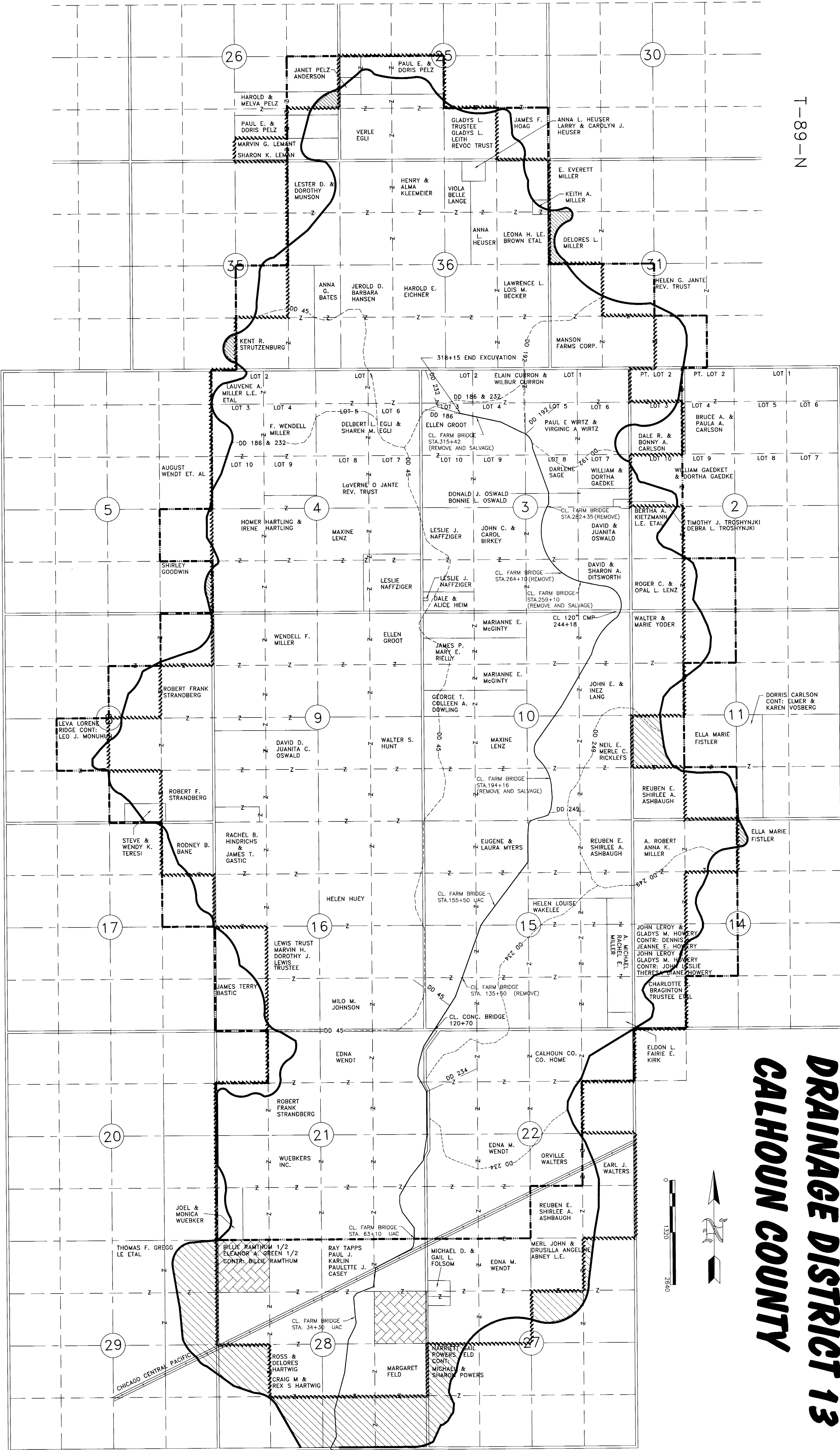


R-32-W

R-31-W

T-89-N

T-88-N



LEGEND

- OPEN DITCH
- 1904 ASSESSMENT BOUNDARY
- 1918 ASSESSMENT BOUNDARY
- WATERSHED BOUNDARY
- INTERIOR DISTRICT BOUNDARY
- DISTRICT TILE
- QUARTER LINES
- QUARTER-QUARTER LINES
- NOT INCLUDED IN 1918 ASSESSMENT SCHEDULE
- LAND AREAS OUTSIDE EXISTING D.D. ASSESSMENT BOUNDARIES

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

IVAN D. DROESSELER
 DATE: 5/24/96
 REG. NO. 11837
 MY REGISTRATION WILL BE RENEWED 12/31/97

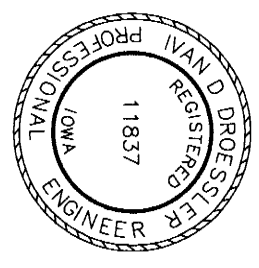


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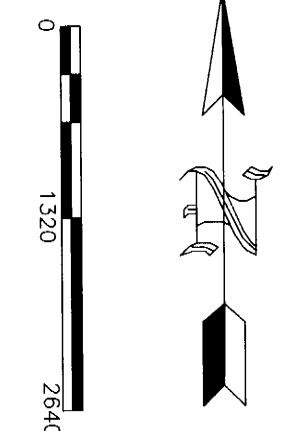
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- 3 ROADWAY CULVERT PLAN
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- 7-10 TYPICAL CROSS SECTIONS

