

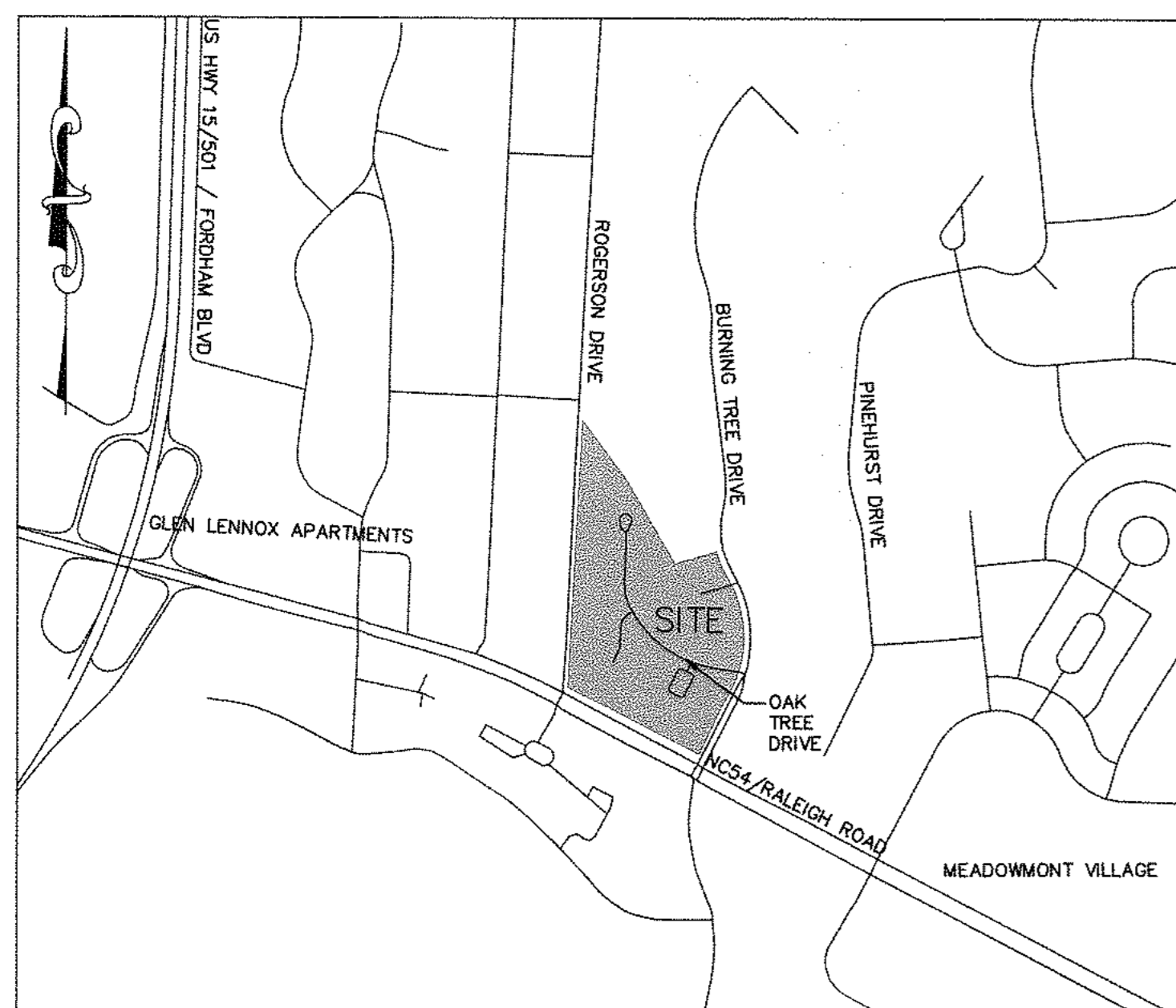
THE OAKS CONDOMINIUMS

SPECIAL USE PERMIT PLANS
LOCATED AT THE INTERSECTION OF
BURNING TREE DRIVE & NC 54 (RALEIGH ROAD)
PROJECT NUMBER: CAS-10000
DATE: JULY 24, 2018

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- LS-1 OVERALL LANDSCAPE PLAN
- LS-2 LANDSCAPE PLAN AREA 'A'
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OWNER:
CAS, INC.
5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517
CONTACT: ED BEDFORD
PHONE: (919) 403-1400
EMAIL: edbedford@casnc.com

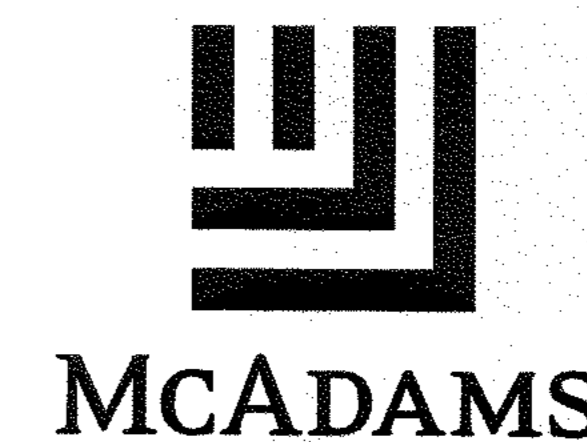
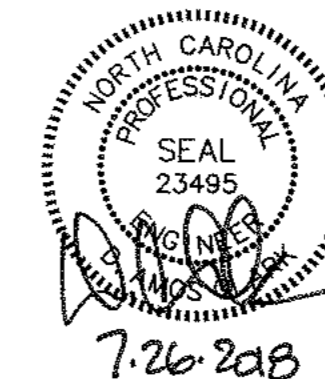


VICINITY MAP
NTS



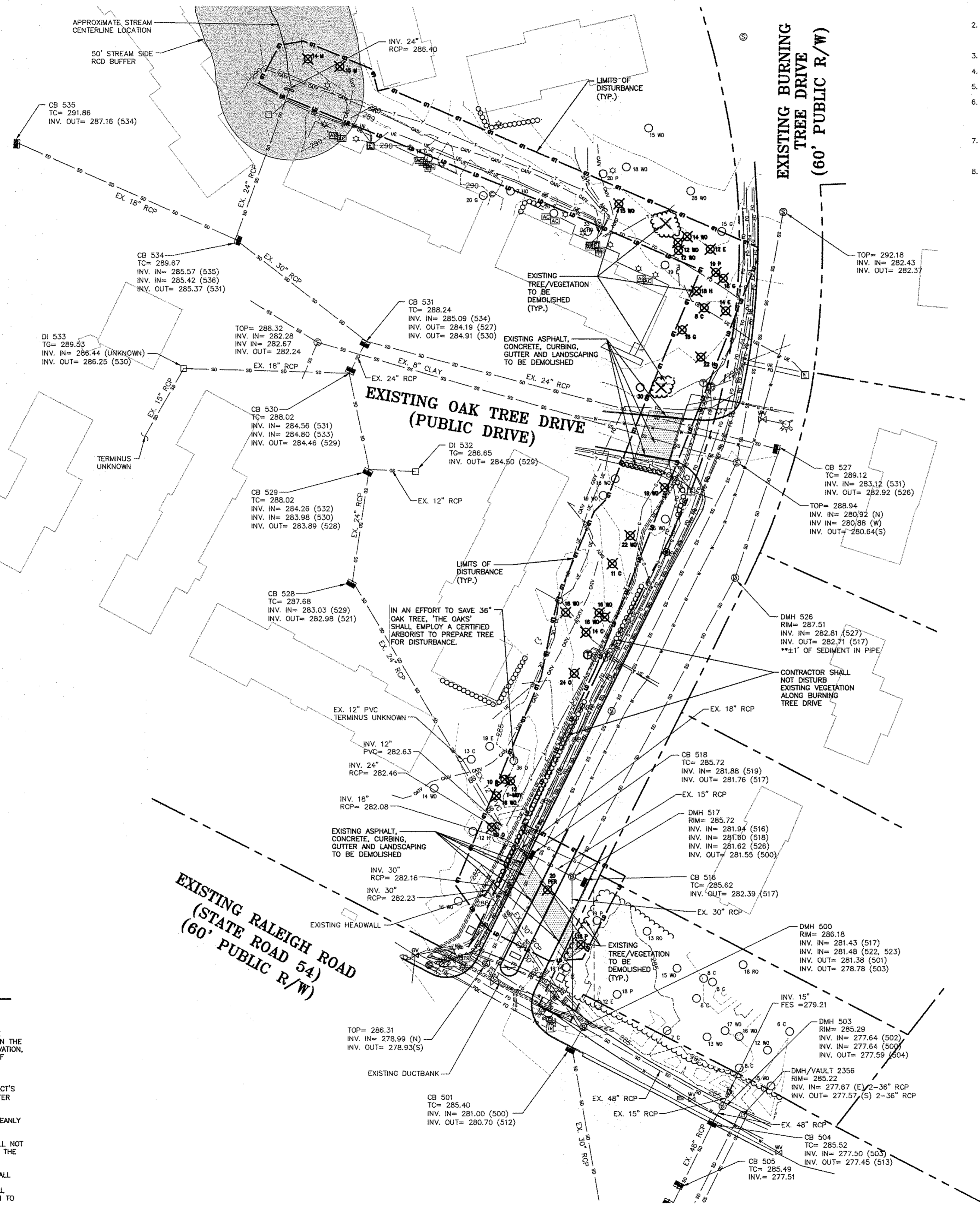
Know what's below.
Call before you dig.

CONTRACTOR SHALL NOTIFY "NC811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NC811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.



THE JOHN R. McADAMS COMPANY, INC.
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Durham, North Carolina 27713
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Contact: D. Amos Clark, PE
clark@mcadamsco.com

X:\Projects\CAS-10000\Storm Construction Drawings\CAS10000-XC.dwg, 7/28/2018 10:24:25 AM, Baker, Natalie



TREE LEGEND

- 8 A ASH
 - 10 C CEDAR
 - 6 CH CHERRY
 - 10 E ELM
 - 12 G SWEET GUM
 - 16 H HICKORY
 - 4 HO HOLLY
 - 15 M MAPLE
 - 20 RO RED OAK
 - 24 WO WHITE OAK
 - 31 O OAK
 - 7 PE PEAR
 - 18 P PINE
 - 4 MB MULBERRY
- DOUBLE AND TRIPLE TRUNKS
- 20 D-O DOUBLE OAK
 - 20 T-O TRIPLE OAK
- 20 CALIPER INCH SIZE OF TREE
- 20 TYPE OF TREE
- D FOR DOUBLE, T FOR TRIPLE

LANDSCAPE PROTECTION NOTES:

- PLAN SHOWS RARE AND SPECIMEN TREES IN ACCORDANCE WITH THE ORDINANCE THAT WAS IN EFFECT AT THE TIME OF APPROVAL.
- A LANDSCAPE PROTECTION SUPERVISOR WHO IS REGISTERED WITH THE TOWN OF CHAPEL HILL WILL BE PRESENT ON SITE AT ALL TIMES WHEN THE FOLLOWING ACTIVITIES ARE TAKING PLACE: CLEARING, GRUBBING, EXCAVATION, GRADING, TRENCHING, MOVING OF SOIL, INSTALLATION AND REMOVAL OF TREE PROTECTION FENCING, AND THE DELIVERY, TRANSPORTING, AND PLACEMENT OF CONSTRUCTION MATERIALS AND EQUIPMENT.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE PROJECT'S LANDSCAPE PROTECTION SUPERVISOR AND THE TOWN'S URBAN FORESTER OR LANDSCAPE ARCHITECT BEFORE ANY SITE WORK BEGINS.
- ANY TREE ROOTS EXPOSED BY CONSTRUCTION SHALL BE SEVERED CLEANLY WITH A PRUNING TOOL.
- THE SOIL WITHIN THE PROTECTED AREA AROUND EXISTING TREES SHALL NOT BE DRIVEN UPON ONCE TREE PROTECTION FENCING IS REMOVED, FOR THE PURPOSE OF INSTALLING LANDSCAPING.
- IT IS THE RECOMMENDATION OF THE McADAMS COMPANY TO REMOVE ALL TREES AS MARKED ON THIS PLAN. THE OWNER MAY ATTEMPT TO PRESERVE TREES MARKED AS REMOVED BUT IN DOING SO ASSUME ALL RESPONSIBILITY AND LIABILITY FOR THE TREES. ALL MEASURES TAKEN TO PRESERVE TREES MUST BE APPROVED BY THE ENGINEER.

GENERAL NOTES:

- EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- THIS SITE IS NOT IN ANY SPECIAL FLOOD HAZARD AREAS OR FUTURE CONDITIONS FLOOD HAZARD AREAS, AS SHOWN ON FIRM PANEL 3710979800 DATED FEBRUARY 2, 2007.
- THE SITE IS IN A PROTECTED WATERSHED OVERLAY DISTRICT.
- THERE ARE NO STEEP SLOPES ON SITE.
- THERE ARE NO WETLANDS ON SITE.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE PROPER REMOVAL, STORAGE, AND REUSE OF ANY EXISTING INFRASTRUCTURE MATERIALS ON SITE, INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELECOM, AND FIBER OPTIC.
- ALL COORDINATION FOR LOCATION AND FIELD VERIFICATION OF UTILITIES, BOTH HORIZONTALLY AND VERTICALLY, IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BUILDING FOOTPRINT INFORMATION FROM ORANGE COUNTY GIS.

LEGEND

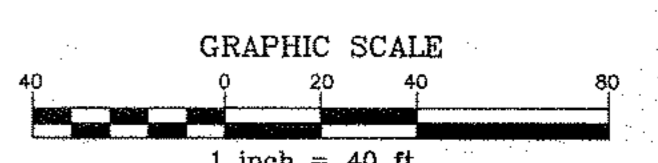
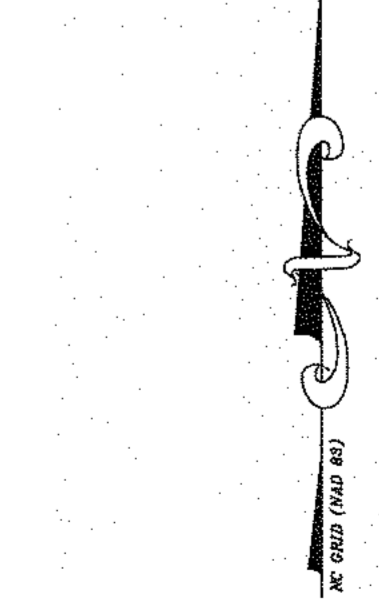
- BOLLARD
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- WATER VALVE
- WATER METER
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- AIR CONDITIONING UNIT
- TELEPHONE PEDESTAL
- TELEPHONE MANHOLE
- STEAM MANHOLE
- ELECTRIC BOX
- LIGHT POLE
- CATCH BASIN
- DROP INLET
- STORM DRAINAGE MANHOLE
- STORM DRAIN
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
- FIBER OPTICS
- WATER LINE
- SANITARY SEWER LINE
- GAS LINE
- FENCE LINE
- LIMITS OF DISTURBANCE
- EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR
- PROPERTY LINE

DEMOLITION LEGEND

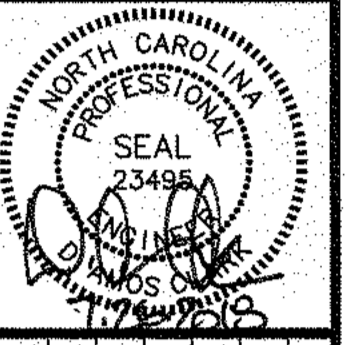
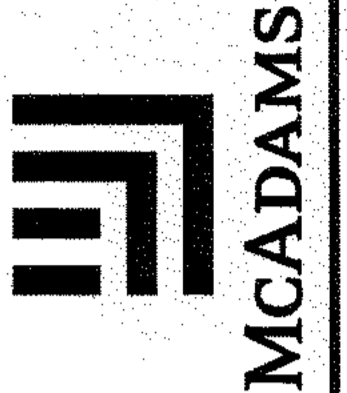
- ⊗ TREE TREE/VEGETATION TO BE DEMOLISHED
- ▨ AREA TO BE DEMOLISHED

DEMOLITION NOTES

- THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE EXISTING UTILITIES ON SITE PRIOR TO DEMOLITION.
- THE CONTRACTOR SHALL VERIFY THAT THERE ARE NO UTILITY OR OTHER CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS AND SPECIFICATIONS AND AS DIRECTED BY THE OWNER.
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES. THESE FEES ARE TO BE INCLUDED WITH THE BID.
- THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
- 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.
- CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING IMPROVEMENTS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO SIGNS, CURBS, SIDEWALKS, ETC.
- REMOVE AND DISPOSE OF ANY CONDUITS, LIGHT POLE BASES, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED LANDFILL. CONTRACTOR SHALL MAKE EVERY ATTEMPT TO RECYCLE ANY DEBRIS AND RUBBISH THAT IS RECYCLABLE.
- REMOVE AND/OR PLUG EXISTING UTILITIES 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.
- CONTRACTOR SHALL REMOVE, RELOCATE AND/OR INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD AND PARKING SURFACES. ANY UNNECESSARY DAMAGE DUE TO CONSTRUCTION ACTIVITIES AND/OR CONSTRUCTION TRAFFIC SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
- FINISH SURFACE TO BE REMOVED OR DEMOLISHED SHALL BE SAW CUT ALONG LINES OF JOINTS WHICH WILL PERMIT A NEAT AND SMOOTH SURFACE WHEN RESTORED, INCLUDE REPAIRS IF REQUIRED.
- ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO THE ADJACENT BUILDINGS AND PROPERTIES THROUGHOUT CONSTRUCTION.



