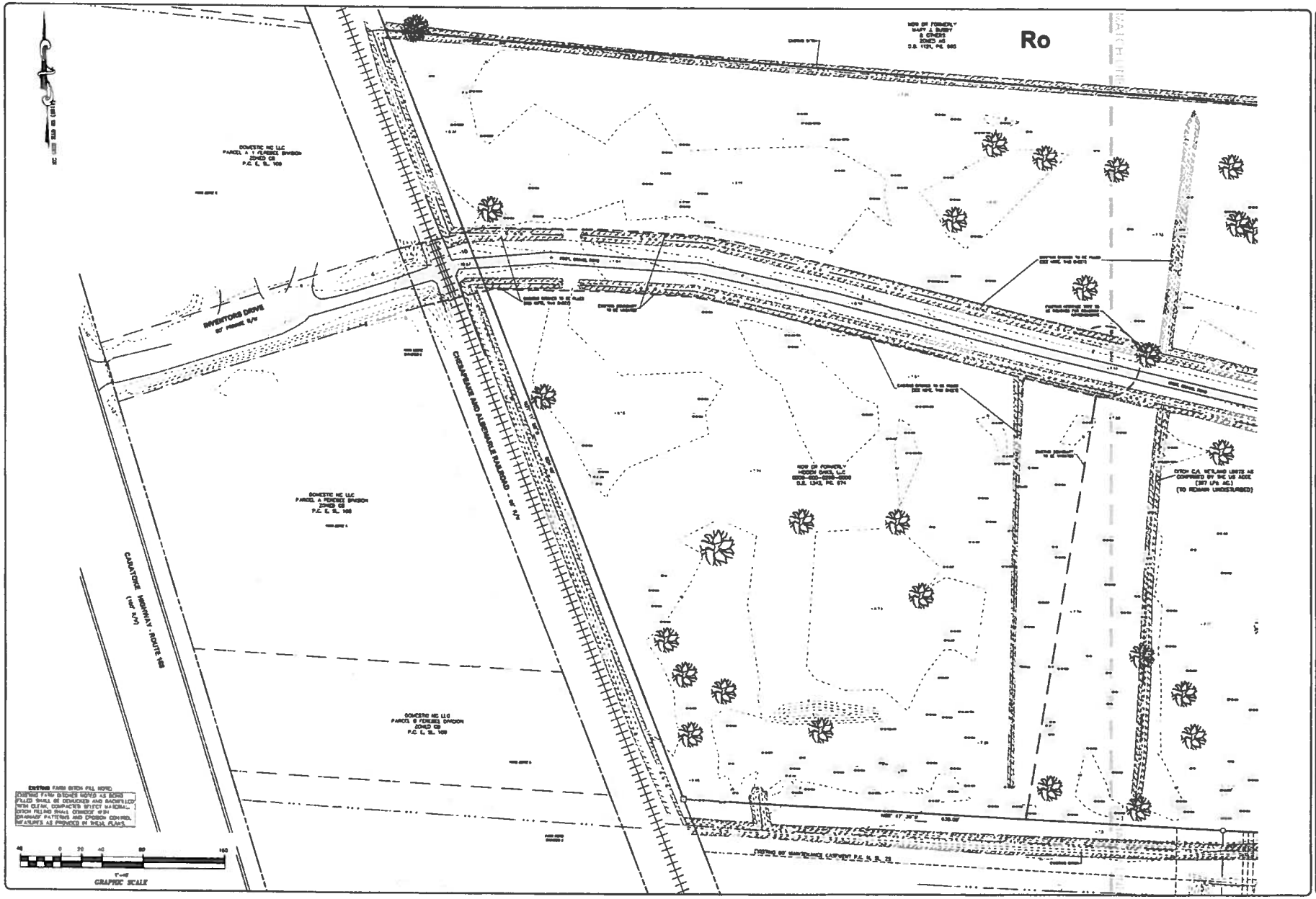
Engineers, Planners, Surveyors and Environmental Specialists




EXISTING SITE FEATURES AND PROPOSED DEMOLITION PLAN

HIDDEN OAKS

MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

3 of 30

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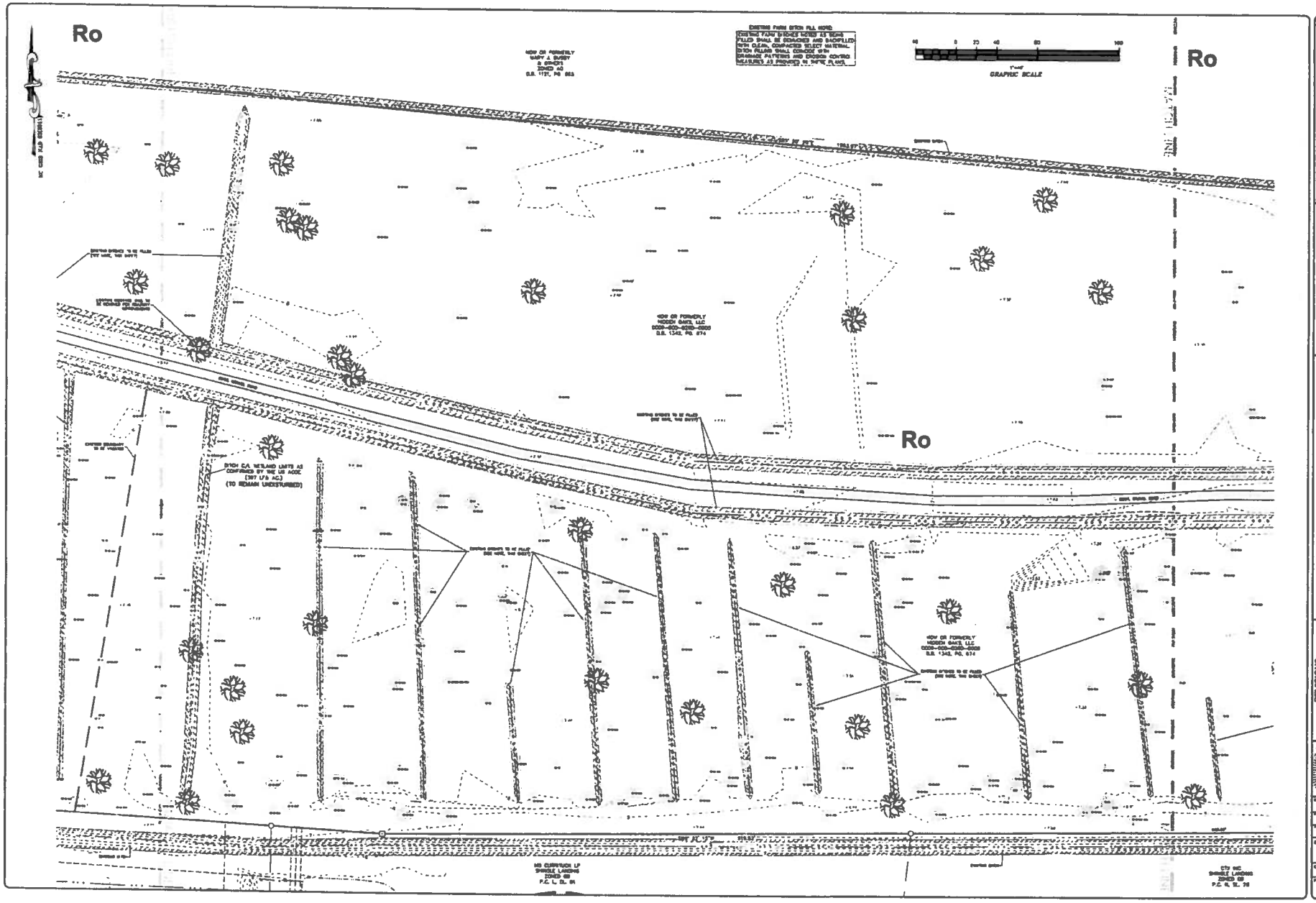
PROJECT NO 4551

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EXISTING SITE FEATURES AND PROPOSED DEMOLITION PLAN

HIDDEN OAKS

MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

| NO. | DATE | DESCRIPTION | BY |
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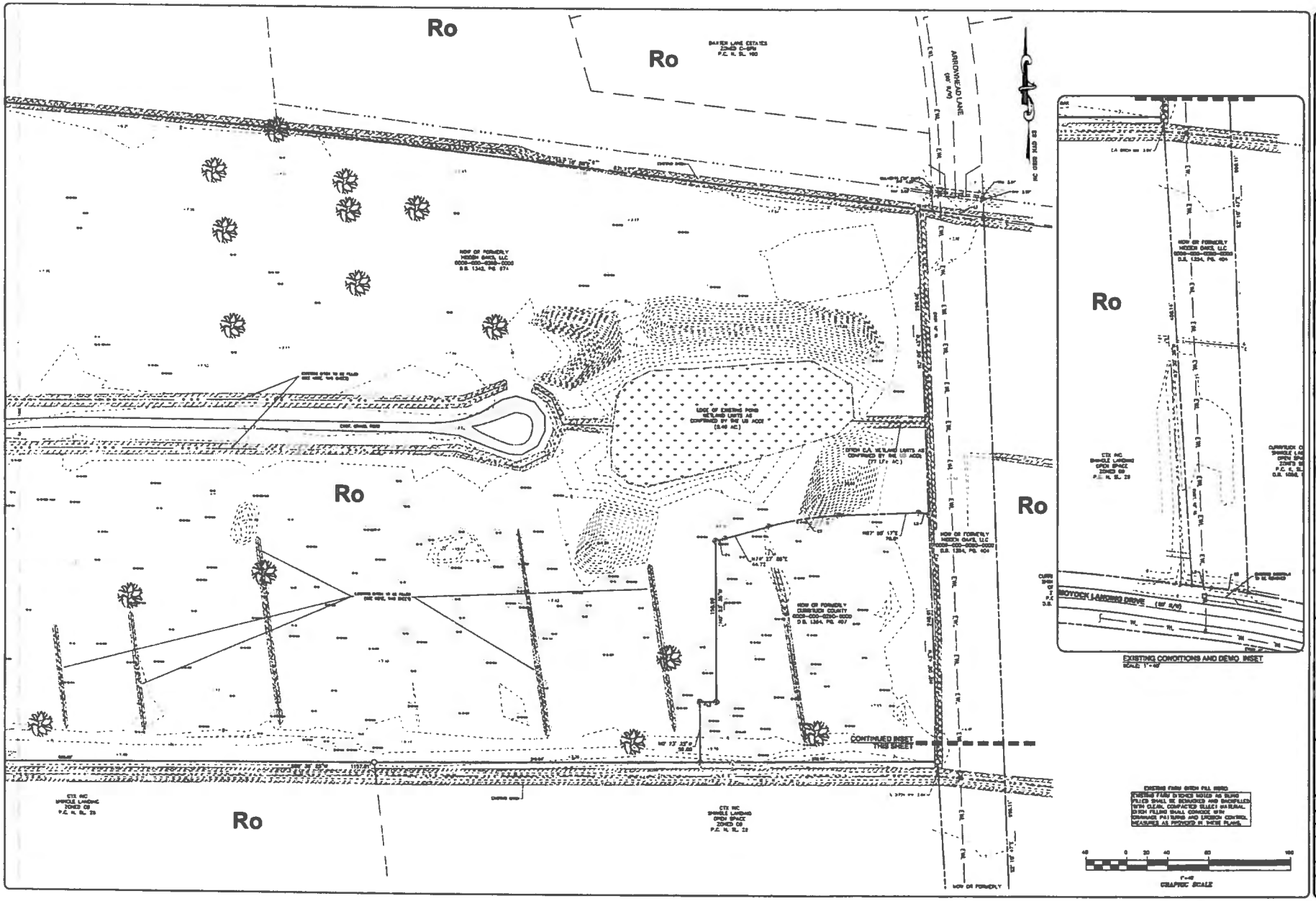
SHEET: 4 - 30

DWG-FILE: 4551008C3D

PROJECT NO. 4551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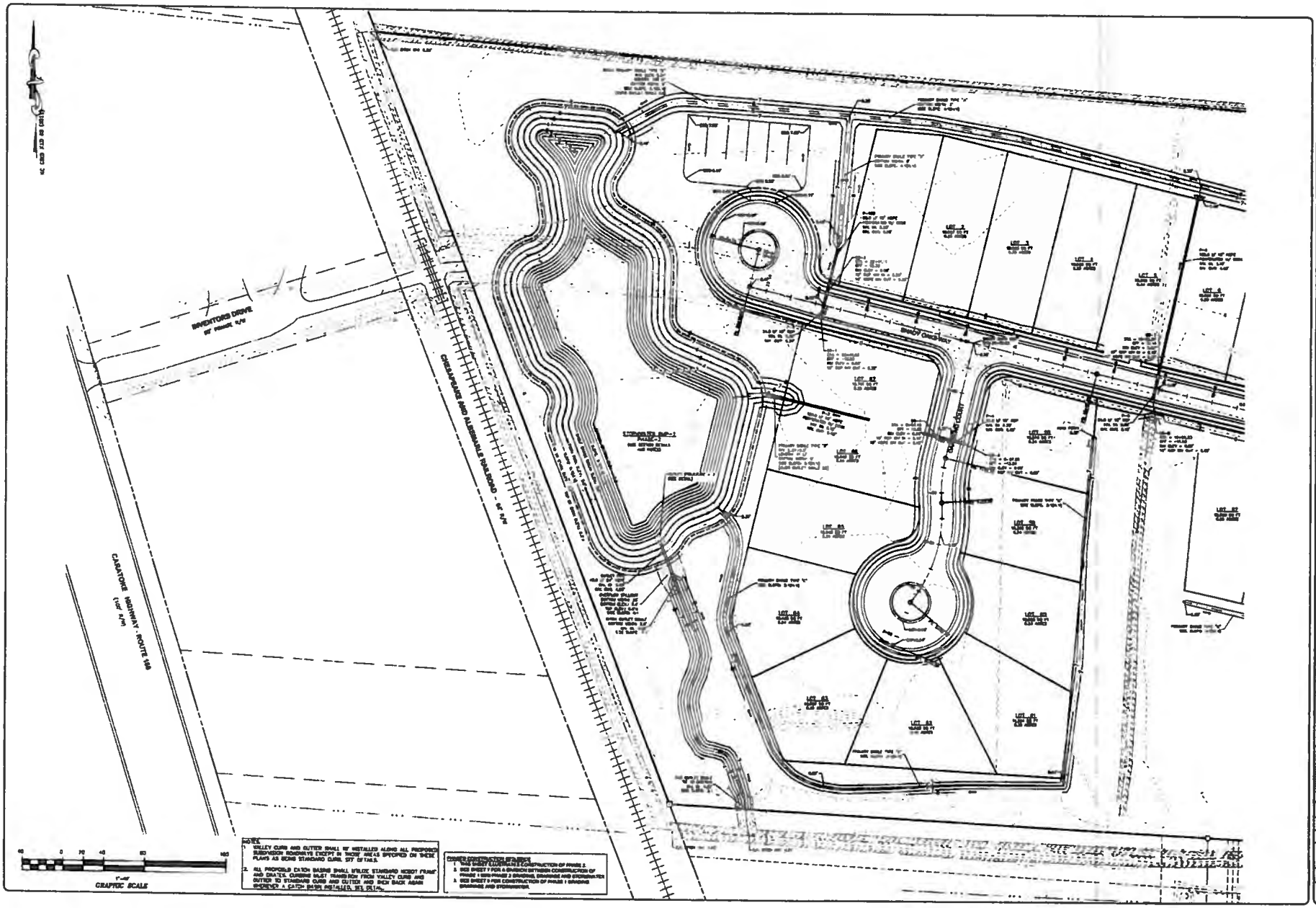
ARROWHEAD LANE
MOYOCK LANDING DRIVE
EXISTING CONDITIONS AND DEMO INSET
CONTINUED INSET THIS SHEET
GRAPHIC SCALE
EXISTING SITE FEATURES AND PROPOSED DEMOLITION PLAN
HIDDEN OAKS
MOYOCK TOWNSHIP
CURRITUCK COUNTY
NORTH CAROLINA
SITE DEVELOPMENT PLANS
REVISIONS
5 of 30
4551

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GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN

HIDDEN OAKS

MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET 6 OF 30

4551

4551

HIDDEN OAKS
MOYOCK TOWNSHIP
CURRITUCK COUNTY
NORTH CAROLINA
SITE DEVELOPMENT PLANS
GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN
REVISIONS
DATE
DESCRIPTION
BY
DATE
DRAWN BY
CHECKED BY
SHEET
7 - 30
PROJECT NO.
4551
GRAPHIC SCALE
1"=40'
NOTES:
1. ALL PROPOSED CATCH BASINS SHALL INSTALL STANDARD GRATE FRAME AS PER NCDOT STANDARD 840.03 UNLESS OTHERWISE NOTED.
2. ALL PROPOSED CURB INLETS SHALL INSTALL STANDARD GRATE FRAME AS PER NCDOT STANDARD 840.16 UNLESS OTHERWISE NOTED.
3. ALL PROPOSED CATCH BASINS SHALL INSTALL STANDARD GRATE FRAME AS PER NCDOT STANDARD 840.03 UNLESS OTHERWISE NOTED.
4. ALL PROPOSED CURB INLETS SHALL INSTALL STANDARD GRATE FRAME AS PER NCDOT STANDARD 840.16 UNLESS OTHERWISE NOTED.
5. SEE DETAILS FOR CONSTRUCTION OF PIPE CROSSING.
6. SEE DETAILS FOR CONSTRUCTION OF PIPE CROSSING.
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8. SEE DETAILS FOR CONSTRUCTION OF PIPE CROSSING.
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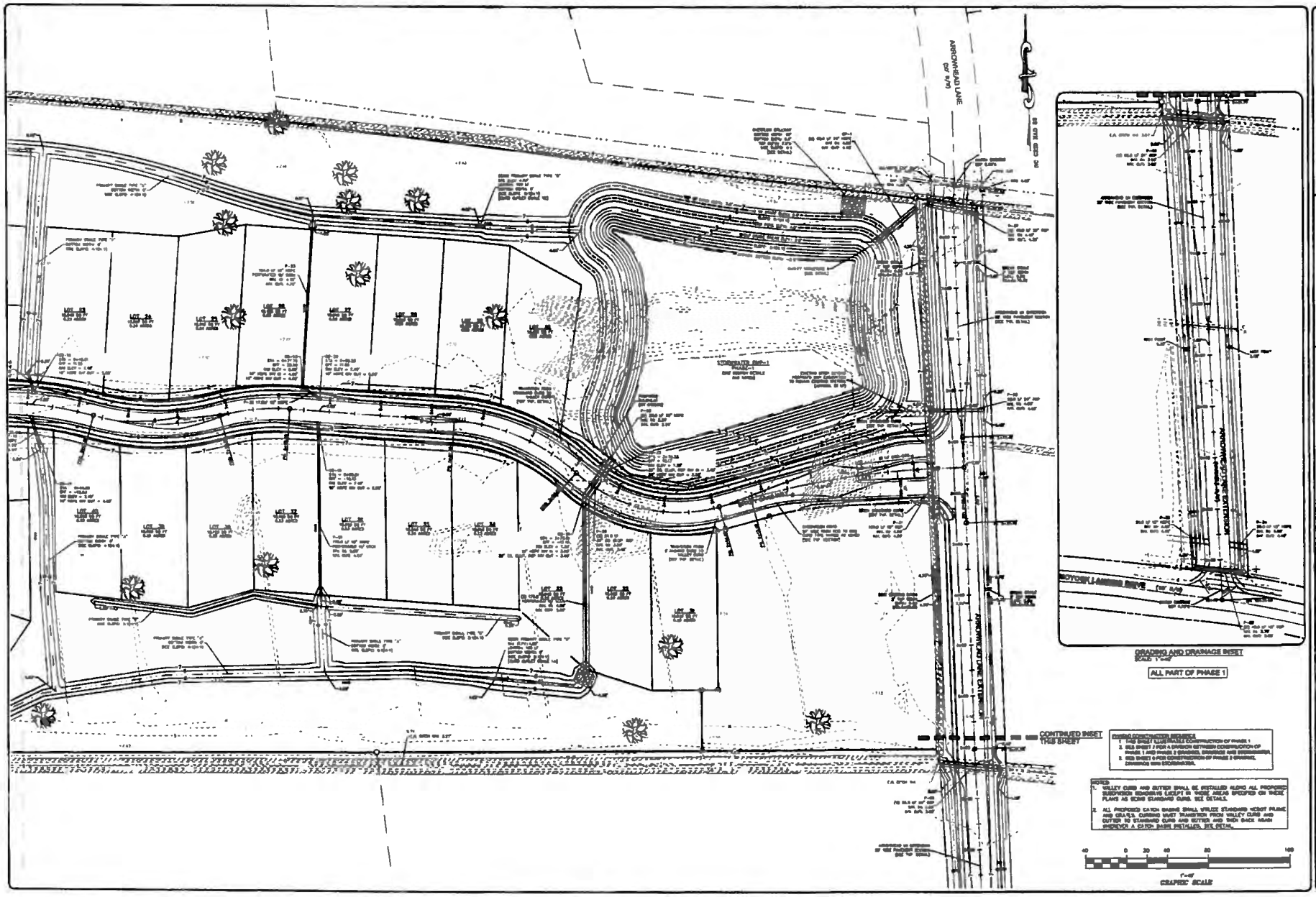


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GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN

HIDDEN OAKS

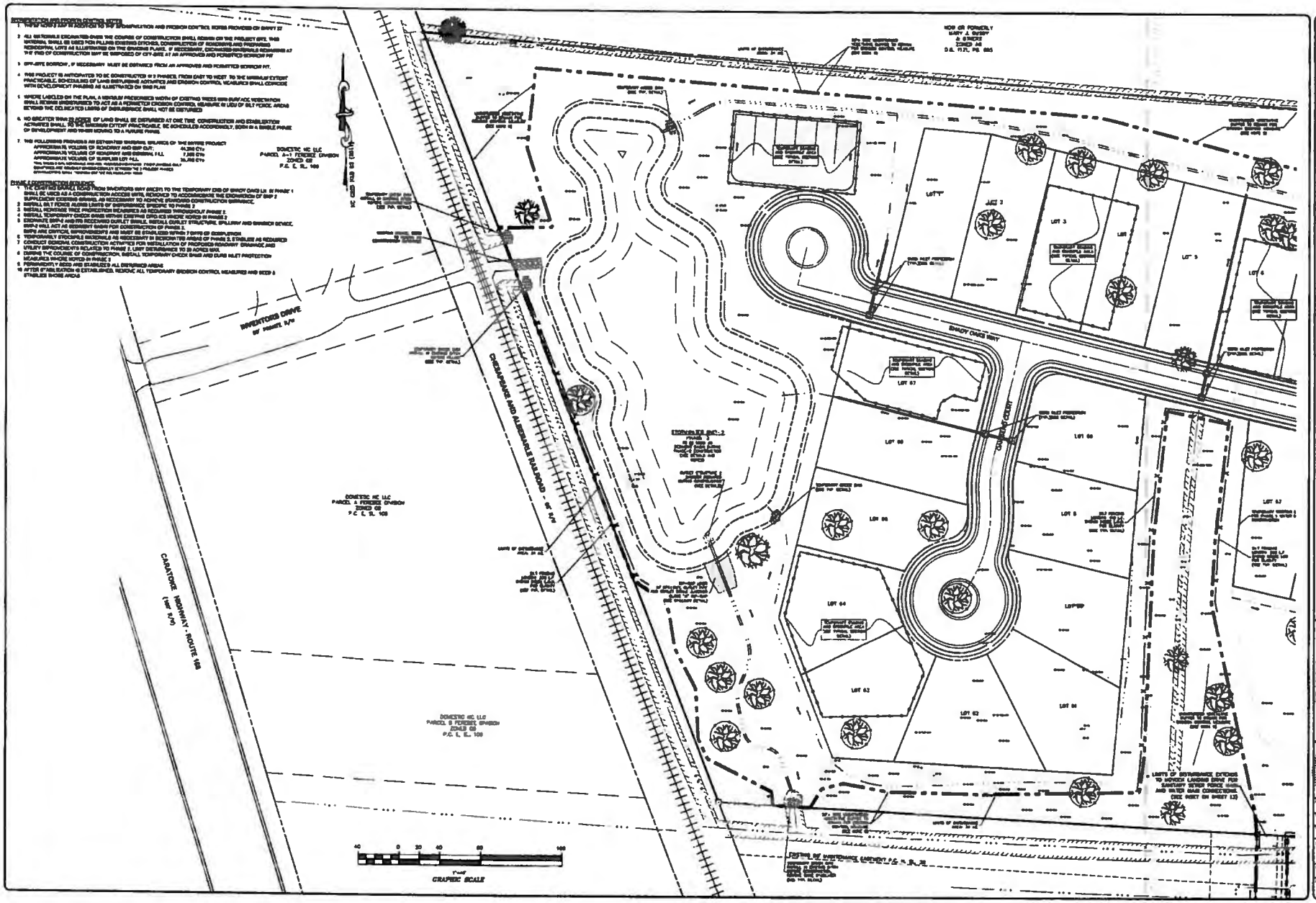
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET 8 OF 30

4551




SEDIMENTATION AND EROSION CONTROL PLAN - PHASE 2

HIDDEN OAKS

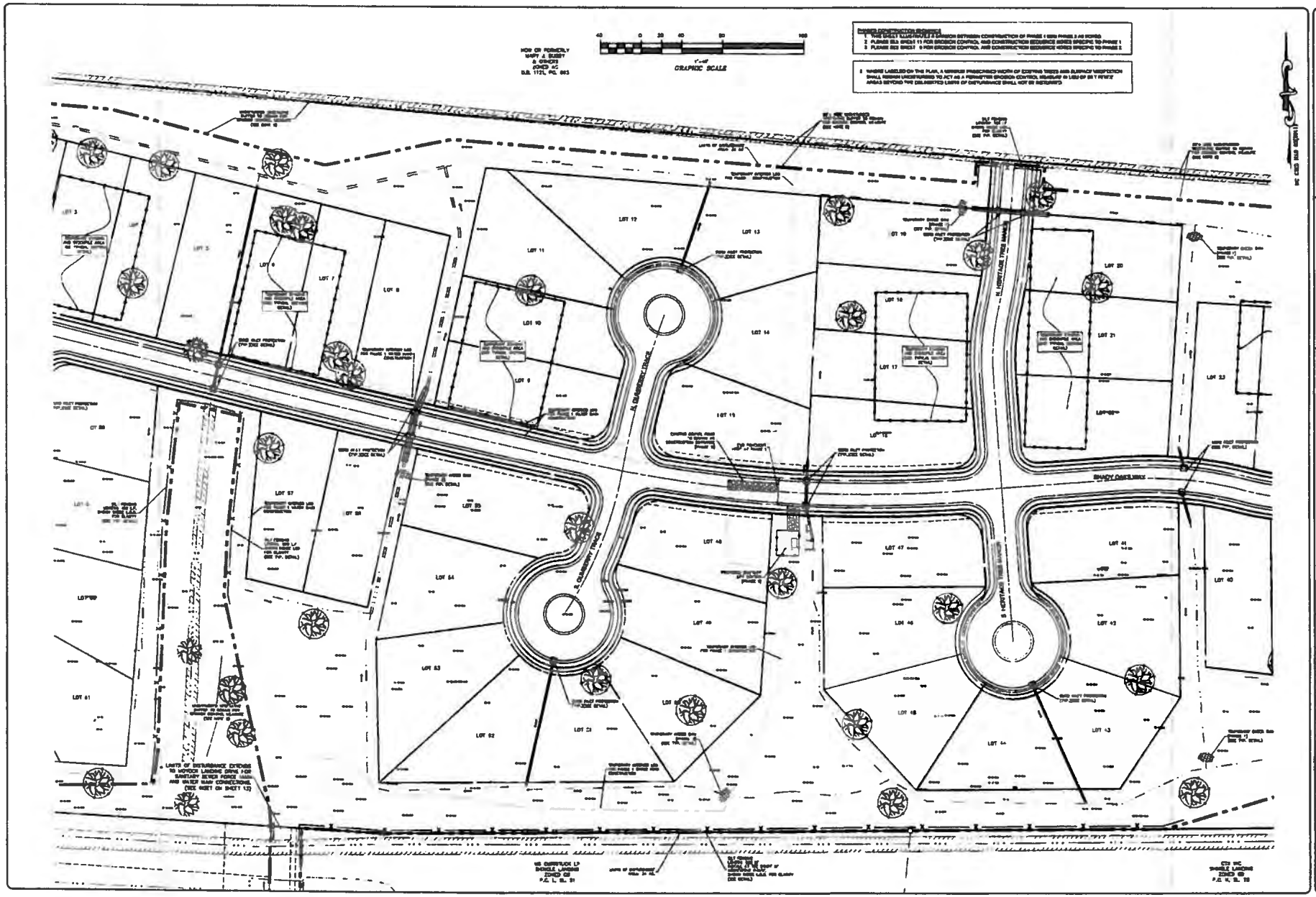
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

9 of 30

4551

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SEDIMENT AND EROSION CONTROL PLAN - PHASE 1 & 2

HIDDEN OAKS

MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

| NO. | DATE | DESCRIPTION | BY |
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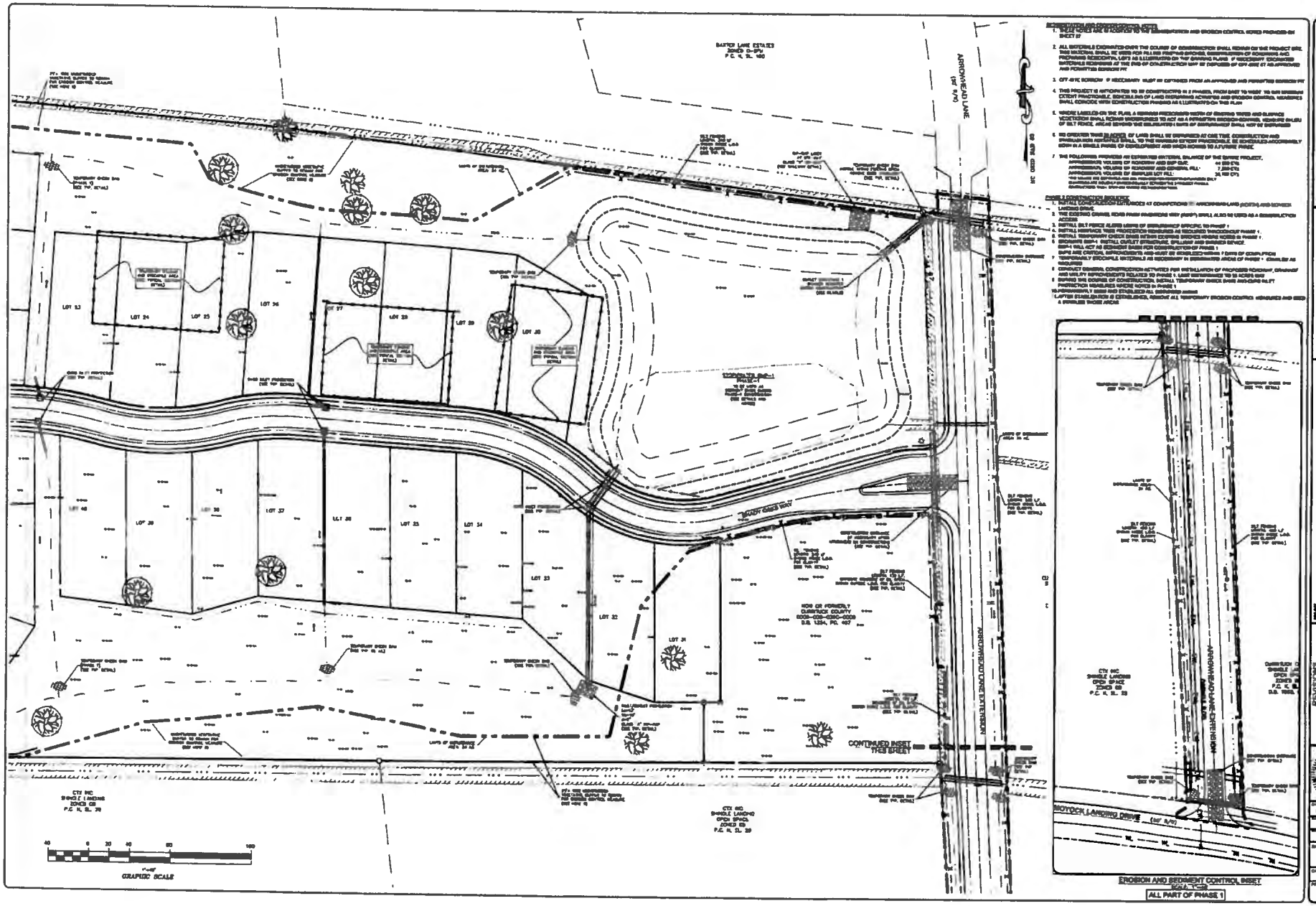
SHEET 10 of 30

DRAWING 4551B2C3D

PROJECT NO. 4551




EROSION AND SEDIMENT CONTROL NOTES

1. [illegible] AND EROSION CONTROL NOTES PROVIDED ON SHEET 37
2. ALL MATERIALS EXCAVATED OVER THE COURSE OF CONSTRUCTION SHALL REMAIN ON THE PROJECT SITE. THIS MATERIAL SHALL BE USED FOR FILLING PROPOSED BERMS, GRADING PORTIONS OF ROADWAYS AND PROPERLY RECEIPTIN, LEFT AS ILLUSTRATED ON THE GRADING PLANS. IF NECESSARY EXCAVATED MATERIALS REMAINING AT THE END OF CONSTRUCTION MAY BE DISPOSED OF OFF SITE AT AN APPROVED AND PERMITTED BORROW PIT
3. OFF-SITE BORROW: IF NECESSARY, FILL MAY BE OBTAINED FROM AN APPROVED AND PERMITTED BORROW PIT
4. THIS PROJECT IS ANTICIPATED TO BE CONSTRUCTED IN 2 PHASES, FROM EAST TO WEST. TO THE MAXIMUM EXTENT PRACTICABLE, BEGINNING OF LAND DISTURBING ACTIVITIES AND EROSION CONTROL MEASURES SHALL COINCIDE WITH CONSTRUCTION PHASING AS ILLUSTRATED ON THIS PLAN
5. WHERE LABELED ON THE PLAN, A REMAIN PRECEDENTS WITH OF EXISTING TREES AND SURFACE VEGETATION SHALL REMAIN UNDISTURBED TO ACT AS A PERIMETER EROSION CONTROL MEASURE, REMOVAL OR LIEU OF SILT FENCE. AREAS BEYOND THE DELINEATED LIMITS OF DISTURBANCE SHALL NOT BE DISTURBED
6. NO GREATER THAN 50 ACRES OF LAND SHALL BE DISTURBED AT ONE TIME. CONSTRUCTION AND STABILIZATION ACTIVITIES SHALL, TO THE MAXIMUM EXTENT PRACTICABLE, BE SCHEDULED ACCORDINGLY BOTH IN A SINGLE PHASE OF DEVELOPMENT AND WHEN MOVING TO A FUTURE PHASE
7. THE FOLLOWING PROVIDES AN ESTIMATED MATERIAL BALANCE OF THE ENTIRE PROJECT.
   APPROXIMATE VOLUME OF ROADWAY AND SWP CUT: 44,000 CYS
   APPROXIMATE VOLUME OF ROADWAY AND GENERAL FILL: 7,000 CYS
   APPROXIMATE VOLUME OF SWMP LAKE FILL: 36,000 CYS
   THE FOLLOWING PROVIDES AN ESTIMATED MATERIAL BALANCE OF THE SWMP LAKE ONLY
   [illegible]

PHASE 1 CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ACCESS AT CONNECTIONS TO ARROWHEAD LANE (NORTH) AND SCHEDULE LANDING DRIVE
2. THE EXISTING DRAINS, HOWS PAGE ENGINEERING VERY (PAGE) SHALL ALSO BE USED AS A CONSTRUCTION ACCESS
3. INSTALL SILT FENCE ALONG LINES OF DISTURBANCE SPECIFIC TO PHASE 1
4. INSTALL INTERIOR TREE PROTECTION REMAINING AS REQUIRED THROUGHOUT PHASE 1.
5. INSTALL TEMPORARY CHECK DAMS WITHIN EXISTING DRAINS HOWS NOTED IN PHASE 1.
6. EXCAVATE SWM-1. INSTALL OUTLET STRUCTURE, SPILLWAY AND SAFETY DEVICE. SWM-1 SHALL ACT AS SEDIMENT BASIN FOR CONSTRUCTION PHASE 1
7. RAPID AND CRITICAL IMPROVEMENTS AND HEAT OF STABILIZED WITHIN 7 DAYS OF COMPLETION TEMPORARILY STOCKPILE MATERIALS AS NECESSARY IN DESIGNATED AREAS OF PHASE 1. STABILIZE AS REQUIRED
8. CONTACT GENERAL CONSTRUCTION ACTIVITIES FOR INSTALLATION OF PROPOSED ROADWAY, DRAINAGE AND UTILITY IMPROVEMENTS RELATED TO PHASE 1. LAND DISTURBED TO 50 ACRES MAX
9. DURING THE COURSE OF CONSTRUCTION, INSTALL TEMPORARY CHECK DAMS AND CURB INLET PROTECTION MEASURES WHERE NOTED IN PHASE 1
10. PERMANENTLY SEED AND STABILIZE ALL DISTURBED AREAS
11. LAYTON STABILIZATION IS ESTABLISHED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND SEED & STABILIZE THOSE AREAS