CONSULTING ENGINEERS
 STRAUB & COMPANY
 715-732-7745

Design By: J.L.D.
 Drawn By: METY BAW
 Checked By: J.L.D.
 Date: SEPT. 1996
 Proj. No. 96609

D.D. NO. 13
 Dwg. No. 1 of 10

**REPAIRS MAIN OPEN DITCH
 DRAINAGE DISTRICT 13
 CALHOUN COUNTY**



R-32-W

RECLASSIFICATION PLAT

DRAINAGE DISTRICT 13

CALHOUN COUNTY

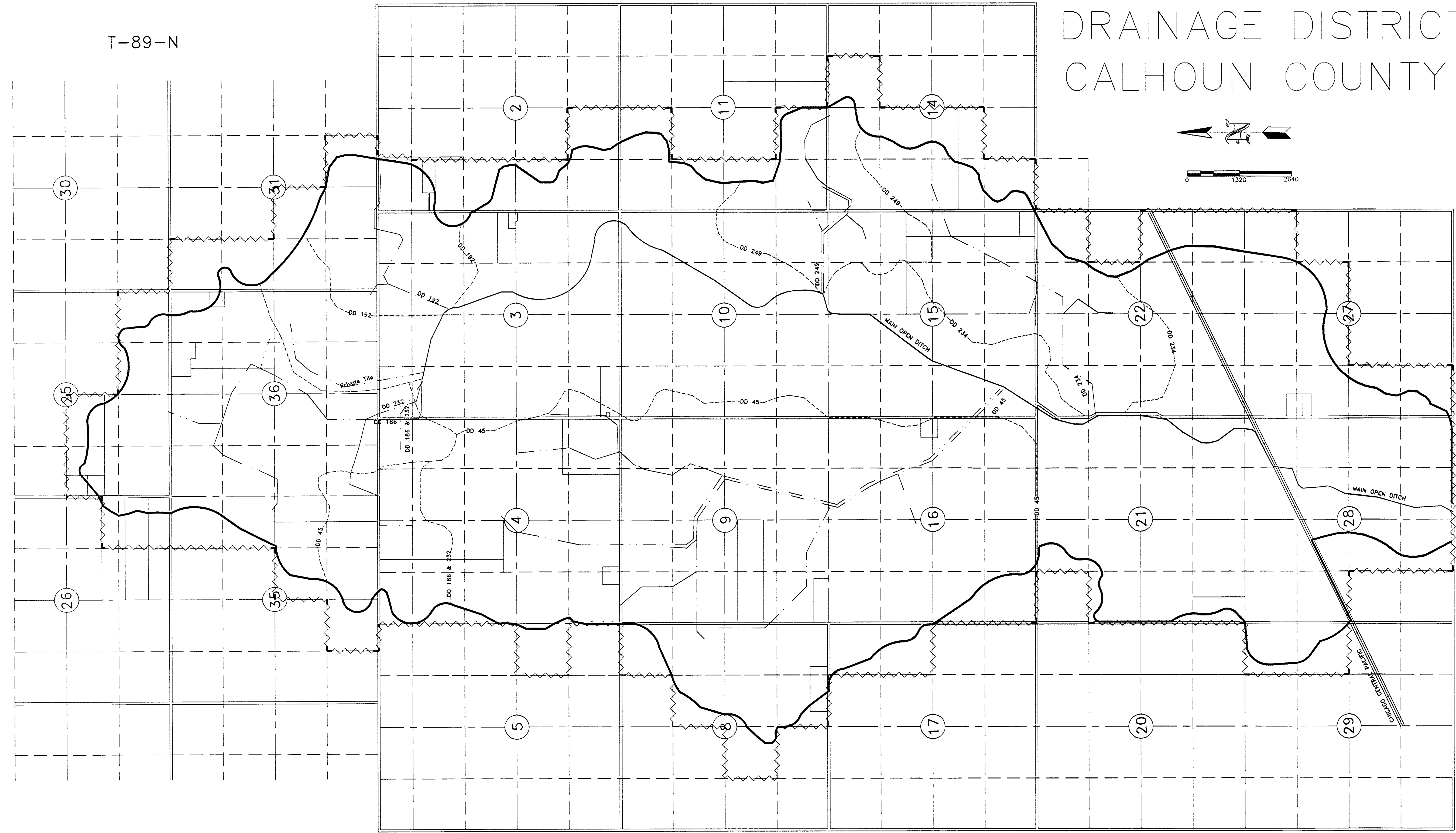
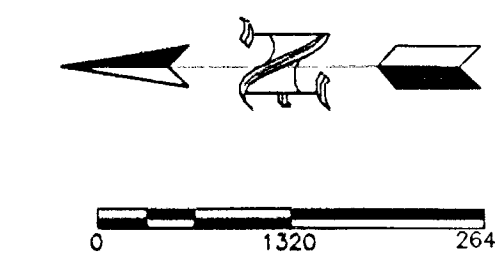
T-88-N