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 Durham, North Carolina 27713
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REVISIONS:

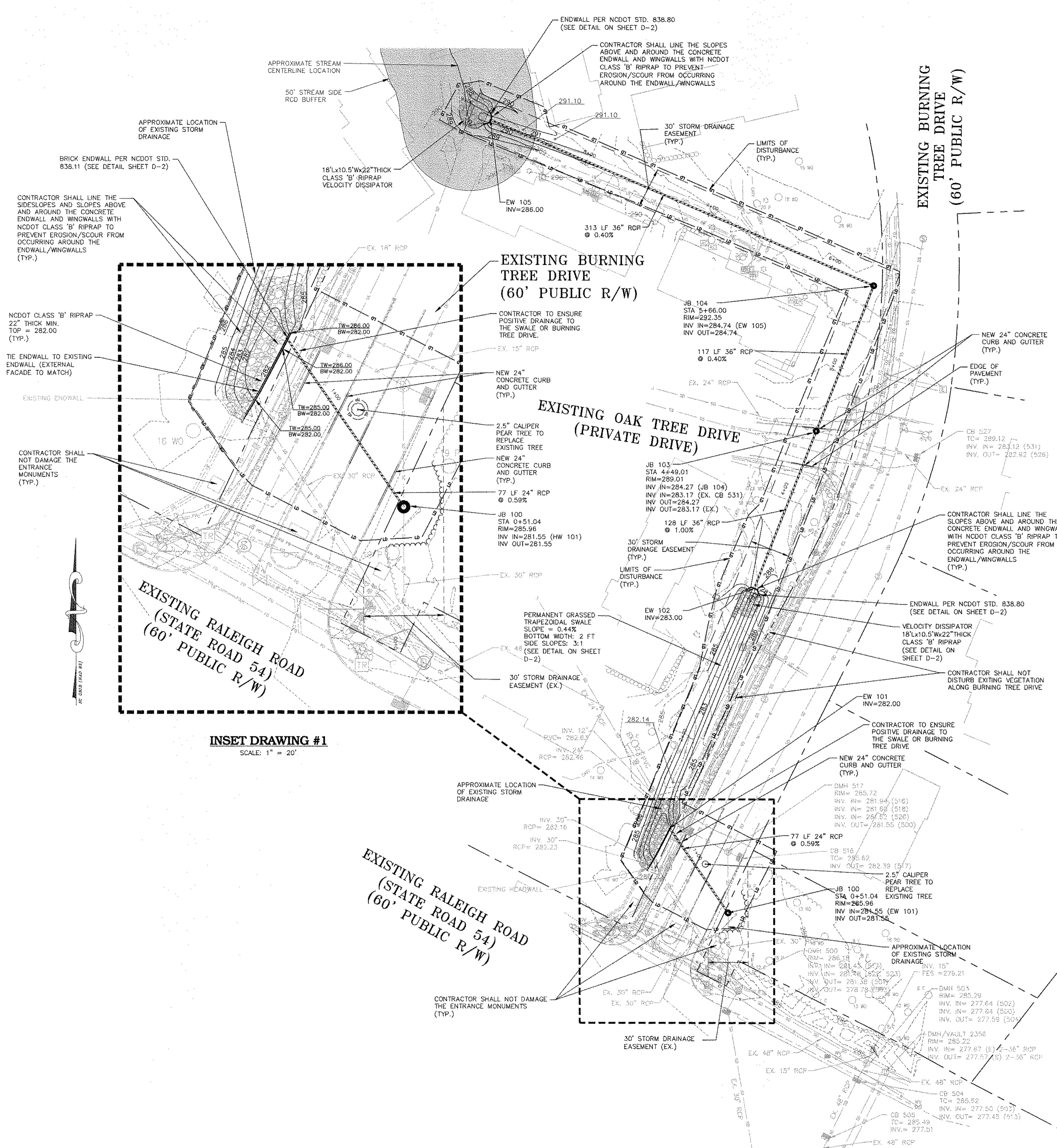
OWNER:
CAS, INCORPORATED
 5915 FARRINGTON ROAD, SUITE 104
 CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS CONDOMINIUMS
 CHAPEL HILL, NORTH CAROLINA
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJECT NO. CAS-10000
FILENAME: CAS10000-XC
CHECKED BY: DAC
DRAWN BY: SMP / NB
SCALE: 1" = 40'
DATE: 07-24-2018
SHEET NO. C-1



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CONTRACTOR SHALL LINE THE SLOPES ABOVE AND AROUND THE CONCRETE ENDWALL AND WINGWALLS WITH NCDOT CLASS 'B' RIPRAP TO PREVENT EROSION/SCOUR FROM OCCURRING AROUND THE ENDWALL/WINGWALLS (TYP.)

NCDOT CLASS 'B' RIPRAP 22" THICK MIN. TOP = 282.00 (TYP.)

CONTRACTOR SHALL NOT DAMAGE THE ENTRANCE MONUMENTS (TYP.)

EXISTING RALEIGH ROAD (STATE ROAD 54) (60' PUBLIC R/W)

INSET DRAWING #1
SCALE: 1" = 20'

EXISTING RALEIGH ROAD (STATE ROAD 54) (60' PUBLIC R/W)

EXISTING BURNING TREE DRIVE (60' PUBLIC R/W)

EXISTING OAK TREE DRIVE (PRIVATE DRIVE)

EXISTING BURNING TREE DRIVE (60' PUBLIC R/W)

GRADING/STORM DRAINAGE NOTES:

- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE PROPER REMOVAL, STORAGE, AND REUSE OF ANY EXISTING INFRASTRUCTURE MATERIALS ON SITE, INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELECOM, FIBER OPTIC, AND IRRIGATION.
- ALL COORDINATION FOR LOCATION AND FIELD VERIFICATION OF UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL COORDINATION WITH APPLICABLE UTILITY OWNERS FOR RELOCATION (I.E. NATURAL GAS, FIBER OPTIC, ETC.), DUE TO CONFLICTS WITH PROPOSED CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR A TRAFFIC DIVERSION AND CONTROL PLAN. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL TRAFFIC DIVERSION AND CONTROL MEASURES WITH THE HOA AND THE TOWN.
- CONTRACTOR IS RESPONSIBLE FOR ENSURING NO SEDIMENT SHALL LEAVE THE SITE WHILE PAYING STRICT ADHERENCE TO THE EROSION CONTROL PLAN. ADDITIONAL MEASURES MAY NEED TO BE PLACED TO ENSURE NO SEDIMENT LADEN RUNOFF EXISTS THE SITE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR HIRING AN ON-SITE GEOTECHNICAL ENGINEER AS PART OF THE PROJECT. THE ON-SITE GEOTECHNICAL ENGINEER SHALL BE A SUB TO THE CONTRACTOR AND PROVIDE FIELD TESTING REPORTS AND CERTIFICATIONS FOR ALL GEOTECHNICAL, BEDDING, COMPACTION, AND PAVEMENT ASPECTS OF THE PROJECT.
- THE ON-SITE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR ENSURING AND CERTIFYING THAT THE BEDDING AND BACKFILL CONDITIONS FOR THE PROPOSED CULVERT AND HEADWALLS ARE ADEQUATELY TESTED AT AN APPROPRIATE FREQUENCY.
- THE CONTRACTOR SHALL REPLACE ALL DISTURBED SUBGRADE AND PAVEMENT PER THE TOWN OF CHAPEL HILL DETAIL SHOWN ON SHEET D-1 UNLESS DIRECTED OTHERWISE BY THE ON-SITE GEOTECHNICAL ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL APPLICABLE OSHA REQUIREMENTS DURING THE PROJECT, INCLUDING BUT NOT LIMITED TO BARRICADES, EXCAVATIONS, TRENCH SHORING, CONFINED SPACE ENTRY, MATERIALS HANDLING, PERSONAL PROTECTIVE EQUIPMENT, AND EMERGENCY ACTION PLANS.
- ALL JUNCTION BOXES TO BE 4' DIAMETER.

STORM DRAINAGE LEGEND

	HEADWALL
	JUNCTION BOX
	STORM DRAINAGE
	STORM DRAINAGE EASEMENT
	LIMITS OF DISTURBANCE
	5' CONTOUR
	1' CONTOUR
	EXISTING 5' CONTOUR
	EXISTING 1' CONTOUR
	PROPERTY LINE

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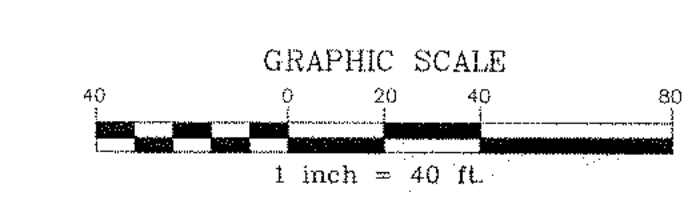


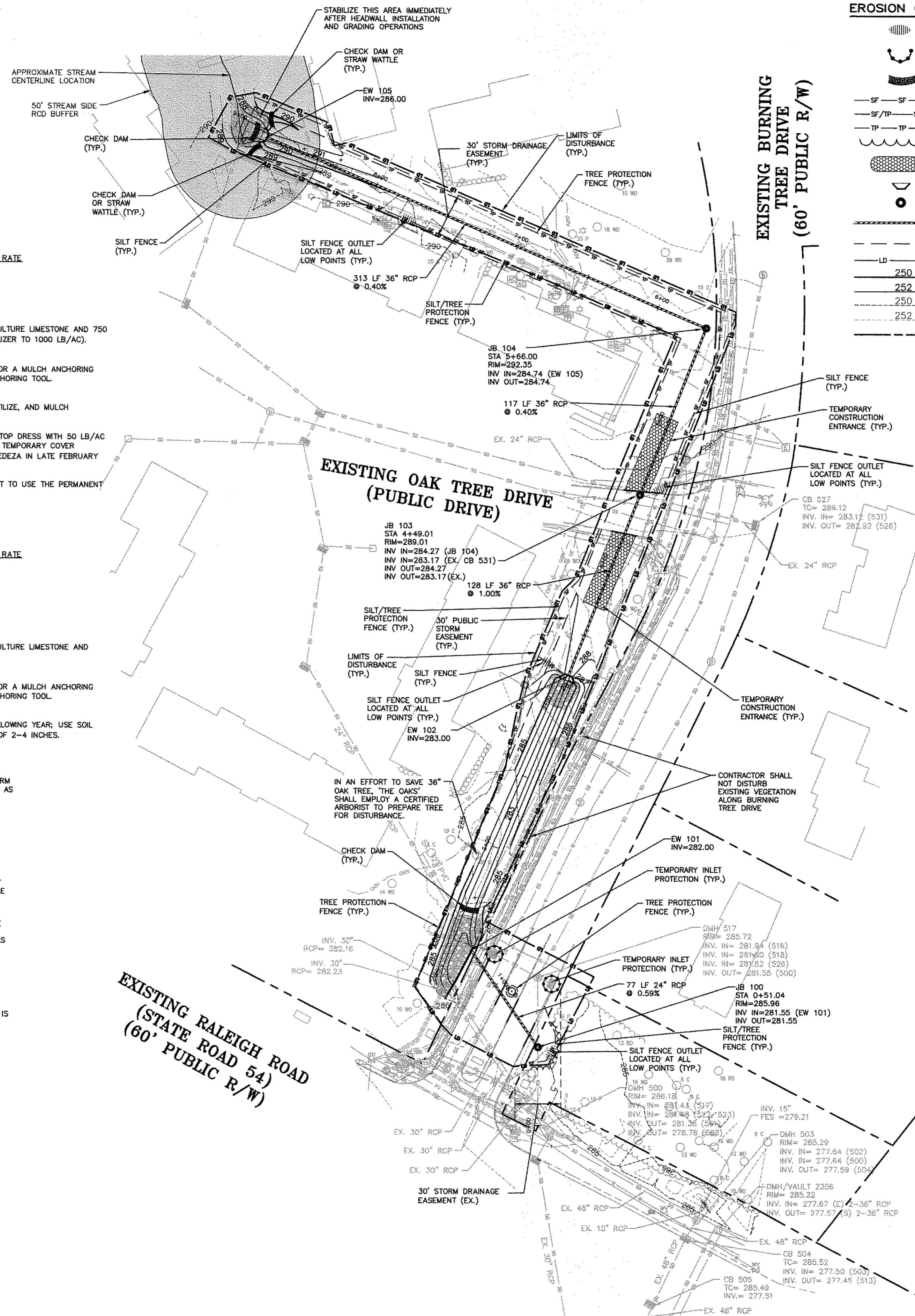
REVISIONS:

OWNER:
CAS, INCORPORATED
5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

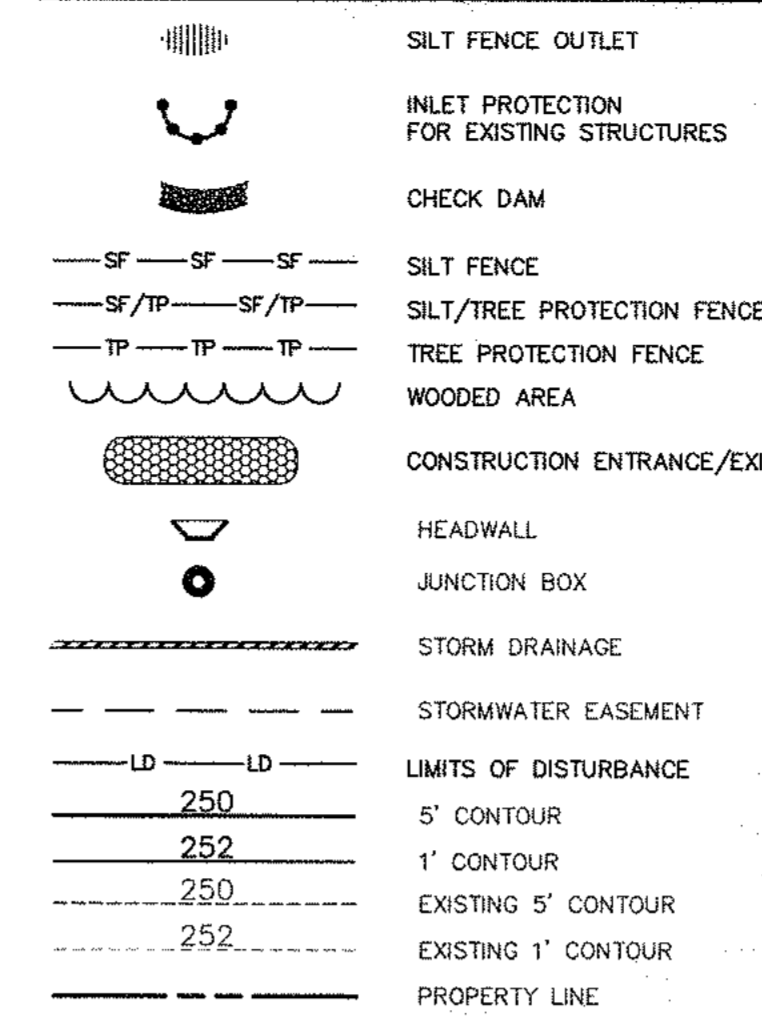
THE OAKS
CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
GRADING AND STORM DRAINAGE PLAN

PROJECT NO.	CAS-10000
FILENAME	CAS10000-01
CHECKED BY	DAC
DRAWN BY	SMP/NB
SCALE	AS NOTED
DATE	07-24-2018
SHEET NO.	C-2





EROSION CONTROL LEGEND



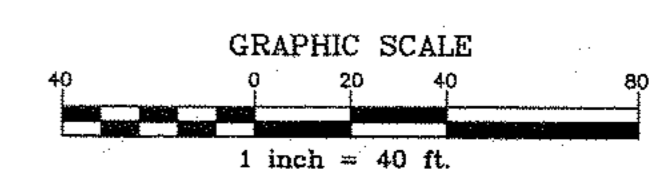
EROSION CONTROL NOTES:

- EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE. THE CONTRACTOR SHALL CALL FOR AN INSPECTION BY ORANGE COUNTY SEDIMENTATION AND EROSION CONTROL (SEC) ONCE INITIAL MEASURES ARE IN PLACE.
- REQUIRED TREE PROTECTION FENCING SHALL BE INSTALLED AND A PRE-CONSTRUCTION CONFERENCE SCHEDULED WITH THE TOWN'S URBAN FORESTER PRIOR TO BEGINNING LAND DISTURBANCE.
- SEDIMENTATION CONTROL DEVICES MUST BE CHECKED AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE.
- IN ADDITION TO THE REQUIREMENT DURING CONSTRUCTION FOR THE INSPECTION OF EROSION AND SEDIMENT CONTROL DEVICES AND OFFSITE ROADWAYS DAILY, MAKE ANY NECESSARY REPAIRS OR ADJUSTMENTS TO THE DEVICES, REMOVE DEPOSITION OF WET OR DRY SILT ON ADJACENT ROADWAYS AND MAINTAIN INSPECTION LOGS DOCUMENTING THE DAILY INSPECTIONS AND ANY NECESSARY REPAIRS.
- A COPY OF THE APPROVED EROSION CONTROL PLAN MUST BE ON FILE AT THE JOB SITE AT ALL TIMES.
- CONSTRUCTION, MAINTENANCE, AND REMOVAL OF ALL EROSION CONTROL DEVICES ARE THE RESPONSIBILITY OF THE GRADING CONTRACTOR UNLESS OTHERWISE NOTED.
- ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
- NO DEBRIS SHALL BE TRACKED ONTO ANY EXISTING PAVED AREAS OR PUBLIC RIGHT OF WAY. IF THE SITUATION OCCURS WHERE MUD, ROCK AND DEBRIS IS TRACKED ONTO PAVEMENT, THE CONTRACTOR SHALL CLEAN THE PAVEMENT AND INSTALL ADDITIONAL MEASURES TO PREVENT THE FUTURE OCCURRENCE.
- DURING THE CONSTRUCTION PHASE, ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED IF THE PROPOSED MEASURES DO NOT CONTAIN THE SEDIMENT ON SITE. THE EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL FIELD MEASURES AS NECESSARY TO PROVIDE ADEQUATE PROTECTION FROM RECEIVING WATER COURSES.
- PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND A TREE, A CLEAN, SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FARTHEST AWAY FROM THE TREE TRUNK AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREE IS COMPLETE. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA AND SHALL BE POSTED ON THE PROTECTION FENCE. A PROTECTION FENCE CONSTRUCTED OF MATERIAL RESISTANT TO DEGRADATION BY SUN, WIND, AND MOISTURE FOR THE DURATION OF THE CONSTRUCTION, SHALL BE INSTALLED AT THE SAME TIME AS THE EROSION CONTROL MEASURES AND SHALL BE IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREE IS COMPLETE.
- A CONSTRUCTION SEQUENCE HAS BEEN PROVIDED. INSTALLATION OF ALL PROPOSED SEDIMENTATION & EROSION CONTROL MEASURES IN THE SEQUENCE(S) PROVIDED AND MAINTENANCE OF THOSE DEVICES IS REQUIRED. THE CONTRACTOR MAY BE ALLOWED, WITH PRIOR APPROVAL FROM THE OWNER, TO COORDINATE CHANGES TO THE PLAN WITH THE ON-SITE SEDIMENTATION & EROSION CONTROL INSPECTOR AND THE ENGINEER.
- PROVIDE INLET PROTECTION AROUND ALL SITE STORM INLETS. PROTECT OPEN PIPES UNDER CONSTRUCTION WITH EITHER WOOD OR WITH MESH AND GRAVEL WEIRS. RUNOFF SHALL NOT BE ALLOWED IN ANY OPEN TRENCH.
- CONTRACTOR TO VERIFY SILT FENCE OUTLET PLACEMENT AT LOW POINTS AS THEY EXIST OR DEVELOP ADDITIONAL SILT FENCE OUTLETS MAY BE REQUIRED TO PREVENT EROSION DURING AND AFTER CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES. IF ADDITIONAL SILT FENCE OUTLETS ARE NECESSARY, CONTRACTOR TO ADD ADDITIONAL SILT FENCE OUTLETS PER ENGINEER, MIDDLE EROSION CONTROL INSPECTOR, OR OWNER DIRECTION. IF PONDING OF WATER OR SEDIMENT OCCURS ALONG SILT FENCE, CONTRACTOR SHALL INSTALL AN ADDITIONAL SILT FENCE OUTLET.

CONSTRUCTION SEQUENCE

- OBTAIN A LAND-DISTURBING PERMIT. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH ORANGE COUNTY EROSION CONTROL OFFICER, WESLEY POOLE (919)245.2587. PRECONSTRUCTION MEETING SHALL INCLUDE A REPRESENTATIVE FROM OWASA, TOWN OF CHAPEL HILL, TOWN'S URBAN FORESTER, AND OWNER.
NOTE: INSTALL A RURAL TYPE MAILBOX ON THE SITE TO HOLD A COPY OF THE APPROVED EROSION CONTROL PLAN AND TO PROVIDE A PLACE FOR INSPECTORS TO LEAVE INSPECTION REPORTS, COMPLIANCE NOTICES, ETC.
- TRAFFIC CONTROL PLAN TO BE PROVIDED BY CONTRACTOR
- INSTALL GRAVEL CONSTRUCTION ENTRANCE(S) PER PLAN. ALSO INSTALL TEMPORARY SILT FENCING WITH OUTLETS AS SHOWN.
- CONTRACTOR SHALL CLEAR ONLY THOSE AREAS NECESSARY TO ACCESS AND INSTALL INITIAL PERIMETER DEVICES. INSTALL INLET PROTECTION ON EXISTING INLETS AS NECESSARY.
- INSTALL INLET PROTECTION PER ORANGE COUNTY SEC STANDARDS AND SPECIFICATIONS ON ALL INLETS.
- CALL 919.245.2587 FOR ON-SITE INSPECTION BY ORANGE COUNTY EROSION CONTROL.
- BEGIN GRADING TO EXCAVATE FOR PROPOSED STORM PIPE.
- NO MUD SHALL BE TRACKED ONTO EXISTING PAVEMENT. ADDITIONAL MEASURES MAY BE NECESSARY TO ASSURE THAT NO SEDIMENT LEAVES THE SITE.
- PROVIDE ALL DISTURBED AREAS WITH GROUND COVER WITHIN 14 CALENDAR DAYS AFTER COMPLETION OF ANY PHASE OF CLEARING, GRUBBING OR GRADING. THE SEEDING, SEEDBED PREPARATION, MULCH AND/OR ROLLED EROSION CONTROL PRODUCT INSTALLATION MUST BE IN ACCORDANCE WITH THE SEEDING SCHEDULE PROVIDED IN THIS S&E PLAN. NOTE: SLOPES IN EXCESS OF 3H:1V SHALL BE STABILIZED WITHIN 7 DAYS AND FOR MODERATE SLOPES (SLOPES LESS THAN 3H:1V) SHALL BE STABILIZED WITHIN 10 DAYS.
- CONSTRUCT STORM DRAIN SYSTEM AS SHOWN.
- INSTALL INLET PROTECTION ON ALL INLET STRUCTURES DURING CONSTRUCTION.
- AT THE CONCLUSION OF CONSTRUCTION OR IF LAND-DISTURBING ACTIVITY IS STOPPED FOR MORE THAN 14 CONSECUTIVE CALENDAR DAYS, PERMANENT VEGETATIVE COVER SHALL BE INSTALLED IN ACCORDANCE WITH THE S&E PLAN.
- WHEN THE SITE IS AT FINAL GRADE AND NO FURTHER GRADING IS NECESSARY, CONTRACTOR SHALL STABILIZE THE SITE PER THE PERMANENT SEEDING SCHEDULE.
- WHEN CONSTRUCTION IS COMPLETE, CALL ORANGE COUNTY EROSION CONTROL TO OBTAIN FINAL INSPECTION AND CERTIFICATE OF COMPLETION TO CLOSE OUT EROSION CONTROL PERMIT.

TOTAL DISTURBED AREA = 33,214 SF. (0.76 AC.)



TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
MAY 1 - AUG 15	KOBE LESPEDEZA	50 LBS/AC
AUG 15 - DEC 30	GERMAN MILLET	40 LBS/AC
	RYE (GRAIN)	120 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

PERMANENT SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
AUG 25 - OCT (BEST)	TALL FESCUE	200 LBS/AC
	RYE (GRAIN)	50 LBS/AC
	GERMAN MILLET	50 LBS/AC
FEB - APR 15 (POSSIBLE)	TALL FESCUE	200 LBS/AC
	RYE (GRAIN)	50 LBS/AC
	GERMAN MILLET	50 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTILIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

SEEDBED PREPARATION

AREAS TO BE SEED TO BE SCARIFIED 4" DEEP. A FIRM, WELL PULVERIZED, UNIFORM SEEDBED SHOULD BE PROVIDED. FERTILIZER SHALL BE PLACED DURING SCARIFICATION AS FOLLOWS:
LIME: 45 LBS / 1,000 SF
PHOSPHOROUS: 20 LBS / 1,000 SF
FERTILIZER: 17 LBS / 1,000 SF

MAINTENANCE PLAN

- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL MEASURES AS DESIGNED.
- SILT FENCES SHALL BE INSPECTED AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE REMOVED AS NEEDED TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAINFALL EVENT, AND TO REDUCE PRESSURE ON THE FENCE. FENCING MATERIALS AND SEDIMENT DEPOSITS SHALL BE REMOVED, AND THE AREA BROUGHT TO GRADE FOLLOWING STABILIZATION OF UPGRADIENT DISTURBED AREAS.
- DIVERSION DITCHES MUST REMAIN IN PLACE UNTIL PROJECT IS STABILIZED.
- SEED AND MULCH DENUDED AREA WITHIN 14 DAYS AFTER ANY PHASE OF GRADING.
- MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

OFFSITE SPOIL NOTE:

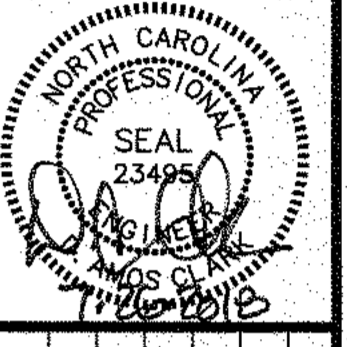
IF AN OFFSITE SOIL SPOIL OR BORROW SITE IS UTILIZED, THEN THE DISTURBED AREA FOR THE SPOIL/BORROW SITE MUST BE INCLUDED IN THE LAND-DISTURBANCE PLAN AND PERMIT UNLESS THE SPOIL/BORROW SITE ALREADY HAS A LAND-DISTURBANCE PERMIT.

GROUND STABILIZATION

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

X:\Projects\CAS-10000\Storm Construction Drawings\CAS10000-EC1.dwg, 7/26/2016, 1:36:07 PM, Bbarquez, Netcad

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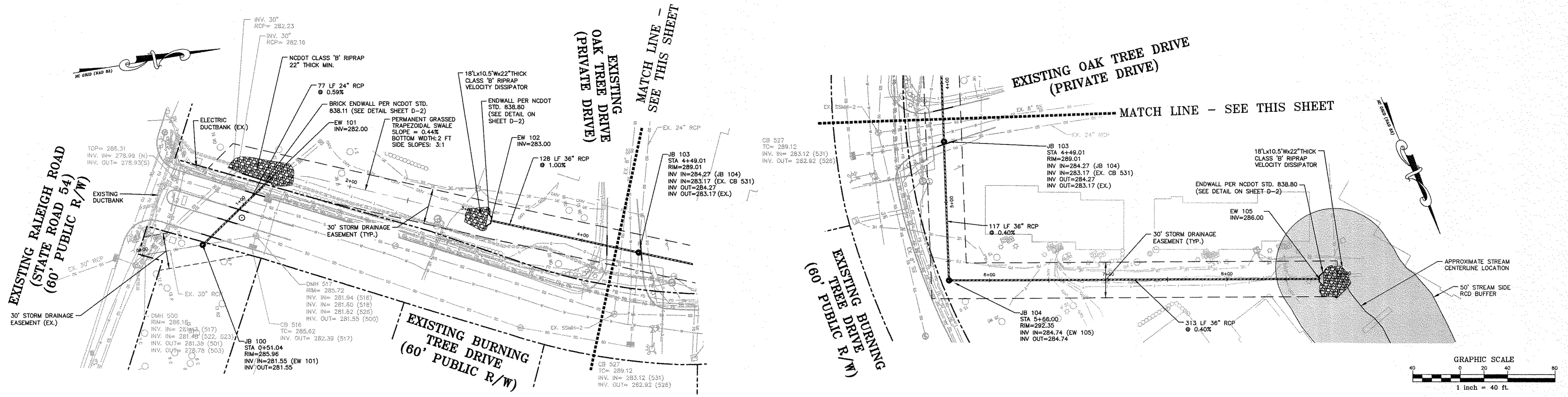
REVISIONS:

OWNER:
CAS, INCORPORATED
5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

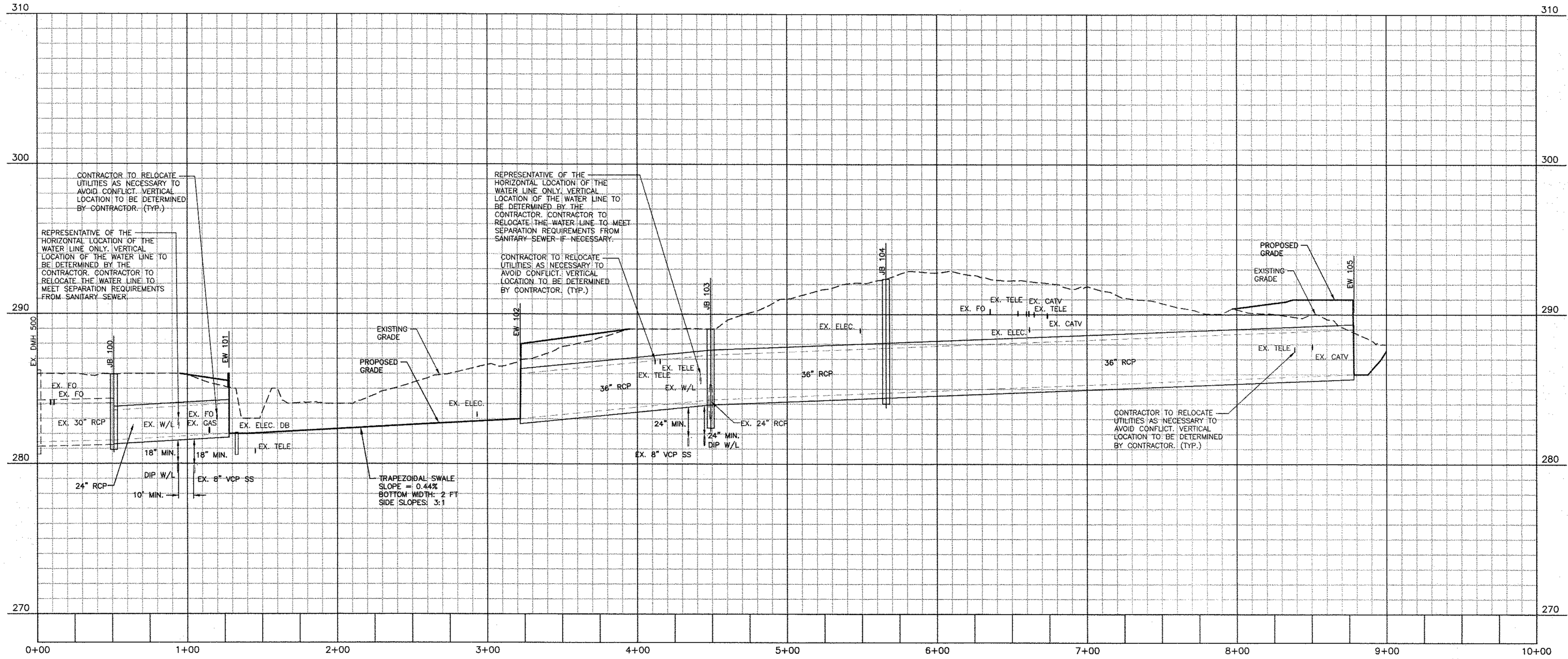
THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
EROSION CONTROL PLAN

PROJECT NO. CAS-10000
FILENAME: CAS10000-EC1
CHECKED BY: DAC
DRAWN BY: SMP/NB
SCALE: 1" = 40'
DATE: 07-24-2016
SHEET NO. C-3





PROPOSED OUTFALL "A"



X:\Projects\CAS-10000\Storm\Construction Drawings\Current Drawings\CAS10000-P1.dwg, 7/25/2018 10:56:03 AM, Bahrman, Nelsie

FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

OWNER:
CAS, INC.
5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

McADAMS

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PROJECT NO. CAS-10000
FILENAME: CAS10000-P1
CHECKED BY: DAC
DRAWN BY: SMP
HORIZ. SCALE: 1" = 40'
VERT. SCALE: 1" = 4'
DATE: 07-24-2018

PLAN & PROFILE
STORM OUTFALL "A"