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Stuart Professional Group
Civil Engineering
Land Surveying
Environmental Services
Hydrologic Planning, Surveying
and Environmental Assessment

SEDIMENT AND EROSION CONTROL PLAN - PHASE 1

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HIDDEN OAKS

MOYOCK TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

SITE DEVELOPMENT PLANS

PHASE

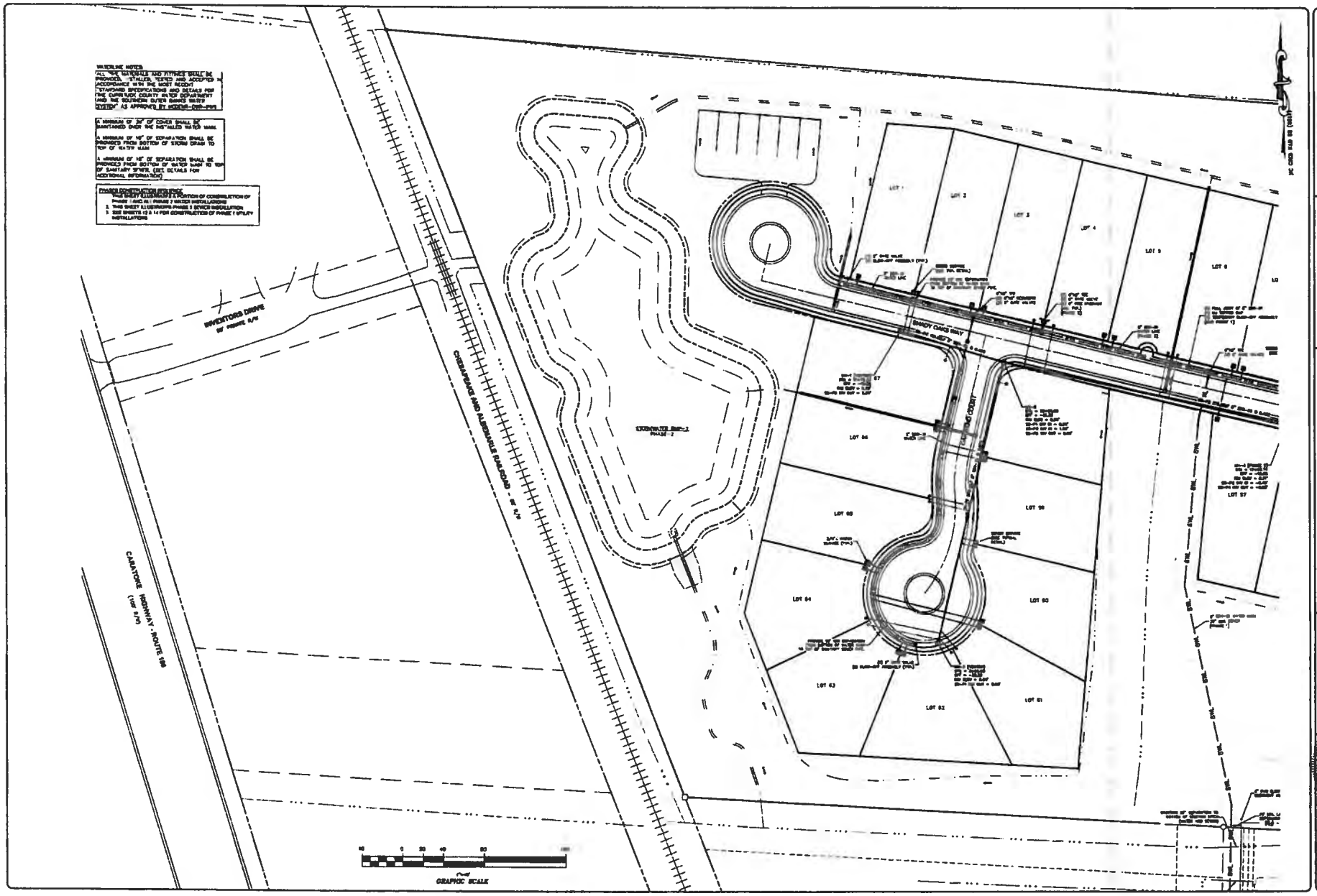
REVISIONS

| | |
|---|---|
| 1348-11 | 1"=40' |
| SPG | HDG |
| LJW | SPG |

SHEET 11 OF 30

DWG FILE: 4551 HIDDEN OAKS

PROJECT NO. 4551

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Kitty Hawk, North Carolina 27949
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Engineers, Planners, Surveyors
Land Development Consultants

WATERLINE EXTENSION AND WASTEWATER COLLECTION PLAN

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HIDDEN OAKS

MOYOCK TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

| | | |
|---|---|---|
| 1 | 2-8-12 | |
| 2 | 3-8-12 | |
| 3 | 4-9-12 | |

SHEET 12 OF 30

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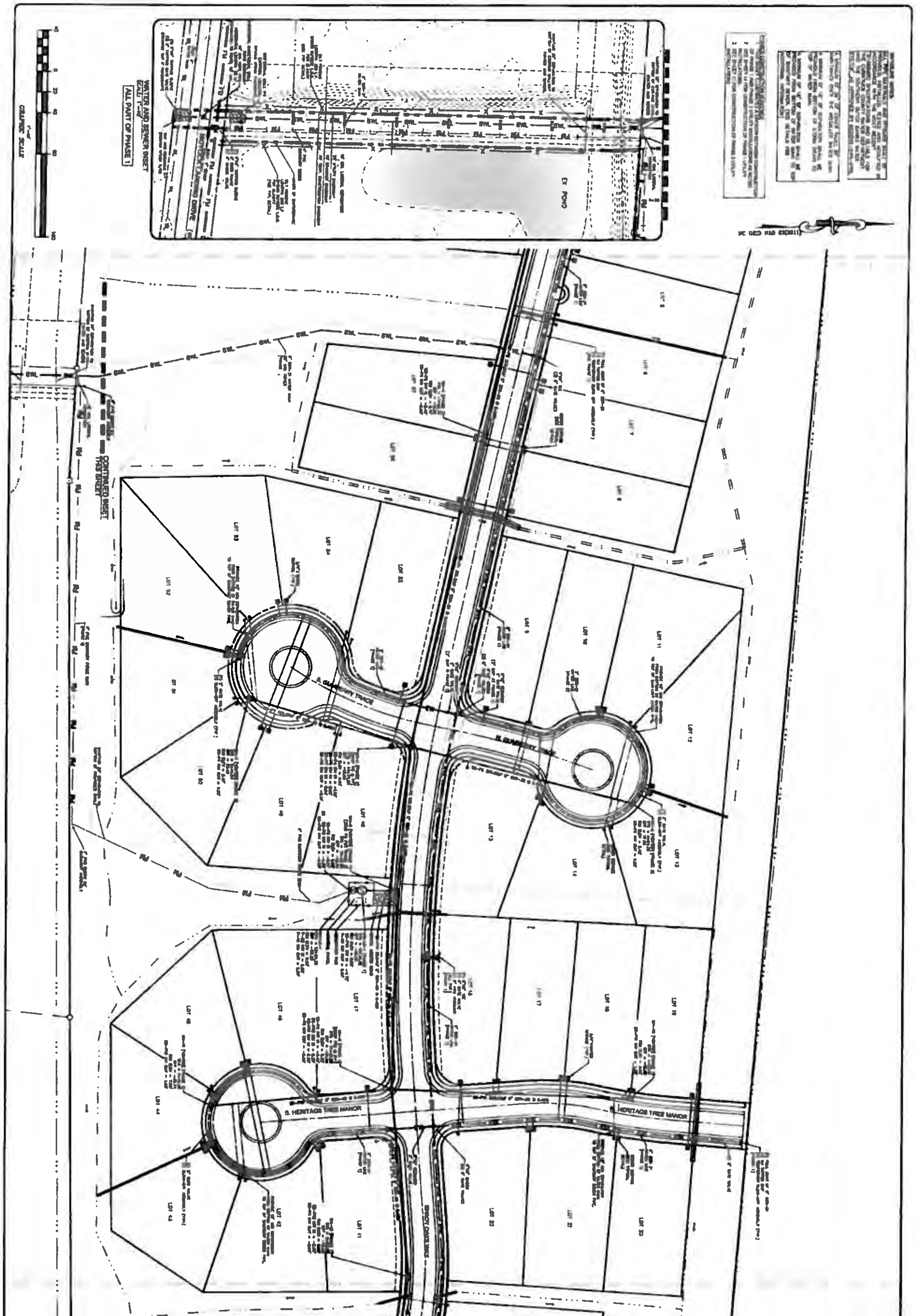
PROJECT NO 4551

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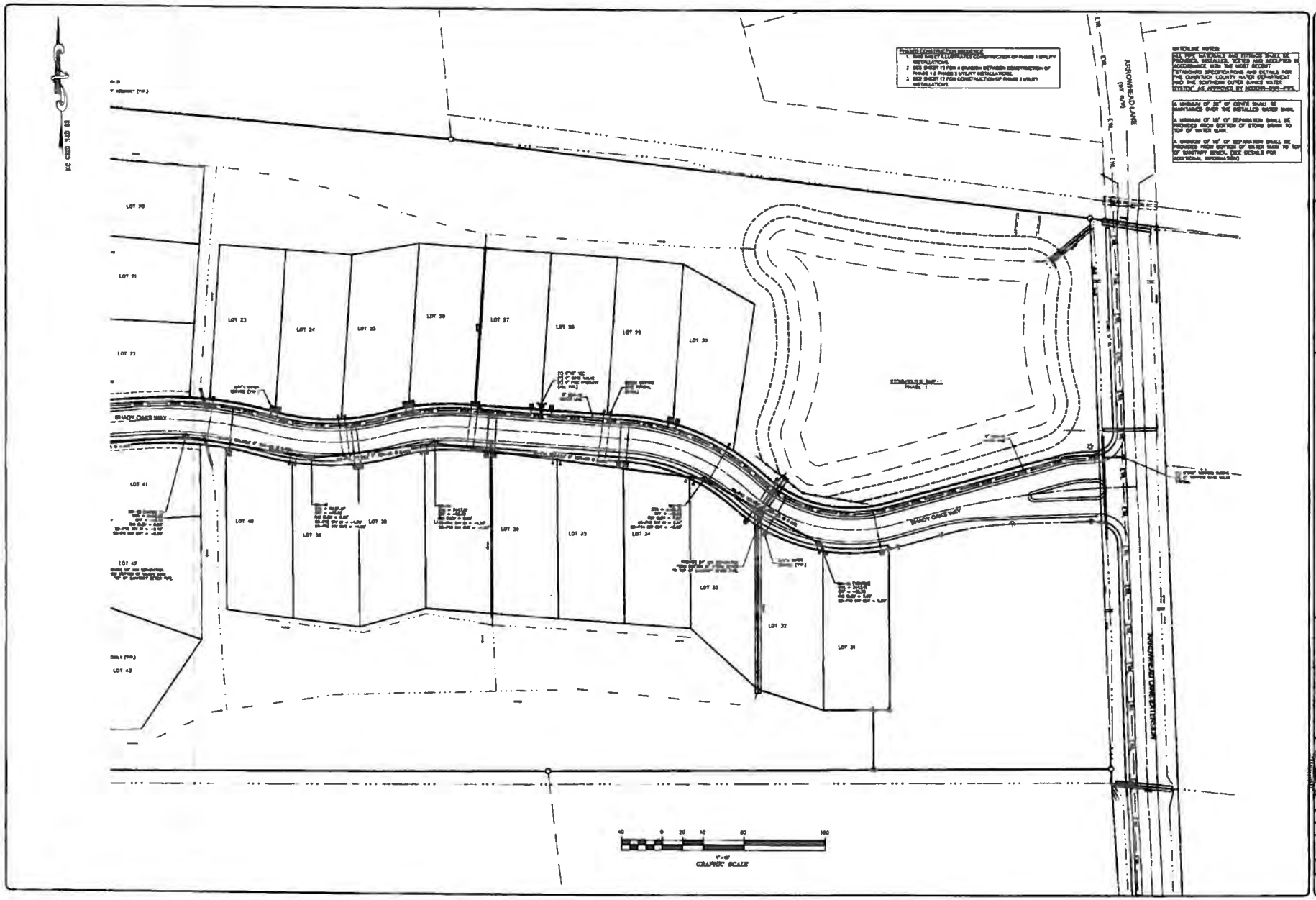
| HIDDEN OAKS<br>MOYOCK TOWNSHIP · CURRITUCK COUNTY · NORTH CAROLINA<br>SITE DEVELOPMENT PLANS | WATERLINE EXTENSION AND WASTEWATER COLLECTION PLAN | BISSELL | Sheet 13 of 30<br>4531008ZCD<br>4551 |

REVISIONS




WATER EXTENSION AND WASTEWATER COLLECTION PLAN

HIDDEN OAKS

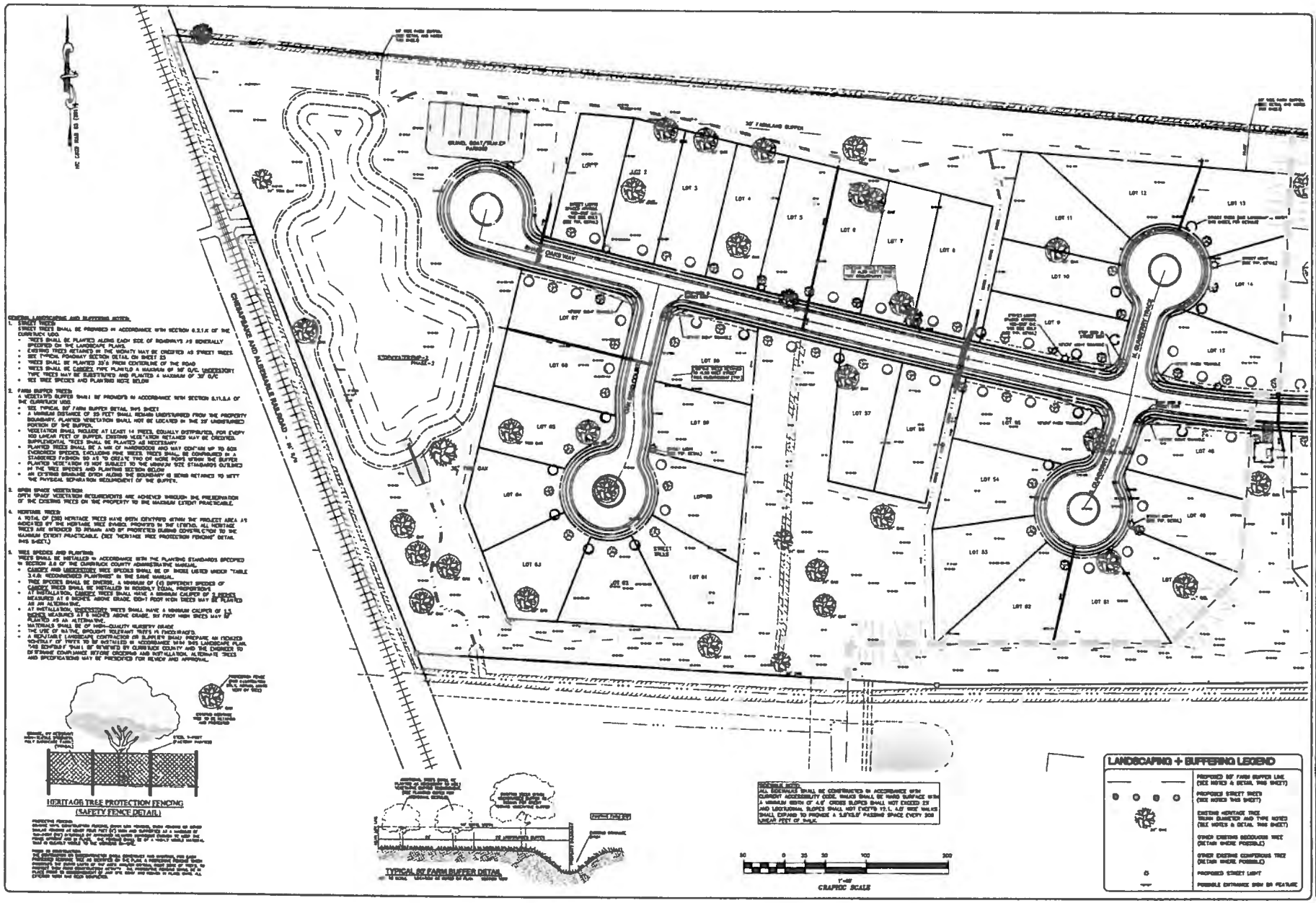
MOYOCK TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET 14 OF 30

4551




GENERAL LANDSCAPING AND BUFFERING NOTES:

1. STREET TREES:
STREET TREES SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 6.2.1.K OF THE CURRITUCK UDO.
- TREES SHALL BE PLANTED ALONG EACH SIDE OF ROADWAYS AS GENERALLY SPECIFIED ON THE LANDSCAPE PLANS.
- EXISTING TREES RETAINED IN THE MIDWAY MAY BE CREDITED AS STREET TREES.
- SEE TYPICAL ROADWAY SECTION DETAIL ON SHEET 25
- TREES SHALL BE PLANTED 25'± FROM CENTERLINE OF THE ROAD
- TREES SHALL BE CANOPY TYPE PLANTED A MAXIMUM OF 30' O/C. UNDERSTORY TYPE TREES MAY BE SUBSTITUTED AND PLANTED A MAXIMUM OF 30' O/C
- SEE TREE SPECIES AND PLANTING NOTE BELOW

2. FARM BUFFER TREES:
A VEGETATED BUFFER SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 6.11.5.A OF THE CURRITUCK UDO.
- SEE TYPICAL 50' FARM BUFFER DETAIL THIS SHEET
- A MINIMUM DISTANCE OF 25 FEET SHALL REMAIN UNDISTURBED FROM THE PROPERTY BOUNDARY. PLANTED VEGETATION SHALL NOT BE LOCATED IN THE 25' UNDISTURBED PORTION OF THE BUFFER.
- VEGETATION SHALL INCLUDE AT LEAST 14 TREES, EQUALLY DISTRIBUTED, FOR EVERY 100 LINEAR FEET OF BUFFER. EXISTING VEGETATION RETAINED MAY BE CREDITED. SUPPLEMENTAL TREES SHALL BE PLANTED AS NECESSARY
- PLANTED TREES SHALL BE A MIX OF HARDWOODS AND MAY CONTAIN UP TO 60% EVERGREEN SPECIES. EXCLUDING PINE TREES, TREES SHALL BE CONFIGURED IN A STAGGERED FASHION SO AS TO CREATE TWO OR MORE ROWS WITHIN THE BUFFER
- PLANTED VEGETATION IS NOT SUBJECT TO THE MINIMUM SIZE STANDARDS OUTLINED IN THE TREE SPECIES AND PLANTING SECTION BELOW
- AN EXISTING DRAINAGE DITCH ALONG THE BOUNDARY IS BEING RETAINED TO MEET THE PHYSICAL SEPARATION REQUIREMENT OF THE BUFFER.

