

WAKE COUNTY NOTES

FINAL ZONING AND SITE IMPROVEMENT INSPECTION SHALL BE REQUIRED TO VERIFY SITE PLAN COMPLIANCE BE DONE BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED BY WAKE COUNTY BUILDING INSPECTIONS

DETERIORATED OR DEAD SCREENING SHALL BE REPAIRED OR REPLACED WITHIN SIX MONTHS

NO PERMANENT CONSTRUCTION CAN OCCUR WITHIN BUFFER YARDS

SEPTIC TANKS, SEPTIC DRAIN LINES ARE PROHIBITED IN REQUIRED BUFFERYARDS

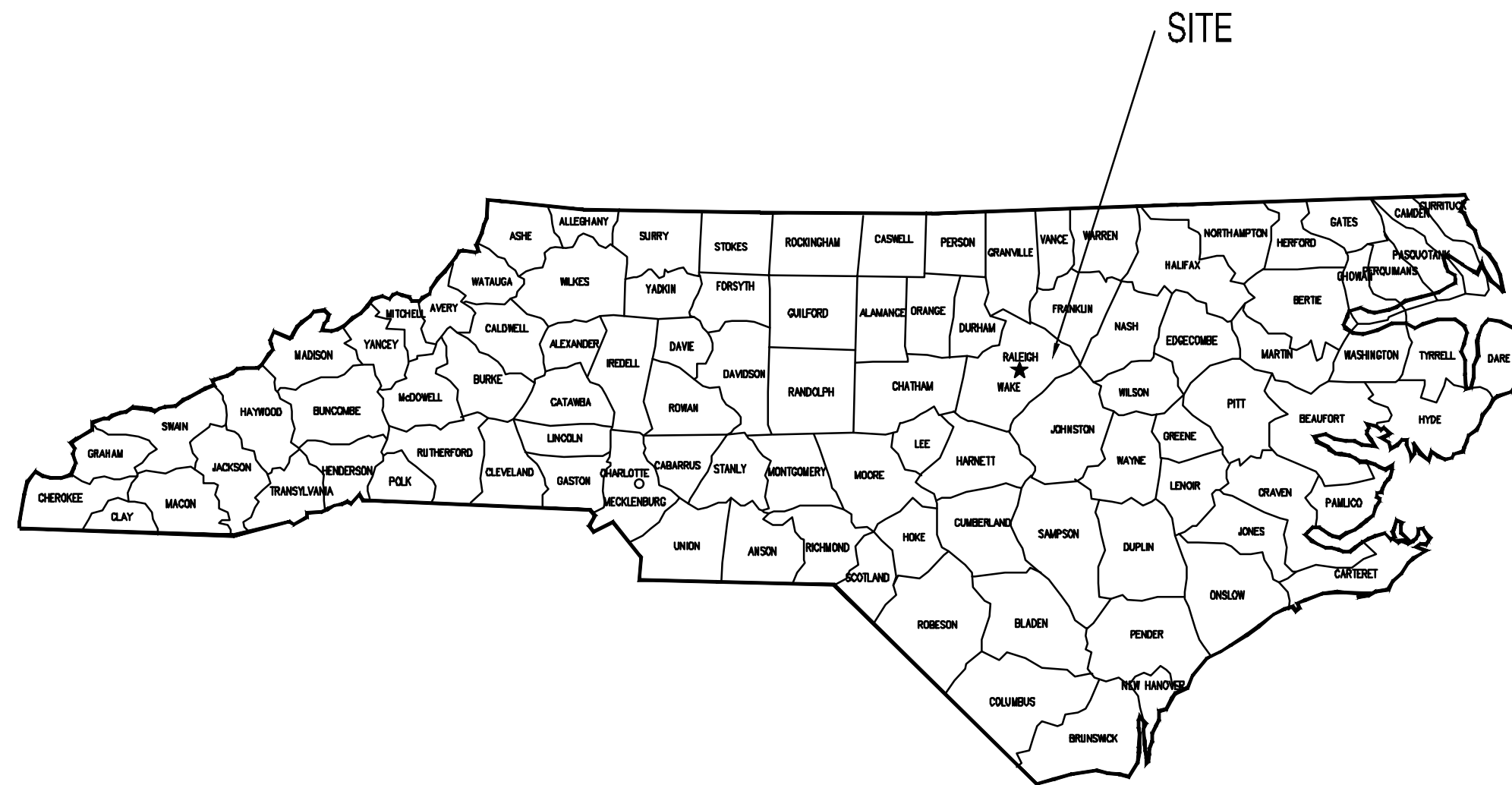
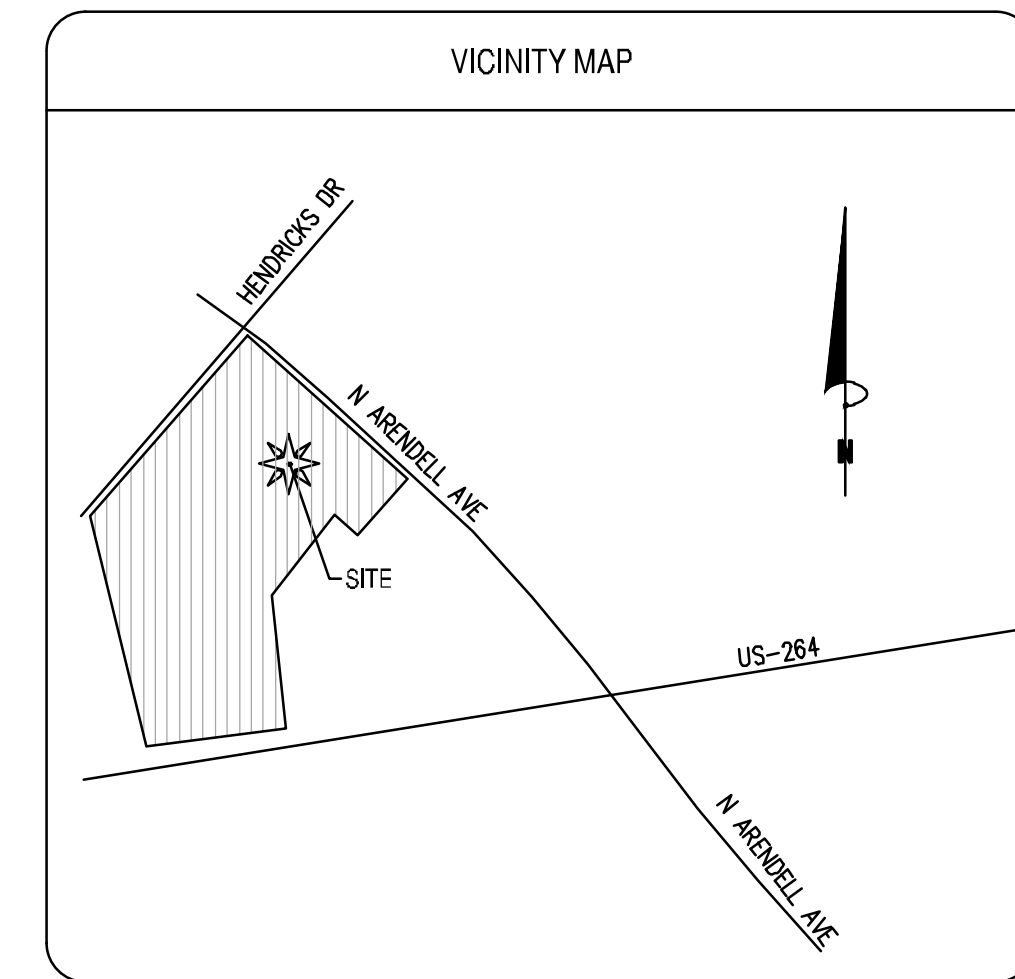
STORMWATER RETENTION AND DETENTION FACILITIES, STORAGE TANKS FOR ANY PURPOSE, UTILITY SUBSTATIONS, AND 3 BUILDINGS HOUSING UTILITY SUBSTATIONS AND BUILDINGS HOUSING UTILITY COMMODITIES OR EQUIPMENT ARE ALSO PROHIBITED IN REQUIRED BUFFERYARDS.

CONSTRUCTION DOCUMENTS

Proposed Rocket Express

Project ID# 796479

N. Arendell Avenue & Hendricks Drive
Zebulon, North Carolina
Wake County



Know what's below.
Call before you dig.

DEVELOPER
Rock Properties, Inc.
Attn. Gregg Zuckerman
145 Lincoln Avenue, Suite B
Winter Park, FL 32789
(803) 798-0572
gzuckerman@rockproperties.us

CIVIL ENGINEER
Bowman North Carolina, Ltd.
4006 Barrett Drive, Suite 104
Raleigh, NC 27609
(919) 553-6570
mlowder@bowman.com
FIRM# F-1445

Bell Commercial
Attn. Baker Bell
120 Wind Chime Court
Raleigh, NC 27615
(919) 803-8169
baker@bellcommercial.com

PRECONSTRUCTION NOTE
A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE TOWN OF ZEBULON CONSTRUCTION INSPECTOR. CONTACT JASON AT 919-790-5640.

IMPERVIOUS SUMMARY TABLE			
ON-SITE AREA = 429,809 SF (9.867 AC)			
BUILDINGS	2,754 SF	0.06 ACRE(S)	0.64 % OF AREA
PAVEMENT	43,800 SF	1.01 ACRE(S)	10.19 % OF AREA
SIDEWALK	3,620 SF	0.08 ACRE(S)	0.84 % OF AREA
TOTAL IMPERVIOUS AREA	50,174 SF	1.15 ACRE(S)	11.67 % OF AREA
GREEN/OPEN SPACE	379,635 SF	8.72 ACRE(S)	88.33 % OF AREA
EXISTING IMPERVIOUS AREA	3,604 SF	0.08 ACRE(S)	0.84 % OF AREA
INCREASE IN IMPERVIOUS AREA	46,570 SF	1.07 ACRE(S)	

DEVELOPMENT DATA	
DEVELOPMENT NAME:	ROCKET EXPRESS
STREET ADDRESS:	N. ARENDELL AVENUE ZEBULON, NC WAKE COUNTY
	PROJECT ID# 796479
PROPERTY IDENTIFICATION # (PIN):	2705-09-1833, 2706-00-2456, 2706-00-3318, 2706-00-3279, 2706-00-4241
PROPERTY #:	0111170, 0030085, 0057144, 0058906, 0039956
DEED BOOK/PAGE:	12474-2357
EXISTING ZONING:	HC-HEAVY COMMERCIAL
WATERSHED DISTRICT:	NONE
FLOOD ZONE:	NONE
TOTAL SITE ACRES:	429,809 SF (9.87 AC)
INSIDE TOWN LIMITS:	YES
EXISTING USE:	VACANT
PROPOSED BUILDING USE:	CAR WASH AND OUTPARCELS
PROPOSED TOTAL BUILDING AREA:	2754 SF (CAR WASH)
MAX BUILDING HEIGHT:	50 FT
MIN LOT AREA:	6,000 SF
MIN LOT WIDTH:	50 FT
MAX. LOT COVERAGE:	80%
FRONT SETBACK:	30 FT
SIDE SETBACK (STREET):	30 FT
SIDE SETBACK (INTERIOR):	0, 5 FT IF PROVIDED
REAR SETBACK:	0 IF ABUTTED BY AN ALLEY, OTHERWISE 25FT
PARKING REQUIREMENTS:	
TOTAL REQUIRED:	2 PER WASH BAY
TOTAL PROVIDED:	22 (VACUUM SPACES)
ACCESSIBLE SPACES PROVIDED:	1
LOADING AREA:	1 PROVIDED
LANDSCAPE BUFFERS:	10FT TYPE A BUFFER (ADJACENT HC) 15FT STREETSCAPE BUFFER

UTILITY SERVICE NOTES	
WATER SERVICE	GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 1" WATER SERVICE LINE FROM MAIN TO BUILDING PER MUNICIPAL REQUIREMENTS. CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT TELEPHONE: 919-857-4540
ELECTRIC SERVICE	"POWER CO." TO PROVIDE UNDERGROUND 120/208/3 PHASE SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO 4" DIA. CONDUIT W/ PULL WIRE TO UTILITY COMPANY POINT OF CONNECTION. CONTACT: PROGRESS ENERGY TELEPHONE: 800-636-0581
TELEPHONE SERVICE	"TELEPHONE CO." TO PROVIDE NEW UNDERGROUND SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" DIA. PVC CONDUIT W/ PULL WIRE FROM PHONE PANEL BOARD TO UTILITY COMPANY POINT OF CONNECTION. CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT TELEPHONE: 919-857-4540
SANITARY SEWER	GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" SCHEDULE 40 PVC FROM EXISTING SANITARY SEWER SYSTEM TO LAST CLEAN OUT OUTSIDE OF BUILDING. (MIN. 1% SLOPE). PROVIDE CLEAN OUTS EVERY 75' (TYPICAL). CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT TELEPHONE: 919-857-4540
NATURAL GAS	GENERAL CONTRACTOR TO COORDINATE WITH NATURAL GAS UTILITY FOR SERVICE LINE TO PROPOSED BUILDING. CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT TELEPHONE: 919-857-4540

CURRENT PROPERTY OWNERS
Speedway, LLC
Property Tax Department
539 S. Main Street
Findlay, OH 45840

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL S-_____

STORMWATER MGMT. S-_____

FLOOD STUDY S-_____

DATE _____



ENVIRONMENTAL CONSULTANT SIGNATURE

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specification of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-_____

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specification of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-_____

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and constructions methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-_____

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contracting the Public Utilities Department at (919)996-4540 at least twenty four hour prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification follow.

Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the Jobsite, or any Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh

C1.0	COVER SHEET
C1.1	GENERAL NOTES
C2.0	DEMOLITION PLAN
C2.1	EROSION CONTROL PLAN - INITIAL
C2.2	EROSION CONTROL PLAN - FINAL
C2.3	EROSION CONTROL NOTES
C2.4	NORTH CAROLINA GENERAL PERMIT (NCG01)
C3.0	SITE PLAN
C3.1	ROADWAY PLAN
C4.0	GRADING & DRAINAGE PLAN
C5.0	UTILITY PLAN
C6.0	EROSION CONTROL DETAILS
C6.1	EROSION CONTROL DETAILS
C6.2	CONSTRUCTION DETAILS
C6.3A	CONSTRUCTION DETAILS
C6.3B	CONSTRUCTION DETAILS
C6.3C	CONSTRUCTION DETAILS
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C6.4A	UTILITY DETAILS
C6.4B	UTILITY DETAILS
C6.5	STORMWATER MANAGEMENT DETAILS
C6.6	STORMWATER MANAGEMENT DETAILS
C7.0	LANDSCAPE PLAN
C7.1	LIGHTING PLAN
A101	FIRST & SECOND FLOOR PLANS
A104	ELEVATIONS
A105	ELEVATIONS

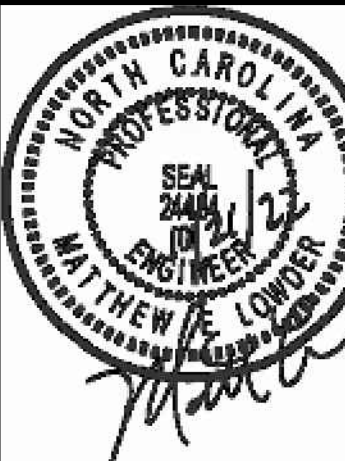
Bowman

Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)553-6570
bowman.com

COVER SHEET
Rocket Express
Arendell Ave
Project ID#796479

Zebulon, NC
Wake County

PRELIMINARY
DO NOT
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PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAW XXXX CHKD
SCALE	H: 1" = 50'
	V:
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002

SHEET C1.0



Know what's below.
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UTILITY STATEMENT
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

CAUTIONARY NOTE
THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH, THIS INFORMATION IS SPECULATIVE IN NATURE ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.

DEMOLITION LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED/REMOVED
- EXISTING TO BE ABANDONED IN PLACE
- EXISTING TO BE RELOCATED
- EXISTING TREE TO BE REMOVED
- LIMITS OF DISTURBANCE
- EXISTING ASPHALT/CONCRETE/GRAVEL TO BE DEMOLISHED/REMOVED
- EXISTING BUILDING OR STRUCTURE TO BE DEMOLISHED/REMOVED
- EXISTING CURB AND GUTTER TO BE REMOVED
- EXISTING UTILITY TO BE REMOVED

EROSION CONTROL NOTES:
AN EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE REQUIRED BY NCEOE PRIOR TO START OF CONSTRUCTION.

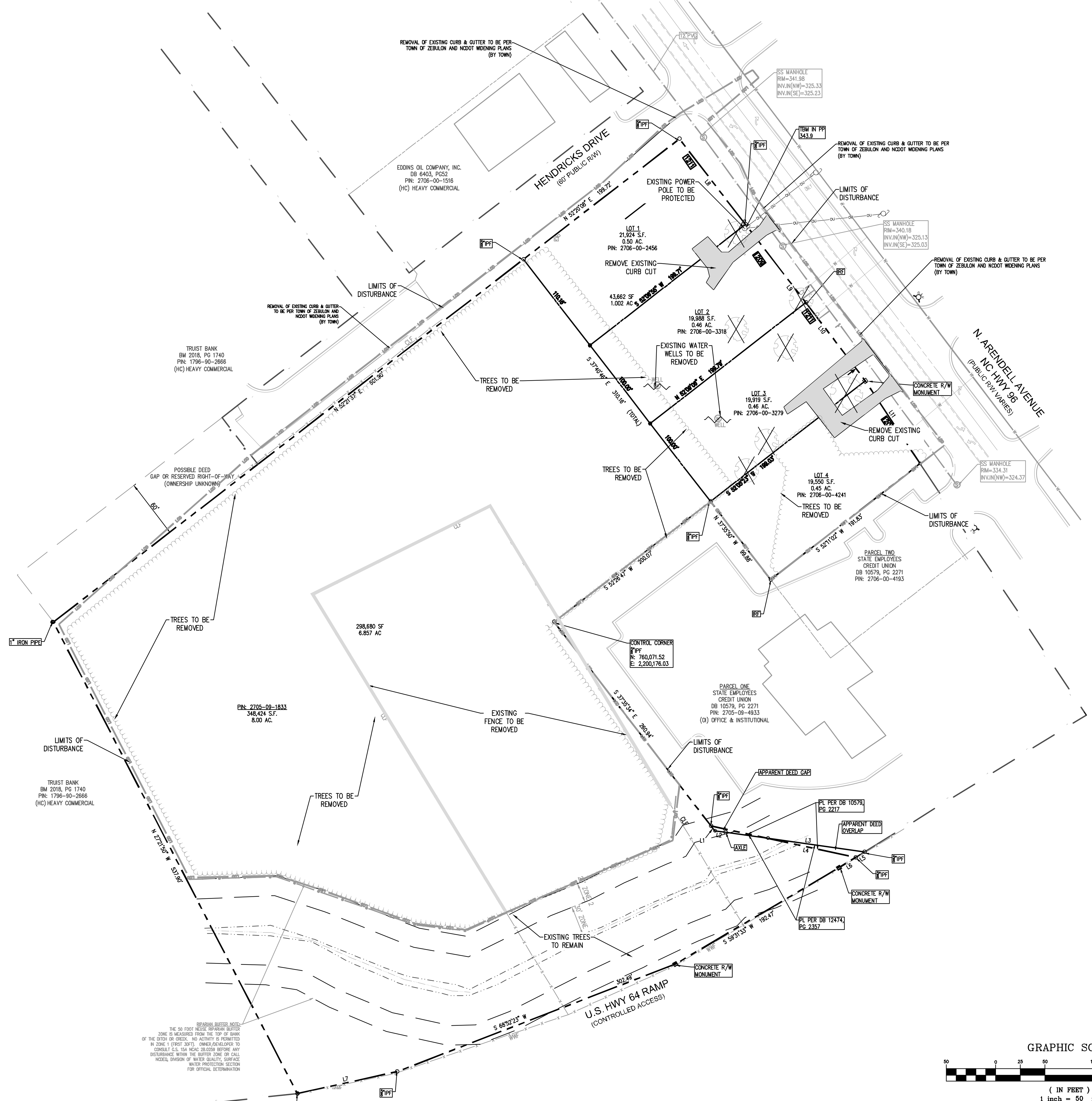
SURVEY NOTE:
ALL EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A LAND SURVEY PREPARED BY NEWCOMB LAND SURVEYORS, LLC.

STREAM/WETLAND NOTE:
THERE ARE NO EXISTING STREAM/AND OR WETLAND FEATURES ON THE PROPOSED PARCEL.

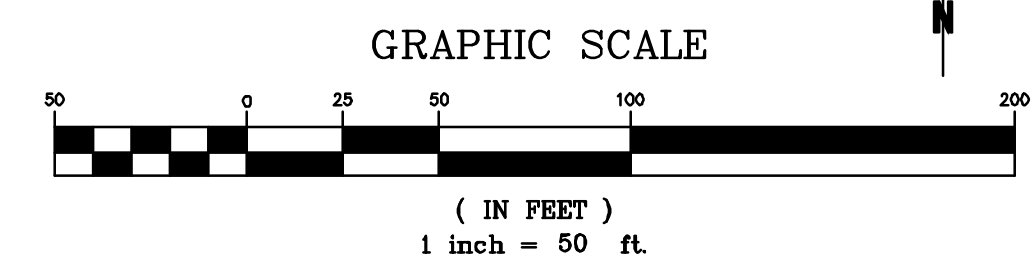
FLOOD ZONE NOTE:
THE PROPERTY IS LOCATED IN FLOOD ZONE X AS SHOWN ON FEMA FLOOD PLANED 3720270600J, DATED MAY 2, 2006. MAPS SUBJECT TO CHANGE BY FEMA

DEMOLITION NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES ON SITE PRIOR TO DEMOLITION.
2. THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS AND AS DIRECTED BY THE OWNER.
3. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES.
4. THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
5. THE DEMOLITION PLAN IS INTENDED TO DEPICT GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.
6. CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING BUILDINGS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO BOLLARDS, GAS METERS, AIR CONDITIONING UNITS, SIGNS, CURBS, SIDEWALKS, ELECTRIC METERS, FENCING, ETC.
7. REMOVE AND DISPOSE OF ANY SIDEWALK, FENCES, STAIRS, WALLS, FOUNDATIONS, CONDUITS, LIGHT POLE BASES, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED LANDFILL.
8. REMOVE AND/OR PLUG EXISTING UTILITIES SUCH AS SANITARY SEWER, WATER, GAS, ELECTRIC, AND TELEPHONE AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE REMOVAL OF ALL UTILITIES AND FOR DETERMINING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES PRIOR TO COMMENCING WORK.
9. THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND PLUG ALL SERVICE PIPING AT THE STREET LINE OR MAIN, AS REQUIRED, OR AS OTHERWISE NOTED. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTEND OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED.
10. THE CONTRACTOR SHALL ARRANGE FOR RESETING OF CURB BOXES, VALVE BOXES AND REMOVAL AND/OR RELOCATION OF OVERHEAD UTILITIES AND POLES WITH THE APPROPRIATE UTILITY COMPANY.
11. INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACE. FINISH SURFACE TO BE REMOVED OR DEMOLISHED SHALL BE CUT ALONG LINES OF JOINTS WHICH WILL PERMIT A NEAT SURFACE WHEN RESTORED.
14. SAWCUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAWCUT EXISTING PAVEMENT.
15. ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
16. DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND THE LOCAL MUNICIPALITIES. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
17. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
18. ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR.
19. THE PROPERTY SELLER SHALL PUMP OUT BUILDING FUEL, GREASE TRAPS, AND WASTE OIL TANKS (IF ANY ARE ENCOUNTERED) AND REMOVE FUEL TO AN APPROVED DISPOSAL AREA BY AN APPROPRIATELY LICENSED WASTE OIL HANDLING CONTRACTOR IN STRICT ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS BEFORE CONSTRUCTION BEGINS.
20. THE CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF ALL DEMOLITION DEBRIS OFF OF THE SITE.



SEASONAL BUFFER NOTE:
THE 50 FOOT NEEDED SEASONAL BUFFER ZONE IS MEASURED FROM THE TOP OF BANK OF THE DITCH OR CREEK. NO ACTIVITY IS PERMITTED IN ZONE 1 (FIRST 5 FT). OWNER/DEVELOPER TO CONSULT U.S. EPA REG. 403.9(b) BEFORE ANY DISTURBANCE WITHIN THE BUFFER ZONE OR CALL NCEOE DIVISION OF WATER QUALITY SURFACE WATER PROTECTION SECTION FOR OPTIMAL DETERMINATION.



Bowman

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Phone: (919) 655-6570
bowman.com

Wake County
Project ID#796479

DEMOLITION PLAN
Rocket Express
Arendell Ave
Zebulon, NC

**PRELIMINARY
DO NOT
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PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

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SHEET **C2.0**

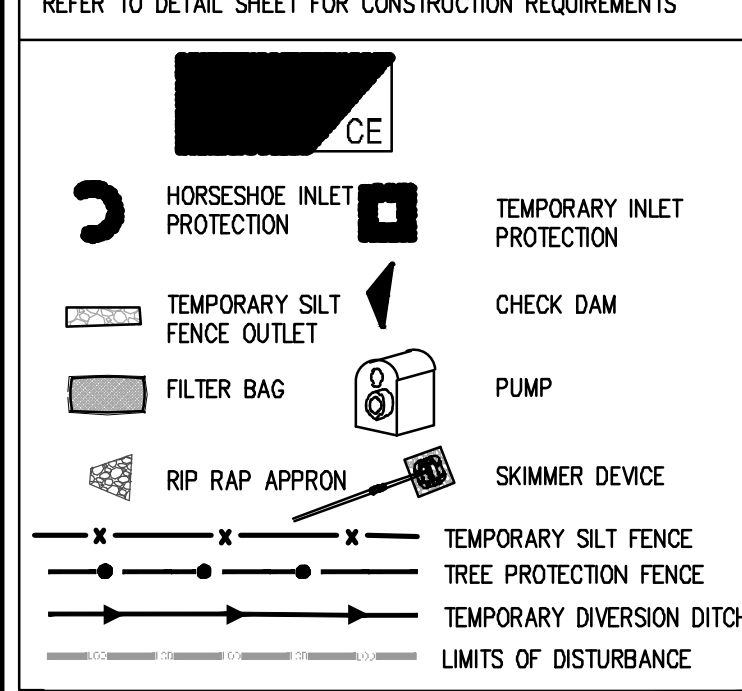
STOCKPILE DESIGN CRITERIA:

- 1. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
- 2. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
- 3. STOCKPILE HEIGHT SHALL NOT EXCEED 35-FEET.
- 4. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- 5. APPROVED BMP'S SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
- 6. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
- 7. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
- 8. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDD AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. TILL OF FEMA FLOODWAYS AND NON-INCRUACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

STOCKPILE MAINTENANCE REQUIREMENTS:

- 1. SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- 2. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- 3. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF SIZED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
- 4. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

EROSION CONTROL LEGEND



REFER TO DETAIL SHEET FOR CONSTRUCTION REQUIREMENTS

EROSION CONTROL NOTES

- REFER TO GENERAL NOTES SHEET FOR ADDITIONAL EROSION CONTROL REQUIREMENTS.
- REFER TO DETAIL SHEETS FOR CONSTRUCTION DETAILS OF THE PROPOSED EROSION CONTROL MEASURES TO BE USED IN THE DEVELOPMENT OF THIS SITE.
- REFER TO DETAIL SHEETS FOR TEMPORARY AND PERMANENT SEEDING SCHEDULES FOR PROVIDING GROUND COVER FOR THE DEVELOPMENT.

EROSION CONTROL NARRATIVE:

THE CARROLLING, TOWN OF ZEBULON, WAKE COUNTY, NC CONTRACTOR SHALL FIRST INSTALL THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL THEN MOBILIZE ON SITE AND INSTALL THE TEMPORARY EROSION CONTROL DEVICES INCLUDING SILT FENCE, INLET PROTECTION, SKIMMER BASIN, AND OTHER DEVICES IN ACCORDANCE WITH THE PLANS (CLEARING ONLY AS NECESSARY TO INSTALL THESE ITEMS). BEGIN DEMOLITION, CLEARING AND SITE GRADING OPERATIONS. STABILIZATION OF EXISTING STRUCTURES IS REQUIRED IMMEDIATELY AFTER INSTALLATION. THE ON-SITE STORM SEWER SYSTEM CAN NOW BE INSTALLED. IMMEDIATELY AFTER AN INLET IS INSTALLED, INLET PROTECTION SHALL BE PROPERLY INSTALLED ON THE STRUCTURE. THE ON-SITE SANITARY SEWER AND WATER SYSTEMS MAY ALSO BE INSTALLED ONCE THE SITE IS BROUGHT UP TO GRADE. THE SITE PAD WILL BE PREPARED FOR THE PROPOSED BUILDING. THE ROUGH GRADE WILL THEN BE ESTABLISHED FOR THE SITE. ALL DISTURBED AREAS WILL BE DRESSED AND SEEDED. REMOVE ALL INLET PROTECTION FROM STORM STRUCTURES WHEN PAVING IS TO BEGIN. PAVING AND STRIPING WILL THEN BE COMPLETED. FINALIZE STORMWATER POND STRUCTURE ONCE UPSTREAM AREAS HAVE BEEN STABILIZED (REMOVE ACCUMULATED SEDIMENT). ALL LANDSCAPING WILL BE COMPLETED. THE ON-SITE STORM SEWER SYSTEM SHALL BE CLEANED OF ANY ACCUMULATED SEDIMENT WHICH SHALL BE DISPOSED OF IN A LAWFUL MANNER. ALL ACCUMULATED SEDIMENT BEHIND SILT FENCE AND OTHER SEDIMENT DEVICES SHALL BE REMOVED AND DISPOSED OF IN A LAWFUL MANNER. ACCORDING TO THE GROUND STABILIZATION REQUIREMENTS ON THIS SHEET, REMOVE ALL REMAINING EROSION CONTROL MEASURES FROM THE SITE. CONTRACTOR SHALL MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL LAND DISTURBANCE AND FINAL VEGETATION STABILIZATION OF THE SITE.

BASIN REMOVAL SEQUENCE:

- 1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- 2. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF NECESSARY, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- 3. PERFORM SEEDING PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- 4. INSTALL VELOCITY DISPENSATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE CONSTRUCTION PLAN.
- 5. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL ENGINEER/CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE OF WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.

WAKE COUNTY CONSTRUCTION SEQUENCE

- 1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE WATERSHED MANAGER, ALAN ALCOCK WITH WAKE COUNTY AT 919-888-2560 AND ENVIRONMENTAL CONSULTANT BESSY PEACE AT 919-888-6414. OBTAIN A LAND-DISTURBING PERMIT.
- 2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER BASINS, WAKE COUNTY SKIMMER BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- 3. CALL ALAN ALCOCK WITH WAKE COUNTY AT 919-888-2560 FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- 4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
- 5. INSTALL STORM SEWER, IF SHOWN, AND PROTECT CATCH BASIN CURB INLETS WITH BLOCK AND GRAVEL INLET CONTROLS. PROTECT AREA DRAIN/HARD INLETS WITH STANDARD INLET PROTECTION, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
- 6. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. PREPARE A SEEDING, FERTILIZE, LIME SEED, MULCH AND ASPHALT TACK ALL DISTURBED AREAS WITH NPDES STABILIZATION TIMEFRAME OF COMPLETION OF ANY PHASE OF CONSTRUCTION OR STOPPAGE OF WORK ON ANY PHASE OF CONSTRUCTION.
- 7. CONTRACTOR TO CONTACT PROJECT ENGINEER BETWEEN SEDIMENT AND EROSION CONTROL PHASES OF DEVELOPMENT AND FOR THE REMOVAL OR CONVERSION OF SEDIMENT AND EROSION CONTROL MEASURES.
- 8. WAKE COUNTY OR JURISDICTIONAL MUNICIPALITY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.
- 9. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ALAN ALCOCK WITH WAKE COUNTY AT 919-888-2560 FOR AN INSPECTION BY THE WATERSHED MANAGER.
- 10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISPENSATORS, SHOULD NOW BE INSTALLED.
- 11. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE WATERSHED MANAGER, ALAN ALCOCK WITH WAKE COUNTY AT 919-888-2560. OBTAIN A CERTIFICATE OF COMPLETION.

EROSION CONTROL NOTES

- 1. TOTAL AREA DISTURBED = 3.05 ACRES
- 2. TOTAL SITE AREA = 1.67 ACRES
- 3. SOIL TYPE = MEDIUM SANDY LOAM AND RAININGS-RICH COMPLEX
- 4. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NPDES EROSION AND SEDIMENT CONTROL HANDBOOK & WAKE COUNTY REQUIREMENTS.
- 5. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITH THESE PLANS IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS.
- 6. CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
- 7. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
- 8. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- 9. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE WAKE COUNTY & NPDES EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- 10. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. A REVISED PLAN SHOWING OFF-SITE IMPACTS SHOULD BE SUBMITTED AND APPROVED PRIOR TO ANY OFF-SITE GRADING. CONTRACT PROJECT ENGINEER AND PROJECT EROSION CONTROL INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
- 11. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDING AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RE-SEEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
- 12. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED SEEDING, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE WAKE COUNTY & NPDES SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
- 13. WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
- 14. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREAS. SIX INCHES OF STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
- 15. ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
- 16. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
- 17. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS COMPLETED.
- 18. DURING DE-WATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
- 19. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RAINFALL-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

SEDIMENT AND EROSION CONTROL NOTES

- 1. THE EROSION AND SEDIMENTATION CONTROL MEASURES (EMPS) WERE DESIGNED USING WAKE COUNTY AND THE NORTH CAROLINA NPDES REQUIREMENTS AND SHALL BE INSTALLED ACCORDINGLY. CONTRACTOR SHALL PERFORM ALL ACTIVITIES IN STRICT COMPLIANCE WITH THE NORTH CAROLINA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (GENERAL PERMIT).
- 2. REFER TO THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS FOR EROSION CONTROL DETAILS AND DESIGN TABLES FOR SEDIMENT BASINS, DIVERSION DITCHES, AND COLLECTORS, SLOPE DRAINS, RIP-RAP APRONS AND OTHER EROSION CONTROL MEASURES.
- 3. EXISTING BOUNDARIES, TOPOGRAPHY, 100-YR FLOODPLAIN, UTILITY AND ROAD INFORMATION TAKEN FROM AN EXISTING CONDITIONS SURVEY. ALL EXISTING INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR.
- 4. SEE THE LANDSCAPE PLAN FOR LOCATIONS OF PROPOSED PLANTINGS AND FINAL STABILIZATION.
- 5. TEMPORARY DIVERSION DITCHES AND BERMS SHALL BE MAINTAINED AS THE SITE IS BROUGHT TO GRADE.
- 6. DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTORS SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- 7. SEE THE GENERAL NOTES SHEET AND THE GRADING AND DRAINAGE PLAN FOR OTHER NOTES REGARDING GRADING ACTIVITIES.
- 8. SEE SITE PLAN, GRADING AND DRAINAGE PLAN, UTILITY PLAN, PLANTING PLAN AND OTHER PLAN SHEETS FOR DETAILED DESIGN INFORMATION OF PERMANENT SITE APPURTENANCES SHOWN ON THIS SHEET.
- 9. WHERE THE LIMITS OF DISTURBANCE AND TEMPORARY FENCE (SF, SP, PF, OR PF) LIMITS ARE ADJACENT, THE TEMPORARY FENCE LINE IS THE LIMITS OF DISTURBANCE. THE LINE TYPES ARE SHOWN SEPARATED FOR ILLUSTRATIVE PURPOSES ONLY.
- 10. CONTRACTOR SHALL NOT DISTURB ANY EXISTING VEGETATIVE GROUND COVER OR TREES OUTSIDE OF THE LIMITS OF DISTURBANCE OR WITHIN ANY REQUIRED BUFFER LIMITS UNLESS OTHERWISE NOTED OR ILLUSTRATED.
- 11. PROVIDE CONTROLS OF POLLUTANTS, INCLUDING, BUT NOT LIMITED TO DUST CONTROL, DE-WATERING, SOLID WASTE DISPOSAL, AND HAZARDOUS MATERIALS.
- 12. CLEAR ONLY AS REQUIRED TO INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES. MASS CLEARING AND GRUBBING CAN BEGIN ONLY AFTER ALL DOWNSTREAM MEASURES HAVE BEEN INSTALLED.
- 13. USE ROCK OR WASHED STONE TO BRING CONSTRUCTION EXIT TO GRADE. IMPLEMENT WHEEL WASHES AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION.
- 14. DIVERT STORM WATER RUNOFF OFF THE FACE OF THE SEDIMENT BASIN SLOPES USING DIVERSION DITCHES AND SLOPE DRAINS. CONTRACTOR SHALL MAINTAIN AND RELOCATE DIVERSION DITCHES AND SLOPE DRAINS TO ENSURE STORM WATER RUNOFF DOES NOT ERODE THE FACE OF BASIN SLOPES.
- 15. MAINTAIN POSITIVE FLOW TO THE SEDIMENT BASIN THROUGHOUT ALL PHASES OF CONSTRUCTION. PLACE EXCAVATED SOILS ALONG DOWNSTREAM EDGE OF THE DIVERSION DITCHES TO PROVIDE ADDITIONAL CAPACITY.
- 16. REFER TO THE GRADING AND DRAINAGE PLAN FOR FINAL SITE AND PAVEMENT GRADES AND ELEVATIONS OF THE PROPOSED STORM SEWER SYSTEMS.
- 17. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE APPROVED EROSION AND SEDIMENT CONTROL DRAWINGS DURING CONSTRUCTION OPERATIONS.
- 18. GENERAL CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
- 19. ALL WORK SHALL BE CONFINED TO PERMIT LIMITS SHOWN ON PLANS. UNLESS OTHERWISE NOTED, THE SITE PLAN PROPERTY LIMITS SHALL BE CONSIDERED THE PERMIT LIMITS.
- 20. SUFFICIENT EROSION CONTROL PRACTICES MUST BE INSTALLED AND MAINTAINED TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE.
- 21. ADDITIONAL EROSION CONTROL MEASURES OR SILT BARRIERS TO BE PLACED AS SHOWN AND/OR DIRECTED BY THE PROJECT ENGINEER AND/OR LOCAL JURISDICTIONAL INSPECTOR.
- 22. FOR ALL CONSTRUCTION ALONG AND/OR ACROSS WATERWAYS, BANK PROTECTION AND STABILIZATION SHALL BE REQUIRED AS PER LOCAL JURISDICTIONAL EROSION CONTROL LAWS.
- 23. ALL TREE PROTECTION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND GROUND COVER IS ESTABLISHED. CONSTRUCTION ENTRANCE PADS SHALL BE INSTALLED BY THE CONTRACTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.
- 24. ALL EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION IN ACCORDANCE WITH EASEMENT PLATS PRIOR TO ACCEPTANCE.
- 25. CONSTRUCTION LIMITS SHALL NOT BE EXCEEDED WITHOUT THE APPROVAL OF NPDES OR WAKE COUNTY.

Bowman
Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)555-6570
bowman.com

EROSION CONTROL PLAN - INITIAL
Rocket Express
Arendell Ave
Zebulon, NC
Project ID#736479

PRELIMINARY DO NOT USE FOR CONSTRUCTION

PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H: 1" = 50' V: 1" = 40'
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002

SHEET **C2.1**

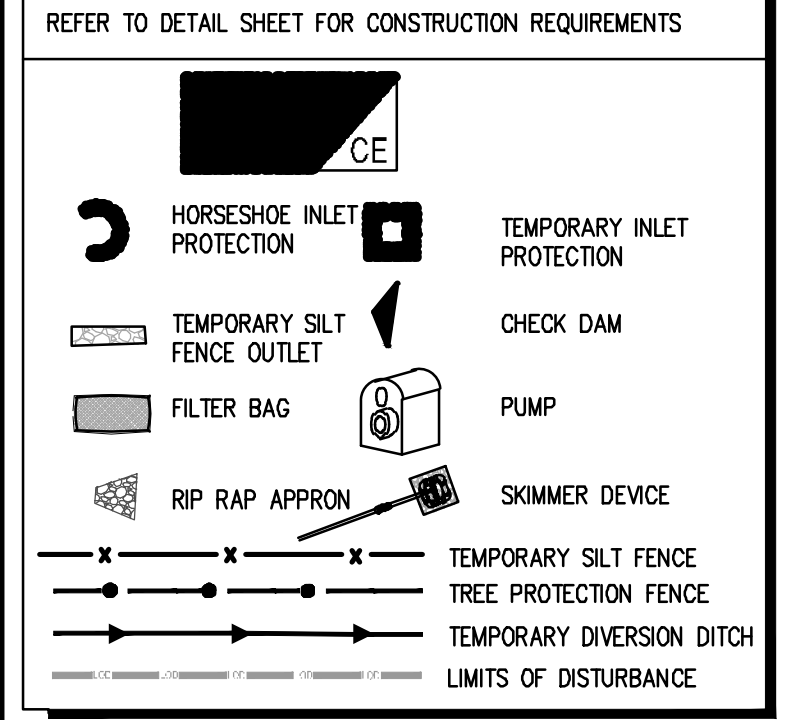
STOCKPILE DESIGN CRITERIA:

- 1. A 25'-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES...

STOCKPILE MAINTENANCE REQUIREMENTS:

- 1. SEEDING OR COVERING STOCKPILES WITH TARP OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS...

EROSION CONTROL LEGEND



EROSION CONTROL NARRATIVE:

ROCKET EXPRESS, TOWN OF ZEBULON, WAKE COUNTY, NC CONTRACTOR SHALL FIRST INSTALL THE CONSTRUCTION ENTRANCE...

BASEIN REMOVAL SEQUENCE:

- 1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED...

WAKE COUNTY CONSTRUCTION SEQUENCE:

- 1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE WATERSHED MANAGER, ALAN ALDOCK WITH WAKE COUNTY...

EROSION CONTROL NOTES:

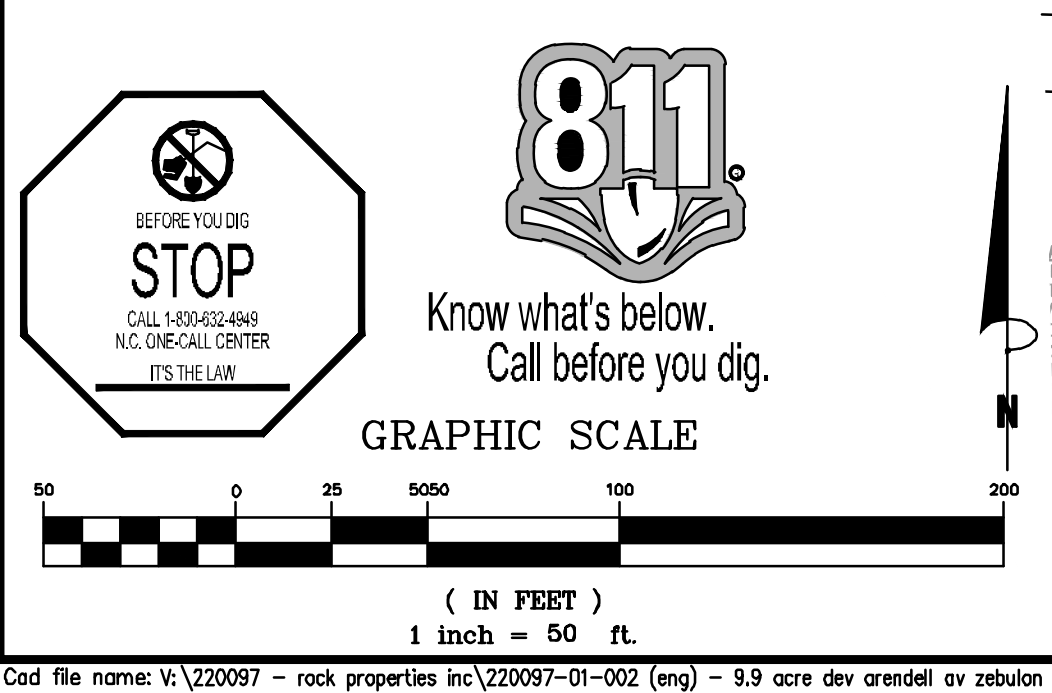
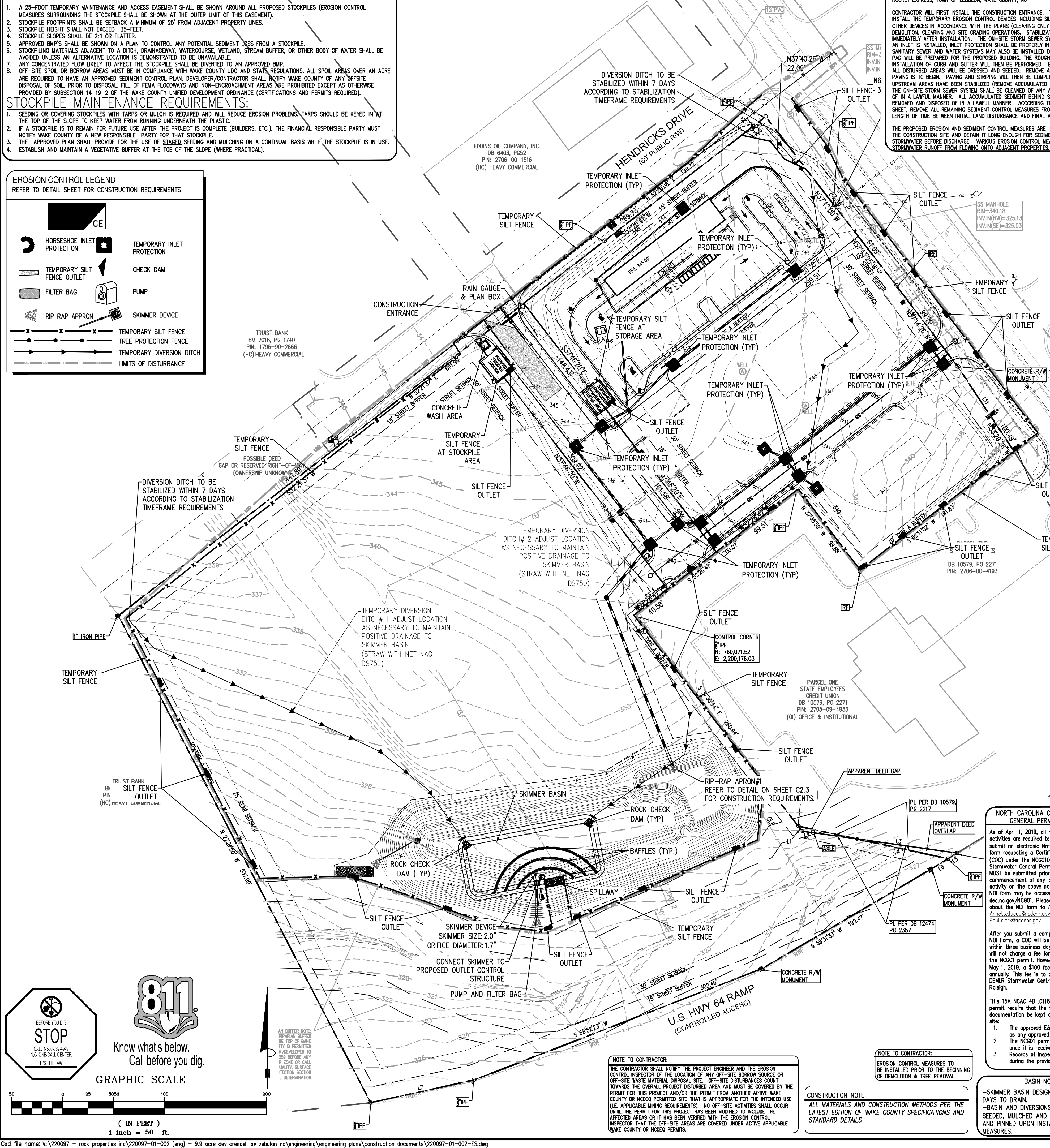
- REFER TO GENERAL NOTES SHEET FOR ADDITIONAL EROSION CONTROL REQUIREMENTS...

SEDIMENT AND EROSION CONTROL NOTES:

- 1. THE EROSION AND SEDIMENTATION CONTROL MEASURES (BMPs) WERE DESIGNED USING WAKE COUNTY AND THE NORTH CAROLINA NCEQ REQUIREMENTS...

EROSION CONTROL NOTES

- 1. TOTAL AREA DISTURBED = 3.05 ACRES TOTAL SITE AREA = 1.67 ACRES



STABILIZATION TIMEFRAME

Table with columns: SITE AREA DESCRIPTION, STABILIZATION TIMEFRAME, EXCEPTIONS

GROUND COVER REQUIREMENTS:

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER...

Basin Certification:

This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

Bowman logo and contact information for Bowman North Carolina Ltd.

EROSION CONTROL PLAN - FINAL text and Rocket Express contact info.

Professional Engineer seal for Matthew H. Lowder, State of North Carolina.

PLAN STATUS table with columns: DATE, DESCRIPTION, SCALE, JOB No., DATE, FILE No., SHEET.

Table with 3 columns: PLAN STATUS, DATE, DESCRIPTION. Includes entries for 6/20/22 SITE PLAN SUBMITTAL and 10/21/22 PER TOWN REVIEW.

Table with 3 columns: DATE, DESCRIPTION, SCALE. Includes entries for MEL DESIGN, MEL DRAWN, and XXX CHKD.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING. This section includes multiple tables for erosion control and materials handling, and detailed diagrams of washout structures.

Site Area Description	Required Ground Stabilization Timeframes	Timeframe Variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HOW) Zones	7	None
(c) Slopes steeper than 3:1	7	None
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1. -10 days for Falls Lake Watershed.
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HOW Zones. -10 days for Falls Lake Watershed unless there is zero slope.

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulch and watered.	• Permanent grass seed covered with straw or other mulch and watered.
• Hydroseeding.	• Geotextile fabric such as permanent silt reinforcement matting.
• Rolled erosion control products with or without temporary grass seed.	• Hydroseeding.
• Appropriate erosion control at other methods.	• Strips of other permanent plandings covered with mulch.
• Plastic sheeting.	• Uniform and evenly distributed ground cover sufficient to restrain erosion.
	• Structural materials such as concrete, asphalt or retaining walls.
	• Rolled erosion control products with grass seed.

Diagram: ON-SITE CONCRETE WASHOUT STRUCTURE WITH LINER. Shows a cross-section of a concrete washout structure with a liner, including labels for concrete washout, silt fence, and sandbags.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING. This section contains tables for self-inspection requirements and a detailed table for recordkeeping.

Item to Document	Documentation Requirements
(a) Each EASC Measure was installed and is not significantly deviated from the location, dimensions and relative elevations shown on the approved EASC Plan.	Initial and date each EASC Measure on a copy of the approved EASC Plan or certificate, date and sign an inspection report that lists each EASC Measure shown on the approved EASC Plan. This documentation is required upon the initial installation of the EASC Measure or if the EASC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved EASC Plan or certificate, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground covers is located and installed in accordance with the approved EASC Plan.	Initial and date a copy of the approved EASC Plan or certificate, date and sign an inspection report to indicate completion of the construction phase.
(d) The maintenance and repair requirements for all EASC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to EASC Measures.	Initial and date a copy of the approved EASC Plan or certificate, date and sign an inspection report to indicate the completion of the corrective action.

Diagram: SILT BAG INLET PROTECTION. Shows a cross-section of a silt bag inlet protection structure with labels for silt bag, expansion restraint, and silt fence.

NCG01 EROSION CONTROL PRODUCTS (ECP) INSTALLATION. This section includes detailed diagrams and instructions for installing erosion control products.

Diagram: ROLLED EROSION CONTROL PRODUCTS (ECP). Shows a cross-section of a rolled erosion control product installation with labels for roll, staples, and silt fence.

Diagram: EROSION CONTROL PRODUCTS (ECP) - ROLLED. Shows a cross-section of a rolled erosion control product installation with labels for roll, staples, and silt fence.

GENERAL NOTES

- Property line and right-of-way monuments shall not be disturbed by construction. If disturbed, they shall be reset to their original locations at the Contractor's expense by a Registered Land Surveyor.
- Proof Roll Building and all parking areas. Notify Owner of any unacceptable areas.
- Building dimensions shown on the Civil Engineering Plans are for reference purposes only. Contractor shall use the Architectural and Structural Plans for exact Building dimensions.
- All site dimensions are referenced to the back of curb or edge of paving unless otherwise noted.
- All sidewalks, curb and gutter, street paving, curb cuts, driveway approaches, handicap ramps, etc. constructed outside the property line in the right-of-way shall conform to all municipal and/or State specifications and requirements.
- All disturbance incurred to any adjoining property due to construction or demolition shall be restored to the previous condition or better, and to the satisfaction of the City or State Authority.



Know what's below.
Call before you dig.

SIGHT TRIANGLE NOTE

WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN TWO (2) FEET AND EIGHT (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY, IF NO CURBING EXISTS.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS

NOTE: THE MAINTENANCE OF ALL OPEN SPACE ON THE PROPERTY WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER OR THE ASSOCIATED DEVELOPMENT OWNERS ASSOCIATION

NOTE: THE PROPOSED PROJECT SIGN WILL REQUIRE A SIGN PERMIT REVIEW THROUGH THE TOWN OF ZEBULON PLANNING DEPARTMENT

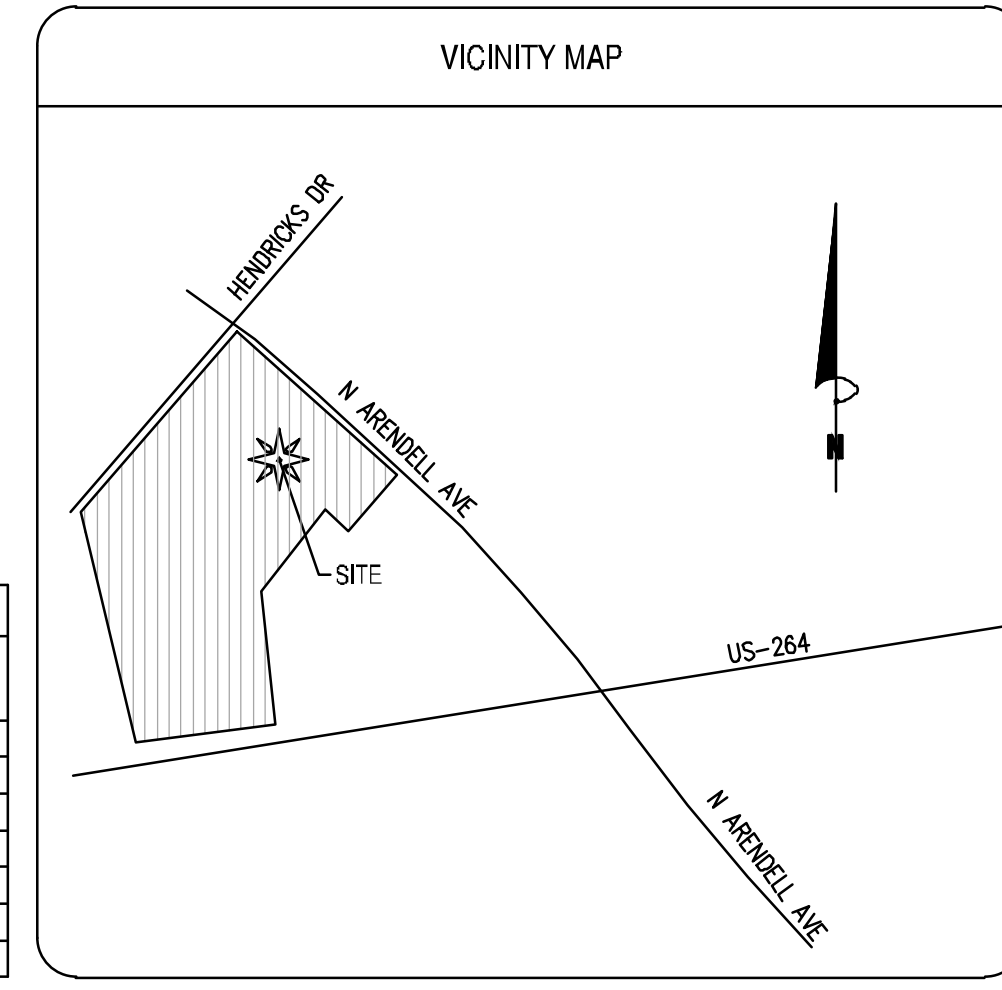
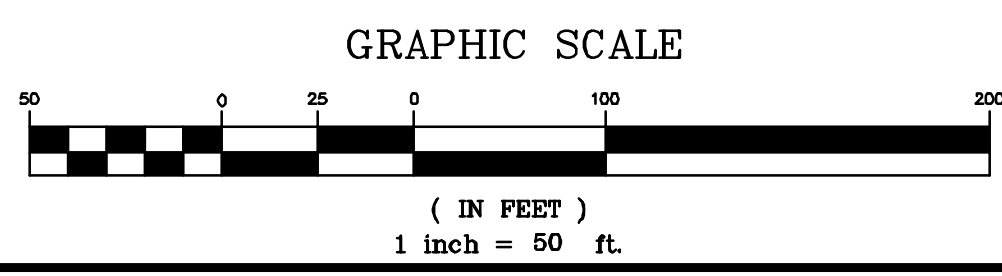
GENERAL NOTES

- THE CONTRACTOR SHALL EMPLOY ALL NECESSARY BARRICADES, SIGNS, FENCES, FLASHING LIGHTS, FLAGMEN, ETC. FOR MAINTENANCE AND PROTECTION OF TRAFFIC AS REQUIRED BY TOWN OF ZEBULON AND THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, FOR DETAILS OF TRAFFIC CONTROL STANDARDS AND DEVICES.
- THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
- APPROVAL OF THESE PLANS IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
- COORDINATE ALL CURB AND STREET GRADES IN INTERSECTIONS WITH INSPECTOR.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION "STANDARD DETAILS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND APPLICABLE TOWN OF ZEBULON CODES AND ORDINANCES. THE CONTRACTOR SHALL MAINTAIN A CURRENT EDITION OF THE STATE AND LOCAL CODES, ORDINANCES, STANDARD SPECIFICATION AND STANDARD DETAILS ON THE PROJECT SITE FOR REFERENCE DURING CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS THE OWNER OR OWNER'S REPRESENTATIVE IMMEDIATELY. CONTRACTOR SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
- THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.
- THE CONTRACTOR SHALL REPAIR, RESURFACE, RECONSTRUCT OR REFINISH ANY AREAS DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, HIS SUBCONTRACTORS OR SUPPLIERS AT NO ADDITIONAL COST TO THE OWNER.
- ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF TRUCK DOCKS, EXIT DOORS, SIDEWALKS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- ALL PAINT STRIPING, PAVEMENT MARKINGS, AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" OR AS OTHERWISE SPECIFIED. ALL REFERENCED SIGN STANDARDS ARE TAKEN FROM THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". ALL NEW SIGNS SHALL BE MOUNTED ON GALVANIZED POSTS AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
- CONTRACTOR SHALL INSTALL ACCESSIBLE RAMPS PER LOCAL MUNICIPALITY AND ADA STANDARDS AT ALL DRIVE AND BUILDING LOCATIONS AS REQUIRED.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENTS FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE.
- ACCESSIBLE RAMPS TO BE PROVIDED IN ACCORDANCE WITH NCDOT AND TOWN OF ZEBULON STANDARDS.
- ALL PLANTING ISLANDS WITH A SHADE TREE SHALL BE A MINIMUM OF 350 SQUARE FEET.
- ALL SIDEWALKS MUST BE ACCESSIBLE TO PERSONS WHO ARE BLIND, HAVE LOW VISION AND PEOPLE WITH MOBILITY DISABILITIES. PEDESTRIAN EXISTING ROUTES AND ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION WILL BE REQUIRED TO BE COMPLIANT WITH THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG), 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

SIGN LEGEND	
LEGEND	QTY.
	1
	5

DEVELOPMENT DATA	
DEVELOPMENT NAME:	ROCKET EXPRESS
STREET ADDRESS:	N. ARENDELL AVENUE
	ZEBULON, NC WAKE COUNTY
	PROJECT ID# 796479
PROPERTY IDENTIFICATION # (PIN):	2705-09-1833, 2706-00-2456, 2706-00-3318, 2706-00-3279, 2706-00-4241
PROPERTY #:	0111170, 0030085, 0057144, 0058906, 0039956
DEED BOOK/PAGE:	12474-2357
EXISTING ZONING:	HC-HEAVY COMMERCIAL
WATERSHED DISTRICT:	NONE
FLOOD ZONE:	NONE
TOTAL SITE ACRES:	429,809 SF (9.87 AC)
INSIDE TOWN LIMITS:	YES
EXISTING USE:	VACANT
PROPOSED BUILDING USE:	CAR WASH AND OUTPARCELS
PROPOSED TOTAL BUILDING AREA:	2754 SF (CAR WASH)
MAX BUILDING HEIGHT:	50 FT
MIN LOT AREA:	6,000 SF
MIN LOT WIDTH:	50 FT
MAX. LOT COVERAGE:	80%
FRONT SETBACK:	30 FT
SIDE SETBACK (STREET):	30 FT
SIDE SETBACK (INTERIOR):	0, 5 FT IF PROVIDED
REAR SETBACK:	0 IF ABUTTED BY AN ALLEY, OTHERWISE 25FT
PARKING REQUIREMENTS:	
TOTAL REQUIRED:	2 PER WASH BAY
TOTAL PROVIDED:	22 (VACUUM SPACES)
ACCESSIBLE SPACES PROVIDED:	1
LOADING AREA:	1 PROVIDED
LANDSCAPE BUFFERS:	10FT TYPE A BUFFER (ADJACENT HC) 15FT STREETSCAPE BUFFER

- SITE KEYNOTES**
- DUMPSTER ENCLOSURE
 - INSTALL NEW CONCRETE PAD OF 4000 PSI BROOM FINISHED CONCRETE WITH 6"x6" x 1/8" WWF STEEL REINFORCEMENT. REFER TO DETAIL SHEET
 - ASPHALT PAVEMENT PARKING LINES 4" WIDE PAINTED WHITE
 - CONSTRUCT 6" HIGH CONC. CURB & GUTTER CONTINUOUS AROUND SITE. BACKFILL TO TOP OF CURB. REFER TO DETAIL
 - PROVIDE HANDICAP RAMP PER FEDERAL & LOCAL ACCESSIBILITY REQUIREMENTS. REFER TO DETAIL
 - HANDICAP PARKING SIGN. REFER TO DETAIL SHEET
 - NEW BROOM FINISHED CONCRETE SIDEWALK SLOPED AT 1/8" FT. MAX. FOR POSITIVE DRAINAGE.
 - ASPHALT PAVEMENT DESIGN AS PER GEOTECHNICAL REPORT SPECIFICATIONS.
 [Symbol] STANDARD DUTY ASPHALT PAVEMENT
 [Symbol] HEAVY DUTY ASPHALT PAVEMENT
 [Symbol] CONCRETE PAVEMENT
 - LANDSCAPING - SEE LANDSCAPING PLAN.
 - VACUUM BOOM SYSTEM
 - SEEDED AREA
 - SITE LIGHT
 - PROPOSED PARKING COUNT



IMPERVIOUS SUMMARY TABLE			
ON-SITE AREA =	429,809 SF (9.867 AC)		
BUILDINGS	2,754 SF	0.06 ACRE(S)	0.64 % OF AREA
PAVEMENT	43,800 SF	1.01 ACRE(S)	10.19 % OF AREA
SIDEWALK	3,620 SF	0.08 ACRE(S)	0.84 % OF AREA
TOTAL IMPERVIOUS AREA	50,174 SF	1.15 ACRE(S)	11.67 % OF AREA
GREEN/OPEN SPACE	379,635 SF	8.72 ACRE(S)	88.33 % OF AREA
EXISTING IMPERVIOUS AREA	3,604 SF	0.08 ACRE(S)	0.84 % OF AREA
INCREASE IN IMPERVIOUS AREA	46,570 SF	1.07 ACRE(S)	

SEPARATION BUFFER NOTE:
THE 50 FOOT REAR SEPARATION BUFFER ZONE IS MEASURED FROM THE TOP OF BANK OF THE DITCH OR CREEK. NO ACTIVITY IS PERMITTED IN ZONE 1 (FIRST 30 FT). OWNER/DEVELOPER TO CONSULT G.S. 15A NCAC 2B.0209 BEFORE ANY DISTURBANCE WITHIN THE BUFFER ZONE OR CALL MODEL DIVISION OF WATER QUALITY SURFACE WATER PROTECTION SECTION FOR OFFICIAL DETERMINATION

Bowman

Bowman North Carolina Ltd.
4006 BARRIETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919) 555-6570
bowman.com
Bowman North Carolina Ltd.

SITE PLAN

Rocket Express
Arendell Ave
Project ID#796479

Zebulon, NC Wake County

PRELIMINARY
DO NOT
USE FOR
CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL
M. J. MATTHEW R. LOWMEYER
REGISTERED PROFESSIONAL ENGINEER
No. 12474

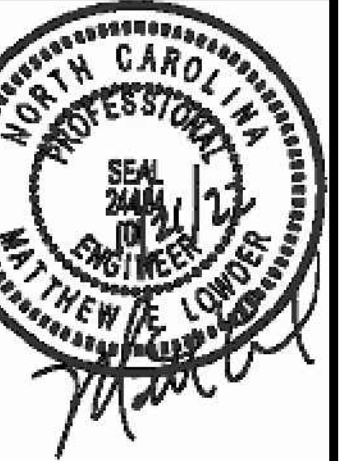
PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN
	XXX CHKD

SCALE: 1" = 50'
V.