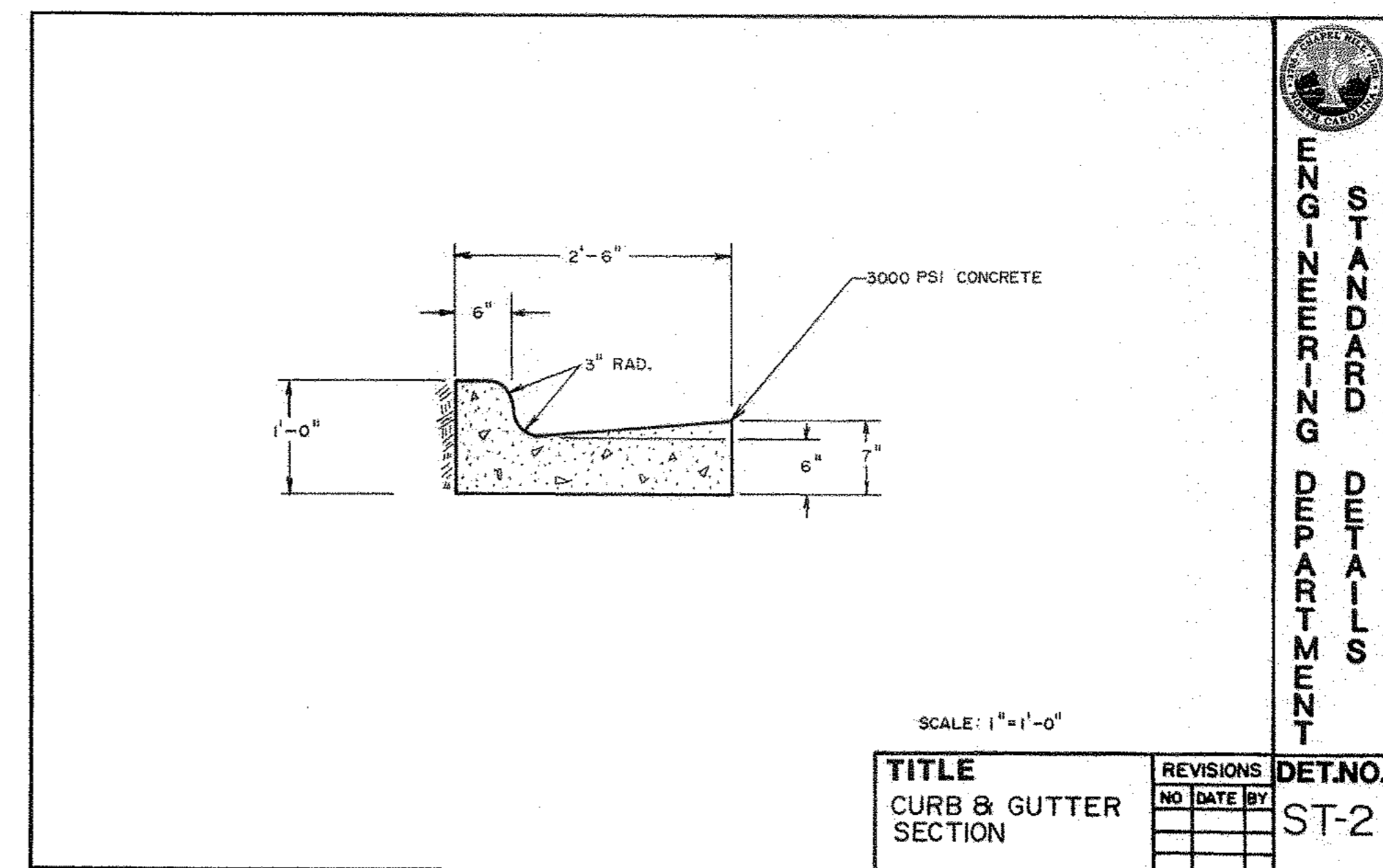
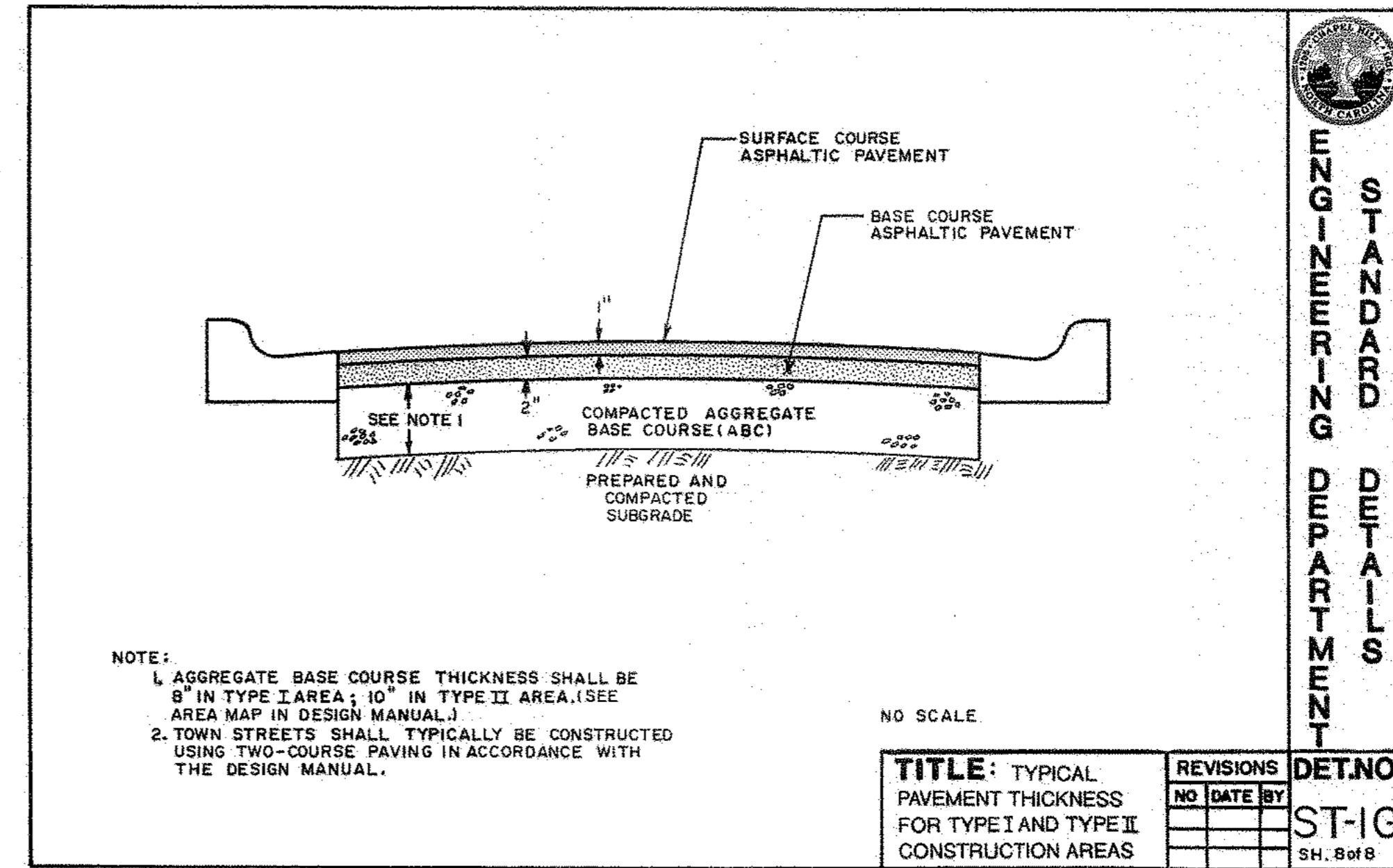
THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA

SHEET NO. **P-1**

McADAMS

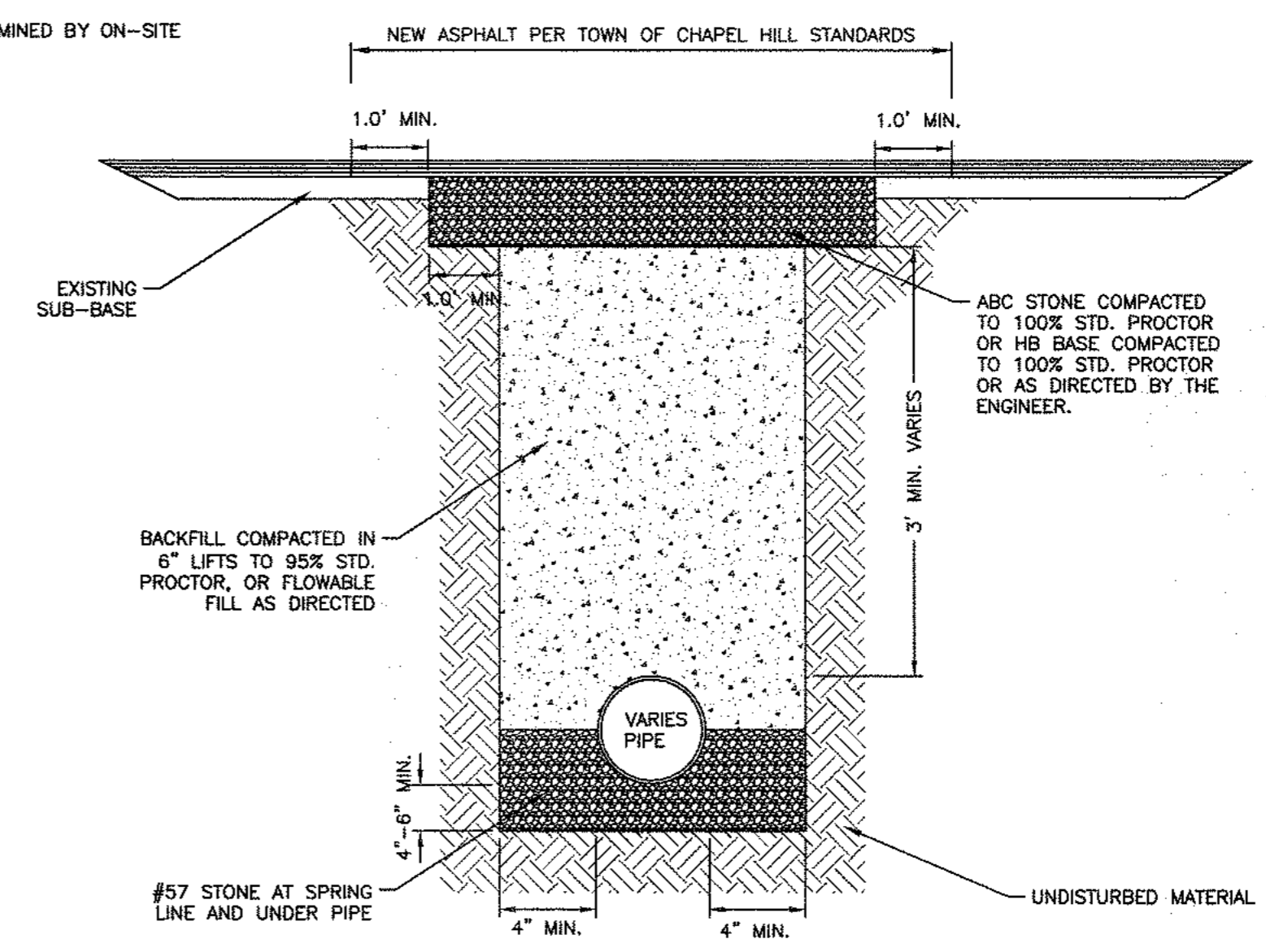
PRINT DATE:

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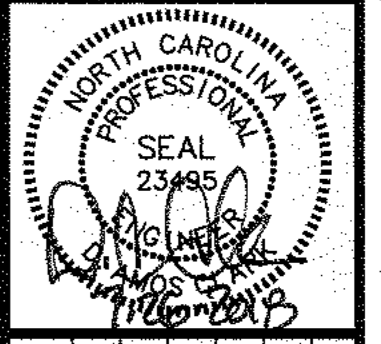
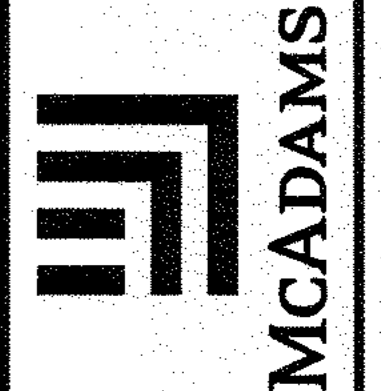


NOTES:

- BEDDING AND BACKFILL MATERIAL TO BE DETERMINED BY ON-SITE GEOTECHNICAL ENGINEER.



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REVISIONS:

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OWNER:
 CAS, INCORPORATED
 5915 FARRINGTON ROAD, SUITE 104
 CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS CONDOMINIUMS
 CHAPEL HILL, NORTH CAROLINA
 SITE DETAILS

PROJECT NO.	CAS-10000
FILENAME	CAS10000-D1
CHECKED BY:	DAC
DRAWN BY:	SMP
SCALE:	NTS
DATE:	07-24-2018
SHEET NO.	D-1



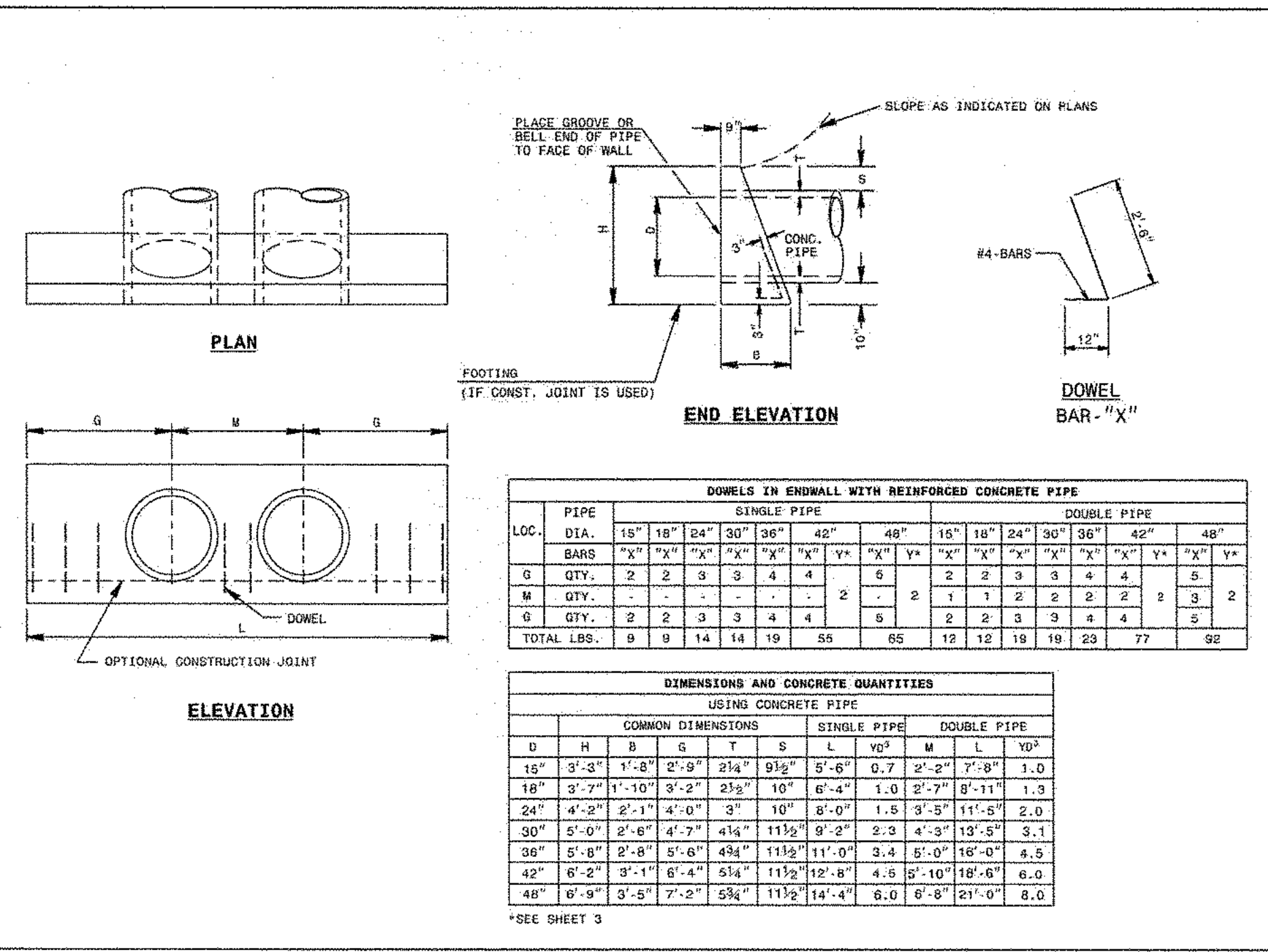


TABLE 1 - DIMENSIONS AND QUANTITIES

LOC.	SINGLE PIPE										DOUBLE PIPE											
	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"	
PIPE DIA.	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"	
BAR	2	2	3	3	4	4	4	2	2	3	3	4	4	4	2	2	3	3	4	4	4	4
M QTY.	-	-	-	-	-	-	2	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
G QTY.	2	2	3	3	4	4	5	2	2	3	3	4	4	5	2	2	3	3	4	4	4	5
TOTAL LBS.	9	9	14	14	19	19	65	12	12	18	18	23	23	77	9	9	14	14	19	19	24	24