T-89-N

R-31-W

R-32-W

R-32-W



- LEGEND**
- OPEN DITCH
 - - - - - 1997 ASSESSMENT BOUNDARY
 - WATERSHED BOUNDARY
 - . - . - INTERIOR DISTRICT BOUNDARY
 - - - - - DISTRICT TILE
 - QUARTER LINES
 - - - - - QUARTER-QUARTER LINES

	CONSULTING ENGINEERS 1725 NORTH LAKE AVE. STORM LAKE, IOWA 50588 712-732-7745	Design By: J.D.D.
		Drawn By: MET/BAM
		Checked By: J.D.D.
		Date: MAY, 1998
		Proj. No. 96609
Project: D.D. NO. 13	Dwg. No. 1 of 1	
DRAWING PATH: F:/600/96609/RECLASS		

CONSTRUCTION NOTES

THESE NOTES APPLY SPECIFICALLY TO WORK UNDER DIVISION I UNLESS STATED OTHERWISE. NOTES FOR DIVISIONS II ARE FOUND ON SHEET 3 OF THE PLANS. DIVISION I INCLUDES ALL DRAINAGE DISTRICT WORK. DIVISION II APPLIES TO ROAD CROSSING WORK AT STA. 244+18.

1. WORK LIMITS. WORK LIMITS ARE 100 FEET FROM THE DITCH CENTERLINE, LIMITED BY ROAD RIGHT-OF-WAY WHERE APPLICABLE. ENGINEER WILL MARK THE WORK LIMITS. THE DISTRICT HAS INITIATED PROCEEDINGS FOR ACQUIRING ADDITIONAL RIGHT-OF-WAY TO ESTABLISH UNIFORM 100 FOOT PERMANENT RIGHT-OF-WAY, 50 FOOT EACH SIDE OF CENTERLINE OF DITCH.
2. ACCESS IS AVAILABLE AT INTERSECTIONS OF WORK LIMITS AND PUBLIC ROADS OR AS CAN BE OTHERWISE ARRANGED BY CONTRACTOR. CONTRACTOR IS RESPONSIBLE TO SECURE PERMISSION OF COUNTY ENGINEER TO CONSTRUCT TEMPORARY ACCESSES IF NECESSARY.
3. EXCAVATION AND BANK SHAPING IS REQUIRED TO BE CARRIED OUT FROM BOTH SIDES OF THE DITCH WITH THE SPOIL DEPOSITED ROUGHLY EQUALLY ON EACH SIDE, EXCEPT FOR BETWEEN STATIONS 43+50 TO 50+10. BETWEEN THESE STATIONS, EXCAVATION AND SPOIL LEVELING OPERATIONS SHALL BE CARRIED OUT FROM THE FIELD SIDE (RIGHT SIDE) ONLY. IF WORK IS NECESSARY IN THE COUNTY'S RIGHT-OF-WAY, CONTRACTOR IS TO NOTIFY THE COUNTY ENGINEER IN ADVANCE OF THE WORK. ANY NECESSARY TRAFFIC CONTROL IS TO BE COORDINATED WITH THE COUNTY ENGINEER AND WILL BE SUBSIDIARY TO EXCAVATION BID ITEM.
4. NEW PIPE SPECIFICATIONS. (AMENDS SPECIFICATION SECTIONS 02521 AND 02522)
 - ALL NEW PIPE IS TO BE FABRICATED FROM CORRUGATED STEEL OR IRON.
 - ALL NEW PIPE USED IN SURFACE DRAIN INSTALLATIONS ARE TO HAVE ANNULAR CORRUGATIONS AND RIVETED OR RESISTANT SPOT WELDED SEAMS.
 - NEW PIPE USED IN TILE DRAIN INSTALLATIONS AND EQUAL TO OR GREATER THAN 12 INCHES IN DIAMETER ARE TO HAVE EITHER, 1) ANNULAR CORRUGATIONS WITH RIVETED OR RESISTANCE SPOT WELDED SEAMS OR 2) HELICAL CORRUGATIONS WITH CONTINUOUS WELDED SEAMS.
5. FENCE REMOVAL. ALL INTERFERING SALVAGEABLE FENCE WITHIN WORK LIMITS SHALL BE REMOVED BY DISASSEMBLING THE FENCE AND SALVAGING AND STOCKPILING POSTS, WIRE AND BRACES. STOCKPILE AT LOCATIONS DESIGNATED BY ENGINEER. ENGINEER SHALL DETERMINE IF FENCE IS SALVAGEABLE. NON-SALVAGEABLE FENCE IS OTHER FENCE NOT CONSIDERED RUBBISH. (SEE PARAGRAPH 1.05 OF TECHNICAL SPECIFICATION SECTION 02230.) IN REMOVING NON-SALVAGEABLE FENCES, ALL POSTS SHALL BE PULLED. FENCES INSIDE WORK LIMITS BUT OUTSIDE RIGHT-OF-WAY MAY NOT BE REMOVED WITHOUT PRIOR APPROVAL OF ENGINEER. LANDOWNERS WILL BE NOTIFIED BY THE DISTRICT OF THE PLANNED FENCE REMOVAL AND WILL BE ALLOWED FIRST CHANCE TO REMOVE THE FENCE(S). CONTRACTOR NOT REQUIRED TO REINSTALL FENCES.
6. DRAIN TILE LINES. WHERE IT IS NECESSARY TO EXTEND OR RELAY TILE LINES (12" OR LARGER IN DIA.) TO REACH TILE EXTENSION PIPES, THE EXTENSION SHALL BE WITH CONCRETE OR SITE-SALVAGED TILE IN A TRENCH WITH A MAXIMUM WIDTH OF 24" OR 12" WIDER THAN THE TILE SECTIONS, WHICHEVER IS WIDER (SEE STD. DWG.). THE TILE SHALL BE INSTALLED IN COMPLIANCE WITH SPECIFICATION 02576. USE NEW EXTRA QUALITY CONCRETE DRAIN TILE OR SITE-SALVAGED SOUND TILE SECTIONS WHERE COVER DOES NOT EXCEED 6.0 FEET. USE NEW HEAVY-DUTY EXTRA QUALITY CONCRETE DRAIN TILE UNDER DEEPER COVER.