JOB No. 220097-01-002
DATE June 20, 2022
FILE No. 220097-01-002

SHEET **C3.0**



PLAN STATUS		
6/20/22	SITE PLAN SUBMITTAL	
10/21/22	PER TOWN REVIEW	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	V.	
JOB No.	220097-01-002	
DATE	June 20, 2022	
FILE No.	220097-01-002	

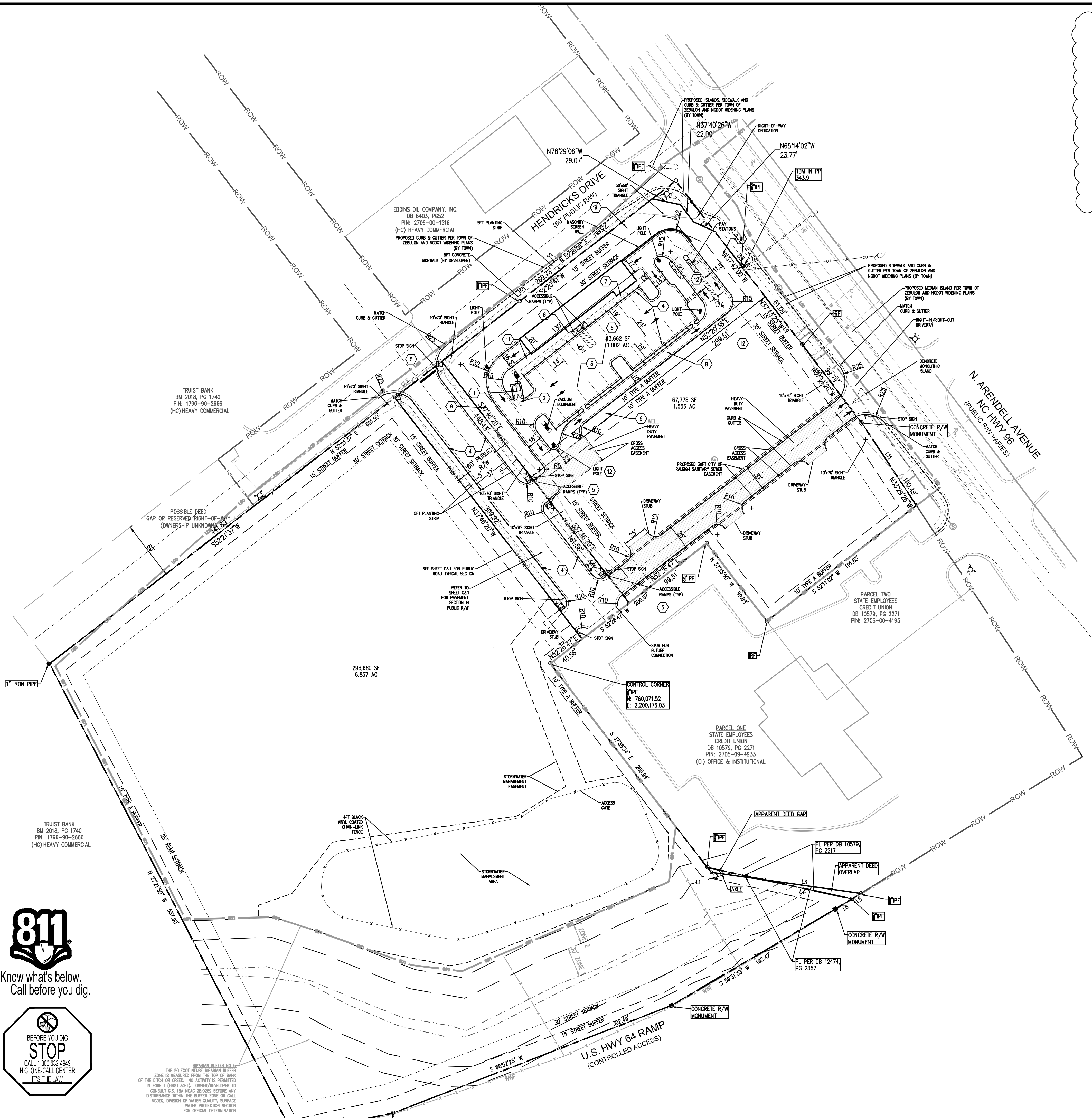
TOWN OF ZEBULON NOTES

TOWN STREET INSPECTOR: JASON BROWN
919-795-5640 OR 919-625-3362

AT COMPLETION OF THE PROJECT EAST HENDRICKS AND THE REAR ACCESS ROADWAY AND ALL SIDEWALK WITHIN PUBLIC R/W TO BE DEDICATED TO THE TOWN OF ZEBULON

DEVELOPER IS RESPONSIBLE FOR CONTRACTING WITH THIRD PARTY NCDOT CERTIFIED TESTING FIRM. TOWN OF ZEBULON MUST APPROVE THE FIRM IN ADVANCE. MATERIAL TESTING IS REQUIRED FOR ALL ROADWAY AND GREENWAY TRAIL WORK. FINAL REPORTING AND SEALED CERTIFICATION IS REQUIRED AT COMPLETION OF THE PROJECT BY THE GEOTECHNICAL ENGINEER. TESTING IS REQUIRED FOR SUBGRADE, ROADWAY/GREENWAY STONE, AND ASPHALT, CURB AND GUTTER PER TOWN OF ZEBULON SPECIFICATIONS.

- NCDOT ROADWAY STANDARD DRAWINGS TO REFERENCE**
- 200.02 METHOD OF CLEARING - METHOD II
 - 223.02 GUIDE FOR GRADING SUBGRADE - SECONDARY & LOCAL
 - 300.01 METHOD OF PIPE INSTALLATION - METHOD "A"
 - 840.71 CONCRETE AND BRICK PIPE PLUG
 - 846.01 CONCRETE CURB, GUTTER AND CURB & GUTTER
 - 848.01 CONCRETE SIDEWALK
 - 848.05 WHEELCHAIR RAMP - CURB CUT
 - 852.01 CONCRETE ISLANDS
 - 876.02 GUIDE FOR RIP RAP AT PIPE OUTLETS
 - 1101.01 WORK ZONE ADVANCE WARNING SIGNS
 - 1101.02 TEMPORARY LANE CLOSURES
 - 1101.04 TEMPORARY SHOULDER CLOSURES
 - 1101.05 WORK ZONE VEHICLE ACCESSES
 - 1101.11 TRAFFIC CONTROL DESIGN TABLES
 - 1110.02 PORTABLE WORK ZONE SIGNS - MOUNTING HEIGHT & LATERAL CLEARANCE
 - 1115.01 FLASHING ARROW PANELS
 - 1130.01 DRUMS
 - 1135.01 CONES
 - 1145.01 BARRICADES - TYPES I, II, III AND PERMANENT
 - 1150.01 FLAGGERS
 - 1205.01 PAVEMENT MARKINGS - LINE TYPES & OFFSETS
 - 1205.02 PAVEMENT MARKINGS - DIVIDED & UNDIVIDED ROADWAYS
 - 1205.04 PAVEMENT MARKINGS - INTERSECTIONS
 - 1205.05 PAVEMENT MARKINGS TURN LANES

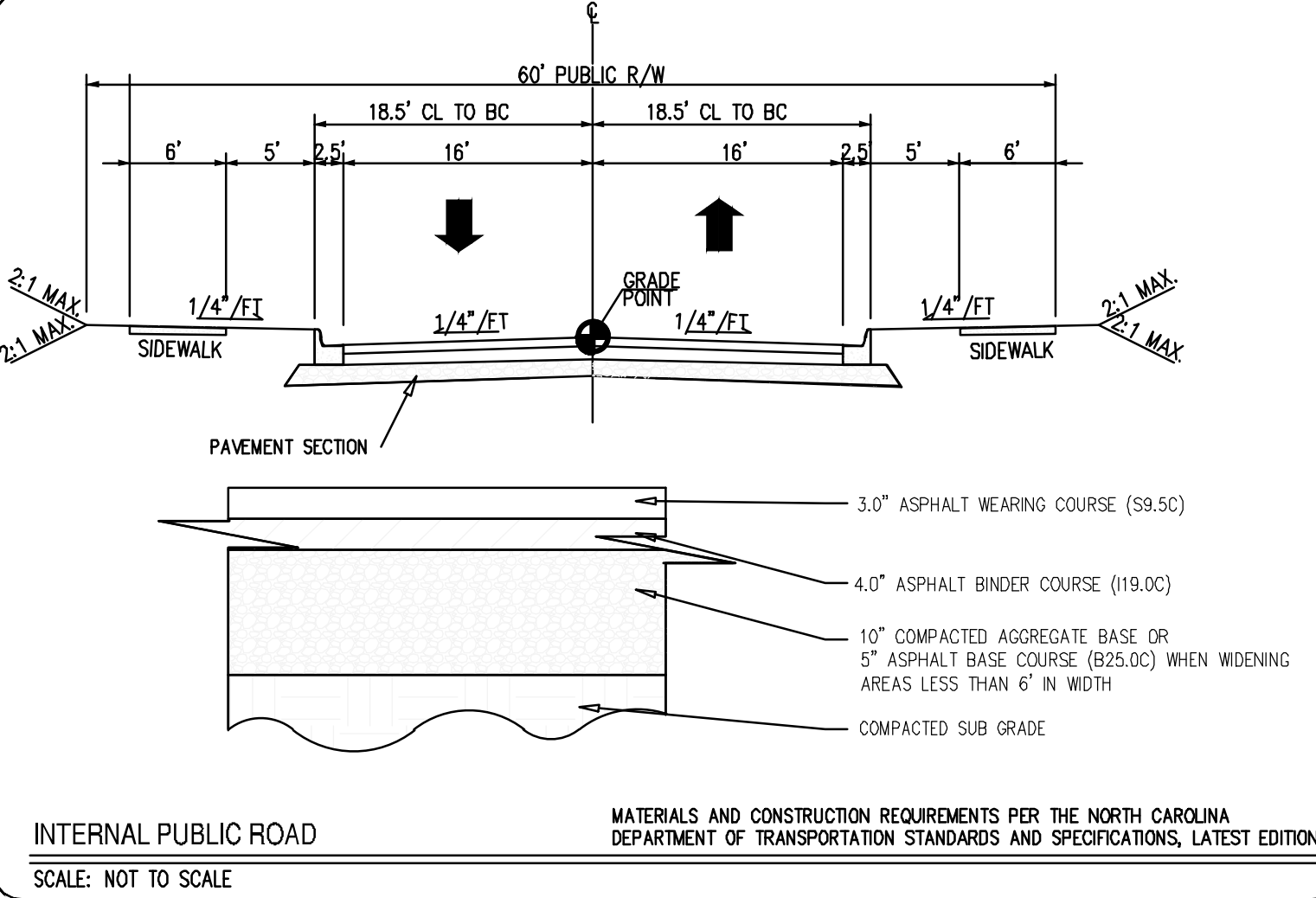
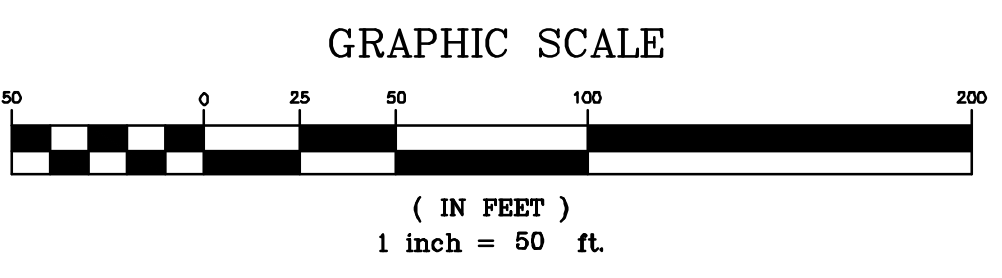


PAVEMENT MARKING SCHEDULE

TA	WHITE EDGE LINE (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
TH	DOUBLE YELLOW CENTERLINE (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
TH	YELLOW LANE LINE (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
TD	3' WHITE MINI-SKIP LINE (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
TC	10' WHITE SKIP LINE (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
TE	WHITE SOLID LANE LINE (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
UA	LEFT TURN LANE ARROW (90MIL)	
TI	NCDOT STD DETAIL 1205.08	
UB	RIGHT TURN LANE ARROW (90MIL)	
TI	NCDOT STD DETAIL 1205.08	
UC	STRAIGHT ARROW (90MIL)	
TI	NCDOT STD DETAIL 1205.08	
UD	COMBO LEFT/STRAIGHT TURN LANE ARROW (90MIL)	
TI	NCDOT STD DETAIL 1205.08	
UE	COMBO RIGHT/STRAIGHT TURN LANE ARROW (90MIL)	
TI	NCDOT STD DETAIL 1205.08	
TV	YELLOW DIAGONAL LINES (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.09	
TY	3' YELLOW MINI-SKIP LINES (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
TF	YELLOW SKIP CENTER LINES (4", 90MIL)	
TI	NCDOT STD DETAIL 1205.01	
TZ	STOP BAR (24" 90MIL)	
TI	NCDOT STD DETAIL 1205.08	
I	12" YIELD LINE SYMBOL (90MIL)	
TI	NCDOT STD DETAIL 1205.08	

ALL PERMANENT PAVEMENT MARKINGS SHALL BE THERMOPLASTIC PER NCDOT REQUIREMENTS

CONTRACTOR TO INSTALL MARKINGS PER NCDOT STANDARD MANUALS AND LOCATIONS TO BE COORDINATED WITH THESE DEPARTMENTS PRIOR TO FINAL INSTALLATION.



BROWMAN BUTTER NOTE:
THE 50 FOOT BUFFER SPURWARD BUFFER ZONE IS MEASURED FROM THE TOP OF BANK OF THE STREAM OR CREEK. NO ACTIVITY IS PERMITTED IN ZONE I (FIRST 30FT). OWNER/DEVELOPER TO CONSULT G.S. 15A NCAC 2B.0209 BEFORE ANY OCCURRENCE WITHIN THE BUFFER ZONE OR CALL NCDOT, DIVISION OF WATER QUALITY, SURFACE WATER PROTECTION SECTION FOR OFFICIAL DETERMINATION

Project Water System Data:

- Are the total # domestic water services ≥ 15 , OR the total # people served ≥ 250 ?
Yes/No
- Type of development? (select one)
 - Commercial property
 - Residential Care or Townhouse
 - Residential Apartments
- NOTE: permitting by City of Raleigh on projects having ≥ 15 domestic water services, OR serving ≥ 25 people, requires Developer NOT to re-sell water (or must have a PR designation from NCUC for apartment projects only)

CROSS-CONNECTION NOTE
A CERTIFICATE OF COMPLIANCE FOR ALL BACKFLOWS WILL NEED TO BE DIGITALLY AFFIXED TO THE BUILDING SUBMITTAL PRIOR TO THE ISSUANCE OF BUILDING PERMITS. CONTACT CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION.

FIRE PROTECTION NOTE
THE PROPOSED BUILDING WILL NOT HAVE A FIRE SPRINKLER SYSTEM

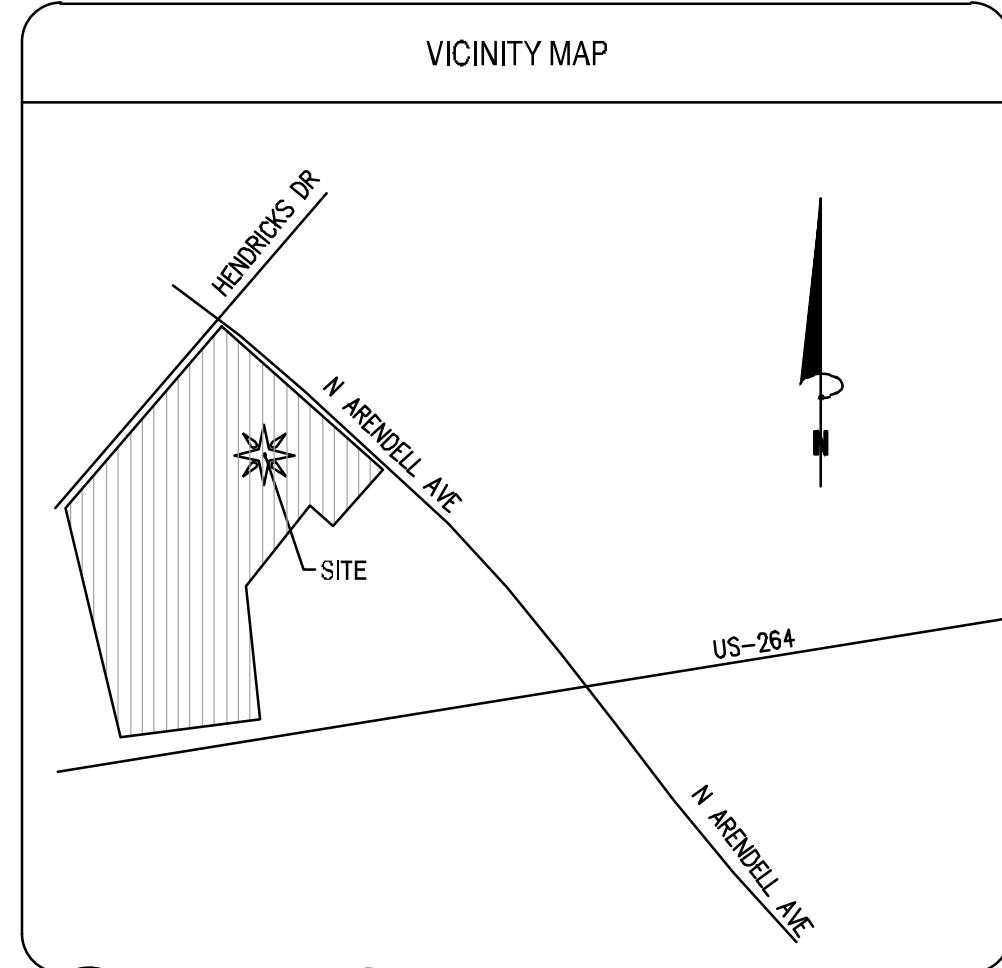
UTILITY NOTE
THE ESTIMATED WATER USAGE FOR THIS SITE IS _____ GPD BASED ON _____

METER NOTE:
CONTRACTOR TO CONTACT CITY OF RALEIGH METERS DIVISION FOR METER LAYOUT AND ADDRESSING.

HYDRANT NOTE:
ALL NEW FIRE HYDRANTS SHALL BE EQUIPPED WITH NST THREADS AND SHALL BE EQUIPPED WITH A 5 INCH STORZ CONNECTION.

FIRE NOTE:
ELECTRICAL CIRCUIT AND FIRE ALARM CIRCUIT REQUIRED FOR FIRE LINE HOT BOX

UTILITY NOTE:
THERE SHALL BE NO CONSTRUCTION OF ANY FIRE MAINS AND NO SLAB PLACED IN THE FIRE PUMP ROOM OR SPRINKLER RISER ROOM UNTIL HYDRAULIC CALCULATIONS, FOR THE BUILDING(S) ARE SUBMITTED FOR REVIEW AND SUBSEQUENT APPROVAL



STANDARD UTILITY NOTES:

- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)
- Utility separation requirements:
 - A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to watertight specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well
 - When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter
 - Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to watertight specifications
 - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer
 - Maintain 18 min. vertical separation at all watermain & RCP storm drain crossings; maintain 24 min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6 min. clearance (per CORPUD details W-41 & S-49)
 - All other underground utilities shall cross water & sewer facilities with 18 min. vertical separation required
 - Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction
 - Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24 hour advance notice to the City of Raleigh Public Utilities Department
 - 3.0' minimum cover is required on all water mains & sewer forcemains. 4.0' minimum cover is required on all reuse mains
 - It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning top at main & removal of service from ROW or easement per CORPUD Handbook procedure
 - Install 2" PVC water services with meters located at ROW or within a 2'x2' Waterline Easement immediately adjacent. NOTE: It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure
 - Install 4" PVC sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum
 - Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole
 - All environmental permits applicable to the project must be obtained from NCDQM, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
 - NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction
 - Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the CORPUD FOG Program Coordinator prior to issuance of a Building Permit. Contact Stephen Colverley at (919) 998-2334 or Stephen.Colverley@raleighnc.gov for more information
 - Cross-connection control protection devices are required based on degree of health hazard involved as listed in Appendix-B of the Rules Governing Public Water Systems in North Carolina. These guidelines are the minimum requirements. The devices shall meet American Society of Sanitary Engineering (ASSE) standards or be on the University of Southern California approval list. The devices shall be installed and tested (both initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross-connection control program, whichever is more stringent. Contact Joanie Helvey at (919) 212-5923 or joanie.helvey@raleighnc.gov for more information.

UTILITY SERVICE NOTES

WATER SERVICE
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 1" WATER SERVICE LINE FROM MAIN TO BUILDING PER MUNICIPAL REQUIREMENTS.
CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
TELEPHONE: 919-857-4540

ELECTRIC SERVICE
"POWER CO." TO PROVIDE UNDERGROUND 120/208/3 PHASE SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO 4" DIA. CONDUIT W/ PULL WIRE TO UTILITY COMPANY POINT OF CONNECTION.
CONTACT: PROGRESS ENERGY
TELEPHONE: 800-636-0581

TELEPHONE SERVICE
"TELEPHONE CO." TO PROVIDE NEW UNDERGROUND SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" DIA. PVC CONDUIT W/ PULL WIRE FROM PHONE PANEL BOARD TO UTILITY COMPANY POINT OF CONNECTION.
CONTACT: TELEPHONE
TELEPHONE:

SANITARY SEWER
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" SCHEDULE 40 PVC FROM EXISTING SANITARY SEWER SYSTEM TO LAST CLEAN OUT OUTSIDE OF BUILDING. (MIN. 1% SLOPE). PROVIDE CLEAN OUTS EVERY 75' (TYPICAL).
CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
TELEPHONE: 919-857-4540

NATURAL GAS
GENERAL CONTRACTOR TO COORDINATE WITH NATURAL GAS UTILITY FOR SERVICE LINE TO PROPOSED BUILDING.
CONTACT: TELEPHONE:

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specification of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # S-_____

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specification of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # W-_____

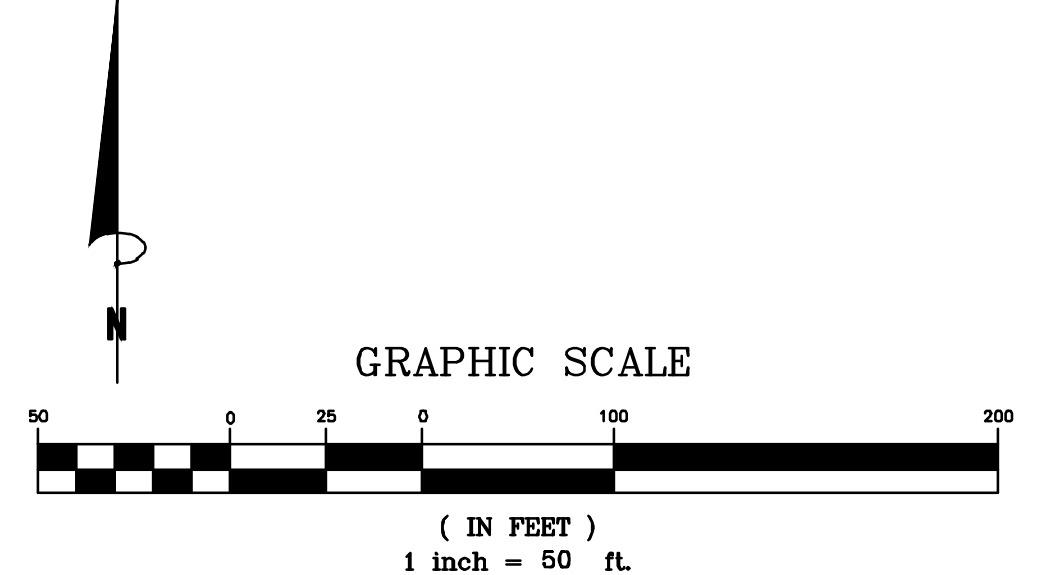
The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # S-_____

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contracting the Public Utilities Department at (919)996-4540 at least twenty four hour prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for inspection, Install a Downstream Plug, have Permit Plans on the Jobsite, or any Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh



Bowman
Bowman North Carolina Ltd.
4006 BARRIETT DR Suite 104
RALEIGH, NC 27609
Phone: (919) 955-6570
bowman.com

UTILITY PLAN
Rocket Express
Arendell Ave
Project ID#736479

Zebulon, NC Wake County

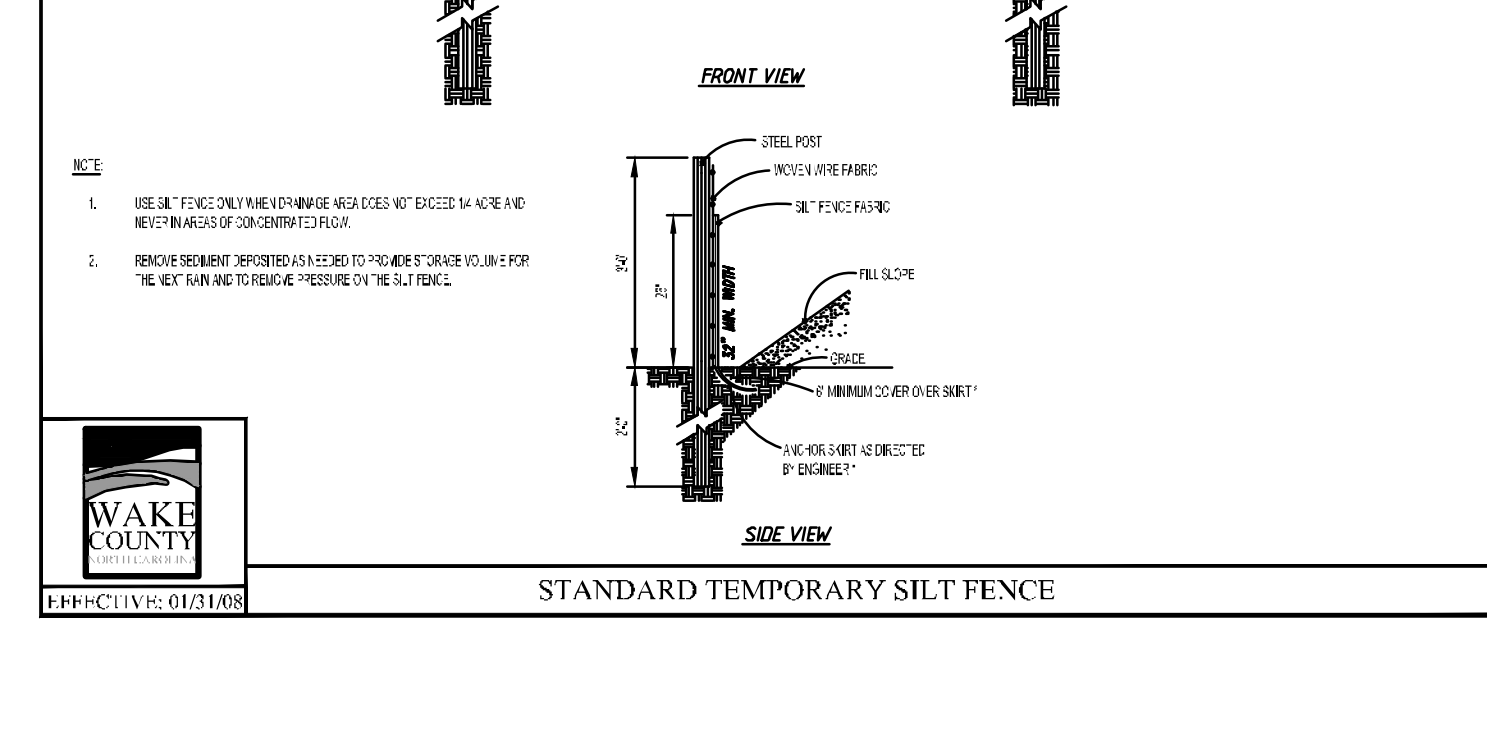
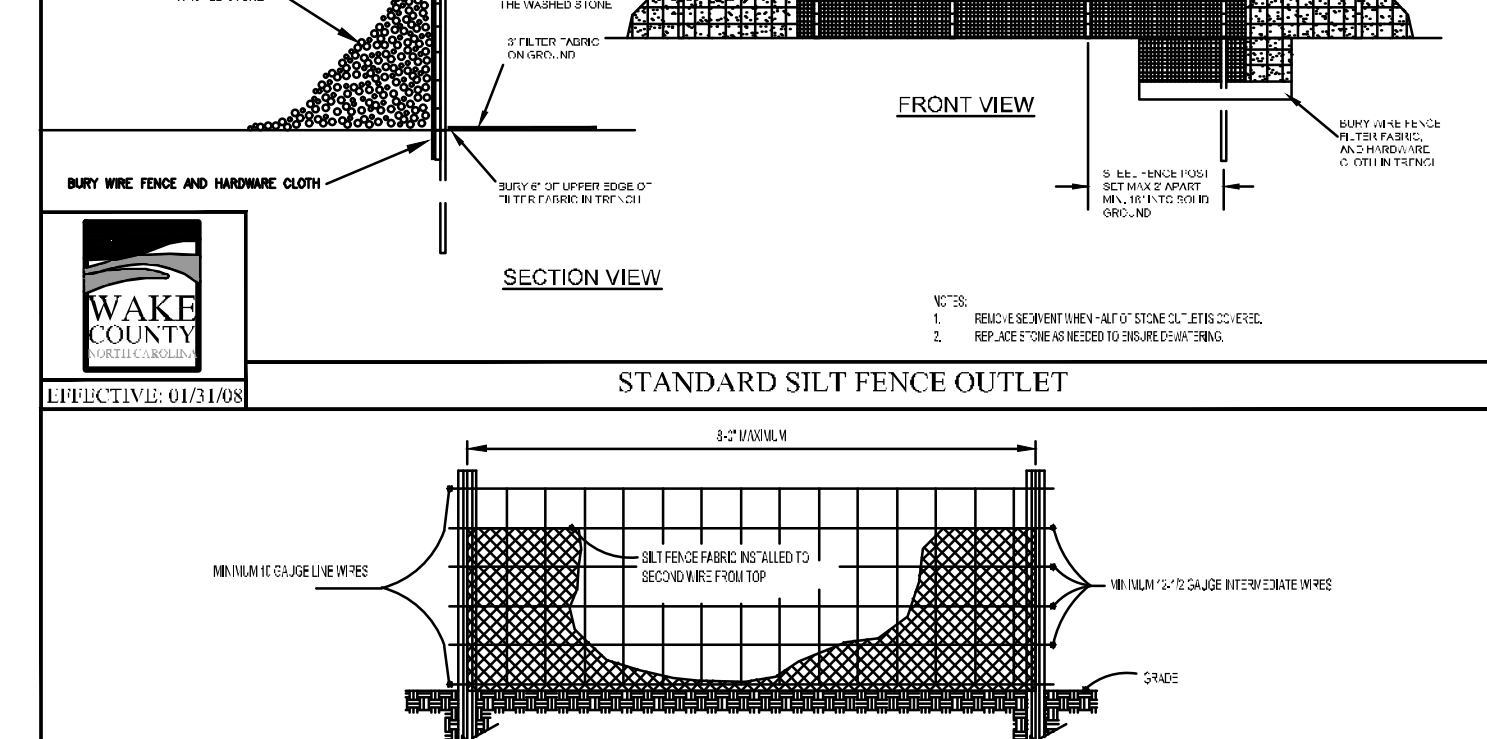
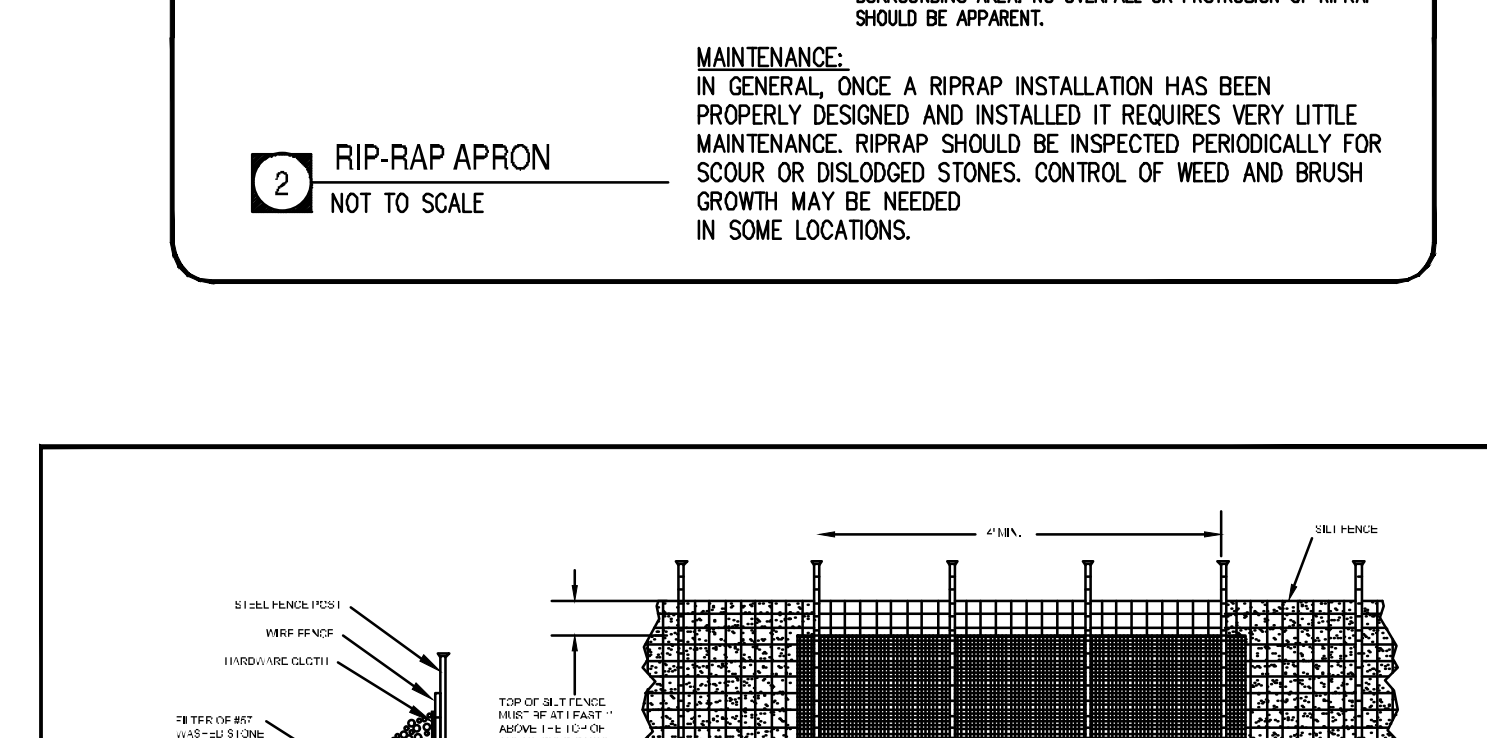
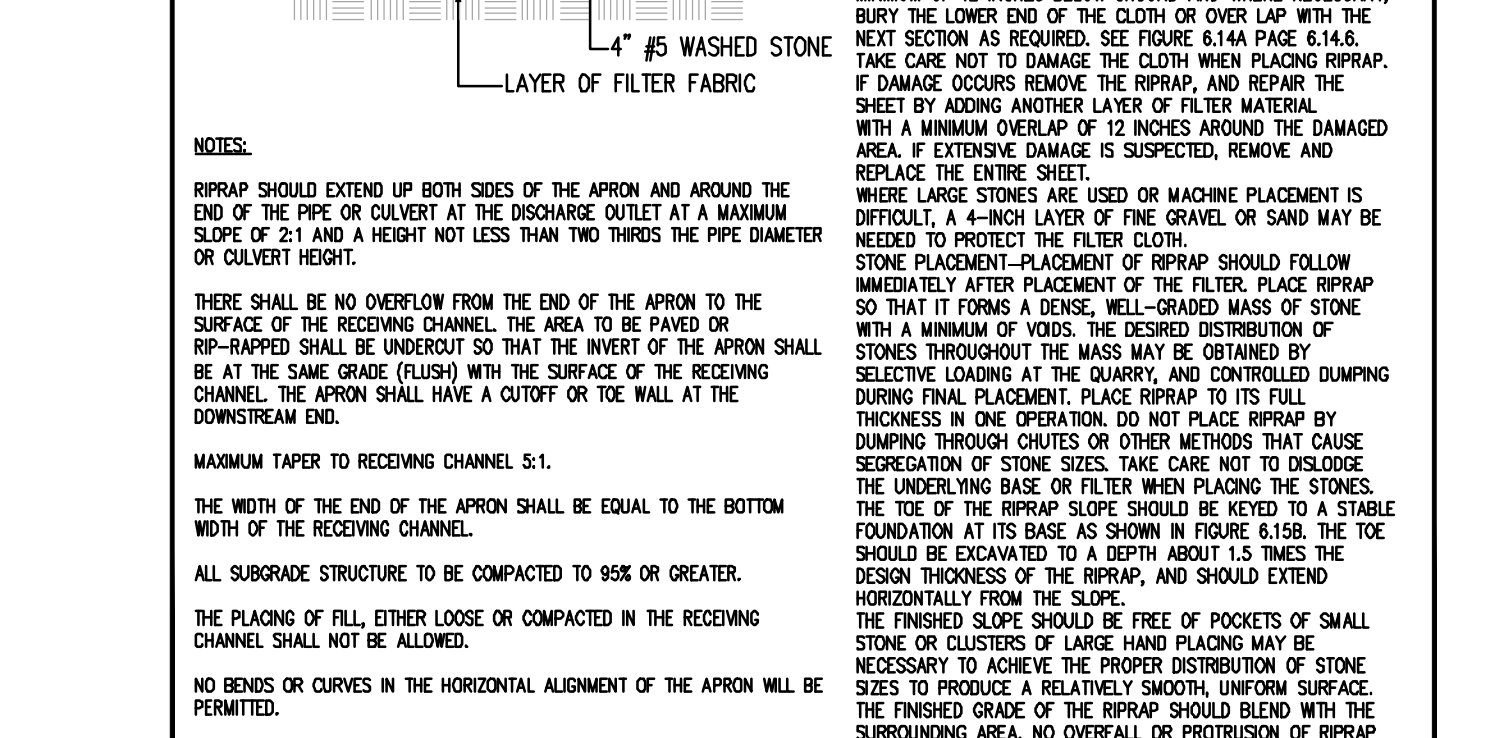
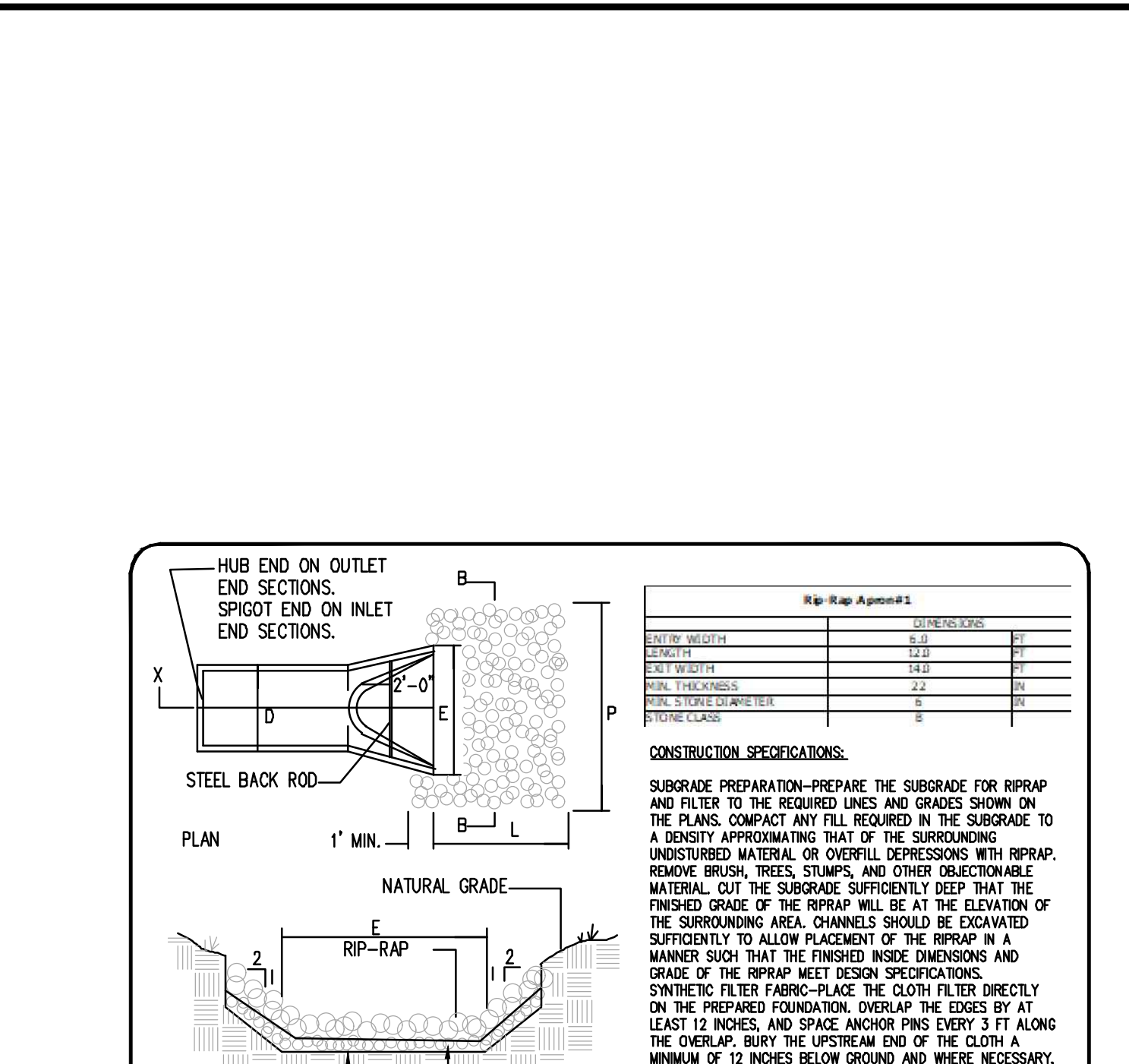
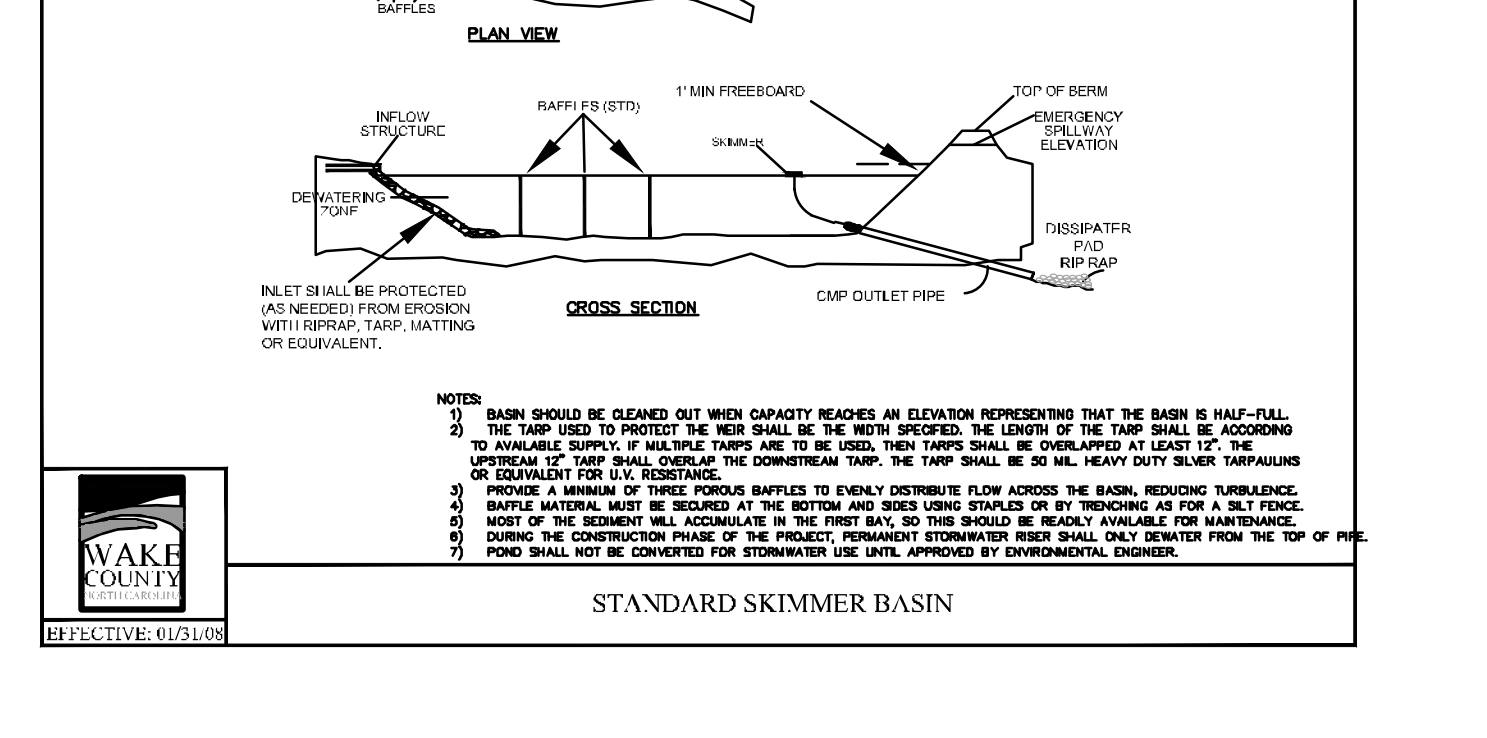
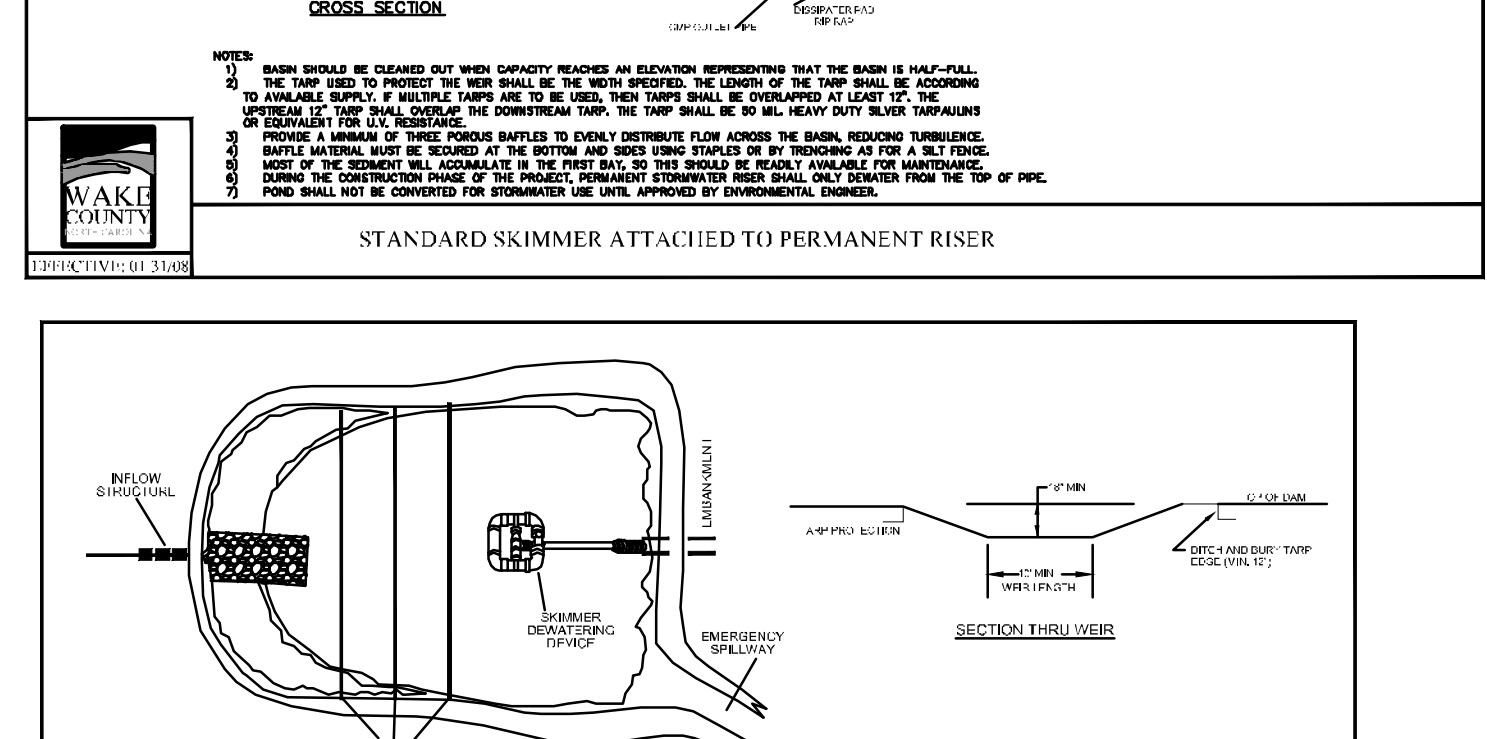
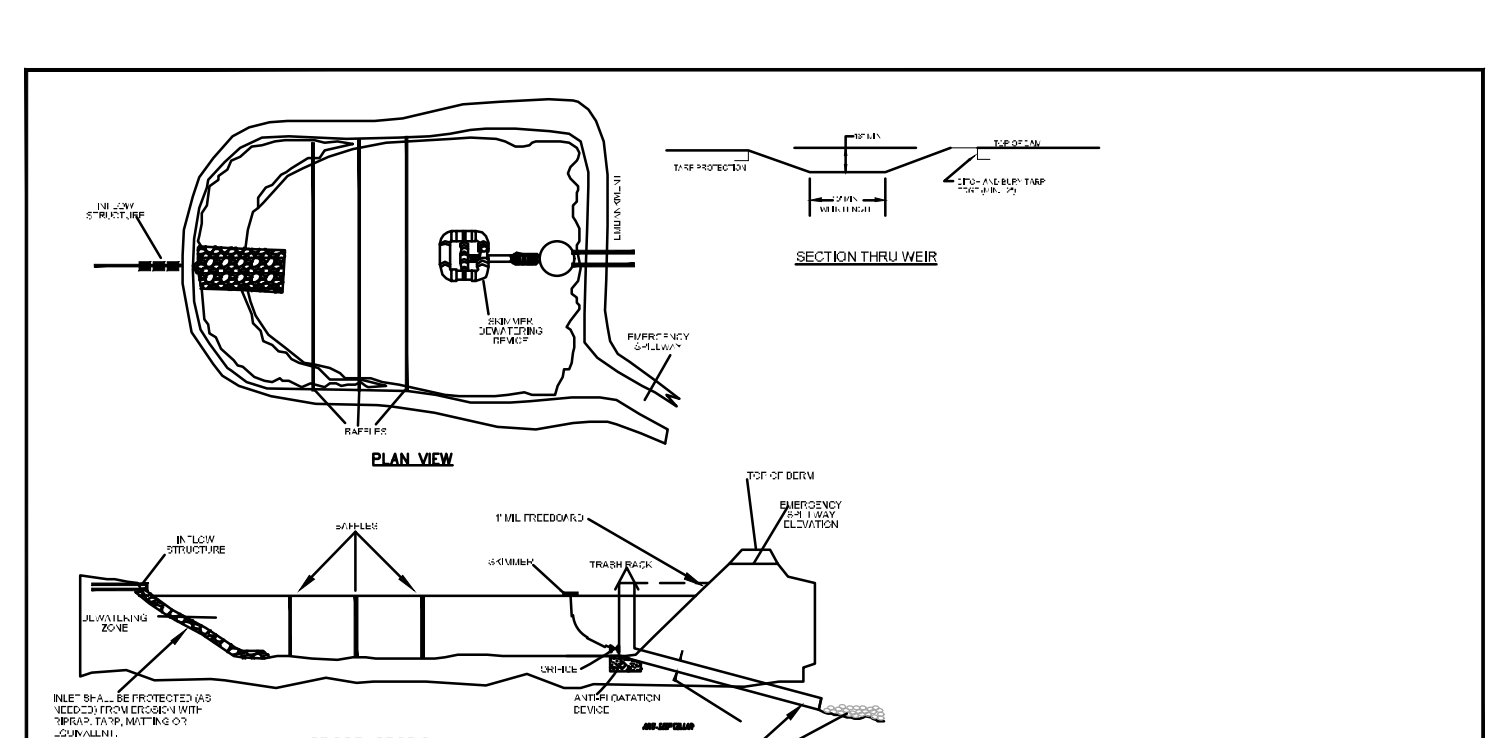
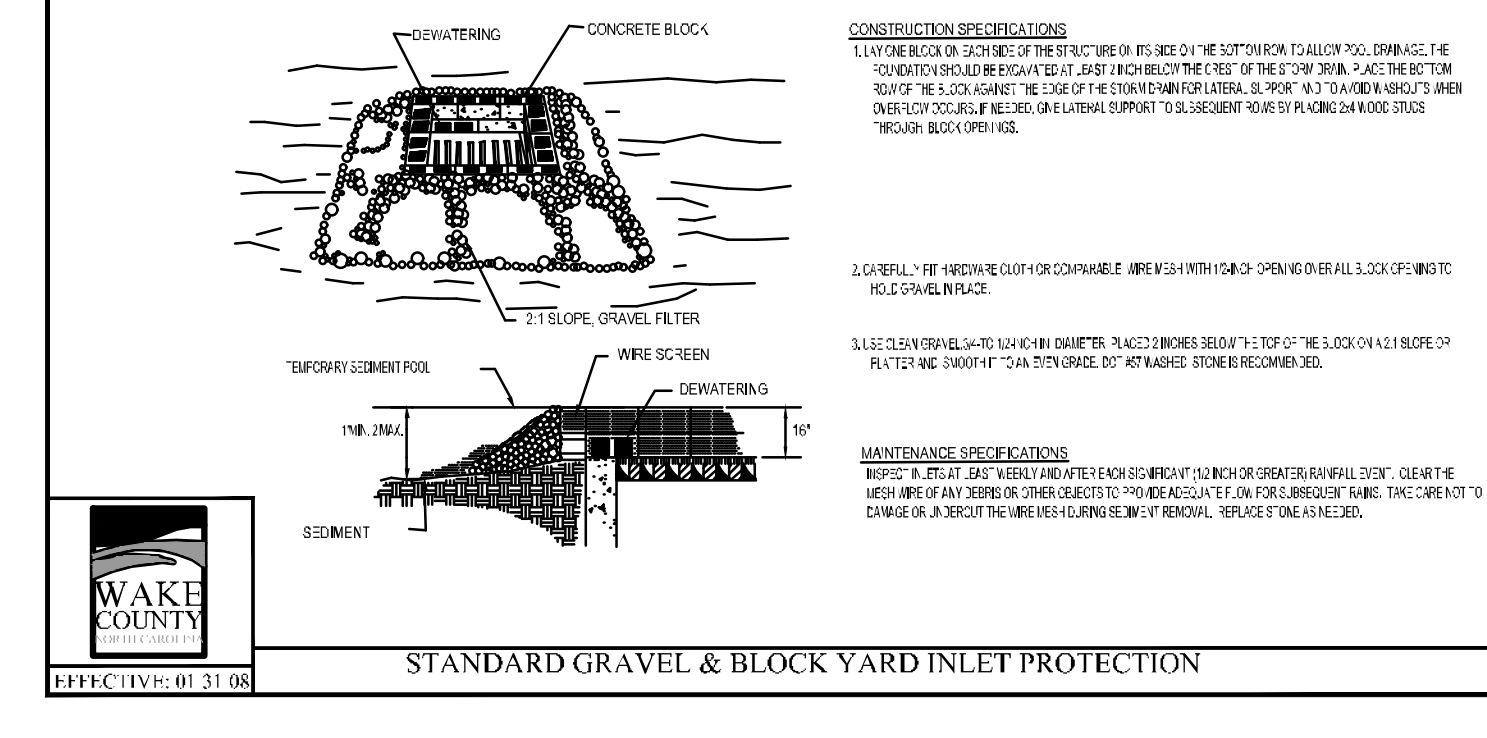
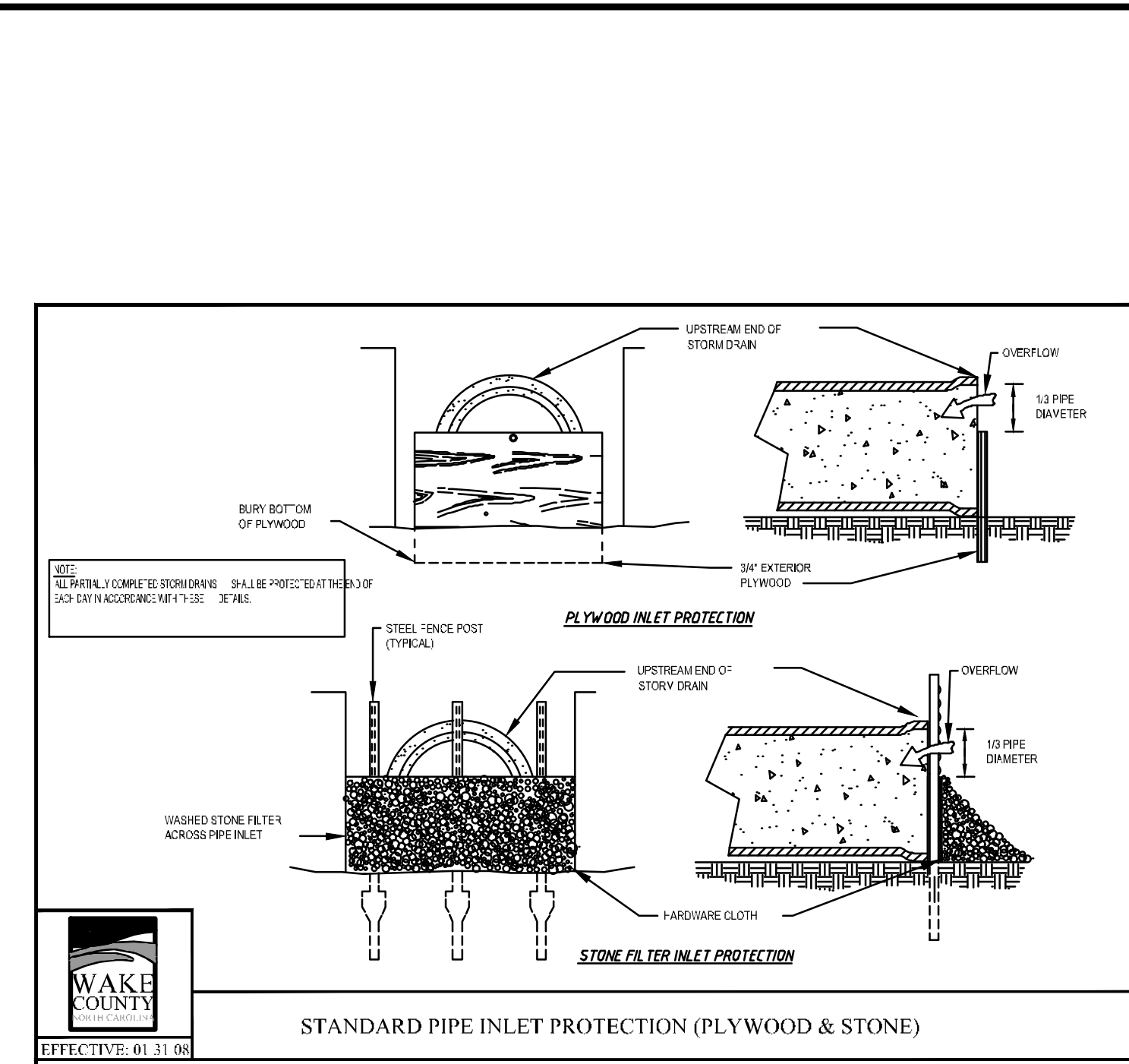
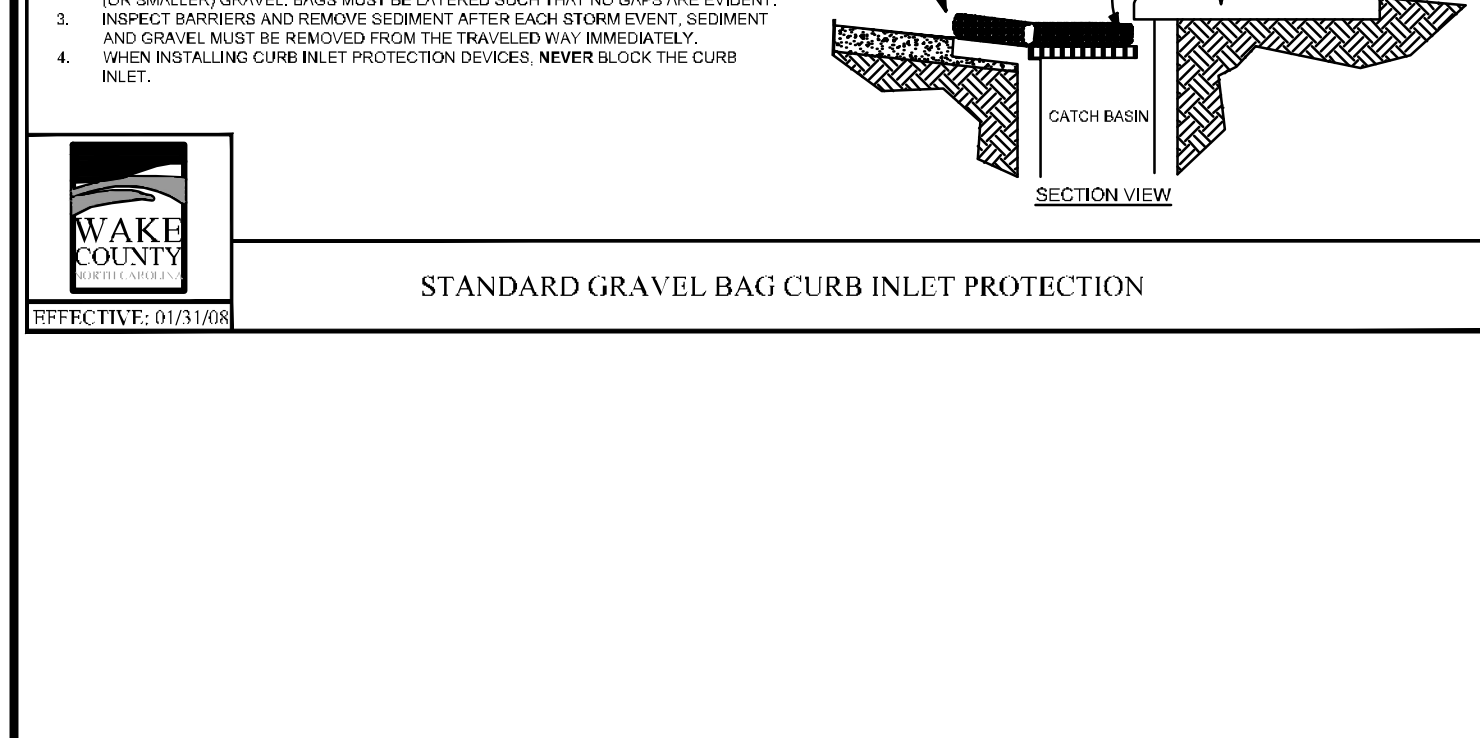
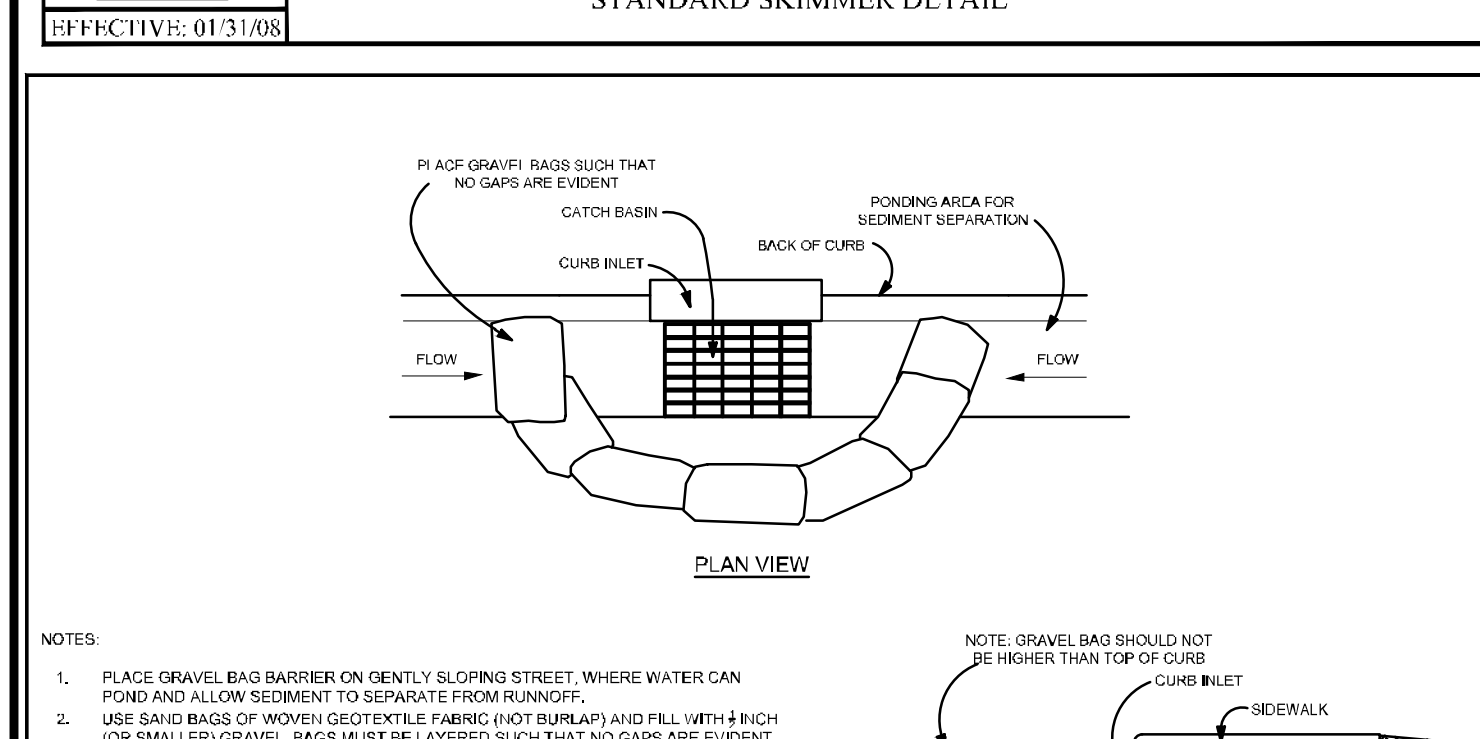
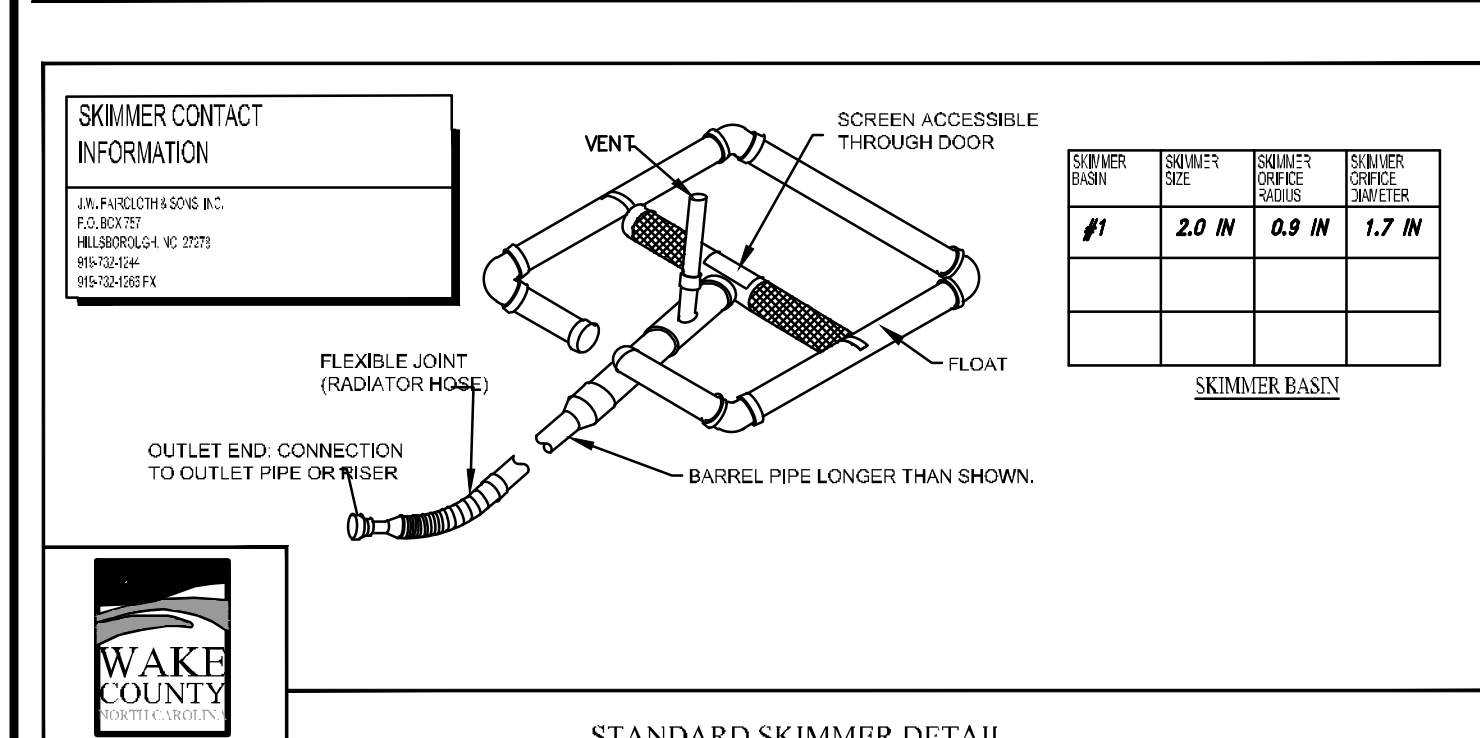
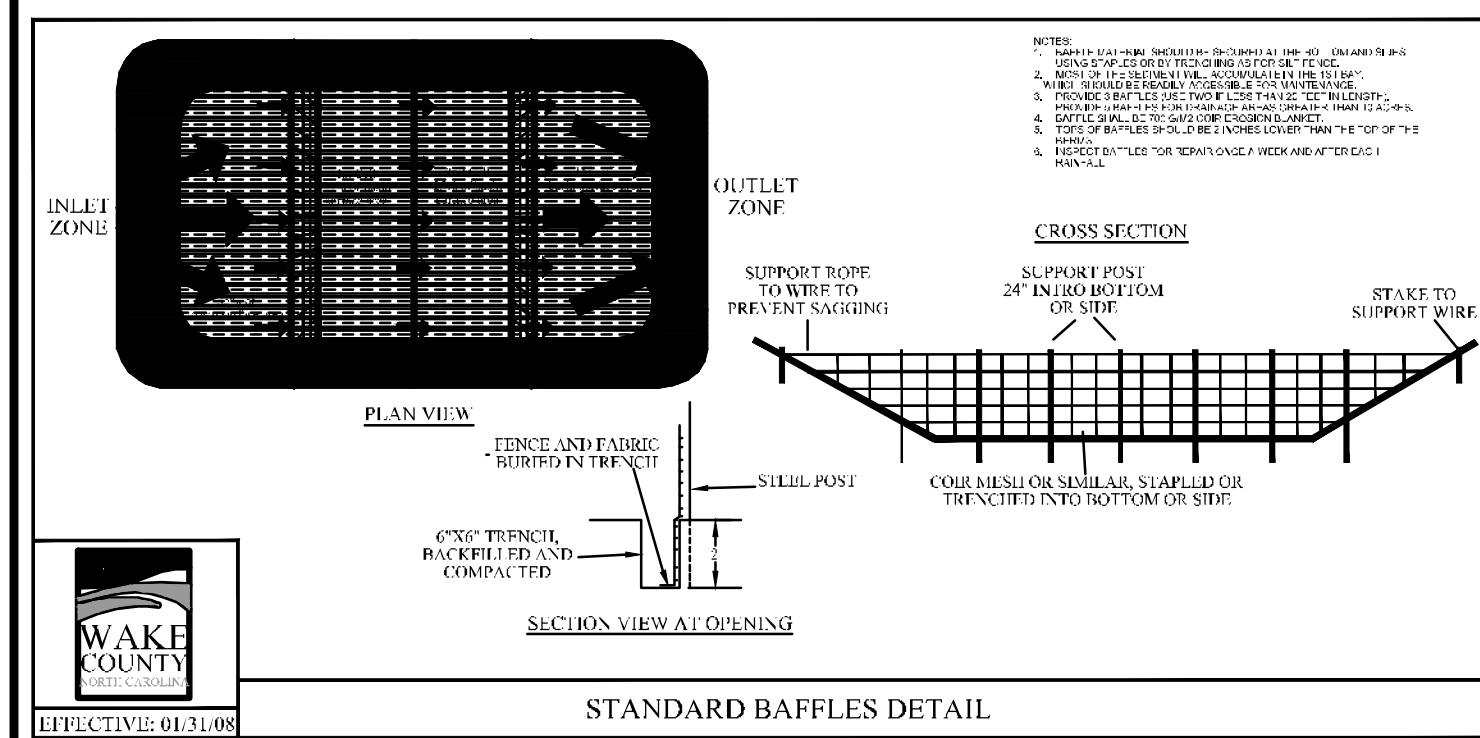
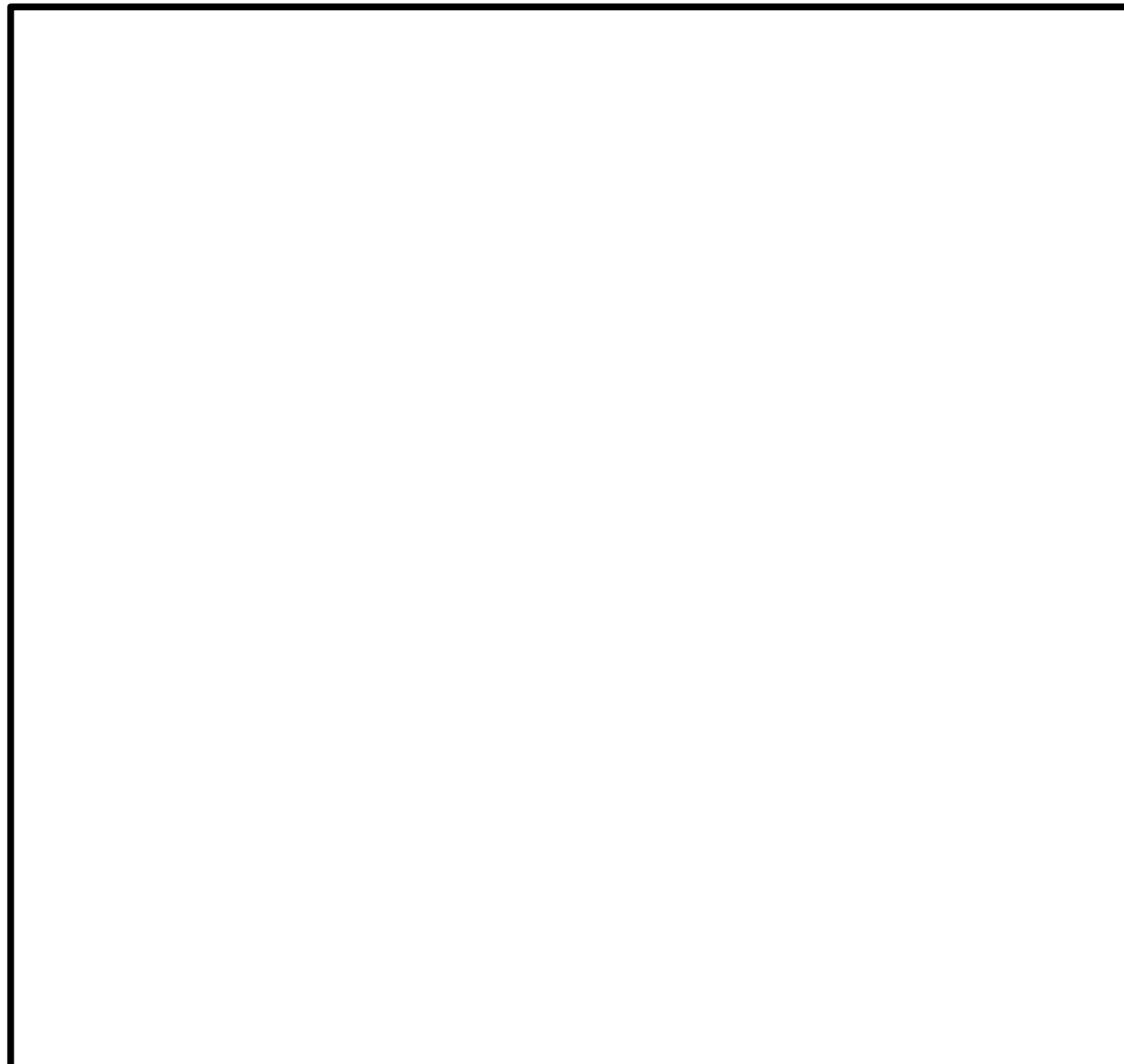
PRELIMINARY DO NOT USE FOR CONSTRUCTION

PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN
MEL SCALE	XXX CHKD

JOB No. 220097-01-002
DATE June 20, 2022
FILE No. 220097-01-002

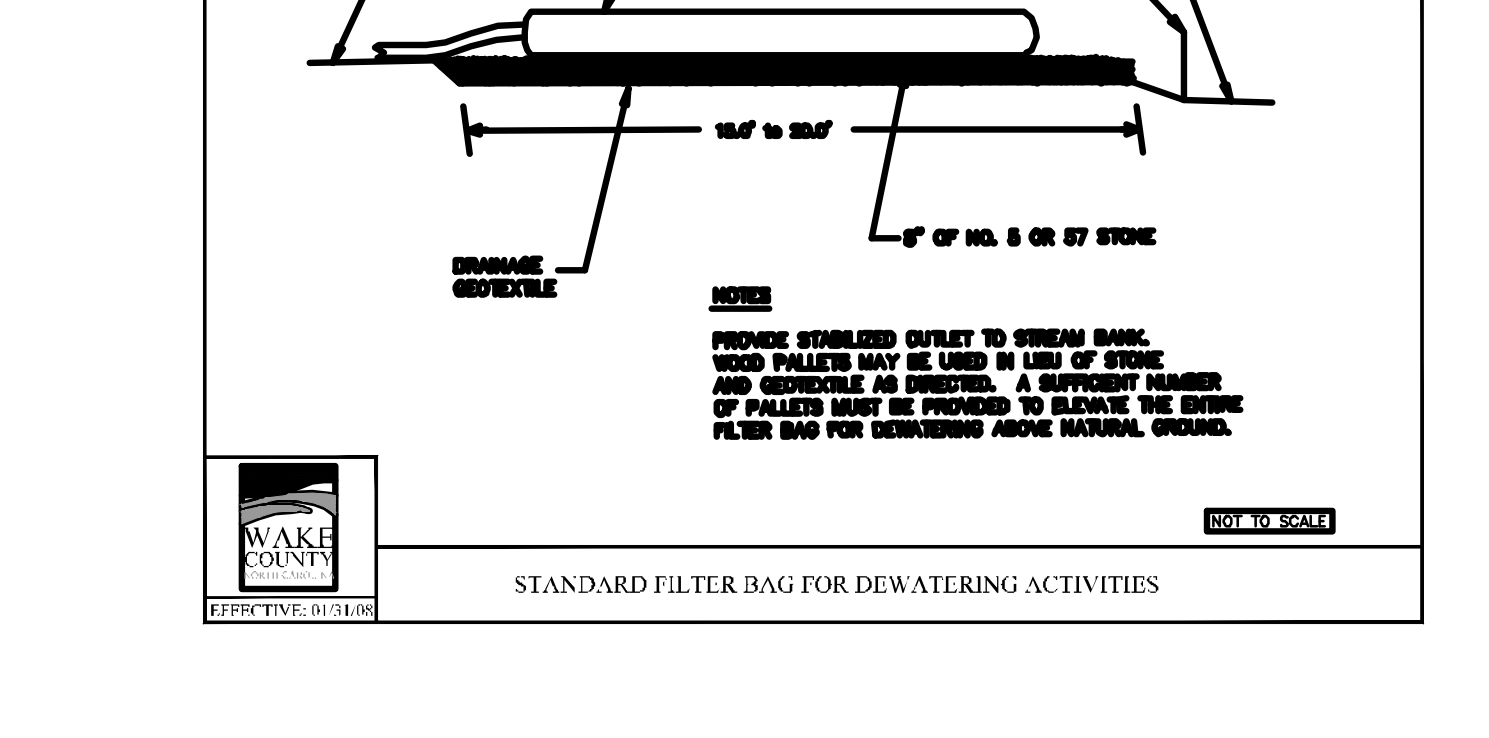
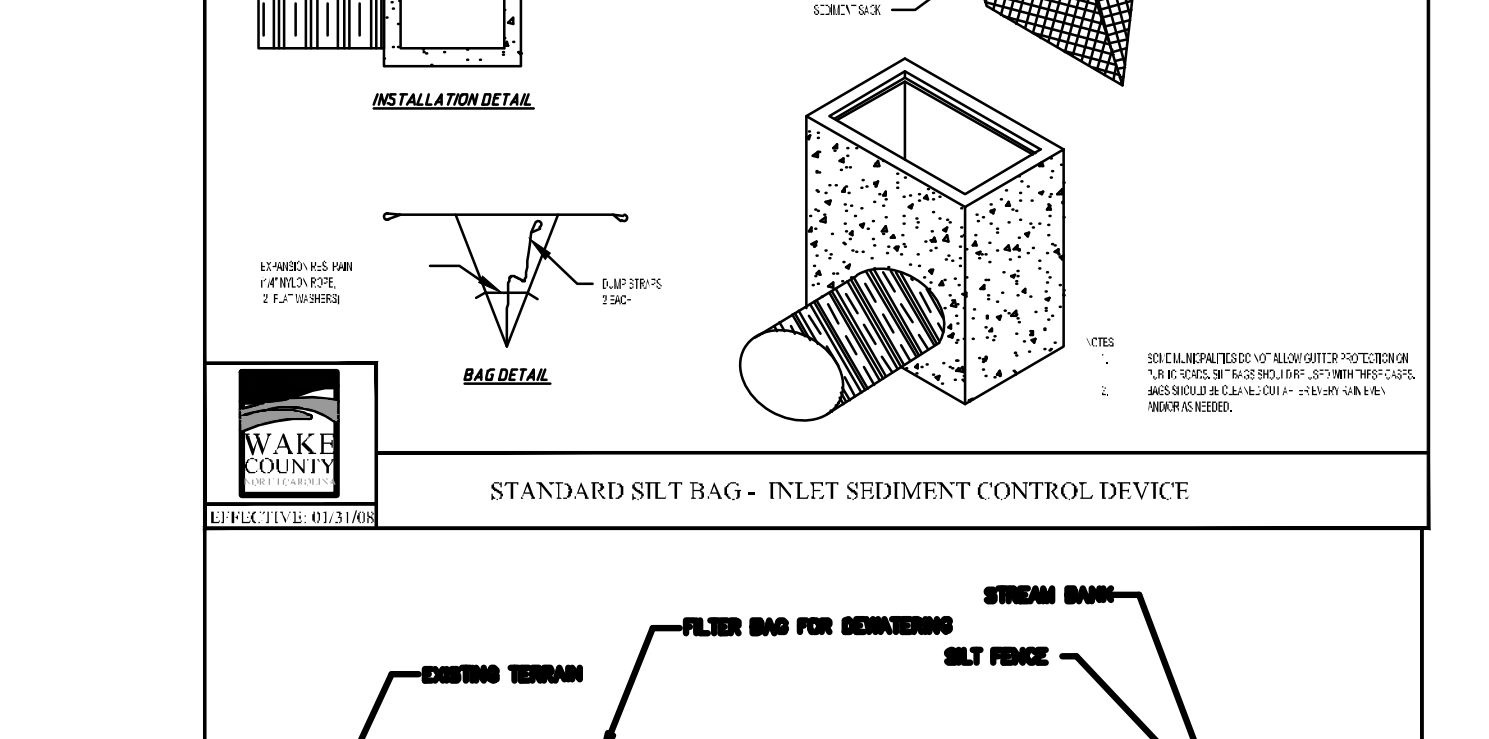
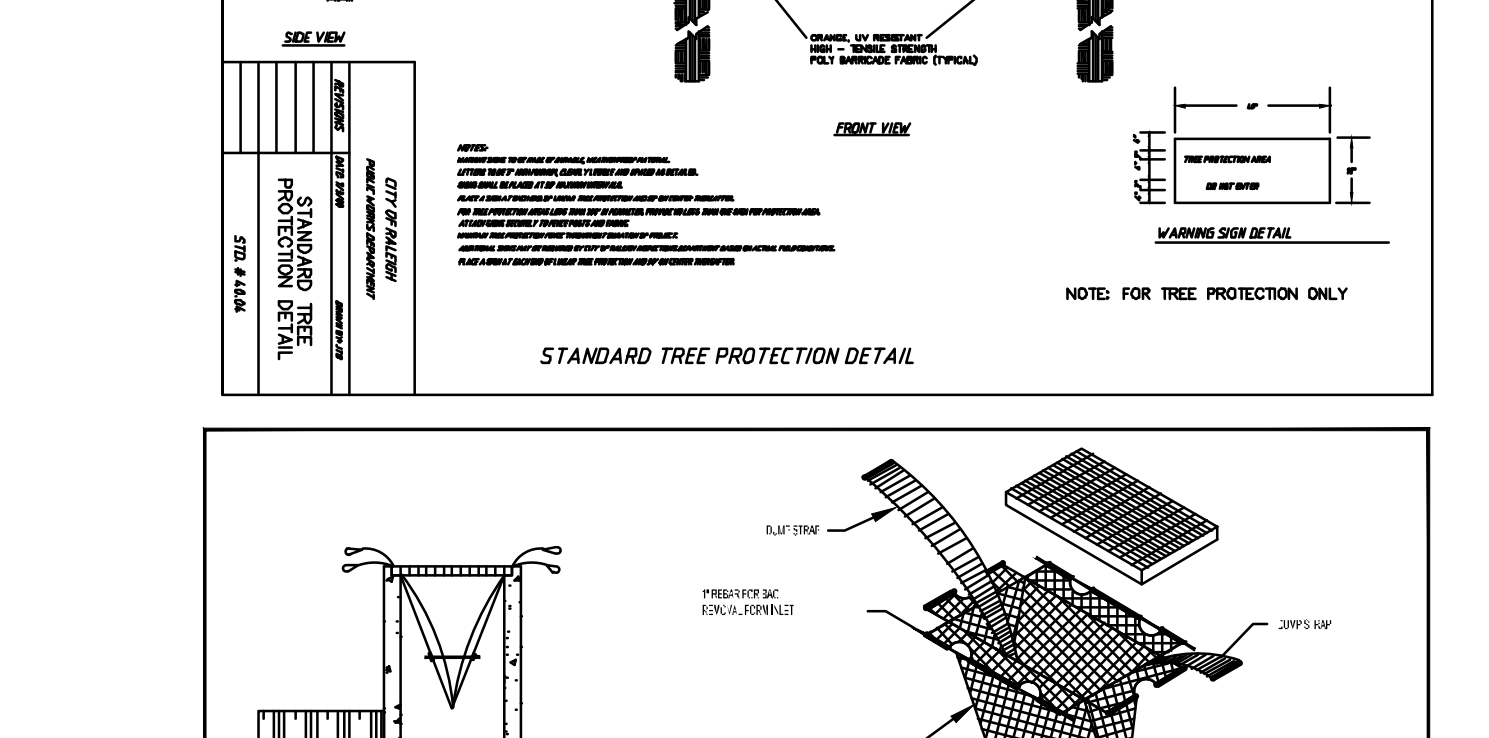
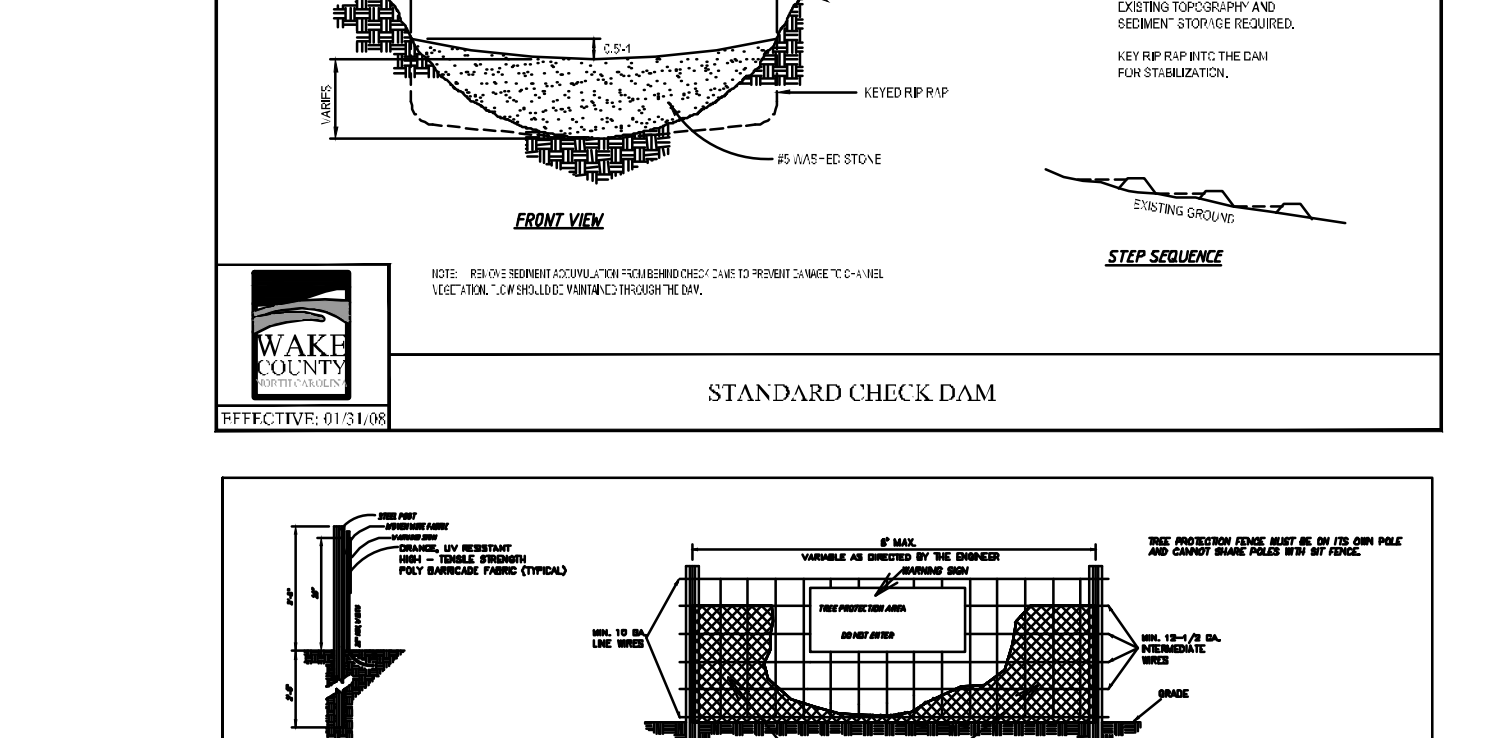
SHEET **C5.0**



DITCH	FLOW Q(10)	LONG. SLOPE(%)	H	B	W	SS	CHANNEL LINING
TEMPORARY DITCH #1	10.8 CFS	1.71%	1.5'	1.0'	7.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #2	9.0 CFS	1.94%	1.5'	1.0'	7.0'	2:1	STRAW WITH NET NAG DS75

EROSION CONTROL MAT SHALL BE AS NOTED OR APPROVED EQUAL.

3 TEMPORARY DIVERSION DITCH DATA BLOCK REFER TO DETAIL SHEET FOR TEMPORARY DITCH DETAIL.



Bowman

Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)555-6570
bowman.com

Wake County
Project ID#796479

Zebulon, NC

EROSION CONTROL DETAILS

Rocket Express
Arendell Ave

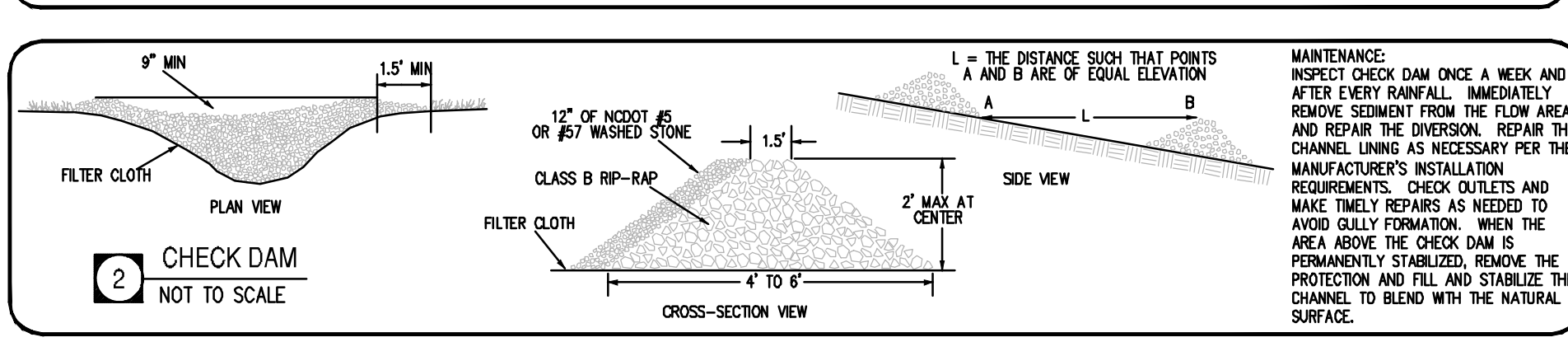
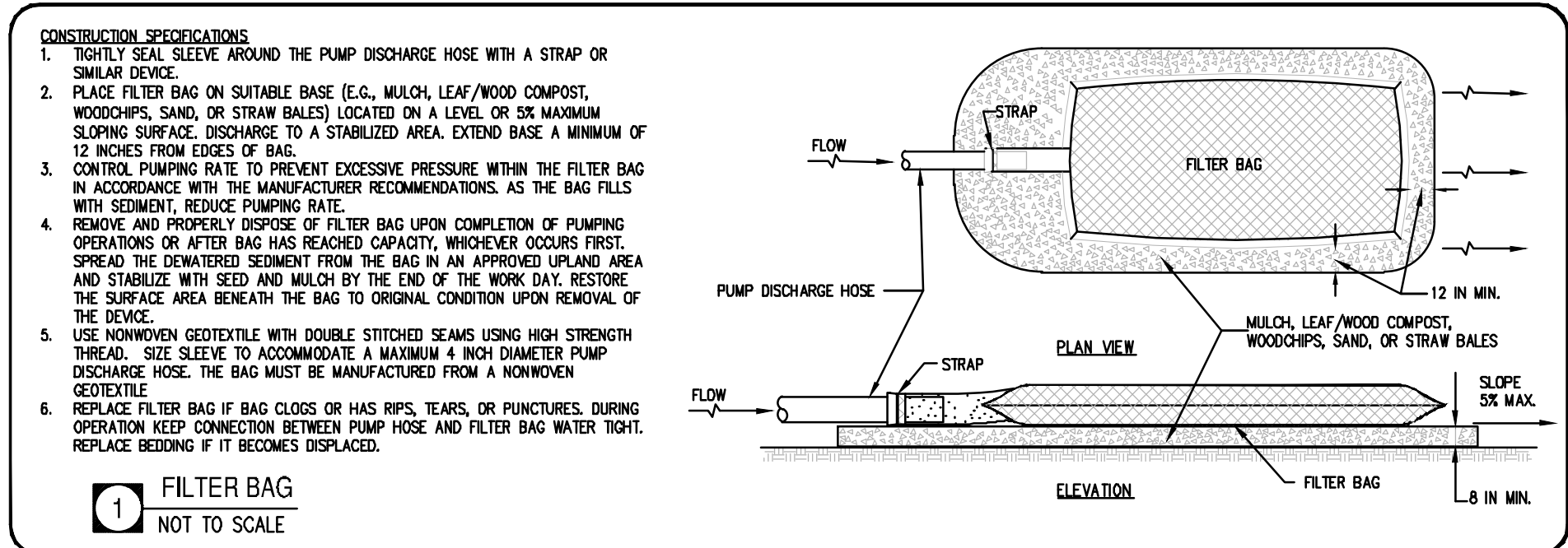
PRELIMINARY
DO NOT
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PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H:1/4" = 1'-0" V:1/4" = 1'-0"

JOB No. 220097-01-002
DATE June 20, 2022
FILE No. 220097-01-002

SHEET C6.0



TEMPORARY SEEDING SPECIFICATIONS/SCHEDULE

Date	Type	Planting Rate
March - Oct	Browntop Millet	40 lbs/acre
Nov - Feb	Winter Rye	120 lbs/acre

PERMANENT SEEDING SPECIFICATIONS/SCHEDULE

Date	Type	Planting Rate
Aug 15 - Nov 1	Deer Tongue	300 lbs/acre
Nov 1 - Mar 1	Deer Tongue & Abruzzi Rye	300 lbs/acre
Mar 1 - Apr 15	Deer Tongue	300 lbs/acre
Apr 15 - Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1 - Aug 15	Deer Tongue & Browntop Millet	240 lbs/acre
Aug 15 - Oct 31	Sorghum-Sudan Hybrids	30 lbs/acre

SEEDBED PREPARATION:

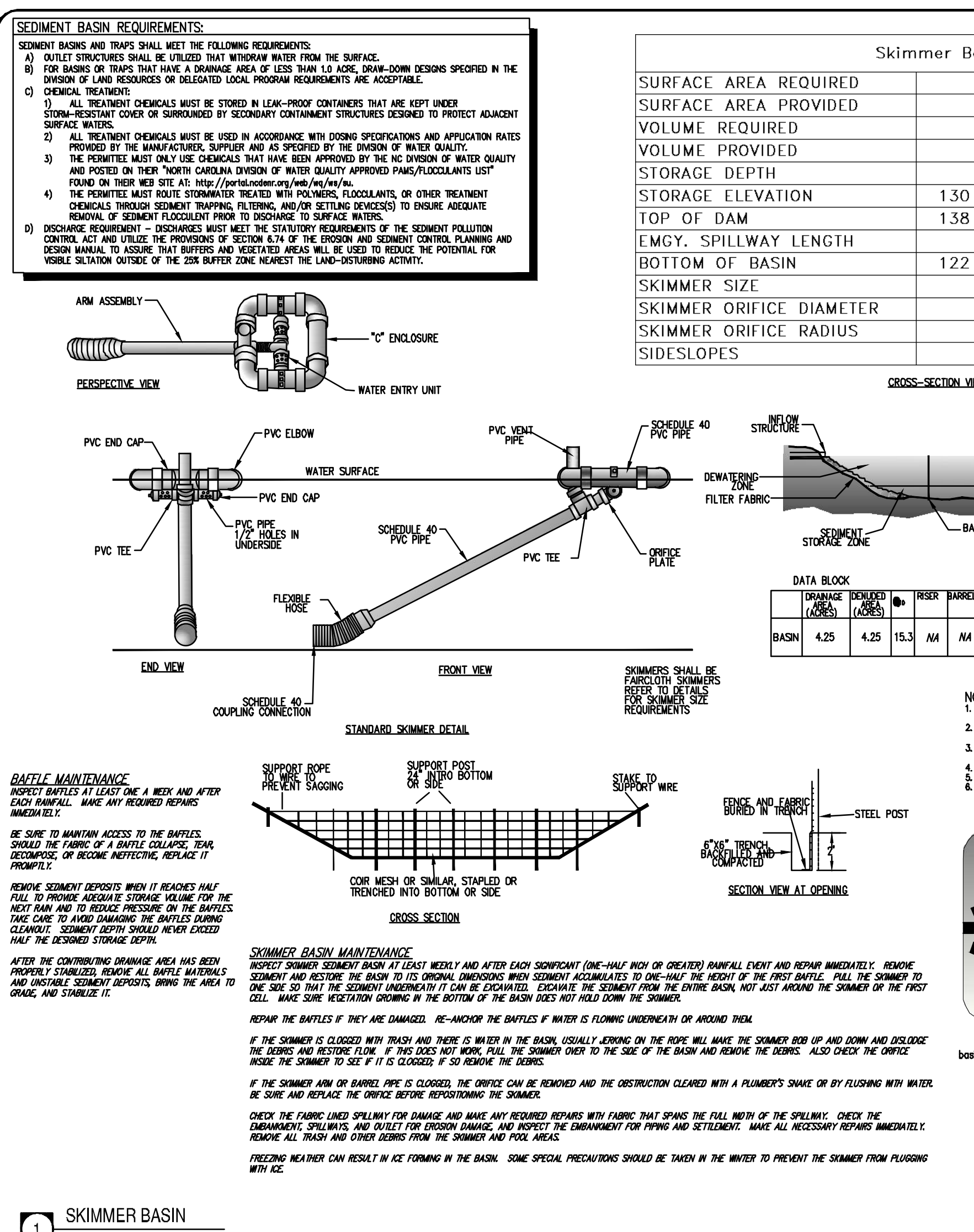
- CORRECT COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTIRE AREA TO SIX INCHES DEEP.
- REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEEDING MIXTURE).
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR COLLAPK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- CONSULT SAEC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

SEEDING MIXTURE:

AGRICULTURE LIMESTONE:	2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER:	1,000 LBS/ACRE - 10-10-10
SUPERPHOSPHATE:	500 LBS/ACRE - 20% ANALYSIS
MULCH:	2 TONS/ACRE - SMALL GRAIN STRAW
ANCHOR:	ASPHALT EMULSION AT 400 GALS/ACRE

TEMPORARY SEEDING

NOT TO SCALE



Skimmer Basin #1

Parameter	Value	Unit
SURFACE AREA REQUIRED	6,665	SF
SURFACE AREA PROVIDED	7,150	SF
VOLUME REQUIRED	7,650	CF
VOLUME PROVIDED	12,884	CF
STORAGE DEPTH	2.0	FT
STORAGE ELEVATION	130	x 55
TOP OF DAM	138	x 63
EMGY. SPILLWAY LENGTH	15	FT
BOTTOM OF BASIN	122	x 47
SKIMMER SIZE	2.0	IN
SKIMMER ORIFICE DIAMETER	1.7	IN
SKIMMER ORIFICE RADIUS	0.9	IN
SIDESLOPES	2:1	

DATA BLOCK

Basin	Orifice (Inch)	Basin (Feet)	Barrel (Feet)	Skimmer (Feet)	Concrete (Feet)
Basin 4.25	4.25	15.3	NA	1.0	2.0
Basin 4.0	4.0	10	1.5	5.0	REFER TO BMP PLAN

CONSTRUCTION SPECIFICATIONS:

- CLEAR, GRASS, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER AND EXPOSED OR DISPOSE OF IT PROPERLY. MARK ALL SUBSEQUENT MATERIAL TO THE DESIGNATED ORIGINAL AREA. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS NEEDED.
- BATTLES SHALL BE 200 GPM PER HOUR (GPM) PER ACRES. PROVIDE 3 BATTLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
- TIPS OF BATTLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.
- INSTALL BATTLES FOR REPAIR CLOSURE OF WEIR AND AFTER EACH RAINFALL.
- REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BATTLES. TAKE CARE TO AVOID DAMAGING THE BATTLES DURING CLEANOUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGN STORAGE DEPTH.
- REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BATTLES. TAKE CARE TO AVOID DAMAGING THE BATTLES DURING CLEANOUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGN STORAGE DEPTH.
- INSPECT SKIMMER SEEDING BASIN AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF HOLE OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BATTLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT REMAINS IN THE CENTER OF THE BASIN. DO NOT JUST CLEAN THE SKIMMER ON THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.
- REPAIR THE BATTLES IF THEY ARE DAMAGED. RE-ANCHOR THE BATTLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.
- IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY ENDING ON THE ROPE, WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISRUPT THE BERMS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE BERMS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED. IF SO REMOVE THE BERMS.
- IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.
- CHECK THE FABRIC LINES SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE DAMBANKING, SPILLWAYS AND SLOPE FOR EROSION DAMAGE, AND INSPECT THE DAMBANKING FOR FURNS AND SETBACKS. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.
- FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM FLOODING WITH ICE.

Seeding Schedule

For Shoulders, Side Ditches, Slopes (Max 3:1):

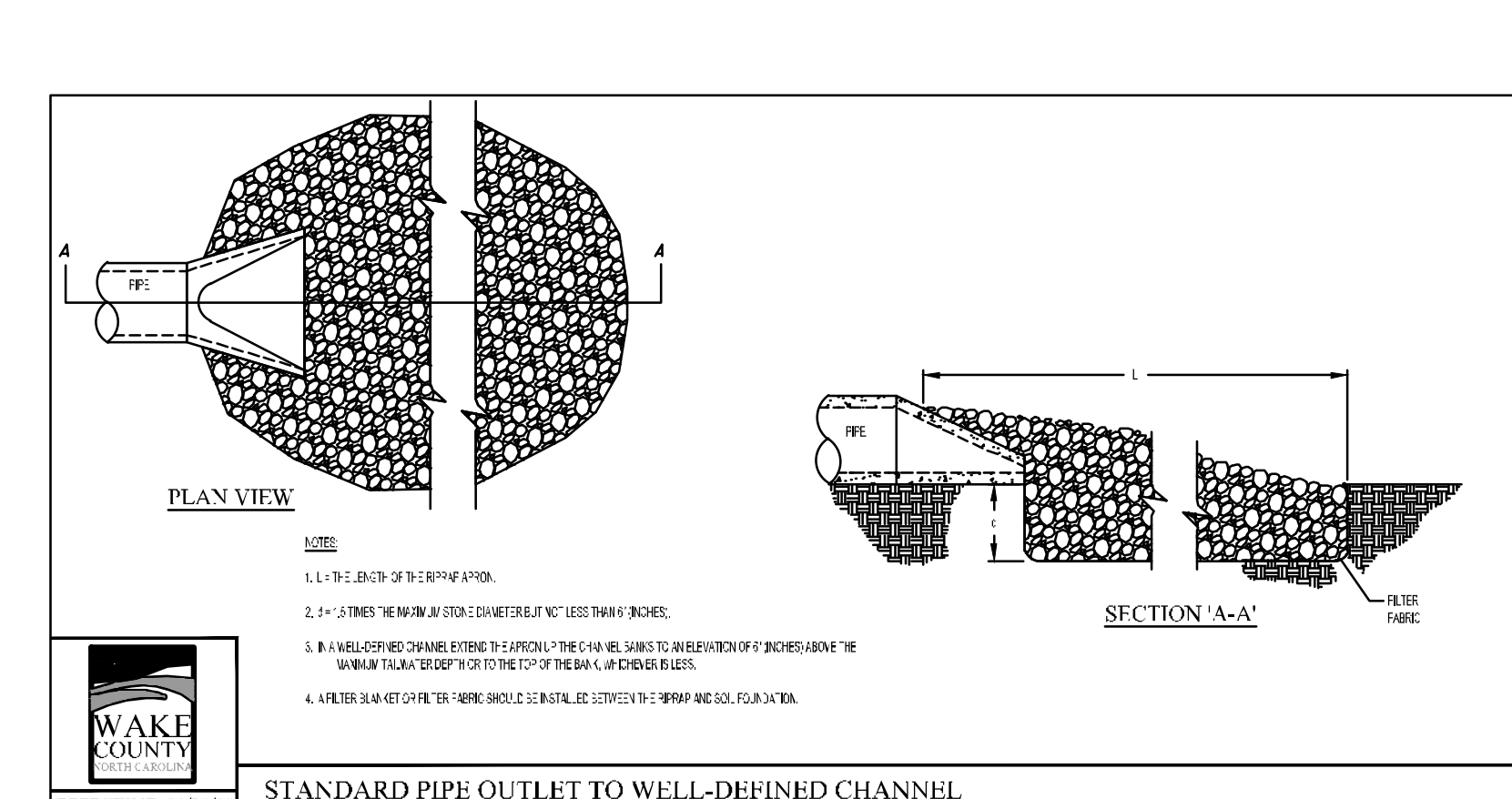
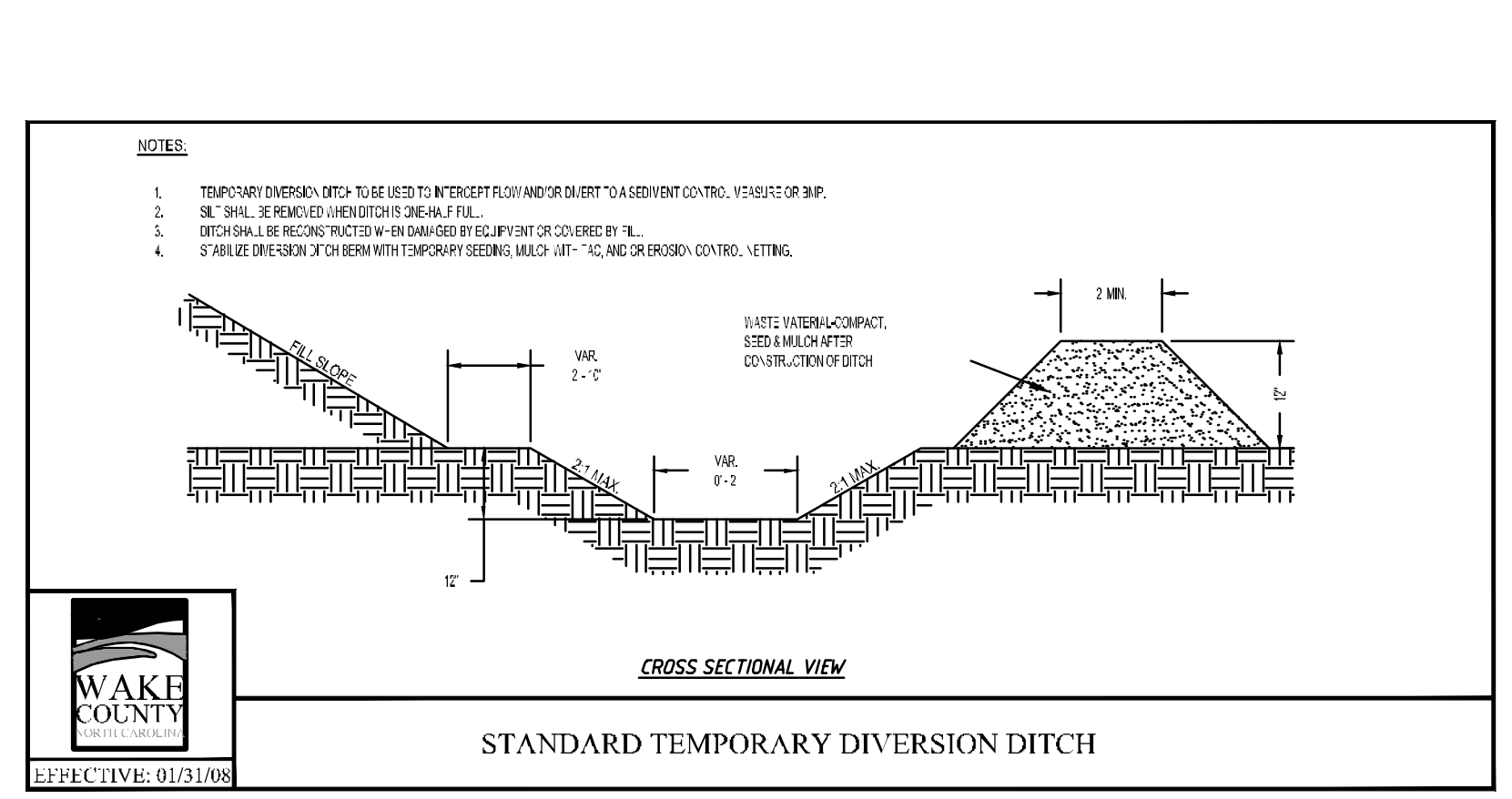
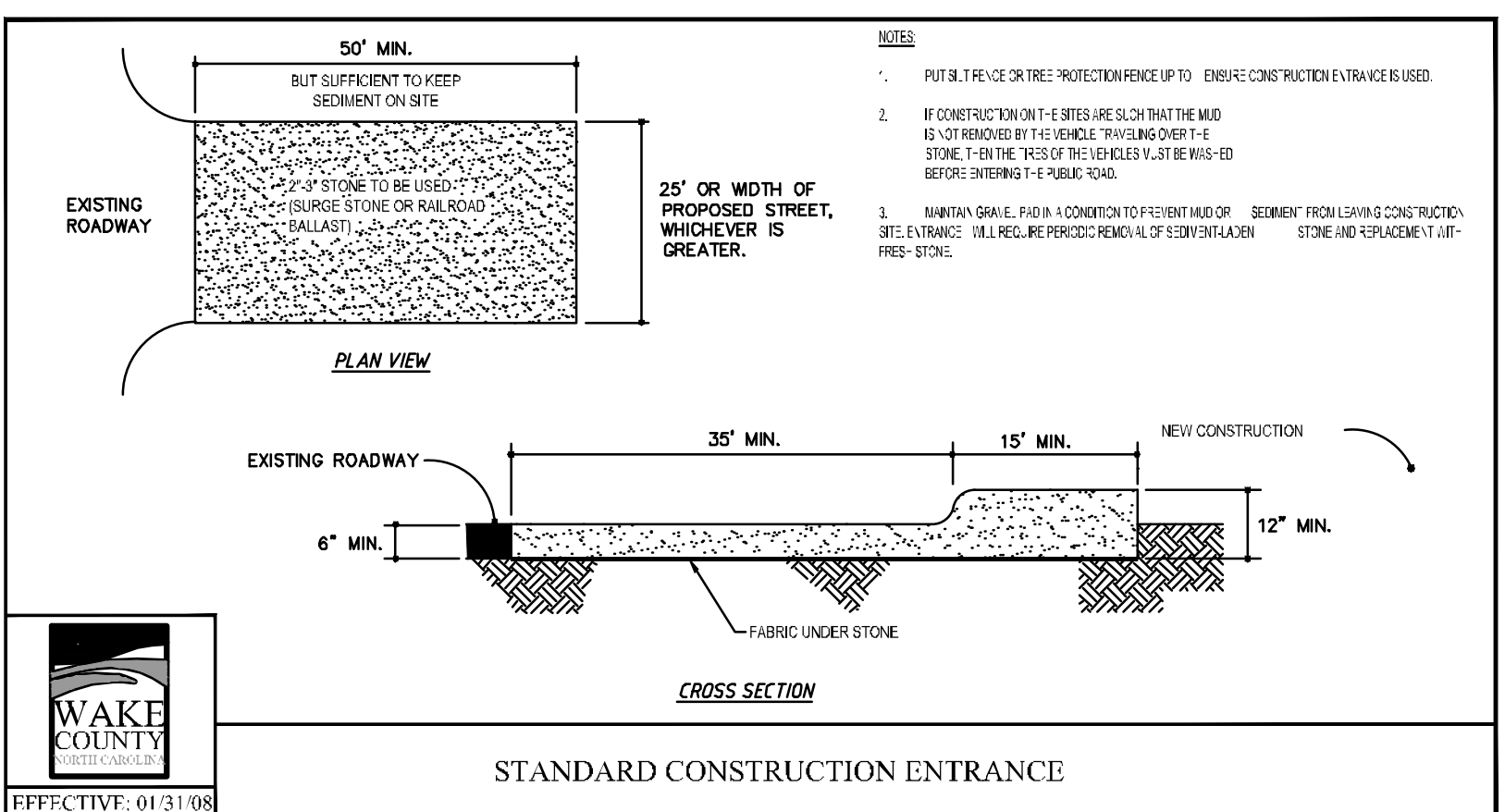
Date	Type	Planting Rate
Aug 15 - Nov 1	Tall Fescue	300 lbs/acre
Nov 1 - Mar 1	Tall Fescue & Abruzzi Rye	300 lbs/acre
Mar 1 - Apr 15	Tall Fescue	300 lbs/acre
Apr 15 - Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1 - Aug 15	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids**	125 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids)

For Shoulders, Side Ditches, Slopes (3:1 to 2:1):

Date	Type	Planting Rate
Mar 1 - Jun 1	Sericea Lespedeza (scarified) and use the following combinations:	60 lbs/acre (Sericea Lespedeza);
Mar 1 - Apr 15	Add Tall Fescue	120 lbs/acre
Mar 1 - Jun 30	Or add Weeping Love grass	10 lbs/acre
Mar 1 - Jun 30	Or add Hulled Common Bermudagrass	25 lbs/acre
Jun 1 - Sept 1	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids**	120 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids)
Sept 1 - Mar 1	Sericea Lespedeza (unhulled) AND Tall Fescue	70 lbs/acre (Sericea Lespedeza); 120 lbs/acre (Tall Fescue)
Nov 1 - Mar 1	AND Abruzzi Rye	25 lbs/acre

Consult Wake County Soil & Water Conservation District or NC State Cooperative Extension for additional information concerning other alternatives for denuded areas. The above vegetation rates are those that do well under local conditions; other seeding rate combinations are possible.

** TEMPORARY: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.



Bowman

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Suite 104
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Phone: (919) 555-6570
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Bowman North Carolina Ltd.
Bowman North Carolina Ltd.

EROSION CONTROL DETAILS

Rocket Express
Arendell Ave
Project ID#736479

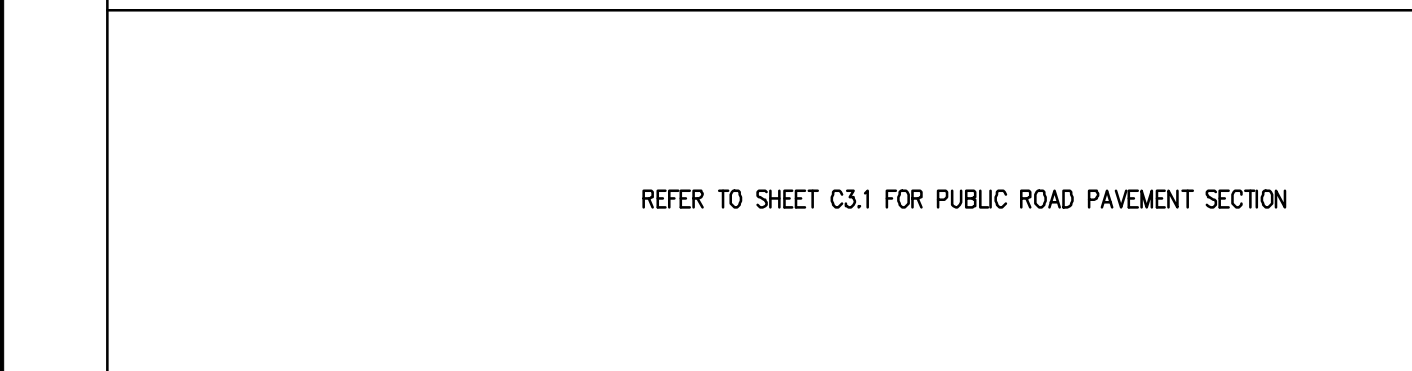
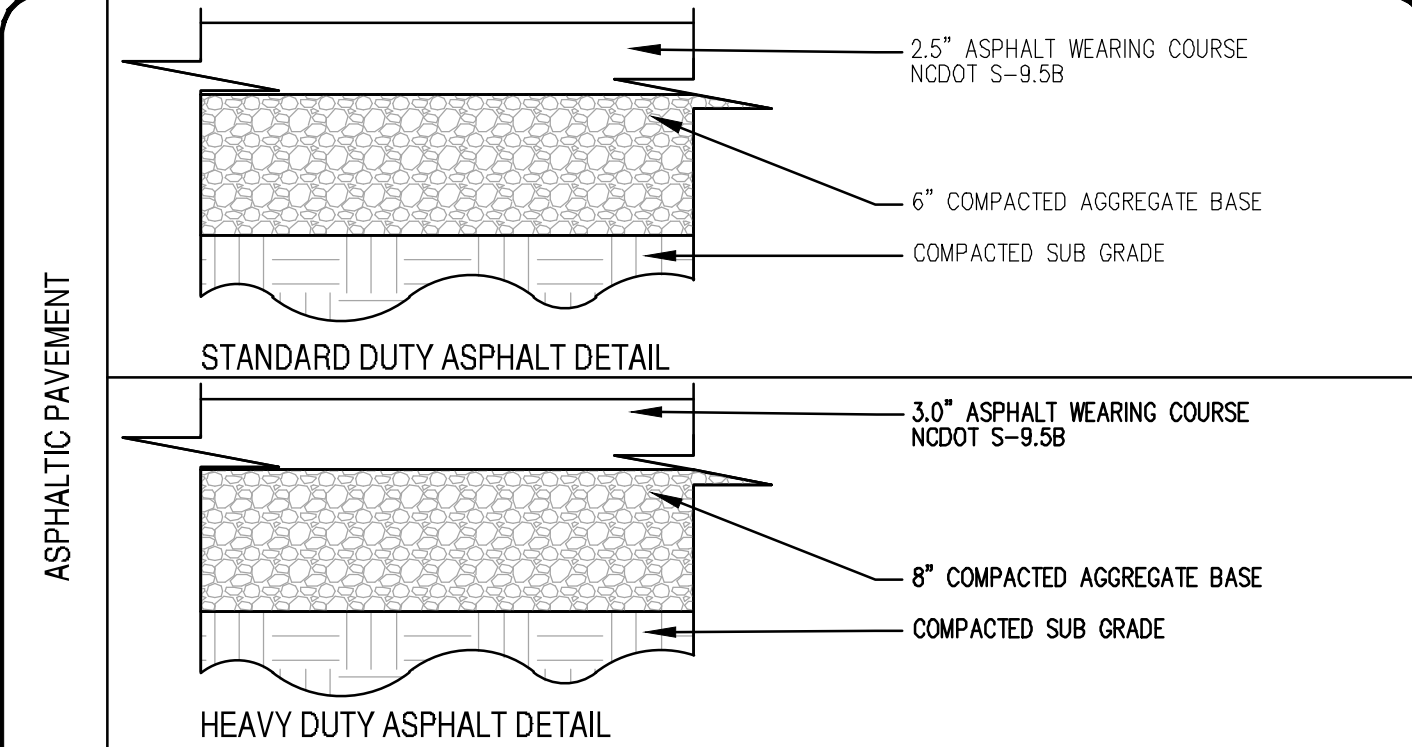
Zebulon, NC Wake County

PRELIMINARY DO NOT USE FOR CONSTRUCTION

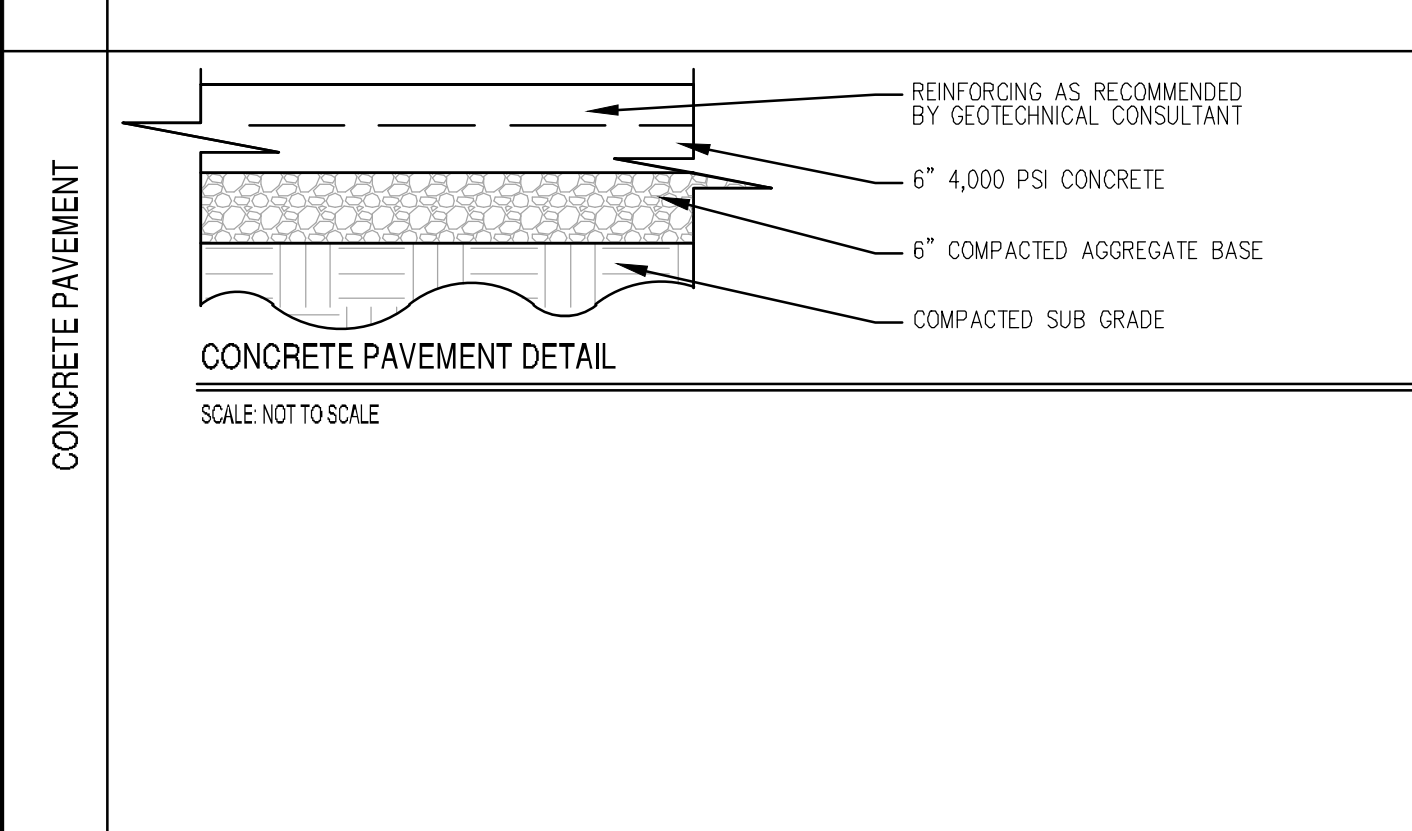
PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H: 1/4" = 1' V: 1/4" = 1'
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002

SHEET C6.1

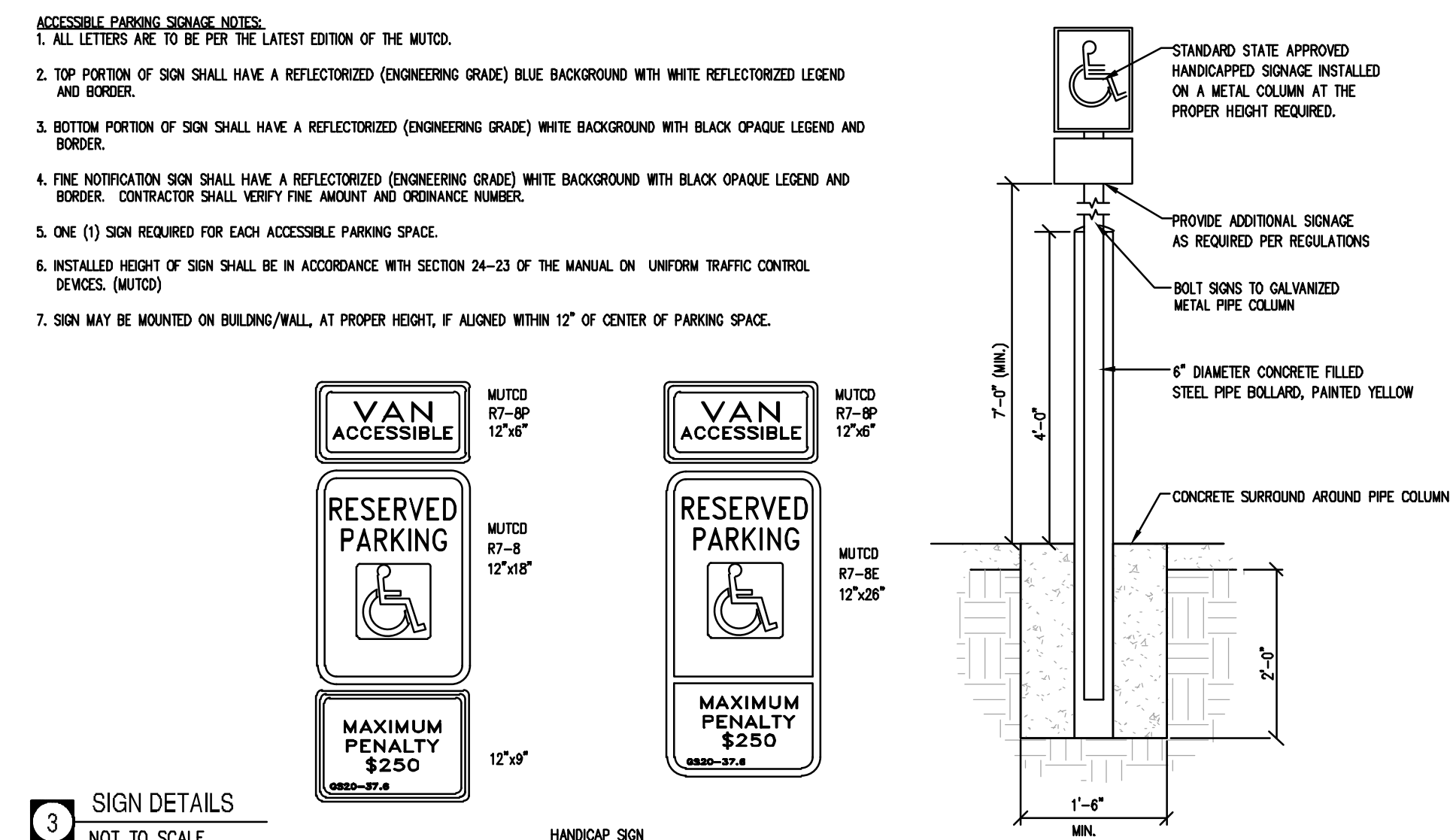


REFER TO SHEET C3.1 FOR PUBLIC ROAD PAVEMENT SECTION

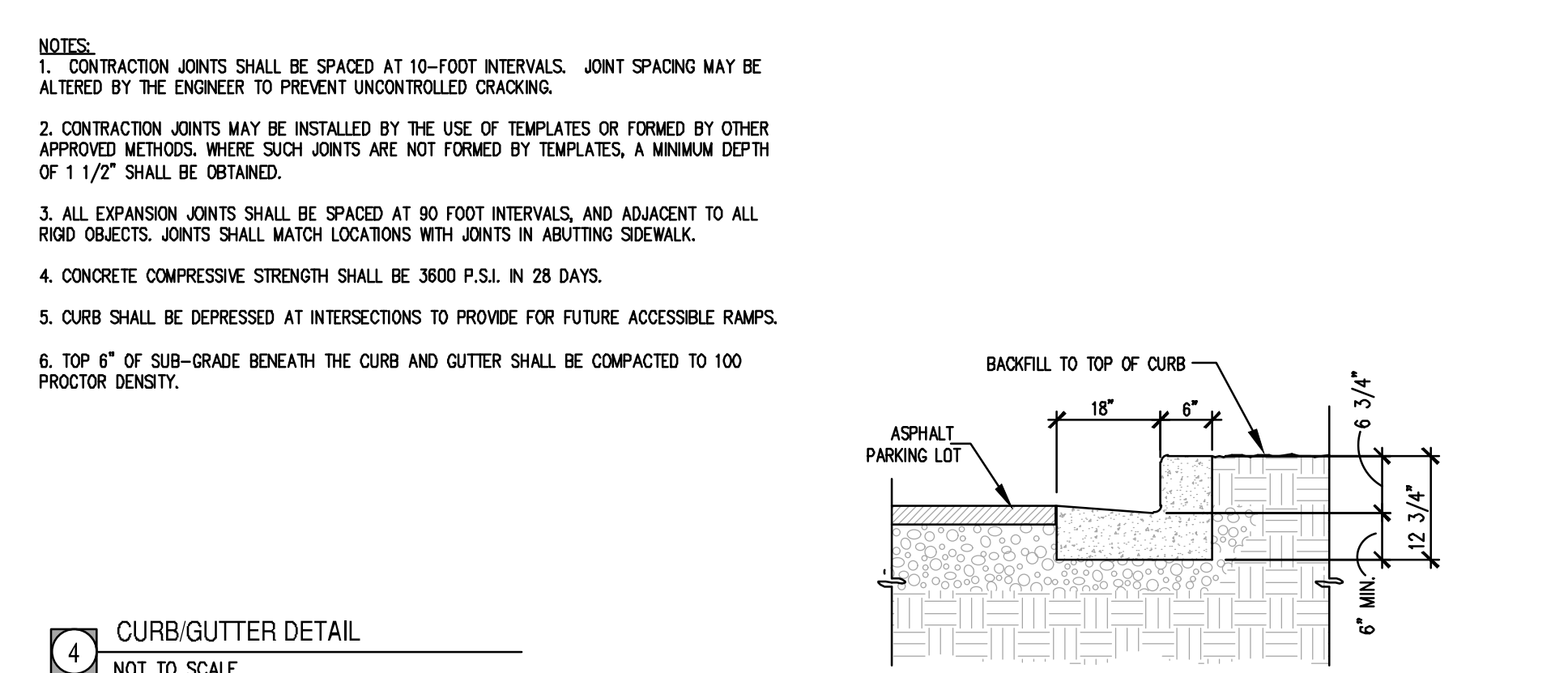


1 PAVEMENT DETAILS
NOT TO SCALE

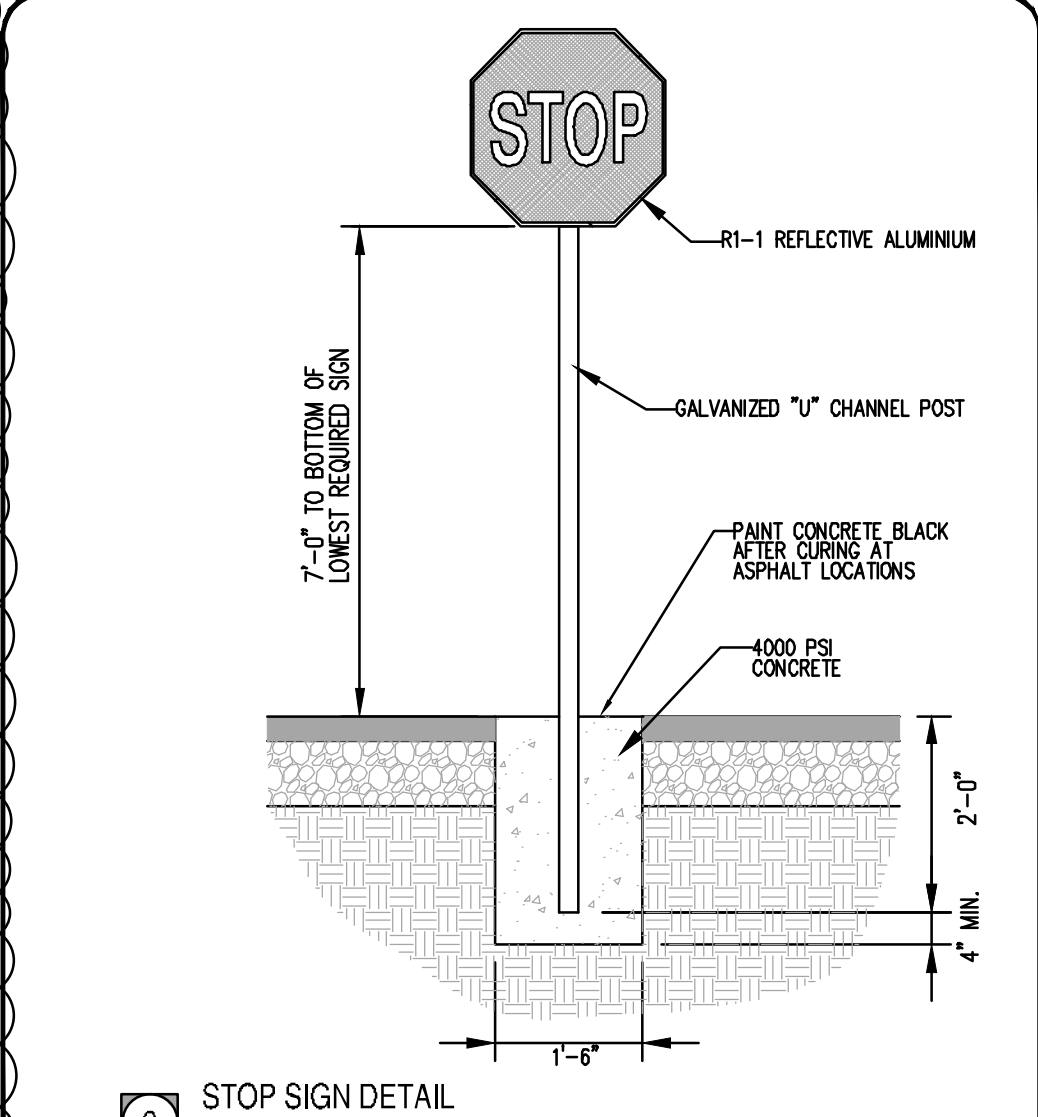
REFER TO NCDOT DRIVEWAY PERMIT FOR ADDITIONAL REQUIREMENTS
REFER TO PROJECT GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS
MATERIALS AND CONSTRUCTION REQUIREMENTS PER THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, LATEST EDITION