3. OPEN SPACE VEGETATION:
OPEN SPACE VEGETATION REQUIREMENTS ARE ACHIEVED THROUGH THE PRESERVATION OF THE EXISTING TREES ON THE PROPERTY TO THE MAXIMUM EXTENT PRACTICABLE.

4. HERITAGE TREES:
A TOTAL OF (30) HERITAGE TREES HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA AS INDICATED BY THE HERITAGE TREE SYMBOL PROVIDED IN THE LEGEND. ALL HERITAGE TREES ARE INTENDED TO REMAIN AND BE PROTECTED DURING CONSTRUCTION TO THE MAXIMUM EXTENT PRACTICABLE. (SEE "HERITAGE TREE PROTECTION FENCING" DETAIL THIS SHEET.)

5. TREE SPECIES AND PLANTING:
TREES SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANTING STANDARDS SPECIFIED IN SECTION 8.8 OF THE CURRITUCK COUNTY ADMINISTRATIVE MANUAL.
- CANOPY AND UNDERSTORY TREE SPECIES SHALL BE OF THOSE LISTED UNDER "TABLE 3.4.B: RECOMMENDED PLANTINGS" IN THE SAME MANUAL.
- TREE SPECIES SHALL BE DIVERSE. A MINIMUM OF (4) DIFFERENT SPECIES OF CANOPY TREES SHALL BE INSTALLED IN ROUGHLY EQUAL PROPORTIONS
- AT INSTALLATION, CANOPY TREES SHALL HAVE A MINIMUM CALIPER OF 2 INCHES MEASURED AT 6 INCHES ABOVE GRADE. EIGHT FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.
- AT INSTALLATION, UNDERSTORY TREES SHALL HAVE A MINIMUM CALIPER OF 1.5 INCHES MEASURED AT 6 INCHES ABOVE GRADE. SIX FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.
- MATERIALS SHALL BE OF HIGH-QUALITY NURSERY GRADE
- THE USE OF NATIVE, DROUGHT TOLERANT TREES IS ENCOURAGED.
- A REPUTABLE LANDSCAPE CONTRACTOR OR SUPPLIER SHALL PREPARE AN ISOLATED SCHEDULE OF TREES TO BE INSTALLED IN ACCORDANCE WITH THIS LANDSCAPE PLAN. THIS SCHEDULE SHALL BE REVIEWED BY CURRITUCK COUNTY AND THE ENGINEER TO DETERMINE COMPLIANCE BEFORE ORDERING AND INSTALLATION. ALTERNATE TREES AND SPECIFICATIONS MAY BE PRESENTED FOR REVIEW AND APPROVAL.

SIDEWALK NOTE:
ALL SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ACCESSIBILITY CODE. WALKS SHALL BE HARD SURFACE WITH A MINIMUM WIDTH OF 4.0'. CROSS SLOPES SHALL NOT EXCEED 2% AND LOCKUNDAL SLOPES SHALL NOT EXCEED 12:1. 4.0' WIDE WALKS SHALL EXPAND TO PROVIDE A 5.0'x5.0' PASSING SPACE EVERY 200 LINEAR FEET OF WALK.

DESSELL
Small Professional Group
Engineers, Planners, Surveyors and Environmental Scientists

LANDSCAPING, BUFFERING, LIGHTING AND SIGNAGE PLAN

HIDDEN OAKS
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

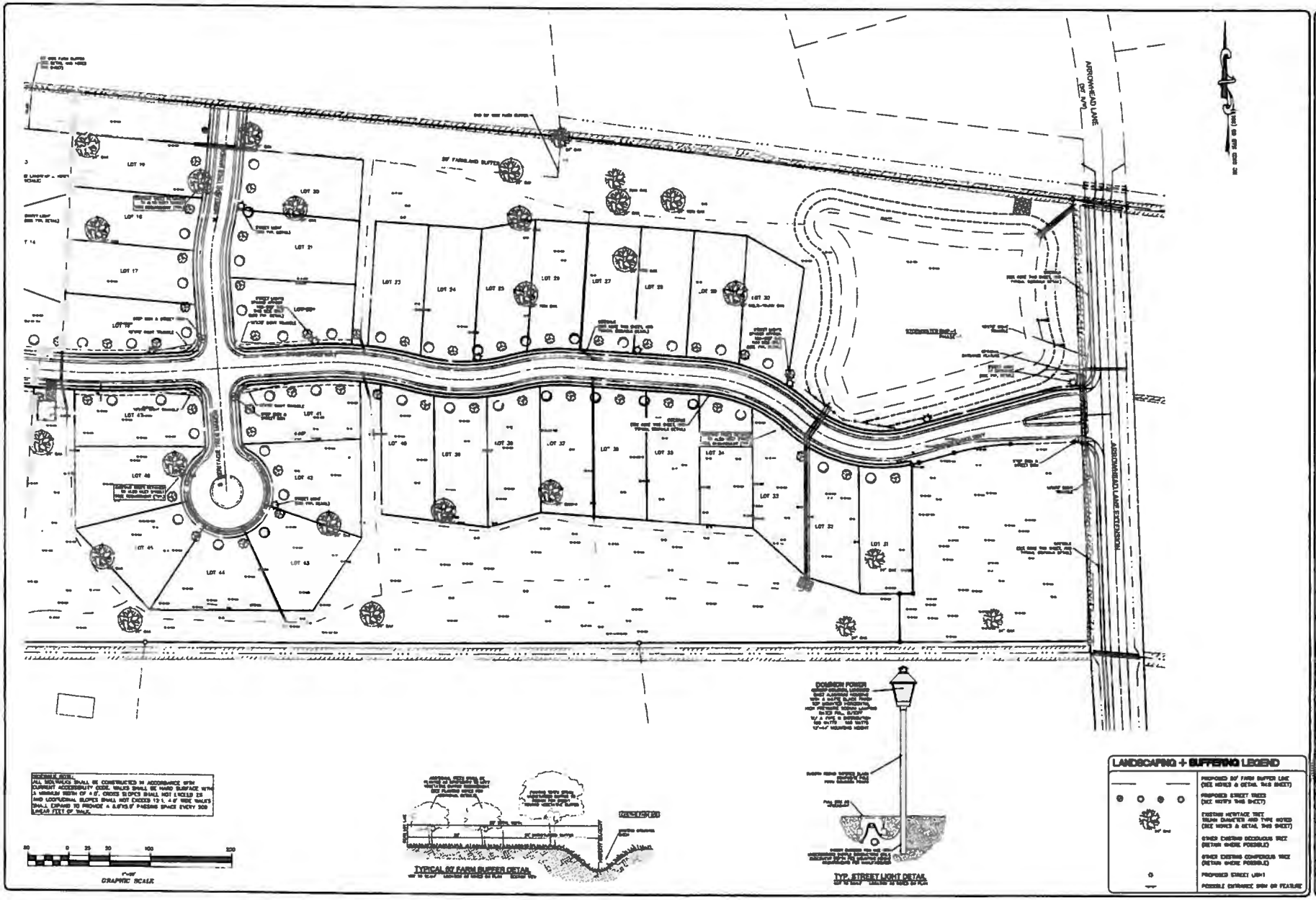
SITE DEVELOPMENT PLANS

REVISIONS

SHEET 15 OF 30

DWG FILE 455100B2C3D

PROJECT NO 4551




LANDSCAPING, BUFFERING, LIGHTING AND SIGNAGE PLAN

HIDDEN OAKS

MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

16 of 30

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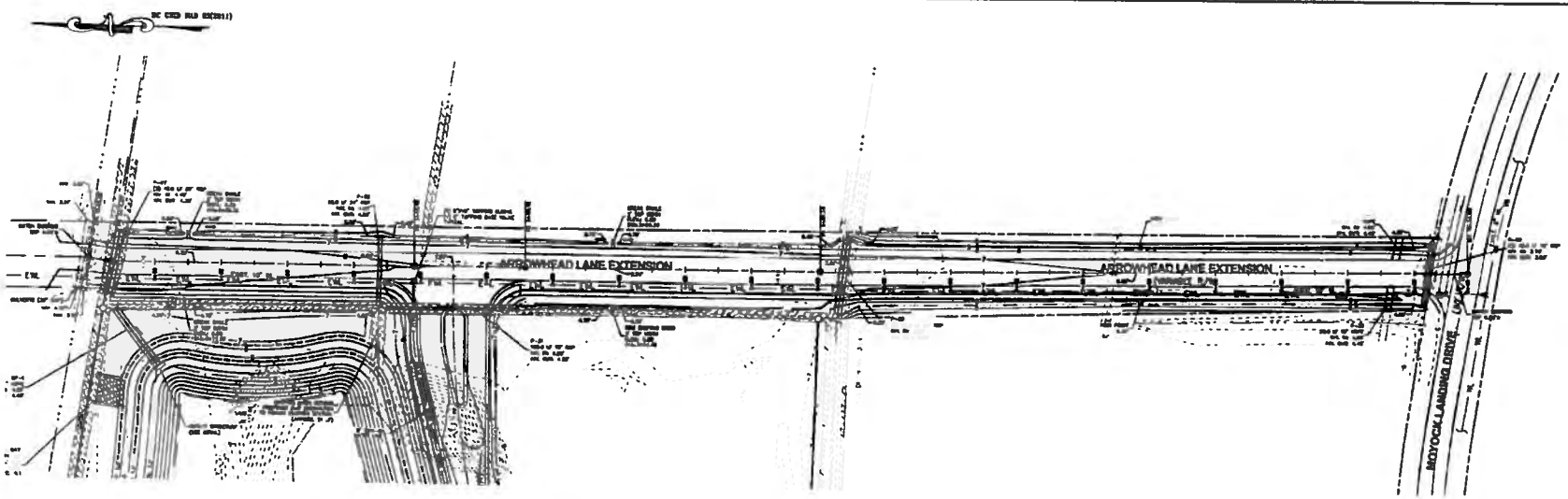
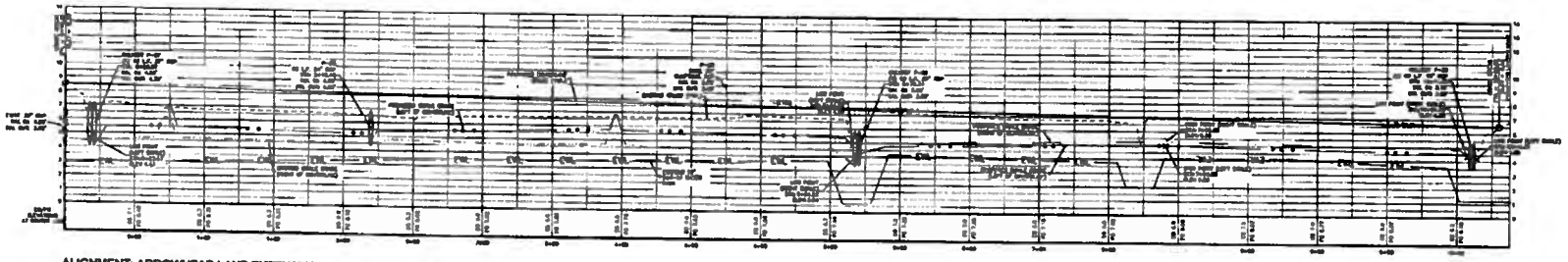



ALIGNMENT: ARROWHEAD LANE EXTENSION (STA 0+00 - 10+39.98)
SCALE: HOR. 1"=40' VERT (PLAN VIEW)



ALIGNMENT: ARROWHEAD LANE EXTENSION (STA 0+00 - 10+39.98)
SCALE: HOR. 1"=40' VERT 1"=4' (PROFILE VIEW)

BASSELL

ARROWHEAD LANE EXTENSION
ROADWAY PLAN AND PROFILE

ARROWHEAD LANE EXTENSION
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

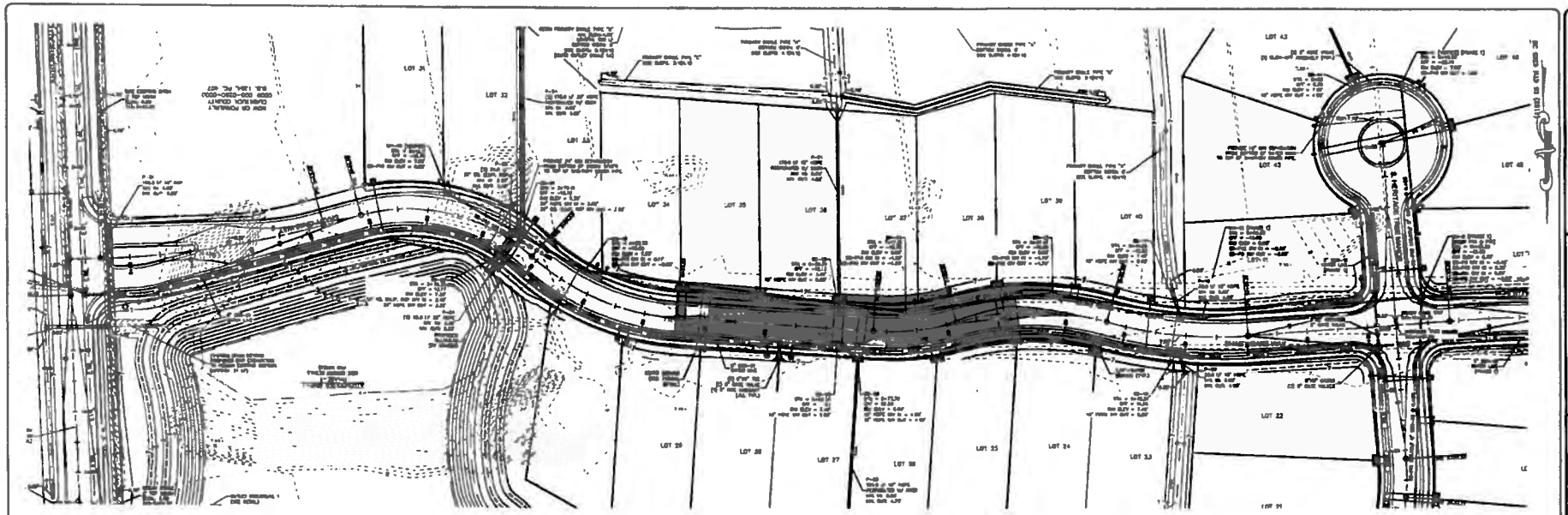
RESIDENTIAL ROADWAY PLANS

REVISIONS

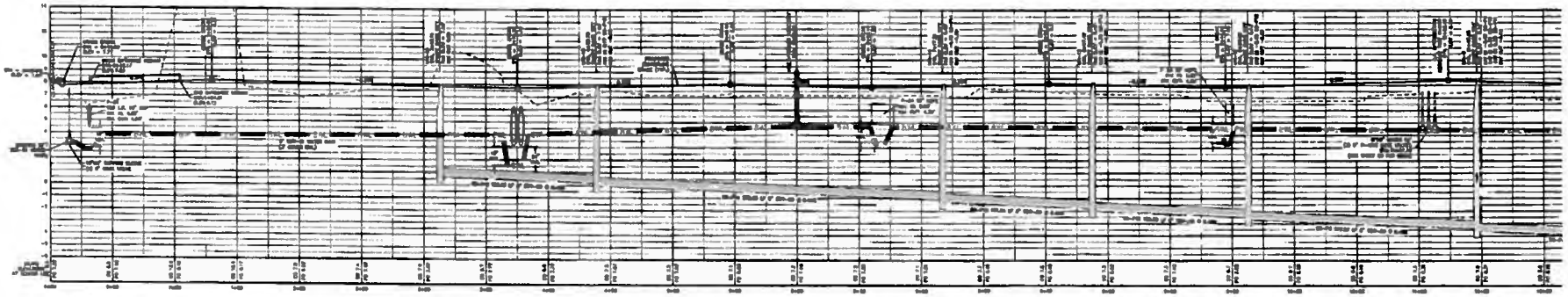
SHEET: 17 of 30

DWG FILE: 4551000D3C3D

PROJECT NO: 4551



ALIGNMENT: SHADY OAKS WAY (STA 0+00 - 12+00)
SCALE: HOR 1"=40' VERT (PLAN VIEW)



ALIGNMENT SHADY OAKS WAY (STA 0+00 - 12+00)
SCALE: HOR 1"=40' VERT 1"=4' (PROFILE VIEW)

