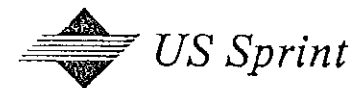


US Sprint
Communications
Company

11824 North Creek Parkway
Suite 110
Bothell, WA 98011
206 483-1331



January 9, 1989

To: TOM LITTLE, MANDAN CITY ENGINEER

From: Larry Schneidmiller, U.S. Sprint Senior Engineer

Reference: U.S. Sprint As-Built Drawings

Dear Sir:

As per your permit requirements please find attached, 1 copy of U.S. Sprint as-builts in your area for U.S. Sprint Project 411010 Glendive to Bismarck. This project is complete.

Should you have any questions please contact me at (206) 483-1331.

Sincerely

Larry Schneidmiller
Larry Schneidmiller



US Sprint™

GLENDIVE TO BISMARCK

20



































PROJECT NO: 411010-2

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PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

LEGEND

-  BURIED CABLE WARNING
-  AERIAL SURVEILLANCE MARKER
-  RAILROAD/HIGHWAY MILEPOST
-  RAILROAD SIGNAL
-  POWER COMPANY POLE
-  RAILROAD SIGNAL LINE (AERIAL) — R — (BURIED)
-  RAILROAD SIGNAL BOX
-  ELECTRONIC MARKER
-  GROUND
-  PROPOSED US TELECOM CONTROLLED ENVIRONMENT VAULT
-  GEOLOGICAL SURVEY MARKER
-  REPEATER LOCATION
-  DRAWING NUMBER DESIGNATION
-  GAS LINE
-  TELEPHONE LINE
-  WATER LINE
-  SEWER LINE
-  POWER LINE (BURIED) — AP — (AERIAL)
-  OIL LINE
-  STORM DRAIN
-  TELEPHONE LINE (AERIAL)
-  COMMUNITY ANTENNA TELEVISION (AERIAL)
-  WESTERN UNION
-  COMMUNITY ANTENNA TELEVISION
-  FENCE
-  RAILROAD TRACK
-  PUBLIC RIGHT OF WAY LINE
-  PROPOSED US SPRINT FIBER OPTIC CABLE
-  PROPOSED US SPRINT PIPE OR CONDUIT
-  HANDHOLE CONTAINING STRAIGHT SPLICE
-  HANDHOLE CONTAINING TAPER POINT
-  HANDHOLE CONTAINING PULL THRU
-  RAILROAD RIGHT OF WAY LINE
-  ANCHOR & DOWNGUY