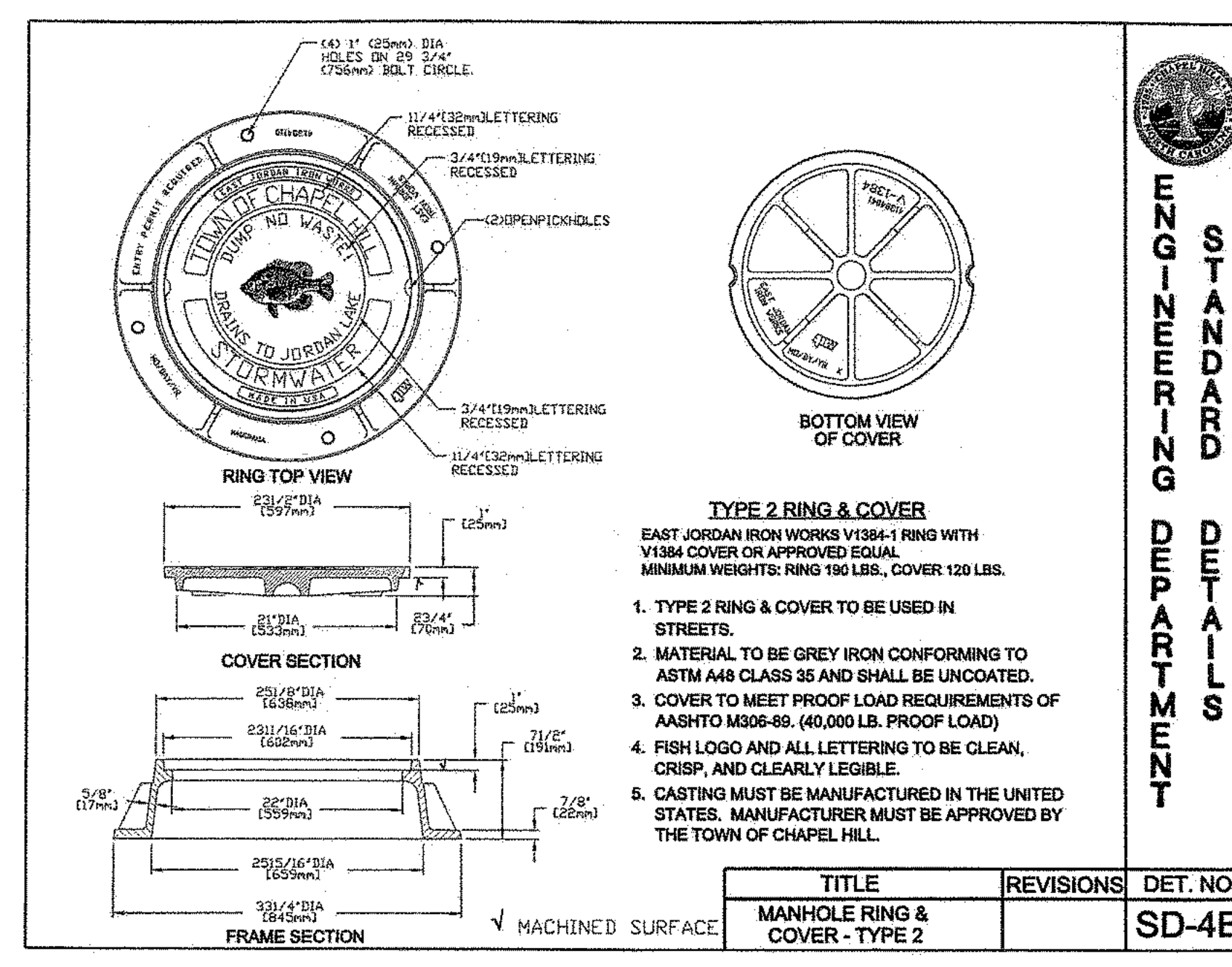
TABLE 2 - DIMENSIONS AND CONCRETE QUANTITIES

COMMON DIMENSIONS	SINGLE PIPE										DOUBLE PIPE										
	D	H	B	G	T	S	L	VO ²	M	L	YO ²	D	H	B	G	T	S	L	VO ²	M	L
15"	3'-3"	1'-8"	1'-8"	2'-9"	2'-9"	2'-9"	0.7	2'-9"	7'-8"	1.0	15"	3'-3"	1'-8"	1'-8"	2'-9"	2'-9"	2'-9"	0.7	2'-9"	7'-8"	1.0
18"	3'-7"	1'-10"	3'-2"	3'-2"	3'-2"	1.0	2'-7"	8'-11"	1.3	18"	3'-7"	1'-10"	3'-2"	3'-2"	3'-2"	1.0	2'-7"	8'-11"	1.3		
24"	4'-2"	2'-1"	4'-0"	3'	10'	8'-0"	1.5	3'-9"	11'-5"	2.0	24"	4'-2"	2'-1"	4'-0"	3'	10'	8'-0"	1.5	3'-9"	11'-5"	2.0
30"	5'-0"	2'-6"	4'-7"	4'-7"	4'-7"	1.9	2'-3"	4'-3"	3.1	30"	5'-0"	2'-6"	4'-7"	4'-7"	4'-7"	1.9	2'-3"	4'-3"	3.1		
36"	5'-8"	2'-8"	5'-0"	4'-8"	4'-8"	2.4	5'-0"	16'-0"	4.5	36"	5'-8"	2'-8"	5'-0"	4'-8"	4'-8"	2.4	5'-0"	16'-0"	4.5		
42"	6'-2"	3'-1"	6'-4"	5'-4"	5'-4"	4.6	5'-10"	16'-6"	6.0	42"	6'-2"	3'-1"	6'-4"	5'-4"	5'-4"	4.6	5'-10"	16'-6"	6.0		
48"	6'-9"	3'-5"	7'-2"	6'-2"	6'-2"	6.0	6'-8"	21'-0"	8.0	48"	6'-9"	3'-5"	7'-2"	6'-2"	6'-2"	6.0	6'-8"	21'-0"	8.0		

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

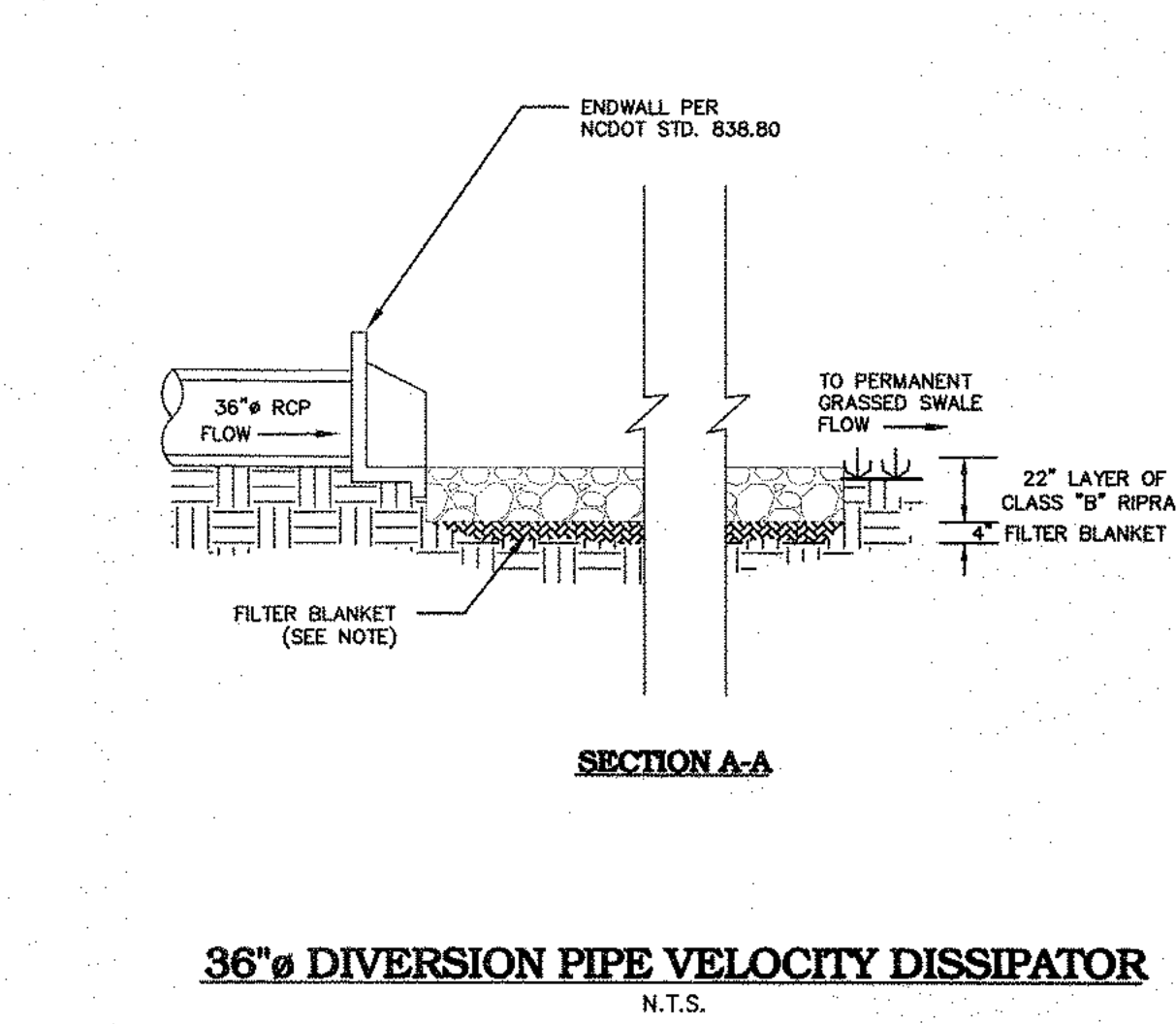
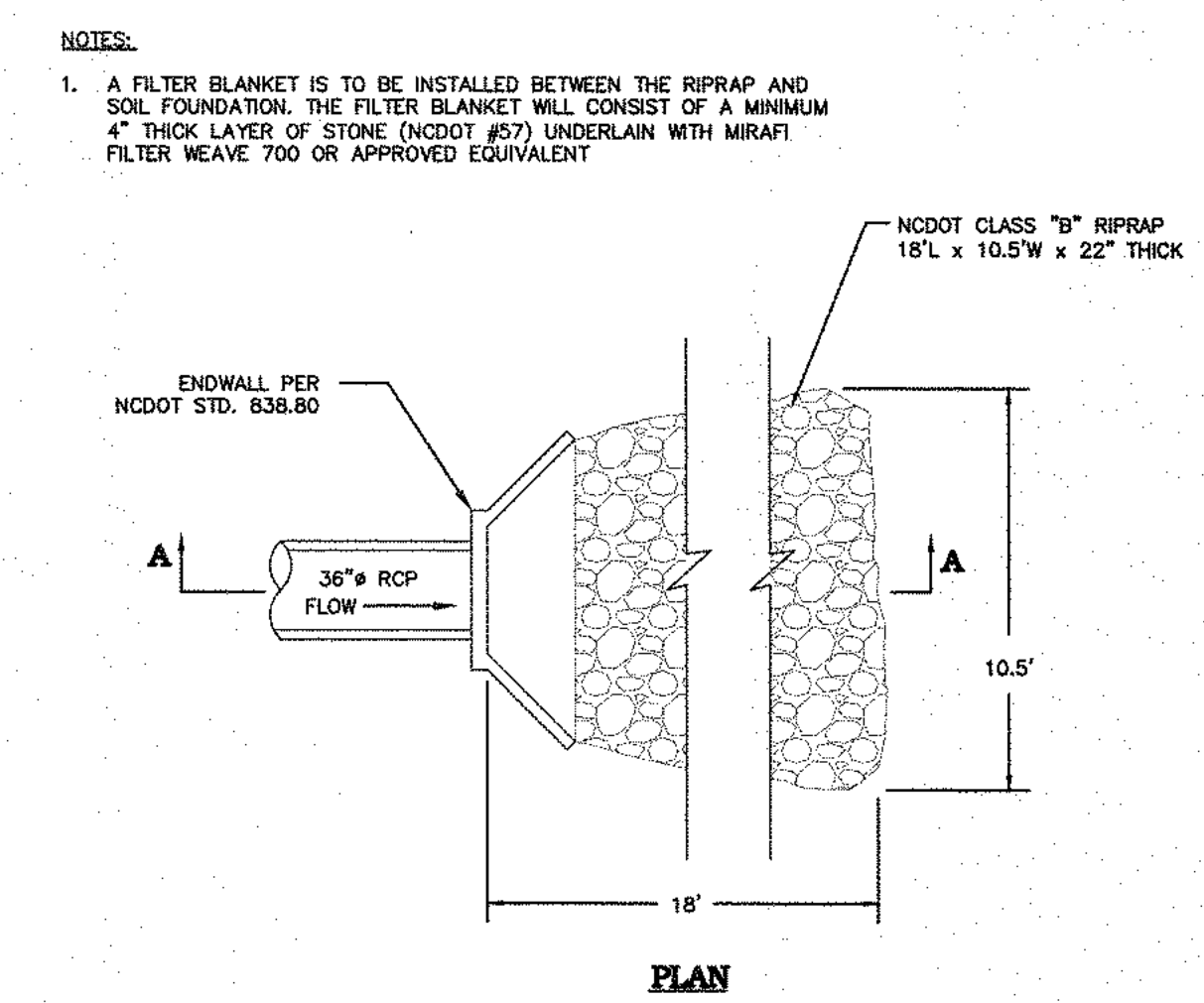
SHEET 1 OF 3
838.01



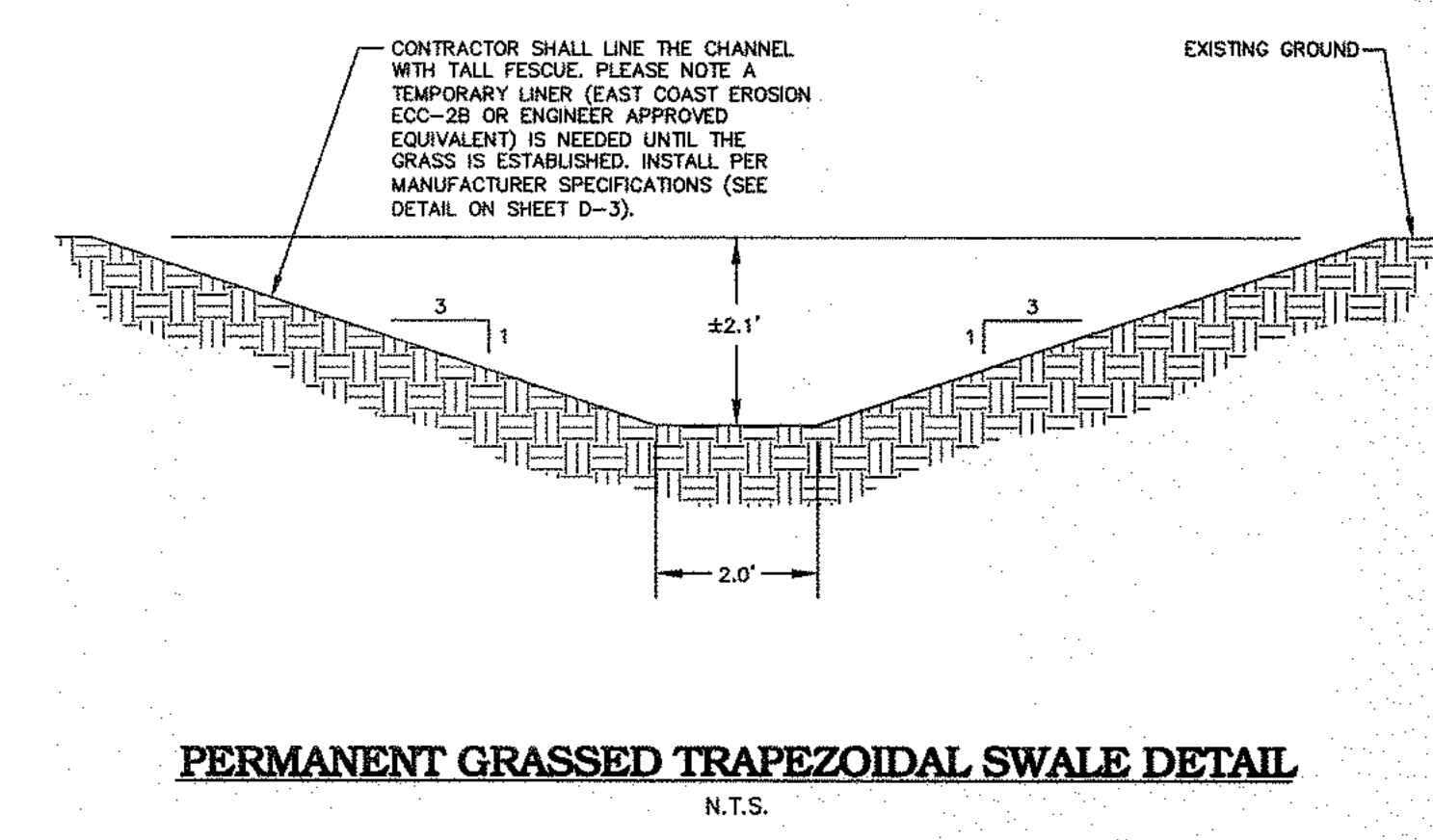
- TYPE 2 RING & COVER**
EAST JORDAN IRON WORKS V1384-1 RING WITH V1384 COVER OR APPROVED EQUAL. MINIMUM WEIGHTS: RING 190 LBS., COVER 120 LBS.
- TYPE 2 RING & COVER TO BE USED IN STREETS.
 - MATERIAL TO BE GREY IRON CONFORMING TO ASTM A48 CLASS 35 AND SHALL BE UNCOATED.
 - COVER TO MEET PROOF LOAD REQUIREMENTS OF AASHTO M306-89 (40,000 LB. PROOF LOAD).
 - FISH LOGO AND ALL LETTERING TO BE CLEAN, CRISP, AND CLEARLY LEGIBLE.
 - CASTING MUST BE MANUFACTURED IN THE UNITED STATES. MANUFACTURER MUST BE APPROVED BY THE TOWN OF CHAPEL HILL.