BASSELL

PLAN AND PROFILE
SHADY OAKS WAY

HIDDEN OAKS
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET
18 - 30

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PROJECT NO
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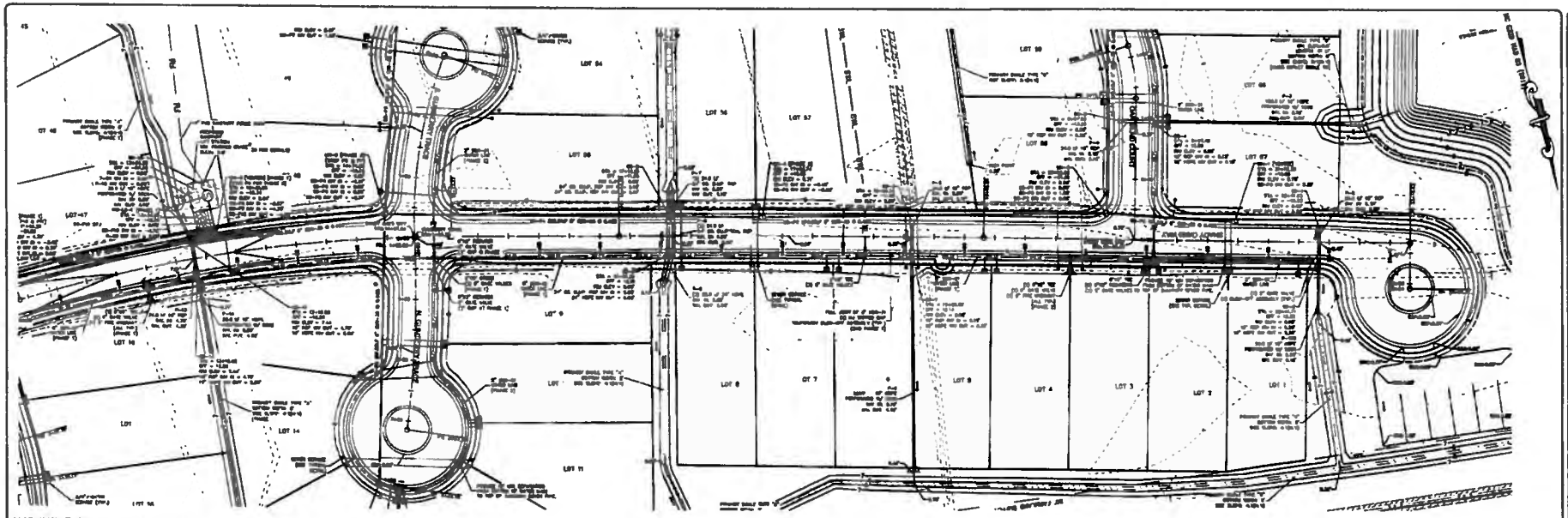

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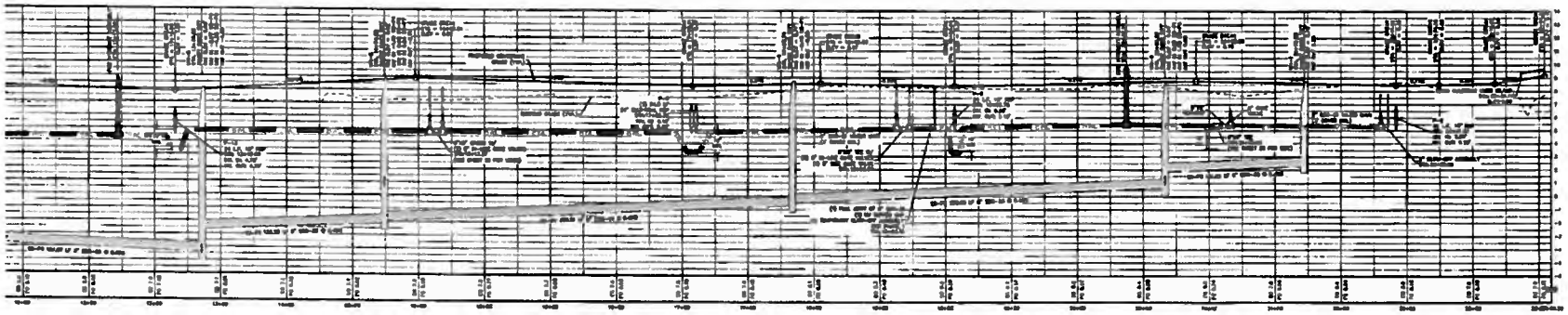

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SCALE HOR. 1"=40' VERT. 1"=4' (PROFILE VIEW)

BASSELL

PLAN AND PROFILE
SHADY OAKS WAY

HIDDEN OAKS
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
SITE DEVELOPMENT PLANS

REVISIONS

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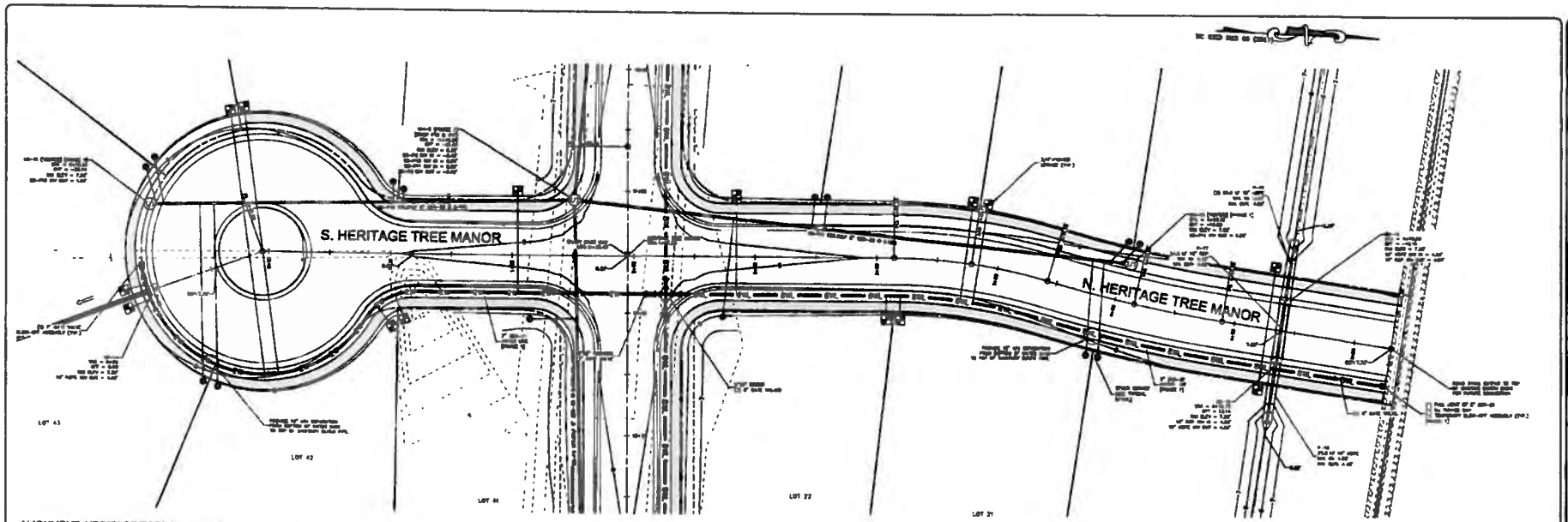


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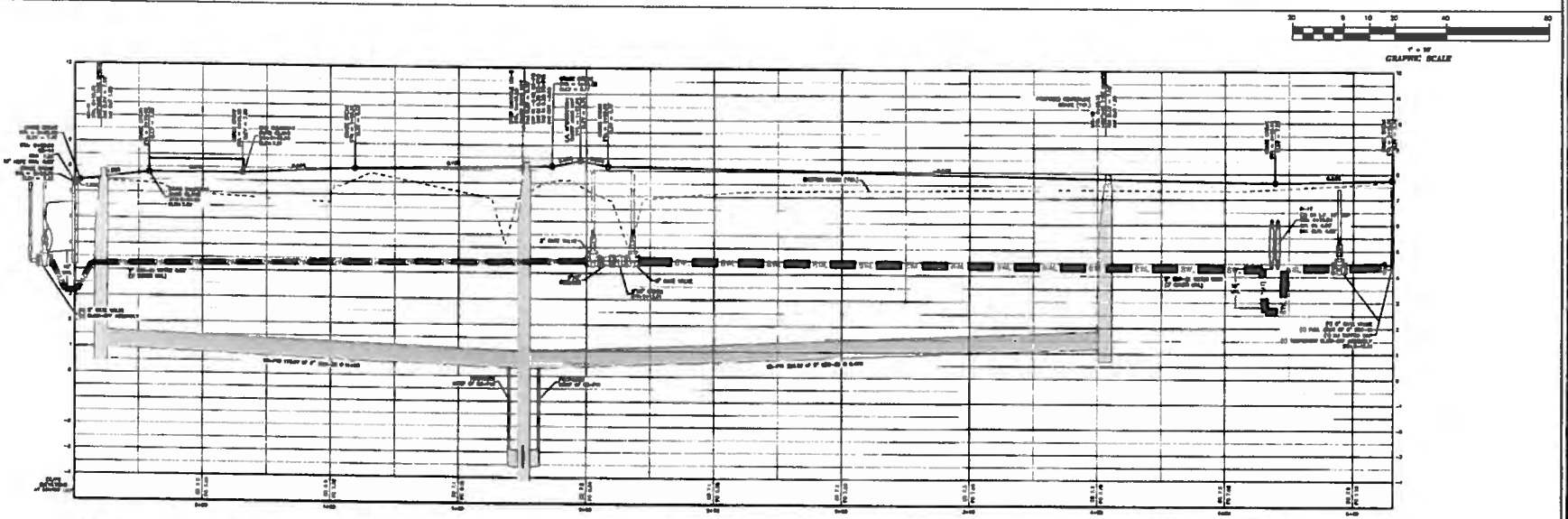


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SCALE: HOR. 1"=20' VERT. 1"=2' (PROFILE VIEW)

BASSELL

PLAN AND PROFILE
HERITAGE TREE MANOR

HIDDEN OAKS
MOYOCK TOWNSHIP
CURRITUCK COUNTY
NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET
20 - 30

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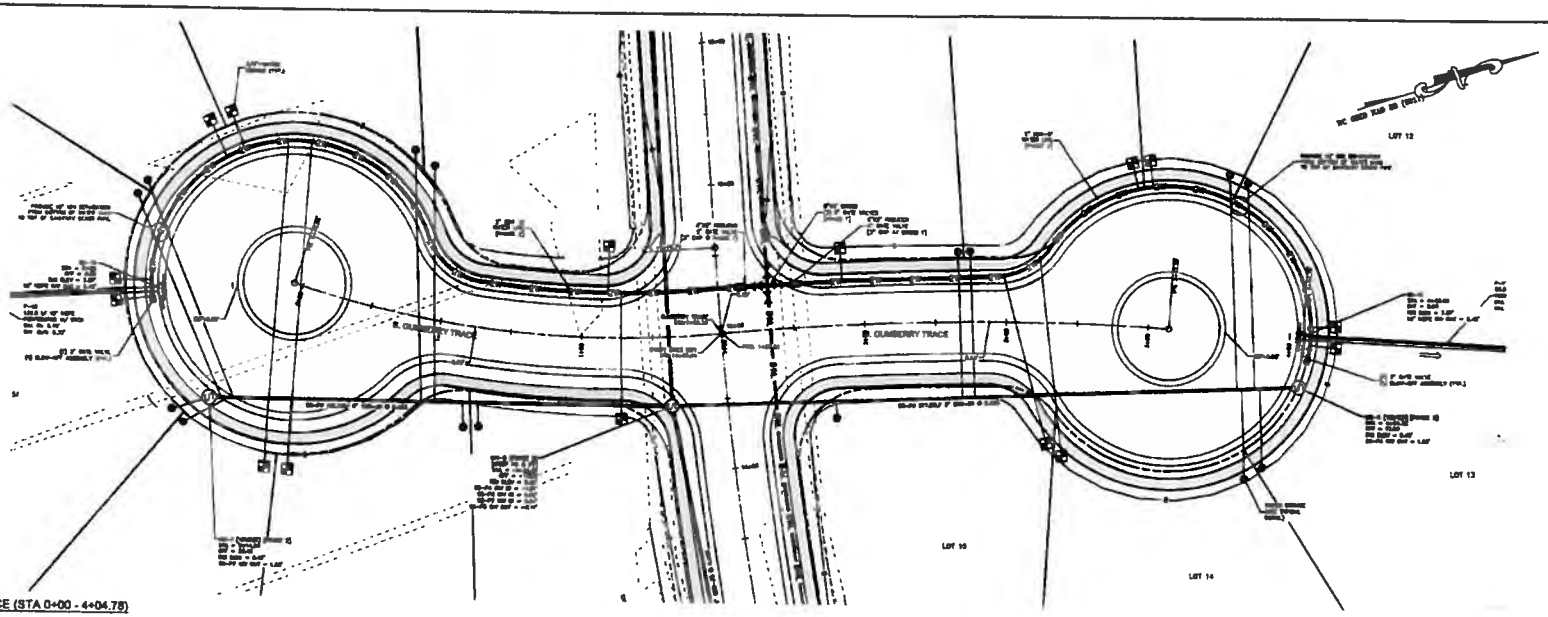


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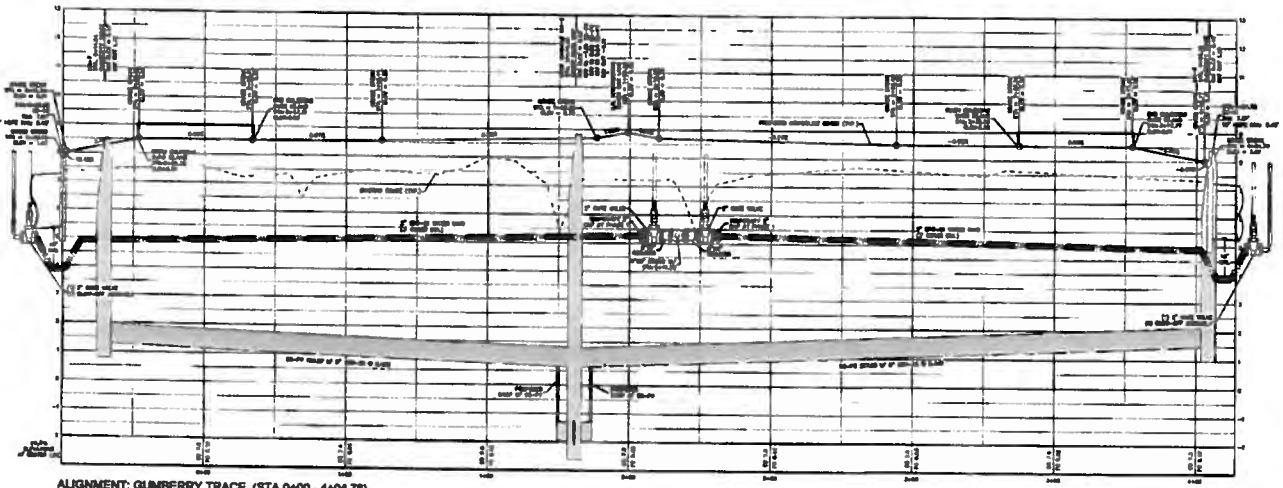


ALIGNMENT: GUMBERRY TRACE (STA 0+00 - 4+04.78)
SCALE: HOR. 1"=20' VERT. 1"=2' (PROFILE VIEW)

BASSELL

PLAN AND PROFILE
GUMBERRY TRACE

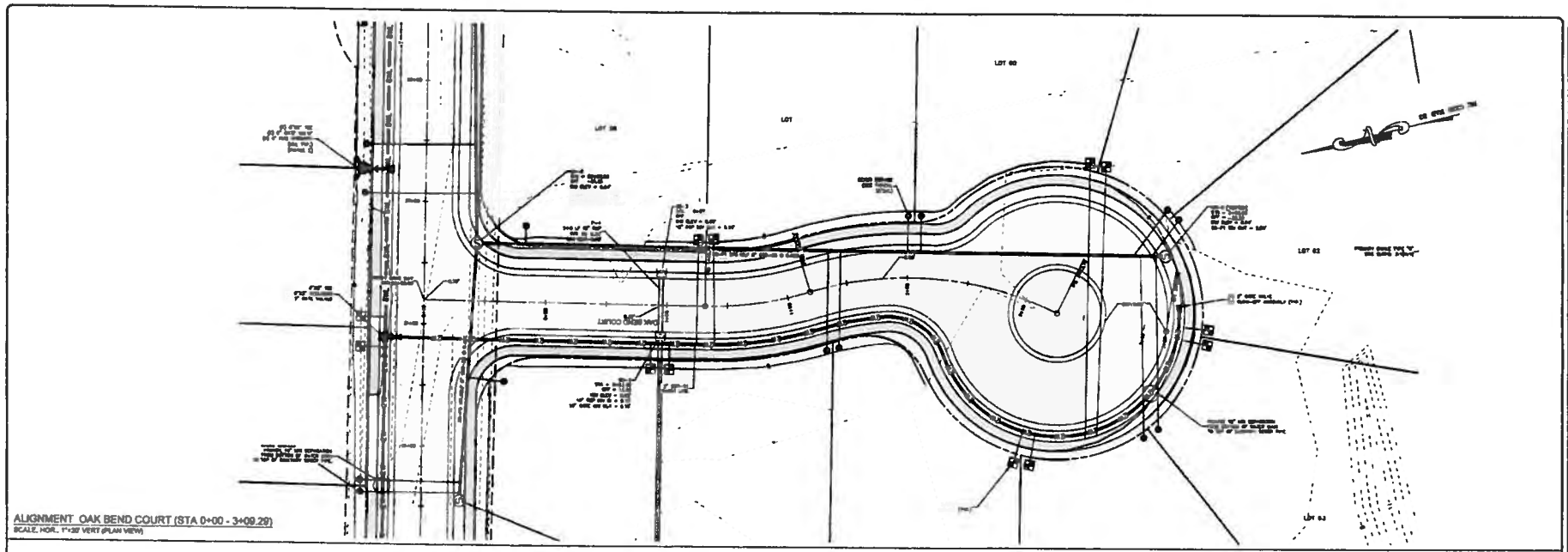
HIDDEN OAKS
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET
21 of 30

PROJECT NO.
4551

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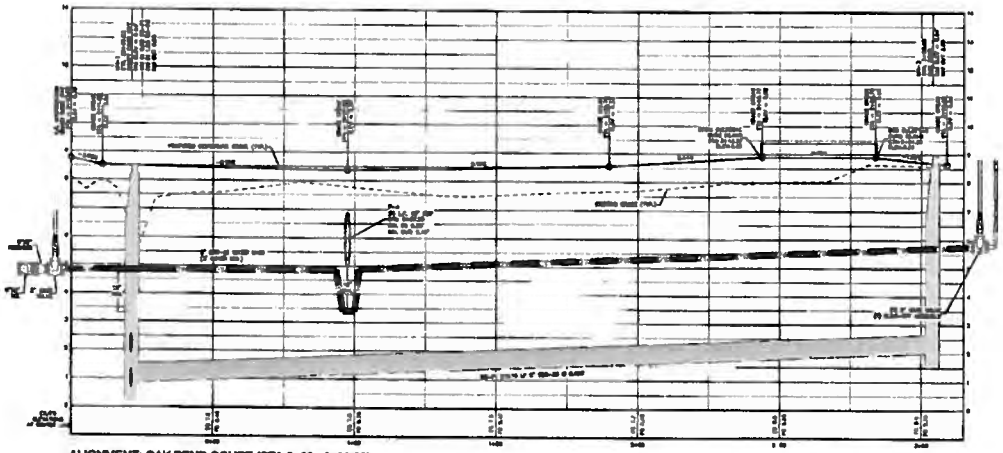