REVISIONS		
ISSUE	DESCRIPTION	DFTR/DATE ENGR/DATE
		RELEASE NUMBER

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

DRAFTER MDW	DATE 3-30-88
CHK'D BY MDW	DATE 12-15-88
ENGR DM	DATE 12-15-88
APPROVED BY LES	DATE 12-15-88
APPROVED BY	DATE



PROJ. NO. 411010-2
GLENDAVE TO BISMARCK
LEGEND

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	

SHEET 1	OF 1	DWG. NO.	B
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GENERAL CONSTRUCTION NOTES

REVISIONS			
ISSUE	DESCRIPTION	DFT/DATE	ENGR/DATE
RELEASE NUMBER			

1. All fiberglass or quasite splice/pull box and handholes will require 6" of pea gravel bedding for drainage. (Pea gravel to be placed first then the box set on top).
2. All S.I.P. closures will have 1 1/4" conduit from S.I.P. to splice box for ground wire and both ends will be duct sealed. 4" of pea gravel will be placed in S.I.P.'s.
3. Ground wire for splices shall be as long as the cable ends (50'). Ground wire shall be #6 solid with 110 mil insulation.
4. Ground wire for S.I.P. closures to ground rod shall be #6 solid non-insulated.
5. All splice point grounds to be 25 ohms or less, measured with a megger meter.
6. Contractor to place cable assist holes or pits as required for cable placing purposes.
7. Sacrete will not be allowed in place of concrete unless approved by Project Engineer.
8. All new or existing conduits will be proved with the appropriate mandrell as directed by the Project Engineer.
9. All warning signs will be placed every 700' in rural areas and 350' in urban areas and at every splice point, deviation, bore ends, bridge ends, buried utilities, railroad crossings and any other location deemed appropriate. Should the permitting agency not allow warning signs to be placed, then monument markers will be substituted. *Fence & Pole Warning Signs Will Be Substituted For Route Mkr. Signs As Directed By A U.S. SPRINT Engineer.*
10. All special provisions will be adhered to per permitting agency requirements, i.e., import, export, required compaction, required rock, gravel, rip-rap or erosion control for shoulder, ditch and slope restoration. Should native material backfill be allowed, then 4"-6" of hand shading is required. All import to be used shall be 3/4 + granular backfill or as directed by the permitting agency. It will be the contractor's responsibility to research the permitting agencies special provision at time of bid.
11. All asphalt will be sawcut and or "I" cut as required by permitting agency.
12. All conduit and innerducts will be sealed on both ends, i.e., bridges, bores, conduit, etc.
13. All sidewalks whether AC or concrete will be replaced as directed by the permitting agency. It will be the contractors responsibility to research the permitting agencies provisions at the time of bid.
14. All bridges will require US Sprint approved expansion joints and ground straps.
15. The Contractor shall be responsible for the protection and maintenance of public and private properties. He shall protect, shore, brace, support and maintain all underground pipes, conduits, drains and other underground construction uncovered or otherwise affected by the construction work performed by him.
16. Certain pipe lines, sewers, culverts, drains, cables and other existing subsurface structures in the vicinity of the work to be done are indicated on the plans according to the best information available to the survey crew. However, there is no guaranteed accuracy of such information and any damage to subsurface structures or delay to the Contractor due to encountering structures, cables or pipelines not shown or in locations different from those indicated on the plans shall not constitute a claim for payment. It shall be the responsibility of the contractor to locate all underground utilities and underground structures. The locations shown on the prints may not necessarily be all underground obstructions that exist. The location as shown are approximate.
17. The Contractor shall be responsible for all damage to streets, curbs, roads, highways, shoulders, ditches, embankments, culverts, storm drains, bridges or other public or private property or facility, regardless of location or character, which may be caused by moving, hauling or otherwise transporting equipment, materials or men to or from the work or any site thereof, whether by him or his subcontractor or subcontractors.
18. Extreme care shall be exercised to avoid hitting or causing damage to subsurface obstructions. Owners of subsurface structures will be notified in advance of excavation work by the Contractor and a request will be made to locate the affected plant. The proposed conduit or cable may be placed above or below the foreign plant depending on the depth of that plant and the required depth of the proposed plant. Also, a minimum separation of 12 inches between the proposed conduit or cable and foreign plant shall be maintained. Extra trench depth may be required to satisfy the above conditions.
19. The Contractor shall make, without delay, satisfactory and acceptable arrangements with the agency or authority having jurisdiction over, the damaged property, surface, structure or facility concerning its repair or replacement or payment of costs incurred in connection with said damage.

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APPROVED BY	DATE



PROJ. NO. 411010-2
GLEN DIVE TO BISMARCK

SYMBOL	DESCRIPTION	ISSUE	SCALE	SHEET C1 OF C2	DWG. NO.	B
LEGEND		RELEASE NUMBER				

GENERAL CONSTRUCTION NOTES

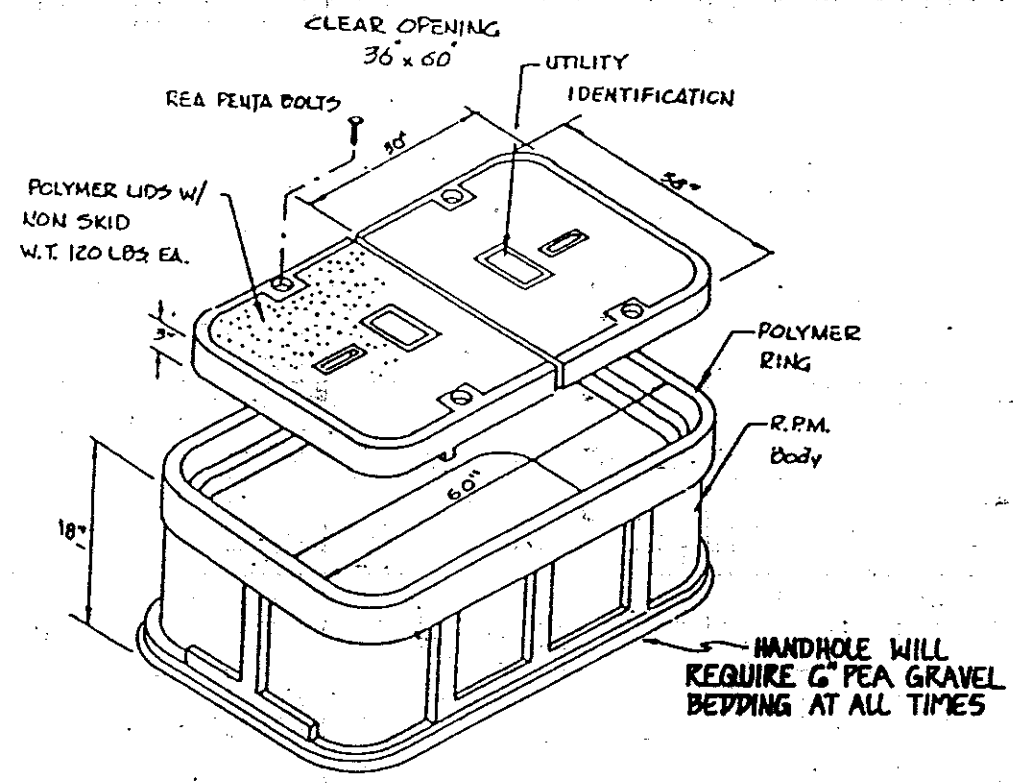
REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
		RELEASE NUMBER	