TITLE	REVISIONS	DET. NO.
MANHOLE RING & COVER - TYPE 2		SD-4B

ENGINEERING DEPARTMENT



36" DIVERSION PIPE VELOCITY DISSIPATOR



PERMANENT GRASSED TRAPEZOIDAL SWALE DETAIL

GENERAL NOTES:

CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.

CONSTRUCT BOTTOM SLAB WITH FORMS.

DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

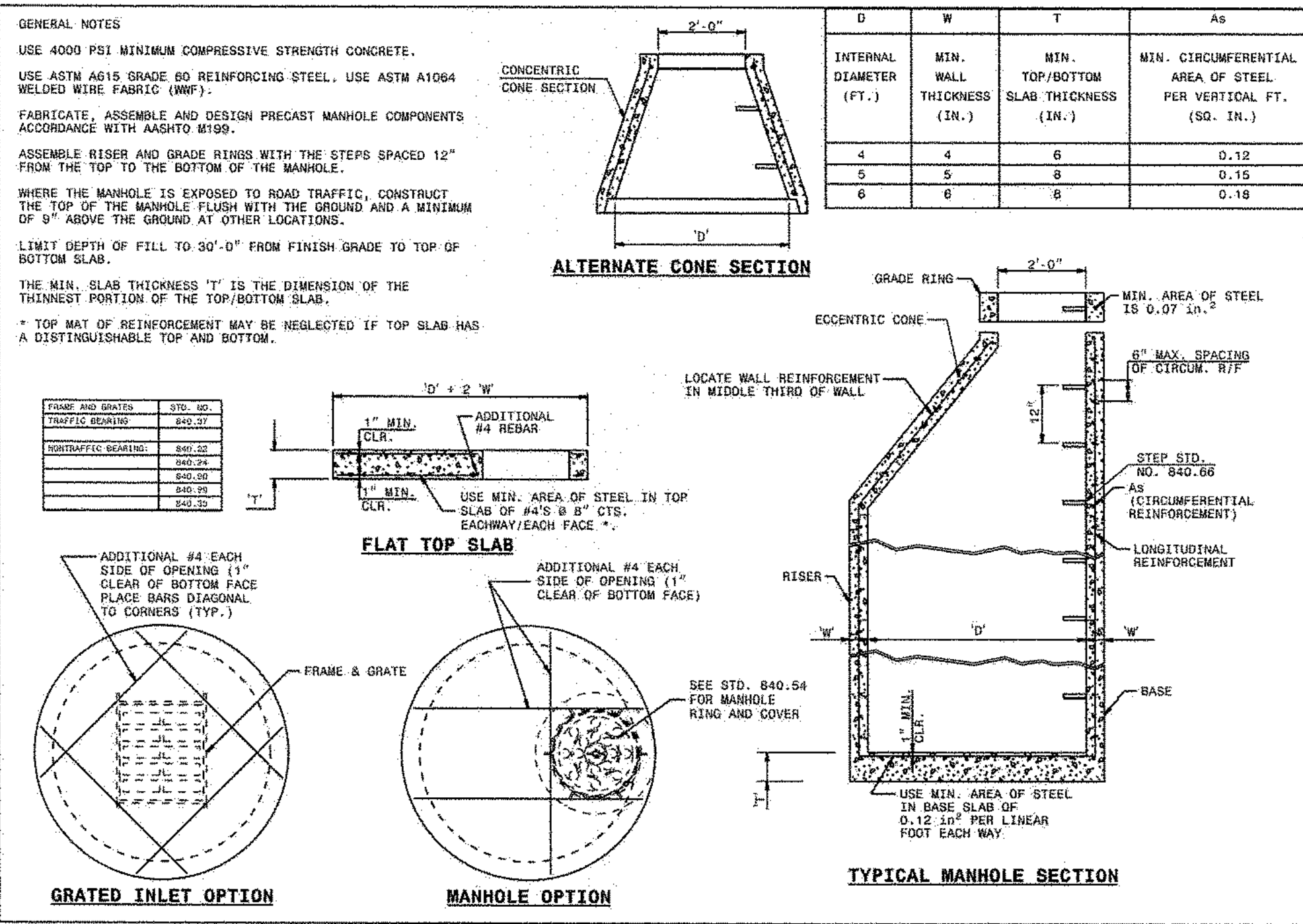
WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.

USE CLASS "B" CONCRETE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

SHEET 3 OF 3
838.01



D	W	T	As
4	4	6	0.12
5	5	8	0.15
6	6	8	0.18

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR PRECAST MANHOLE 4, 5, AND 6" DIAMETER 12" THRU 48" PIPE

SHEET 1 OF 1
840.52

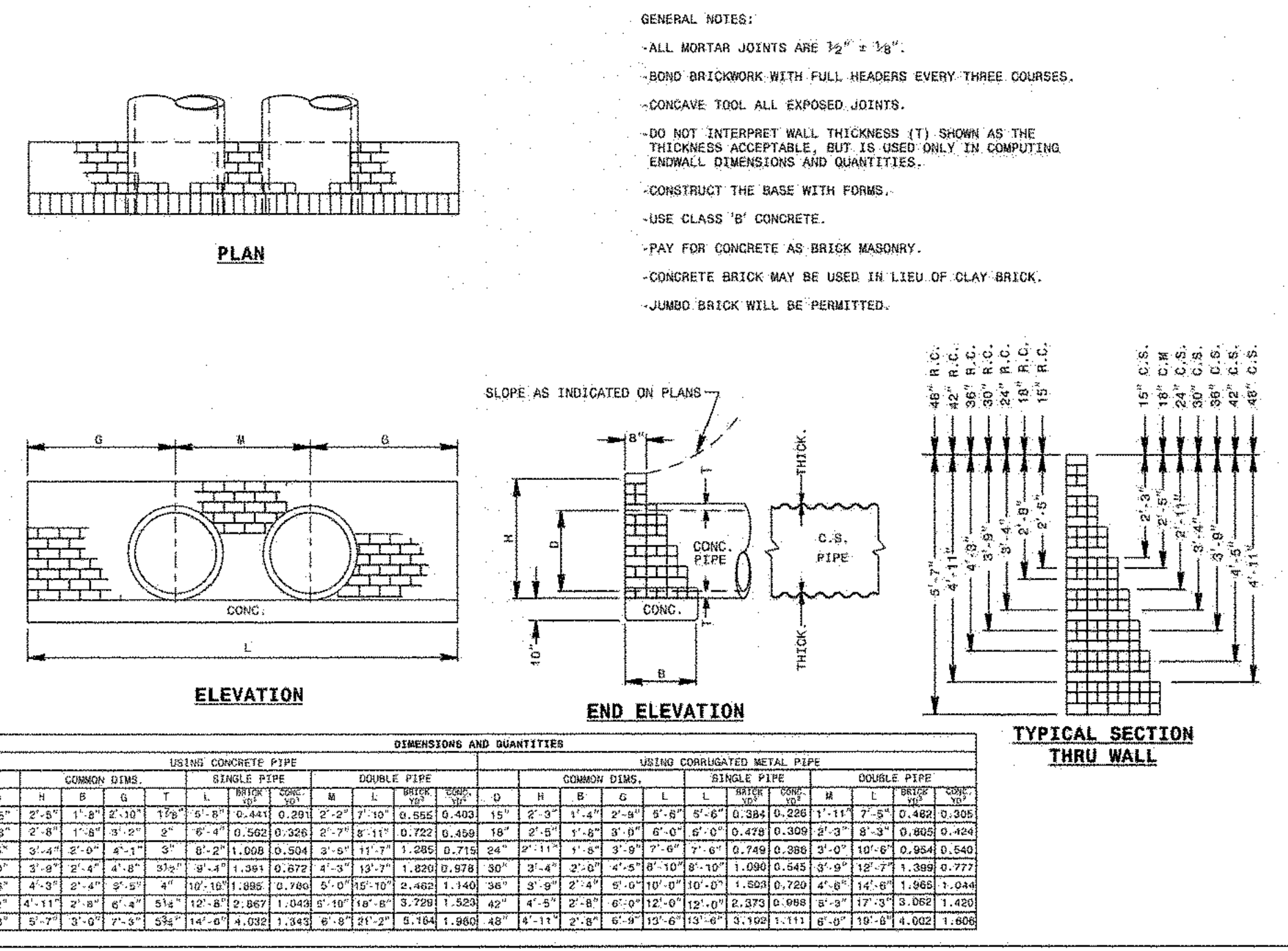


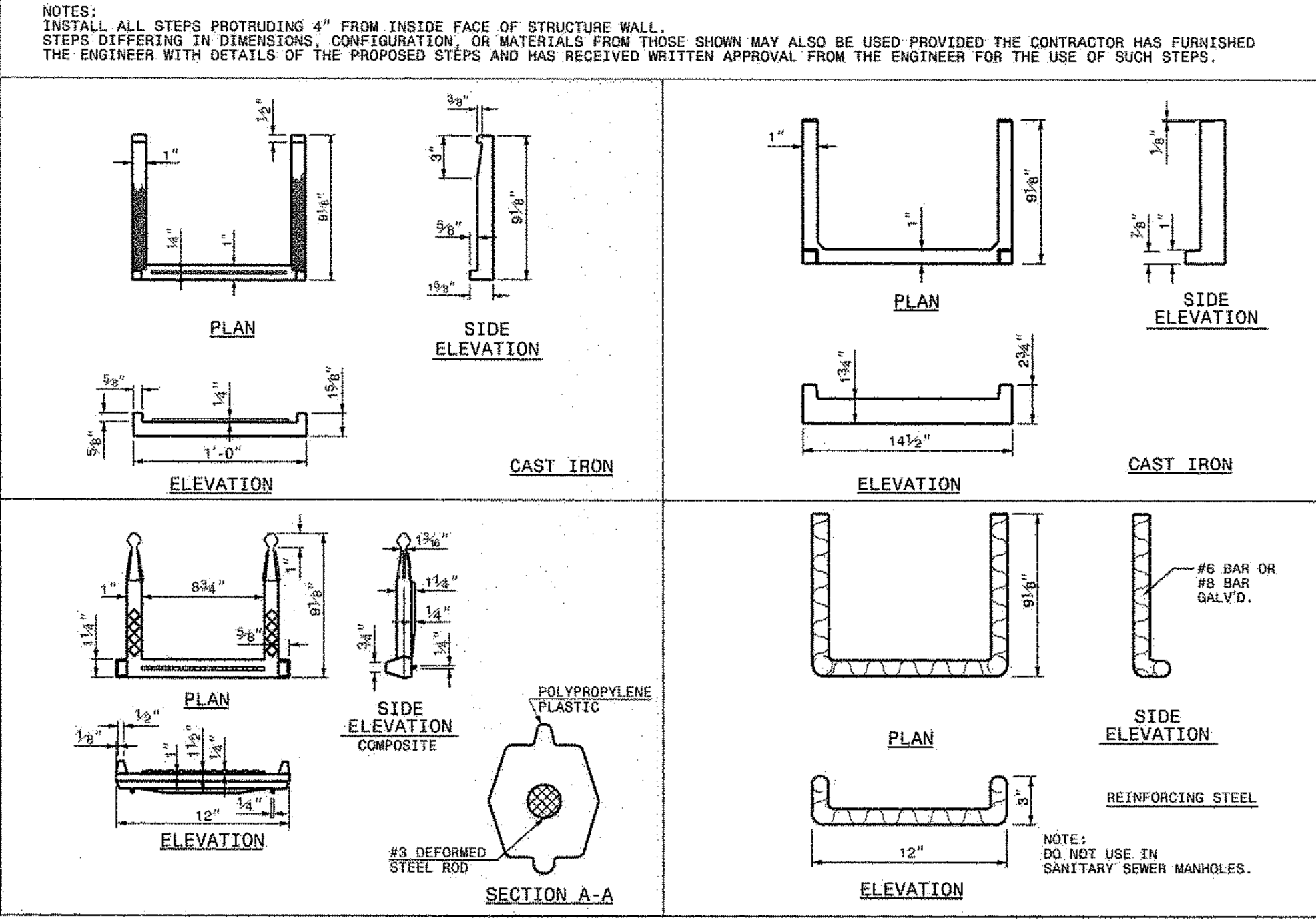
TABLE 1 - DIMENSIONS AND QUANTITIES

COMMON DIMS.	SINGLE PIPE										DOUBLE PIPE										
	D	H	B	G	T	S	L	VO ²	M	L	YO ²	D	H	B	G	T	S	L	VO ²	M	L
15"	3'-3"	1'-8"	1'-8"	2'-9"	2'-9"	2'-9"	0.7	2'-9"	7'-8"	1.0	15"	3'-3"	1'-8"	1'-8"	2'-9"	2'-9"	2'-9"	0.7	2'-9"	7'-8"	1.0
18"	3'-7"	1'-10"	3'-2"	3'-2"	3'-2"	1.0	2'-7"	8'-11"	1.3	18"	3'-7"	1'-10"	3'-2"	3'-2"	3'-2"	1.0	2'-7"	8'-11"	1.3		
24"	4'-2"	2'-1"	4'-0"	3'	10'	8'-0"	1.5	3'-9"	11'-5"	2.0	24"	4'-2"	2'-1"	4'-0"	3'	10'	8'-0"	1.5	3'-9"	11'-5"	2.0
30"	5'-0"	2'-6"	4'-7"	4'-7"	4'-7"	1.9	2'-3"	4'-3"	3.1	30"	5'-0"	2'-6"	4'-7"	4'-7"	4'-7"	1.9	2'-3"	4'-3"	3.1		
36"	5'-8"	2'-8"	5'-0"	4'-8"	4'-8"	2.4	5'-0"	16'-0"	4.5	36"	5'-8"	2'-8"	5'-0"	4'-8"	4'-8"	2.4	5'-0"	16'-0"	4.5		
42"	6'-2"	3'-1"	6'-4"	5'-4"	5'-4"	4.6	5'-10"	16'-6"	6.0	42"	6'-2"	3'-1"	6'-4"	5'-4"	5'-4"	4.6	5'-10"	16'-6"	6.0		
48"	6'-9"	3'-5"	7'-2"	6'-2"	6'-2"	6.0	6'-8"	21'-0"	8.0	48"	6'-9"	3'-5"	7'-2"	6'-2"	6'-2"	6.0	6'-8"	21'-0"	8.0		

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR BRICK ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 1
838.11



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS

SHEET 1 OF 1
840.66

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PROJECT NO. CAS-10000
 FILENAME: CAS10000-D1
 CHECKED BY: DAC
 DRAWN BY: SMP
 SCALE: NTS
 DATE: 07-24-2018
 SHEET NO. D-2

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 Durham, North Carolina 27713
 License No.: C-0283
 (800) 733-9646 • McAdamsCo.com

THE OAKS CONDOMINIUMS
 CHAPEL HILL, NORTH CAROLINA
 STORM DRAINAGE DETAILS

OWNER: CAS, INCORPORATED
 5915 FARRINGTON ROAD, SUITE 104
 CHAPEL HILL, NORTH CAROLINA 27517

X:\Projects\CAS-10000\Storm Construction Drawings\CAS10000-E1.dwg, 7/26/2018 11:11:17 AM, Boroque, Nolde

Channel Installation Instructions:

- Dig a 6" by 6" trench both up-slope and down-slope, and along the top side of the channel. Prepare the slope soil surface (grading, seeding and fertilizing). Note: if used with stormwater discharge, place the up-slope trench at the face of the discharge structure footer.
- Begin by placing the center blanket a minimum of 12" down-slope of the up-slope trench. Secure the blanket at the bottom of the trench with staples placed 12" apart. Backfill and compact the trench. Apply seed, and fold the blanket over soil, secure with a row of staples placed 12" apart across the width of the blanket (See Diagram A).
- Roll the blanket vertically down the slope. Secure using the appropriate staple patterns below, specified by slope. (See Staple Patterns).
- Continue placing blankets up the slopes on both sides, with a minimum 4" overlapping (Diagram B), and securing each blanket in the beginning trench (Diagram A).
- Additional horizontal blankets can be joined using a minimum 4" overlapping, or shingle style in the direction of water flow. Connect the blankets by placing staples approximately 12" apart across the width of the blankets. (Diagram C).
- For maximum performance a check slot should be placed at 25'-40' intervals. Place a row of staples 4" apart along the entire width of the channel. A second row should be placed 4" below in a staggered pattern. (Diagram D).
- The end of the blanket must be secured in a 6" x 6" trench by a row of staples placed at 12" intervals. (Diagram E).
- At the top edge of the side slope, fasten the blanket in a 6" x 6" trench with staples placed at 12" intervals. Install an additional row of staples 1"-2" down slope of the trench along the width of the fabric. (Diagram F).