EXTEND ALL SMALLER DIAMETER TILE LINES, WITH SDR-35 PVC SEWER PIPE. FIT THE SEWER PIPE OVER THE TILE WHENEVER POSSIBLE AND THEN INTO THE CM OUTLET PIPE. MINIMUM SIZE OF OUTLET PIPE SHALL BE 8" IN DIAMETER. NECESSARY EXTENSIONS OR RELAYS LESS THAN 20 FEET IN LENGTH MAY BE COMPLETED WHEN DISCOVERED. LONGER EXTENSIONS MUST BE FIRST APPROVED BY ENGINEER. CORRUGATED PLASTIC DRAIN TILE IS NOT PERMITTED.

WHERE A LATERAL TILE LINE IS FOUND TO BE CRUSHED, CRACKED AND/OR FILLED WITH SEDIMENT, CONTRACTORS ARE TO NOTIFY ENGINEER PRIOR TO DOING ADDITIONAL WORK. ENGINEER WILL DETERMINE IF REPLACEMENT OR ABANDONMENT IS WARRANTED. TILE REPLACEMENT WILL NOT EXTEND BEYOND THE WORK LIMITS.


CONTRACTOR IS REQUIRED TO MAINTAIN AND PROVIDE A LOG OF ALL DRAIN TILE LINE EXTENSION AND REPLACEMENT WORK RECORDING LOCATION, EXISTING TILE MATERIAL, SIZE, STRENGTH AND LENGTH OF MATERIALS INSTALLED, OTHER WORK PERFORMED AND MACHINE AND LABOR TIME. LOG KEEPING IS SUBSIDIARY TO THE CONTRACT. ALL APPROVED DRAIN TILE WILL BE CONSIDERED EXTRA WORK. FAILURE TO MAINTAIN AN ACCURATE LOG WILL RESULT IN CONTRACTOR HAVING TO UNCOVER HIS WORK FOR VERIFICATION AT HIS COST.

ALL CONNECTIONS OF DRAIN TILE TO EXTENSION PIPES OR TO SDR-35 SEWER PIPES ARE TO BE ENCASED IN A PORTLAND CEMENT CONCRETE COLLAR AT LEAST 12" WIDE AND 4" THICK CONTINUOUS AROUND THE JOINT. THIS WORK IS SUBSIDIARY TO THE DRAIN TILE EXTENSION BID ITEMS.
7. SPOIL BANK LEVELING. THE TOP 8 INCHES OF ALL LEVELED SPOIL, OLD AND NEW, IS TO BE TILLED BY CONTRACTOR WITH A CHISEL PLOW OR SIMILAR IMPLEMENT (DISKS ARE NOT ALLOWED). CONTRACTOR IS TO GATHER AND DISPOSE OF ALL ROCKS LARGER THAN 3 INCH IN DIAMETER AND OTHER DEBRIS EXPOSED BY THIS OPERATION. ENTIRE SPOIL BANK BACKSLOPE IS THEN TO BE *FINISH GRADED WITH A MOTOR PATROL* WITH ONLY GENTLE UNDULATIONS ON LINES PARALLEL TO THE DITCH ALLOWED. CHISELING AND FINISH GRADING ARE SUBSIDIARY TO THE SPOIL BANK LEVELING BID ITEM.

MINOR SURFACE GRADING TO DRAIN SMALL IMPOUNDED AREAS, THE CONSTRUCTION OF FIELD ENTRANCES OR SURFACE WATER CONTROL DIKES IN THE PUBLIC ROAD DITCHES ARE SUBSIDIARY TO THE SPOIL BANK LEVELING BID ITEM.