ALIGNMENT: OAK BEND COURT (STA 0+00 - 3+09.29)
SCALE: HOR 1"=20' VERT 1"=2' (PROFILE VIEW)

BASSELL

PLAN AND PROFILE
OAK BEND COURT

HIDDEN OAKS
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

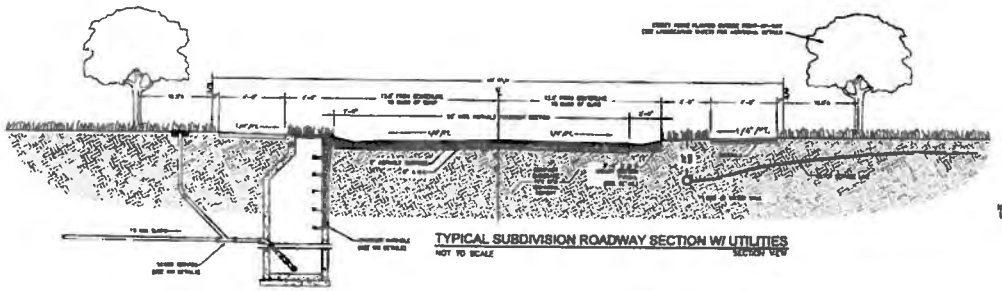
22 . 30

4551

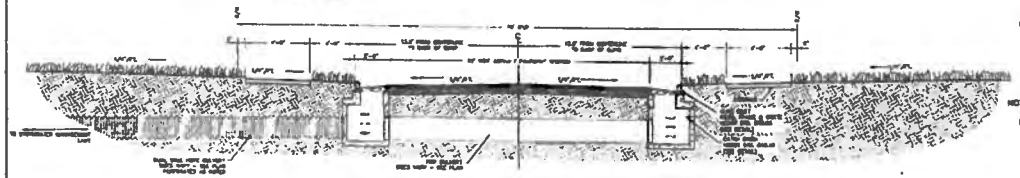
4551

HIDDEN OAKS
MOCKSVILLE TOWNSHIP
DAVIDSON COUNTY
NORTH CAROLINA
SITE DEVELOPMENT PLANS
PLAN AND PROFILE
OFFSITE SEW R FORCE MAIN
REVISIONS
23 - 30
4551

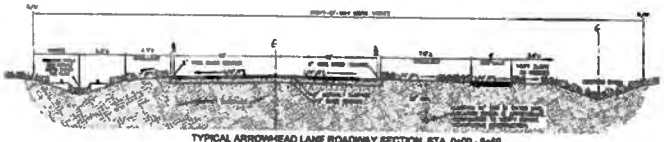
HIDDEN OAKS
SITE DEVELOPMENT PLANS
PLAN AND PROFILE
OFFSITE WATER AND SEWER
24 of 30
4551



TYPICAL SUBDIVISION ROADWAY SECTION W/ UTILITIES
NOT TO SCALE
SECTION VIEW

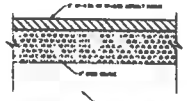


TYPICAL SUBDIVISION ROADWAY SECTION W/ DRAINAGE
NOT TO SCALE
SECTION VIEW



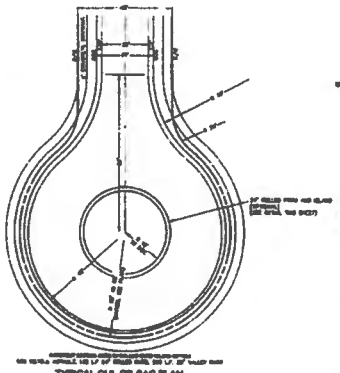
TYPICAL ARROWHEAD LANE ROADWAY SECTION STA. 0+00 - 8+00

TYPICAL ARROWHEAD LANE ROADWAY SECTION STA. 8+78 - 10+12

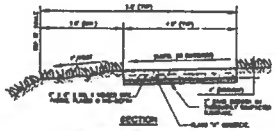


TYPICAL RESIDENTIAL ROADWAY PAVEMENT SECTION

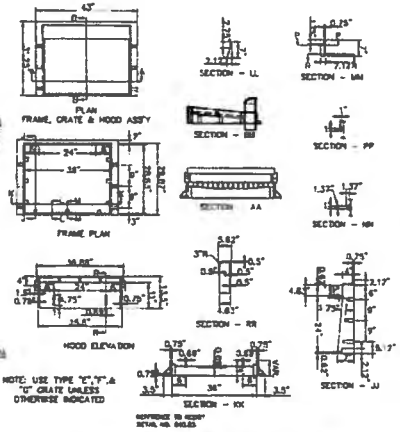
STANDARD ROLLED CURB



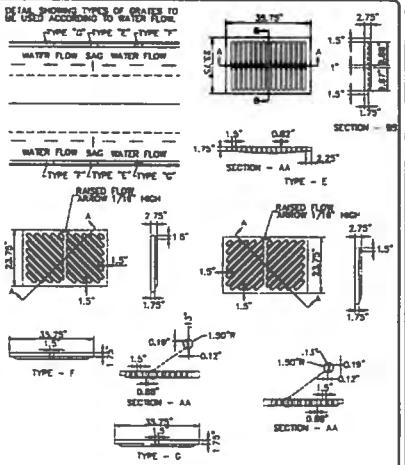
TYPICAL CUL-DE-SAC PLAN



CONCRETE SIDEWALK DETAIL



CATCH BASIN FRAME,GRATE & HOOD DETAIL
NOT TO SCALE
NCDOT STD 840.03



CATCH BASIN GRATE DETAIL
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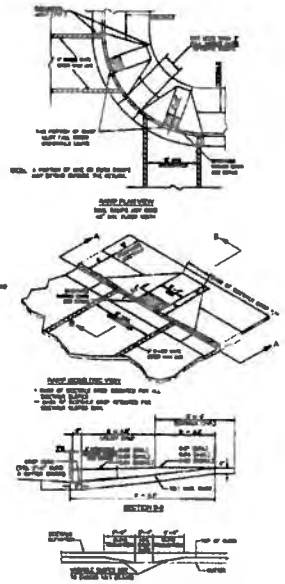
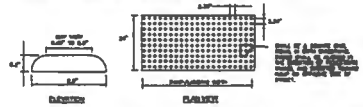
NCDOT STD 840.03



WHEEL CHAIR RAMP CURB CUT DETAIL
NOT TO SCALE
NCDOT STD 840.03



TRUNCATED DOME DETECTABLE WARNING DETAIL
NOT TO SCALE

DETECTABLE WARNING GENERAL NOTES

1. DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES MANUFACTURED BY "CORE-4, INDUSTRIES, INC." CALLED "SAFTY-TRAX", OTR POLYURETHANE GRATING "DURASAN", OR APPROVED EQUAL, APPLIED ON SMOOTH (NON-GROOVED) CLEAN CONCRETE RAMP, AND SHALL CONFORM TO THE DETAILS IN THE PLANS AND IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
2. ALL DETECTABLE WARNING AREAS SHALL START AT EDGE OF CURB, BE 24 INCHES IN DEPTH AND COVER THE COMPLETE WIDTH OF THE RAMP AREA AS SHOWN ON PLANS.
3. FOR VISUAL CONTRAST IS REQUIRED. THE COLOR SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING MATERIAL, AS SPECIFIED ON THE PLANS. COLOR TO BE DETERMINED BY THE CITY STAFF. SAFETY YELLOW IS THE DEFAULT COLOR.
4. THE SMOOTH AND CLEAN CONCRETE UNDER DETECTABLE WARNING DEVICE AREA SHALL BE INCLUDED IN THE COST OF THE CONCRETE CURB RAMP. THE COST OF FURNISHING AND INSTALLING THE DETECTABLE WARNING DEVICE SHALL BE INCLUDED SEPARATELY AS "DETECTABLE WARNING DEVICE" PER SQUARE FOOT OR AS OUTLINED IN THE SPECIFICATIONS.
5. DETECTABLE WARNING SURFACE:
   APPLIED A COATING OF "DURASAN" SLIP-RESISTANT POLYURETHANE COATING TO THE SMOOTH, CLEAN CONCRETE SURFACE. ON TOP OF THE POLYURETHANE COATING APPLY TRUNCATED DOMES FROM A "SAFTY-TRAX" CONTACT SHEET. ON TOP OF THE TRUNCATED DOMES AND SETAL POLYURETHANE COATING PLACE THREE ADDITIONAL COATS OF "DURASAN" POLYURETHANE COATING. COLOR TO BE DETERMINED BY CITY STAFF OR AS SPECIFIED ON THE PLANS. SAFETY YELLOW IS A DEFAULT COLOR.
6. ALL RAMPS AND DETECTABLE WARNING SHALL BE ALIGNED TO THE DIRECTION OF PEDESTRIAN TRAVEL, AND DIRECTED TOWARD RAMP ON THE OPPOSITE SIDE OF STREET.

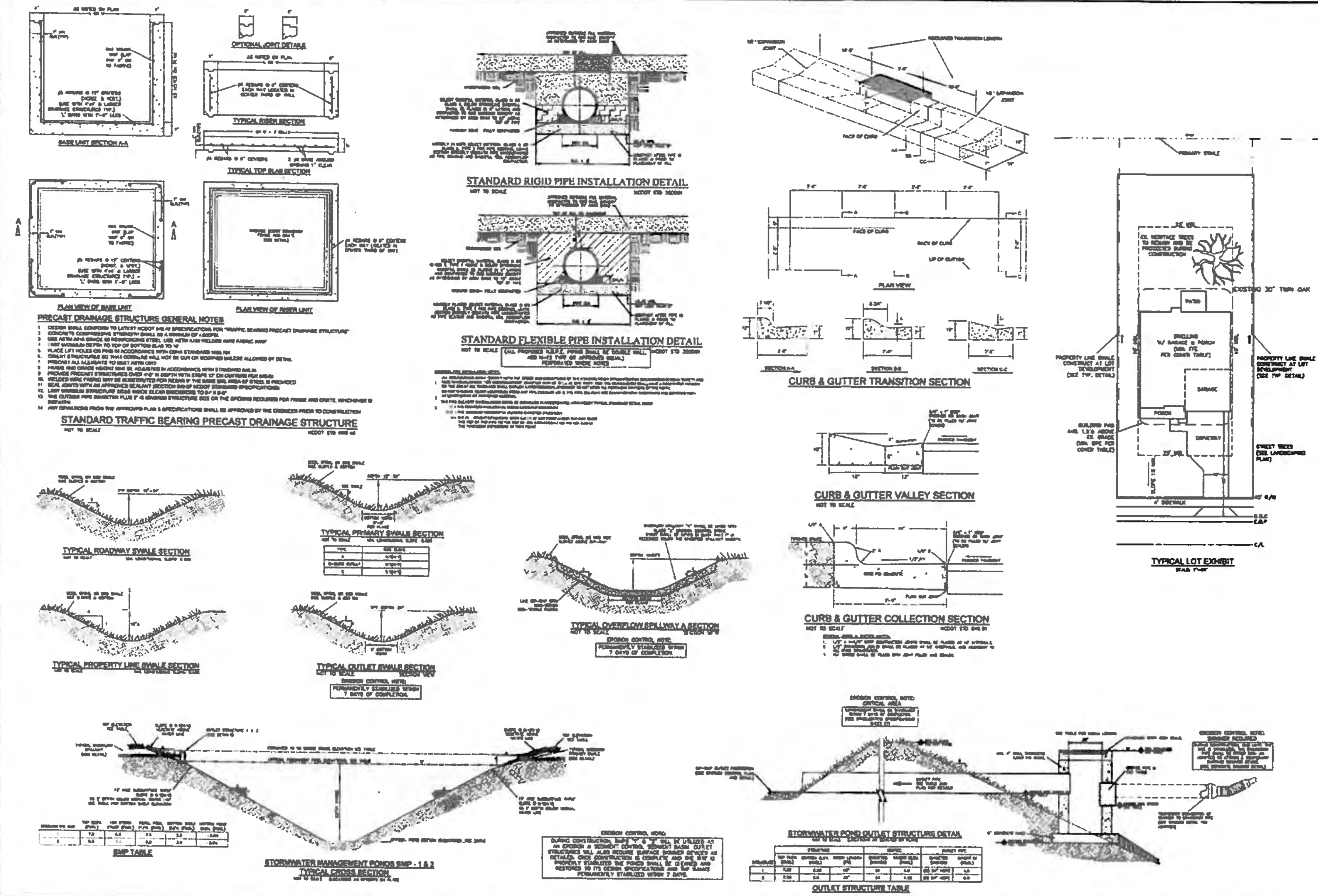
HIDDEN OAKS
MATTOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
SITE DEVELOPMENT PLANS

ROADWAY, GRADING & DRAINAGE
CONSTRUCTION DETAILS

DASSELL
Engineers, Planners, Surveyors and Environmental Scientists

REVISIONS

DATE 12-06-15
SCALE AS NOTED
DRAWN BRD
CHECKED BRM
APPROVED BPD
SHEET 25 OF 30
DRAWING 4551HOBCD.DWG
PROJECT NO 4551




BISSELL

GRADING, DRAINAGE AND STORMWATER DETAILS

# HIDDEN OAKS

MOYOCK TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET: 26 of 30

4551

## GENERAL PROJECT NOTES

1. PROJECT NAME: HIDDEN OAKS - PHASES 1 & 2
   MONROE, CLERMITUCK COUNTY, NORTH CAROLINA
2. OWNER: HIDDEN OAKS, LLC
   4838 CAMERON VALLEY, SUITE 2
   MONROE, NC 27110
3. DEVELOPER: HIDDEN OAKS, LLC
   4838 CAMERON VALLEY, SUITE 2
   MONROE, NC 28110
4. PROJECT DESCRIPTION: CLEAR FOR RECREATION, SUBDIVISION
5. NEAREST RECEIVING STREAM: UNT TO CH KLIN - HICKS NUMBER 30-1-2-2-1
6. STREAM CLASSIFICATION: C, Sw - PAMLICO/RAIN RIVER BASIN
7. PROJECT AREA SUMMARY

| | |
|---|---|
| TOTAL AREA | 37.00 AC. |
| TOTAL PROPOSED DISTURBED AREA | 24.00 AC. |

AREA CALCULATION NOTE:
All areas have been computed utilizing projection within the Autocad software.

MATERIAL SOURCE NOTE:
All embedded material encountered during the course of construction will remain cover for roadway construction and shall be grading. No borrow material is anticipated. See SCHEDULE OF LAND DISTURBING ACTIVITIES provided on Sheet 5 of plans set for the remainder of all materials/areas to be graded.

WETLAND NOTE:
There are no jurisdictional wetlands on the property as identified on the cover sheet.

STABILIZATION NOTE:
The goals of graded slopes and fills shall be no greater than the angle that can be retained by vegetation alone or slope stabilization erosion control devices or structures in any case, all exposed areas will exposed will WITHIN 14 CALENDAR DAYS OF COMPLETION of any cease of grading, be planted or otherwise protected with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.
Additionally, stockpiles areas as identified on the plan, area no. 6a not limited to, perimeter dikes, sediment traps, slopes greater than 3:1, and areas beyond either high Quality Water Zones, must be temporarily or permanently stabilized WITHIN 7 CALENDAR DAYS OF COMPLETION of any phase of grading to their area.
A permanent ground cover for all disturbed areas must be provided WITHIN 15 BUSINESS DAYS OF IN ONE CALENDAR DATE performance is checked following completion of construction or development.

## SEDIMENTATION AND EROSION CONTROL NOTES

A. WARRANTS AND SITE DATA

Hidden Oaks is a proposed residential subdivision consisted on and over 37 acres total of land located east of NC HWY 158 at the end of Interstate Drive in the Monroe township of Clerkituck County. The development will consist of residential lots along with roads, drainage and utility improvements. Also included is an extension of the existing Hospitaval Ln Rd, from the existing termination point in the projects NE corner south to an intersection with Hospital Landing Drive.

The sites existing topography is flat, with slopes ranging between 0-4%. Elevations across the primary subdivision development area range from just under 7.0 ft and to maybe surface to approx 3.0 ft and to another persons. Elevations along the proposed Hospitaval Ln extension fall within the range from approx. 7.0 ft to 4.0 ft. This area is primarily woodlands. As another, and small existing pond exists near middle. The site extending from Interstate Way to Rain Ln. Existing drainage pond can be found at the end and of the pond area. Along with embankment, small dike or retained water exists on the pond. A system of ditches exists on site which both end of the pond area and as well as multiple water areas running underground across the entire site. Existing boundary lines can be found along of four side of the site. Runoff from the site is expected by these boundary ditches which ultimately drain east and connect to Wagon Run that empties to the Rainbow River. The site currently contains no structural development. The existing onsite soils consist mostly of Rutlo and Rutlo with soils were determined by the USDA/SCS to be well drained/dry soil. Surrounding land use is either residential or agricultural in nature.

Pursuant to the MSDA Soil Survey Manual of Clerkituck County, the soils are composed of Rutlo Fine Sandy Loam. Rutlo fine sandy loam are described as being nearly level and poorly drained with permeability slow ranging from 0.06 inch per hour at the surface, up to 20 inch or double inches 60".

B. SOIL DESIGN VARIANCE REQUESTS

1. NO PAINT OR LIQUID WASTES SHALL ENTER INTO STREAMS OR STORM DRAINS
2. BIODEGRADABLE ANIMAL FOR CONSTRUCTION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED OR KEPT FROM STORM DRAINS AND STREAMS UNLESS NO ALTERNATIVE IS NOT AVAILABLE
3. EARTHMOVING: STOCKPILE IT'S MUST BE LOCATED 25 FEET FROM STORM DRAINS AND STREAM UNLESS NO ALTERNATIVE IS ALTERNATIVES ARE AVAILABLE
4. CONCRETE WASTEWATER MUST BE CONTAINED IN AN ADEQUATE CONTAINER SURFACE FOR USE, NO PLACED ON SUN-DRY.