Staple Patterns:

3.5 staples/yo² MED. CHANNEL

3.8 staples/yo² HIGH FLOW CHANNEL

Specifications and Equivalency:

All product material and performance specifications are available from East Coast Erosion Blankets via the product specification sheet. Utilization of a 11 gauge staple, a minimum 6" long by 1" crown, is recommended. The tightly compressed blankets are wrapped and include a product label, code and installation guide.

In addition to meeting all data available on the specification sheet, equivalent products shall meet the following requirements:

- The product must be listed with the NTPEP database.
- The product must meet the product specification requirements established by the Erosion Control Technology Council (ECTC).
- The product must meet the Federal Highway Administration's (FHWA) FP-03 Section 713.17 specification.

EASTCOAST erosion control
443 Bricker Road Bernville, PA 19506
Toll Free: 1-800-582-4005 * Phone: +1-610-488-8496 * Fax: +1-610-488-8494

DRAWN BY: MR DRAWING #: EC-CHANNEL REV. # 1 DATE: 1/2/09

Channel Installation Detail

Up-slope Trench Installation Detail (Diagram A)

Down-slope Trench Installation Detail (Diagram E)

Specifications and Equivalency:

All product material and performance specifications are available from East Coast Erosion Blankets via the product specification sheet. Utilization of a 11 gauge staple, a minimum 6" long by 1" crown, is recommended. The tightly compressed blankets are wrapped and include a product label, code and installation guide.

In addition to meeting all data available on the specification sheet, equivalent products shall meet the following requirements:

- The product must be listed with the NTPEP database.
- The product must meet the product specification requirements established by the Erosion Control Technology Council (ECTC).
- The product must meet the Federal Highway Administration's (FHWA) FP-03 Section 713.17 specification.

EASTCOAST erosion control
443 Bricker Road Bernville, PA 19506
Toll Free: 1-800-582-4005 * Phone: +1-610-488-8496 * Fax: +1-610-488-8494

DRAWN BY: MR DRAWING #: EC-CHANNEL REV. # 1 DATE: 1/2/09

Slope Installation Guidelines:

These guidelines are recommendations only. Any questions with the installation should be confirmed with your local distributor.

- Dig a 6" by 6" trench both up-slope and down-slope of the area matting to be applied. Prepare the slope soil surface (grading, seeding and fertilizing).
- Begin by placing the blanket a minimum of 12" down-slope of the up-slope trench. Secure the blanket at the bottom of the trench with staples placed 12" apart. Backfill and compact the trench. Apply seed, and fold the blanket over soil, secure with a row of staples placed 12" apart across the width of the blanket. (See Diagram A).
- Roll the blanket vertically down the slope. Secure using the appropriate staple patterns below, specified by slope. (See Staple Patterns).
- Parallel blankets must be overlapped by a minimum of 4", and secured with a row of staples placed approximately 12" apart across the width of the blankets. (See Diagram B).
- Additional vertical blankets can be joined using a minimum 4" overlapping, or shingle style (See Diagram C) in the direction of water flow. Connect the blankets by placing staples approximately 12" apart across the width of the blankets. (See Diagram D).
- For maximum performance a check slot should be placed at 25'-40' intervals. Place a row of staples 4" apart along the entire width of the slope. A second row should be placed 4" below in a staggered pattern. Then continue with general installation. (See Diagrams D).
- The end of blanket must be secured in a 6" x 6" trench with a row of staples placed at 12" intervals. (Diagram E).

Staple Patterns:

0.7 staples/yo² 4:1 SLOPES

1.3 staples/yo² 3:1 SLOPES

1.75 staples/yo² 2:1 SLOPES

3.8 staples/yo² 2:1 SLOPES

Specifications and Equivalency:

All product material and performance specifications are available from East Coast Erosion Blankets via the product specification sheet. Utilization of a 11 gauge staple, a minimum 6" long by 1" crown, is recommended. The tightly compressed blankets are wrapped and include a product label, code and installation guide.

In addition to meeting all data available on the specification sheet, equivalent products shall meet the following requirements:

- The product must be listed with the NTPEP database.
- The product must meet the Type 2.C specification requirements established by the Erosion Control Technology Council (ECTC).
- The product must meet the Federal Highway Administration's (FHWA) FP-03 Section 713.17 specification.

EASTCOAST erosion control
443 Bricker Road Bernville, PA 19506
Toll Free: 1-800-582-4005 * Phone: +1-610-488-8496 * Fax: +1-610-488-8494

DRAWN BY: MR DRAWING #: EC-SLOPE REV. # 1 DATE: 1/2/09

Slope Installation Detail

Up-slope Trench Installation Detail (Diagram A)

Down-slope Trench Installation Detail (Diagram E)

Specifications and Equivalency:

All product material and performance specifications are available from East Coast Erosion Blankets via the product specification sheet. Utilization of a 11 gauge staple, a minimum 6" long by 1" crown, is recommended. The tightly compressed blankets are wrapped and include a product label, code and installation guide.

In addition to meeting all data available on the specification sheet, equivalent products shall meet the following requirements:

- The product must be listed with the NTPEP database.
- The product must meet the Type 2.C specification requirements established by the Erosion Control Technology Council (ECTC).
- The product must meet the Federal Highway Administration's (FHWA) FP-03 Section 713.17 specification.

EASTCOAST erosion control
443 Bricker Road Bernville, PA 19506
Toll Free: 1-800-582-4005 * Phone: +1-610-488-8496 * Fax: +1-610-488-8494

DRAWN BY: MR DRAWING #: EC-SLOPE REV. # 1 DATE: 1/2/09

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

TREE PROTECTION DETAIL

FRONT VIEW

ISOMETRIC VIEW

CROSS SECTION VEE DITCH

CROSS SECTION TRAPEZOIDAL DITCH

ELEVATION VIEW

WARNING SIGN DETAIL

NOTES FOR TREE PROTECTION ONLY

1. TREE PROTECTION AREA (TPA) SHALL BE PLACED AT THE END OF THE PROTECTION AREA AND BE 4' FROM THE END OF THE PROTECTION AREA.

2. TREE PROTECTION AREA (TPA) SHALL BE PLACED AT THE END OF THE PROTECTION AREA AND BE 4' FROM THE END OF THE PROTECTION AREA.

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EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

TITLE
GRAVEL CONSTRUCTION ENTRANCE

REVISIONS

NO.	DATE	BY	DESCRIPTION

DET.NO.
E-1

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

TITLE
STANDARD GRAVEL BAG CURB INLET PROTECTION

PLAN VIEW

SECTION VIEW

NOTES:

- PLACE GRAVEL BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
- USE SAND BAGS OF WOVEN GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH 1/2 INCH (OR SMALLER) GRAVEL BAGS MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
- INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.
- WHEN INSTALLING CURB INLET PROTECTION DEVICES, NEVER BLOCK THE CURB INLET.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DET.NO.
E-1

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

TITLE
TEMPORARY ROCK SILT CHECK TYPE B

ISOMETRIC VIEW

CROSS SECTION VEE DITCH

CROSS SECTION TRAPEZOIDAL DITCH

ELEVATION VIEW

NOTES:

USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.

THE ENGINEER MAY DIRECT THE OPTION OF CLASS A STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DET.NO.
E-1

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

TITLE
SILT FENCE

GENERAL NOTES:

- Use silt fence only when drainage area does not exceed 1 acre and never in areas of concentrated flow.
- Silt fence shall not be removed unless site is stabilized and approved by the local health department.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DET.NO.
E-1

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

TITLE
SILT FENCE OUTLET

NOTES:

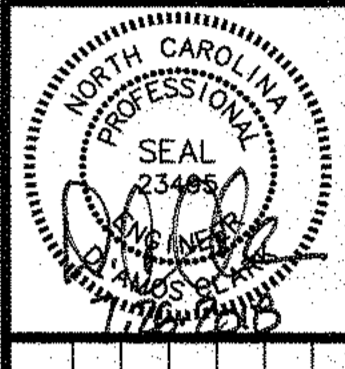
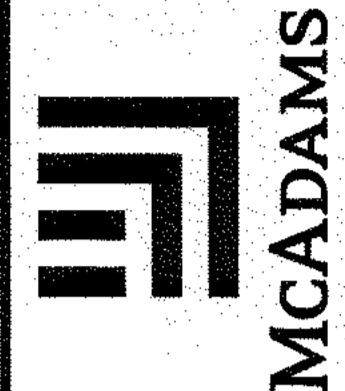
USE SILT FENCE OUTLETS ONLY WITH DRAINAGE AREA GREATER THAN 1/2 ACRE AND THERE IS A LOW AREA USE AS A NEIGHBOR OF SILT FENCE INLET.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DET.NO.
E-1

THE JOHN R. MCADAMS COMPANY, INC.
2905 Meridian Parkway
Durham, North Carolina 27713
License No.: C-0283
(800) 733-8646 • mcadamsco.com



REVISIONS:

OWNER:
CAS, INCORPORATED
5916 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

PROJECT NO. CAS-10000
FILENAME: CAS10000-E1

THE OAKS
CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
EROSION CONTROL DETAILS

CHECKED BY: DAC
DRAWN BY: SMP
SCALE: NTS
DATE: 07-24-2018
SHEET NO. D-3



THE OAKS CONDOMINIUMS – TREE REPLACEMENT LIST

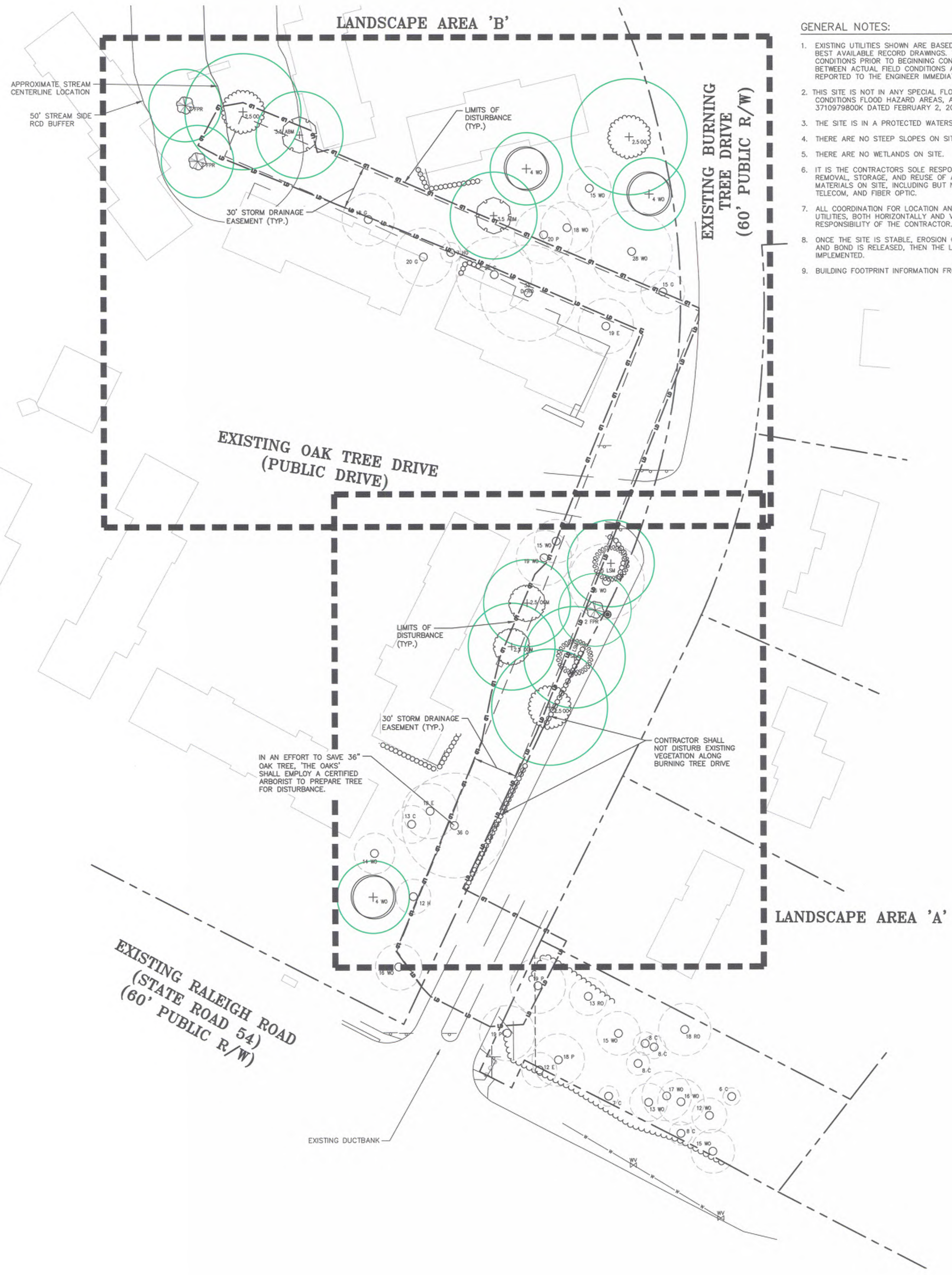
BOTANICAL NAME	COMMON NAME	VARIETY	SIZE	QTY.	CANOPY
ACER RUBRUM	RED MAPLE	OCTOBER GLORY	2.5"	2	35'-40'
ACER RUBRUM	RED MAPLE	AUTUMN BLAZE	3.5"	2	35'-40'
ACER SACCHARUM	SUGAR MAPLE	LEGACY	5"	2	35'-40'
CERCIS CANADENSIS	REDBUD	FOREST PANSY	2"	3	25'-30'
QUERCUS LYRATA	OVERCUP OAK		2.5"	3	40'-45'
QUERCUS PHELLOS	WILLOW OAK		4"	3	40'-45'
			TOTAL	15	

TREE LEGEND

- 8 A ASH
- 10 C CEDAR
- 4 CH CHERRY
- 10 E ELM
- 12 G SWEET GUM
- 16 H HICKORY
- 4 HO HOLLY
- 15 M MAPLE
- 20 RO RED OAK
- 24 WO WHITE OAK
- 31 O OAK
- 7 PR PEAR
- 18 P PINE
- 4 MB MULBERRY
- 2.5 OM OCTOBER GLORY RED MAPLE
- 3.5 AM AUTUMN BLAZE RED MAPLE
- 5 LM LEGACY SUGAR MAPLE
- 2 PR FOREST PANSY REDBUD
- 2.5 OO OVERCUP OAK
- 4 WO WILLOW OAK
- DOUBLE AND TRIPLE TRUNKS
- 20 D-O DOUBLE OAK
- 20 T-O TRIPLE OAK
- CAULIP INCH SIZE OF TREE
- TYPE OF TREE
- FOR DOUBLE, T FOR TRIPLE

LANDSCAPE PROTECTION NOTES:

- PLAN SHOWS RARE AND SPECIMEN TREES IN ACCORDANCE WITH THE ORDINANCE THAT WAS IN EFFECT AT THE TIME OF APPROVAL.
- A LANDSCAPE PROTECTION SUPERVISOR WHO IS REGISTERED WITH THE TOWN OF CHAPEL HILL WILL BE PRESENT ON SITE AT ALL TIMES WHEN THE FOLLOWING ACTIVITIES ARE TAKING PLACE: CLEARING, GRUBBING, EXCAVATION, GRADING, TRENCHING, MOVING OF SOIL, INSTALLATION AND REMOVAL OF TREE PROTECTION FENCING, AND THE DELIVERY, TRANSPORTING, AND PLACEMENT OF CONSTRUCTION MATERIALS AND EQUIPMENT.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE PROJECT'S LANDSCAPE PROTECTION SUPERVISOR AND THE TOWN'S URBAN FORESTER OR LANDSCAPE ARCHITECT BEFORE ANY SITE WORK BEGINS.
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- THE SOIL WITHIN THE PROTECTED AREA AROUND EXISTING TREES SHALL NOT BE DRIVEN UPON ONCE TREE PROTECTION FENCING IS REMOVED, FOR THE PURPOSE OF INSTALLING LANDSCAPING.
- IT IS THE RECOMMENDATION OF THE McADAMS COMPANY TO REMOVE ALL TREES AS MARKED ON THIS PLAN. THE OWNER MAY ATTEMPT TO PRESERVE TREES MARKED AS REMOVED BUT IN DOING SO ASSUME ALL RESPONSIBILITY AND LIABILITY FOR THE TREES. ALL MEASURES TAKEN TO PRESERVE TREES MUST BE APPROVED BY THE ENGINEER.
- SYMBOL SIZE FOR PROPOSED TREES REPRESENTS TREES AT 15 YEARS OF GROWTH. CANOPY DIAMETERS ARE REPRESENTATIVE OF TREES AT FULL MATURITY.