20. It will be the Contractors responsibility for all shrub and tree removal as required. Brush that can be blown or left on right-of-way shall be chipped or mulched to chips of 1/2" maximum thickness. Care shall be taken not to restrict ditches, tracks, railroad structures or private property.
21. Fiber optic cable must be installed under all culverts on railroad, private & public right of way or around the end of the culvert and must be installed 60" below the bottom of the cleaned out ditch line. Extra depth (60") will be required under all culverts, ditch lines, waterways, etc., per US Sprint's spec's. Permission must be obtained to deviate from this standard.
22. Fiber optic cable must be installed on field side of all railroad signal facilities.
23. Contractor is required to provide advance notice to US Sprint of all work locations for proper inspection. This includes a daily report of type of crews, locations, name of foreman, and number of workers.
24. All signs and clean-up will be completed within 24 hours after conduit or cable placement.
25. All exposed cable or cable reels left overnight will be protected with a metal can or as directed by the Project Engineer.
26. A pipe bending machine will be used in all cases for bending G.I.P. or B.I.P. A torch or backhoe or any other device will be unacceptable.
27. Cable sheath fault test will be tested immediately after the cable is placed. The only acceptable machine is a Dynatel 530A or equivalent. 150,000 sheath fault ohms will be considered acceptable. Any reading lower than 150,000 ohms will require locating and repair of sheath damage.
28. Contractors will comply with all safety regulations. Shortcuts or disregard for safety will not be tolerated. US Sprint Inspectors monitoring the jobsite will remove from the right of way, any individual or individuals for serious violations.
29. Only certified steel trench shields will be used for shoring in trenches 4 foot in depth and all bore pits. Contractor will insure boxes are provided for all work sites where their use is contemplated.
30. Owners of fences will be notified by the Contractor prior to cutting any fence. If acceptable by the Owner, a gate will be placed during the construction period. After construction the gate will be removed and permanent repair made to the fence, restoring it to as good as, or better than original condition.
31. Extend innerduct and freeze pipe 5' beyond end of duct.
32. Station does not account for loops into regen sites.
33. Place 100 feet coil at end of each bridge or as specified on prints.
34. Place 3 - 1 1/4" innerducts and freeze pipe in all conduit and pipe unless specified otherwise or where there will be facilities for Burlington Northern.
35. Crossing of creeks with machinery will be subject to the final approval of the Conservation Board in writing which will be the Contractor's responsibility and will be in hand prior to crossings.
36. The use of soil stabilizer will be used in the restoration of creek banks, bore pits, and trenching where desired compaction cannot be obtained. Perma-Soil by Ditch Witch is suggested. Any other product will have to be cleared through the Project Engineer or his representative.
37. All pipeline crossings will be made with 20' of split PVC with a concrete cap unless otherwise posted on the prints with an extra innerduct and freeze pipe.
38. In 2" PVC for Burlington Northern facilities a freeze pipe will be required.
39. Access to and from Railroad Right-of-Way over private or public land including state and federal land for machinery, vehicles and man power will be the responsibility of the Contractor.
40. It will be the responsibility of the contractor to comply with regulation imposed by weed districts.
41. All handhole or manhole covers will be bolted down with stainless steel penta head bolts. Any other type of bolt will be unacceptable.
42. All fiberglass or Quasite splice/pull box handholes will be 3'x5' with electronic markers installed in the lid. See handhole detail on typical drawings.
43. Cable not placed in conduit or innerduct will be placed in plowable duct.
44. PVC will extend min. of 1' inside handholes and duct sealed. Plowcon innerduct and freeze pipe will extend min. of 3' inside handholes and duct sealed.
45. All innerducts will be equipped with a pull rope from the factory or supplier.