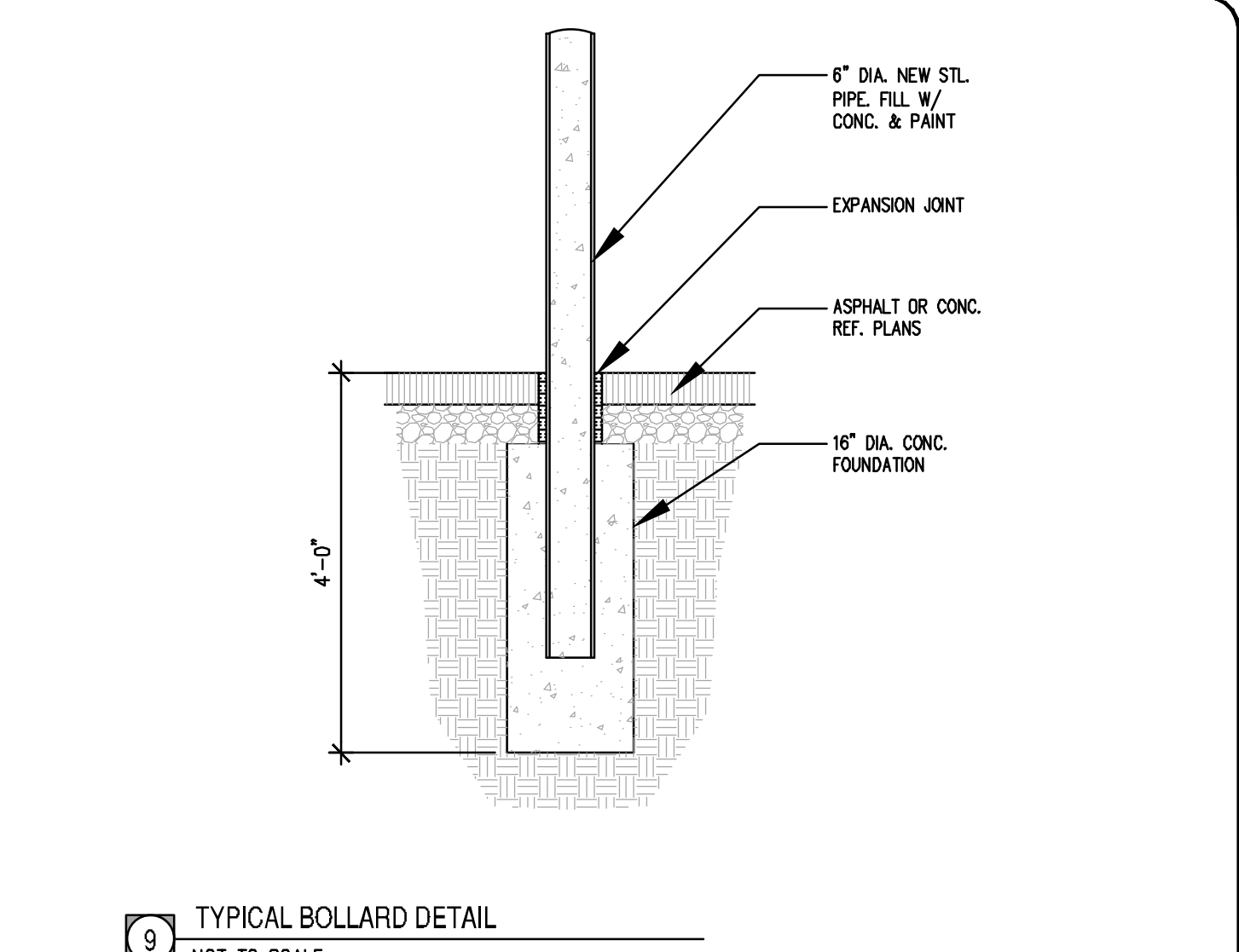
3 SIGN DETAILS
NOT TO SCALE



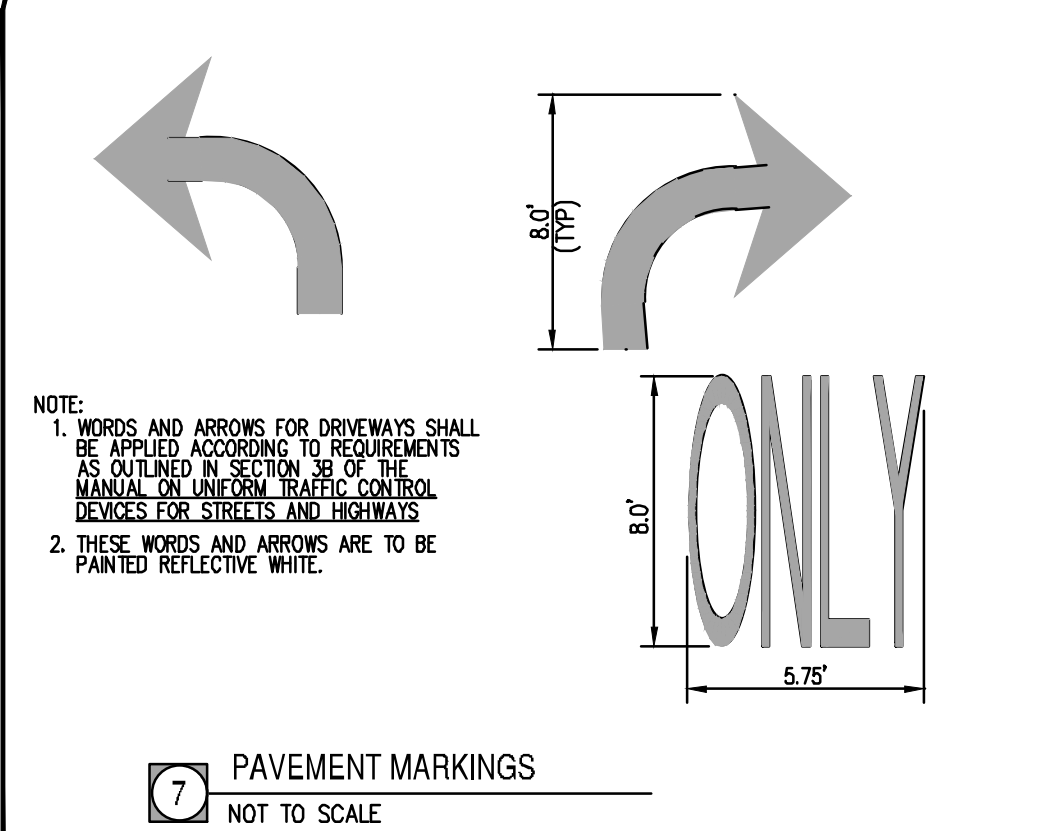
4 CURB/GUTTER DETAIL
NOT TO SCALE



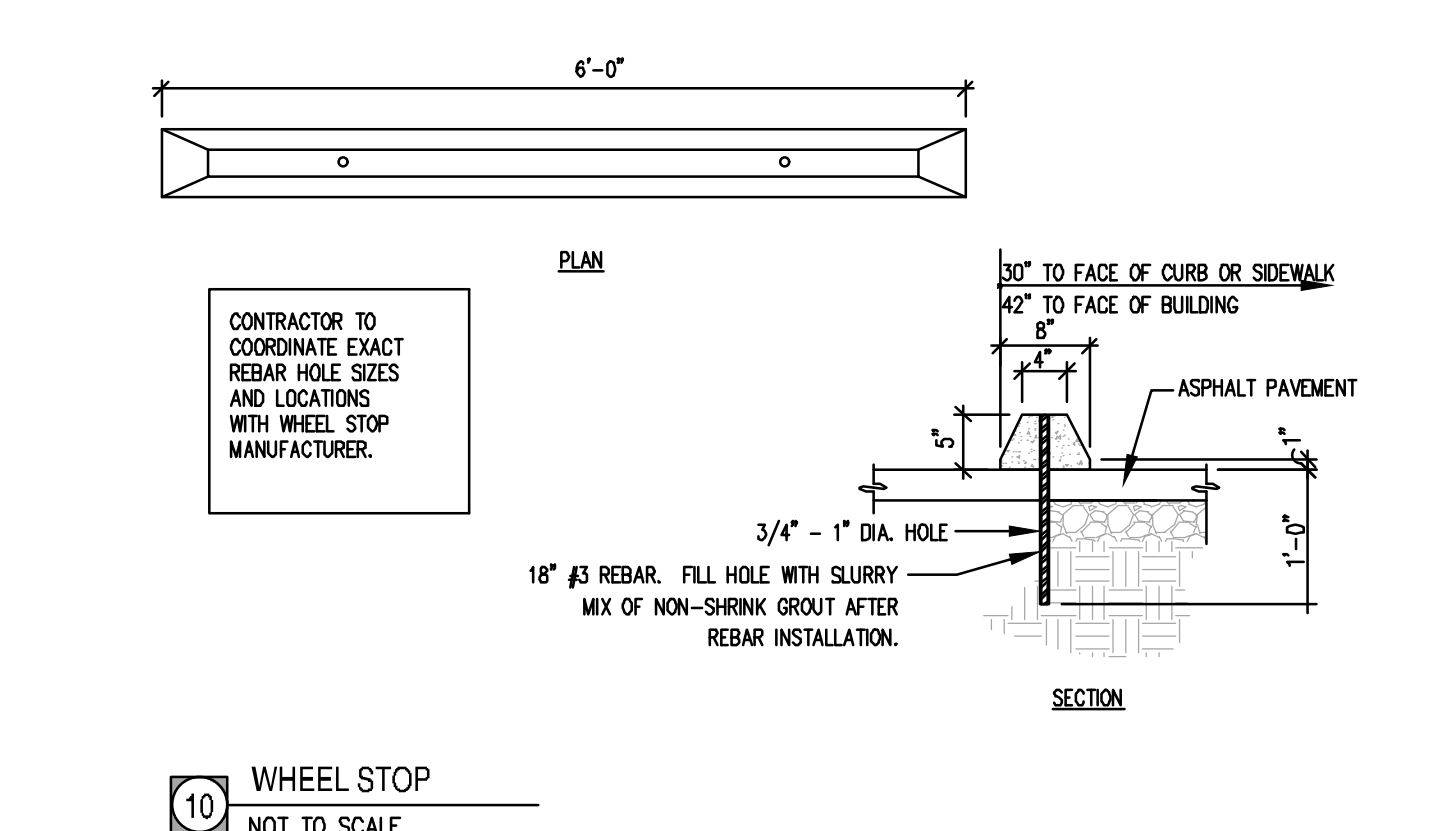
6 STOP SIGN DETAIL
NOT TO SCALE



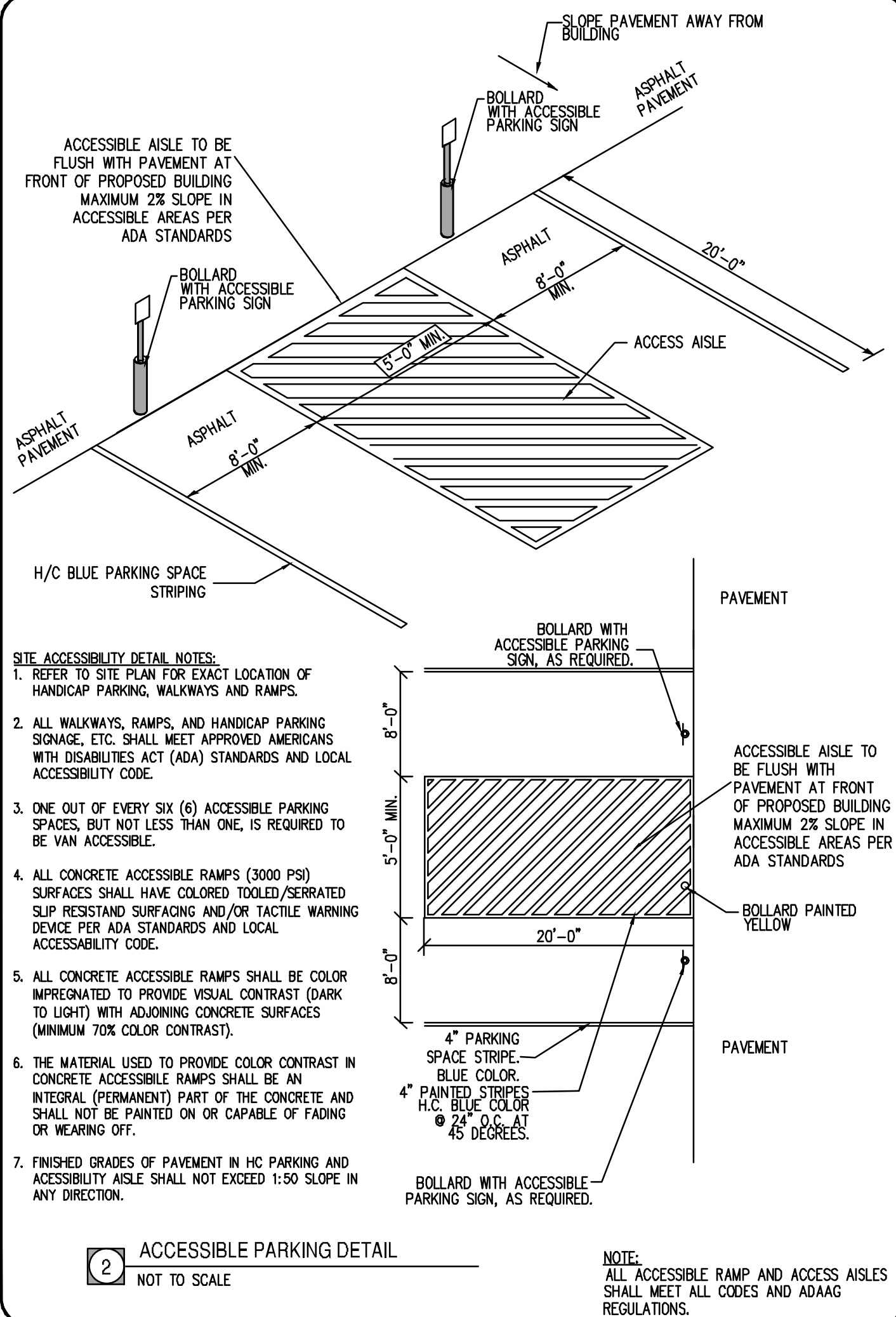
9 TYPICAL BOLLARD DETAIL
NOT TO SCALE



7 PAVEMENT MARKINGS
NOT TO SCALE

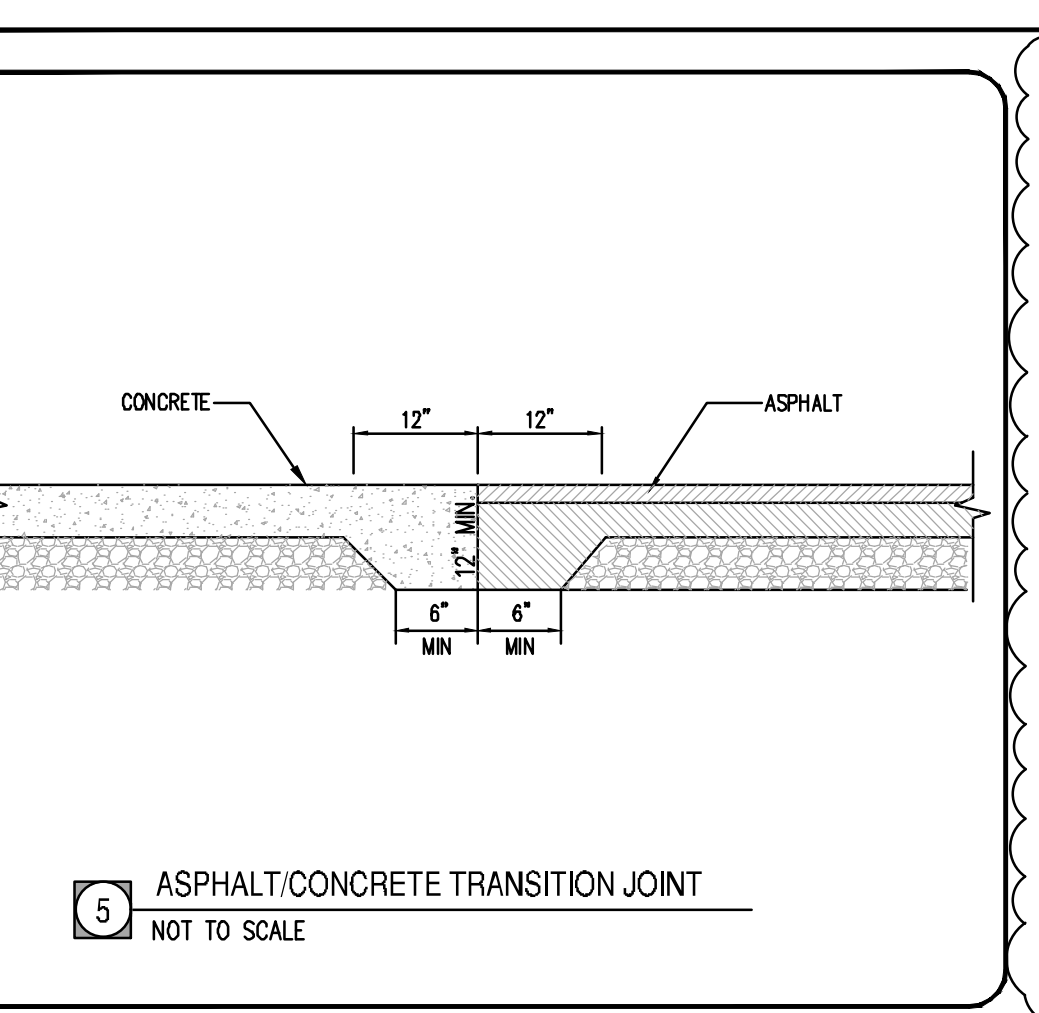


10 WHEEL STOP
NOT TO SCALE

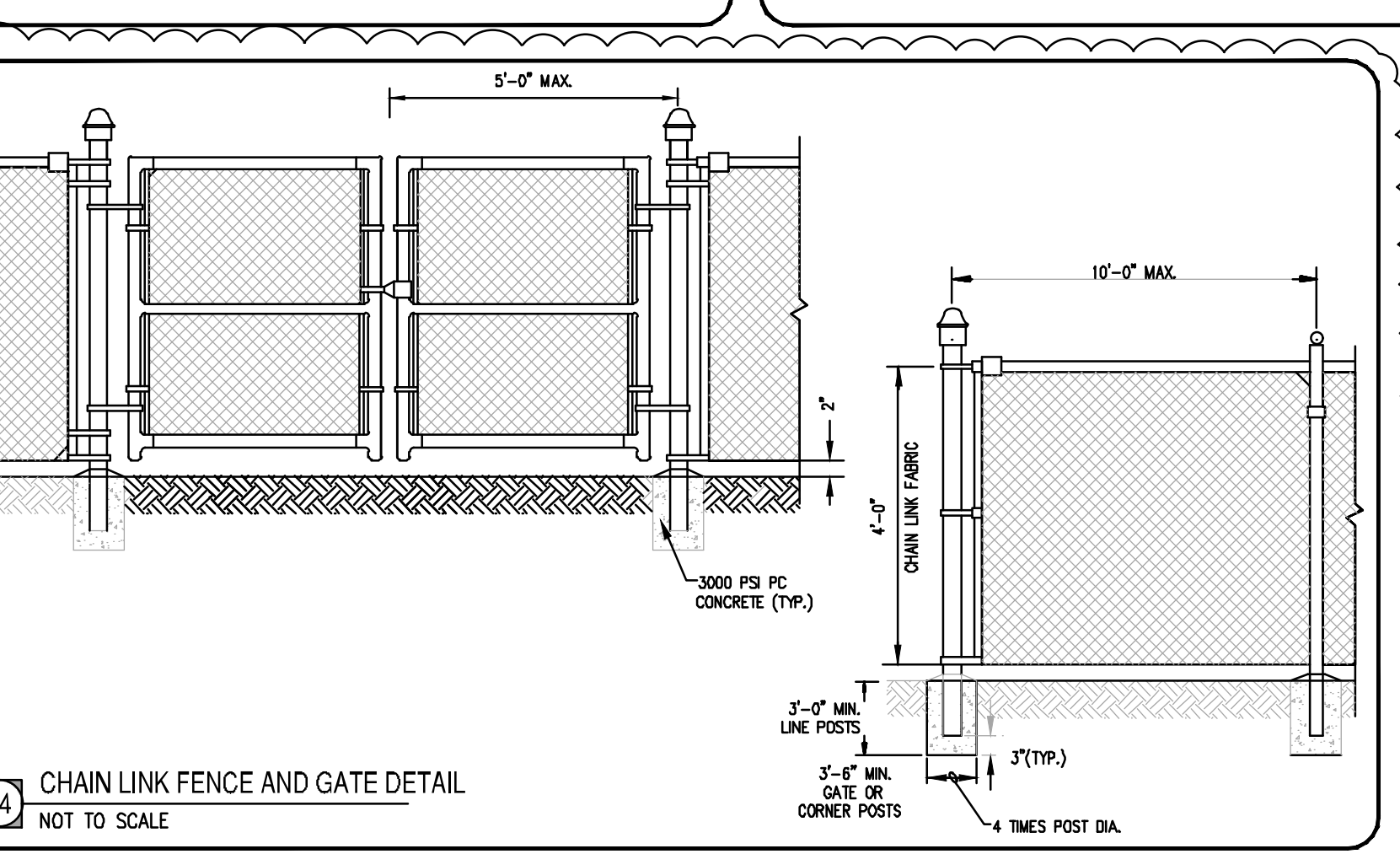


2 ACCESSIBLE PARKING DETAIL
NOT TO SCALE

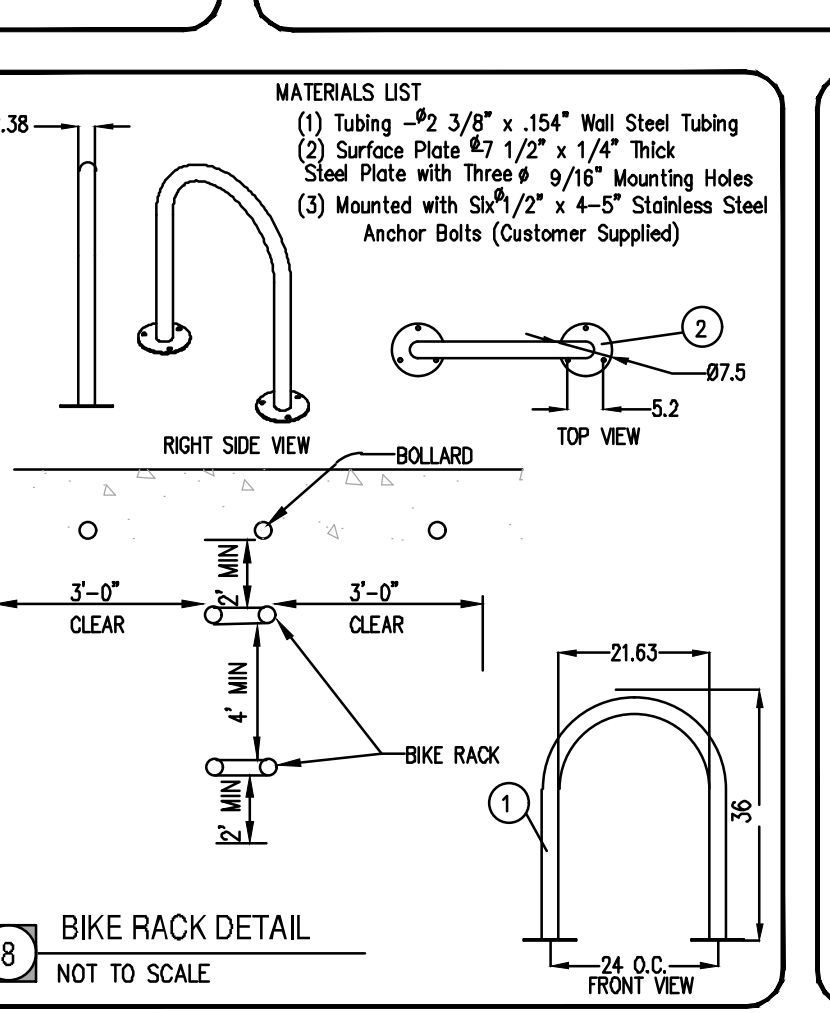
NOTE: ALL ACCESSIBLE RAMP AND ACCESS AISLES SHALL MEET ALL CODES AND ADAAG REGULATIONS.



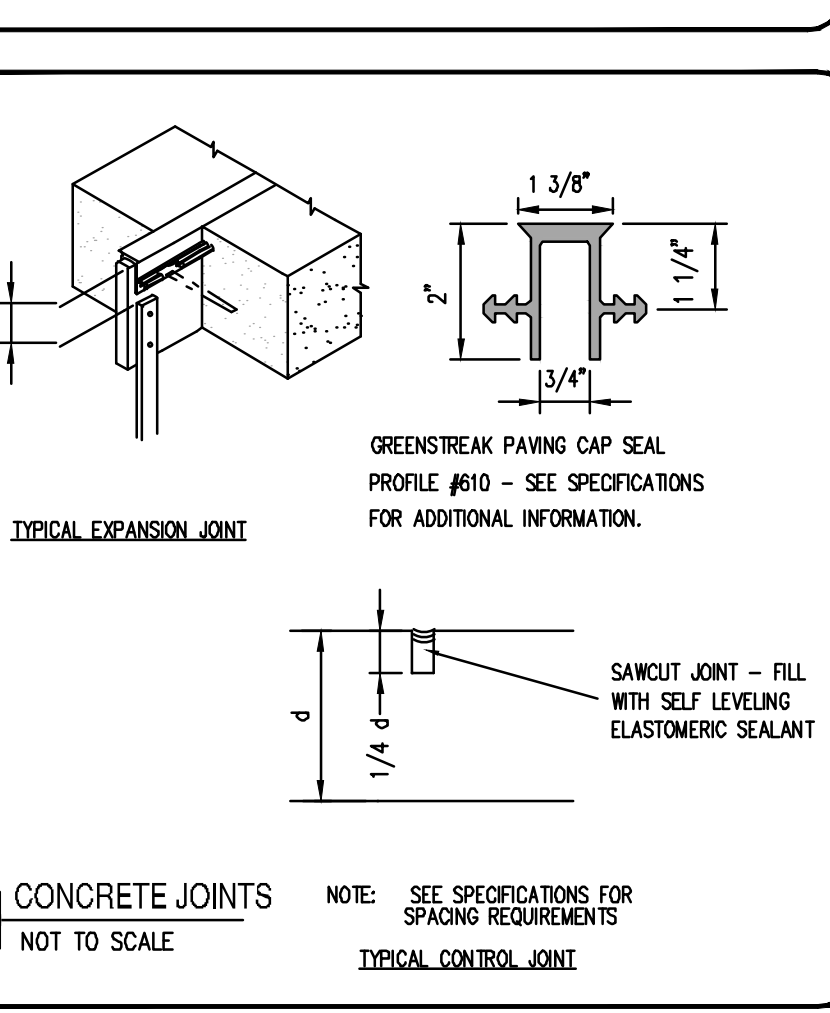
5 ASPHALT/CONCRETE TRANSITION JOINT
NOT TO SCALE



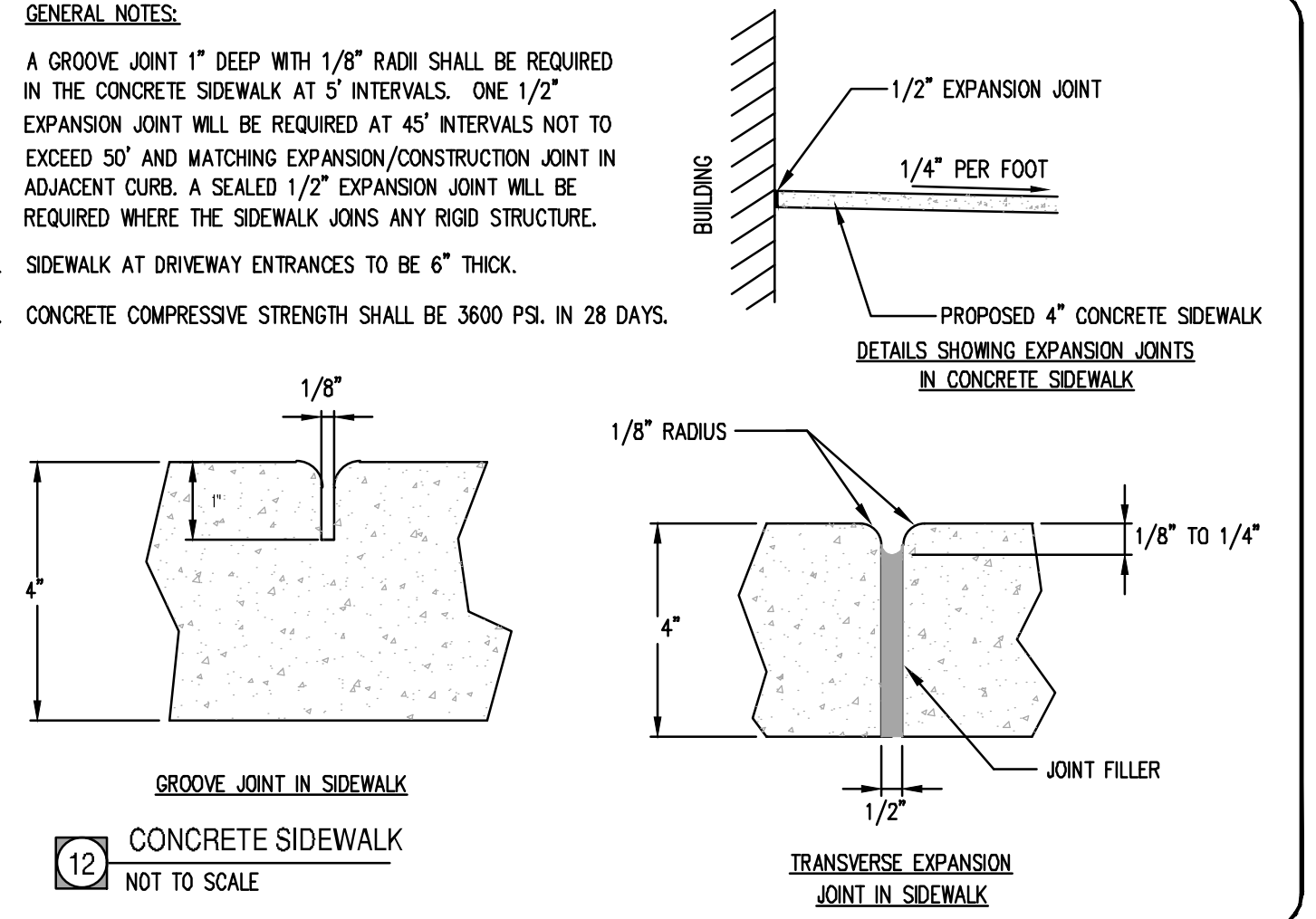
14 CHAIN LINK FENCE AND GATE DETAIL
NOT TO SCALE



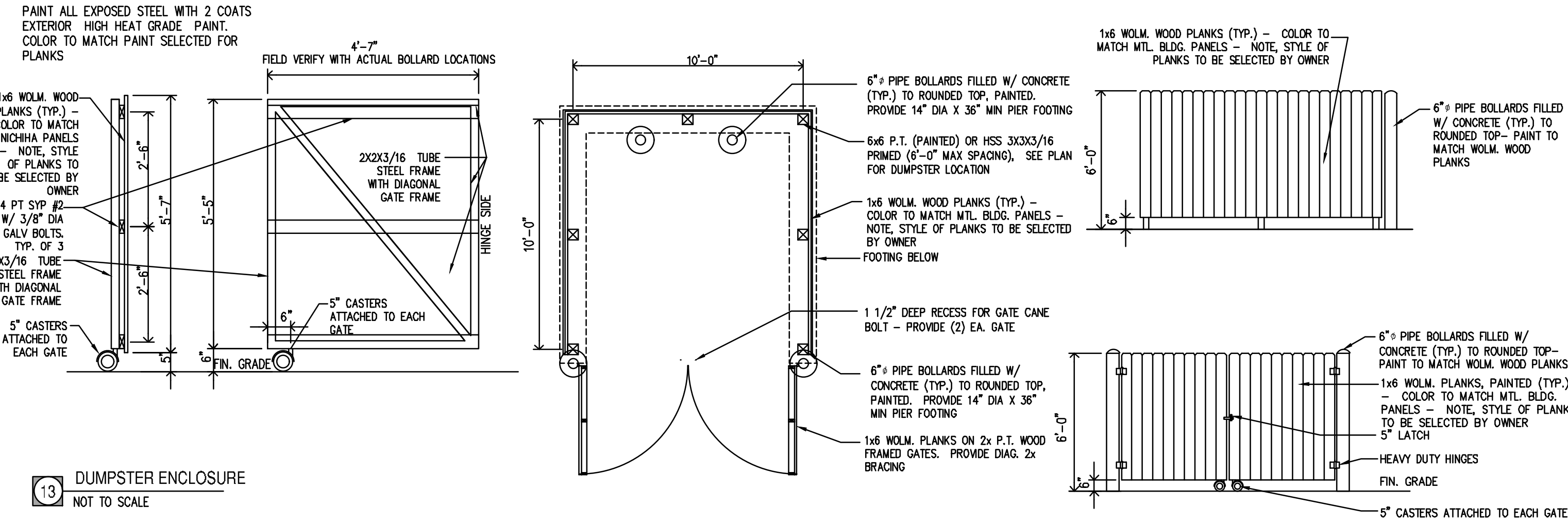
8 BIKE RACK DETAIL
NOT TO SCALE



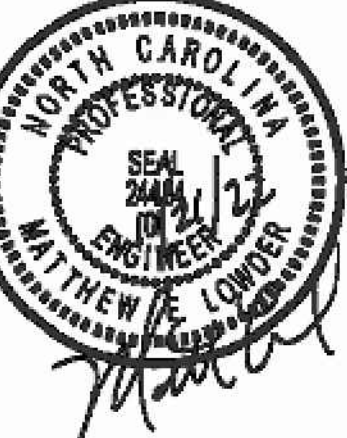
11 CONCRETE JOINTS
NOT TO SCALE



12 CONCRETE SIDEWALK
NOT TO SCALE

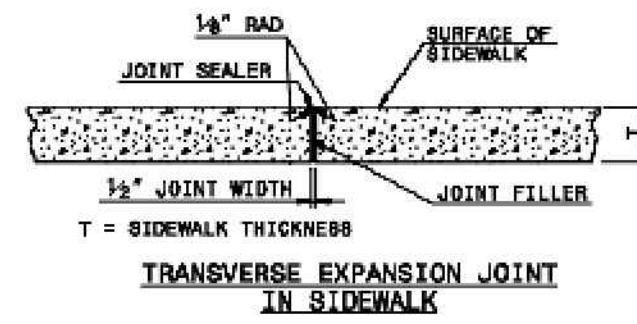


13 DUMPSTER ENCLOSURE
NOT TO SCALE

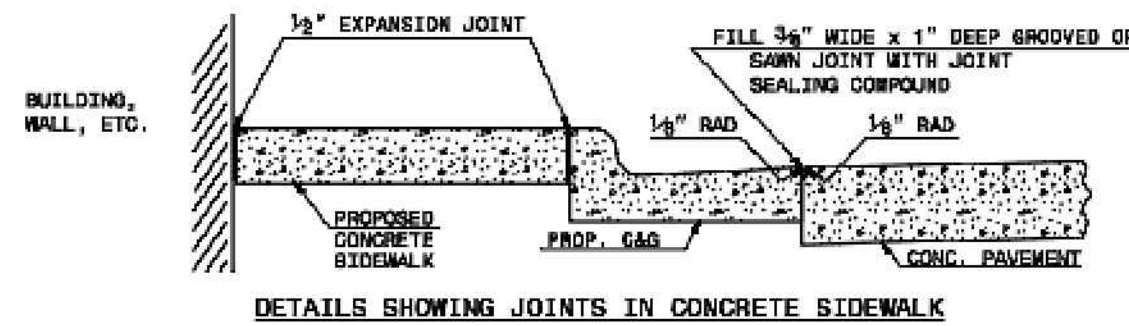


PLAN STATUS		
6/20/22	SITE PLAN SUBMITTAL	
10/21/22	PER TOWN REVIEW	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1/4" = 5'-0" V: 1" = 4'-0"	
JOB No.	220097-01-002	
DATE	June 20, 2022	
FILE No.	220097-01-002	

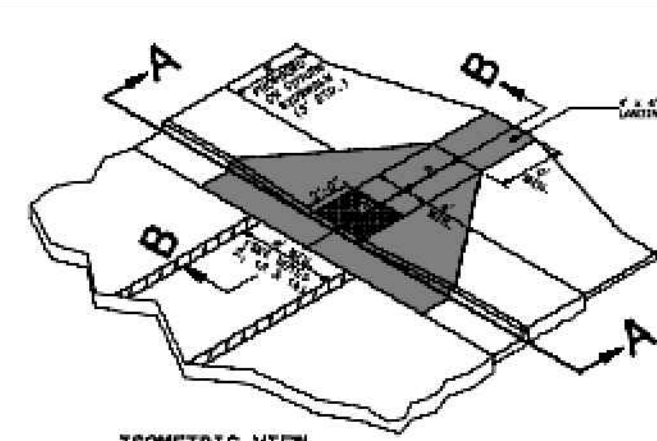
NOTES:
 CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.
 PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADIUS IN THE CONCRETE SIDEWALK AT 5' INTERVALS.
 ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
 SEE STD. DWG. 848.05 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT IN SIDEWALK

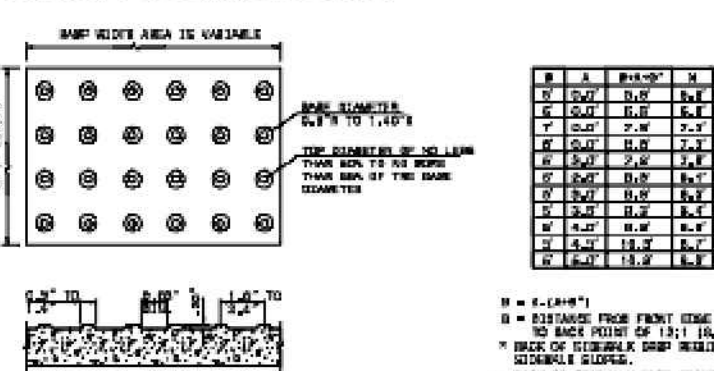


DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

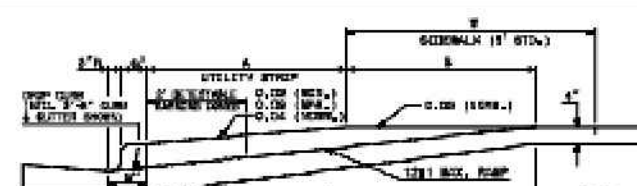


ISOMETRIC VIEW

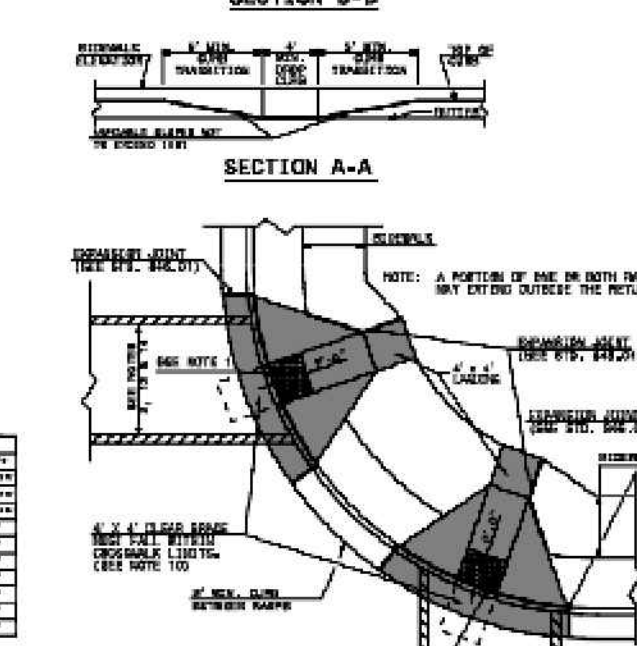
NOTES:
 1. DETECTABLE WARNING DOMES SHALL COVER 8" x 8" LAYOUT AND SHALL BE MADE OF POLYPROPYLENE OR OTHER MATERIAL WITH A RISE OF 1/4" TO 3/8" ABOVE THE SURFACE. EITHER LEFT OR RIGHT OR CENTER IS OK.
 2. DETECTABLE WARNING DOMES SHALL BE SPACED AT 24" ON CENTER.
 3. DETECTABLE WARNING DOMES SHALL BE SPACED AT 24" ON CENTER.
 4. DETECTABLE WARNING DOMES SHALL BE SPACED AT 24" ON CENTER.
 5. DETECTABLE WARNING DOMES SHALL BE SPACED AT 24" ON CENTER.



DETECTABLE WARNING DOMES



SECTION A-A



PLAN VIEW

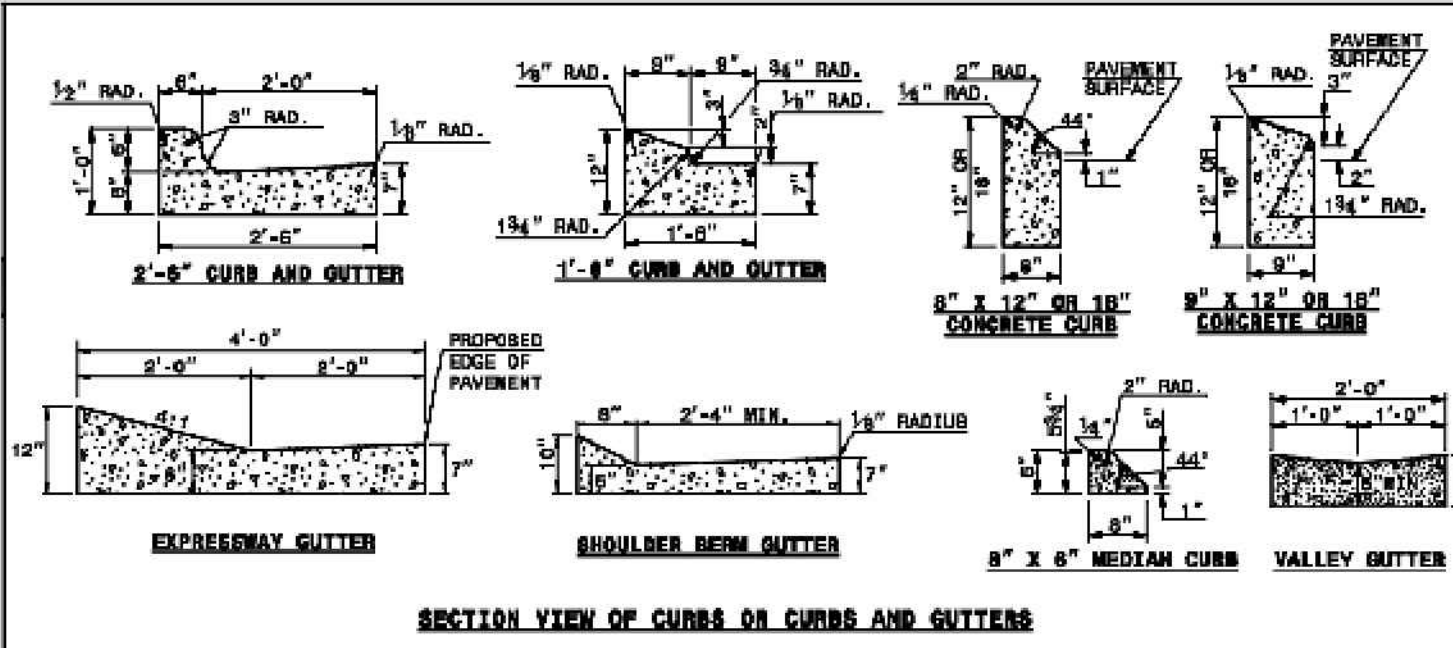
NOTE: A DETECTABLE WARNING DOME SHALL BE PROVIDED AT THE RAMP TO SIDEWALK TRANSITION.

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR
CONCRETE SIDEWALK
 SHEET # OF #
848.01

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR
CURB RAMP
 PROPOSED CURB AND GUTTER
 SHEET # OF #
848.05

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR
CURB RAMP
 PROPOSED CURB AND GUTTER
 SHEET # OF #
848.05

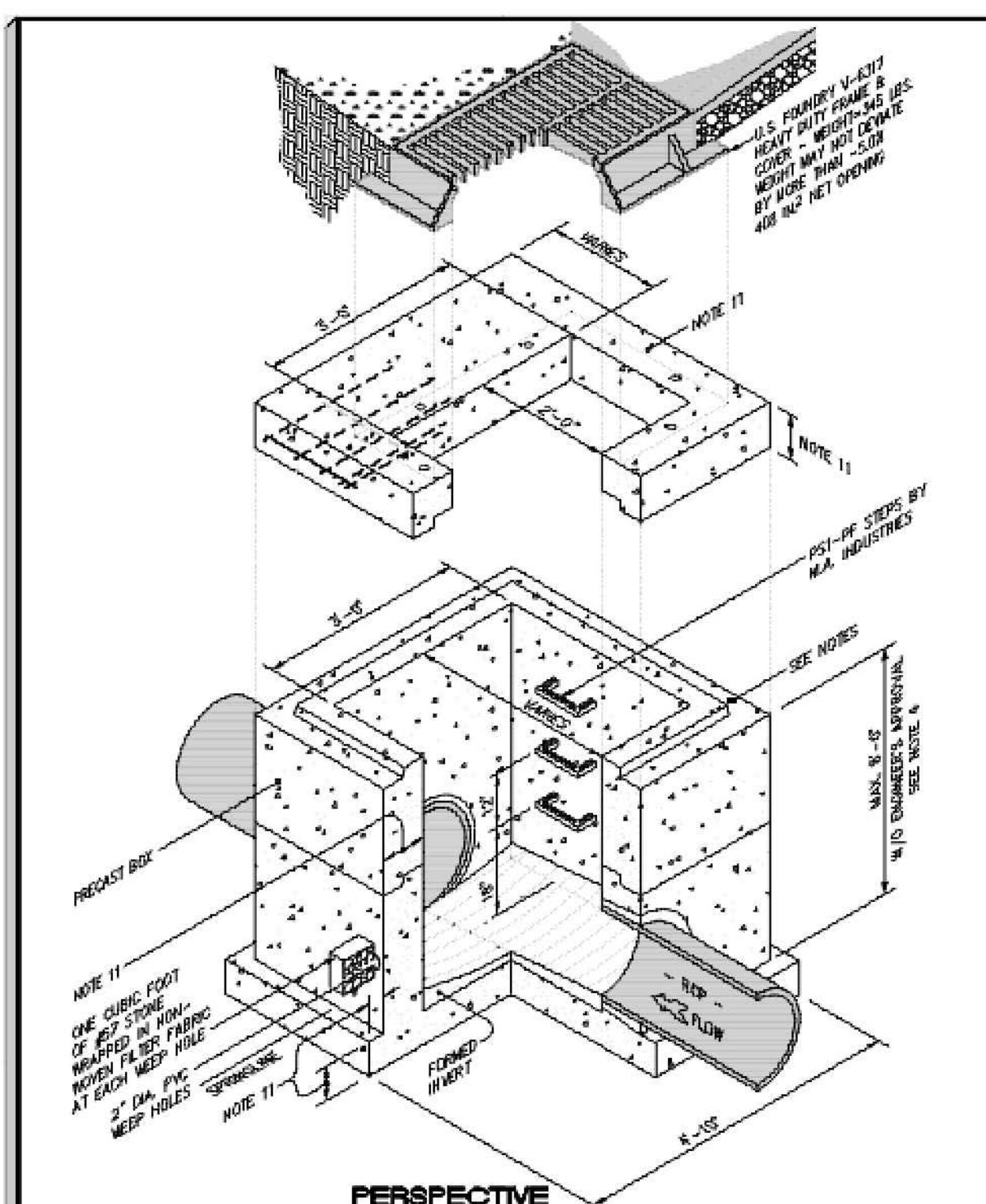
- NOTES:
- CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
 - LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SURVEY AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
 - COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS TO A 4" CLEAR SPACE AT THE SIDE OF THE CURB RAMP SHALL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
 - SET BACK DISTANCE FROM 24" TO 36" TO REAR EDGE OF TRAVEL LANE IS 4' MINIMUM.
 - REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
 - TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
 - CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
 - CONSTRUCT THE RUNNING SLOPE OF THE RAMP 0.33% MAXIMUM.
 - ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
 - CONSTRUCT THE EDGE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
 - CONSTRUCT THE COUNTER SLOPE OF THE CUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
 - CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4' x 4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5' x 5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
 - USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA. MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
 - SMALL SIGNALIZATION ISLANDS THAT CAN NOT PROVIDE A 5' x 5' LANDING AT THE TOP OF A RAMP, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
 - CURB RAMPS WITH REVERSED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
 - PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
 - PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSWALK SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE NOTES.
 - CURB RAMPS THROUGH MEDIAN ISLANDS, SIDEWALK RAMPS AT DUAL CROSSOVERS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL ORDER.



SECTION VIEW OF CURBS OR CURBS AND GUTTERS

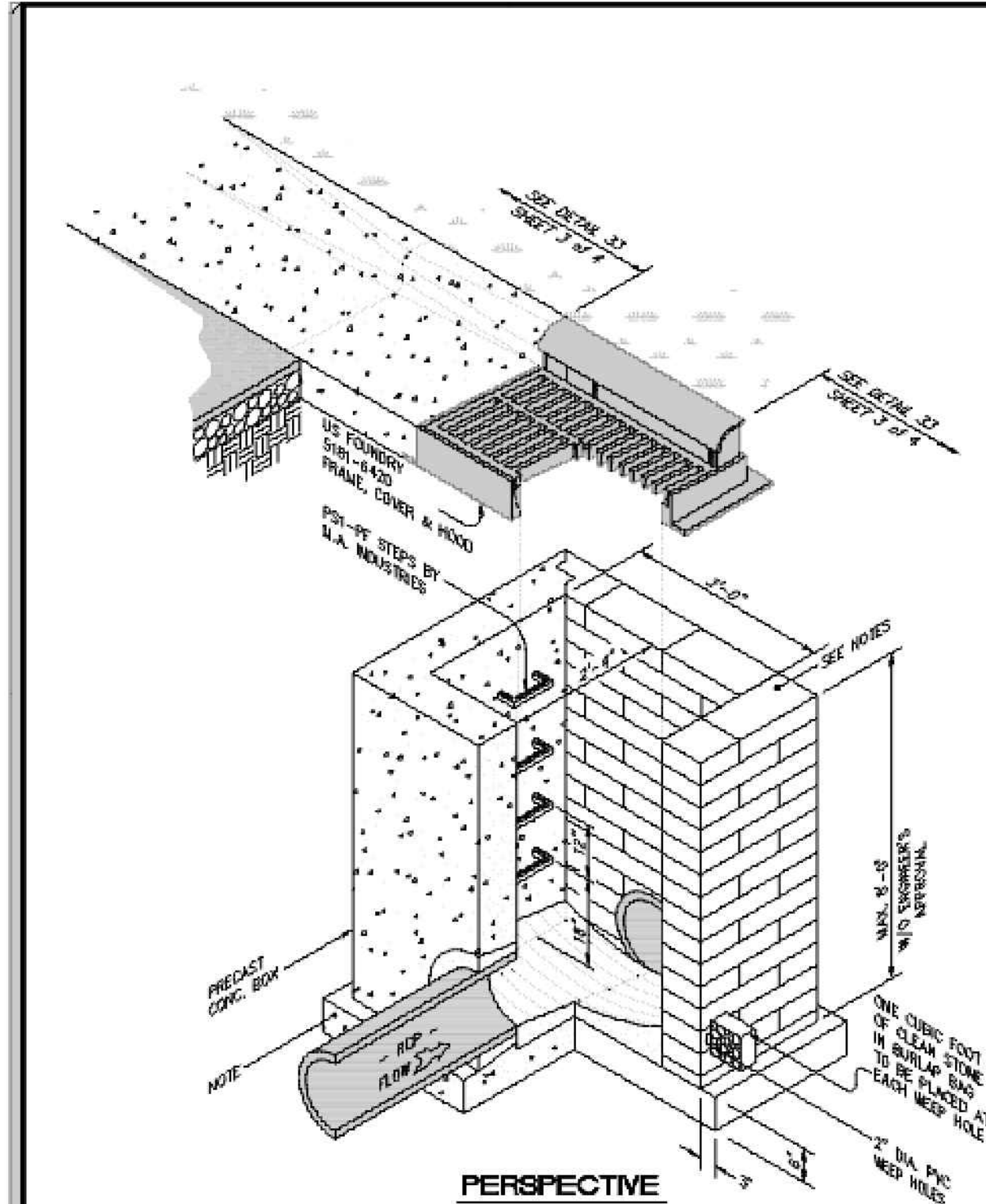
- GENERAL NOTES:
- PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
 - JOINT BRADING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
 - CONTRACT JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS.
 - CONSTRUCT JOINT-TYPE FORMED JOINTS A MIN. OF 1/2" DEEP.
 - FILL ALL CONSTRUCTION JOINTS, EXCEPT IN 6" x 6" MEDIAN CURB WITH JOINT FILLER AND SEALER.
 - SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.
- FILL 3/4" x 1" DEEP GROOVED OR SAWN JOINT WITH JOINT SEALER
- SECTION VIEW OF JOINTS
- LONGITUDINAL JOINT
- TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR
CURB RAMP
 PROPOSED CURB AND GUTTER
 SHEET # OF #
848.05



PERSPECTIVE

TOWN OF ZEBULON
 STD. 3' x 3' C.B. PRECAST BOX WITH 2' x 3' C.B.
 USE WITH STANDARD SPECIFICATIONS ONLY
 SCALE: NOT TO SCALE
 DETAIL # 39
 SHEET # 2 OF 2
 DATE: JULY 2010



PERSPECTIVE

TOWN OF ZEBULON
 STD. C&G INLET W/HOOD DETAIL
 USE WITH STANDARD SPECIFICATIONS ONLY
 SCALE: NOT TO SCALE
 DETAIL # 33
 SHEET # 1 OF 4
 DATE: JULY 2010

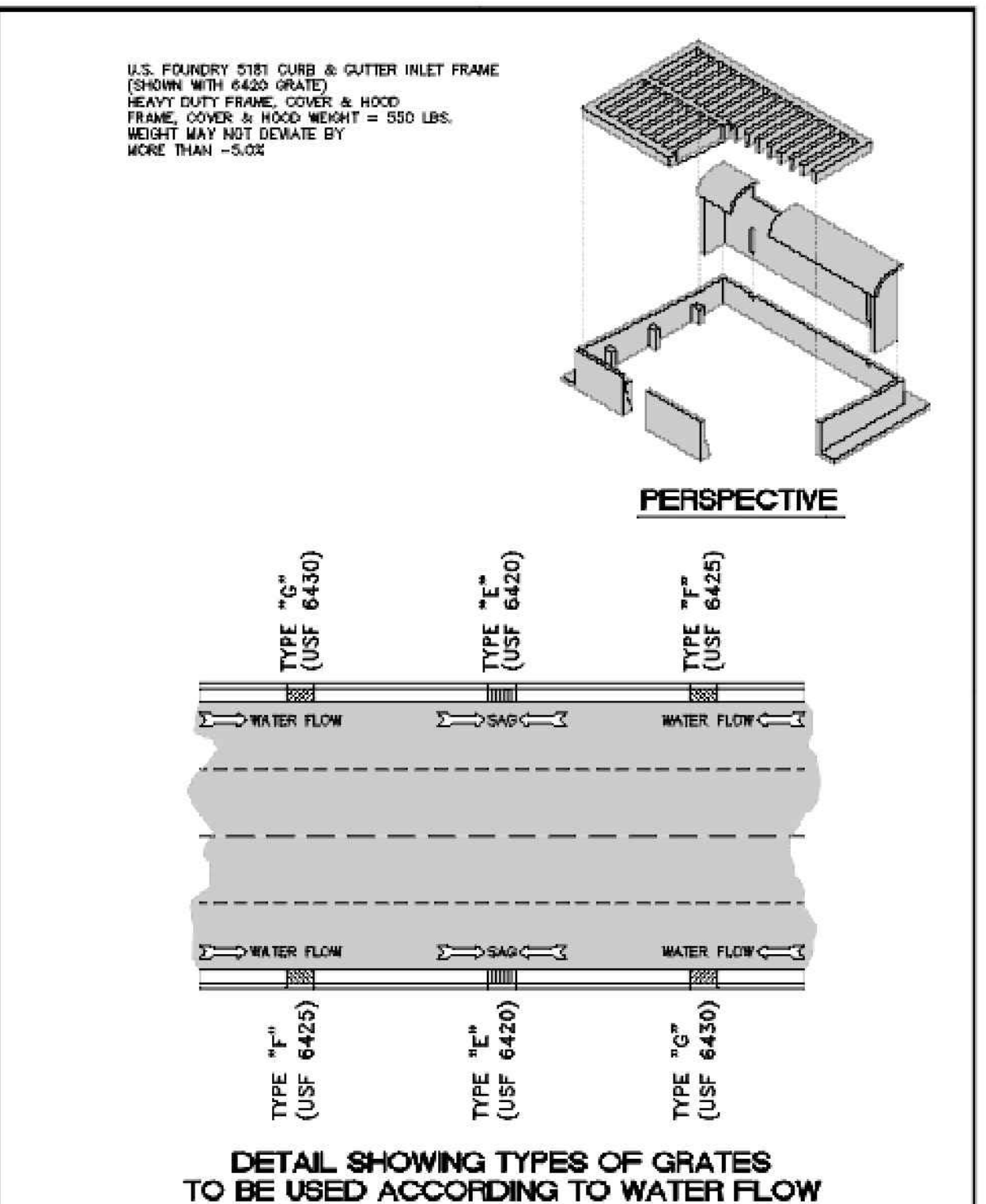
END SECTION DIMENSIONS

DIA.	A	B	C	D	E
15"	7"	2'-3 1/4"	3'-11 1/2"	6'-2 3/4"	2'-6"
18"	9"	2'-3"	3'-11 3/4"	6'-2 3/4"	3'-0"
24"	9"	3'-3"	3'-1"	6'-8"	3'-11 3/4"
30"	1'-0"	4'-6 1/2"	1'-10 1/2"	6'-8"	5'-0"
36"	1'-4"	5'-0"	3'-1 1/2"	6'-1 1/2"	5'-11"
42"	1'-10 1/4"	5'-1 3/8"	3'-1"	6'-2 3/8"	6'-5 1/4"

NOTES:

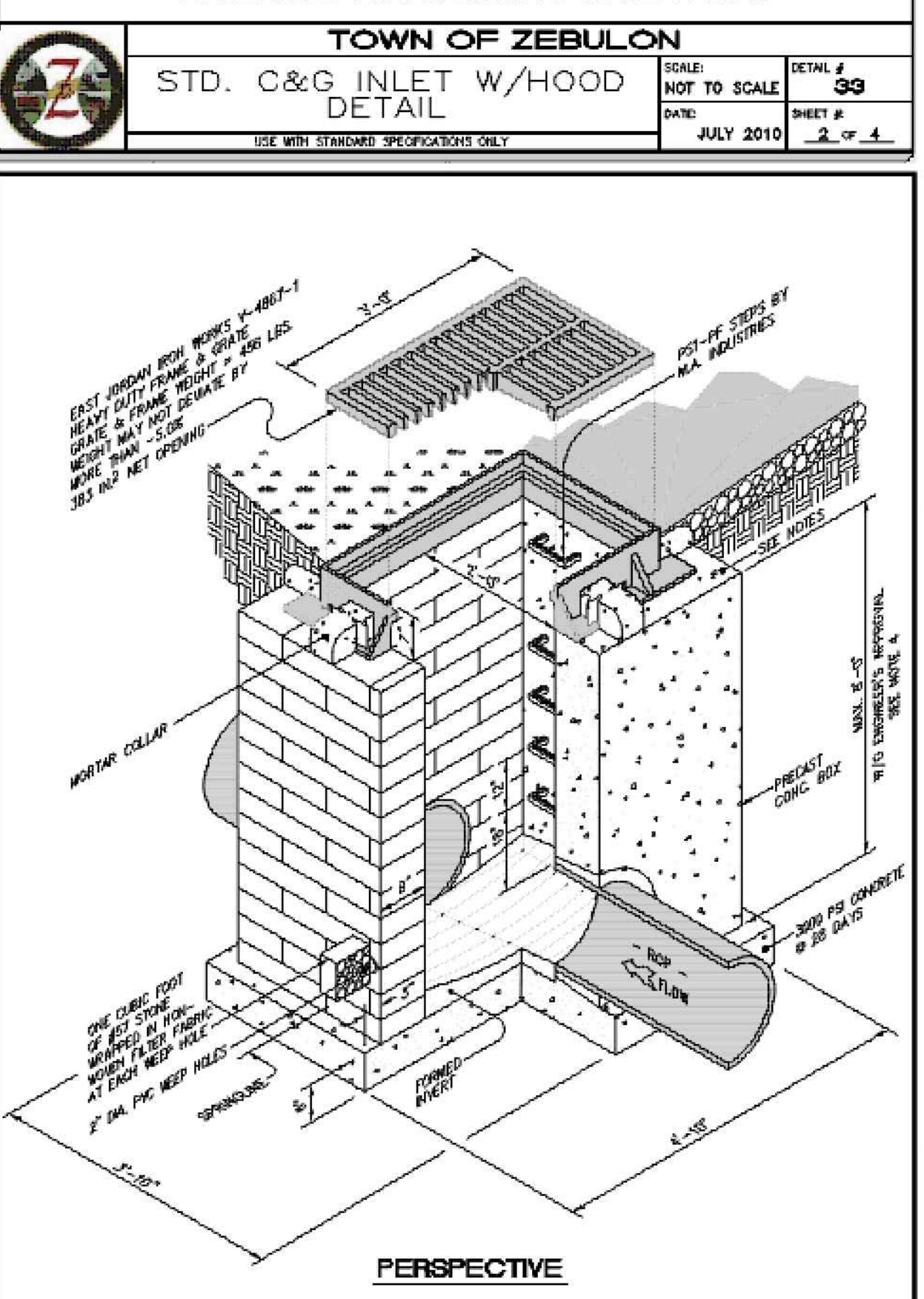
- DESIGN OF END-SECTION SHALL CONFORM TO STANDARD REINFORCED SECTIONAL CONCRETE CULVERT PIPE.
- ANY TWIN BARREL SYSTEM GREATER THAN 42" RCP REQUIRES A HEADWALL.
- ANY SYSTEM OF MORE THAN 2 PIPES REQUIRES A HEADWALL.
- SEE NCDOT "ROADWAY STANDARD DRAWINGS" FOR HEADWALL CONSTRUCTION DETAILS.