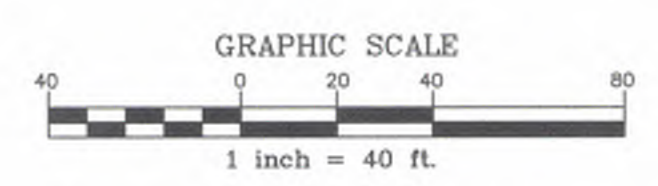


GENERAL NOTES:

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- THIS SITE IS NOT IN ANY SPECIAL FLOOD HAZARD AREAS OR FUTURE CONDITIONS FLOOD HAZARD AREAS, AS SHOWN ON FIRM PANEL 3710979800K DATED FEBRUARY 2, 2007.
- THE SITE IS IN A PROTECTED WATERSHED OVERLAY DISTRICT.
- THERE ARE NO STEEP SLOPES ON SITE.
- THERE ARE NO WETLANDS ON SITE.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE PROPER REMOVAL, STORAGE, AND REUSE OF ANY EXISTING INFRASTRUCTURE MATERIALS ON SITE, INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELECOM, AND FIBER OPTIC.
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- BUILDING FOOTPRINT INFORMATION FROM ORANGE COUNTY GIS.

LEGEND

- BOLLARD
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- WATER VALVE
- WATER METER
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- AIR CONDITIONING UNIT
- TELEPHONE PEDESTAL
- TELEPHONE MANHOLE
- STEAM MANHOLE
- ELECTRIC BOX
- LIGHT POLE
- CATCH BASIN
- DROP INLET
- STORM DRAINAGE MANHOLE
- EXISTING TREE
- EXISTING TREE CANOPY
- PROPOSED TREE
- PROPOSED TREE CANOPY
- SD STORM DRAIN
- OU OVERHEAD UTILITY LINE
- UE UNDERGROUND ELECTRIC
- UT UNDERGROUND TELEPHONE
- FO FIBER OPTICS
- W WATER LINE
- SS SANITARY SEWER LINE
- G GAS LINE
- X-X FENCE LINE
- - - STORM DRAINAGE EASEMENT
- - - LIMITS OF DISTURBANCE
- - - PROPERTY LINE



FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION

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THE JOHN R. McADAMS COMPANY, INC.
2905 Meridian Parkway
Durham, NC 27713
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REVISIONS:

NO.	DESCRIPTION

OWNER:
CAS, INCORPORATED
5915 FABRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
OVERALL LANDSCAPE PLAN

PROJECT NO. CAS-10000
FILENAME: CAS10000-LS
CHECKED BY: DAC/DAP
DRAWN BY: SMP/NB
SCALE: 1" = 40'
DATE: 07-24-2018
SHEET NO. LS-1



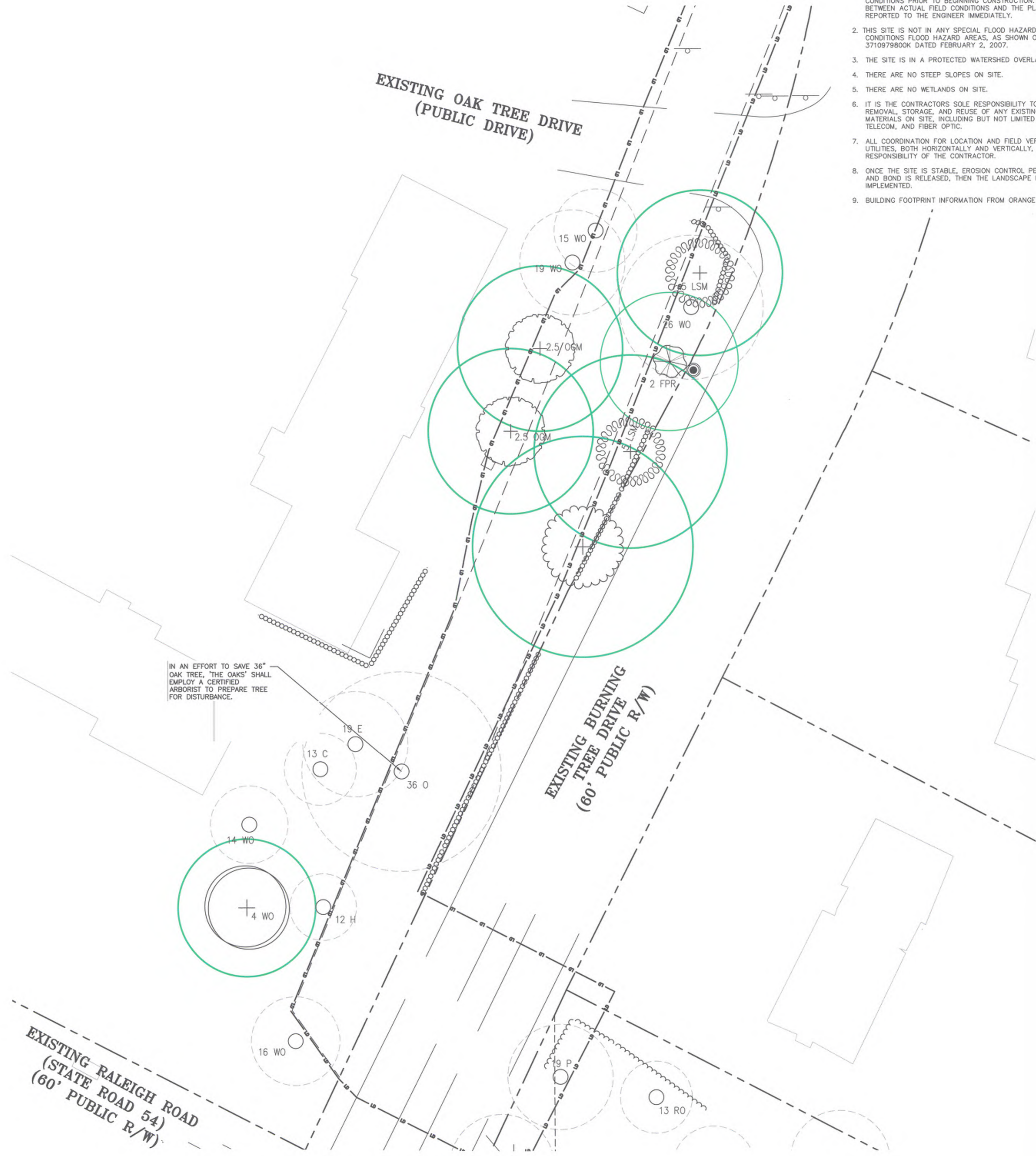
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TREE LEGEND

- 8 A ASH
- 10 C CEDAR
- 8 CH CHERRY
- 10 E ELM
- 12 G SWEET GUM
- 18 H HICKORY
- 4 HO HOLLY
- 15 M MAPLE
- 20 RO RED OAK
- 24 WO WHITE OAK
- 31 O OAK
- 7 PER PEAR
- 18 P PINE
- 4 MBY MULBERRY
- + 2.5 OGM OCTOBER GLORY RED MAPLE
- + 3.5 ABM AUTUMN BLAZE RED MAPLE
- + 5 LSM LEGACY SUGAR MAPLE
- + 2 FPR FOREST PANSY REDBUD
- + 2.5 OO OVERCUP OAK
- + 4 WO WILLOW OAK
- DOUBLE AND TRIPLE TRUNKS
- 20 D-O DOUBLE OAK
- 20 T-O TRIPLE OAK
- 20 T-O CALIPER INCH SIZE OF TREE
- 20 T-O TYPE OF TREE
- D FOR DOUBLE, T FOR TRIPLE

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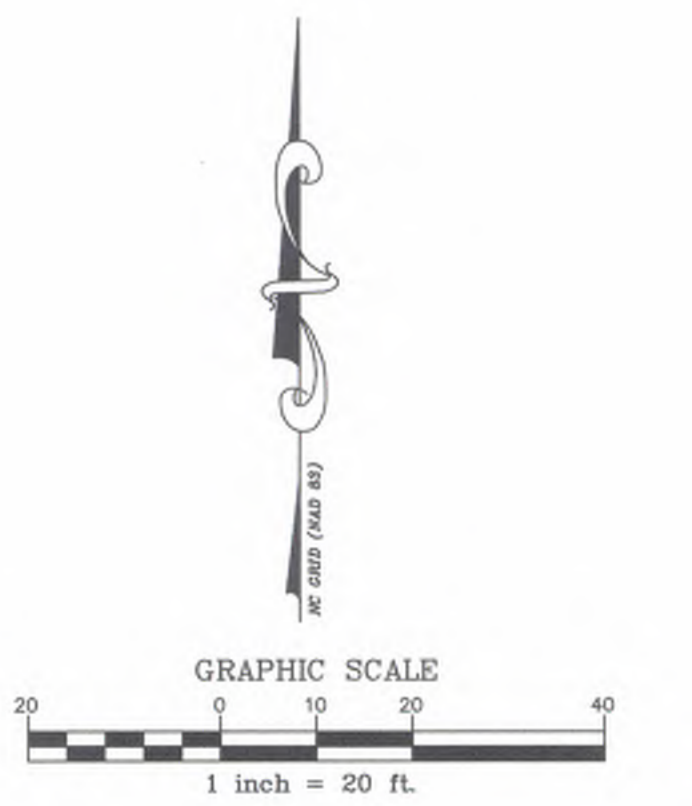


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9. BUILDING FOOTPRINT INFORMATION FROM ORANGE COUNTY GIS.

LEGEND

- BOLLARD
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- WATER VALVE
- WATER METER
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- AIR CONDITIONING UNIT
- TELEPHONE PEDESTAL
- TELEPHONE MANHOLE
- STEAM MANHOLE
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- LIGHT POLE
- CATCH BASIN
- DROP INLET
- STORM DRAINAGE MANHOLE
- EXISTING TREE
- EXISTING TREE CANOPY
- PROPOSED TREE
- PROPOSED TREE CANOPY
- SD — STORM DRAIN
- OU — OVERHEAD UTILITY LINE
- UE — UNDERGROUND ELECTRIC
- UT — UNDERGROUND TELEPHONE
- FO — FIBER OPTICS
- W — WATER LINE
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- G — GAS LINE
- X — X — FENCE LINE
- STORM DRAINAGE EASEMENT
- - - LD - - - LIMITS OF DISTURBANCE
- PROPERTY LINE



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 Durham, NC 27713
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REVISIONS:

NO.	DESCRIPTION

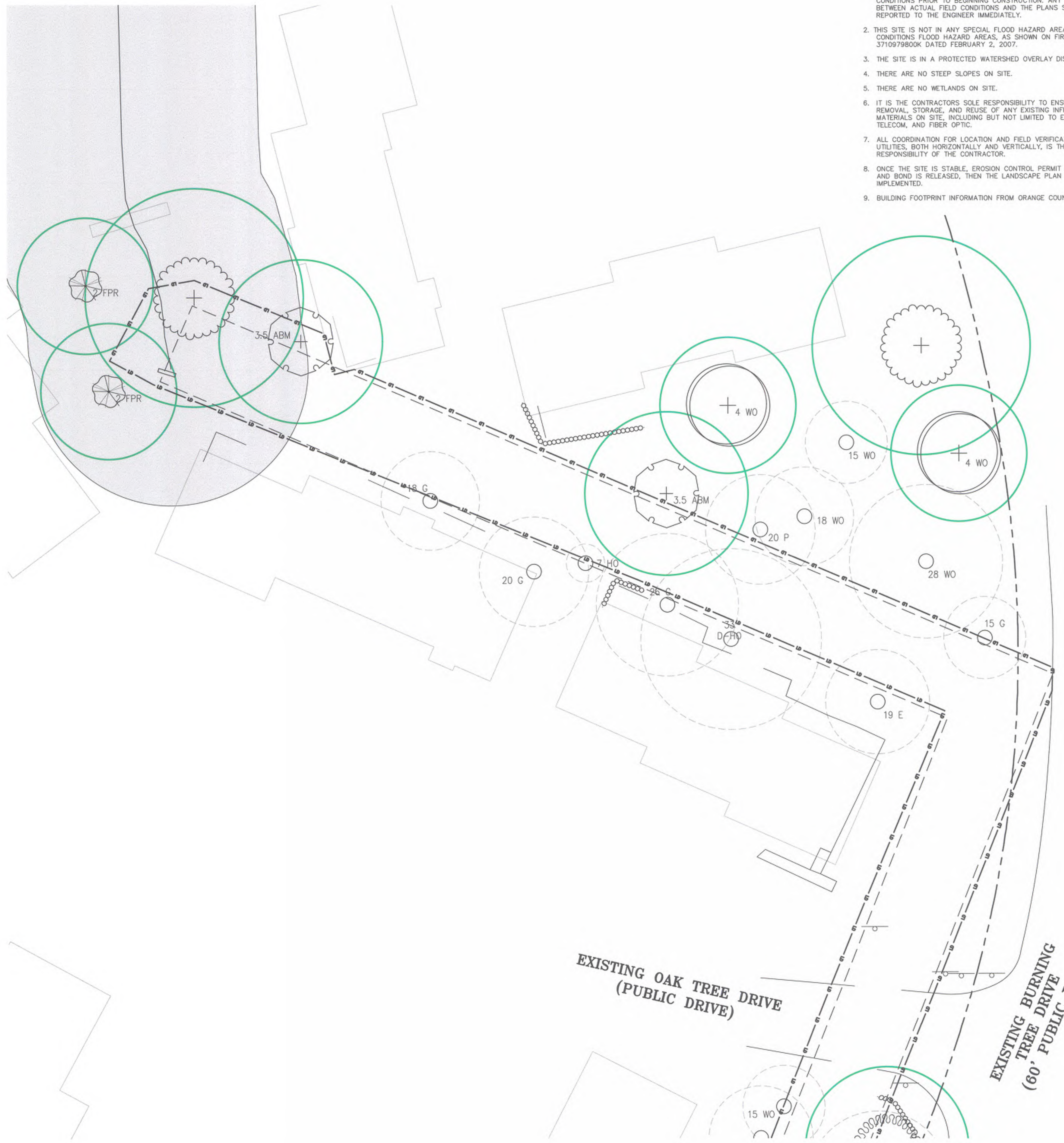
OWNER:
CAS, INCORPORATED
 5915 FARRINGTON ROAD, SUITE 104
 CHAPEL HILL, NORTH CAROLINA 27517

**THE OAKS
 CONDOMINIUMS**
 CHAPEL HILL, NORTH CAROLINA
 LANDSCAPE AREA 'A'

PROJECT NO. CAS-10000
 FILENAME: CAS10000-LS
 CHECKED BY: DAC/DAP
 DRAWN BY: SMP/NB
 SCALE: 1" = 20'
 DATE: 07-24-2018
 SHEET NO. **LS-2**



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LEGEND

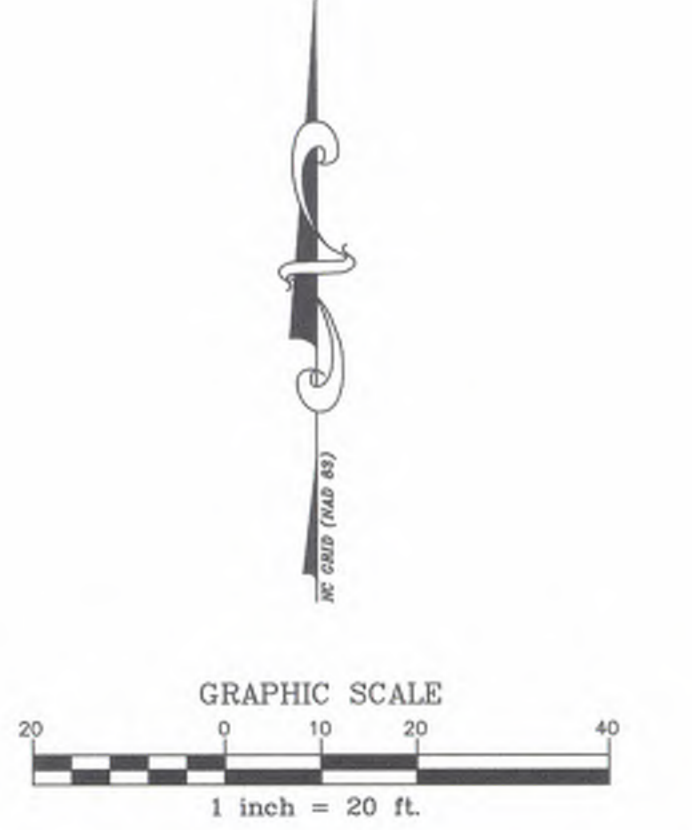
- BOLLARD
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- WATER VALVE
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TREE LEGEND

- 8 A ASH
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- 8 CH CHERRY
- 10 E ELM
- 12 G SWEET GUM
- 16 H HICKORY
- 4 HO HOLLY
- 15 M MAPLE
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- 31 O OAK
- 7 PER PEAR
- 18 P PINE
- 4 MBY MULBERRY
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- 3.5 ABM AUTUMN BLAZE RED MAPLE
- 5 LSM LEGACY SUGAR MAPLE
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- 2.500 OVERCUP OAK
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REVISIONS:

NO.	DESCRIPTION

OWNER:
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CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS
CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
LANDSCAPE AREA 'B'

PROJECT NO. CAS-10000
FILENAME: CAS10000-LS
CHECKED BY: DAC/DAP
DRAWN BY: SMP/NB
SCALE: 1" = 20'
DATE: 07-24-2018
SHEET NO. **LS-3**