8. FERTILIZING AND SEEDING BETWEEN APRIL 1 AND OCTOBER 1. ALL DISTURBED OPEN DITCH BANK SLOPES ABOVE THE NORMAL WATER SURFACE ARE TO BE FERTILIZED AND SEEDED BY MEANS OF A PORTABLE CYCLONE SEEDER OR BY OTHER APPROVED MEANS AT THE END OF EACH DAY'S OPERATION. DITCH BANK SLOPES FINISHED AFTER OCTOBER 1 ARE TO BE FERTILIZED AND SEEDED BETWEEN APRIL 1 AND APRIL 20 OF THE FOLLOWING YEAR. FOR COMPLETE FERTILIZING AND SEEDING SPECIFICATIONS, SEE SECTION 02824.
9. WORK AND STORAGE IN ROAD RIGHT-OF-WAY. NO WORK OR EQUIPMENT OR MATERIAL STORAGE TO BE DONE WITHIN COUNTY ROAD RIGHT-OF-WAY WITHOUT THE KNOWLEDGE AND PERMISSION OF THE COUNTY ENGINEER. CONTRACTOR IS RESPONSIBLE TO CONTACT COUNTY ENGINEER AND TO COOPERATE IN OBSERVANCE OF REQUIRED SAFETY MEASURES.
10. UTILITIES. CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL UTILITY COMPANIES AND TO COOPERATE WITH THEM IN THE LOCATION, MARKING AND PROTECTION OF THEIR FACILITIES. CONTRACTOR IS TO IMMEDIATELY NOTIFY ENGINEER OF APPARENT CONFLICTS OF EXISTING UTILITIES WITH THE PLAN GRADE OR CROSS-SECTIONS OF THE OPEN DITCH.
11. CLEARING AND GRUBBING, ROCK, JUNK AND RUBBISH DISPOSAL. ALL TREES, BRUSH AND STUMPS LOCATED WITHIN 50 FEET OF THE DITCH CENTERLINE ARE TO BE CLEARED AND GRUBBED. NO CHEMICAL TREATMENT IS REQUIRED. THERE ARE ONLY A FEW SMALL TREES AND VERY LITTLE BRUSH ON THE OPEN DITCH. NO MEASUREMENTS HAVE BEEN MADE. CONTRACTOR SHALL MAKE OWN DETERMINATION AND WORK IS SUBSIDIARY TO THE EXCAVATION BID ITEM.

MISCELLANEOUS ROCK PILES, JUNK AND RUBBISH LOCATED IN THE DISTRICT RIGHT-OF-WAY ARE TO BE DISPOSED OF BY BURIAL OR OTHER APPROVED MEANS. ALL JUNK NOT MEETING THE EXEMPTIONS FOR FARM WASTE OR FARM BUILDINGS UNDER IDNR RULE 567-101.3 IS TO BE STOCKPILED AT THE EDGE OF THE DISTRICT RIGHT-OF-WAY NEAR WHERE THE JUNK WAS FOUND. ALL WORK IN THIS PARAGRAPH IS SUBSIDIARY TO THE EXCAVATION BID ITEM.
12. ANIMAL GUARDS. EXISTING ANIMAL GUARDS ON TILE EXTENSION PIPES ARE TO BE SALVAGED AND REINSTALLED ON THE SAME TILE LINE WHERE POSSIBLE. IF A NEW ANIMAL GUARD IS NEEDED TO REPLACE AN EXISTING ANIMAL GUARD, CONTRACTOR SHALL FURNISH AND INSTALL A GUARD APPROVED BY ENGINEER. SALVAGED, WORKABLE GUARDS WHICH CANNOT BE USED ARE TO BE TURNED OVER TO THE ADJACENT LANDOWNER OR REPRESENTATIVE. LABOR TO REMOVE, SALVAGE AND REINSTALL SALVAGED OR NEW ANIMAL GUARDS IS SUBSIDIARY TO DRAIN TILE EXTENSION BID ITEMS. COMPENSATION FOR FURNISHING NEW ANIMAL GUARDS WILL BE NEGOTIATED AS EXTRA WORK.
13. TEMPORARY STOCKPILE EXCAVATION SPOIL. SPOIL BANK LEVELING OPERATIONS ALONG REACHES OF THE DITCH WHERE LANDOWNER HAS EXISTING CROP SHALL BE DELAYED UNTIL AFTER 1996 CROP HARVEST OR WHEN APPROVED BY THE ENGINEER TO MINIMIZE CROP DAMAGE. HOWEVER, SPOIL LEVELING OPERATIONS MUST BE COMPLETED PRIOR TO JUNE 1, 1997 TO ACCOMMODATE SPRING PLANTING.
14. LIVESTOCK CAN BE EXPECTED IN PASTURE LAND LOCATED ALONG THE OPEN DITCH. WHERE LIVESTOCK IS ENCOUNTERED, CONTRACTOR IS REQUIRED TO PROTECT CONFINEMENT FENCES AND COOPERATE WITH THE LIVESTOCK OWNER IN CONTROLLING THE LIVESTOCK.
15. PIPE WORK QUANTITIES ARE ESTIMATED. WORK TO BE DONE AT EACH LOCATION WILL BE FINALIZED AT THE TIME THE PIPE IS STAKED AND MARKED.
16. FARM BRIDGE REMOVAL AND DISPOSAL. ABANDONED FARM BRIDGES AT STATION 135+50, 264+10, AND 282+35 ARE TO BE REMOVED AND DISPOSED OF BY BURIAL WITHIN THE WORK LIMITS OR BY OTHER APPROVED MEANS. IF PERMITTED BY THE IDNR, WOOD WASTE FROM THE BRIDGE MAY BE BURNED WITHIN THE WORK LIMITS.
17. REMOVE & SALVAGE FARM CROSSING PIPES. EXISTING CM PIPES AT STATIONS 194+16, 259+10 AND 315+42 ARE TO BE REMOVED, SALVAGED AND STORED WITHIN THE WORK LIMITS. PIPE AND APPURTENANCES ARE PROPERTY OF THE LANDOWNERS.
18. CROSS SECTIONS USED BY THE ENGINEER IN PREPARATION OF THE PLANS MAY BE REVIEWED AT THE OFFICE OF SAC CITY SURVEYING AND MAPPING, SAC CITY, IOWA.
19. DIVISIONS II WORK HAS BEEN DESIGNED BY AND WILL BE STAKED, INSPECTED AND APPROVED BY THE CALHOUN COUNTY ENGINEER. QUESTIONS SHOULD BE DIRECTED TO THE CALHOUN COUNTY ENGINEER'S OFFICE 712-297-8322.