TOWN OF ZEBULON
 STD. FLARED END SECTIONS DESIGN END DETAIL
 USE WITH STANDARD SPECIFICATIONS ONLY
 SCALE: NOT TO SCALE
 DETAIL # 35
 SHEET # 1 OF 1
 DATE: JULY 2010



PERSPECTIVE

TOWN OF ZEBULON
 STD. C&G INLET W/HOOD DETAIL
 USE WITH STANDARD SPECIFICATIONS ONLY
 SCALE: NOT TO SCALE
 DETAIL # 33
 SHEET # 2 OF 4
 DATE: JULY 2010



PERSPECTIVE

TOWN OF ZEBULON
 2x3 DROP INLET
 USE WITH STANDARD SPECIFICATIONS ONLY
 SCALE: NOT TO SCALE
 DETAIL # 34
 SHEET # 1 OF 1
 DATE: JULY 2010

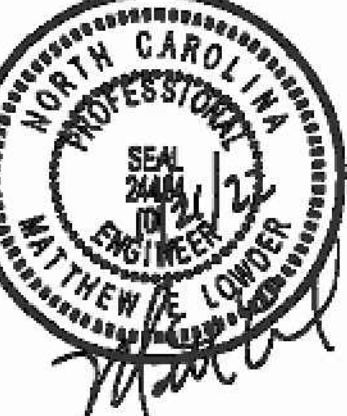
Bowman

Bowman North Carolina Ltd.
 4006 BARRETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919) 555-6570
 bowman.com

Wake County

CONSTRUCTION DETAILS
 Rocket Rocker
 Arendell Ave
 Zebulon, NC
 Project ID#736479

PRELIMINARY
 DO NOT
 USE FOR
 CONSTRUCTION

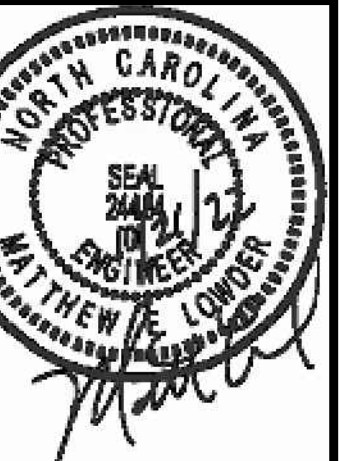


PLAN STATUS

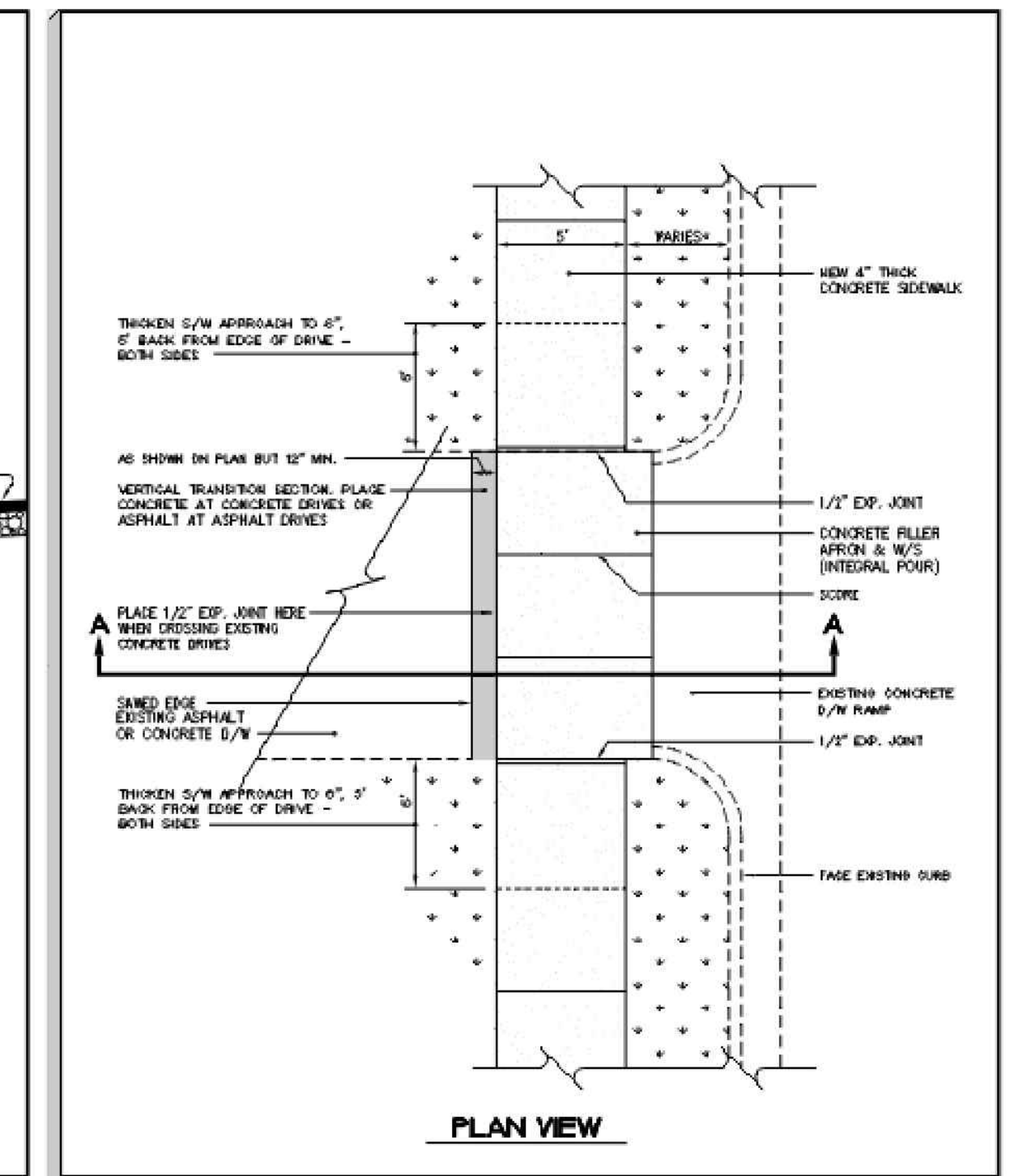
6/20/22 SITE PLAN SUBMITTAL
 10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H: 1" = 50' V: 1" = XXX'
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002

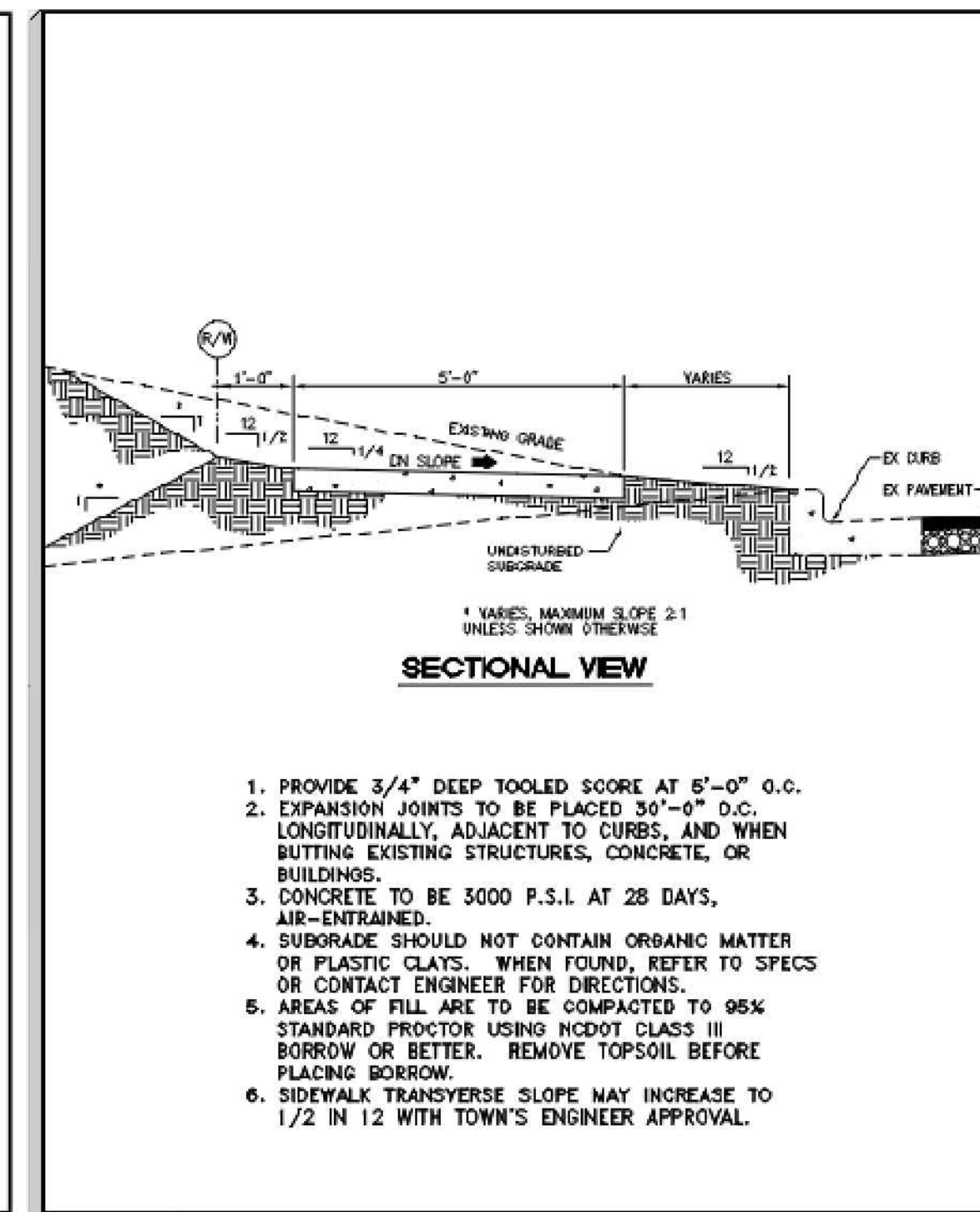
SHEET C6.3A



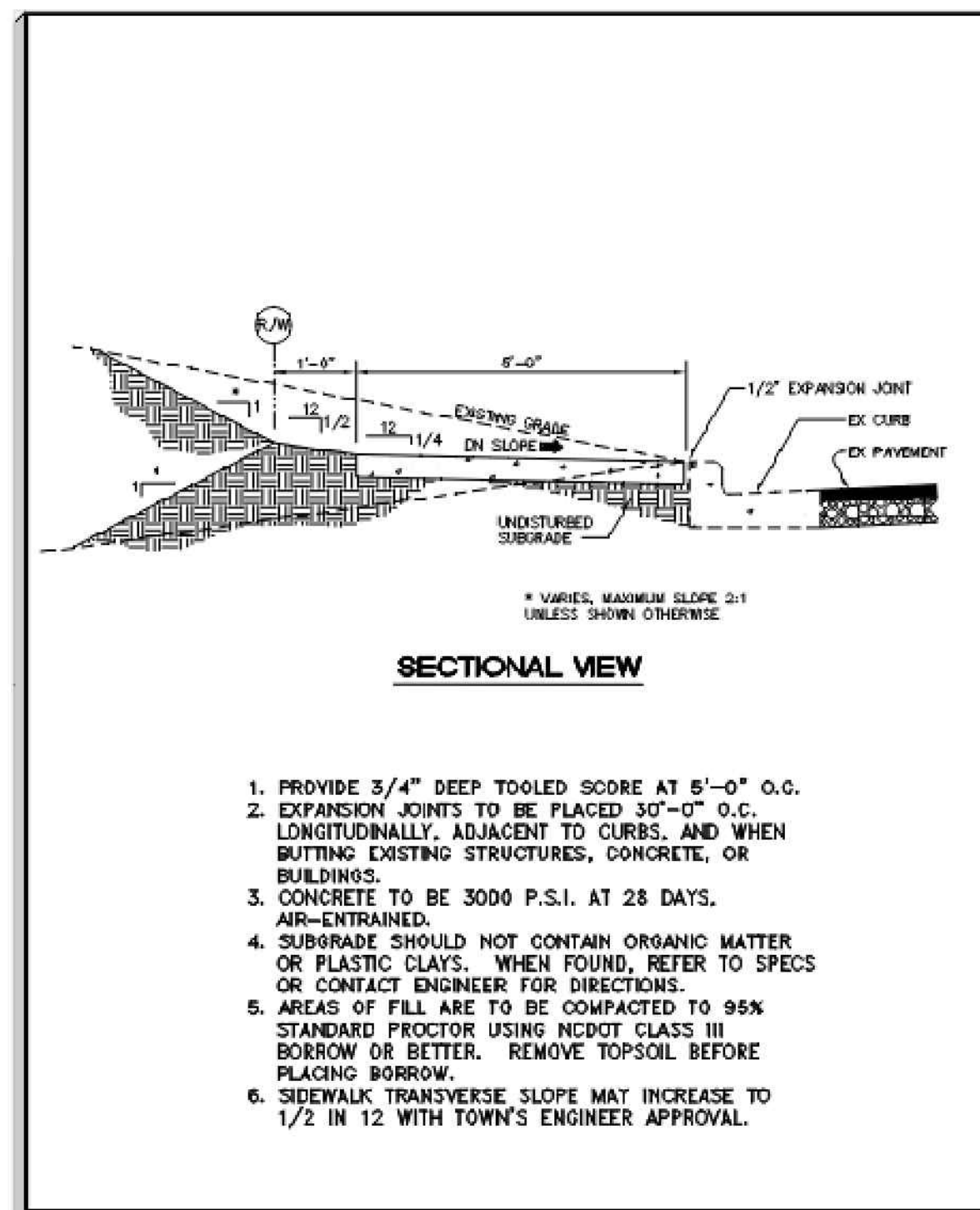
DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H: 1" = 50' V: 1" = XXX'
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002



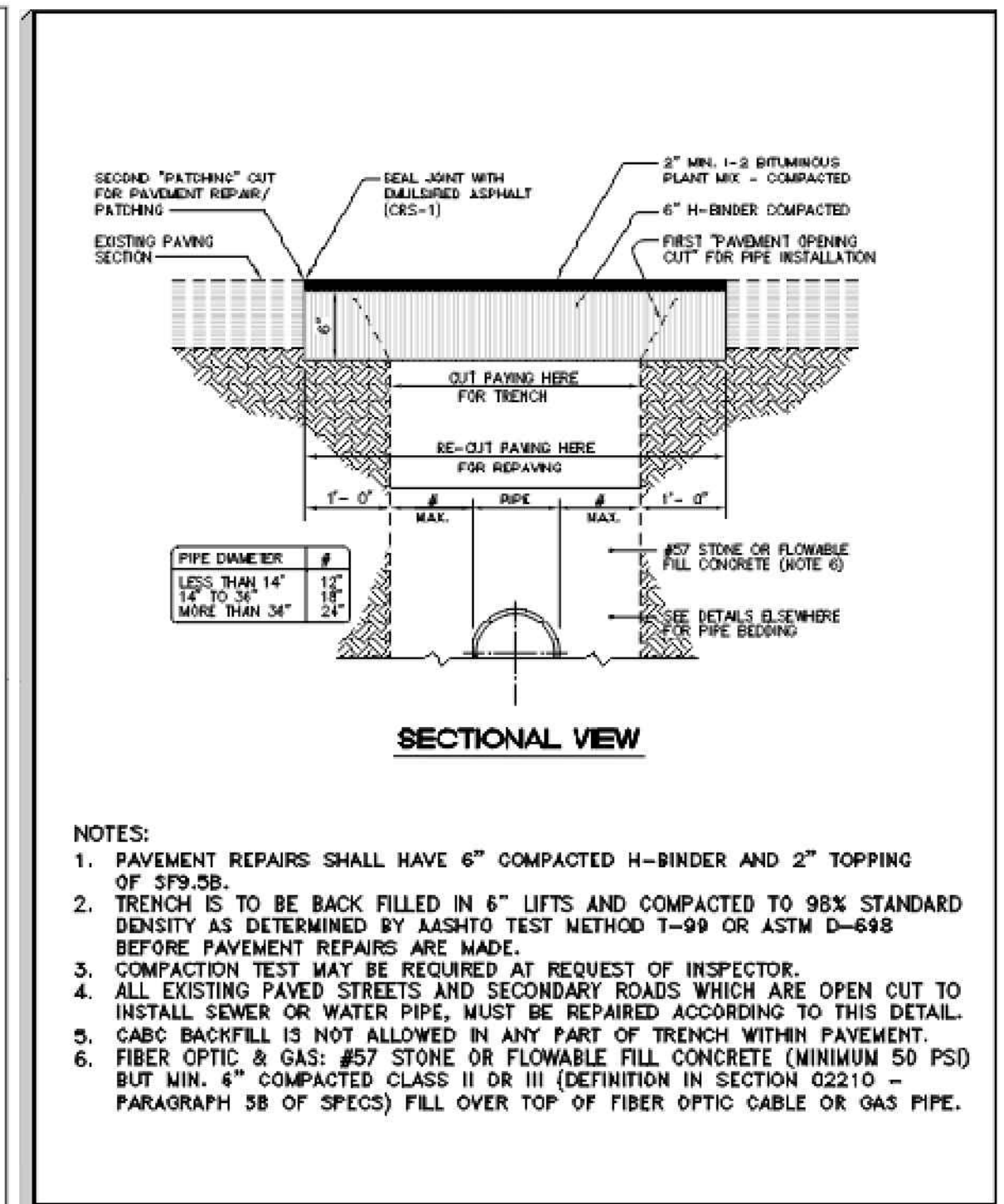
TOWN OF ZEBULON
SIDEWALK DETAIL X-ING EX. DRIVEWAYS
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 14
1 OF 1



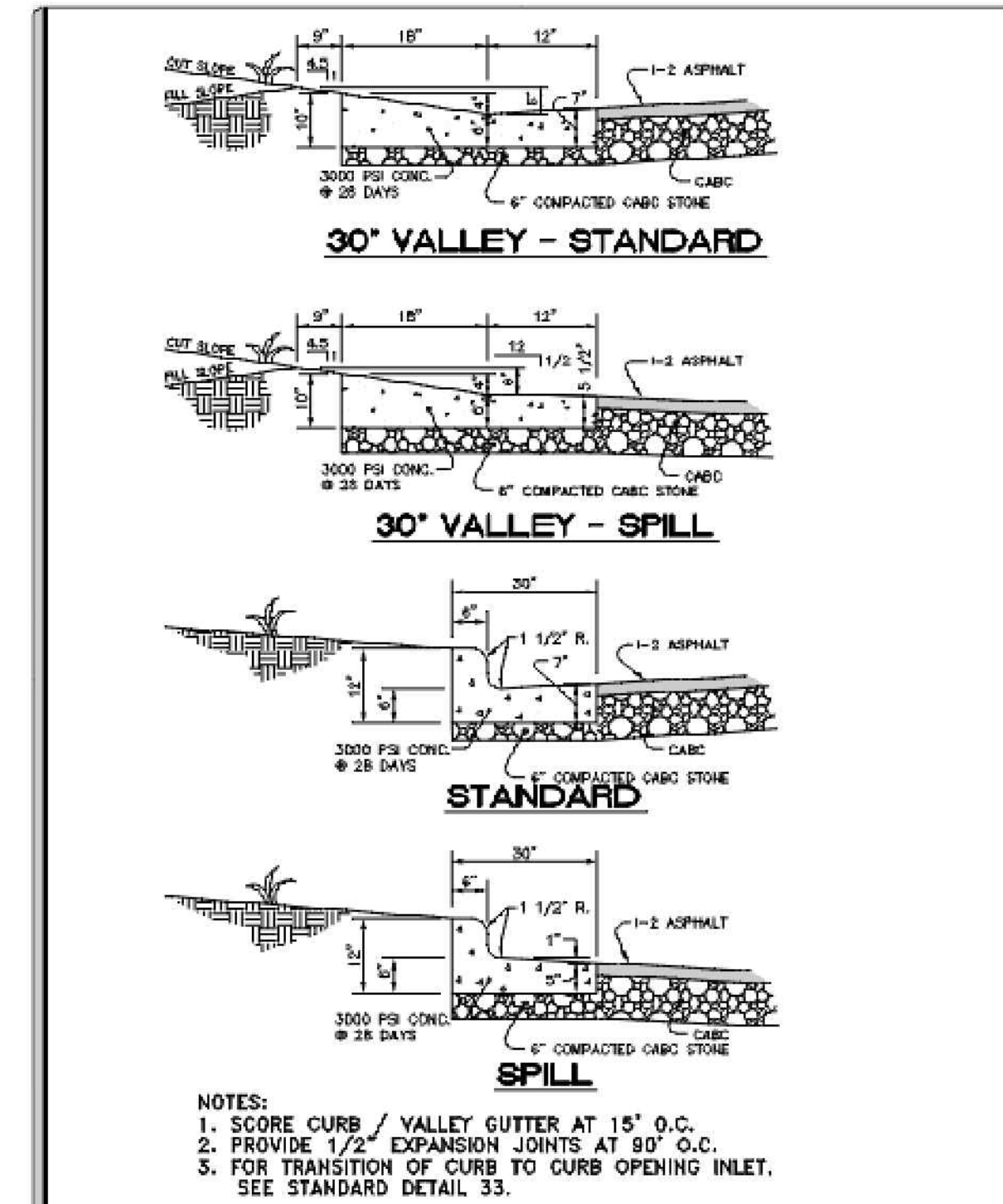
TOWN OF ZEBULON
TYP SIDEWALK in CUT or FILL SECTIONS
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 18
1 OF 1



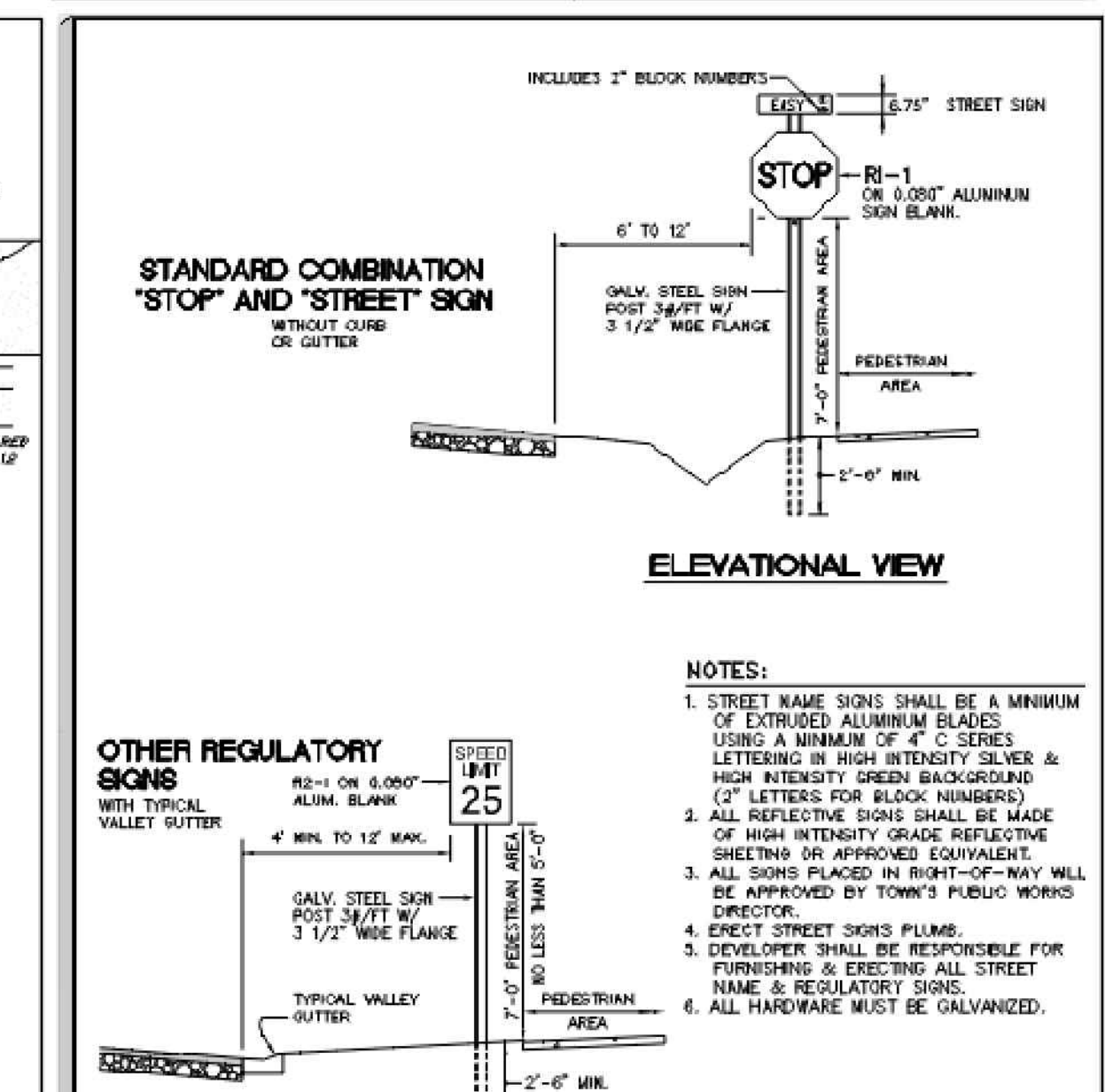
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TYP SIDEWALK in CUT or FILL SECTIONS
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 12
1 OF 1



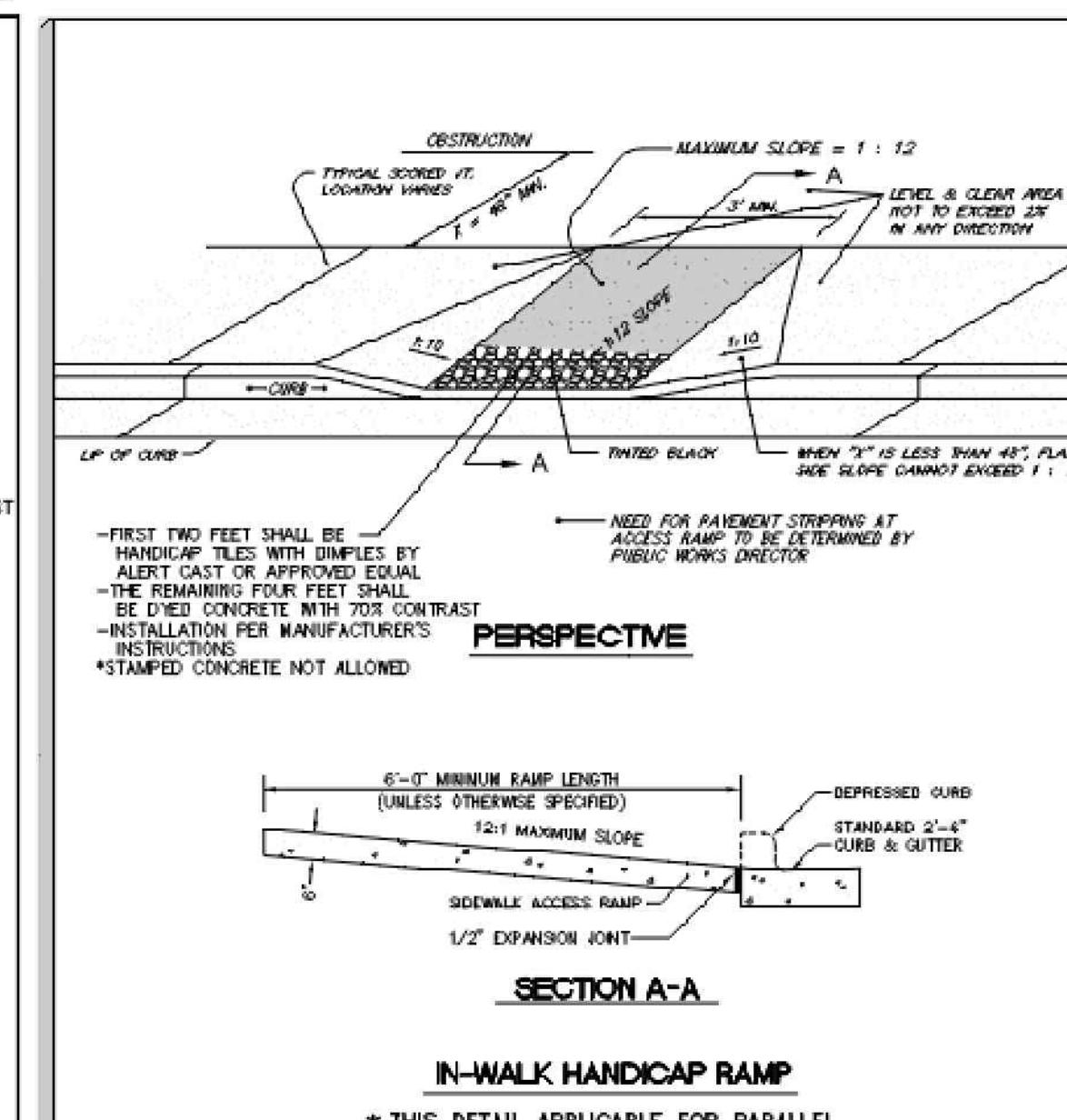
TOWN OF ZEBULON
FULL DEPTH ASPHALT REPAIR DETAIL FOR UTILITY CUTS
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 9
1 OF 1



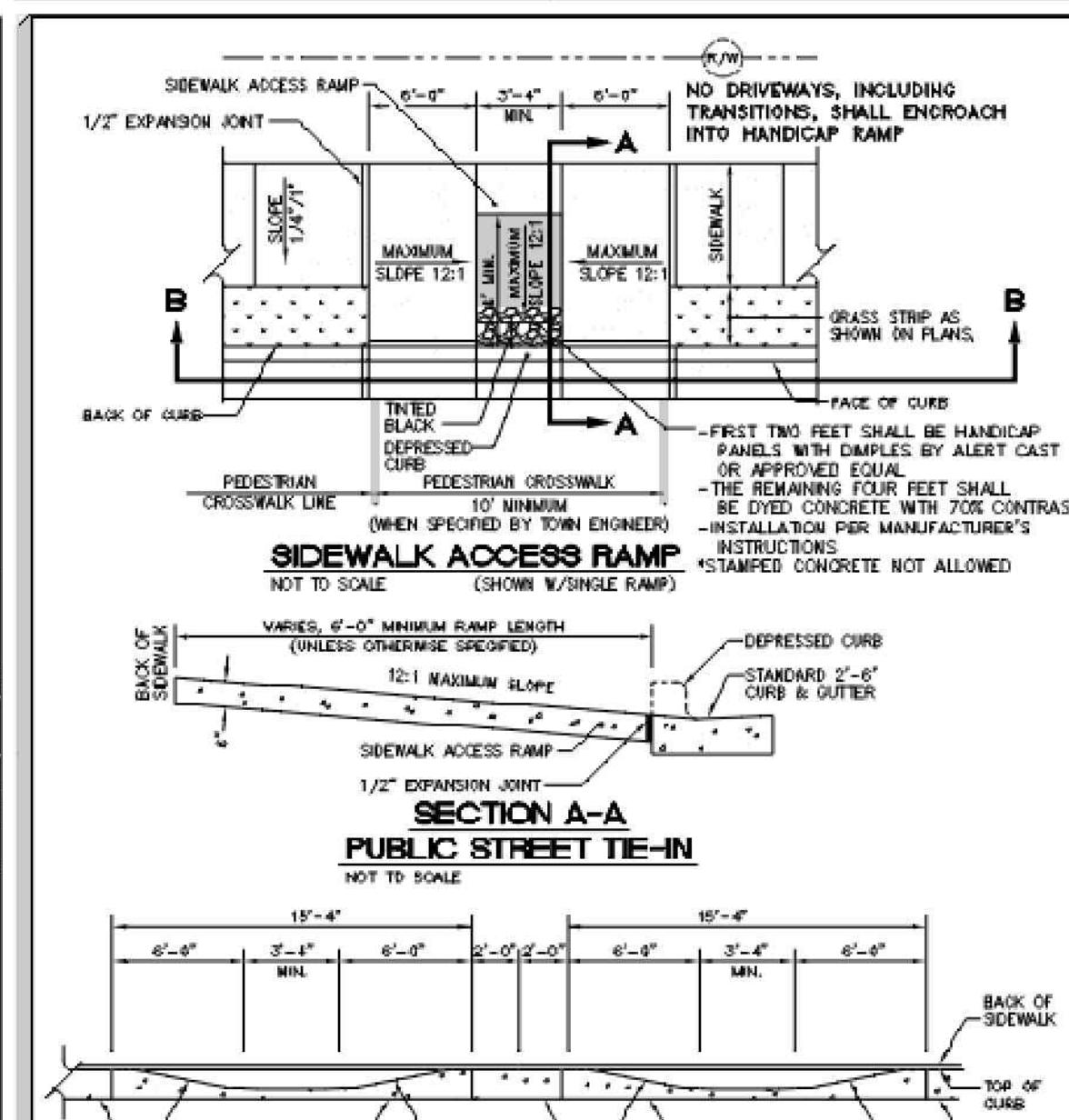
TOWN OF ZEBULON
STD. CURB & GUTTER & VALLEY GUTTER DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 3
1 OF 1



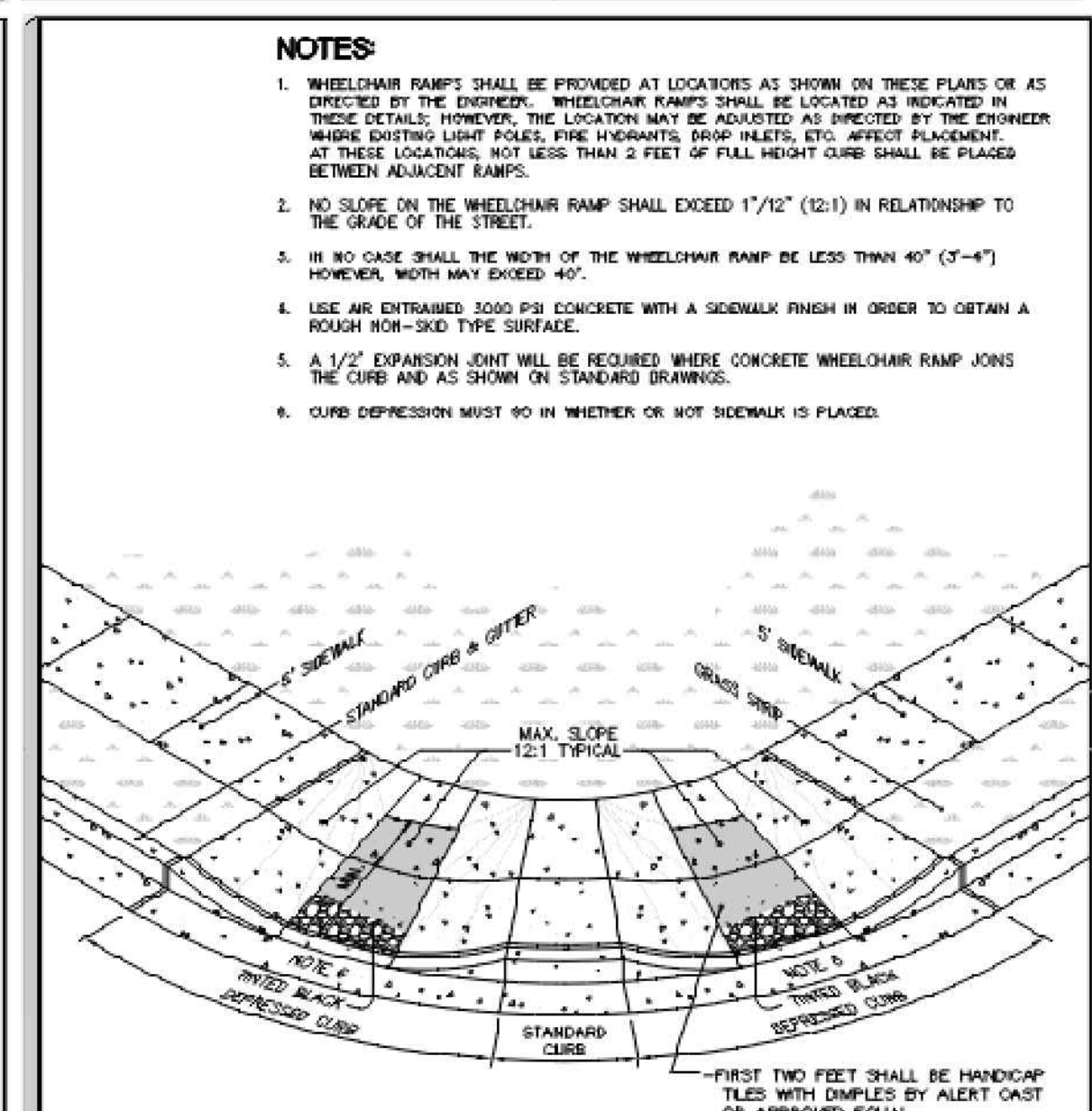
TOWN OF ZEBULON
STANDARD SIGN INSTALLATION DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 60
1 OF 1



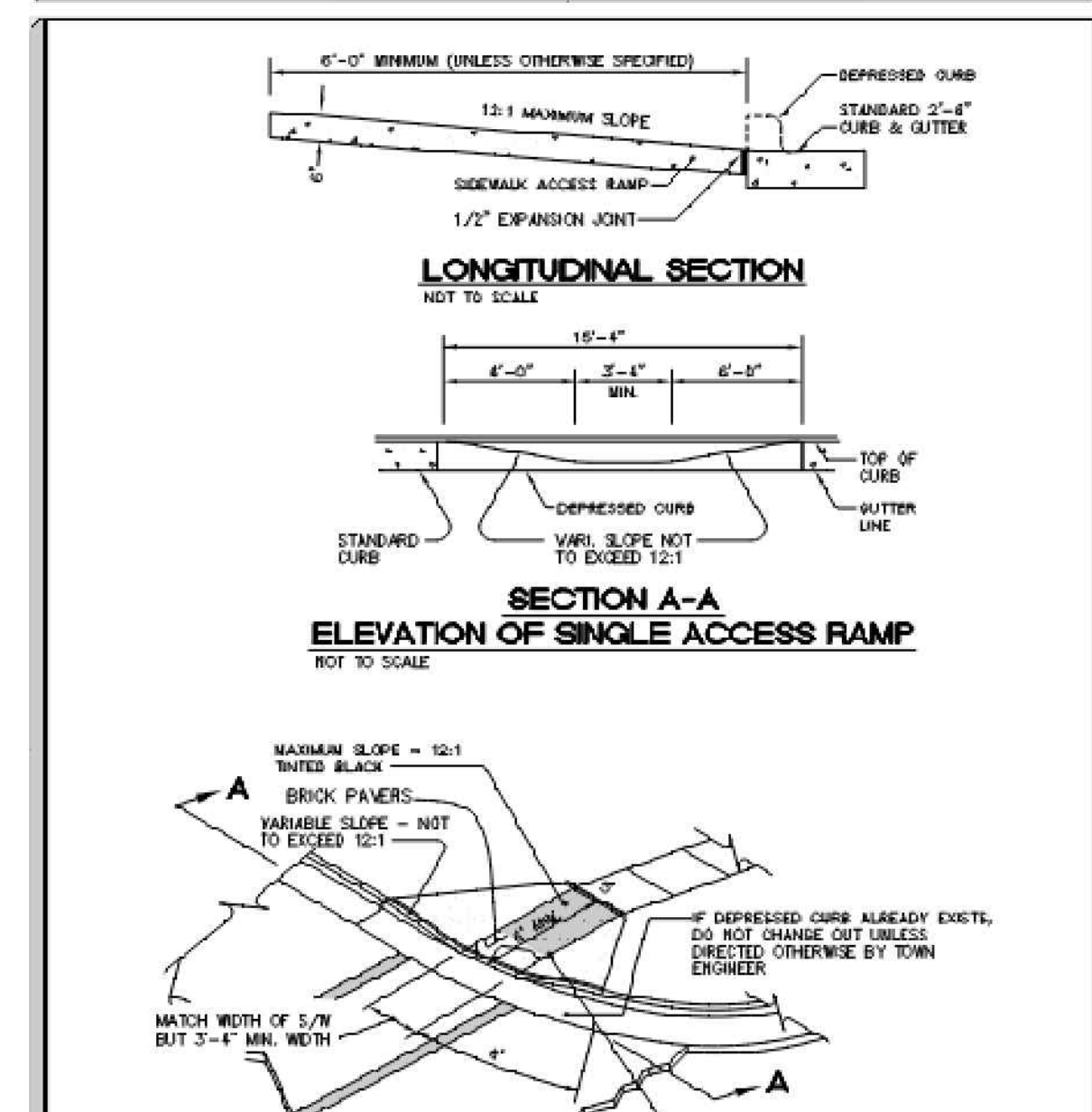
TOWN OF ZEBULON
HANDICAP PARKING STALL DETAIL *
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 22
1 OF 1



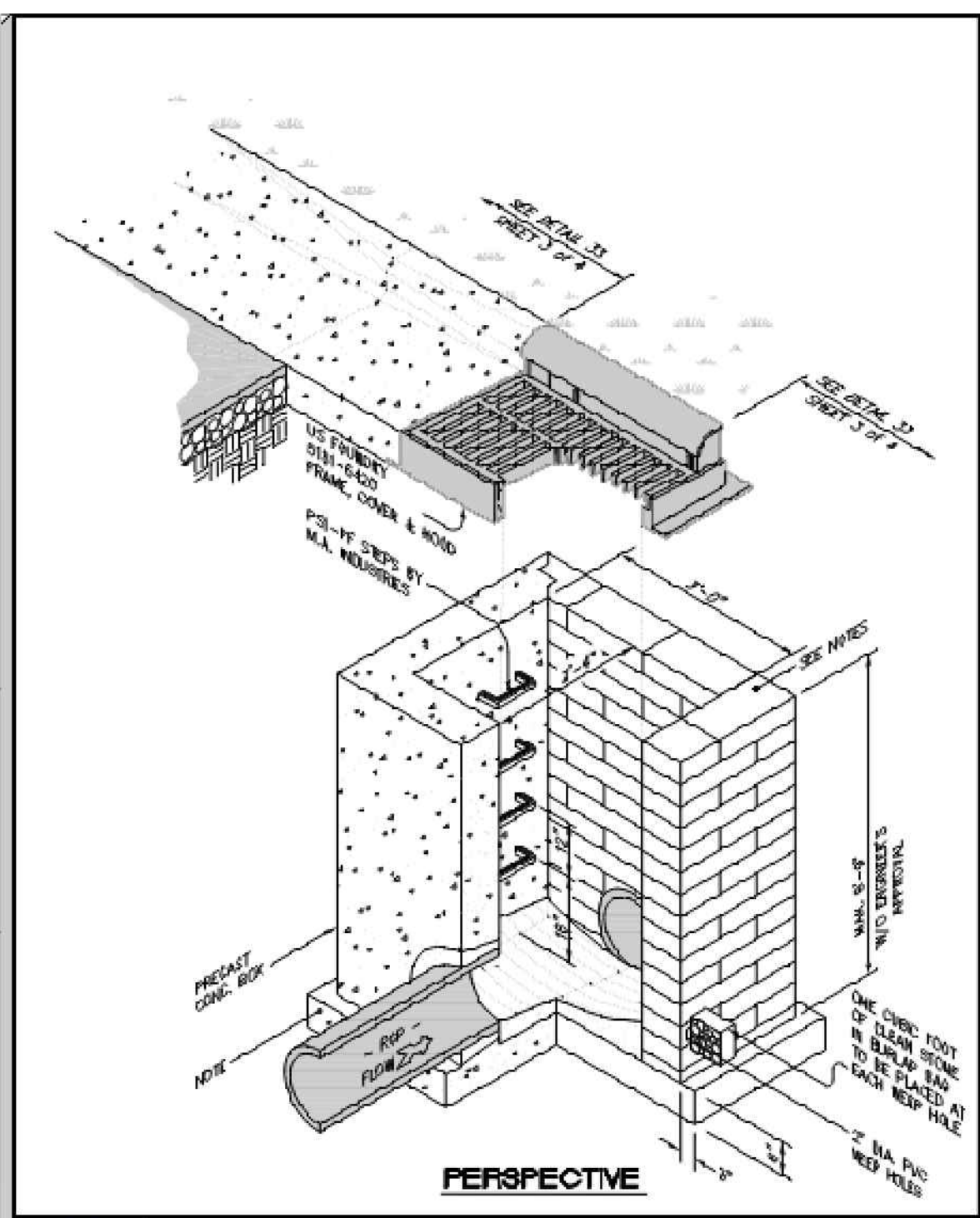
TOWN OF ZEBULON
DOUBLE HANDICAP RAMP DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 21
2 OF 2



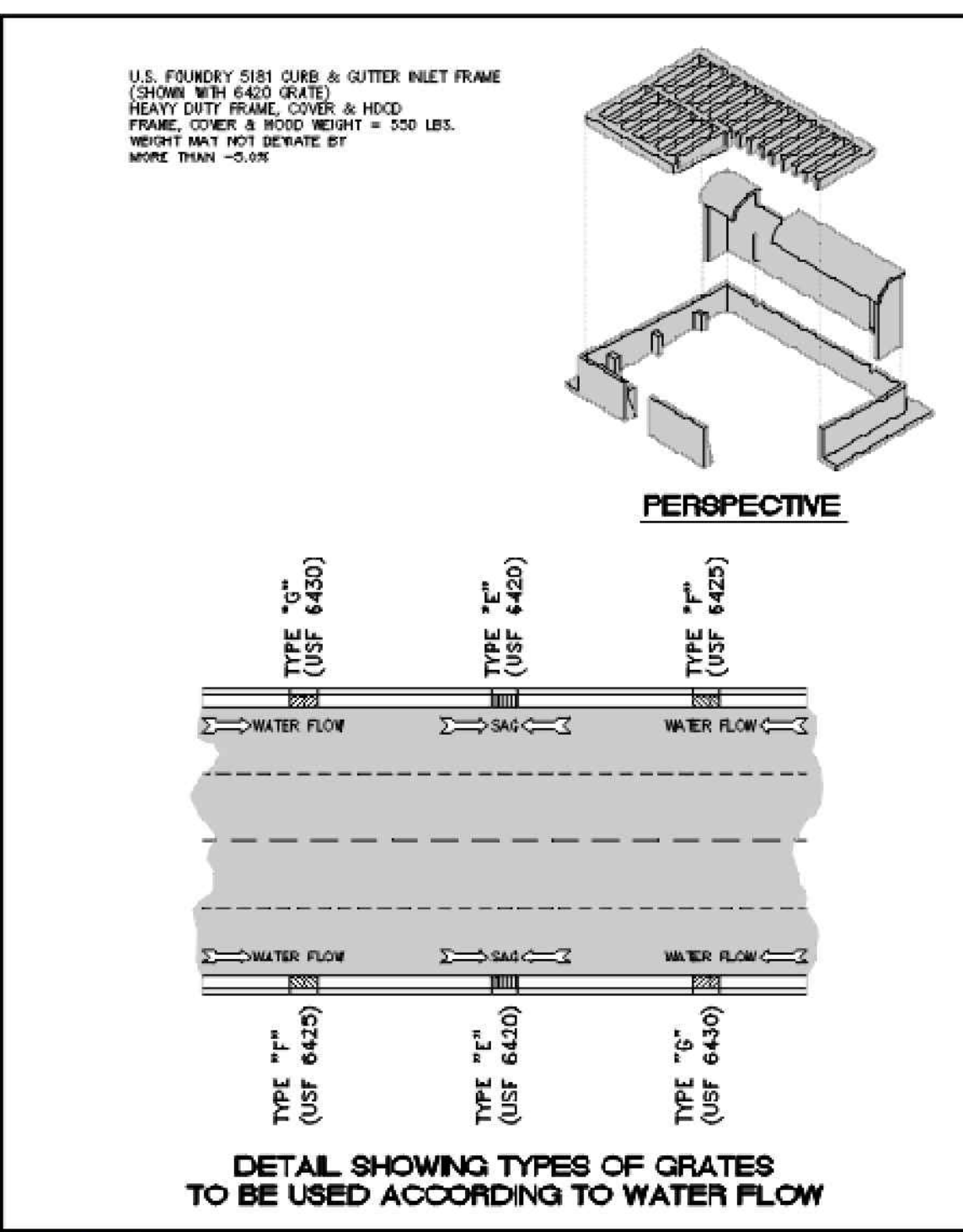
TOWN OF ZEBULON
DOUBLE HANDICAP RAMP DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 21
2 OF 2



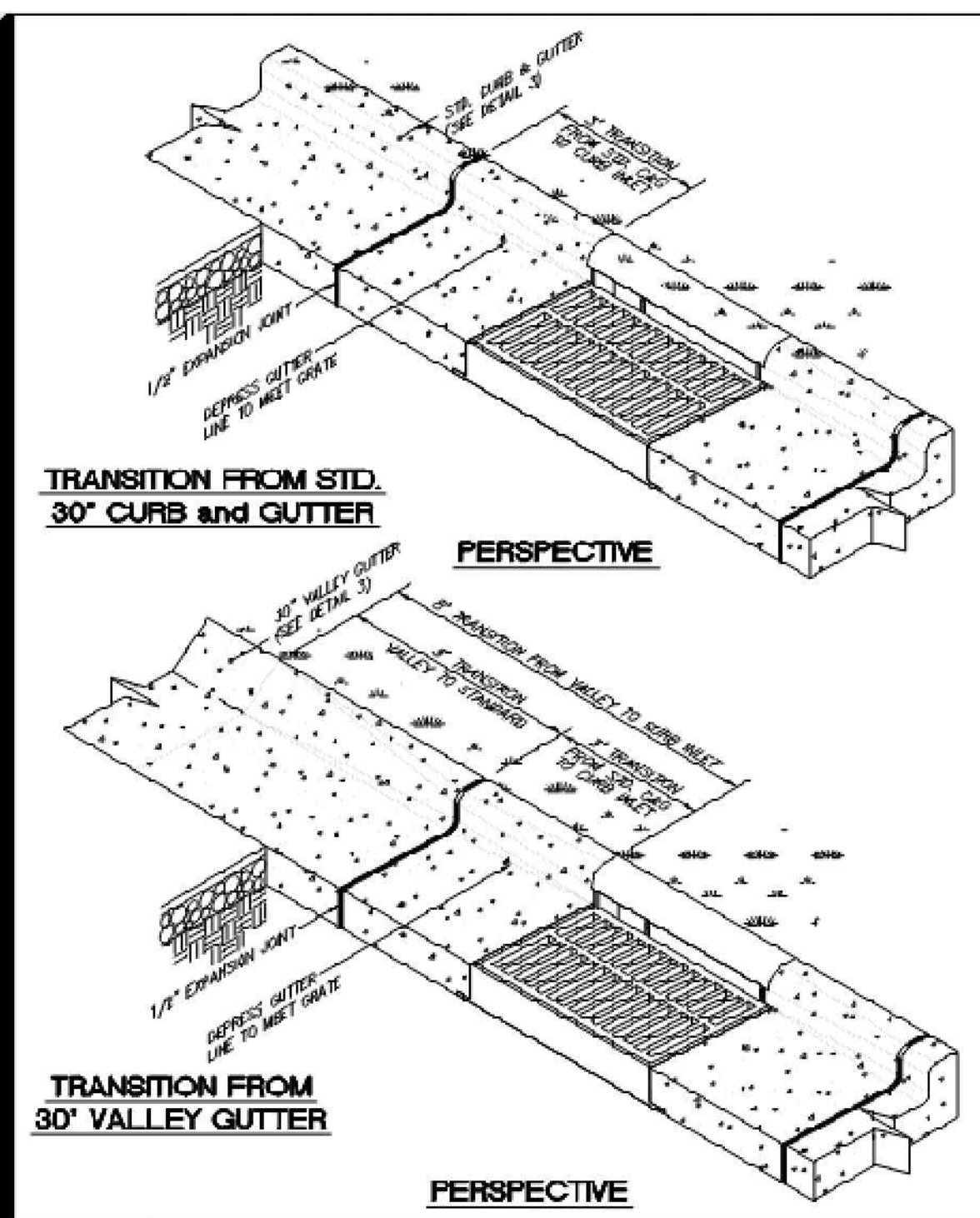
TOWN OF ZEBULON
SINGLE HANDICAP RAMP DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 20
1 OF 1



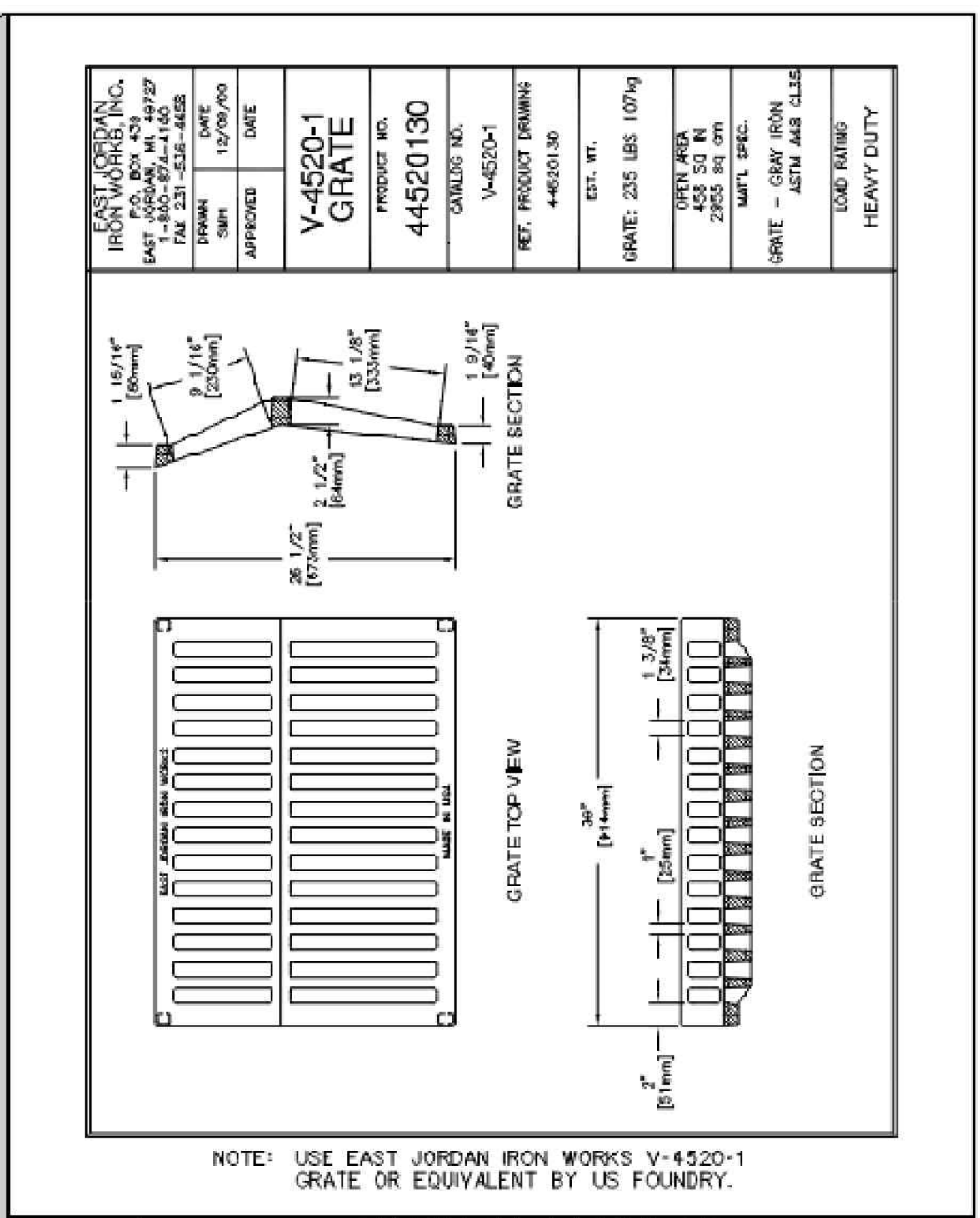
TOWN OF ZEBULON
STD. C&G INLET W/ HOOD
DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 1 OF 4



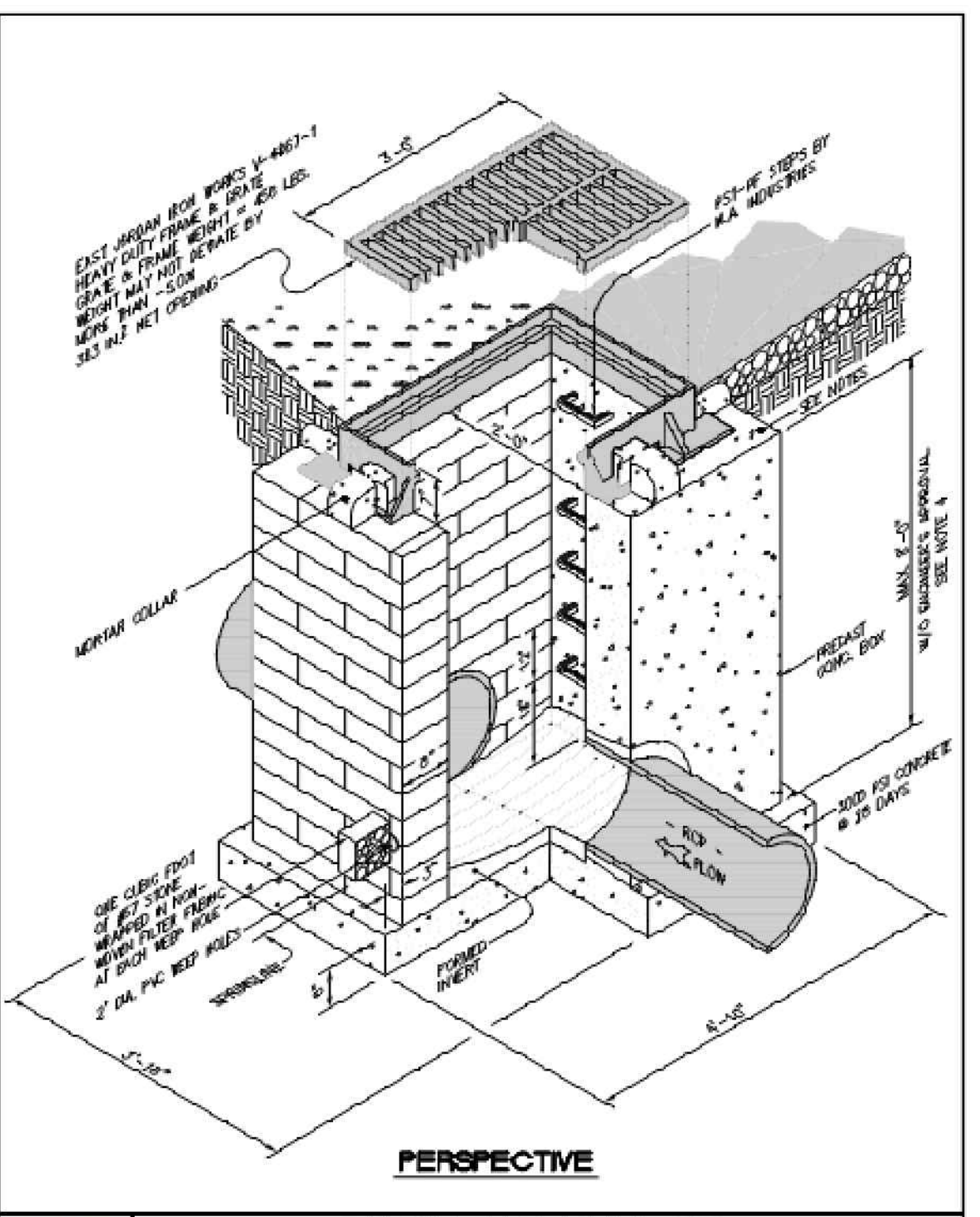
TOWN OF ZEBULON
STD. C&G INLET W/ HOOD
DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 2 OF 4



TOWN OF ZEBULON
STD. TRANSITION FROM INLET TO STD. C&G / VALLEY GUTTER
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 3 OF 4



TOWN OF ZEBULON
DETAIL FOR STORM DRAIN WITH DRIVEWAY CONFLICT
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 4 OF 4



TOWN OF ZEBULON
2x3 DROP INLET
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 1 OF 1

END SECTION DIMENSIONS

DIA.	A	B	C	D	E
15"	7"	2'-3 1/4"	3'-11 1/2"	6'-2 3/4"	2'-5"
18"	9"	2'-3"	3'-11 3/4"	6'-2 3/4"	3'-0"
24"	0"	3'-2"	3'-1"	6'-8"	3'-11 3/4"
30"	1'-0"	4'-8 1/2"	1'-10 1/2"	6'-3"	5'-0"
36"	1'-8"	5'-0"	3'-1 1/2"	8'-11 1/2"	8'-11"
42"	1'-10 1/4"	6'-1 3/8"	3'-1"	8'-2 3/8"	6'-6 1/4"

NOTES:

- DESIGN OF END-SECTION SHALL CONFORM TO STANDARD REINFORCED SECTIONAL CONCRETE CULVERT PIPE.
- ANY TRENCH SYSTEM GREATER THAN 48" RCP REQUIRES A HEADWALL.
- ANY SYSTEM OF MORE THAN 2 PIPES REQUIRES A HEADWALL.
- SEE NC DOT "ROADWAY STANDARD DRAWINGS" FOR HEADWALL CONSTRUCTION DETAILS.

TOWN OF ZEBULON
STD. FLARED END SECTIONS
DESIGN AID DETAIL
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 1 OF 1

TRENCH INSTALLATION FOR CONCRETE PIPE

PIPE DIA. (D _i)	MAX. BURY (H)	MAX. BURY (H) (OUT CRACK)	MAX. BURY (H) (OUT CRACK)
15"	4'	8.5'	14.5'
18"	4'	8.5'	15.0'
24"	4'	12.0'	23.5'
30"	5.5'	18.0'	17.0'
36"	6'	10.0'	18.0'
42"	6.5'	13.0'	19.0'
48"	7'	13.5'	20.0'
60"	8'	13.0'	18.0'
72"	10'	13.0'	18.0'

NOTES:

- FOR OTHER BURY DEPTHS THAN SHOWN (H), NORTH CAROLINA PE TO PROVIDE CALCS ON PIPE BURY THAT EXCEED THOSE GIVEN IN THIS CHART FOR THE CONDITIONS IN WHICH IT IS PROPOSED TO BE USED.
- THIS TABLE OF BURY DEPTHS (H) APPLIES EQUALLY TO A CLASS C STONE BEDDING, TYPE 4, LAYING CONDITIONS.
- MINIMUM COVER NOT SHOWN BUT NO LESS THAN 12" W/O ENGINEERS APPROVAL UP TO 48" PIPE.

TOWN OF ZEBULON
STD. TRENCH INSTALLATION FOR CONCRETE PIPE
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 1 OF 5

TRENCH INSTALLATION FOR CONCRETE PIPE

Table 1 Equivalent USCS and AASHTO Soil Classification for SDD Soil Designations

SDD Soil Designation	Representative Soil Types		Percent Compaction	
	USCS	AASHTO	Standard Proctor	Modified Proctor
Gravelly Sand (Category 1)	SW, SP, SM, SF	A1-A3	100	95
			95	90
			90	85
			80	75
Sandily Gravel (Category 2)	GM, SM, ML, MG, MC, SW, SF, SM, SF, SM, SF	A1-A4	100	95
			95	90
			90	85
			80	75
Silty Gravel (Category 3)	GM, MG, ML, MG, MC, SW, SF, SM, SF, SM, SF	A1-A6	100	90
			95	85
			90	80
			80	70
OH	OH		100	90
			95	85
			90	80
			80	70

TOWN OF ZEBULON
STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 3 OF 5

Table 2 Standard EMBANKMENT Installation Soils and Minimum Compaction Requirements

Installation Type	Bedding Thickness	Haunch and Outer Bedding	Lower Side
Type 1	D ₁₅ /24 minimum, not less than 75 mm (3") If rock foundation, use D ₁₅ /12 minimum, not less than 150 mm (6")	90% Category I or 90% Category II	90% Category I, 90% Category II, or 90% Category III
Type 2	D ₁₅ /24 minimum, not less than 75 mm (3") If rock foundation, use D ₁₅ /12 minimum, not less than 150 mm (6")	90% Category I or 90% Category II	90% Category I, 90% Category II, or 90% Category III
Type 3	D ₁₅ /24 minimum, not less than 75 mm (3") If rock foundation, use D ₁₅ /12 minimum, not less than 150 mm (6")	90% Category I, 90% Category II, or 90% Category III	90% Category I, 90% Category II, or 90% Category III
Type 4	D ₁₅ /24 minimum, not less than 75 mm (3") If rock foundation, use D ₁₅ /12 minimum, not less than 150 mm (6")	No compaction required, except if Category III, use 90% Category III	No compaction required, except if Category II, use 90% Category II

Notes:

- Compaction and soils symbols - i.e. "90% Category I" refers to Category I soil material with a minimum standard Proctor compaction of 90%. See Table 1 for equivalent modified Proctor values.
- Soil in the outer bedding, haunch, and lower side zones, except within D₀/3 from the pipe springline, shall be compacted to at least the same compaction as the majority of the soil in the overfill zone.
- Subtrenches
 - A subtrench is defined as a trench with its top below finished grade by more than 0.1 M or, for roadways, its top is at an elevation lower than 0.3 m (1') below the bottom of the pavement base material.
 - The minimum width of a subtrench shall be 1.35 D₀ or wider if required for adequate space to attain the specified compaction in the haunch and bedding zones.
 - For subtrenches with wall of natural soil, any portion of the lower side zone in the subtrench wall shall be at least as firm as an equivalent soil placed to the compaction requirements specified for the lower side zone and as firm as the majority of soil in the overfill zone, or shall be removed and replaced with soil compacted to the specified level.
- Type 1 installation = relatively high quality material & high compaction effort. Type 4 installation = little or no control over material and compaction.

TOWN OF ZEBULON
STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 4 OF 5

TRENCH INSTALLATION FOR CONCRETE PIPE

Table 1 Equivalent USCS and AASHTO Soil Classification for SDD Soil Designations

SDD Soil Designation	Representative Soil Types		Percent Compaction	
	USCS	AASHTO	Standard Proctor	Modified Proctor
Gravelly Sand (Category 1)	SW, SP, SM, SF	A1-A3	100	95
			95	90
			90	85
			80	75
Sandily Gravel (Category 2)	GM, SM, ML, MG, MC, SW, SF, SM, SF, SM, SF	A1-A4	100	95
			95	90
			90	85
			80	75
Silty Gravel (Category 3)	GM, MG, ML, MG, MC, SW, SF, SM, SF, SM, SF	A1-A6	100	90
			95	85
			90	80
			80	70
OH	OH		100	90
			95	85
			90	80
			80	70

TOWN OF ZEBULON
STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)
SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 5 OF 5

Bowman

4006 BARRITT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)555-6570
bowman.com

Bowman North Carolina Ltd.

CONSTRUCTION DETAILS

Rocket Express
Arendell Ave
Project ID#796479

Wake County
Zebulon, NC

PRELIMINARY
DO NOT
USE FOR
CONSTRUCTION



PLAN STATUS

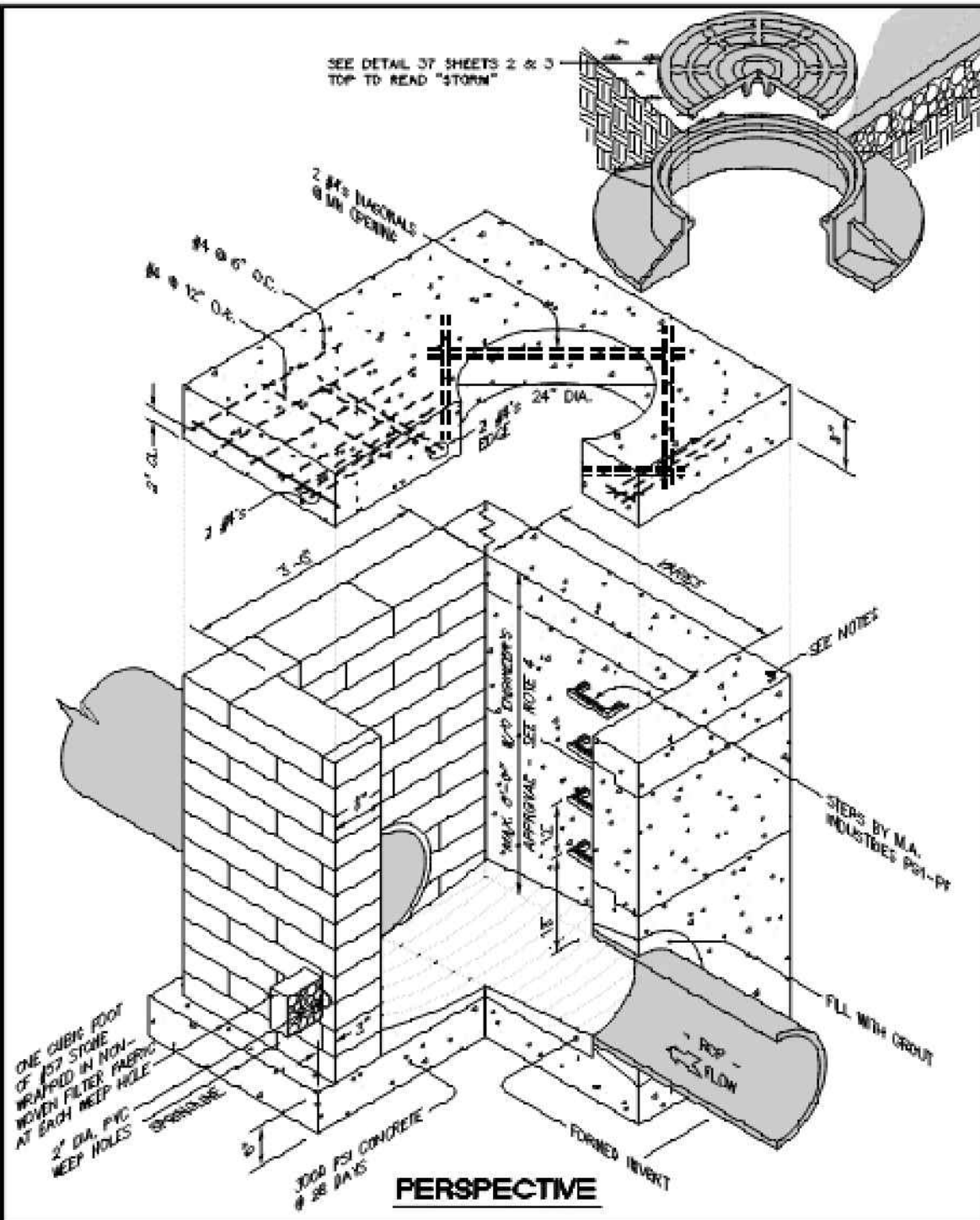
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX
SCALE	H: 1" = 50' V: 1" = 40'
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002

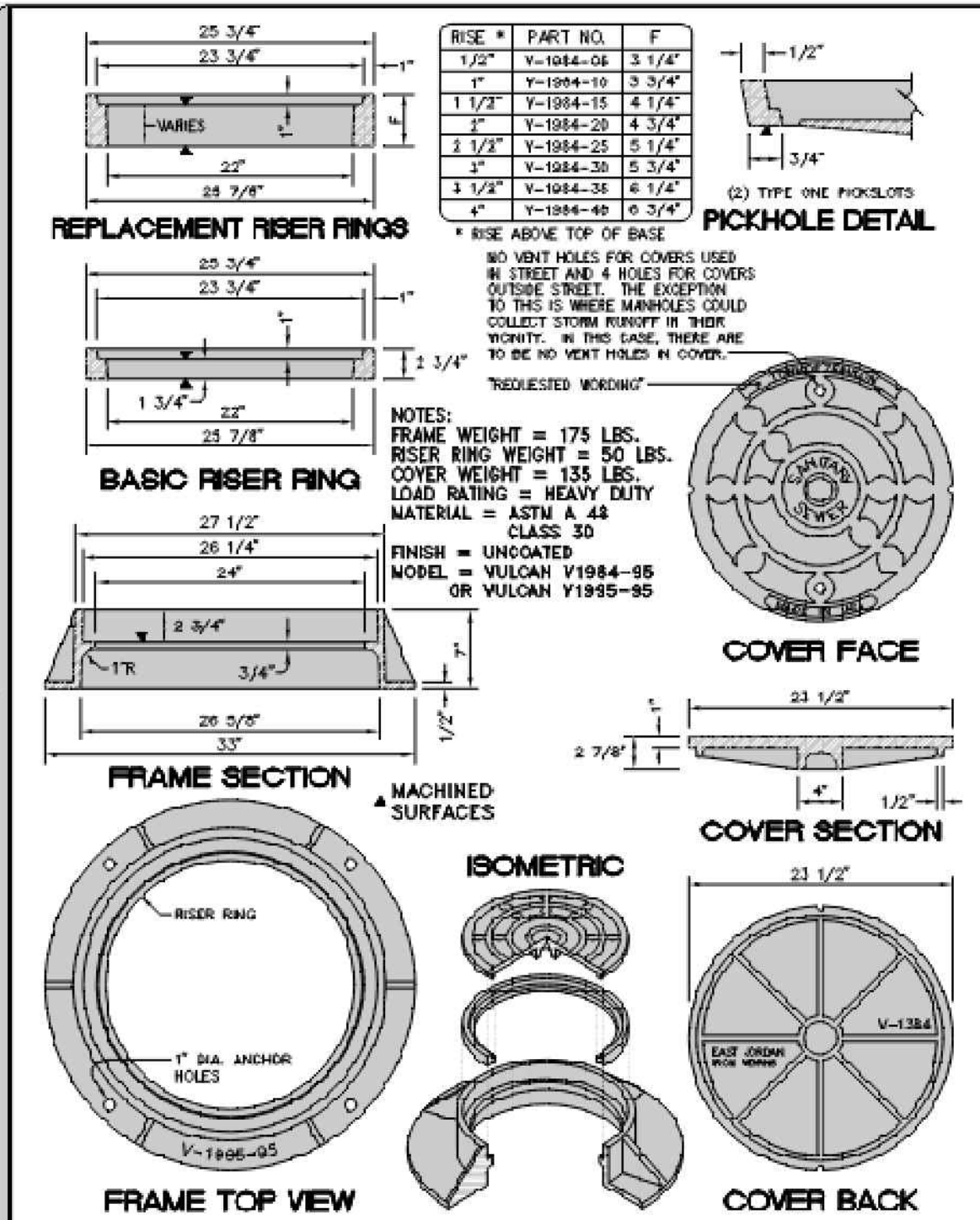
SHEET C6.3C

Installation Type	Bedding Thickness	Haunch Outer Bedding	Lower Side
Type 1	3/4" minimum, not less than 35 mm (1 3/8"). If rock foundation, use 3/4" minimum, not less than 150 mm (6").	80R Category I or 80R Category II	80R Category I, 80R Category II, or 100R Category III
Type 2	3/4" minimum, not less than 35 mm (1 3/8"). If rock foundation, use 3/4" minimum, not less than 150 mm (6").	80R Category I or 80R Category II	80R Category I, 80R Category II, or 25S Category II
Type 3	3/4" minimum, not less than 35 mm (1 3/8"). If rock foundation, use 3/4" minimum, not less than 150 mm (6").	80R Category I, 80R Category II, or 80R Category III	80R Category I, 80R Category II, or 25S Category II
Type 4	3/4" minimum, not less than 35 mm (1 3/8"). If rock foundation, use 3/4" minimum, not less than 150 mm (6").	No compaction required, except if Category II.	No compaction required, except if Category II.