PROPRIETARY INFORMATION
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 OR REPRODUCTION

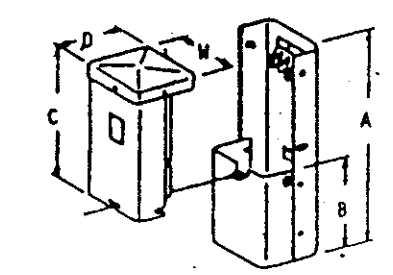
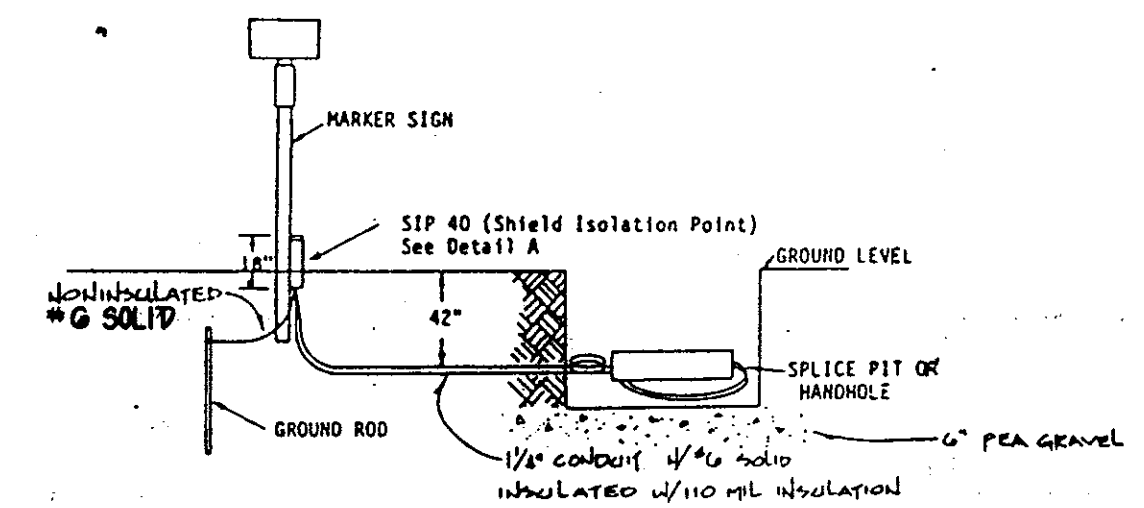
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CHK'D BY MDW	DATE 12-15-88			
ENGR DM	DATE 12-15-88			
APPROVED BY LES	DATE 12-15-88			
APPROVED BY	DATE			
SYMBOL	DESCRIPTION	ISSUE	SCALE	
LEGEND		RELEASE NUMBER		SHEET C2 OF C2 DWG. NO. B

REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
			RELEASE NUMBER



HANDHOLE DETAIL

APC INDUSTRIES ELECTRONIC MARKER NO. 1250 (OR EQUAL) INSTALLED IN TOP OF HANDHOLE.

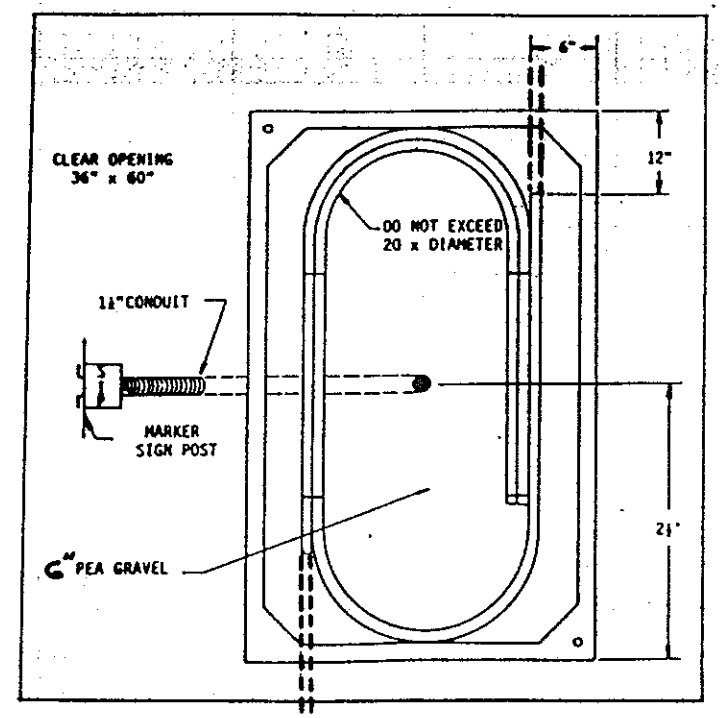


- A - 18 1/4"
- B - 8"
- C - 11 3/8"
- D - 4 7/8"
- W - 4 7/8"