 CONSULTING ENGINEERS 1725 NORTH LAKE AVE. STORM LAKE, IOWA 50588 712-732-7745	Design By: I.D.D.
	Drawn By: M.E.T.
	Checked By: I.D.D.
	Date: SEPT 6, 1996
	Proj. No. 96609
Project: D.D. NO. 13	Dwg. No. 2 of 10

SECONDARY ROAD SYSTEM

CALHOUN COUNTY

CORR. METAL PIPE CULVERT

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the state of Iowa.

Signature Ronald R. Haden
 Name Ronald R. Haden
 Iowa Registration # 9936 Date 9/16/96
 My registration expires December 31, 1997.

IF ARCHAEOLOGICAL MATERIALS ARE ENCOUNTERED DURING THE CONSTRUCTION PHASE OF THIS PROJECT THE OFFICE OF PROJECT PLANNING AND/OR THE OFFICE OF LOCAL SYSTEMS (I.D.O.T.) MUST BE CONTACTED IMMEDIATELY SO THE PROPER AUTHORITIES CAN BE NOTIFIED ACCORDING TO THE EXISTING FEDERAL REGULATIONS AND STATE PROCEDURES. ADDITIONALLY, IT SHOULD BE NOTED THAT FINDINGS AND RECOMMENDATIONS FOR CLEARANCE FOR FURTHER TESTING CANNOT BE CONSIDERED FINAL UNTIL CONCURRENCE IS RECEIVED FROM THE OFFICE OF THE STATE HISTORIC PRESEVATION OFFICE.

OFFICE OF PROJECT PLANNING (515) 239-1225
 OFFICE OF LOCAL SYSTEMS (515) 239-1528

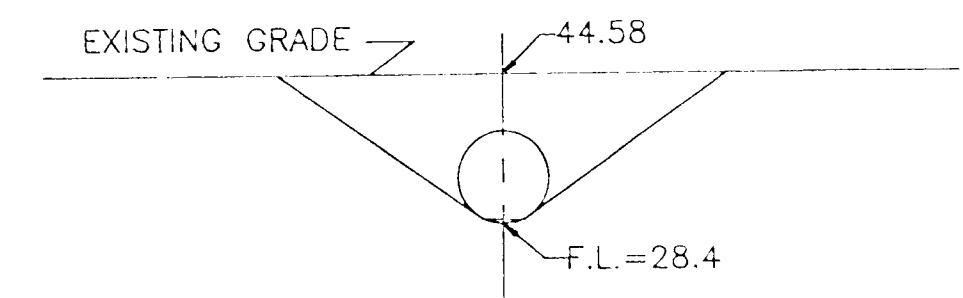
The Standard Specifications, Series of 1992, of the Iowa Department of Transportation Shall Apply to Construction Work on this Project

Plus Current Special Provisions and Supplemental Specifications

Scales: As Noted

PROJECT TRAFFIC CONTROL PLAN

THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC TO ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08 OF THE CURRENT STANDARD SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS SHAL BE AS PER PART VI OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). REVISION 3, DATED SEPTEMBER 3, 1993. CALHOUN COUNTY WILL FURNISH BARRICADES AND SIGNS IN ACCORDANCE WITH MUTCD. TRAFFIC CONTROL SHALL NOT BE BID BUT SHALL BE INCLUDED IN OTHER ITEMS ON THIS PROJECT.