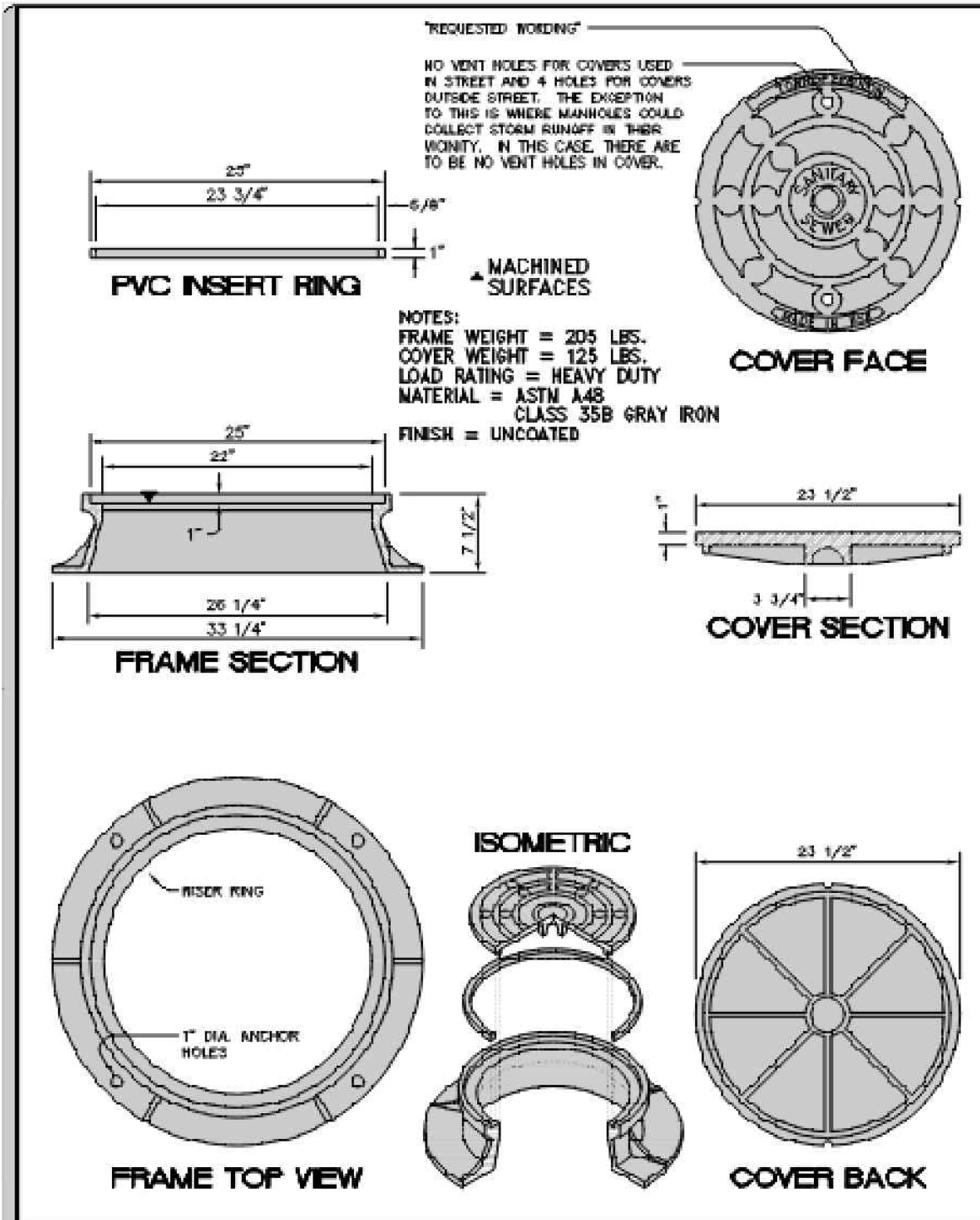
- Notes:**
- Compaction and soils symbols - i.e. "98% Category I" refers to Category I soil materials with minimum standard Proctor compaction of 98%. See Table 1 for equivalent modified Proctor values.
 - The trench top elevation shall be no lower than 0.1 H below finished grade or, for roadways, its top shall be no lower than an elevation of 0.3 m (1') below the bottom of the pavement base material.
 - Soil in bedding and haunch zones shall be compacted to at least the same compaction as specified for the majority of soil in the backfill zone.
 - The trench width shall be wider than shown if required for adequate space to attain the specified compaction in the haunch and bedding zone.
 - For trench walls that are within 10 degrees of vertical, the compaction or firmness of the soil in the trench walls and lower side zone need not be considered.
 - For trench walls with greater than 10 degree slope that consist of embankment, the lower side shall be compacted to at least the same compaction as specified for the soil in the backfill zone.
 - Type 1 installation = relatively high quality material & high compaction effort. Type 4 installation = little or no control over material and compaction.



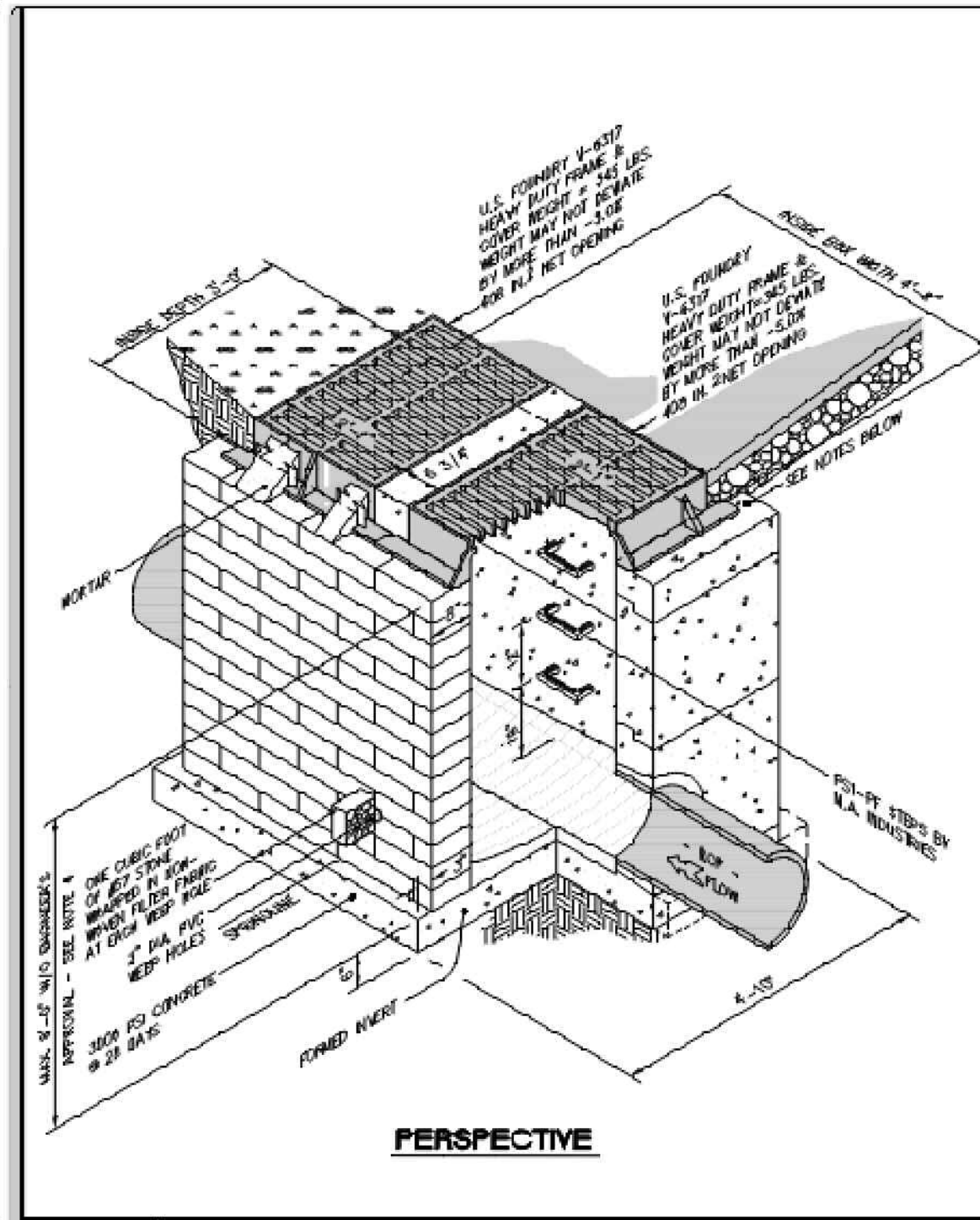
TOWN OF ZEBULON
STD. M.H. J.B. VARIABLE LENGTH
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 37 OF 3



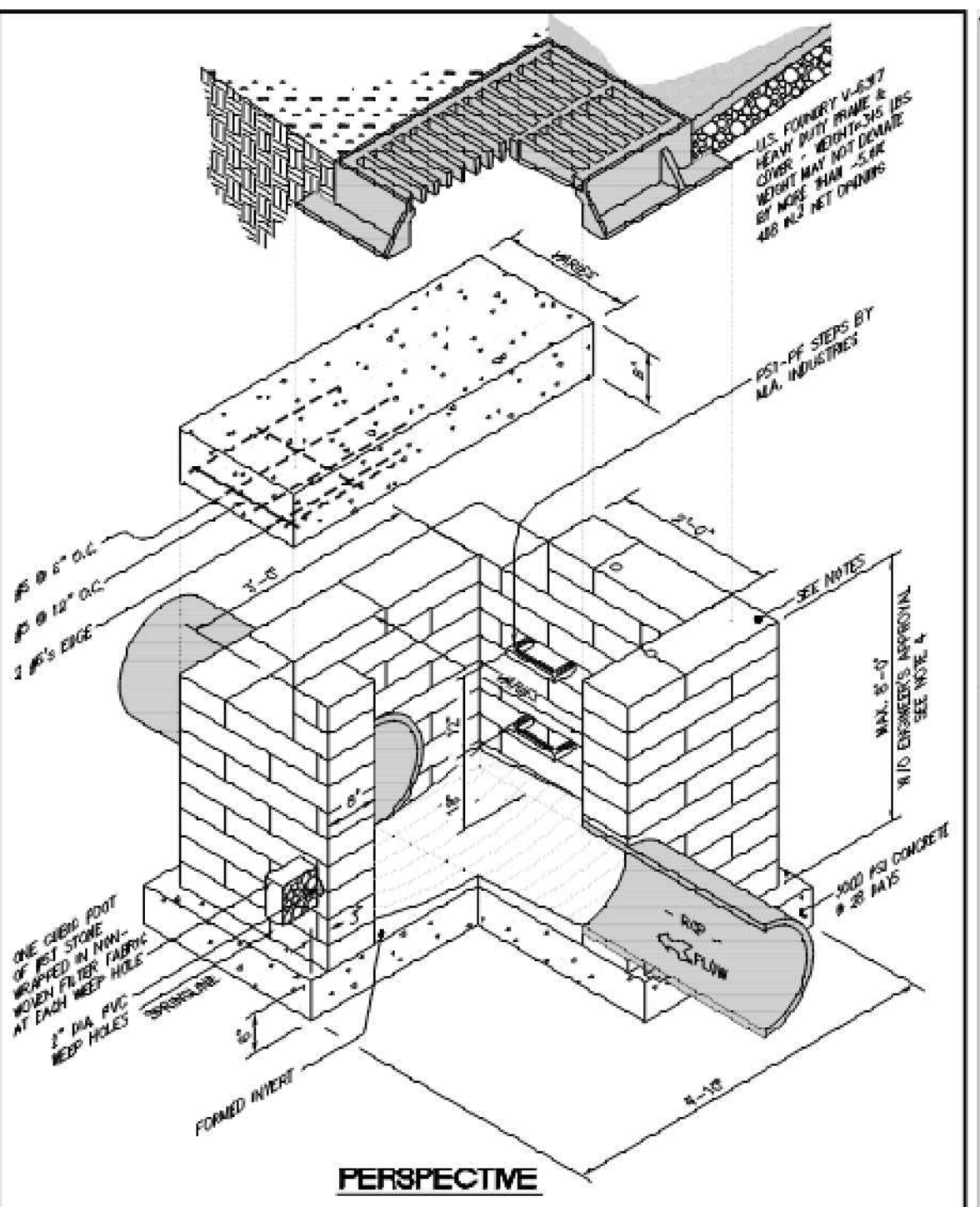
TOWN OF ZEBULON
STANDARD MANHOLE COVER & RING ADJUSTABLE - EAST JORDAN IRON WORKS Y-1984
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 37 OF 3



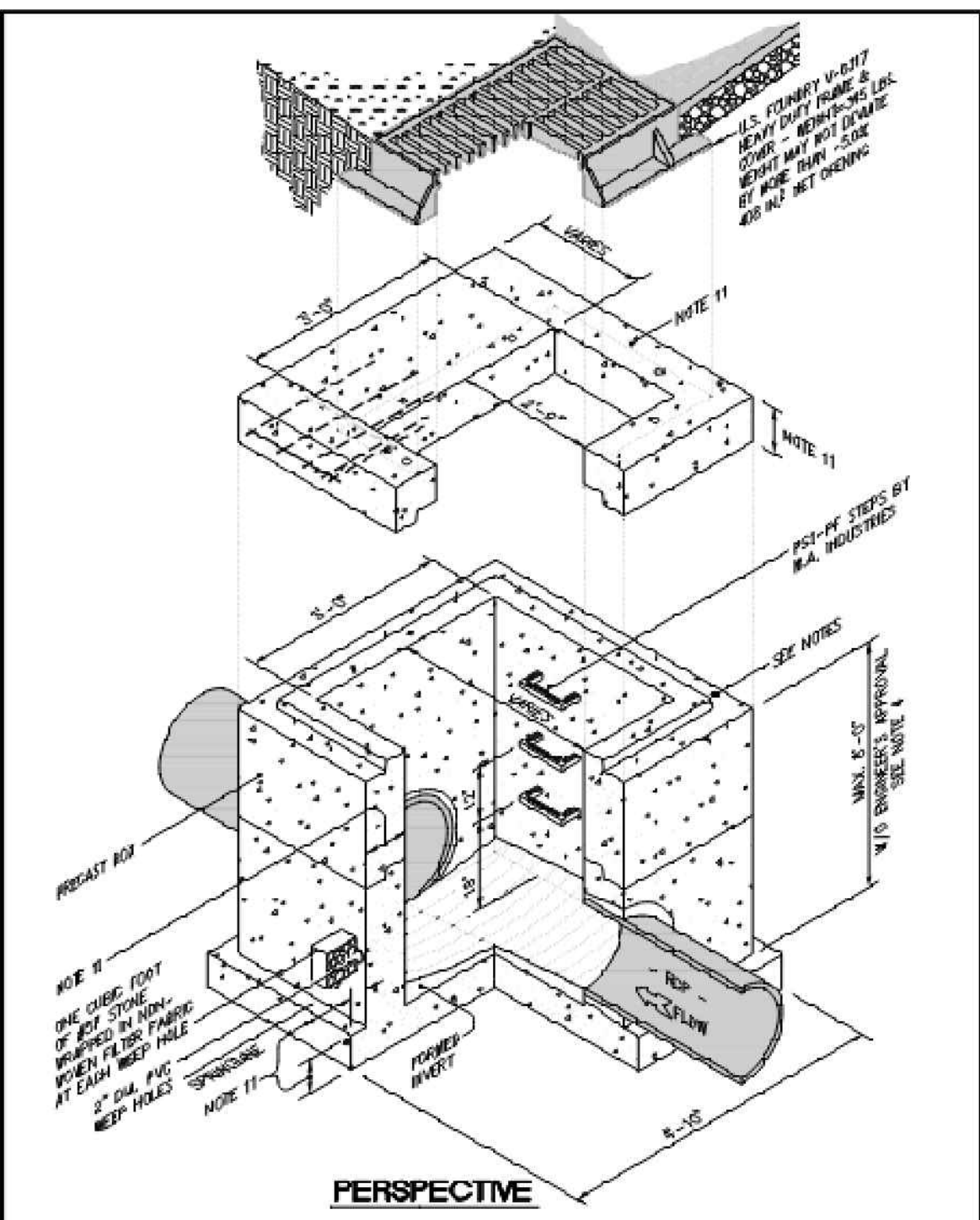
TOWN OF ZEBULON
STANDARD MANHOLE & RING US FOUNDRY 700 KL
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 37 OF 3



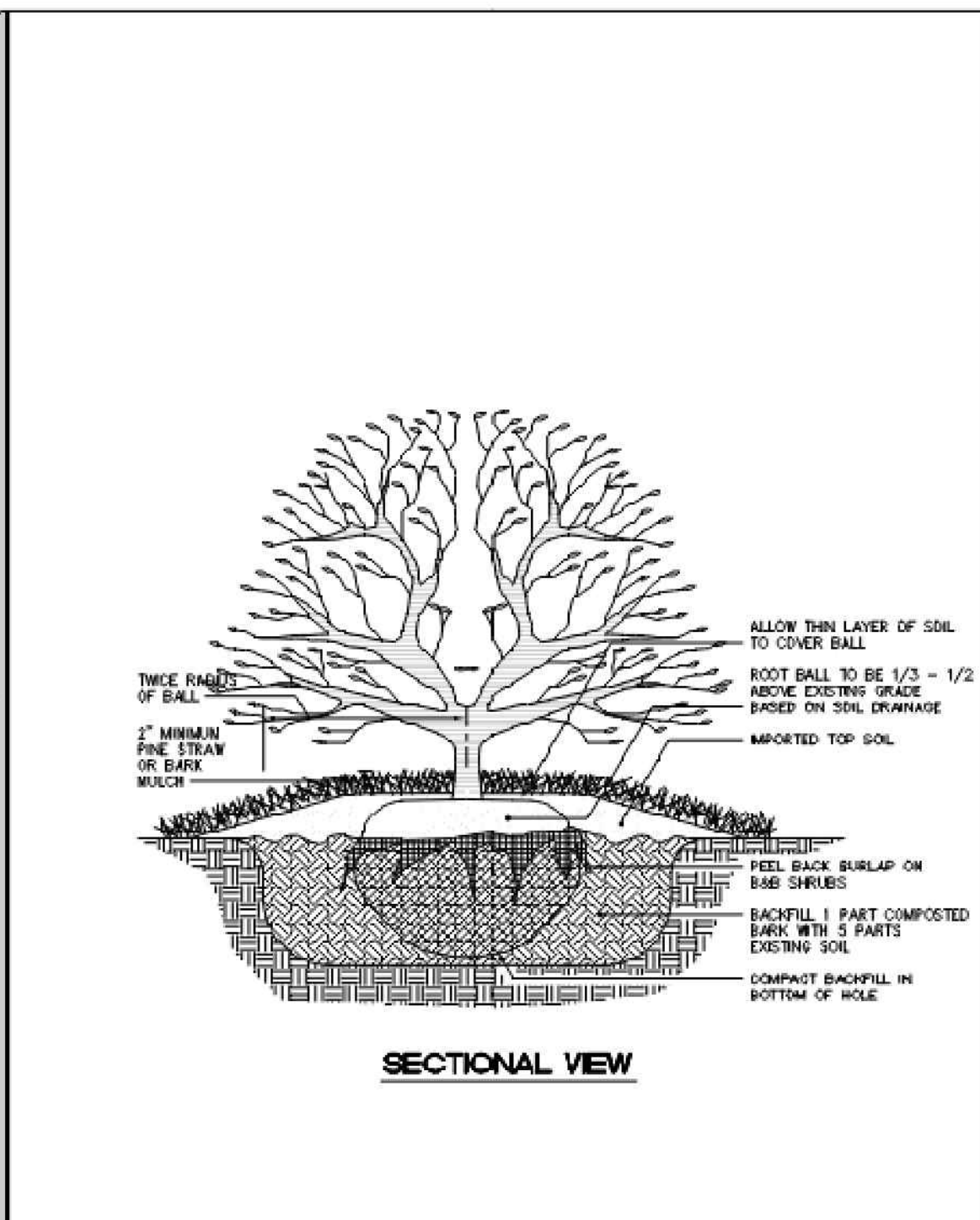
TOWN OF ZEBULON
STD. MULTIPLE 2' x 3' CATCH BASIN DETAIL
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 38 OF 1



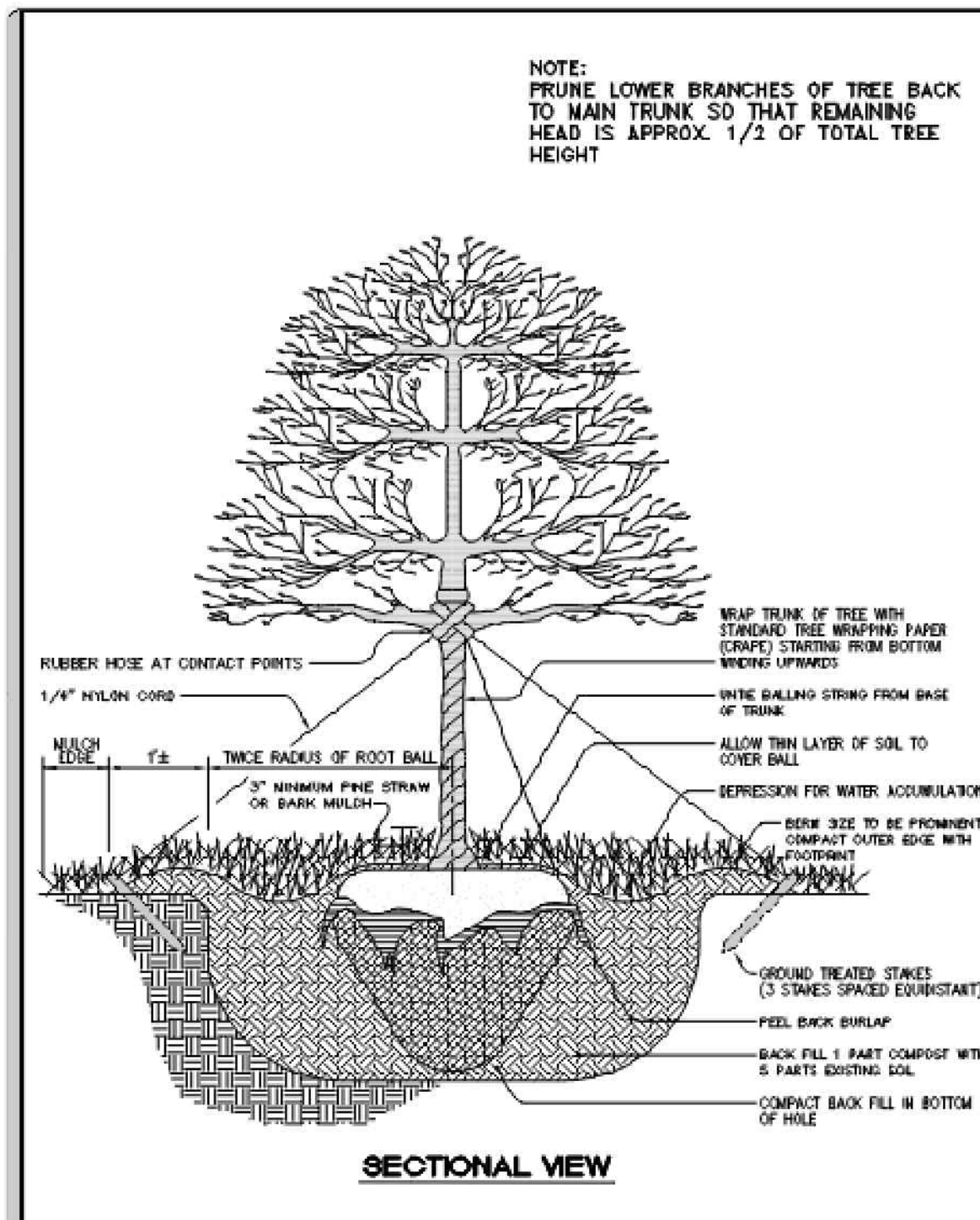
TOWN OF ZEBULON
STD. 3' x VARIABLE LENGTH BOX WITH 2' x 3' C.B.
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 39 OF 3



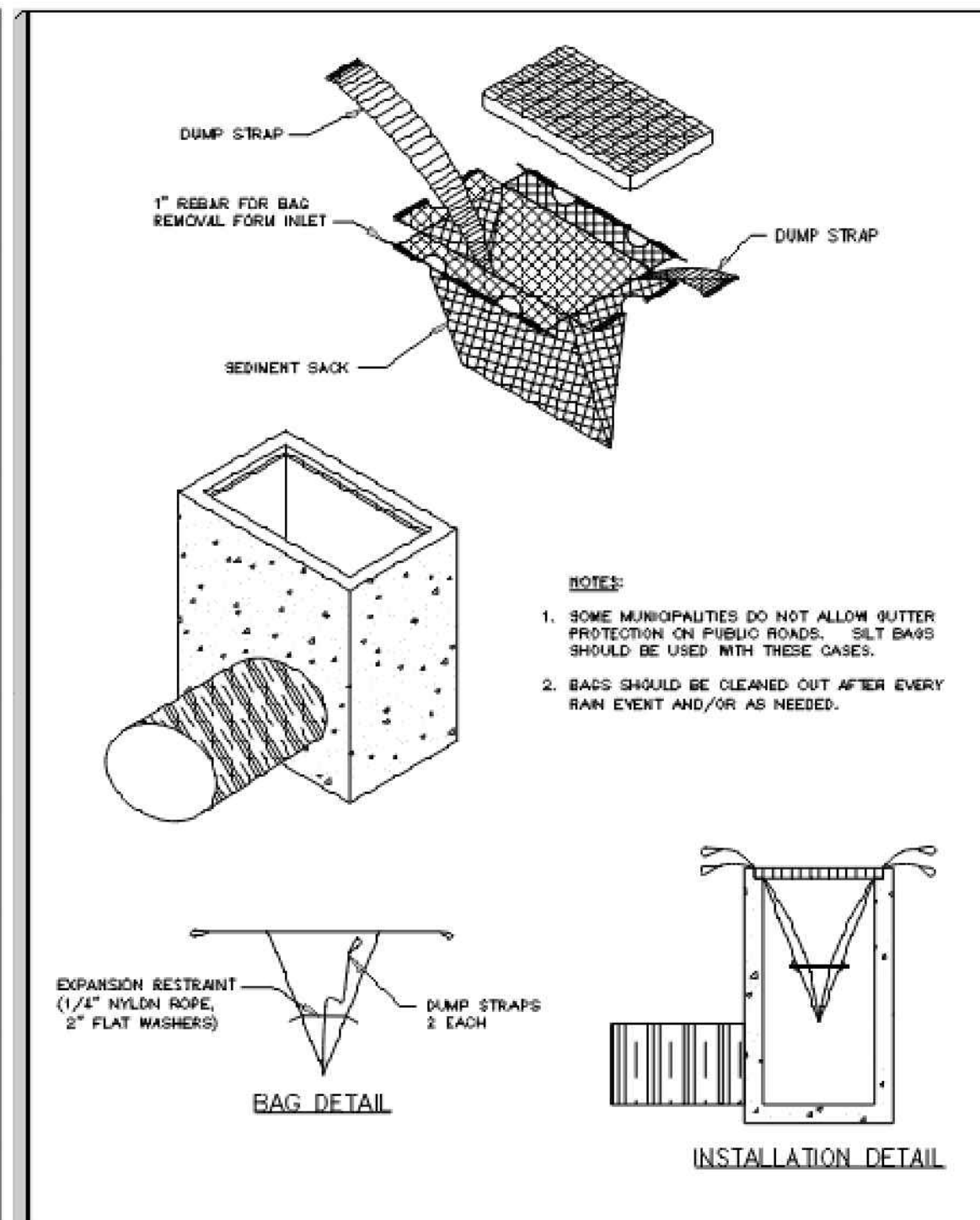
TOWN OF ZEBULON
STD. 3' x VARIABLE LENGTH PRECAST BOX WITH 2' x 3' C.B.
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 39 OF 3



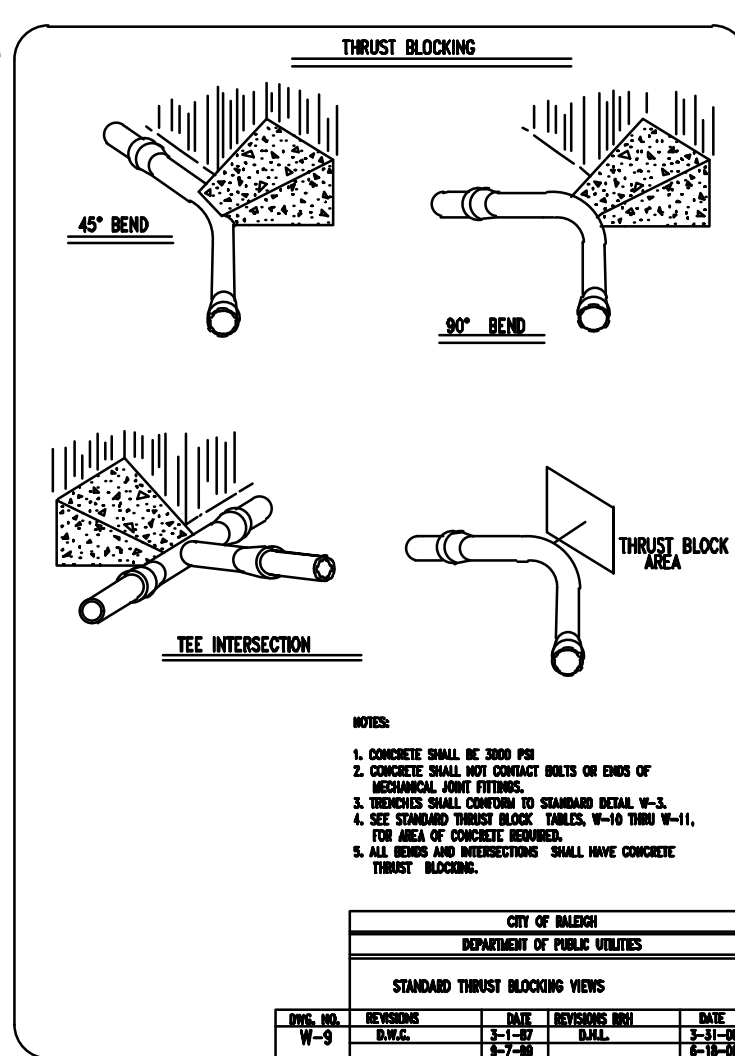
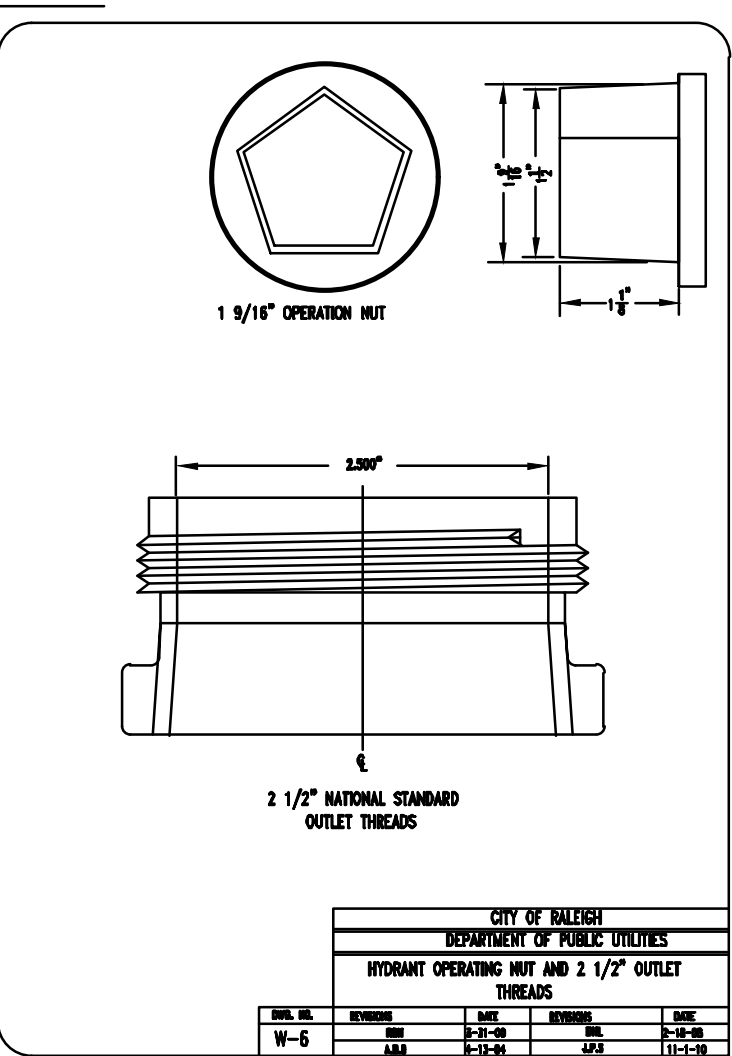
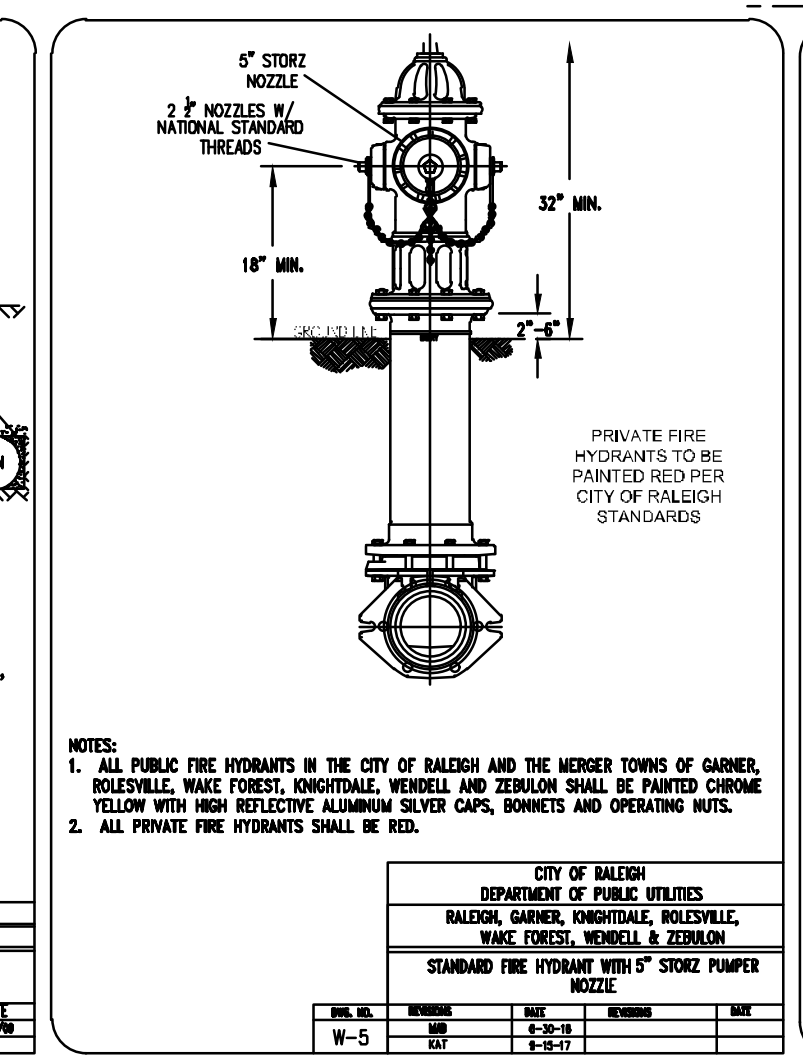
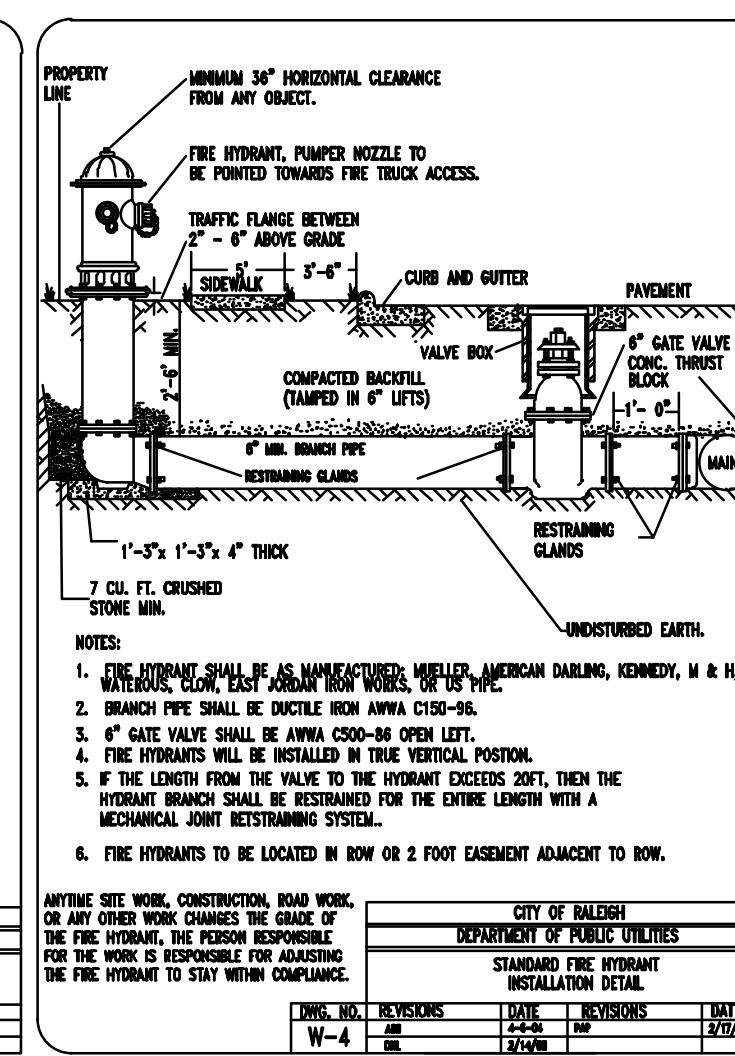
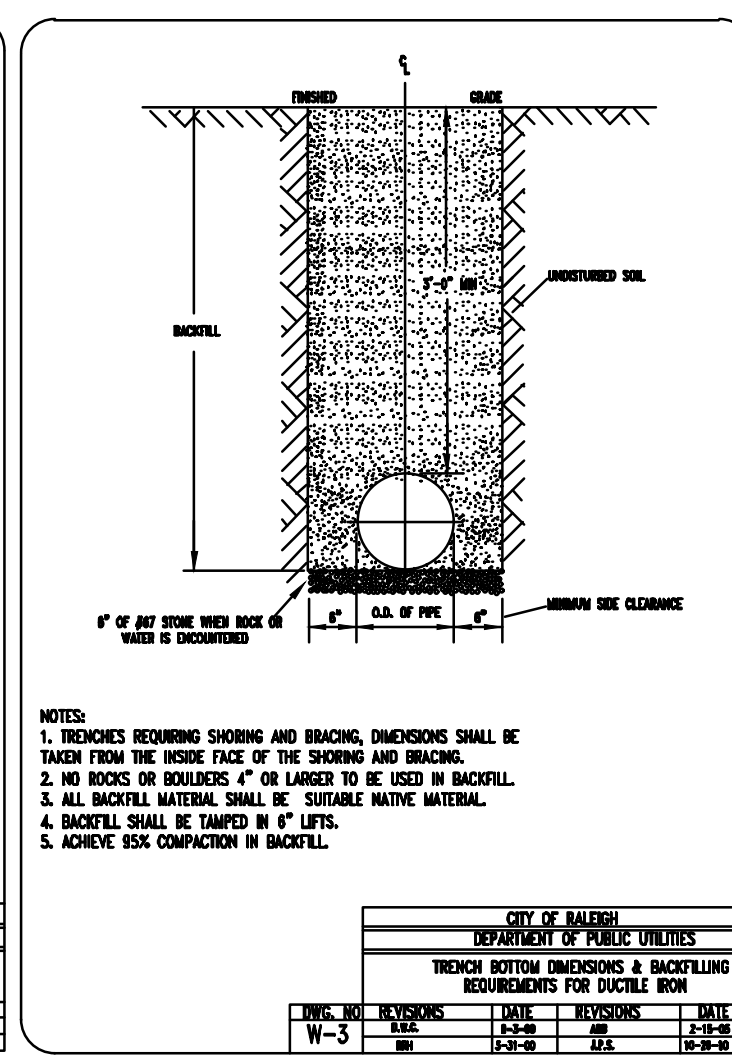
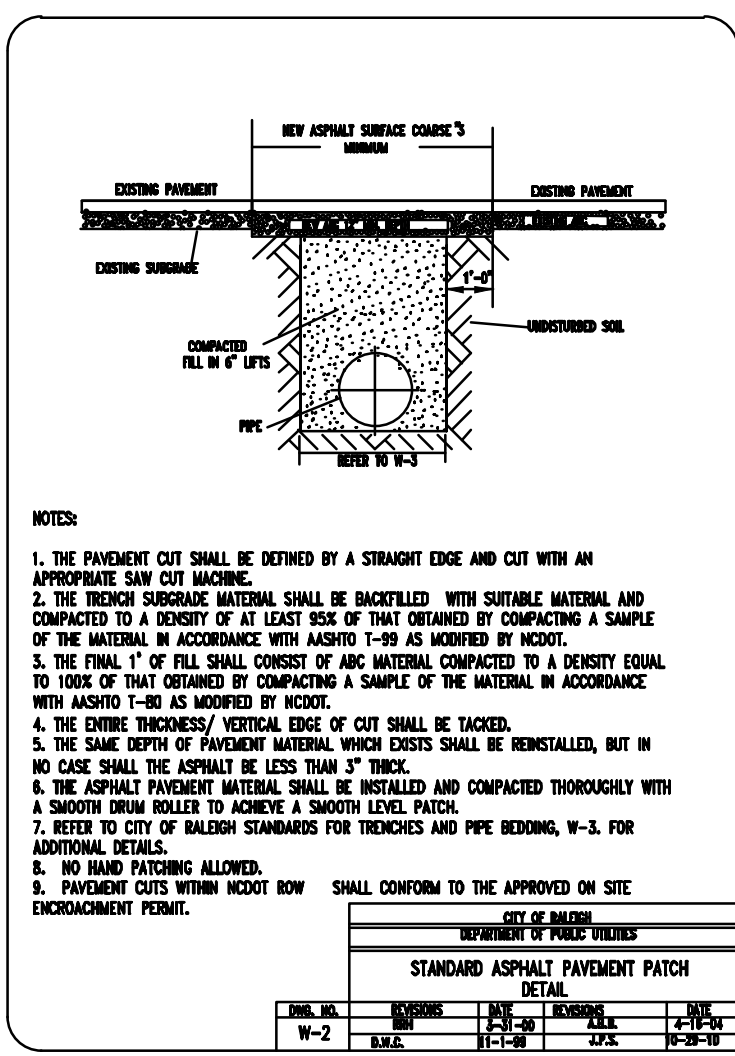
TOWN OF ZEBULON
TYPICAL SHRUB PLANTING DETAIL
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 43 OF 1



TOWN OF ZEBULON
TYPICAL TREE STAKING and PLANTING DETAIL
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 44 OF 1