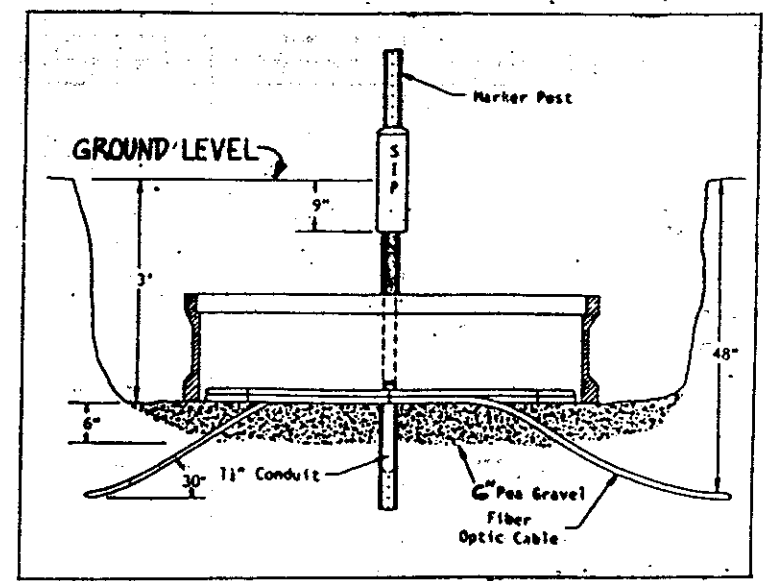
Detail A

SHIELD ISOLATION POINT INSTALLATION DETAIL
NOTE: PLACE A MINIMUM OF 4" OF PEA GRAVEL IN THE BOTTOM OF THE SIP 40 CLOSURE.

CABLE ROUTING IN THE HANDHOLE DETAIL



FRONT VIEW OF EXCAVATION PIT DETAIL



PROPRIETARY INFORMATION
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DRAFTER	MDW	DATE	3-20-88
CHK'D BY	MDW	DATE	12-15-88
ENGR.	DM	DATE	12-15-88
APPROVED BY	LES	DATE	12-15-88
APPROVED BY		DATE	