SECTION ALONG C ROADWAY
 SCALE 1" = 20'

NOTIFICATION SHALL BE MADE TO IOWA ONE-CALL AT 1-800-292-8989 TO IDENTIFY THE LOCATION OF ALL UNDERGROUND UTILITY FACILITIES WITHIN A CONSTRUCTION AREA AS PER ARTICLE 1107.15.

UTILITIES

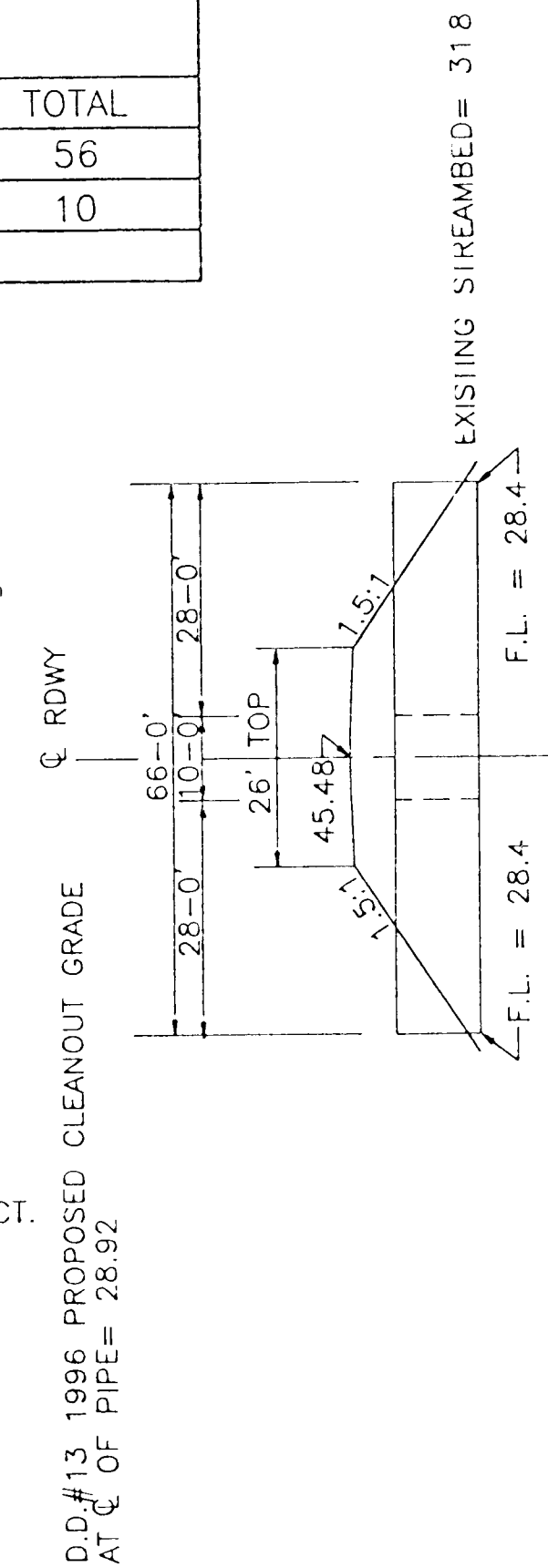
TELEPHONE
 GTE-NORTH
 GRINNELLIA 50112
 (712) 297-8039