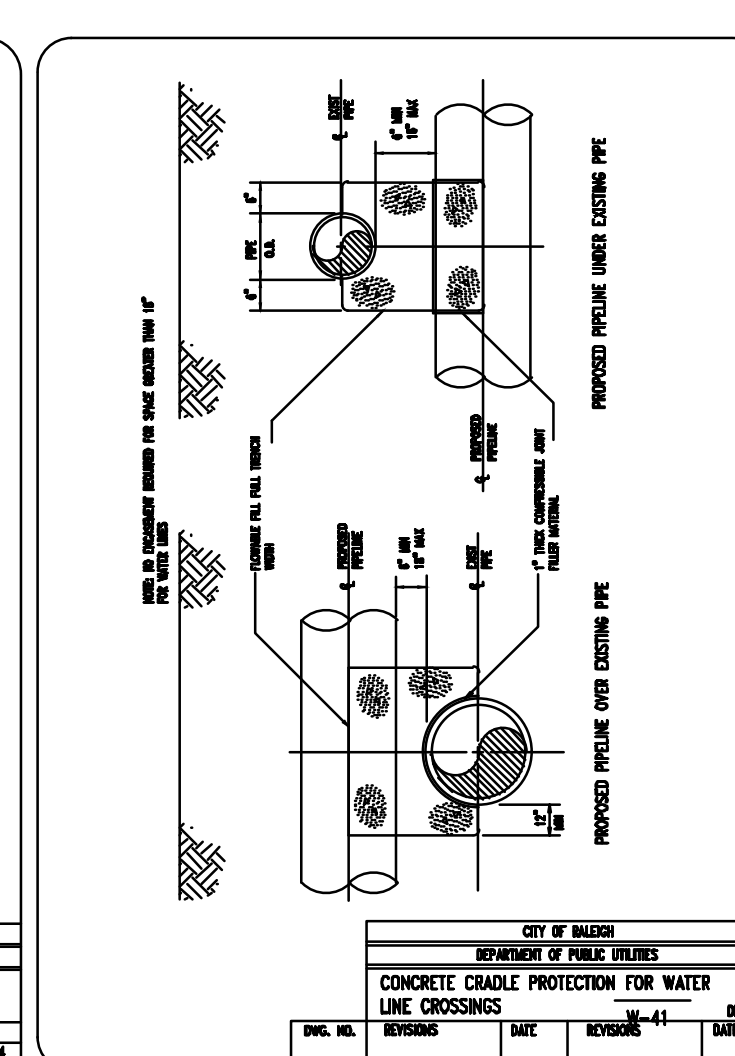
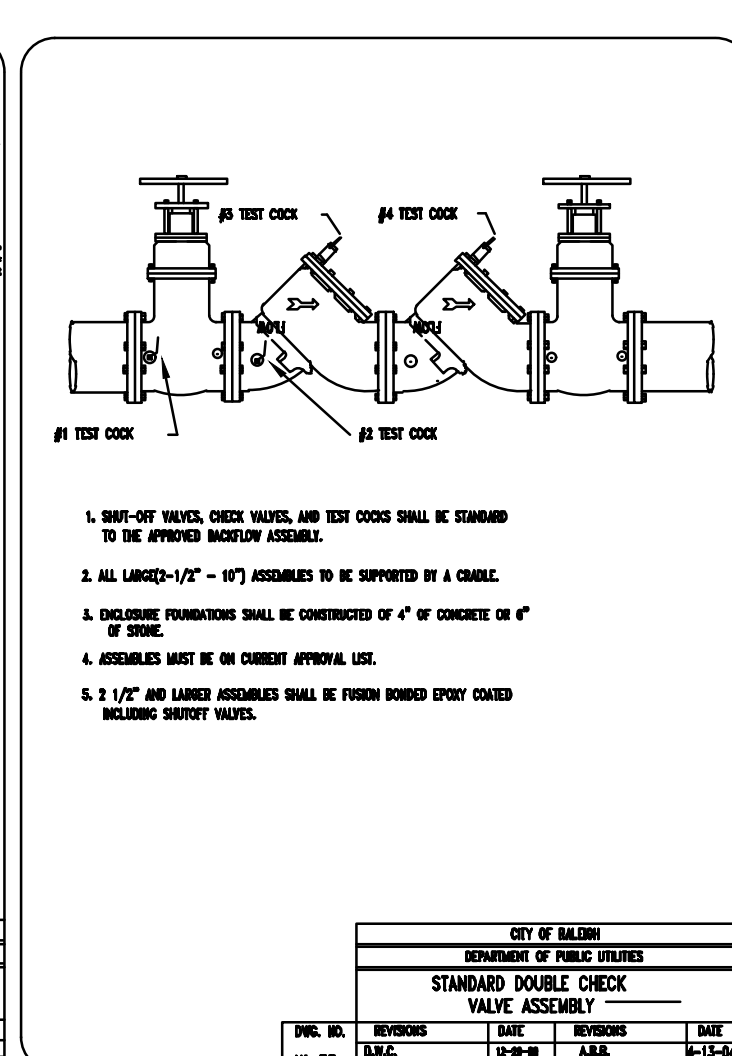
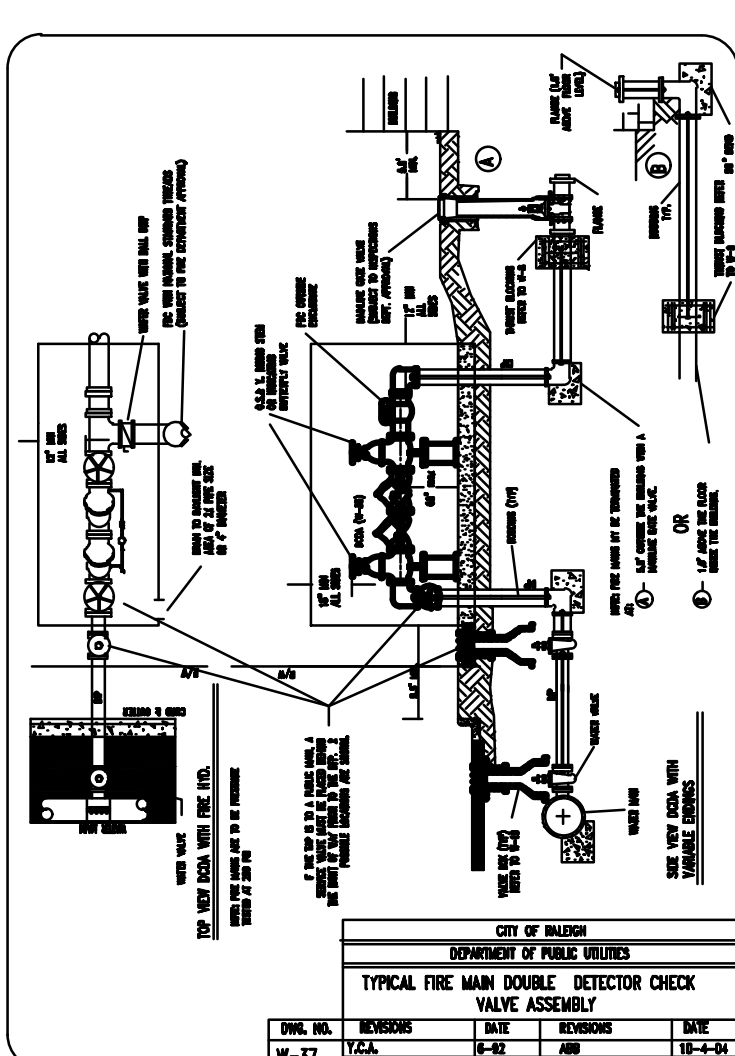
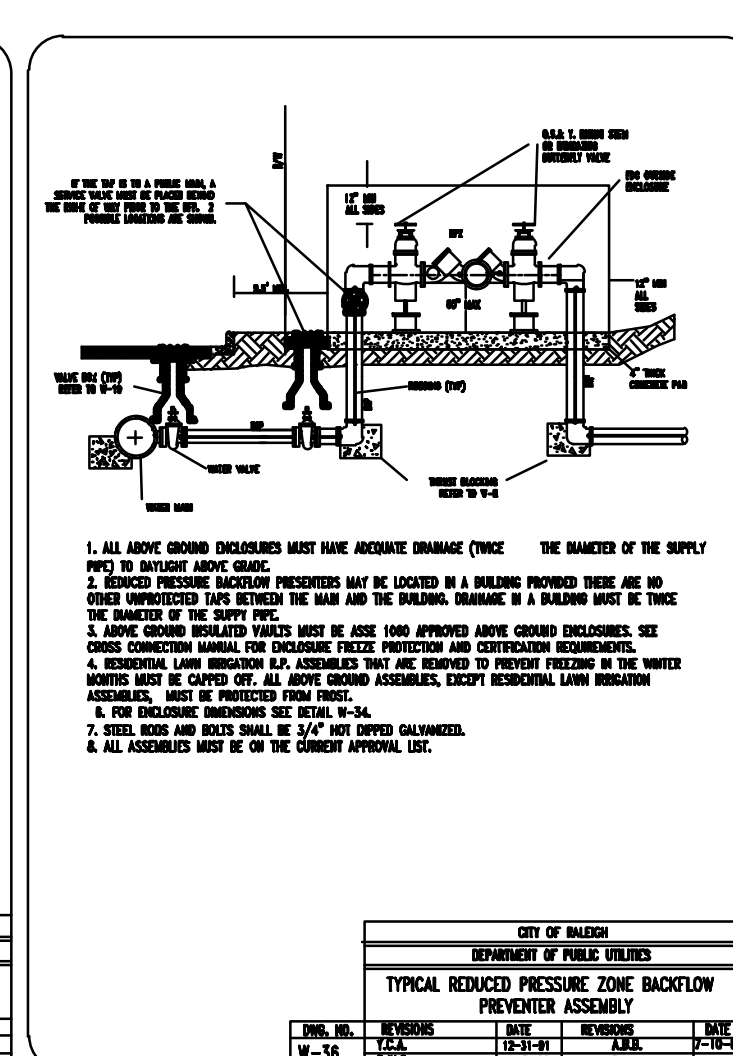
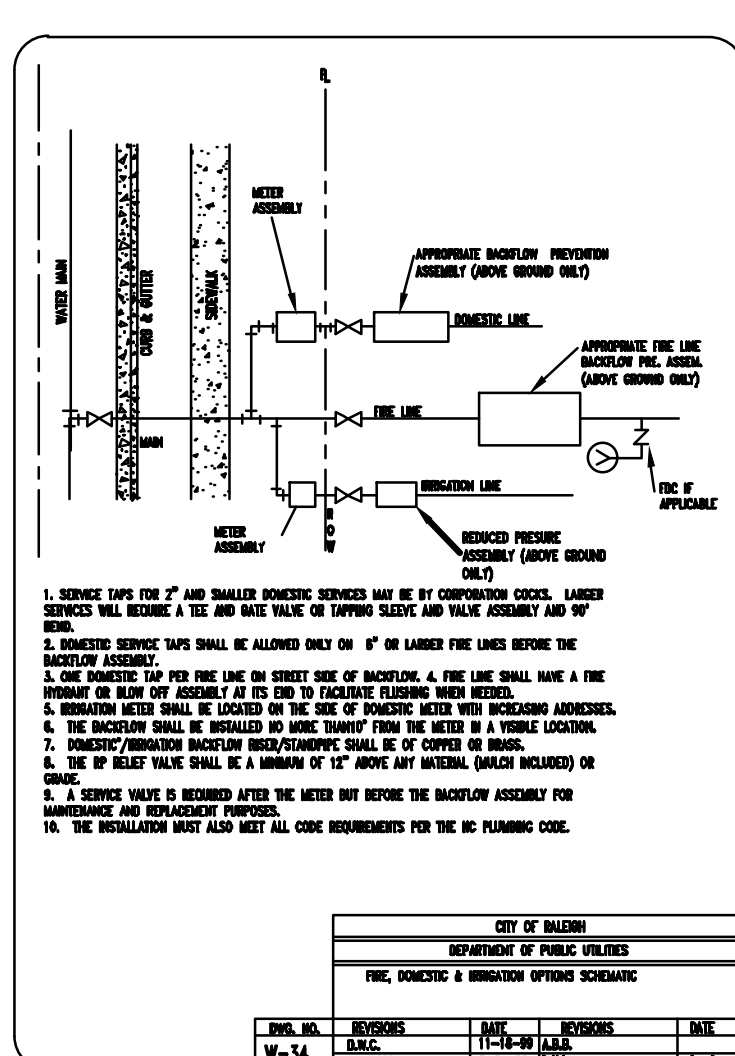
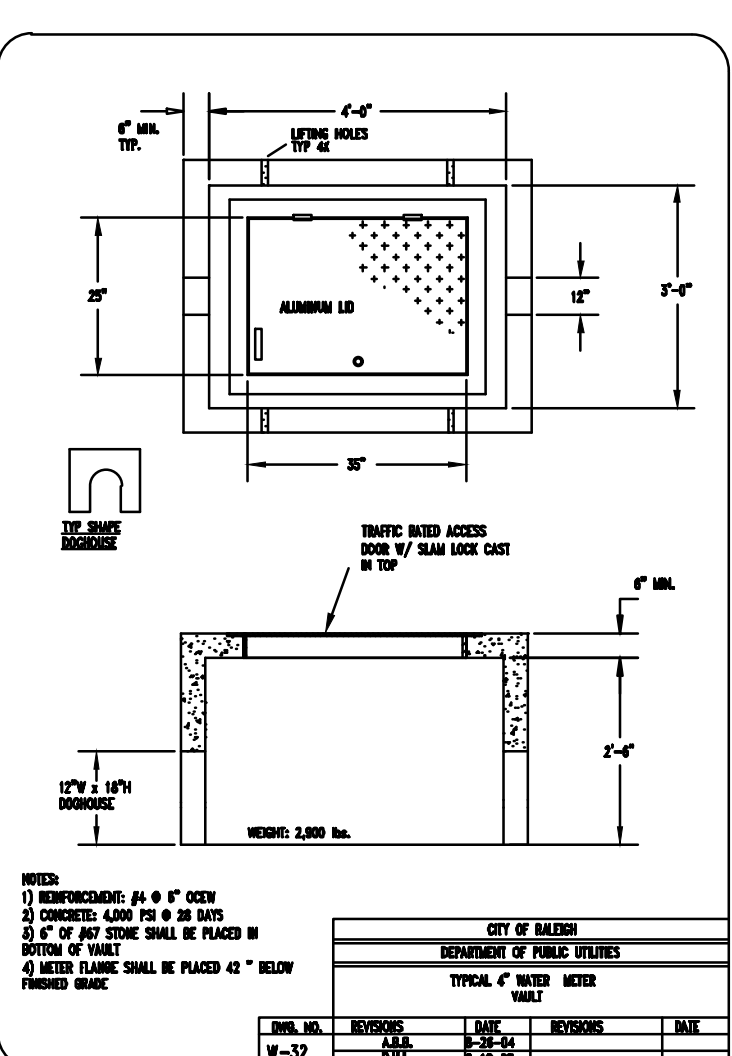
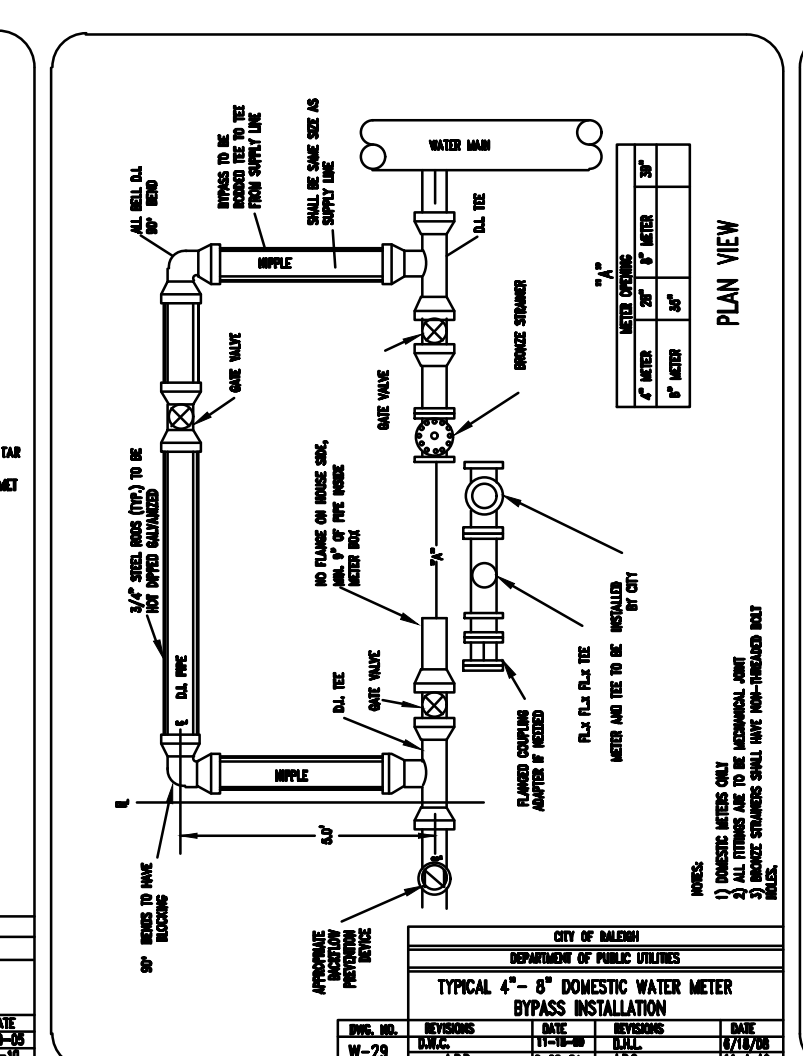
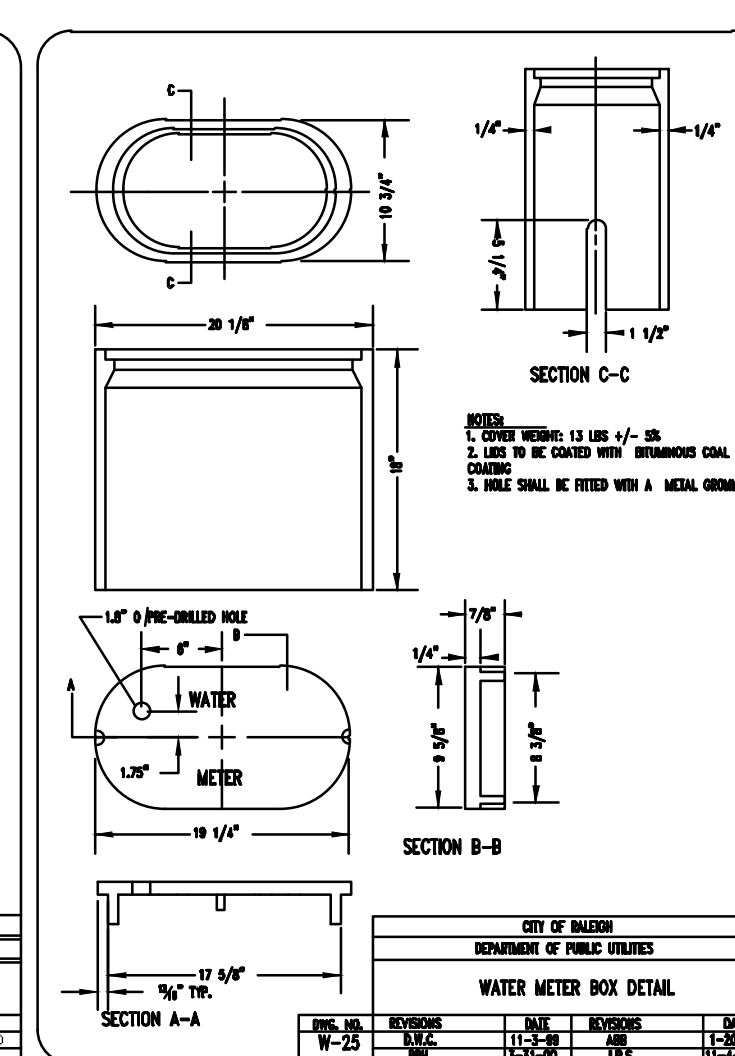
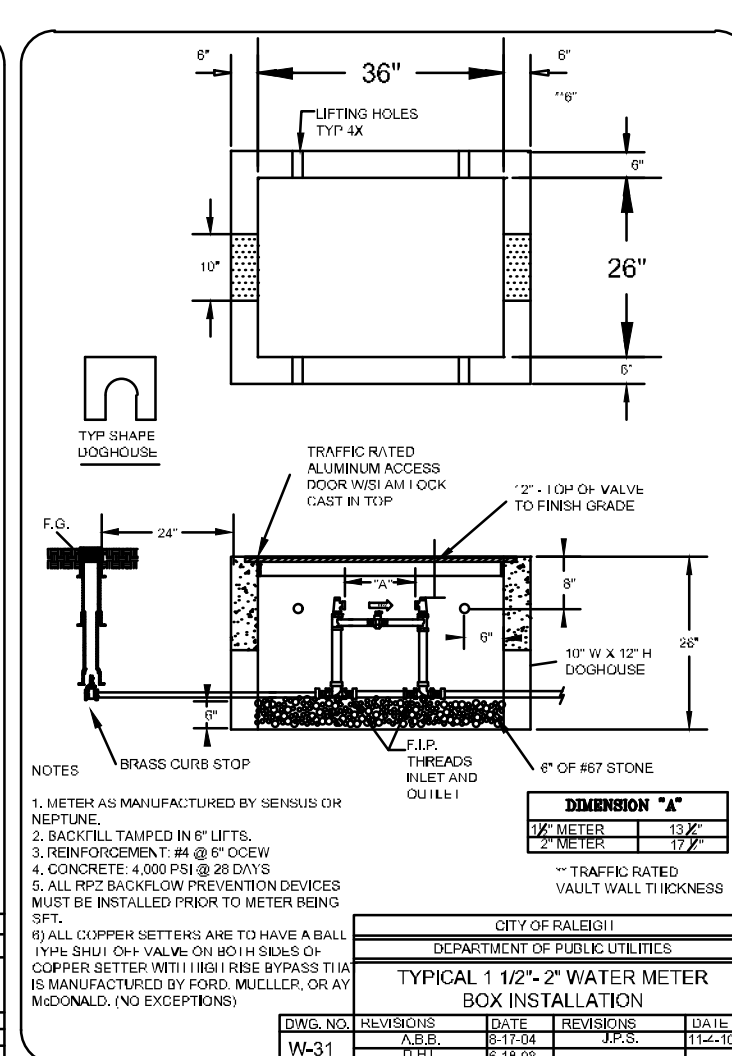
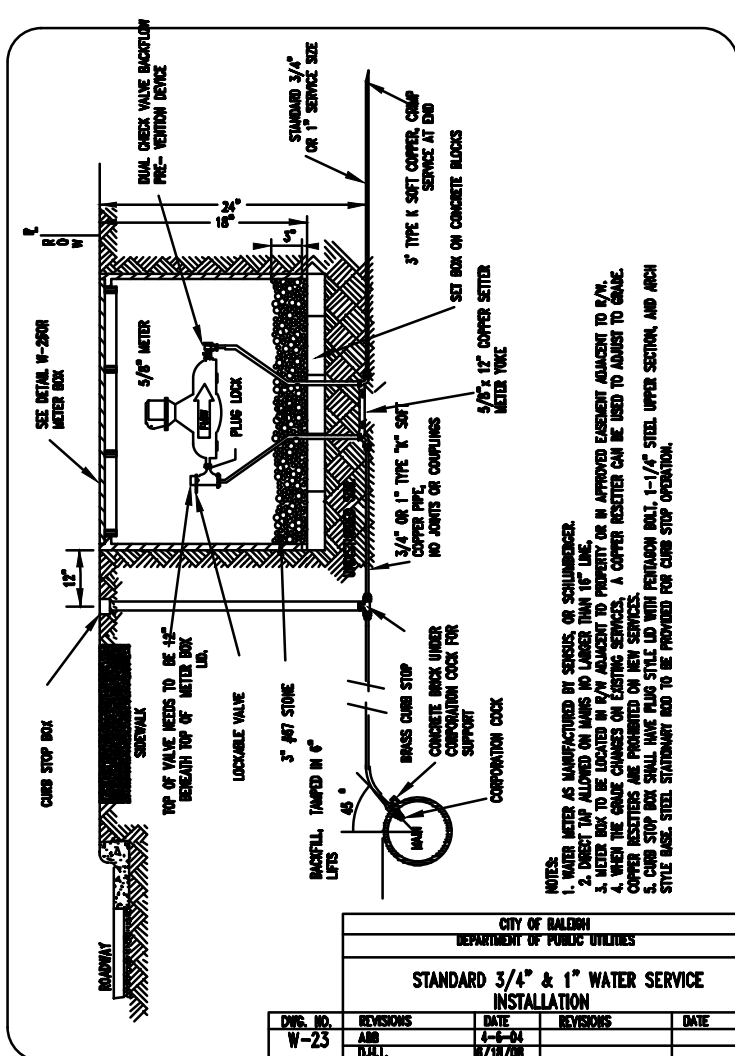
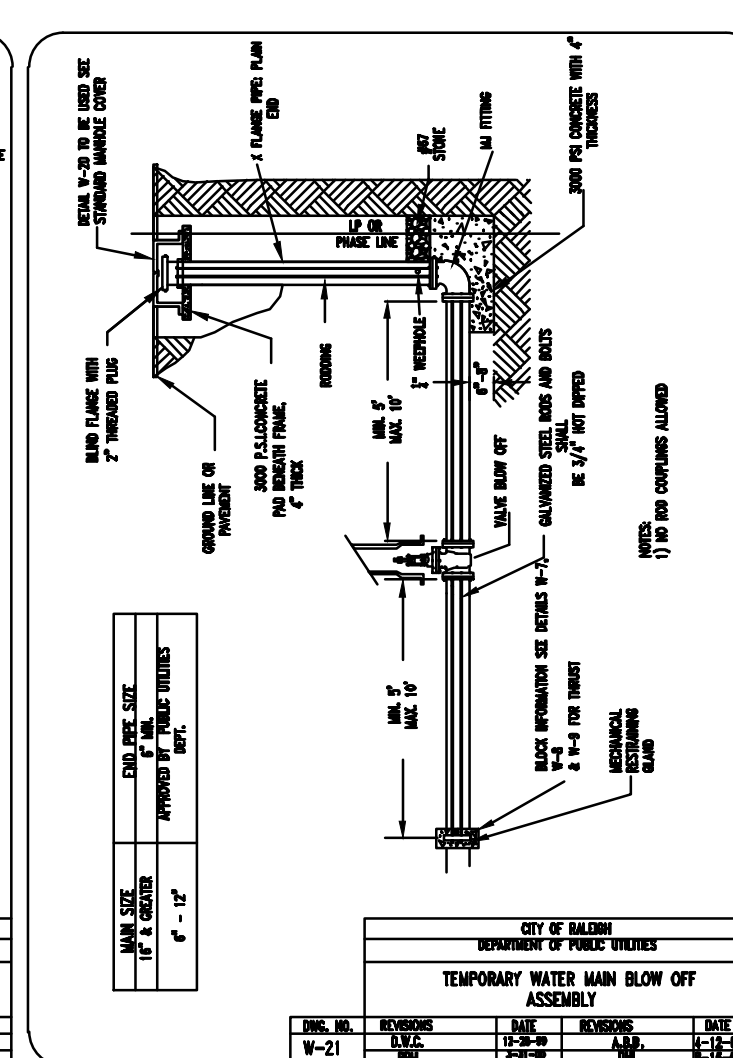
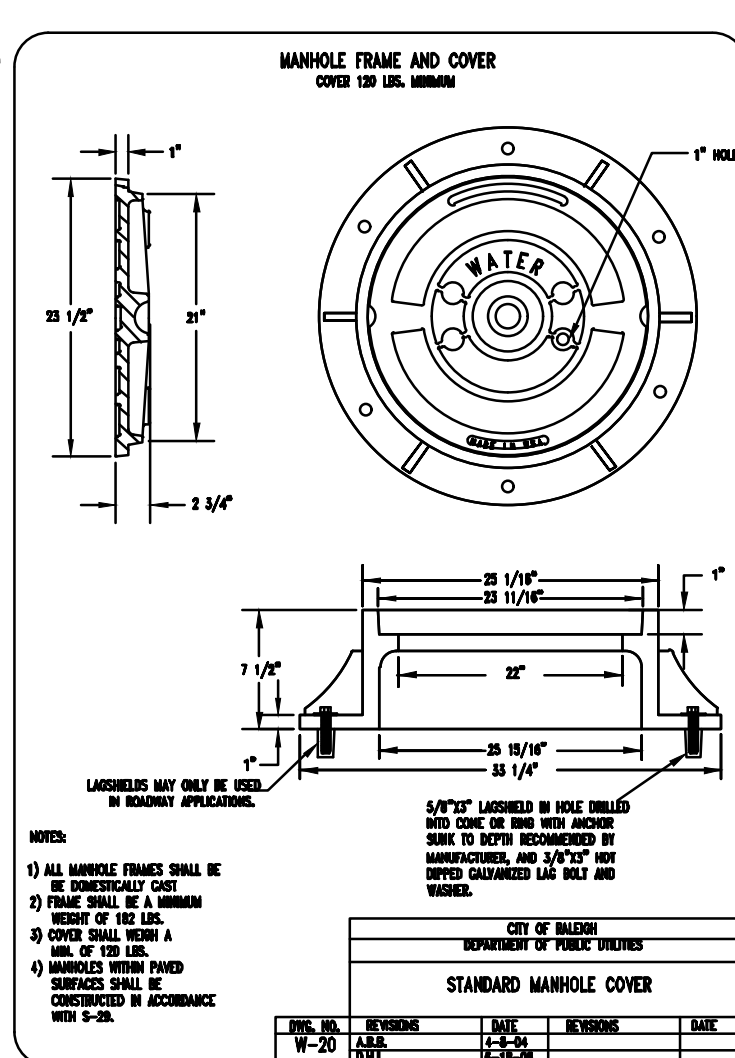
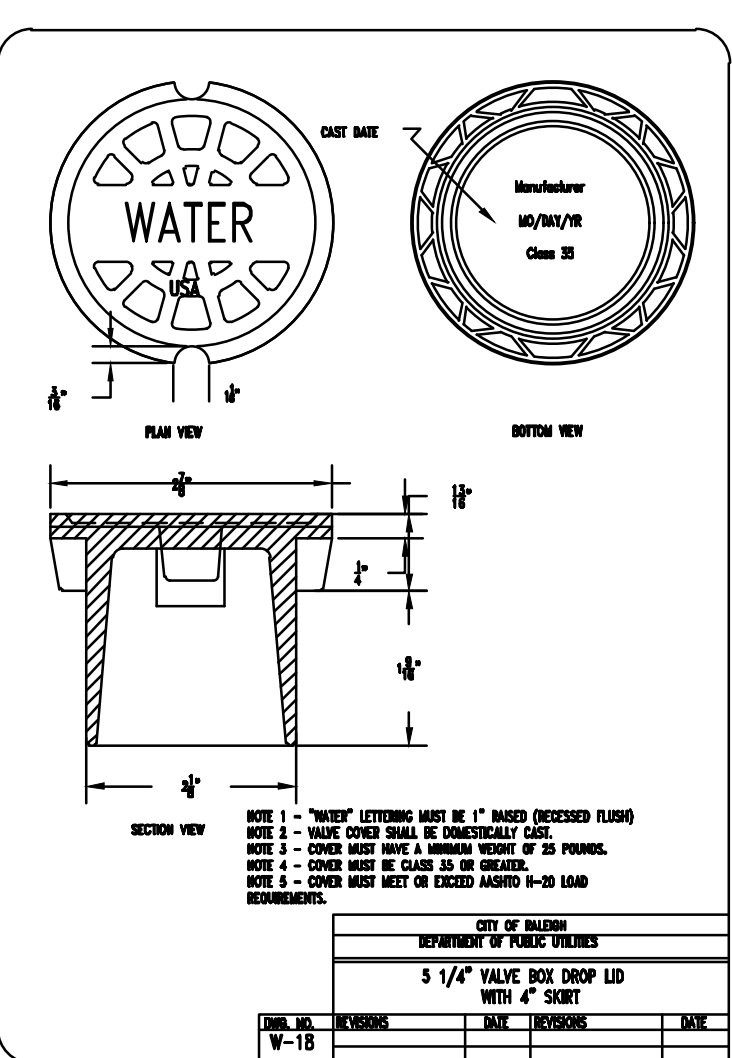
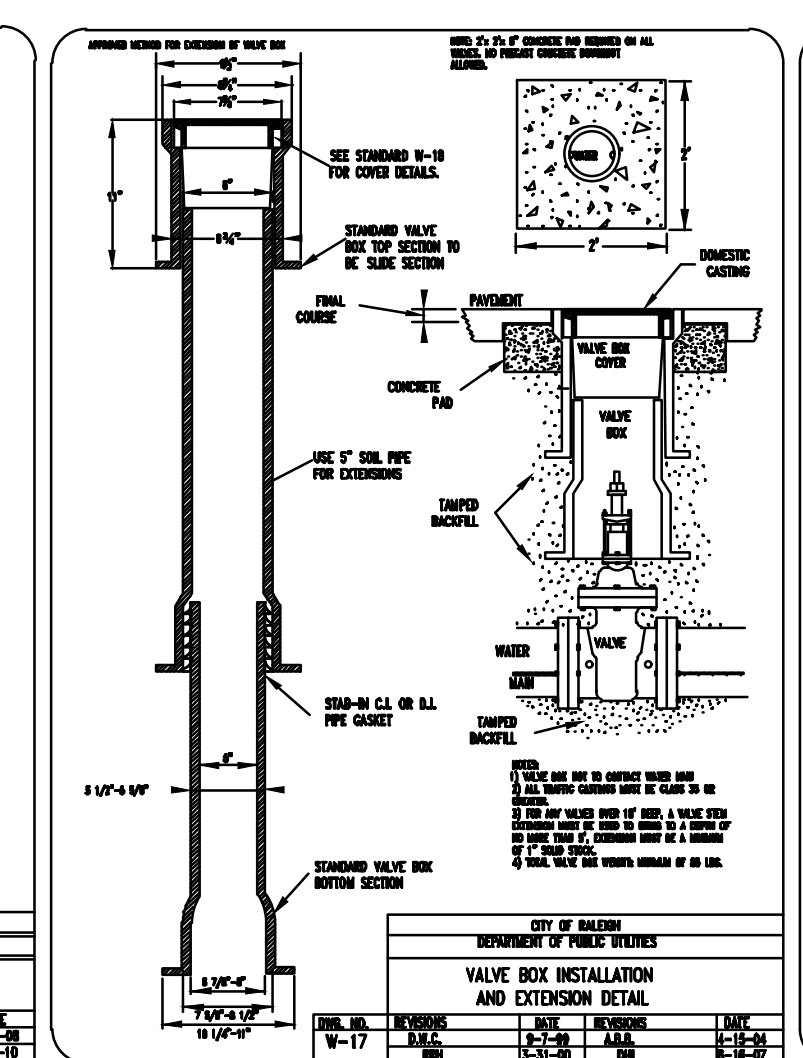
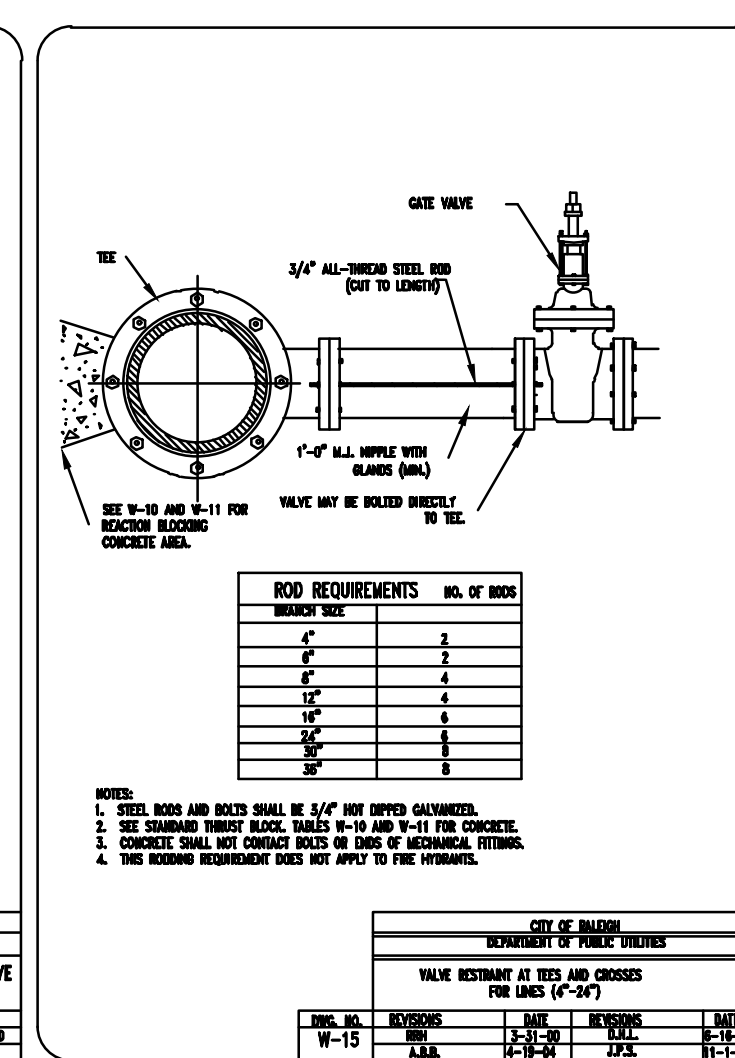
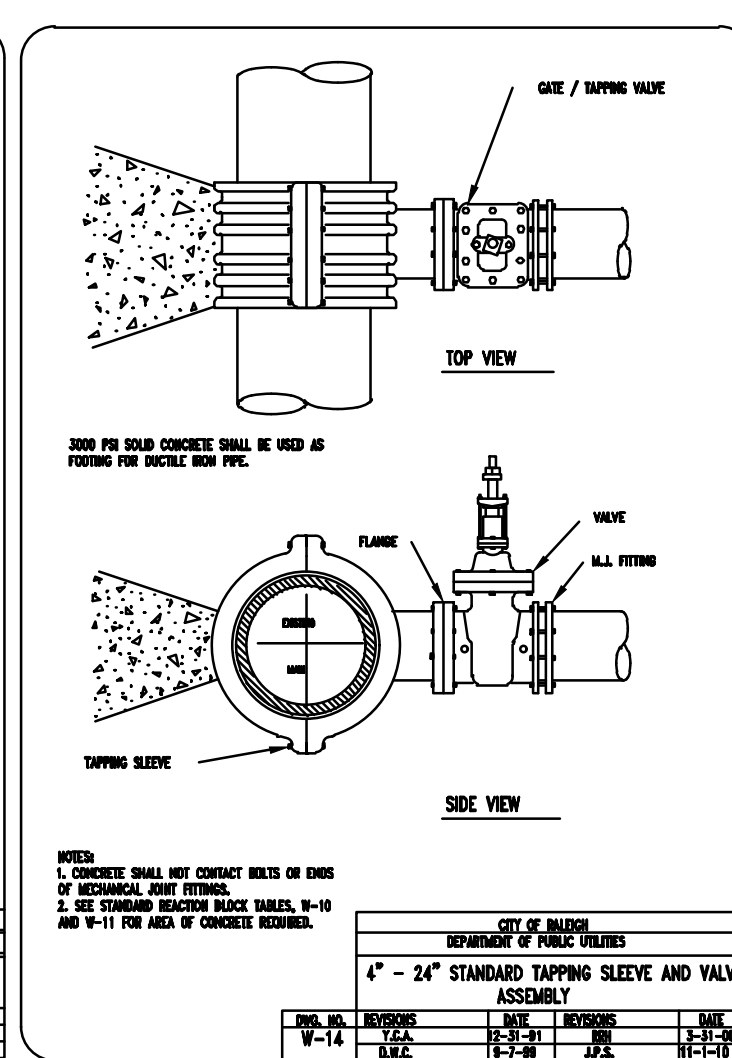
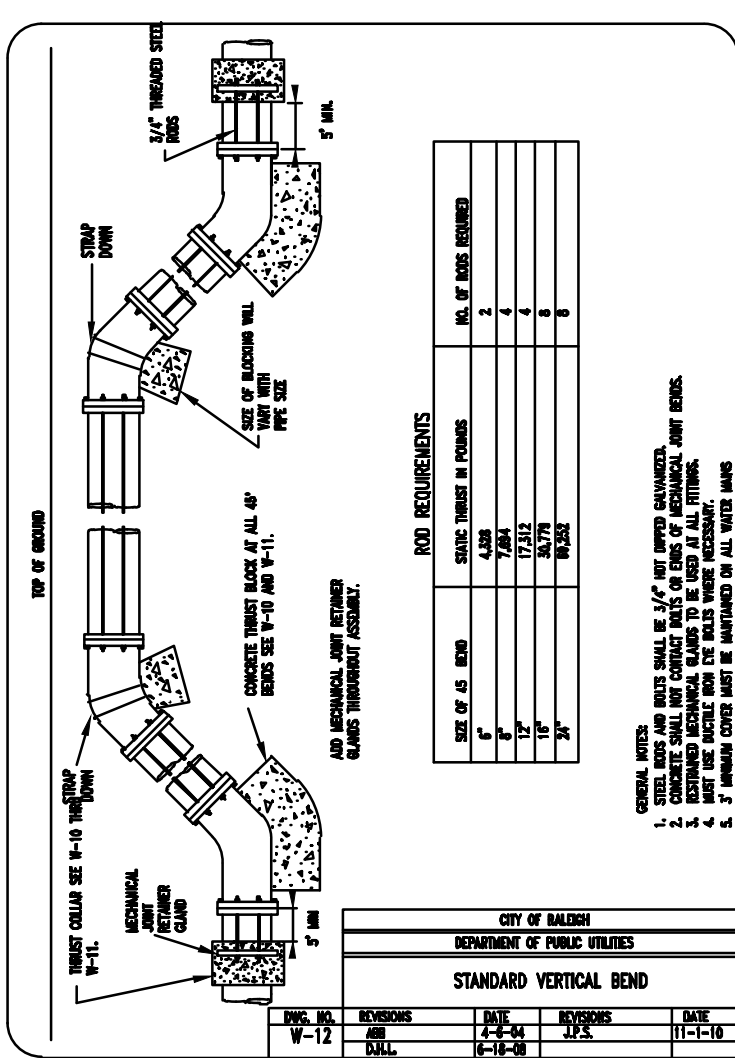
TOWN OF ZEBULON
CATCH BASIN - SEDIMENT CONTROL DEVICES
 SCALE: NOT TO SCALE
 DATE: JULY 2010
 SHEET # 50 OF 1



REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS

BEND TYPE	ALL CASES UNLESS NOTED OTHERWISE				
	MIN. CONC. WIDTH	MIN. CONC. HEIGHT	MIN. CONC. THICKNESS	MIN. CONC. AREA	MIN. CONC. VOLUME
1/2" BEND	12"	12"	4"	144"	1728"
3/4" BEND	12"	12"	4"	144"	1728"
1" BEND	12"	12"	4"	144"	1728"
1 1/2" BEND	12"	12"	4"	144"	1728"
2" BEND	12"	12"	4"	144"	1728"
2 1/2" BEND	12"	12"	4"	144"	1728"
3" BEND	12"	12"	4"	144"	1728"
3 1/2" BEND	12"	12"	4"	144"	1728"
4" BEND	12"	12"	4"	144"	1728"
4 1/2" BEND	12"	12"	4"	144"	1728"
5" BEND	12"	12"	4"	144"	1728"

- UTILITY NOTES:
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH CITY OF RALEIGH STANDARD DRAWINGS AND SPECIFICATIONS.
 - IN THE EVENT THAT A UTILITY ITEM IS NOT COVERED BY THESE PLANS, THEN THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT HANDBOOK COVERING SUCH ITEMS SHALL APPLY.
 - WATER SERVICES 3/4-INCH TO 2-INCH SHALL BE TYPE "X" SOFT COPPER, ALL OTHER WATER MAINS, SERVICES, AND FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
 - GRAVITY SANITARY SEWER MAINS SHALL BE DUCTILE IRON PIPE OR PVC PIPE, AS SPECIFIED IN THESE PLANS AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS. SANITARY SEWER SERVICES SHALL BE SCHEDULE 40 PVC.
 - CLEAN-OUT SYMBOLS SHOWN ON THESE PLANS REPRESENT LOCATION OF SURFACE ACCESS POINT. CONTRACTOR SHALL LOCATE WIRE APPROPRIATELY BASED ON PIPE DEPTH.
 - ALL MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS. MANHOLE DIAMETER SHALL VARY DEPENDING ON PIPE DIAMETER AND DEPTH. PER CITY OF RALEIGH STANDARDS.
 - LOCATIONS AND SIZES OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE TAKEN FROM MAPS PREPARED BY OTHERS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RECORD DRAWINGS TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM THE PLANS MADE DURING CONSTRUCTION. THE ENGINEER WILL PROVIDE THESE RECORD DRAWINGS TO THE OWNER.
 - WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" BELOW PROPOSED GRADE.
 - ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL CONSTRUCTION.
 - THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
 - DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
 - ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.
 - ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
 - GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
 - ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
 - CONTRACTOR SHALL NOTIFY THE WATER AUTHORITY INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
 - ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 24" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
 - PRESSURE REDUCING VALVES WILL BE REQUIRED ON THE DOMESTIC WATER MAINS IF THE STATIC PRESSURE AT THE BUILDING EXCEEDS 80PSI.
 - IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING. THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 24" CLEARANCE, MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
 - DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
 - CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF RALEIGH WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
 - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES OR UTILITIES BY OTHERS AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA). THE AWWA CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR CONSTRUCTION SPECIFICATIONS AND STANDARD FOR WATER AND SANITARY SEWERAGE FACILITIES. A COPY OF WHICH MUST BE PURCHASED FROM THE AWWA BY THE CONTRACTOR AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCE TO NCDDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
 - THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUB GRADES, PIPE TRENCH BOTTOMS OR OTHER PURPOSES AND BACKFILL THESE AREAS WITH AN APPROVED MATERIAL. THE EXTENT OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY THE CITY OF RALEIGH AS TO AREAS WITHIN STREET RIGHT-OF-WAY AND THE ENGINEER IN OTHER AREAS. COMPENSATION SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS.
 - A MINIMUM VERTICAL SEPARATION OF 24" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & WATER LINES AND A FULL JOINT OF WATER LINE PIPE SHALL BE CENTERED WHERE WATER LINE CROSSES OVER SANITARY SEWER. WHERE CLEARANCE IS LESS THAN 18" BUT GREATER THAN 12", SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER-MAN. WHEN WATER LINE CROSSES UNDER SANITARY SEWER, 18" MINIMUM CLEARANCE MUST BE MAINTAINED, AND SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER-MAN.
 - ALL WATERLINES SHALL HAVE BURIED WITH THE PIPE # 12 COATED ELECTRIC WIRE AND BROUGHT UP INTO THE METER BOXES.
 - THE CONTRACTOR SHALL PROVIDE A SURVEY AS-BUILT RECORD DRAWING OF THE SANITARY SEWER SYSTEM AND THE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF RALEIGH UTILITY DEPARTMENT.



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Arendell Ave
Zebulon, NC
Project ID#796479

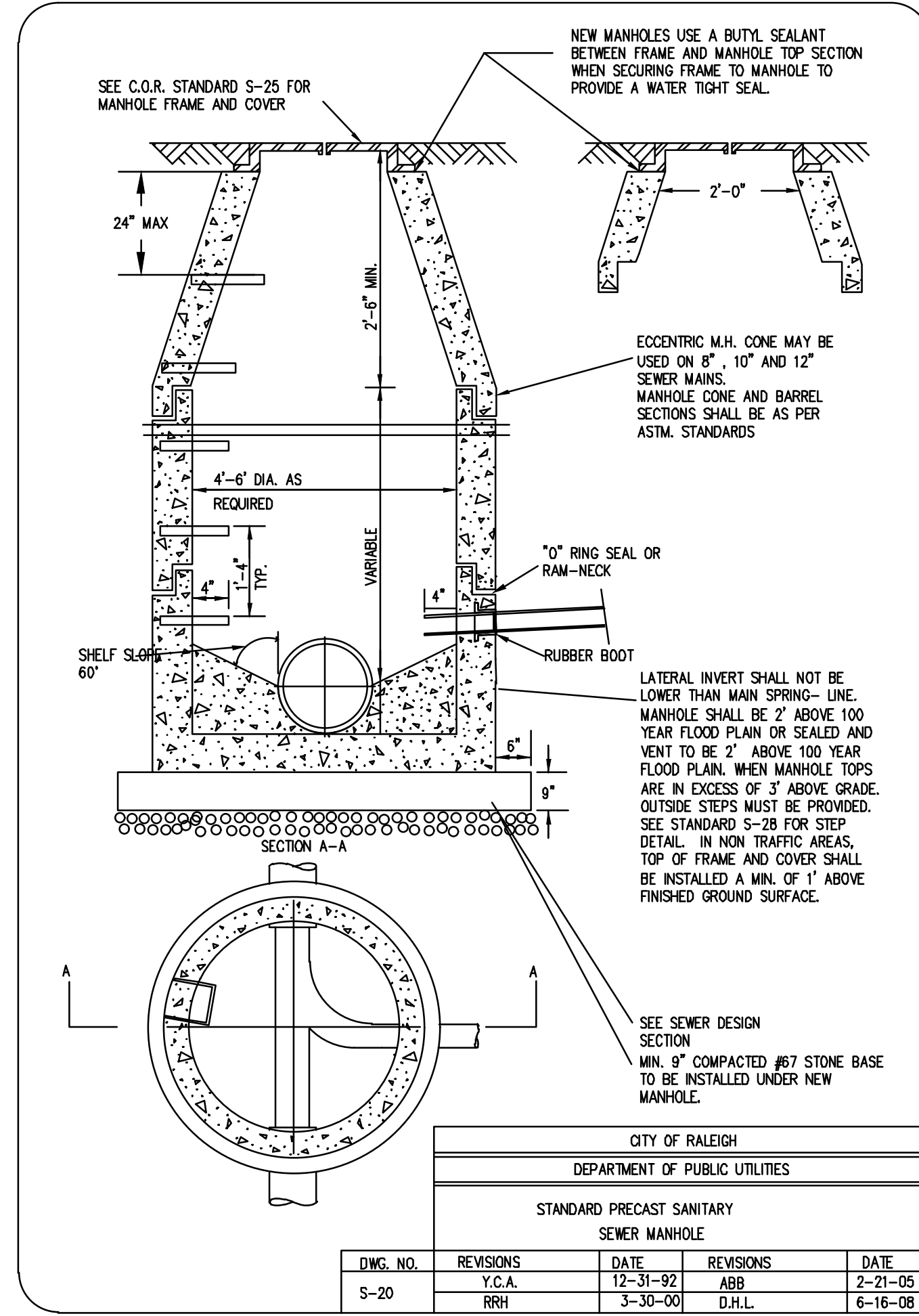
PRELIMINARY
DO NOT
USE FOR
CONSTRUCTION

PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

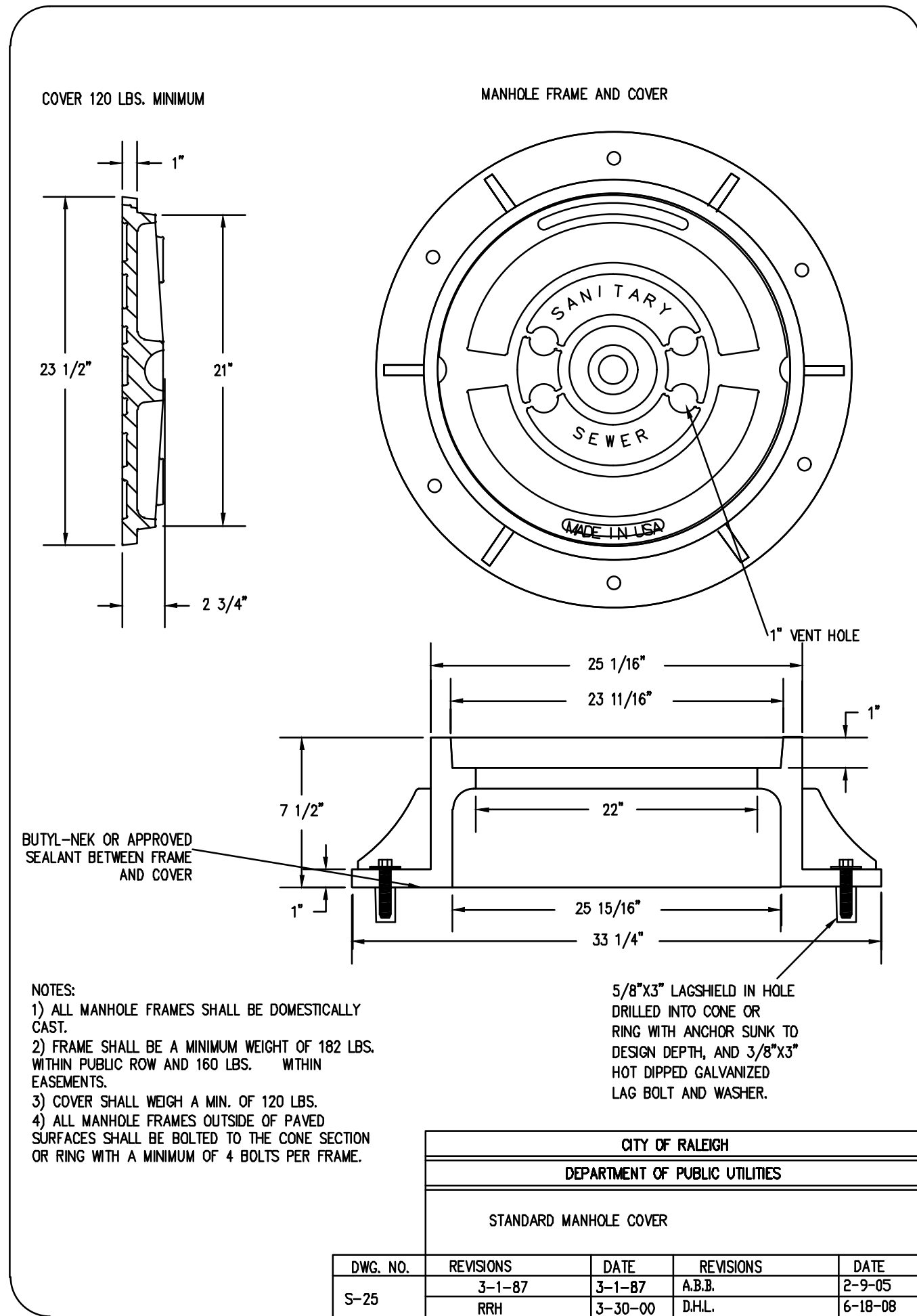
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MEL DESIGN	MEL DRAW XXX
SCALE	1" = 50'

JOB No. 220097-01-002
DATE June 20, 2022
FILE No. 220097-01-002

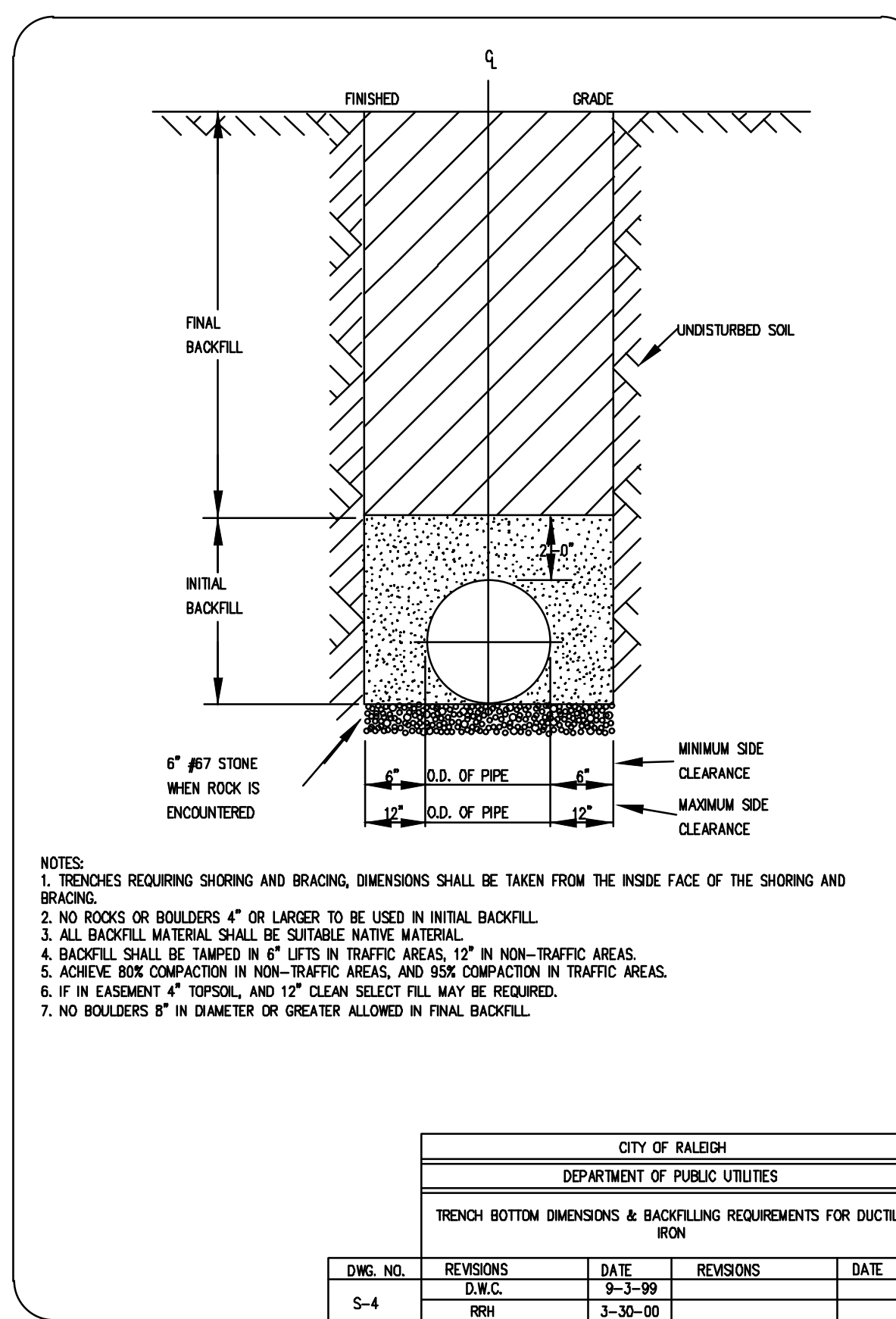
SHEET C6.4A



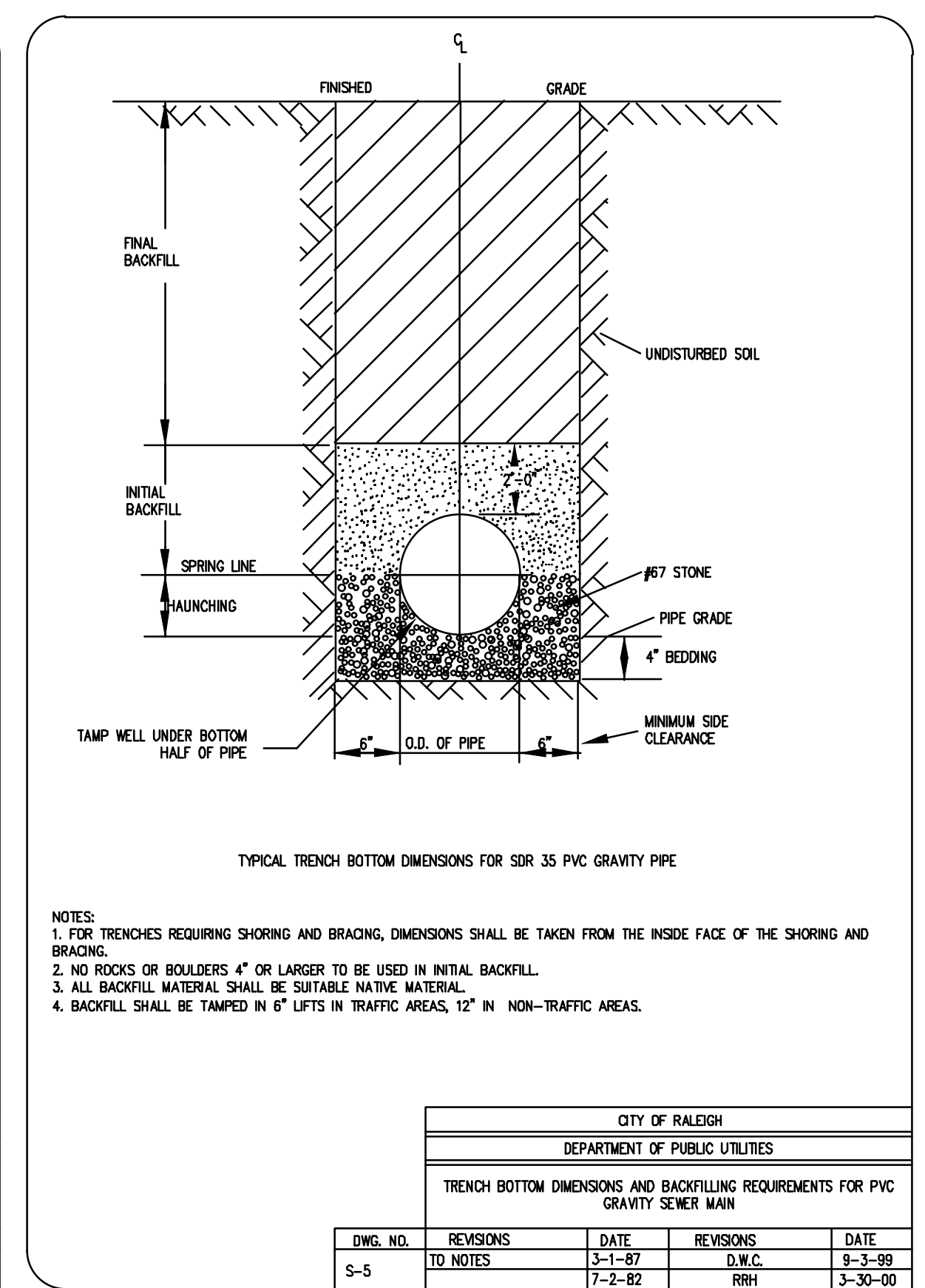
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DEPARTMENT OF PUBLIC UTILITIES				
STANDARD PRECAST SANITARY SEWER MANHOLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-82	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08



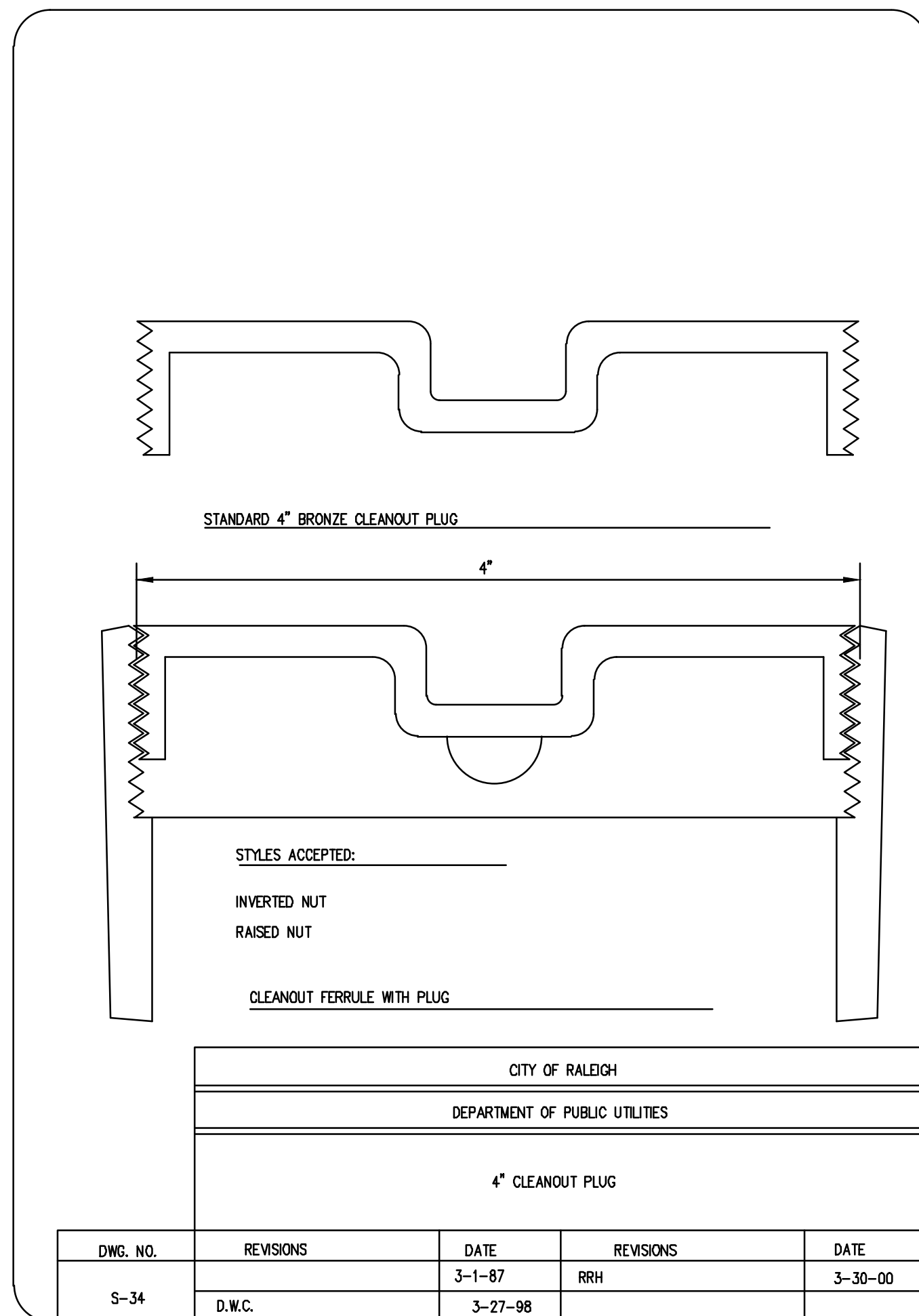
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE COVER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08



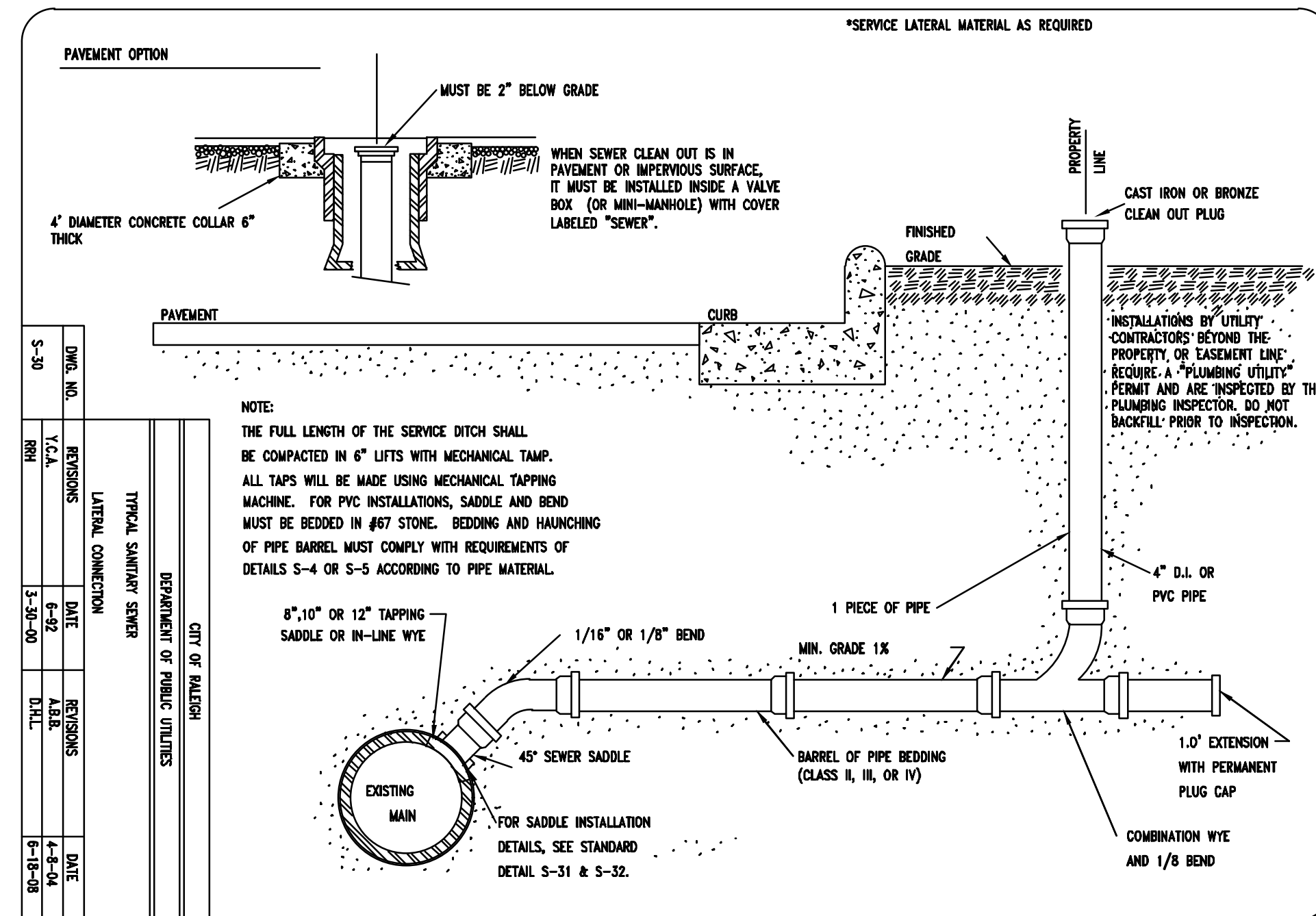
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-4	D.W.C.	9-3-99		
	RRH	3-30-00		



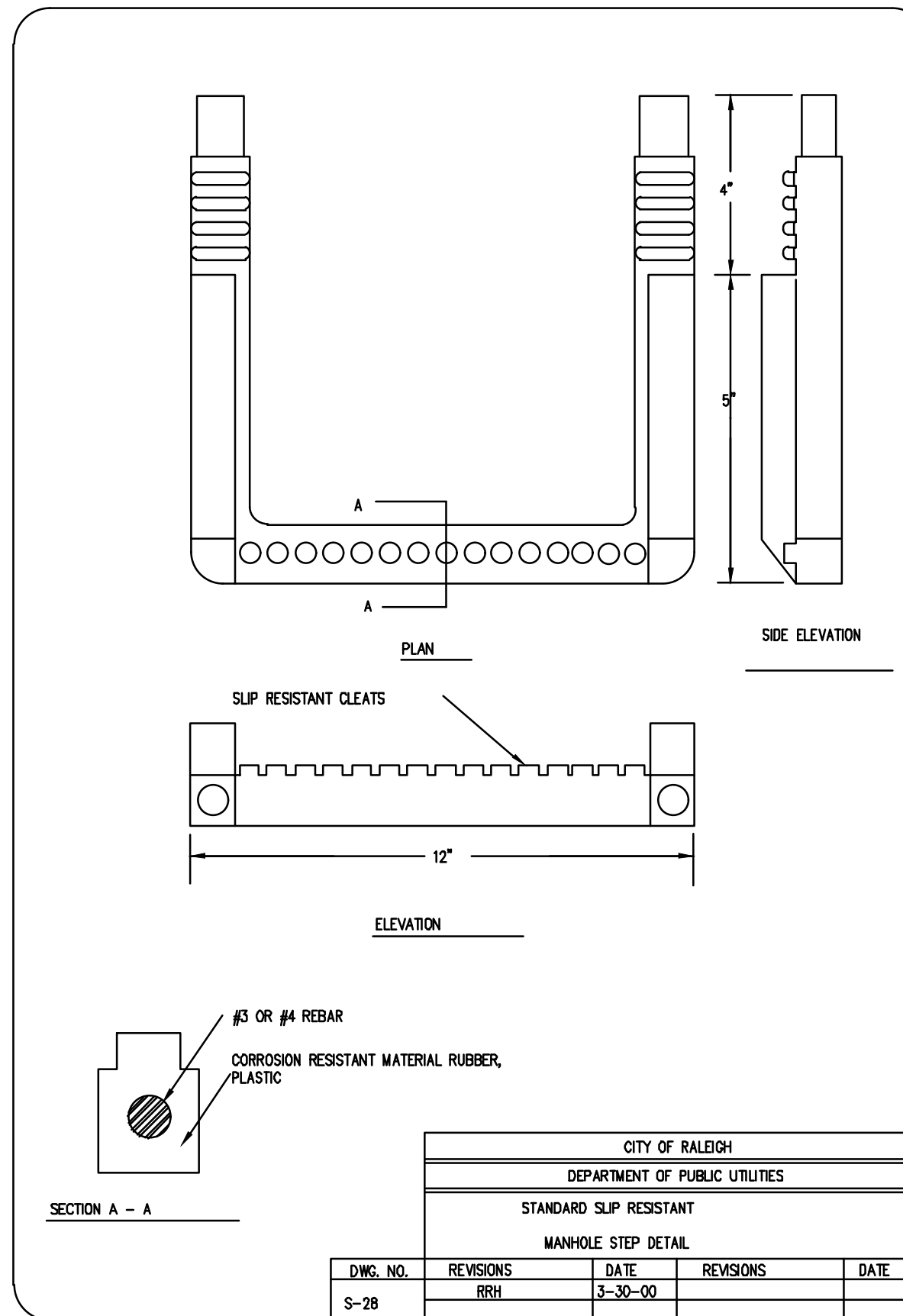
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DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	Y.C.A.	3-1-87	D.W.C.	9-3-99
	RRH	7-2-82	RRH	3-30-00



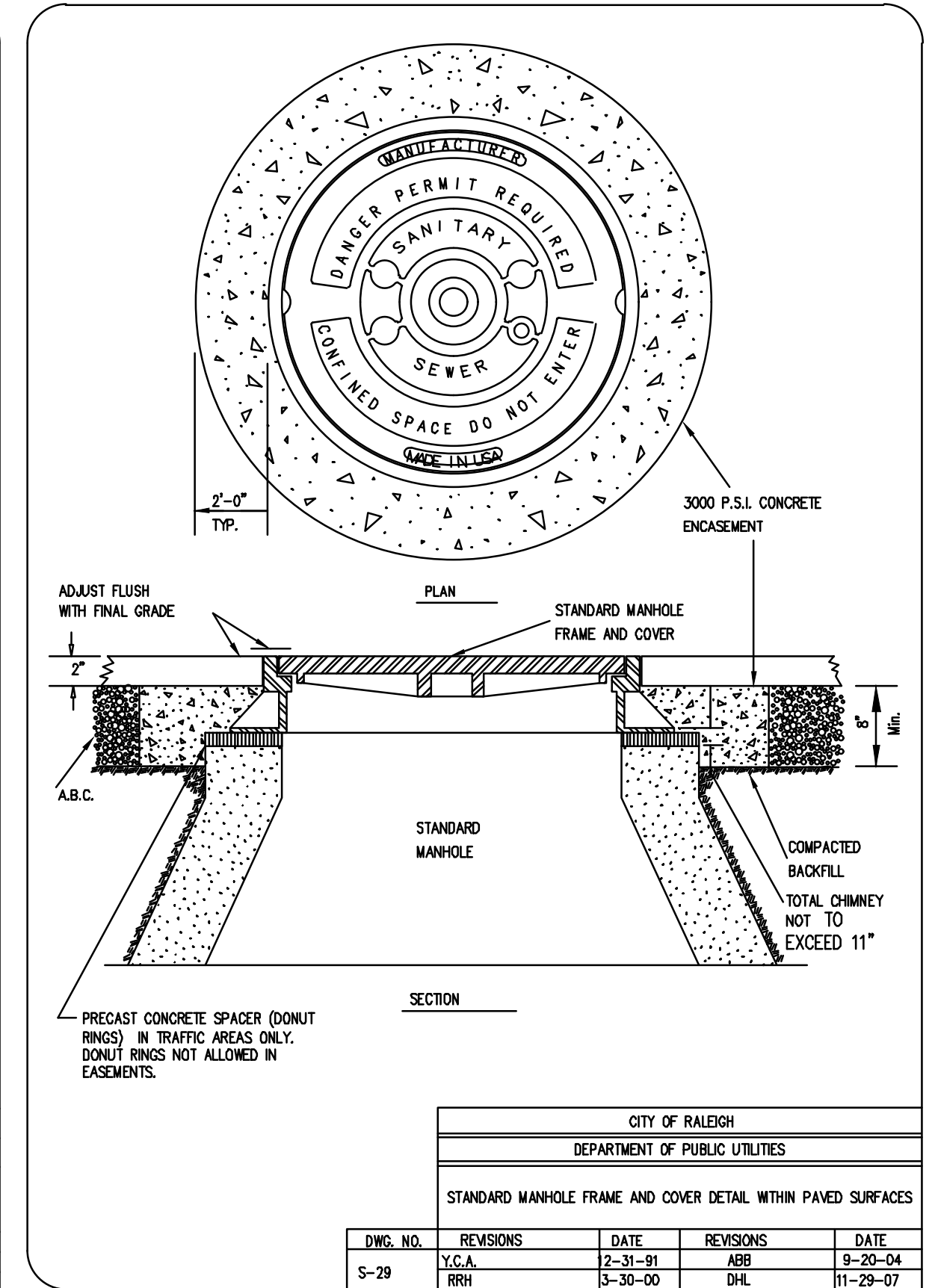
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
4\"/>				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34	D.W.C.	3-27-98		



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL CONNECTION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A.	6-29-00	A.B.B.	4-10-04
	D.H.L.	3-30-00	D.H.L.	6-18-08



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD SLIP RESISTANT MANHOLE STEP DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-28	RRH	3-30-00		



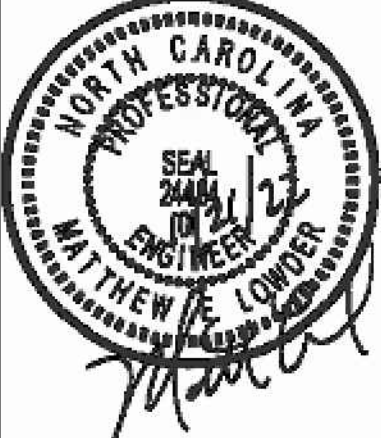
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-29	Y.C.A.	2-31-81	ABB	9-20-04
	RRH	3-30-00	D.H.L.	11-29-07

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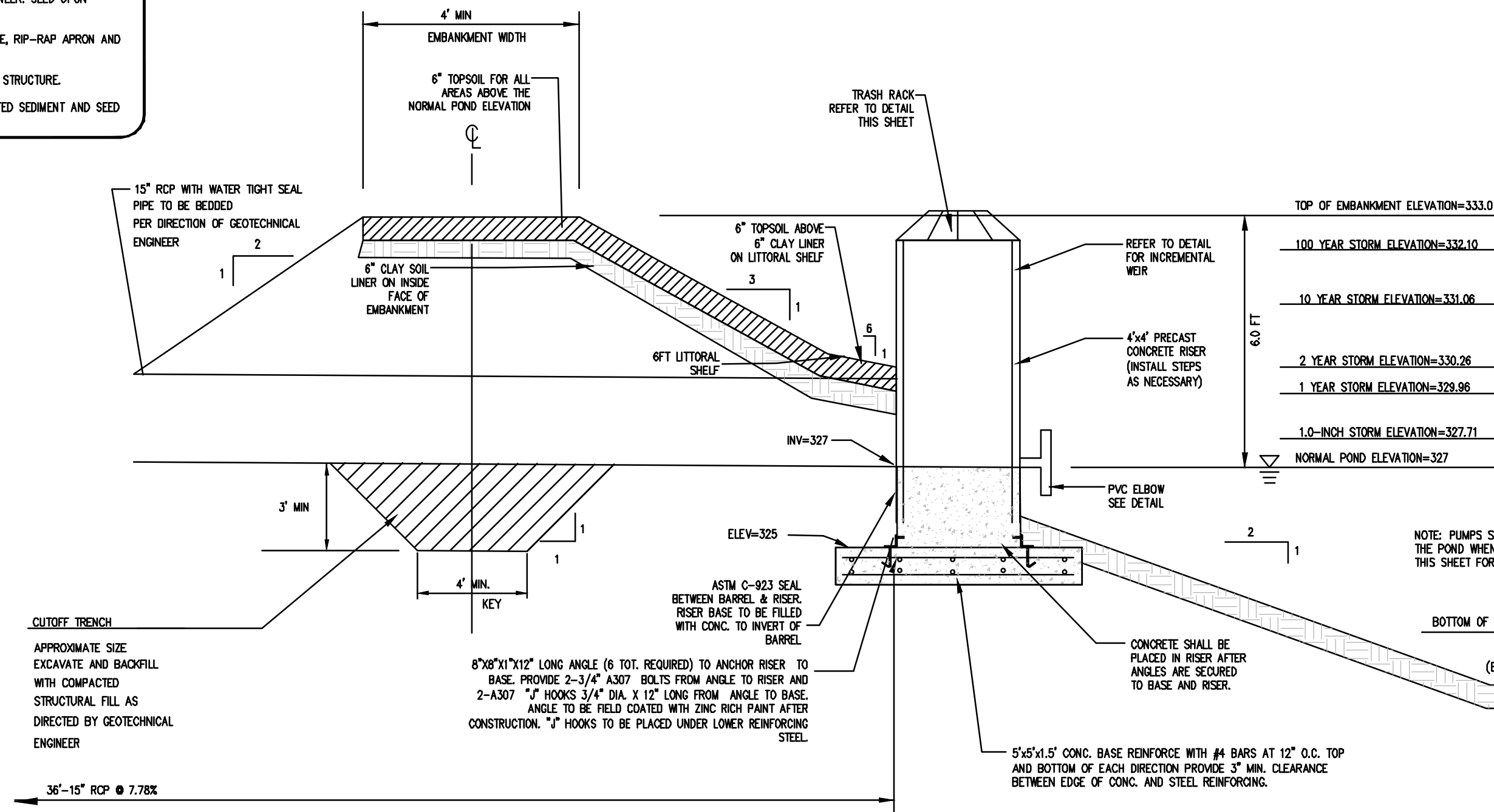
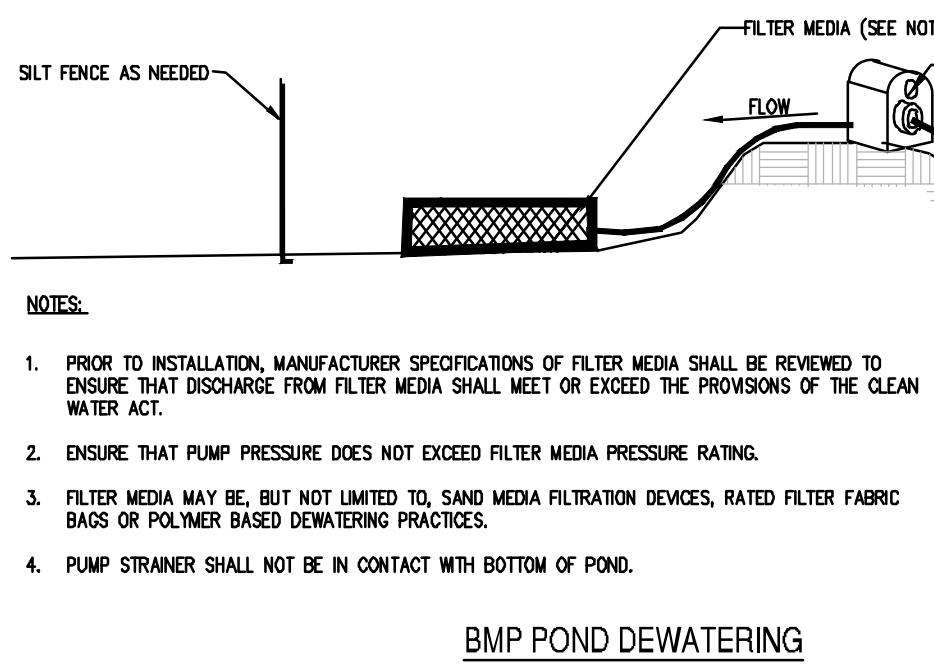
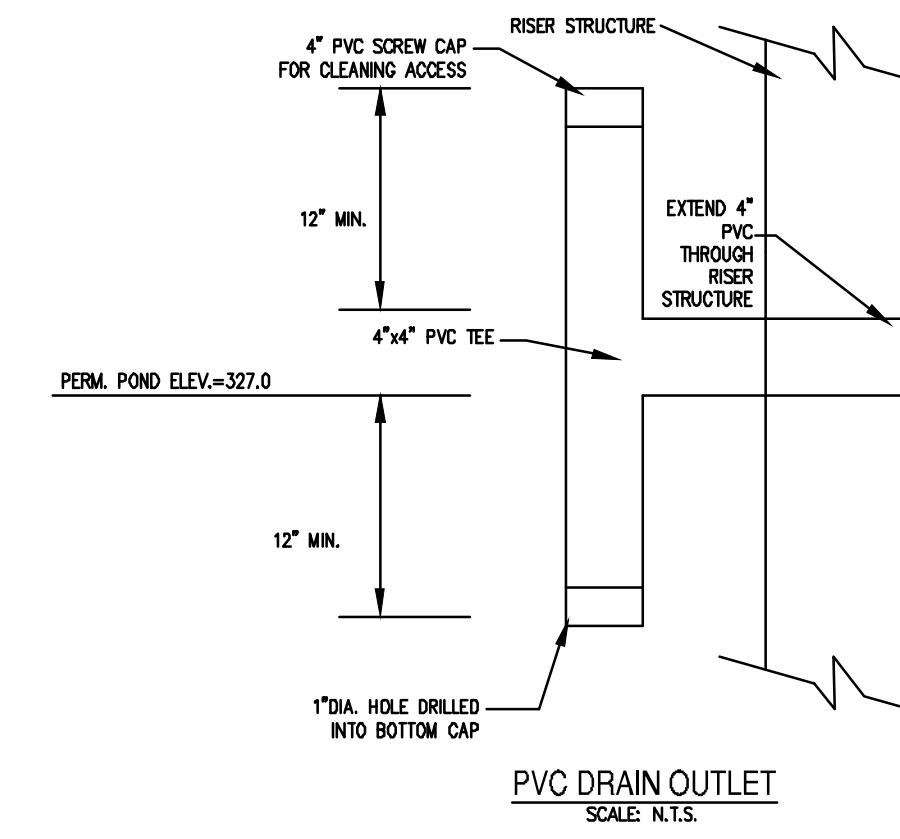
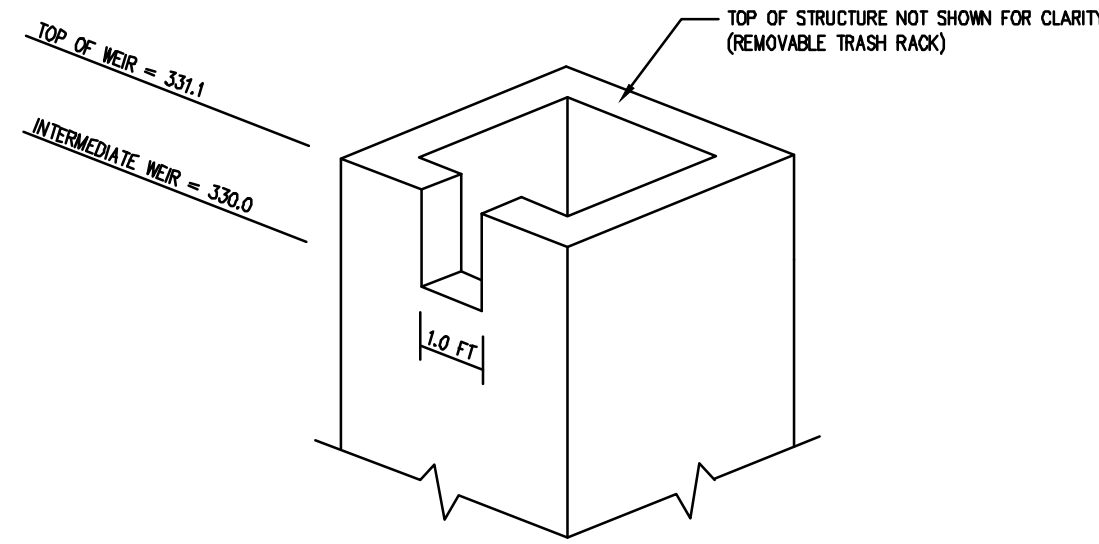


PLAN STATUS		
6/20/22	SITE PLAN SUBMITTAL	
10/21/22	PER TOWN REVIEW	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 50' V: 1" = 10'	
JOB No.	220097-01-002	
DATE	June 20, 2022	
FILE No.	220097-01-002	

SHEET C6.4B

CONSTRUCTION SEQUENCE FOR WET DETENTION POND:

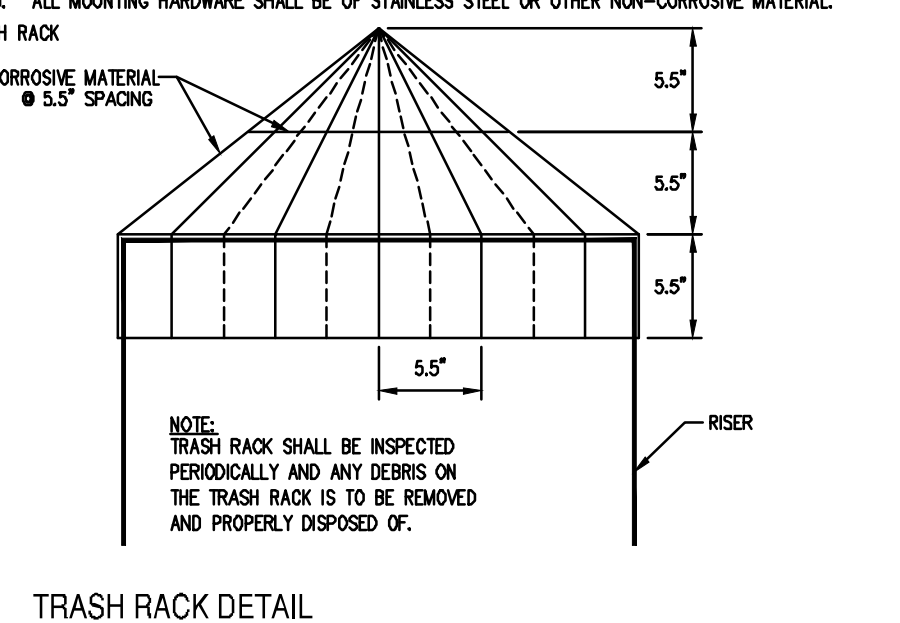
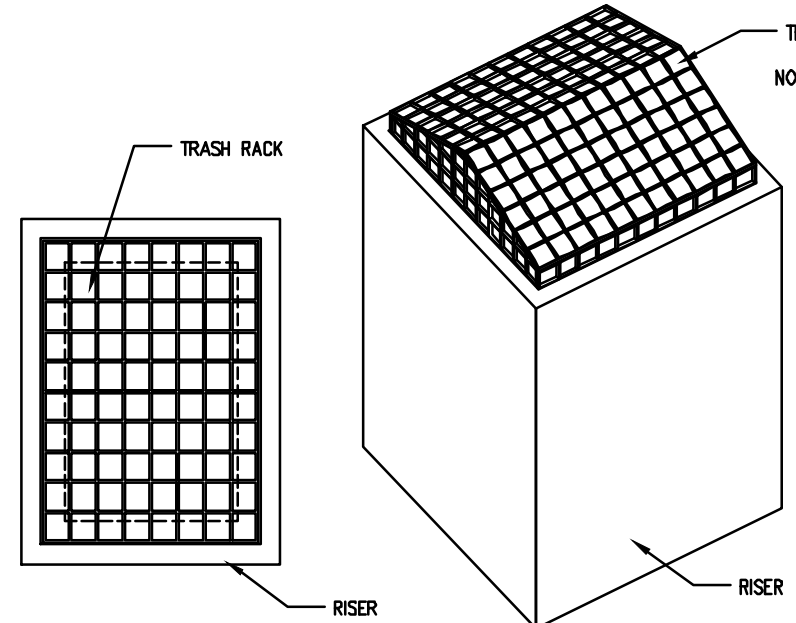
- INSTALL EROSION CONTROLS.
- CONSTRUCT DAM BASE AND AREAS BELOW THE NORMAL POOL. CONSTRUCTION TO BE PERFORMED UNDER THE INSPECTION OF THE GEOLOGICAL ENGINEER. SEED UPON COMPLETION.
- INSTALL OUTLET PIPE, RIP-RAP APRON AND STONE FILTER RING.
- CONSTRUCT OUTLET STRUCTURE.
- REMOVE ACCUMULATED SEDIMENT AND SEED UPON COMPLETION.