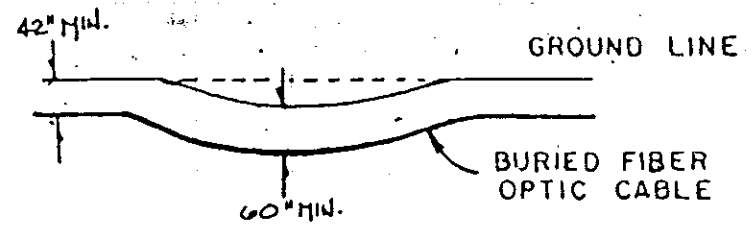
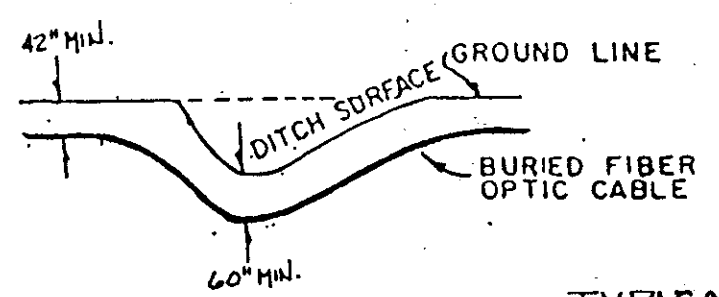
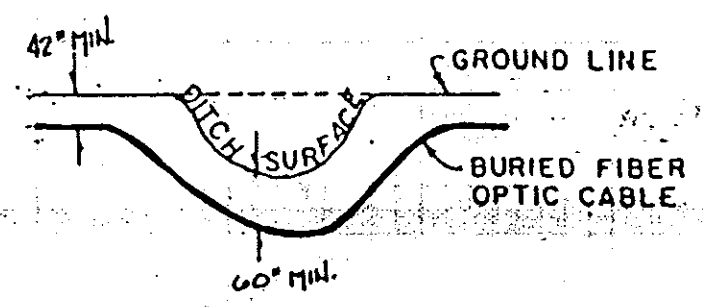