POWER
 CALHOUN COUNTY R.E.C.
 ROCKWELL CITY, IOWA
 (712) 297-7112

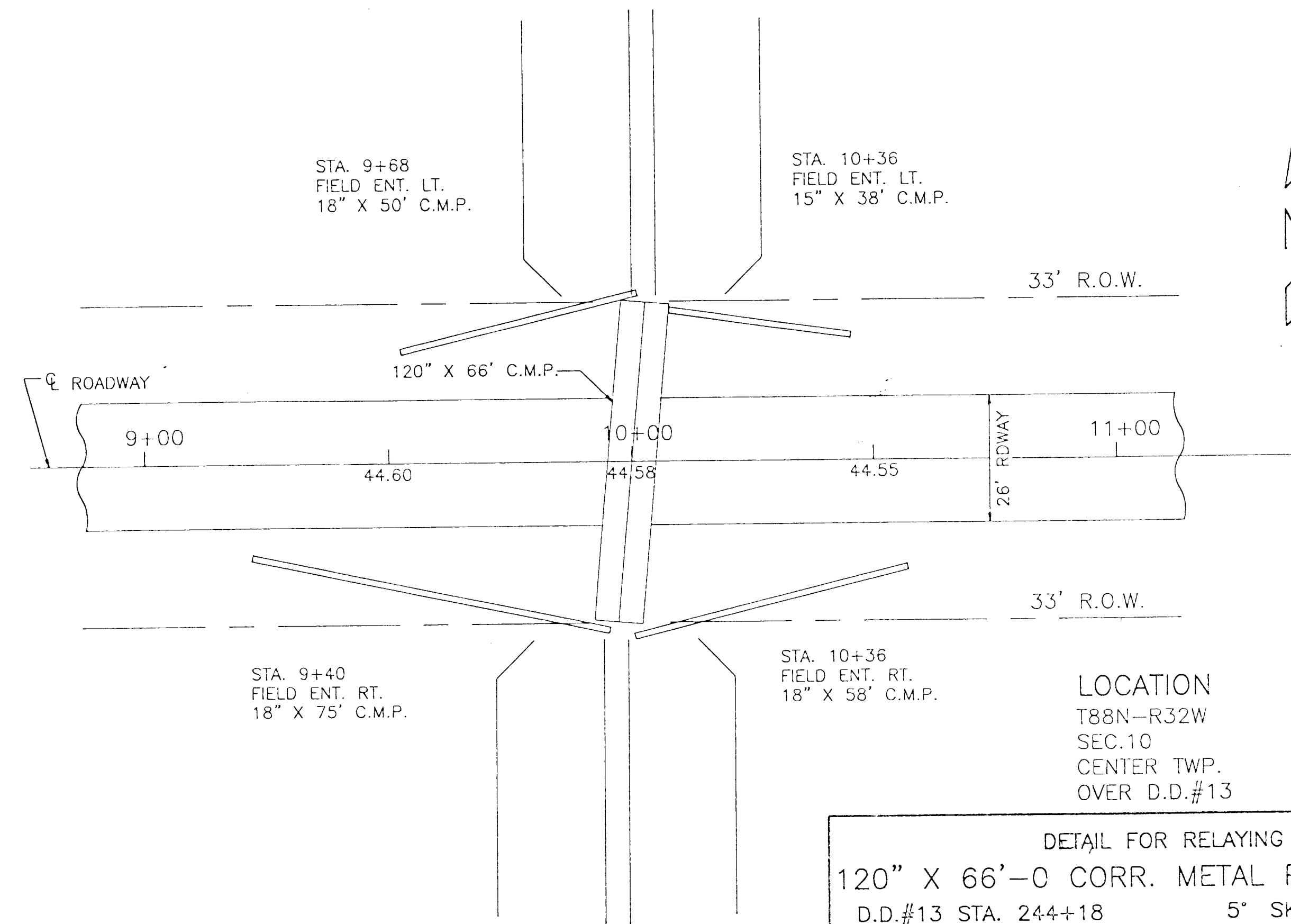
ESTIMATE OF QUANTITIES			
ITEM	DESCRIPTION	UNIT	TOTAL
1	CULVERT, REMOVE & REINSTALL CORRUGATED METAL ROADWAY PIPE, 120" DIA.	L.F.	56
2	CULVERT, FURNISH & INSTALL CORR. METAL ROADWAY PIPE, 120 IN. DIA.	L.F.	10

GENERAL NOTES

- 1 EXISTING CULVERT IS A TWO SECTION, SPIRAL, 12 GAUGE, 120" X 56', 3 X 1 CORR. CORR. METAL PIPE PURCHASED IN 1977, FROM THE LEVINE COMPANY. BID PRICE FOR THE CULVERT WILL BE CONSIDERED FULL PAYMENT FOR REMOVAL, BEDDING AND PLACING PIPE.
 - 2 CONTRACTOR TO FURNISH 12 GAUGE, 120" X 10', 3 X 1 CORR. CORR. METAL PIPE AND INSTALL AT MIDDLE JOINT OF EXISTING CULVERT. CONTRACTOR TO FURNISH 1-120" X 2'-0" BAND INCIDENTAL TO ITEM #2.
- BEDDING FOR THE PIPE TO BE AS PER STANDARD SPECIFICATION 2420.03 SERIES 1992. ANY GRANULAR MATERIAL NEEDED IN THE BEDDING OF THE PIPE WILL BE FURNISHED BY CALHOUN COUNTY AND PLACED BY THE CONTRACTOR. COST OF PLACEMENT WILL BE CONSIDERED INCIDENTAL TO THE BID PRICE.
- ALL EXCAVATED MATERIAL WILL BE REUSED FOR BACKFILL AS DIRECTED BY THE ENGINEER.
- CALHOUN COUNTY TO FURNISH ADDITIONAL DIRT FOR BACKFILL. CONTRACTOR TO PLACE.
- SURFACE DRAINS TO BE REPLACED OR RELAYED AS PER DRAINAGE DITCH CLEANOUT PLANS.
- CALHOUN COUNTY TO FURNISH PERMANENT EROSION CONTROL AND GRANULAR SURFACING UPON COMPLETION OF PROJECT.



TYPICAL SECTION
 PERPENDICULAR TO ROAD



SITUATION PLAN
 SCALE 1" = 20'

LOCATION
 T88N-R32W
 SEC.10
 CENTER TWP.
 OVER D.D.#13

DETAIL FOR RELAYING
 120" X 66'-0" CORR. METAL PIPE CULVERT
 D.D.#13 STA. 244+18 5° SKEW LT. AHEAD

CALHOUN COUNTY

D.D. #13 B.M.#15 - TOP OF SOUTH END OF 10' DIA. C.M.P. AT NORTH LINE OF N.E. 1/4 SEC. 10--88--32 ELEV. 41.11