C. SEDIMENT DAMS

1. DUPLIT STRUCTURES, WHERE APPLIED, MUST DISTRIBUTE FROM THE SURFACE OF THE SEDIMENT BASIN UNLESS THE BASIN DRAINS A DRAINAGE AREA THAT LESS THAN 1 ACRE
2. USE OF DAMS APPROVED PLACEMENTS ONLY.

D. MAINTENANCE AND INSPECTIONS

1. INSPECT TEMPORARY EROSION CONTROL DEVICES AFTER EACH 0.5 INCH RAINFALL
2. INSPECT STABILIZED AREAS AFTER EACH 0.5 INCH RAINFALL. REPAIR SEDIMENT BUILD-UP AS NECESSARY
3. INSPECT STABILIZED AREAS AFTER EACH 0.5 INCH RAINFALL. REPAIR RILLS AND GULLIES. SHALL BE REPAIRED, RE-SEEDED AND MULCHED AS SOON AS POSSIBLE. TEMPORARY CONTROLS THAT BY NECESSITY LEAVE NEW PLANTS DRIVEN OF SHOT SPOTS MUST BE REPLANTED. POSTS ESCAPE THE DRIVEN AND RE-SEEDED AS PRIORITY AS POSSIBLE. YEARLY INSPECTION, EVERY YEAR IS REQUIRED TO MAINTAIN PRODUCTIVE STORAGE.
4. INSPECTIONS SHALL BE TO BE PERFORMED DURING WORKING HOURS, BUSINESS HOURS.
5. INSPECTION REPORTS MUST BE AVAILABLE ON SITE DURING BUSINESS HOURS UNLESS A WRITTEN EXEMPTION IS APPROVED
6. INSPECTIONS MUST BE MADE PRIOR TO STORM AND AVAILABLE UPON REQUEST
7. OCCASIONALLY - AVAILABLE RECORDS MAY BE SUBPOENAED UNDER CERTAIN CONDITIONS.
8. PLAN DESCRIBE THE MAINTENANCE SCHEDULE(S) MEANS AND CLEANING OF SEDIMENT TRAP, SEDIMENT BASIN, STABILIZATION HAS OCCURRED.

E. NOTES

THE PURPOSE OF THIS PLAN IS TO:
- MINIMIZE THE DETRIMENT ENVIRONMENTAL EFFECTS OF DISTURBED SOIL EXPOSURE
- PROTECT DISTURBED AREAS FROM STORMWATER RUNOFF
- STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE
- MINIMIZE LOW-TURBIDITY VELOCITIES FROM PROJECT AREAS WHERE PHS IS NOT POSSIBLE.

NO PLAN IS BEGUN ON SITE WITH SILT FENCING AND SILT DIKES.

THIS PLAN CONSTANTLY MINIMIZES SEDIMENTATION AND EROSION CONTROL MEASURES. ADDITIONAL MEASURES AND DEVICES MAY BE REQUIRED AS CONSTRUCTION PROCEEDS

## CONSTRUCTION SEQUENCE SCHEDULE

**CONSTRUCTION ACTIVITY**
Construction Access - Construction entrance, construction routes, sediment parking area

Sediment Traps & Barriers
Stone traps, sediment fences, & outlet protection

Runoff Control -
Diversions, perimeter dikes, water tank, and outlet protection

Runoff Conveyance System-
Diversions channels, berms, storm drains, channels, level & outlet protection, slope drains

Land Clearing & Grading-
Site preparation- cutting, filling & grading, sediment traps, barriers, diversions, drains, surface roughening

Surface Stabilization-
temporary & permanent seeding, mulching, sodding, rip rap.

Building Construction
Buildings, utilities, paving

Landscaping & Final Stabilization-
Topsoiling, trees & shrubs, permanent seeding, mulching, sodding, rip rap

**SCHEDULE CONSIDERATION**
First land-disturbing activity- Stabilize bare areas immediately upon grade or temporary vegetation on construction lower grade.

Install perimeter basins after construction site is cleared, install additional traps and barriers as needed during grading.

Install key practices after primary sediment traps are before land grading, install additional runoff-control conveyance measures during grading.

Where conveyance stabilize stream banks as early as possible install permanent runoff conveyance system with runoff-control measures, install remainder of system after grading.

Begin major clearing and grading after principal & key runoff-control measures area installed. Clear barrow & disposal areas as needed, install additional control measures as grading progresses. Work brush & buffer areas for preservation.

Apply temporary or permanent stabilization measures immediately or at disturbed areas where work is delayed or completed.

Install necessary erosion & sedimentation control practices as work takes place.

Stabilize all open areas, including borrow & spoil areas. Remove & stabilize all temporary control measures

## LAND DISTURBING CONSTRUCTION SPECIFICATIONS

1. Construct & maintain all erosion & sedimentation control practices & measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil from areas to be graded and filed, and preserve it for use in finishing the grading of all exposed areas.
3. Specify areas to be installed to a minimum depth of 2 inches before planting topsoil.
4. Clear & grub areas to be filled to remove trees, vegetation, rocks, or other objectionable material that would affect the planned stability of fill.
5. Ensure that fill material is free of trash, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 8 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not transporte frozen material or soft, mushy, or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance structures free of sediment during all phases of development.
10. Handle soaps or surface concentrated during construction in accordance with approved methods.
11. Following completion of any phase of grading, provide a groundcover (temporary or permanent) on all exposed slopes within 14 calendar days, or 7 calendar days in critical areas identified on the plan and a permanent groundcover for all disturbed areas within 15 working days or 60 calendar days (whichever is shorter) following completion of construction or development.
12. Provide adequate protection from erosion for all topsoil stockpiles, borrow areas, and spoil areas.

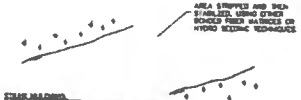
## MAINTENANCE

Perfectibility check of graded areas & the supporting erosion & sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversions and other water-disposal practices. Inspect outlets or broken water, repair them immediately. Prompt replacement of mud-covered drains before they become significantly gutted to an extension part of an effective erosion & sedimentation control plan.

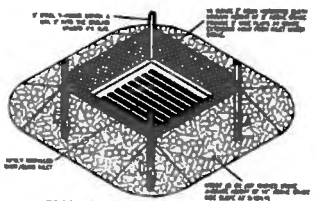
TYPICAL STOCKPILE SECTION
NOT TO SCALE

CONSTRUCTION ENTRANCE
NOT TO SCALE

CONSTRUCTION ENTRANCE SPECIFICATIONS
1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 12' minimum, should be flared at the entering road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the entire length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the BCE is located at a high spot and does not have drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance must be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.



LAND DISTURBANCE & STABILIZATION DETAIL
NOT TO SCALE



DROPCURB INLET PROTECTION
NOT TO SCALE

## PERMANENT SEEDING

Apply the permanent seeding to be reduce erosion and dormant sediment yield from disturbed areas, and to permanently stabilize each cross or a memory that is unprotected, adapts to the conditions, and allows activation of the most appropriate plant materials. These areas shall be seeded or planted within 15 working days or 60 calendar days after that grade is reached, unless temporary stabilization is applied

PERMANENT SEEDING SPECIFICATIONS
Seeding Recommendations for Summer
SEEDING DATES - April 15 - July
SEEDING MIXTURE
Species Rate
Common Bermudagrass 10 lb/A (250 of (varity)
1+2 lb/A(50 of (seed)
320 (Hot Seeding Rate)
Seeding Recommendations for Late Fall through Early Spring
SEEDING DATES - August to March (early fall and spring recommended)
Species Rate
Kentucky 31 Tall Fescue 0 lb/A (200 of (broadcast seed)

SEEDING NOTES:
1. Spring or cool, Moisture is essential during initial establishment. Seed must be kept entered for 2-3weeks, but can be planted earlier or later than spring

Soil Amendments:
It is highly recommended that soils be tested and amended as tested necessary. If a soil are not tested follow these recommendations:
Apply 3,000 lb/Acre of ground agricultural limestone and 500 lb/Acre of 10-10-10 starter fertilizer, or 60 lb/Acre nitrogen from turf-type slow-release fertilizer. Add 25-50 lb/Acre nitrogen at 2-3 week intervals through establishment.

Mulching:
Mulch straw to increase with a tractor-drawn transplanter, or broadcast by hand (hand recommended for flat areas)

Planting should be 4-6 inches deep and 2 feet apart. Place strips about 2 ft. apart in a row with one end at or above ground level.

Transplant at rotor crown, stems, and place strips into the top 1/2-1 inches of soil with a dibb or shovel; so that strips are not brought back toward the surface

Water:
Do not water Bermuda Grass. For Tall Fescue seed, apply 1,000 lb/Acre slow release fertilizer by hand with spreader, seeding, or a mulch-mulching tool. A dibb with blades and nearly straight can be used as a mulch-mulching tool.

Maintenance:
Water at noonest, from between to 3/4 to 1-inch height and tall drawn to 2.5 - 3.0 inch height. Improve turnouts with 40 lb/Acre nitrogen in April, 50 lb in May, 50 lb in June, 50 lb in July, and 30 lb in August. Top dress tall fescue in mid September/August to September and February with turf-grade 3-1-3 or 4-1-3 with turf-grade fertilizer. Fertilize with 1 lb of nitrogen per 1,000 sf. Do not fertilize tall fescue between the March and Early November

## TEMPORARY SEEDING

The purpose of temporary seeding is to temporarily stabilize denuded areas that will not be brought to final grade or permanently seeded for a period of more than 14 calendar days, or 7 days in areas down hillsdale on the plan.

TEMPORARY SEEDING SPECIFICATIONS
Seeding Recommendations for Late Winter & Early Spring
SEEDING DATES - November 1 to April 15
SEEDING MIXTURE
Species Rate (lb/Acre)
Winter Rye (grain) 75 (Annual Ryegrass shall not be used)
Annual Lespedeza 50
(Hulled)
*Small Annual Lespedeza: when duration of temporary cover is not to extend beyond June

Soil Amendments:
Follow recommendations of soil tests or apply 2,000 lb/Acre ground agricultural limestone and 750 lb/Acre 10-10-10 fertilizer.

Mulch:
Apply 4,000-6/Acre straw. Anchor straw by tacking with asphalt, netting, or a mulch-anchoring tool. A disk with blades not nearly straight can be used as a mulch-anchoring tool.

Maintenance:
Reseeding if growth is not fully adequate. Reseed, fertilize and mulch immediately following erosion or other damage.

Seeding Recommendations for Fall
SEEDING DATES - August 15 to December 30
SEEDING MIXTURE
Species Rate (lb/Acre)
Winter Rye (grain) 120
Soil Amendments:
Follow recommendations of soil tests or apply 2,000 lb/Acre ground agricultural limestone and 1,000 lb/Acre 10-10-10 fertilizer.

Mulch:
Apply 4,000-6/Acre straw. Anchor straw by tacking with asphalt, netting, or a mulch-anchoring tool. A disk with blades not nearly straight can be used as a mulch-anchoring tool.

Maintenance:
Repair and reseeding damaged areas immediately. Improve with 50 lb/Acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, reseeded with 50 lb/Acre more Lespedeza in late February or Early March.

## SODDING

The purpose of permanent sodding is to prevent erosion and damage from transport from water by stabilizing the soil surface with permanent vegetation for the purpose of:
-To provide immediate vegetation cover in critical areas
-To stabilize disturbed areas with a suitable plant material that cannot be established by seed
-To stabilize drainage ways & channels and other areas of concentration for which the vegetation will not exceed that specified grass lining

SODDED SPECIFICATIONS
Sod Quality
-Sod should be harvested out of a uniform depth of 1/2-2 inches
-Sod should not have been and be consistently wet or dry weather
-Sod should be standard size as determined by the supplier, uniform, free uniform.
-Sod should be strong enough to support their own weight and retain their size and shape when lifted by the ends.
-Harvest, delivery, and installation of the sodded lawn plan within a period of 36 hours.

Sod Amendments:
Apply lime and fertilizer according to soil tests or apply 2 tons/Acre of agricultural agricultural limestone and 1,000 lb/Acre 10-10-10 fertilizer in the fall, or 5-10-10 in spring.

Prior to laying sod, clear the soil surface of trash, debris, roots, boulders, stones, and clods larger than 3 inches in diameter. Fill or level low spots in order to avoid standing water. Rake or harrow the site to achieve a smooth and level final grade. Eliminate soil compaction by rolling or distributing to fine soil.

Sod Installation:
1. Immediately lay sod after it is unrolled keeps moisture stability. Store in shade during installation.
2. Begin the sod surface to break the sod just before laying sod. During the summer, lightly water the sod immediately before laying sod to cool the sod and soil and reduce root stress.
3. Do not sod on grass, frozen soils, or soils that have been treated recently with chemicals or fumigants.
4. Lay the first row of sod in a straight line with subsequent rows placed parallel to the first and tightly butted against each other. Stagger strips in a brick-like pattern. Do not force sod to fit and not distributed or overlapped and that sod fitting are butted tightly to prevent voids. Use a knife or spade to trim and fit irregular shaped areas.
5. Immediately after sod with their longest dimension perpendicular to the slope. On slopes of 3:1 or greater, or structural erosion may be a problem, secure sod with pegs or staples.
6. Air contact of drying sodded areas to acceptance, roll and to provide good contact between roots and soil.
7. After rolling, irrigate sod the soil to not a depth below the sod.
8. Keep sodded areas moist to a depth of 4 inches until the grass takes root. This may be determined by tugging on the sod.
9. Sodded areas should not be sodded until the sod is firmly rooted, usually 2-3 weeks.

Sodded Waterways
1. Prepare sod on specified slope.
2. Lay sod strips perpendicular to the direction of flow, with the natural joints staggered in a brick-like pattern. Butt edges tightly together.

Maintenance:
After the first week, water as necessary to maintain adequate moisture in the root zone to promote development of the sod.

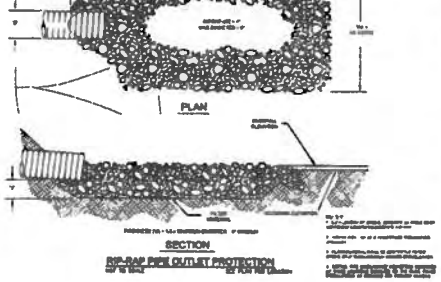
Do not remove more than one-third of the sheet in any one mowing. Grass height should be maintained between 2-3 inches unless otherwise specified.

After first growing season, established and maintain fertilization, and may also require lime. Follow soil test recommendations.

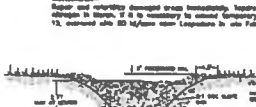
TYPICAL SKIMMER DETAIL
NOT TO SCALE

| DIP | PIPE DIA AND BARRELS DIA. | BARREL PLATE DIA. | PIPE ORIFICE DIA. |
|---|---|---|---|
| PIPE 1 | 6 INCHES | 0.7 INCHES | 0 DIAL 0 IN DIAL |
| PIPE 2 | 6 INCHES | 1.0 INCHES | 0 DIAL 0 IN DIAL |

SKIMMER TABLE



RIP-RAP PIPE OUTLET PROTECTION
NOT TO SCALE

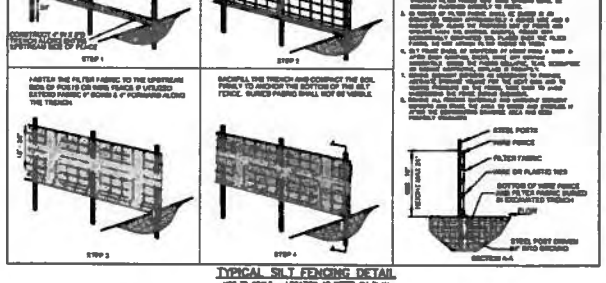


TEMPORARY STONE CHECK DAM CONSTRUCTION
NOT TO SCALE

TEMPORARY STONE CHECK DAM CONSTRUCTION SPECIFICATIONS
1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ANY DEBRIS, BOULDERS, AND EXPOSED ROOTS. REMOVE ANY AMOUNT OF SEDIMENT, IF IT IS DEEMED, IT IS NECESSARY, MUST BE ADDITIONALLY REMOVED TO THE STABILIZED DRAINAGE AREA.
2. PLACE FABRIC TO THE LINE AND DIMENSIONS SHOWN ON THE PLAN ON A FLAT SURFACE PREPARATION.
3. STRIP THE SEDIMENT STONE SECTION OF LARGE 2 INCHES DIAMETER SEDIMENT STONE, WHICH WILL BE USED AROUND THE OVERHEAD SECTION.
4. SECURE FABRIC AT LEAST 18 FEET BEYOND THE FABRIC EDGE TO ENSURE SECURE FIXED FABRIC AROUND THE END OF THE STONE DAM.
5. ALL DIP AND FILL SLOPES SHOULD BE 3:1 OR FLATTER.
6. PREPARE THE SPILLWAY, AFTER THE SPILLWAY STONE DAM HAS BEEN COMPLETED, THE SPILLWAY SHOULD BE CONSTRUCTED.
7. SPILLWAY, WHICH IS THE STONE DAMAGE SECTION OF A TEMPORARY STONE DAM, A LOW SPOT OF A EMBANKMENT IS CHOSEN SPILLWAY, WHICH IS DEPENDING ON THE DRAINAGE AREA AND THE SIZE OF THE DAMAGE STONE. THE STONE DAMAGE OF WOOD, GRAVEL, AND WOOD SHOULD BE CONSTRUCTED.
8. PROTECT THE EMBANKMENT AND THE EXPOSED AREAS AND THE DOWNSTREAM FROM THE STONE DAMAGE'S OVERFLOW DAMAGE.
9. ENSURE THAT STONE AREAS OF THE SPILLWAY, WHICH ARE SLIGHTLY DOWNHILL FROM THE STONE DAMS, AND ARE SUBJECT TO SCOUR OR SLIPPAGE WHEN DAMAGED STONE.

MAINTENANCE OF TEMPORARY STONE CHECK DAMS
REPAIR DAMS FROM STONE DAMAGE AND ANY OTHER DAMAGE OF THE STONE DAMAGE, SUCH AS WASHOUT, SLIPPAGE, AND OTHER DAMAGE STONE DAMAGE.