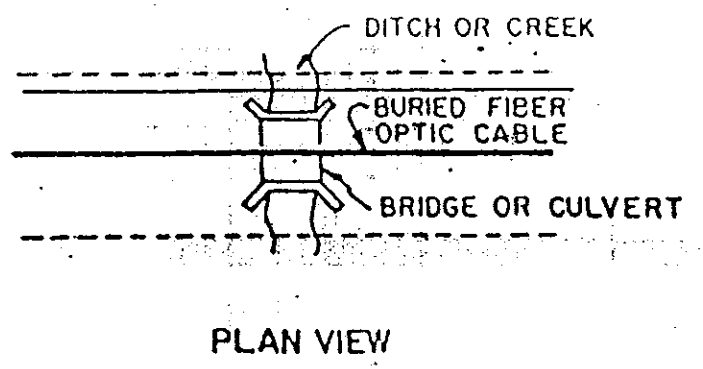
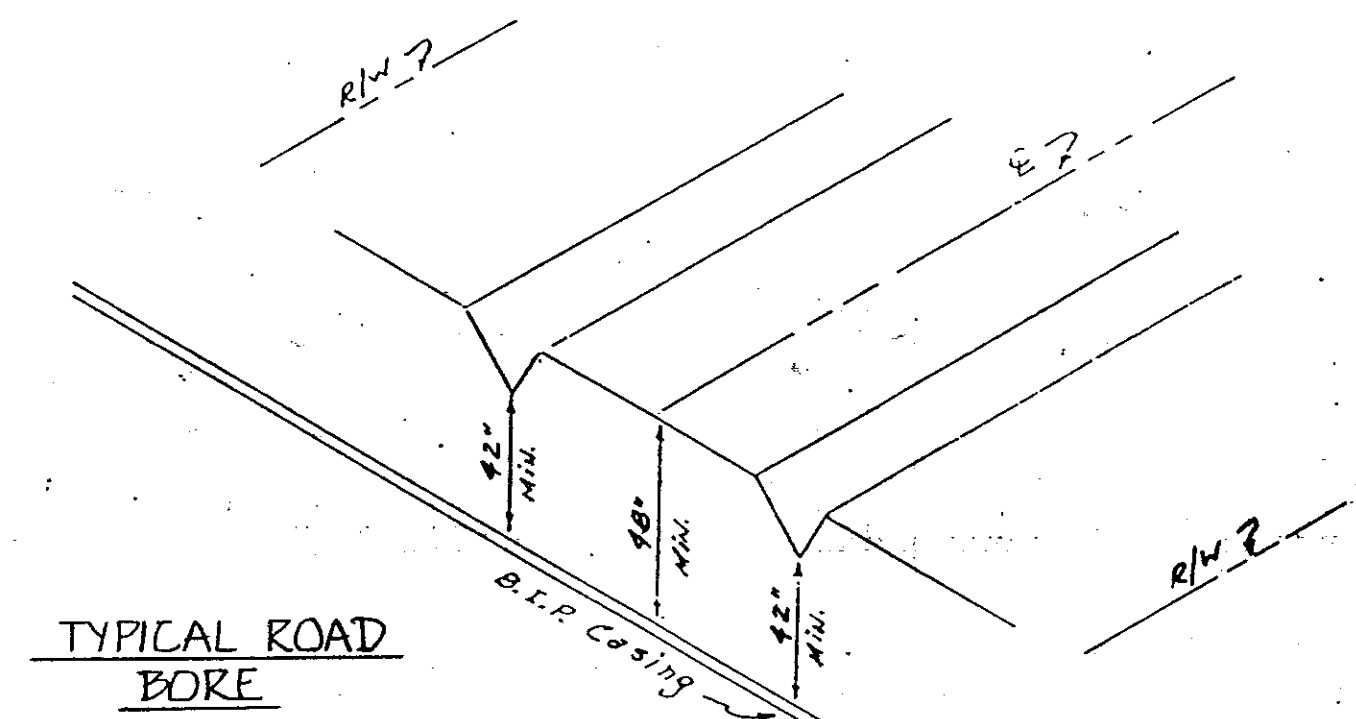
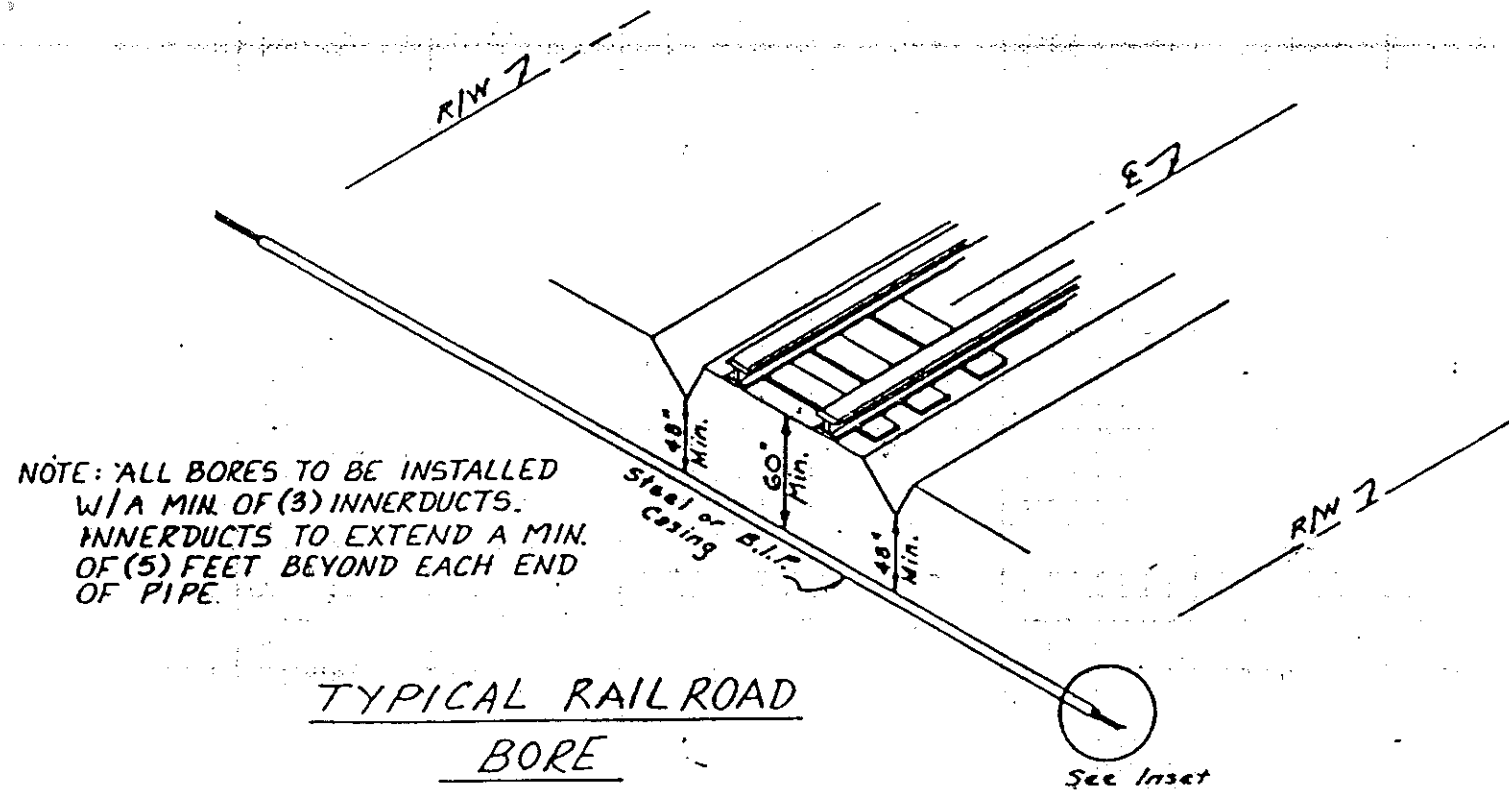