**PROFILE OF WET POND DETENTION SYSTEM**
SCALE: N.T.S.**OUTLET CONTROL STRUCTURE - INCREMENTAL WEIR**
SCALE: N.T.S.

- NOTES:**
- PRIOR TO INSTALLATION, MANUFACTURER SPECIFICATIONS OF FILTER MEDIA SHALL BE REVIEWED TO ENSURE THAT DISCHARGE FROM FILTER MEDIA SHALL MEET OR EXCEED THE PROVISIONS OF THE CLEAN WATER ACT.
 - ENSURE THAT PUMP PRESSURE DOES NOT EXCEED FILTER MEDIA PRESSURE RATING.
 - FILTER MEDIA MAY BE, BUT NOT LIMITED TO, SAND MEDIA FILTRATION DEVICES, RATED FILTER FABRIC BAYS OR POLYMER BASED DEWATERING PRACTICES.
 - PUMP STRAINER SHALL NOT BE IN CONTACT WITH BOTTOM OF POND.

STORMWATER MANAGEMENT NOTES:

- THE DEVELOPER OR HIS AGENT SHALL CONTACT THE DESIGN ENGINEER WHEN THE BEST MANAGEMENT PRACTICES ARE CONSTRUCTED AND ABOUT TO BECOME OPERATIONAL, SO A FINAL INSPECTION CAN BE PERFORMED TO DETERMINE COMPLIANCE WITH THE APPROVED PLAN CAN BE PERFORMED.
- ANNUAL MAINTENANCE INSPECTION AND REPORT REQUIRED - THE OWNER OF A PERMITTED STRUCTURAL STORMWATER BMP/CONTROL SHALL ANNUALLY SUBMIT A MAINTENANCE AND INSPECTION REPORT FOR EACH BMP TO THE STORMWATER ADMINISTRATOR. ANNUAL INSPECTIONS SHALL BEGIN WITHIN ONE YEAR OF THE RECORDATION OF ANY DEED(S) SHOWING STORMWATER BMPs/CONTROL STRUCTURES.
- UPON COMPLETION OF THE PROJECT, AND BEFORE A CERTIFICATE OF OCCUPANCY SHALL BE GRANTED, THE ENGINEER OF RECORD SHALL CERTIFY THAT THE COMPLETED PROJECT IS IN ACCORDANCE WITH THE APPROVED STORMWATER MANAGEMENT PLANS AND DESIGNS.
- A FINAL INSPECTION OF THE SITE AND STORMWATER MANAGEMENT BMP/CONTROLS TO BE SCHEDULED WITH AND COMPLETED BY THE PROJECT ENGINEER.
- NOEDQ AND THEIR ASSIGNS HAVE RIGHT TO ACCESS THE STORMWATER CONTROL(S) FOR INSPECTIONS OR MAINTENANCE AS NECESSARY.
- THE ENGINEER'S CERTIFICATION OF COMPLETION WILL BE REQUIRED PRIOR TO THE FINAL PLAT OR CERTIFICATE OF OCCUPANCY. THE STORMWATER CONTROL IS TO BE INSPECTED TO ENSURE IT IS FUNCTIONING AS DESIGNED AND HAS FULL DESIGN VOLUME PRIOR TO ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.
- THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING THE STORMWATER CONTROL(S) ACCORDING TO THE APPROVED MAINTENANCE PLAN AND DIRECTION OF NOEDQ.



STAGE/STORAGE TABLE

STAGE (FT)	ELEVATION (FT)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0.0	327.0	15,080	0	0
0.5	327.5	17,140	8,055	8,055
1.0	328.0	18,350	8,673	16,828 (100)
1.4	328.4	19,330	7,538	24,464
2.0	329.0	20,820	12,045	36,509
3.0	330.0	23,300	22,060	58,569
4.0	331.0	25,530	24,415	82,984
5.0	332.0	27,820	26,675	109,659
6.0	333.0	30,170	28,895	138,554

STORMWATER MANAGEMENT DESIGN WET DETENTION POND:

RIVER BASIN: NEUSE
 RECEIVING STREAM: LITTLE RIVER
 STREAM INDEX: 27-57-(7.5)
 STREAM CLASS: WS-I(H)UN(S)W(CA)
 HUC: 0302020115
 PROJECT COORDINATES: 35.8379333N, -78.324658W

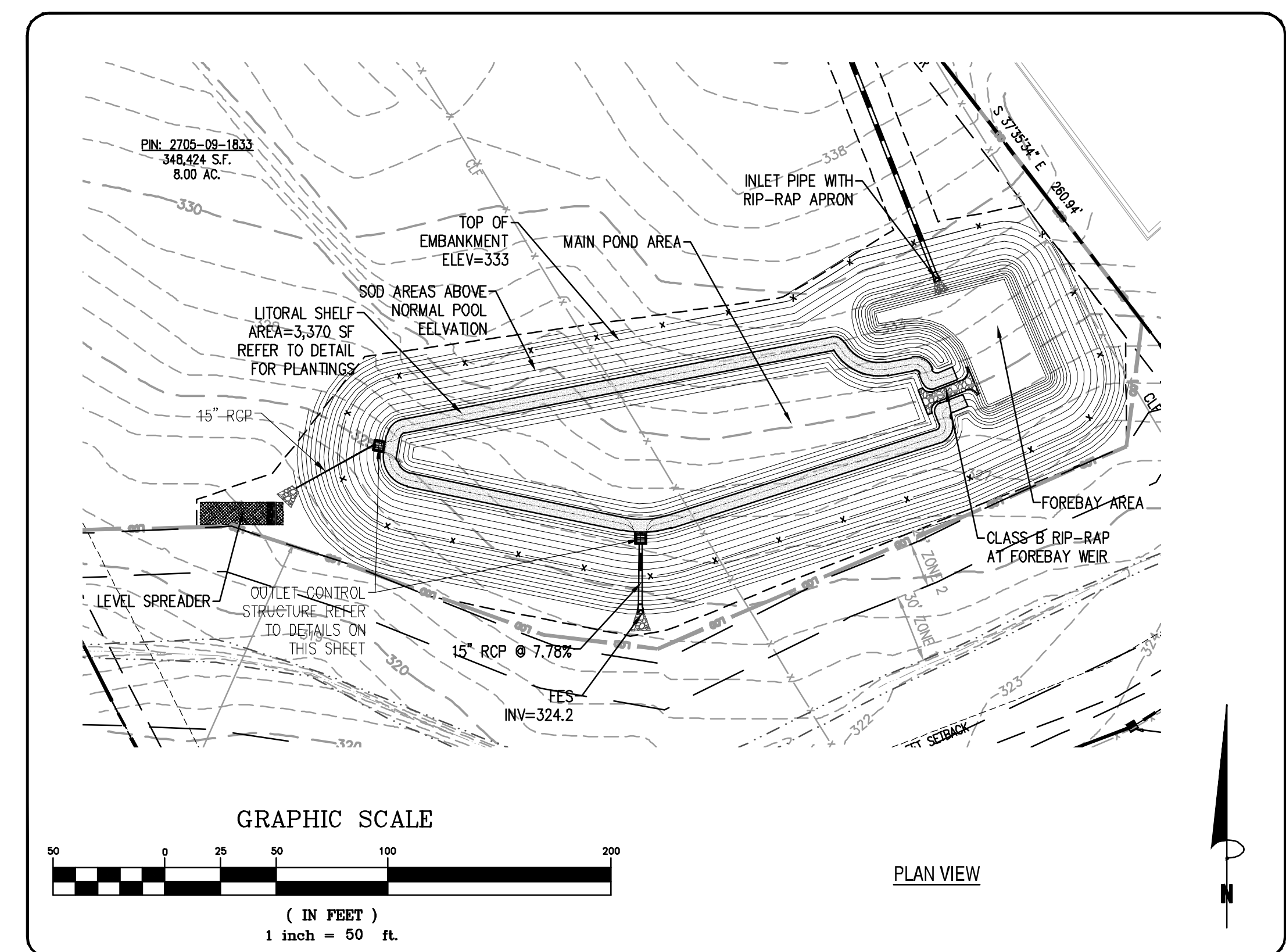
POND DESIGN SUMMARY

	PRE-DEVELOPED TO POND	POST-DEVELOPED THROUGH POND	POST DEVELOPED BYPASS	POST DEVELOPED COMBINED
DRAINAGE AREA:	9.87	8.56 AC	1.51 AC	
CURVE NUMBER:	73.5	92.8	72.0	
TIME OF CONCENTRATION:	15.4 MIN	5 MIN	10 MIN	

1.0\"/>

- LANDSCAPING NOTES:**
- ALL LANDSCAPING SHALL BE IN COMPLIANCE WITH THE NEEDED BMP REQUIREMENTS.
- LANDSCAPE CONTRACTOR SHALL PROVIDE A TWO-YEAR WARRANTY FOR BMP PLANTING SURVIVAL/REPLACEMENT.
- AT THE END OF THE FIRST YEAR AND AT THE END OF THE TWO-YEAR WARRANTY PERIOD, ALL PLANTS THAT DO NOT SURVIVE MUST BE REPLACED.
- ESTABLISHMENT PROCEDURES, SUCH AS CONTROL OF INVASIVE WEEDS, ANNUAL AND VANDAL DAMAGE, MULCHING, RE-STAKING, WATERING, AND MESH OR TUBE PROTECTION REPLACEMENT, SHALL BE IMPLEMENTED TO THE EXTENT NEEDED TO ENSURE PLANT SURVIVAL. STAKING MUST BE REMOVED AFTER ESTABLISHMENT (APPROXIMATELY 12 MONTHS), TO PREVENT GROWING (STRANGLING) OF ALL WOODY PLANTS.
- SOD WITHIN BMP AND SURROUNDING AREAS TO BE BERBERIS OR CENTROPHE GRASS.
- GRASS OR MIDFLOWER SEED MUST BE APPLIED AT THE RATES SPECIFIED BY THE SUPPLIERS. IF PLANT ESTABLISHMENT CANNOT BE ACHIEVED WITH SEEDING BY THE TIME OF SUBSTANTIAL COMPLETION OF THE STORMWATER FACILITY PORTION OF THE PROJECT, THEN THE CONTRACTOR SHALL PLANT THE AREA WITH MIDFLOWER SOD, PLUGS, CONTAINER PLANTS, OR OTHER MEANS TO COMPLETE THE SPECIFIED PLANTING AND PROTECT AGAINST EROSION BEFORE WATER IS ALLOWED TO ENTER THE STORMWATER BMP FACILITY.
- ALL MATERIALS SHALL BE ACQUIRED FROM AN APPROVED NEEDED PLANT VENDOR. PLANT MATERIAL SHOULD BE PURCHASED FROM A LOCAL SOURCE TO ENSURE SURVIVABILITY. LOCAL VENDORS FOR THIS SITE INCLUDE:
- CLL I&E NATIVE NURSERY 919-862-5366
 - CRONING WILD NURSERY 919-559-5351
 - NC FOREST SERVICE 919-731-7988
 - PLANT DELIGHTS NURSERY 919-772-4794
 - THORNE NATIVE TREES 919-553-5927
- IMMEDIATELY AFTER THE WET DETENTION BASIN IS ESTABLISHED, THE PLANTS ON THE VEGETATED SHELF AND PERIMETER OF THE BASIN SHOULD BE WATERED TWICE WEEKLY IF NEEDED UNTIL THE PLANTS BECOME ESTABLISHED (COMMONLY SIX WEEKS).

- LANDSCAPING NOTES:**
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED AREAS.
 - CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRAGILE, WITHOUT MIXTURE OF SUBSOL MATERIALS, AND OBTAINED FROM A WELL-DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1\"/>



TYPICAL LITTORAL SHELF VEGETATION DETAIL
SCALE: N.T.S.

TYPICAL LITTORAL SHELF PLANTING SCHEDULE

SCIENTIFIC NAME	COMMON NAME	PLANTING ZONE	QUANTITY	NURSERY CONTAINER TYPE	SPACING	PLANTING SEASON
<i>Eupatoriadelphus maculatus</i>	Spotted Trumpetweed	SHALLOW WATER	281	PEAT POT	6' O.C.	SPRING/SUMMER
<i>Eupatorium purpureum</i>	Joe-Pye Weed	SHALLOW WATER	281	PEAT POT	6' O.C.	SPRING/SUMMER
<i>Rhynchospora colorata</i>	Starburst Whitepot	SHALLOW WATER	281	PEAT POT	6' O.C.	SPRING/SUMMER

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 bowman.com
 Bowman North Carolina Ltd.

STORMWATER MANAGEMENT DETAILS
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 Arendell Ave
 Zebulon, NC
 Project ID#736479
 Wake County

PRELIMINARY DO NOT USE FOR CONSTRUCTION

6/20/22 SITE PLAN SUBMITTAL
 10/21/22 PER TOWN REVIEW

PLAN STATUS

DATE DESCRIPTION

MEL DESIGN MEL DRAWN XXXX CHKD

SCALE H: 1"=50'
 V: 1"=XXX'

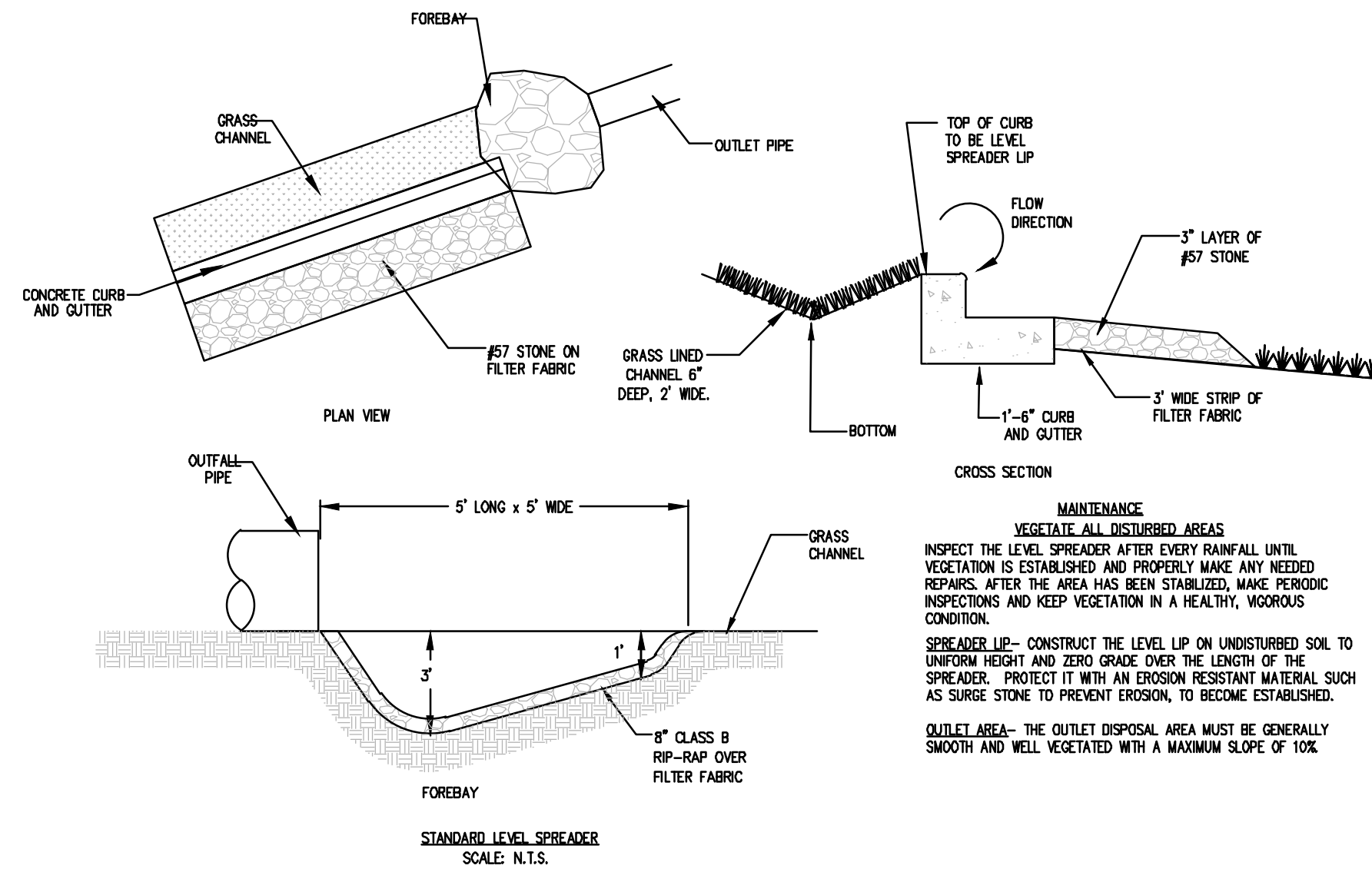
JOB No. 220097-01-002

DATE June 20, 2022

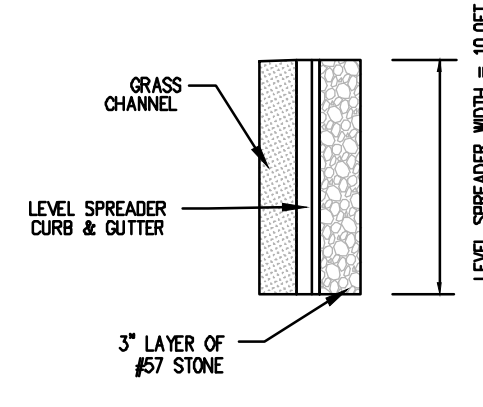
FILE No. 220097-01-002

SHEET **C6.5**

SCM element:	Potential problems:	How to remediate the problem:
The entire wetland	Trash/debris is present.	Remove the trash/debris.
The perimeter of wetland	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
Inlet device	The inlet pipe is clogged (if applicable).	Unclog the pipe. Dispose of the sediment in a location where it will not cause impacts to streams or the SCM.
	The inlet pipe is cracked or otherwise damaged (if applicable).	Repair or replace the pipe.
Forebay	Erosion is occurring in the swale (if applicable).	Regrade the swale if necessary and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
	Sediment has accumulated in the forebay to a depth of less than 15" or that inhibits the forebay from functioning well.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
Deep pool, shallow water and shallow land areas	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If a pesticide is used, wipe it on the plants rather than spraying.
	Algal growth covers over 30% of the deep pool and shallow water areas.	Consult a professional to remove and control the algal growth.
Embayment	Cattails, phragmites or other invasive plants cover 30% of the deep pool and shallow water areas.	Remove the invasive plants by hand or by wiping them with pesticide (do not spray) – consult a professional.
	The temporary inundation zone remains flooded more than 5 days after a storm event.	Unclog the outlet device immediately.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if necessary.
Micropool	Sediment has accumulated and reduced the depth to 75% of the original design depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
	A tree has started to grow on the embankment.	If tree is <6" in diameter, remove the tree. If the tree is >6" in diameter, consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair.	Make all needed repairs.
Outlet Structure	Evidence of muskrat or beaver activity is present.	Consult a professional to remove muskrats or beavers and repair any holes or erosion.
	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
Receiving water	The outlet device is damaged.	Repair or replace the outlet device.
	Erosion or other signs of damage have occurred at the outlet.	Repair the damage and improve the flow dissipation structure.
	Discharges from the wetland are causing erosion or sedimentation in the receiving water.	Contact the local NCDQ Regional Office.



- CONSTRUCTION SPECIFICATIONS**
- THE MATTING SHOULD BE A MINIMUM OF 4 FEET WIDE EXTENDING 6 INCHES OVER THE LIP AND BURIED 6 INCHES DEEP IN A VERTICAL TRENCH ON THE LOWER EDGE. THE UPPER EDGE SHOULD BUTT AGAINST SMOOTHLY CUT SOIL AND BE SECURELY HELD IN PLACE WITH CLOSELY SPACED HEAVY DUTY WIRE STAPLES AT LEAST 12 INCHES LONG.
 - ENSURE THAT THE SPREADER IS LEVEL FOR UNIFORM SPREADING OF STORM RUNOFF.
 - CONSTRUCT THE LEVEL SPREADER ON UNDISTURBED SOIL (NOT ON FILL).
 - CONSTRUCT A 20 FOOT TRANSITION SECTION FROM THE OVERSPILL CHANNEL TO BLEND SMOOTHLY WITH THE WIDTH AND DEPTH OF THE LEVEL SPREADER.
 - DISPERSE RUNOFF FROM THE SPREADER ACROSS A PROPERLY STABILIZED SLOPE, NOT TO EXCEED 10% MAKE SURE THAT THE SLOPE IS SUFFICIENTLY SMOOTH TO KEEP THE FLOW FROM CONCENTRATING.
 - IMMEDIATELY AFTER IT'S CONSTRUCTION, APPROPRIATELY SEED AND MULCH THE ENTIRE DISTURBED AREA OF THE LEVEL SPREADER.



LEVEL SPREADER
SCALE: N.T.S.

GRASS NOTE:
GRASS SHALL BE EITHER HYBRID BERMUDA GRASS OR CENTIPEDE

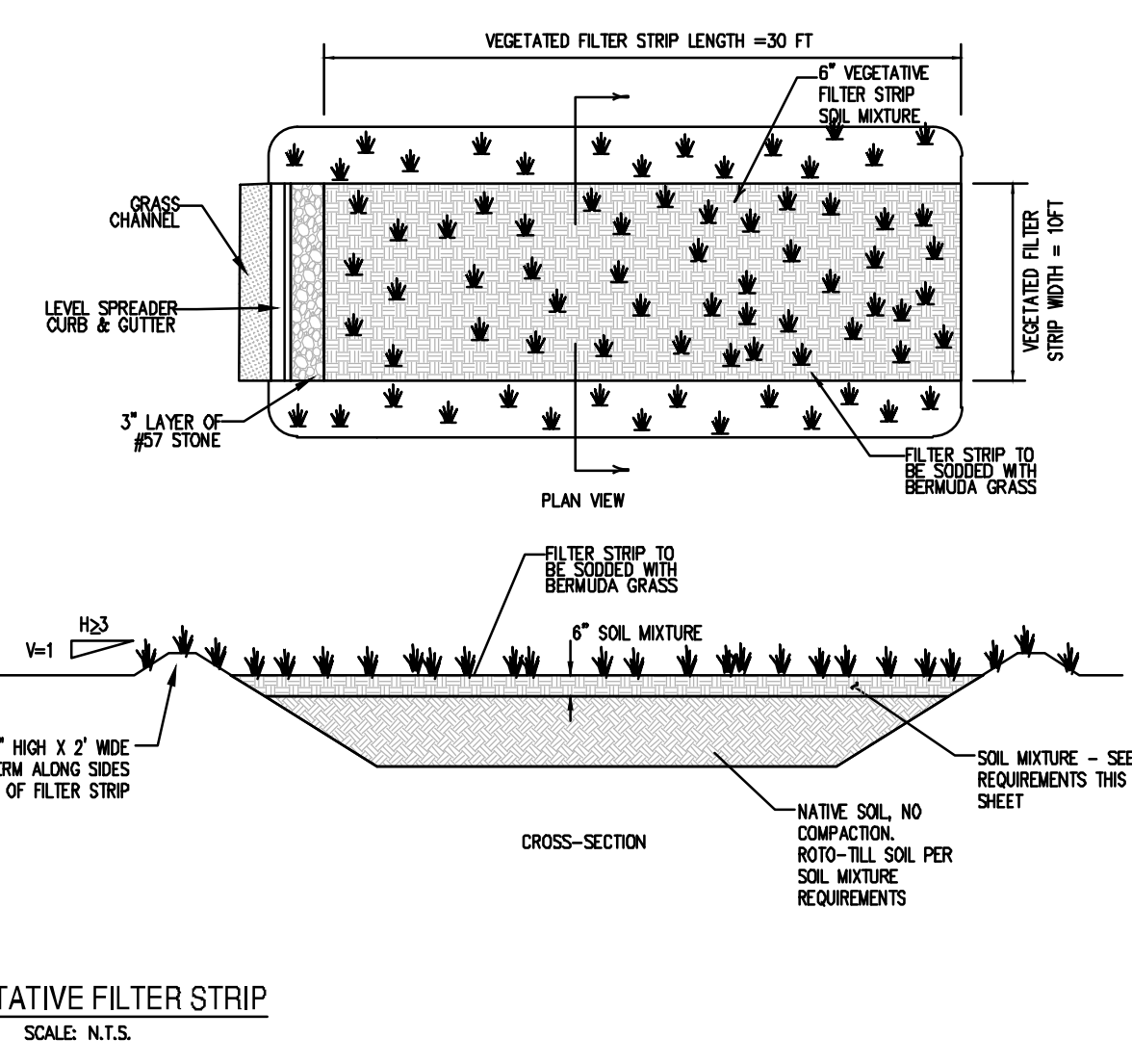
VEGETATIVE FILTER STRIP - SOIL MIXTURE

ITEM	PERCENT BY WEIGHT	MATERIAL
SAND	85-88%	CONSTRUCTION SAND
FINES	8%-12%	SILT
ORGANIC MATTER	3%-5%	COMPOST/PEAT MOSS

SOIL MIXTURE SHALL BE PLACED AND GRADED USING LOW GROUND-CONTACT PRESSURE EQUIPMENT OR BY EXCAVATORS AND/OR BACKHOES OPERATING ON THE GROUND ADJACENT TO THE VEGETATIVE FILTER STRIP FACILITY. NO HEAVY EQUIPMENT SHALL BE USED WITHIN THE PERIMETER OF THE VEGETATIVE FILTER STRIP FACILITY BEFORE, DURING, OR AFTER THE PLACEMENT OF THE SOIL MIXTURE. THE SOIL MIXTURE SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 4 INCHES FOR THE ENTIRE AREA OF THE VEGETATIVE FILTER STRIP FACILITY. IF THE SOIL MIXTURE BECOMES CONTAMINATED DURING THE CONSTRUCTION OF THE VEGETATIVE FILTER STRIP FACILITY, THE CONTAMINATED MATERIAL SHALL BE REMOVED AND REPLACED WITH UNCONTAMINATED MATERIAL AT NO ADDITIONAL COST. FINAL GRADING OF THE VEGETATIVE FILTER STRIP SHALL BE PERFORMED AFTER A 24-HOUR SETTLING PERIOD. FINAL ELEVATIONS SHALL BE WITHIN 2 INCHES OF ELEVATIONS SHOWN ON THE CONTRACT PLANS.

THE SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES EXCLUDING MULCH. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE VEGETATIVE FILTER STRIP AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS.

PRIOR TO PLACING THE SOIL MIXTURE, THE BOTTOM OF THE EXCAVATION SHALL BE ROTO-TILLED TO A MINIMUM DEPTH OF 6 INCHES TO AERATE ANY COMPACTION OF THE FACILITY BOTTOM. ANY SUBSTITUTE METHOD FOR ROTO-TILLING MUST BE APPROVED BY THE ENGINEER PRIOR TO USE. ANY PONDED WATER SHALL BE REMOVED FROM THE BOTTOM OF THE FACILITY AND THE SOIL SHALL BE FRABLE BEFORE ROTO-TILLING.



VEGETATIVE FILTER STRIP
SCALE: N.T.S.

OPERATION & MAINTENANCE

North Carolina storm water rules require annual inspections by the regulating agency of level spreader-filter strip areas as a minimum. More frequent inspections by the land owner or system operator are strongly encouraged to ensure the proper operation of level spreader-filter strip areas.

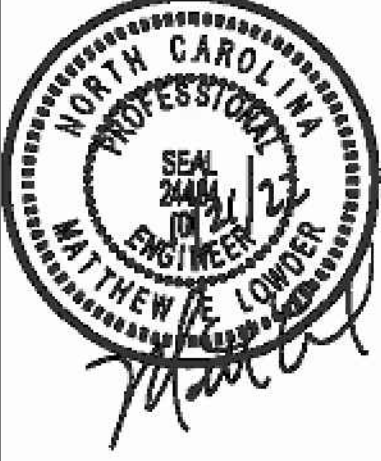
- Rainfall Event**
- Monthly Inspection**
 - Inspect the SCM after every runoff-producing rainfall event.
 - Inspect the SCM monthly.
 - Check the level spreader-filter strip area side slopes; remove trash and repair eroded areas before the next rainfall event.
 - Check the vegetative and rock filters for sediment accumulation, erosion and proper operation of the flow spreader mechanism and repair as necessary.
 - Visually inspect and repair soil erosion on a monthly basis.
 - Remove any void areas whenever necessary. Replacement of mulch layers may be necessary every two or three years. Mulch should be replaced in the spring. When the mulch layer is replaced, the previous layer should be removed first.
 - Remove and replace all dead and diseased vegetation considered beyond treatment. This should be done twice a year, once in the spring and once in the fall. Treat all diseased trees and shrubs that are not beyond treatment as needed.
- Quarterly Inspection**
 - Inspect the collection system (i.e. catch basins, pipes and grass swales) for proper functioning. Clear accumulated trash from basin groves and basin bottoms. Check piping for obstructions.
 - Check SCM inlet pipes for undercutting, replace rip-rap and repair broken pipes.
 - Re-seed grassed swales, including the vegetated filter if applicable, twice a year as necessary. Repair eroded areas immediately.
- Six Month Inspection**
 - Remove accumulated sediment from the bottom of the outlet structure or other areas where accumulated sediment is noted.
 - Inspect the embankment taking note of any wet areas where water may be seeping through the soil.
- General Inspection**
 - Minimum grass height is to be 6 in.
 - No woody vegetation shall be allowed to grow in the bio-retention area.
 - Debris shall be removed from blocking the inlet and outlet structures and from areas of potential clogging.
 - Periodic removal of dead vegetation shall be accomplished.
 - All components of the level spreader-filter strip system must be kept in good working order.



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STORMWATER MANAGEMENT DETAILS
Rocket Express
Arendell Ave
Zebulon, NC
Project ID#796479
Wake County

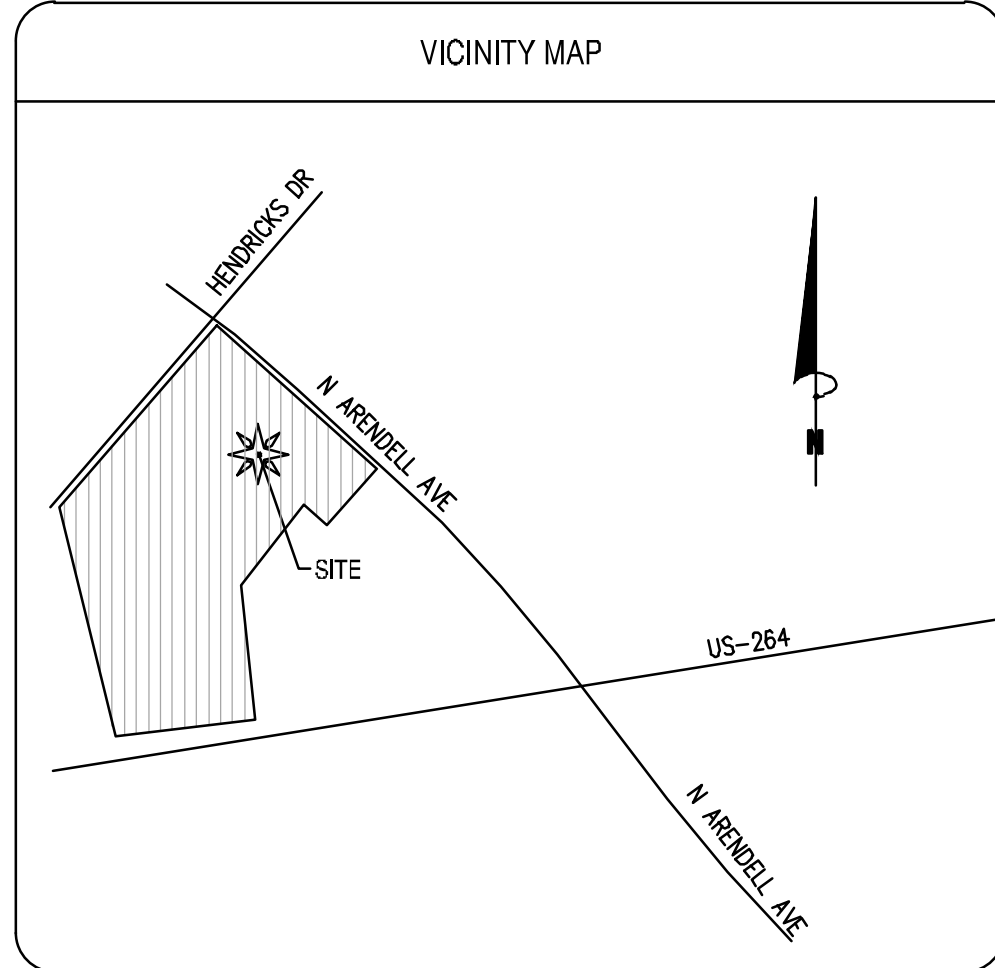
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DO NOT
USE FOR
CONSTRUCTION



PLAN STATUS

6/20/22	SITE PLAN SUBMITTAL
10/21/22	PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H: 1" = 80' V: 1" = XXX'
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002



LANDSCAPE NOTES:

HYDROMULCH ALL DISTURBED AREAS OUTSIDE OF PROPERTY LIMITS (UNLESS SHOWN AS SOD).

THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETTling OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES, REPLACEMENT OF MULCH, REMOVAL OF UTILER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.

SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.

IRRIGATION NOTE:

IRRIGATION SYSTEM TO BE A DESIGN-BUILD SYSTEM PROVIDED BY THE CONTRACTOR. IRRIGATION HEADS TO BE A MINIMUM OF 3" FROM EDGE OF CURB LINE. ALL LANDSCAPE BEDS TO HAVE CUT EDGE OR COMMERCIAL EDGING MATERIAL INSTALLED FULLY SEPARATING THE MULCH BED FROM ADJACENT LAWN AREA. ANY TREES OVER 2" CALIPER MUST BE STAKED AND TIED.

LANDSCAPING NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL REQUIRED LANDSCAPING FOR THE ENTIRE SITE, TO INCLUDE BUT NOT LIMITED TO: SODDED/SEEDED AREAS, SHRUB BEDS, PARKING LOT ISLANDS, ROADSIDE SIGN BASE(S) AND MONUMENT PLANTERS.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED AREAS.
- IN THE EVENT THAT PLANTING BEDS AND MULCH ARE REQUIRED, THE CONTRACTOR SHALL INSTALL BLACK FABRIC WEED BLOCK LANDSCAPE MESH UNDER THE MULCH TO PREVENT WEED GROWTH.
- CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRIABLE, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDERANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS UNTIL THE LATER OF: (a) THIRTY (30) DAYS FOLLOWING THE PLANTING OF THE GRASS AND SHRUBS, OR (b) THE DATE THAT BUILDINGS OPEN FOR BUSINESS TO THE PUBLIC.
- GENERAL CONTRACTOR IS TO CLEAN ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND RAKE ALL GRASS AREAS.
- PROVIDE LANDSCAPE PLANS TO OWNER AND AS REQUIRED BY LOCAL JURISDICTION TO THE BLDG. DEPT. FOR REVIEW AND APPROVAL PRIOR TO START OF WORK.
- ALL LANDSCAPING, TREES, SHRUBS, ETC. SHALL NOT INTERFERE WITH THE VISIBILITY OF PROJECT SIGNAGE.
- CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
- OPEN AREAS WITHIN PLANTING BEDS SHALL BE MULCHED.

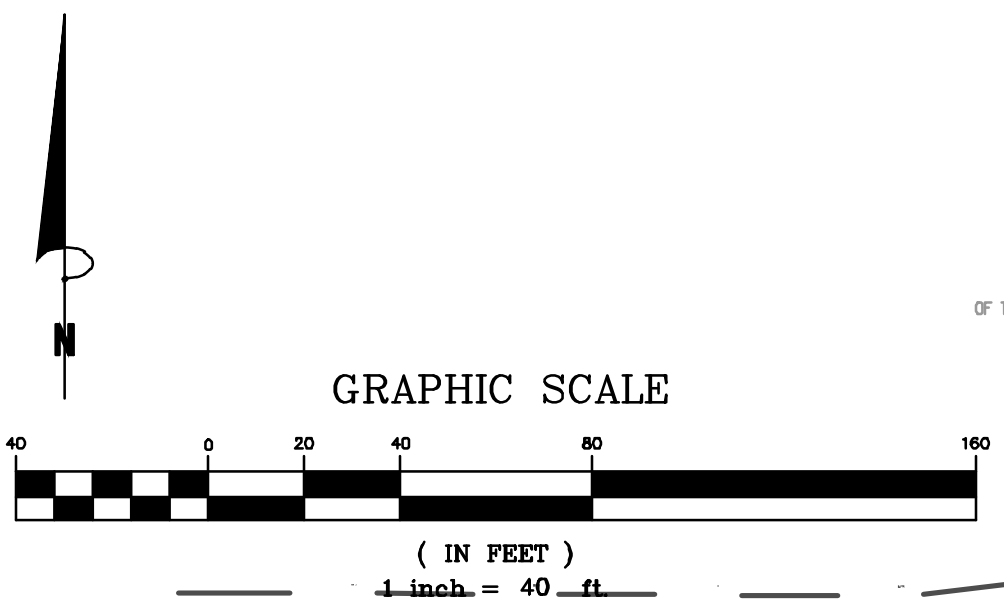
GENERAL LANDSCAPE NOTES:

- ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN.
- NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
- ALL PLANT AND BED LINE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- ALL PLANTINGS SHALL BE INSTALLED WITH THE SPECIFIED LAYER OF MULCH. REFERENCE DETAILS AND SPECIFICATIONS FOR DEPTH AND TYPE OF MULCH. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS AND SHALL BE SEPARATED FROM TURF GRASS AREAS.
- GRASS COVERAGE TO EXTEND FROM PROPERTY LINES TO BACK OF CITY SIDEWALKS AND/OR CURBS.
- MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
- ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
- FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
- LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
- ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES.)
- ATTENTION LANDSCAPER: NOTIFY OWNER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.

MASTER PLANT LIST

TYPE	SYM/KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SYMBOL	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	OTHER
LARGE TREES	QS	18	Quercus shumardii	Shumard Oak		2.5"	8' MIN		B&B	AS SHOWN	
	UA	7	ulmus americana	American Elm		2.5"	8' MIN		B&B	AS SHOWN	
	PC	19	Pistacia chinensis	Chinese Pistachio		2.5"	8' MIN		B&B	AS SHOWN	
UNDERSTORY TREES	CF	11	Camus florida	Flowering Dogwood		1.5"	4' MIN		B&B	AS SHOWN	
SHRUBS	RD	183	Rhaphiolepis x delacourii	Indian Hawthorn, Yeddo Hawthorn		-	18" MIN		3 GAL	AS SHOWN	
	AG	178	Abelia grandiflora	Glossy Abelia		-	18" MIN		3 GAL	AS SHOWN	
	IC	266	Ilex cornuta 'Dwarf Burford'	Dwarf Burford Holly		-	18" MIN		3 GAL	AS SHOWN	

SEPARATION BUFFER NOTE:
THE 50 FOOT NEEDED SEPARATION BUFFER ZONE IS MEASURED FROM THE TOP OF BANK OF THE CATCH OR CREEK. NO ACTIVITY IS PERMITTED IN ZONE 1 (FIRST 20 FT), UNLESS DEVELOPMENT CONSULTS G.S. 15A.06C, 26.02(b) BEFORE ANY DISTURBANCE WITHIN THE BUFFER ZONE OR CALL WATERS DIVISION OF WATER QUALITY, SURFACE WATERS PROTECTION SECTION FOR OFFICIAL DETERMINATION.



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Wake County

LANDSCAPE PLAN
Rocket Express
Arendell Ave
Project ID#796479

Zebulon, NC

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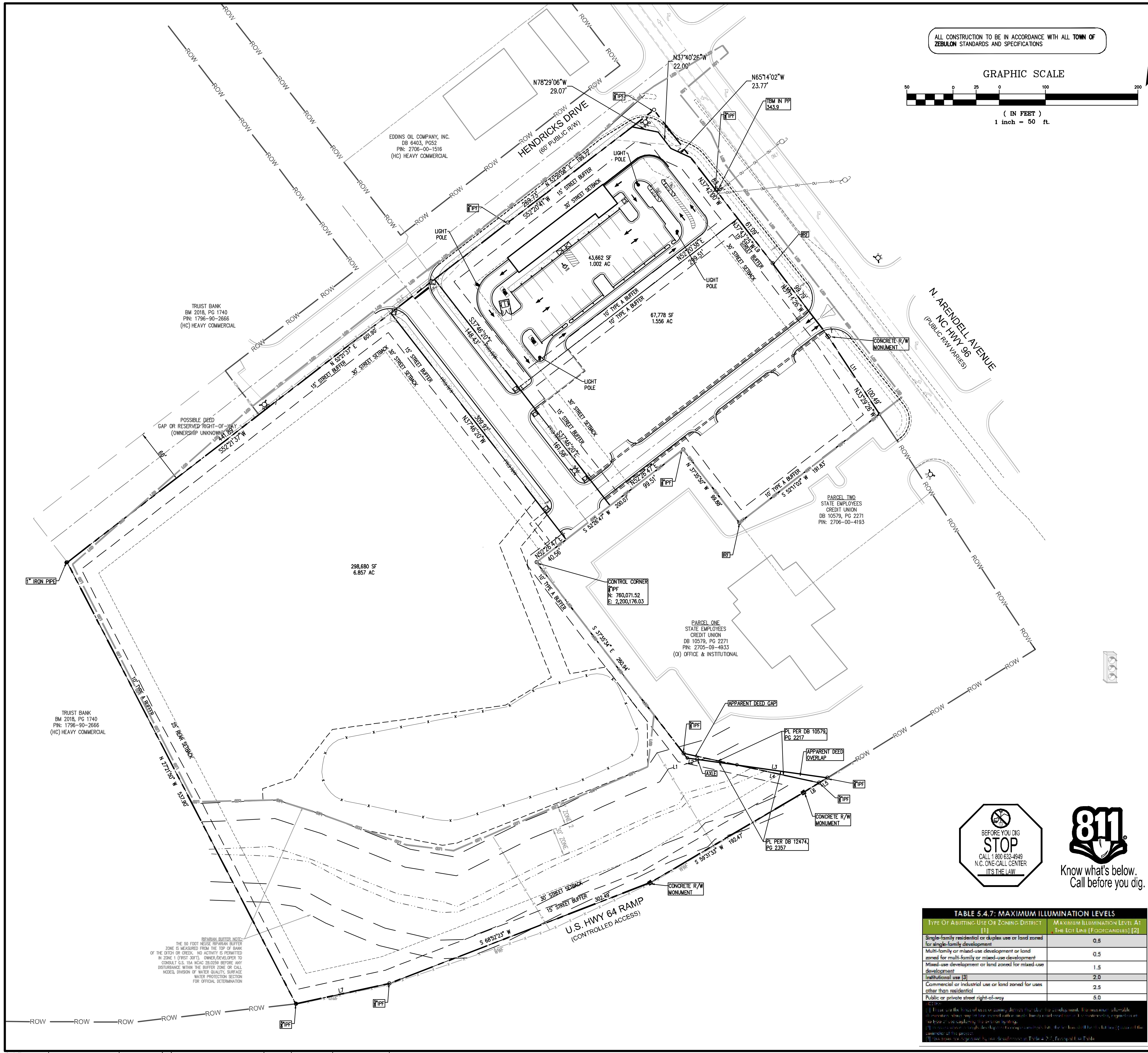
PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE DESCRIPTION
MEL DESIGN MEL DRAW XXXX CHKD

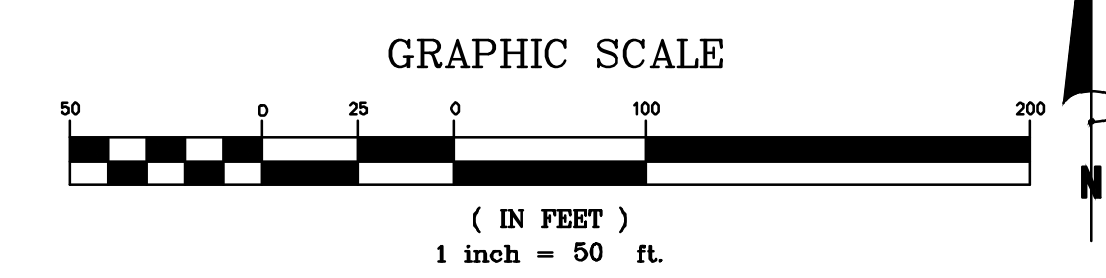
SCALE: H: 1" = 50' V: 1" = 10'

JOB No. 220097-01-002
DATE June 20, 2022
FILE No. 220097-01-002

SHEET C7.0



ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS



The energy-efficient Shoobox LED is a great solution and great fit for commercial parking lots, malls, office buildings and streets providing a "white light" that will enhance the appearance of your site. The Shoobox LED delivers light where it is needed, while increasing visibility and reducing light spill to adjoining properties. Selected to be an alternative to the metal halide light fixture, this fixture provides a white light source that will enhance colors, adding to visual clarity and improving area uniformity.

Light source (LED emitting diode)	219 421 watts
Mounting height	30' - 35' SOFT MAX. MOUNTING HEIGHT
Color	Dark bronze Black
Poles	Tension top concrete Promenade concrete
Applications	Neighborhoods Parkways Shopping centers

For additional information, visit us at dke.com/energy/led/lighting or call us toll-free at 866.760.6417.

LED 219 | 421 | IES Type V (circular)
LED 219 | 421 | IES Type IV (forward throw)
LED 219 | IES Type III (down)
IESNA color classification: Full cutoff
Color temperature: 4,000K
Warm-up and recycle time: Instant on (no warm-up or recycle time)

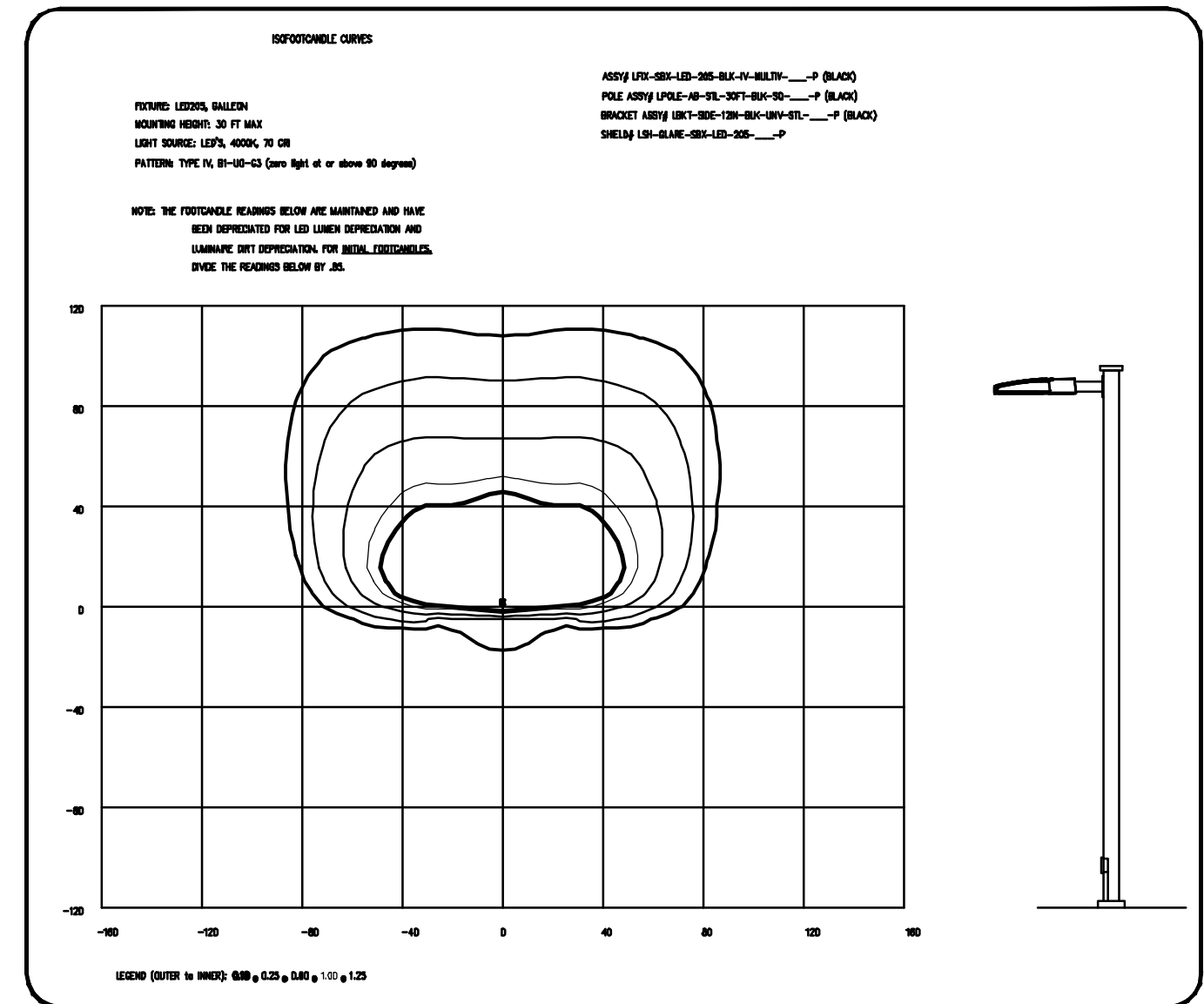
Name	Mounting Height	Color
Tension top concrete	30' - 35' SOFT MAX. MOUNTING HEIGHT	Gray
Promenade concrete	30' - 35' SOFT MAX. MOUNTING HEIGHT	Bronze

Features	Benefits
Little or no installation cost	Free up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance included	Eliminates high and unexpected repair bills
Electricity included	Less expensive than standard service
Warranty included	Worry-free
One low monthly cost on your electric bill	Convenience and savings for you
Turnkey operation	Provides hassle-free installation and service
Backed by over 40 years of experience	A name you can trust today... and tomorrow



TABLE 5.4.7: MAXIMUM ILLUMINATION LEVELS

TYPE OF ADJUTING USE OR ZONING DISTRICT	MAXIMUM ILLUMINATION LEVEL AT THE LOT LINE (FOOT-CANDLES) [2]
Single-family residential or duplex use or land zoned for single-family development	0.5
Multi-family or mixed-use development or land zoned for multi-family or mixed-use development	0.5
Mixed-use development or land zoned for mixed-use development	1.5
Institutional uses [3]	2.0
Commercial or industrial use or land zoned for uses other than residential	2.5
Public or private street right-of-way	5.0



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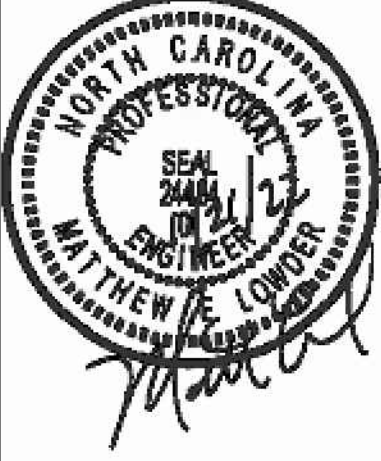
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bowman.com
Bowman North Carolina Ltd.

Wake County

LIGHTING PLAN
Rocket Express
Arendell Ave
Project ID#796479

Zebulon, NC

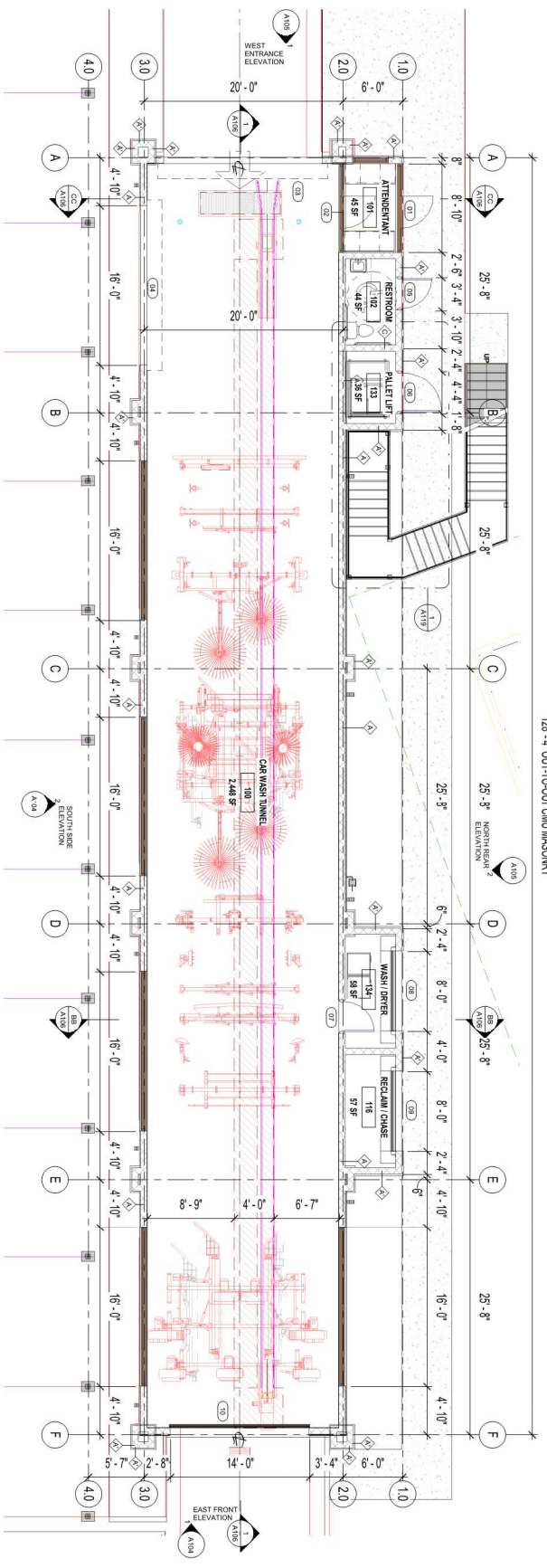
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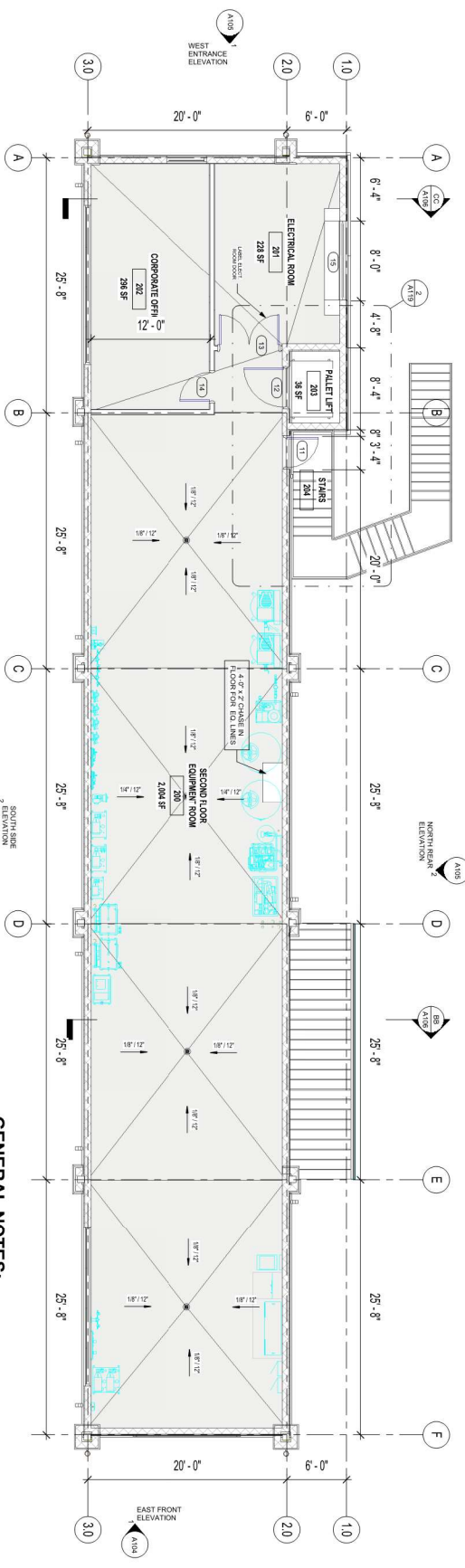
PLAN STATUS
6/20/22 SITE PLAN SUBMITTAL
10/21/22 PER TOWN REVIEW

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H: 1" = 50' V:
JOB No.	220097-01-002
DATE	June 20, 2022
FILE No.	220097-01-002

SHEET C7.1



1 FIRST FLOOR PLAN
 3/16" = 1'-0"



2 SECOND FLOOR PLAN
 3/16" = 1'-0"

GENERAL NOTES:

- A. REFER TO OWNER'S EQUIPMENT PLANS.
- B. REFER TO OWNER'S SHEET FOR BUILDING DESIGN CRITERIA.
- C. ALL DIMENSIONS TO ROUGH FACE OF ROUGH FRAMING, CONCRETE OR CENTERLINE OF STRUCTURE, UNLESS OTHERWISE NOTED. STUD INTENTION, PARTITION DIMENSIONS NOT SHOWN FOR CLARITY.



128'-4" OUT-TO-OUT CUM MASONRY

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 MKE, MAJALINNY
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 PROJECT NO. 2022-0601
 STRUCTURAL ENGINEER
 HENRY CARROLL, PE
 PROJECT NO. 2022-0601
 ELECTRICAL ENGINEER
 DAN BERENSON, PE
 PROJECT NO. 2022-0601
 MECHANICAL ENGINEER
 PHILIP WARD, PE
 PROJECT NO. 2022-0601

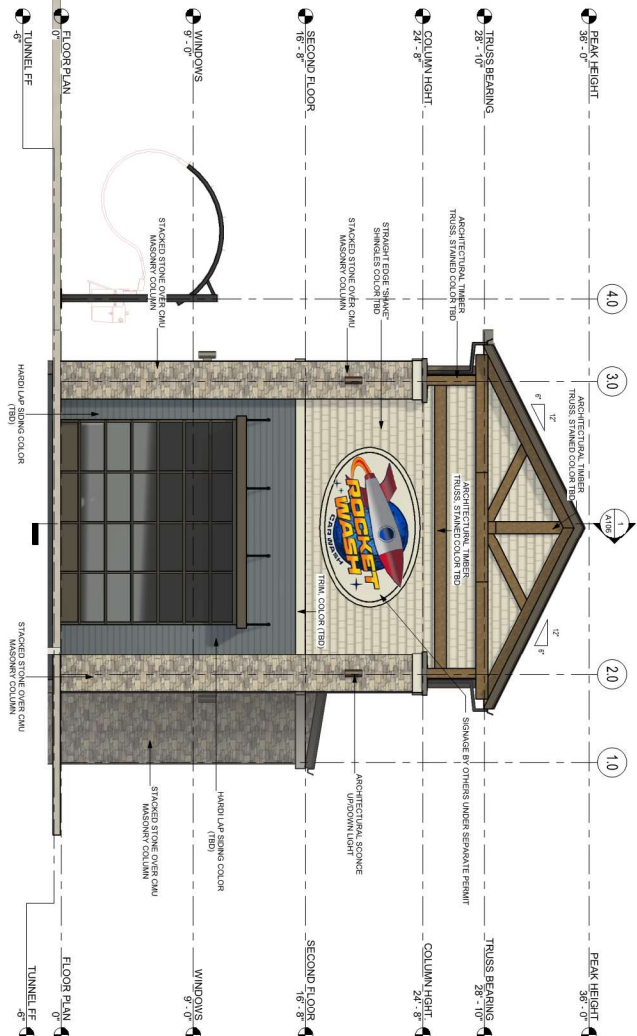
No.	Description	Date

**ROCKET EXPRESS
 TUNNEL CAR WASH**

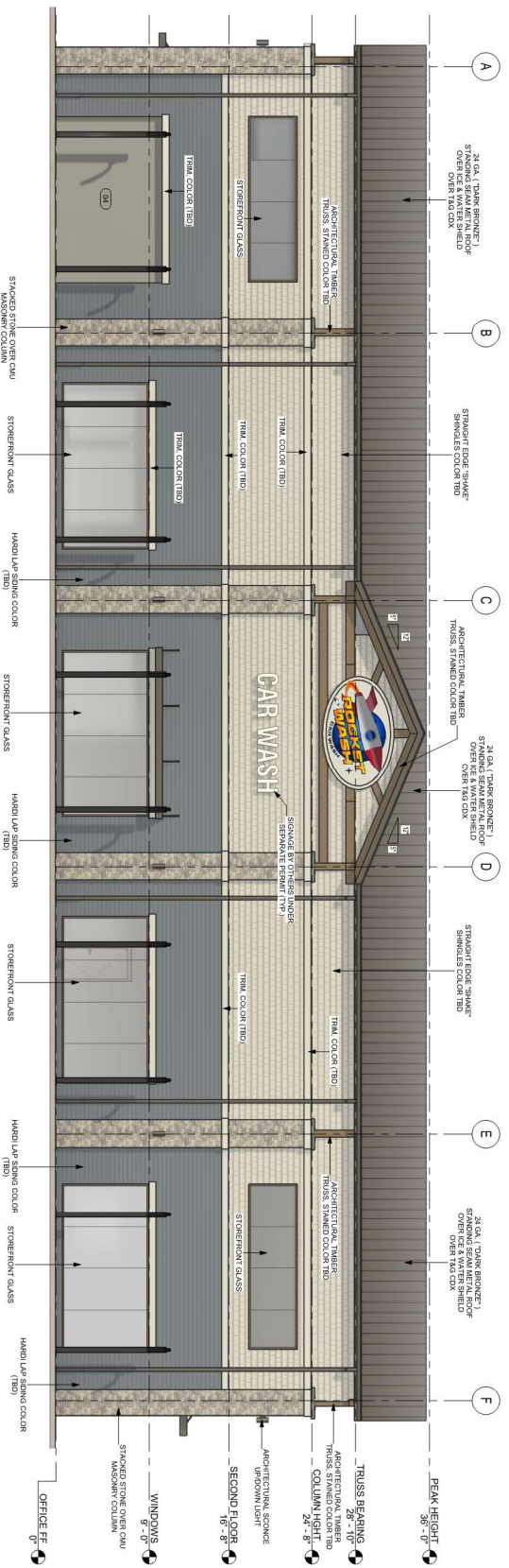
FIRST & SECOND FLOOR PLANS

Project number: 22-04501
 Drawn by: 03/29/22
 Checked by: KGH
 Scale: As indicated

A101



1 EAST FRONT ELEVATION
1/8" = 1'-0"



2 SOUTH SIDE ELEVATION
3/16" = 1'-0"

ARBOR
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No.	Description	Date

**ROCKET EXPRESS
TUNNEL CAR WASH**

ELEVATIONS

Project number	22-0450
Drawn by	03/29/22
Checked by	KOH
Scale	As indicated
A104	

2 NORTH REAR ELEVATION
 1/8" = 1'-0"



1 WEST ENTRANCE ELEVATION
 1/8" = 1'-0"



ROCKET EXPRESS TUNNEL CAR WASH	
ELEVATIONS	
Project number	22-0450
Drawn by	03/29/22
Checked by	KOF
Scale	As indicated
A105	

No.	Description	Date

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