REMOVE SEDIMENT DEPOSITED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO THE DAMS. REMOVE THE SEDIMENT DEPOSITED BEHIND THE DAMS WHEN IT REACHES HALF THE HEIGHT OF THE DAMS. THE DEPOSITED SEDIMENT MUST BE REMOVED TO PREVENT DAMAGE TO THE DAMS.




TYPICAL SILT FENCING DETAIL
NOT TO SCALE


RESSEL
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Monroe, NC 28111
Phone: 704-289-6000
Fax: 704-289-6009
NC Lic: C-0555
Engineering, Surveying, Land Development Consultants


EROSION AND SEDIMENT CONTROL CONSTRUCTION DETAILS

HIDDEN OAKS
CLERMITUCK COUNTY NORTH CAROLINA
MONROE, TOWNSHIP

SITE DEVELOPMENT PLANS

| | |
|---|---|
| DATE | 12-05-22 |
| DRAWN | BPG |
| CHKD | MBB |
| SCALE | NTS |
| SHEET | 27 of 30 |
| PROJECT NO. | 4551 |


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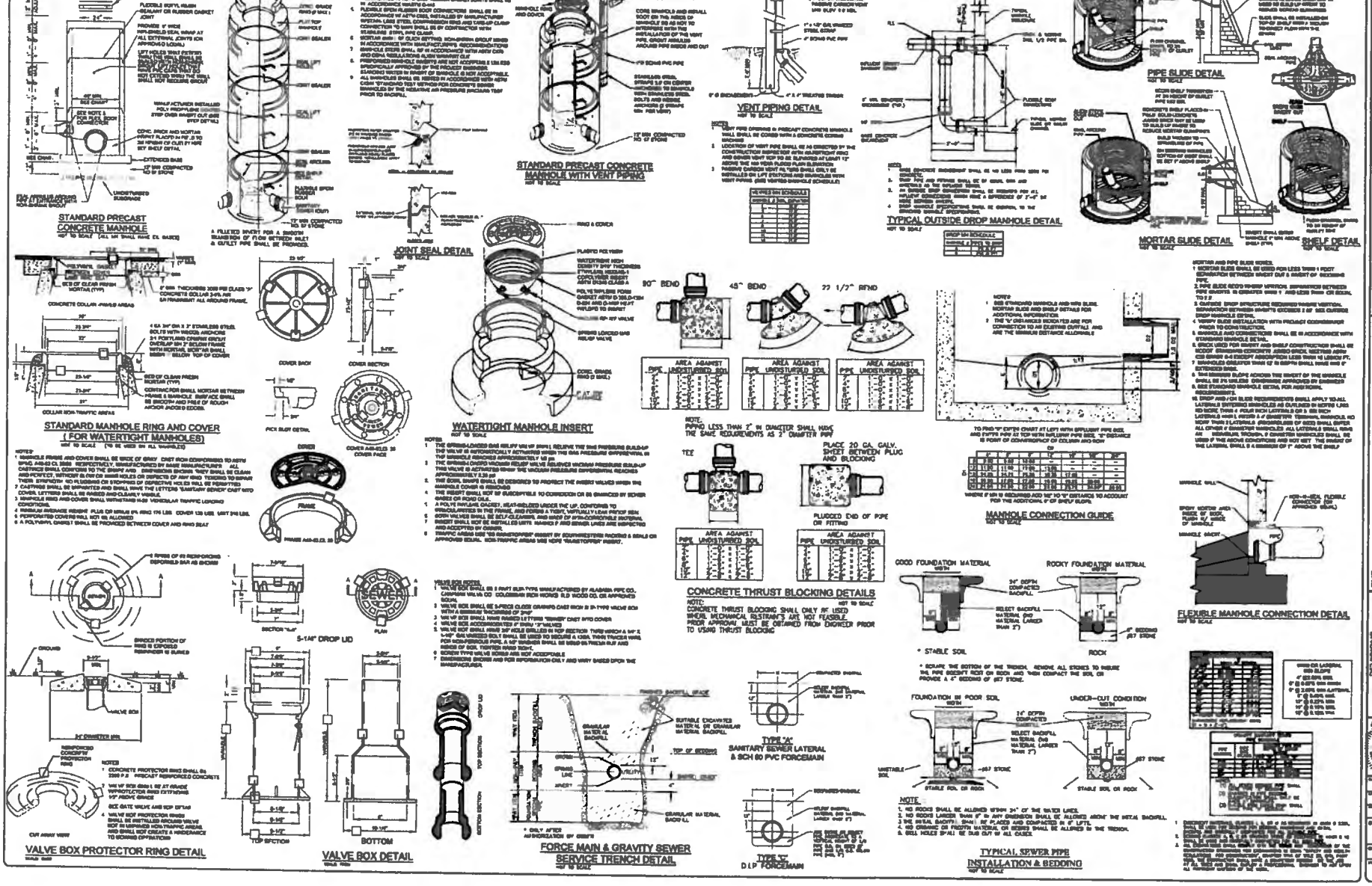

STANDARD PRECAST CONCRETE MANHOLE
STANDARD MANHOLE RING AND COVER (FOR WATERTIGHT MANHOLES)
VALVE BOX PROTECTOR RING DETAIL
VALVE BOX DETAIL
JOINT SEAL DETAIL
STANDARD PRECAST CONCRETE MANHOLE WITH VENT PIPING
WATERTIGHT MANHOLE INSERT
VENT PIPING DETAIL
TYPICAL OUTSIDE DROP MANHOLE DETAIL
PIPE SLIDE DETAIL
MORTAR SLIDE DETAIL
SHELF DETAIL
90° BEND
45° BEND
22 1/2° BEND
CONCRETE THRUST BLOCKING DETAILS
MANHOLE CONNECTION GUIDE
FLEXIBLE MANHOLE CONNECTION DETAIL
FORCE MAIN & GRAVITY SEWER SERVICE TRENCH DETAIL
TYPE "A" SANITARY SEWER LATERAL & SCH 80 PVC FORCEMAIN
TYPE "C" D.I.P. FORCEMAIN
TYPICAL SEWER PIPE INSTALLATION & BEDDING
GOOD FOUNDATION MATERIAL
ROCKY FOUNDATION MATERIAL
FOUNDATION IN POOR SOIL
UNDER-CUT CONDITION
5-1/4" DROP LID
TOP SECTION
BOTTOM
PLACE 20 GA. GALV. SHEET BETWEEN PLUG AND BLOCKING
PLUGGED END OF PIPE OR FITTING
AREA AGAINST UNDISTURBED SOIL
PIPE
TEE
NOTE:
CONCRETE THRUST BLOCKING SHALL ONLY BE USED WHERE MECHANICAL RESTRAINTS ARE NOT FEASIBLE. PRIOR APPROVAL MUST BE OBTAINED FROM ENGINEER PRIOR TO USING THRUST BLOCKING
NOTE:
1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE METAL BACKFILL.
3. THE METAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. SELL HOLES SHALL BE DUG OUT IN ALL CASES.
WASTEWATER COLLECTION CONSTRUCTION DETAILS
HIDDEN OAKS
SITE DEVELOPMENT PLANS
NORTH CAROLINA
CUMBERLAND COUNTY
MOYOCK TOWNSHIP
REVISIONS
28 30
4551

## ORDER OF PRECEDENCE GENERAL NOTES/TECHNICAL SPECIFICATIONS

[illegible]

## GENERAL NOTES

[illegible]

## RELATION OF WATER MAINS TO SEWERS

[illegible]

## CONSTRUCTION SEQUENCE NOTES

[illegible]

## GENERAL NOTES SANITARY SEWER UTILITY

[illegible]

## SEWER SERVICE LATERAL NOTES

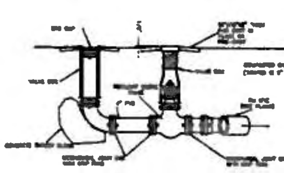
[illegible]

## UTILITY GENERAL NOTES

[illegible]

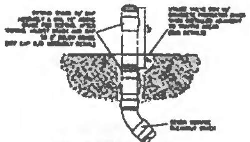
| STRUCTURE TABLE | | | |
|---|---|---|---|
| STRUCTURE NAME | DETAILS | PIPES IN | PIPES OUT |
| [illegible] | [illegible] | [illegible] | [illegible] |

| Pipe Table | | | | | | | |
|---|---|---|---|---|---|---|---|
| NAME | SIZE | LENGTH | SLOPE | MATERIAL | INV. IN | INV. OUT | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

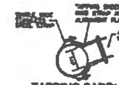


TYPICAL FORCE MAIN CLEANOUT DETAIL

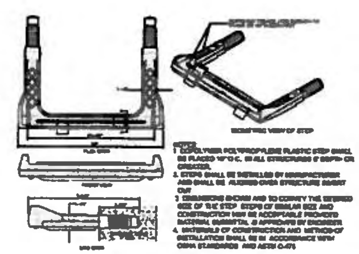
SERVICE PLUG/ C/O CAP ASSEMBLY



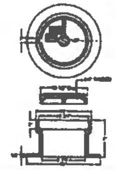
SEWER SERVICE CLEANOUT (FOR NON-TRAFFIC AREAS)



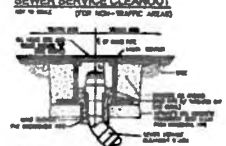
TAPPING SADDLE (OPTIONAL)



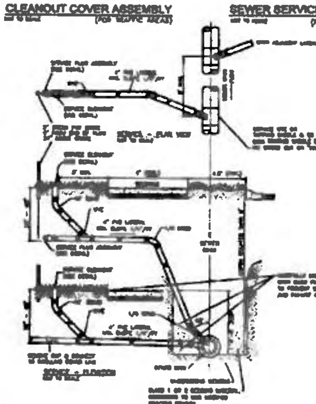
MANHOLE STEP DETAIL



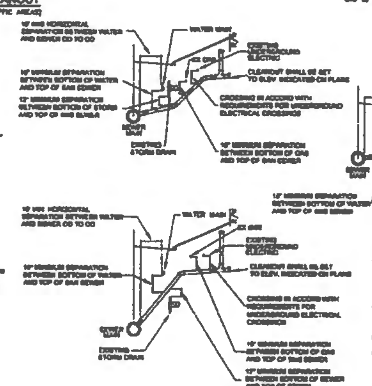
CLEANOUT COVER ASSEMBLY (FOR TRAFFIC AREAS)



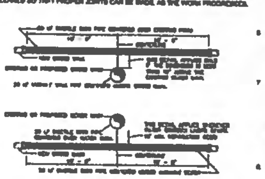
SEWER SERVICE CLEANOUT (FOR TRAFFIC AREAS)



4"/6" LATERAL SEWER SERVICE CONNECTION DETAIL



SEWER SERVICE LATERAL UTILITY CONFLICT SEPARATION REQUIREMENTS



WATER CROSSING SEWER DETAIL

BISSELL

WASTEWATER COLLECTION CONSTRUCTION DETAILS

HIDDEN OAKS

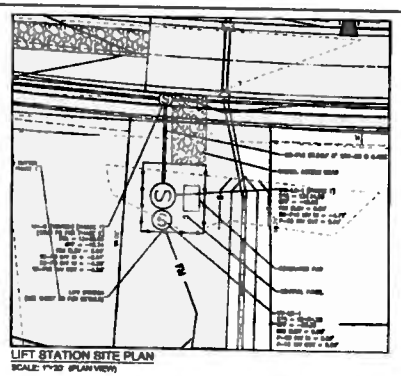
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET 29 of 30

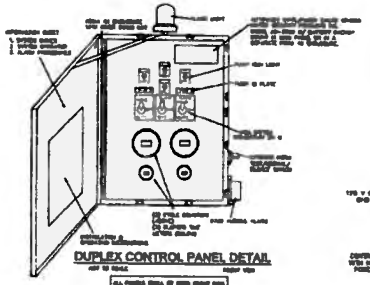
4551



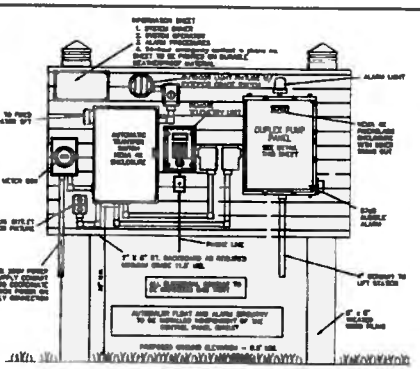
LIFT STATION SITE PLAN

SCALE: 1"=20' (PLAN VIEW)

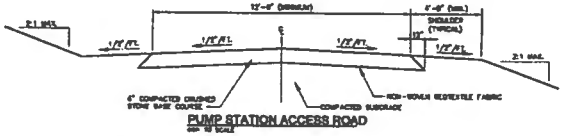
| WASTEWATER COLLECTION SYSTEM LIFT STATION SCHEDULE | |
|---|---|
| DIMENSION | |
| A: TOP OF TANKS | 9.0' M.S.L. |
| B: GROUND ELEV. (FINISHED) | 8.9 ± M.S.L. |
| C: HEIGHT OF WET WELL | 16.0' |
| D: INV. IN | -4.72 M.S.L. |
| E: BOTTOM OF WET WELL | -6.00 M.S.L. |
| F: DIAMETER OF TANK | 8' INSIDE |
| G: VALVE CHAMBER | 6' INSIDE |
| H: F.M. ELEV. OUT | 3.0 ± M.S.L. |
| I: F.M. DIAMETER | 4" |
| J: ALARM LEVEL | -3.7 M.S.L. |
| K: LAG PUMP ON | -3.7 M.S.L. |
| L: LEAD PUMP ON | -3.2 M.S.L. |
| M: BOTH PUMPS OFF | -1.3 M.S.L. |
| N: D-E | 4.28' |
| O: BOTTOM OF VALVE VAULT | 3.0' M.S.L. |
| P: AUTO DIALER FLOAT | -3.7 M.S.L. |
| PUMP AND MOTOR DATA | |
| DESIGN FLOW (Q) | 91.5 GPM |
| TOTAL DYNAMIC HEAD (TDH) | 90' |
| RECOMMENDED PUMP OR APPROVED EQUAL | MYERS WG75H |



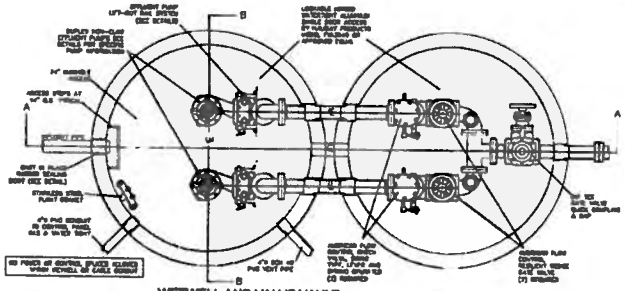
DUPLEX CONTROL PANEL DETAIL



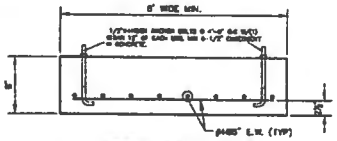
LIFT STATION CONTROL PANEL



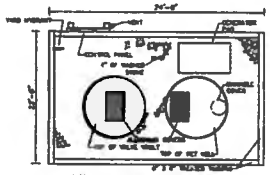
PUMP STATION ACCESS ROAD



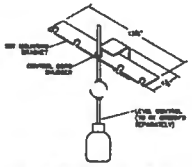
WETWELL AND VALVE VAULT



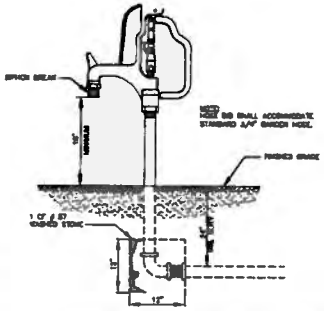
GENERATOR PAD DETAIL



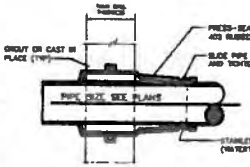
LIFT STATION PLAN VIEW



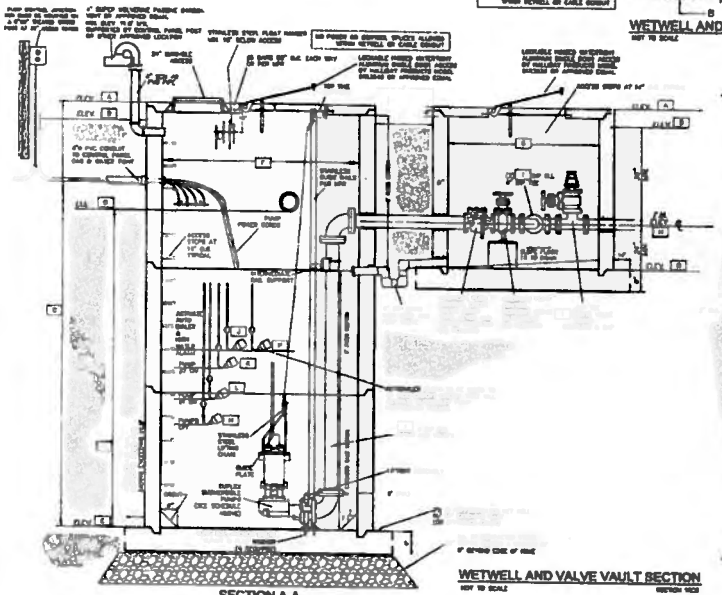
FLOAT BRACKET DETAIL FOR SUBMERSIBLE LIFT STATION



FROST-PROOF YARD HYDRANT DETAIL

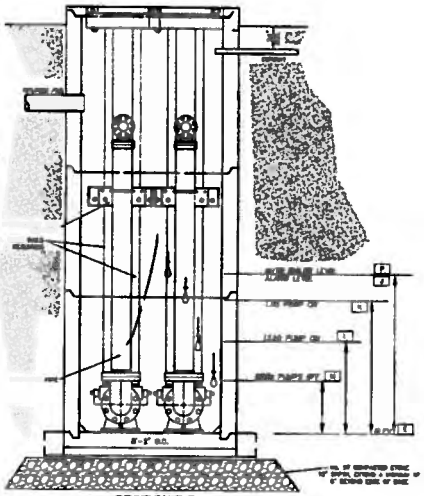


GASKETED FLEXIBLE WATERTIGHT CONNECTION DETAIL



SECTION A-A

WETWELL AND VALVE VAULT SECTION



SECTION B-B

RUSSELL

WASTEWATER LIFT STATION CONSTRUCTION DETAILS

HIDDEN OAKS

MOYOCK TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

SITE DEVELOPMENT PLANS

REVISIONS

SHEET 30 OF 30

PROJECT NO. 4551