PROJ. NO. 411010-2
GLENVIEW TO BISMARCK
DETAILS

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	

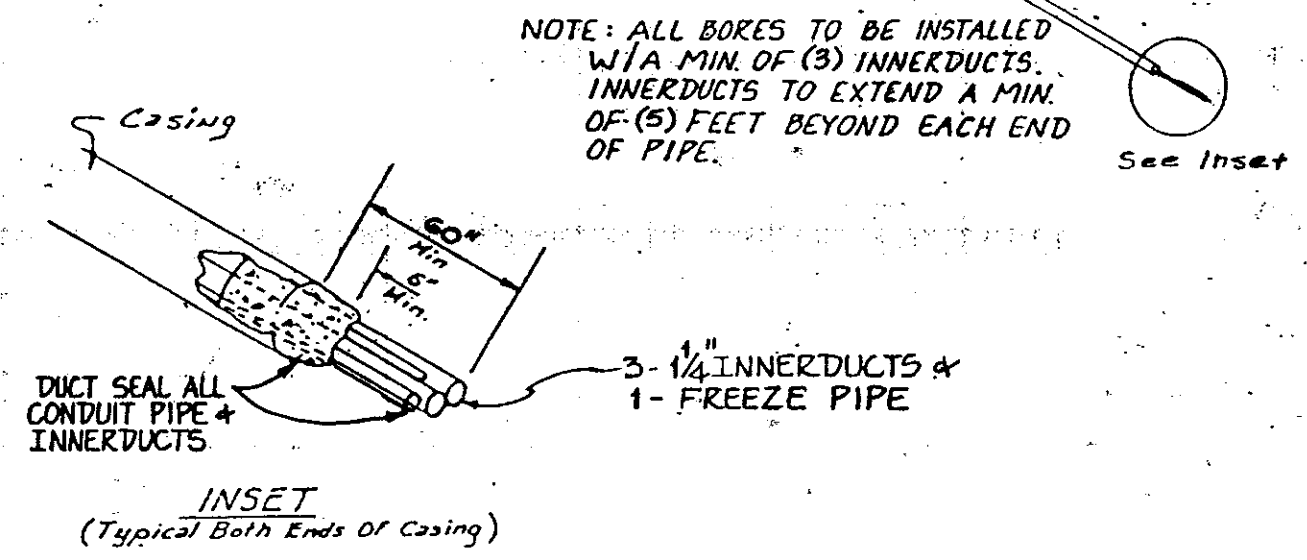
SHEET D1 OF D5 DWG. NO. B

REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
			RELEASE NUMBER



TYPICAL DETAIL
DIRECT BURIED DITCH OR CREEK CROSSING

PROPRIETARY INFORMATION
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OR REPRODUCTION



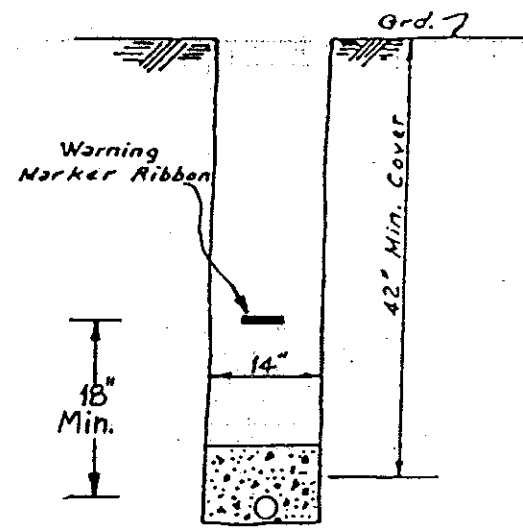
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ENGR	DM	DATE	12-15-88
APPROVED BY	LES	DATE	12-15-88
APPROVED BY		DATE	

US Sprint

PROJ. NO. 411010-2
GLENDAVE TO BISMARCK
DETAILS

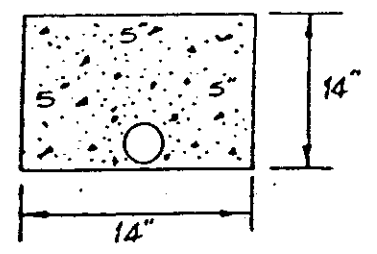
SYMBOL	DESCRIPTION	ISSUE	SCALE	SHEET D2 OF D5	DWG. NO.	B
	LEGEND	RELEASE NUMBER				

REVISIONS		
ISSUE	DESCRIPTION	DFTR/DATE
		ENGR/DATE
		RELEASE NUMBER

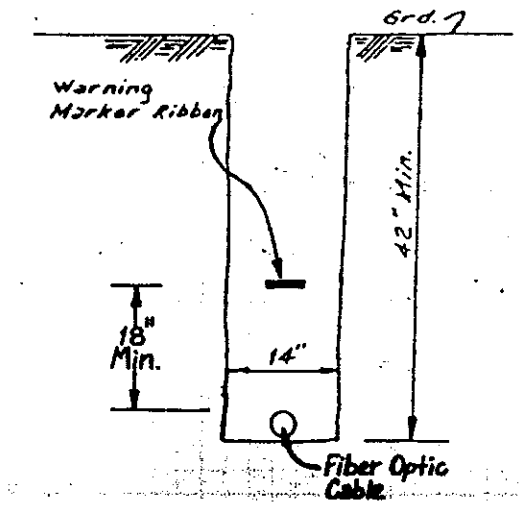


1-4" PVC OR PLOWCON
ENCASED TRENCH DETAIL

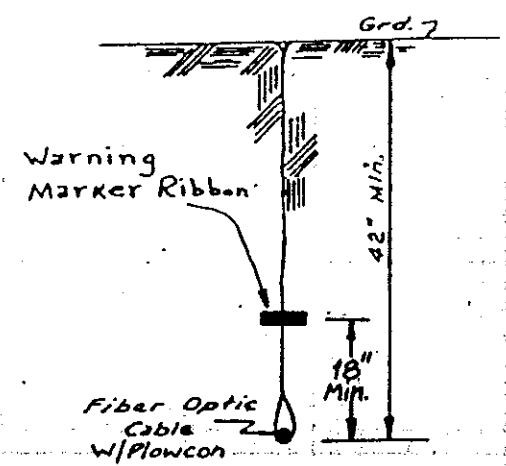
Ducts Shall Be Encased
In: 3 1/2 Sack/Cu.Yd. Pea
Gravel Mix With A Minimum
5" OF Concrete On Top
& 5" On Each Side.



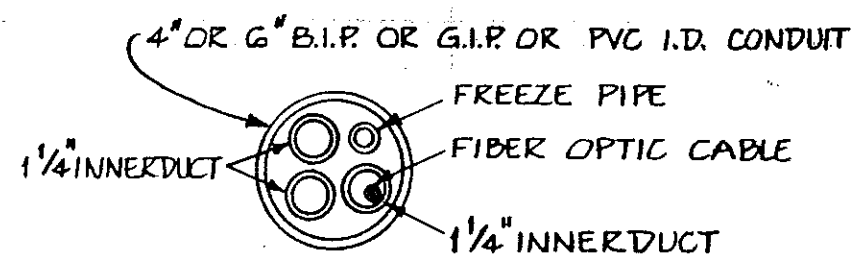
TYPICAL ENCASEMENT DETAIL
FOR ALL DUCTS



TYPICAL TRENCH
(NOTE: BACKFILL MUST BE MADE
WITH ROCK FREE MATERIAL)



PLOW DETAIL



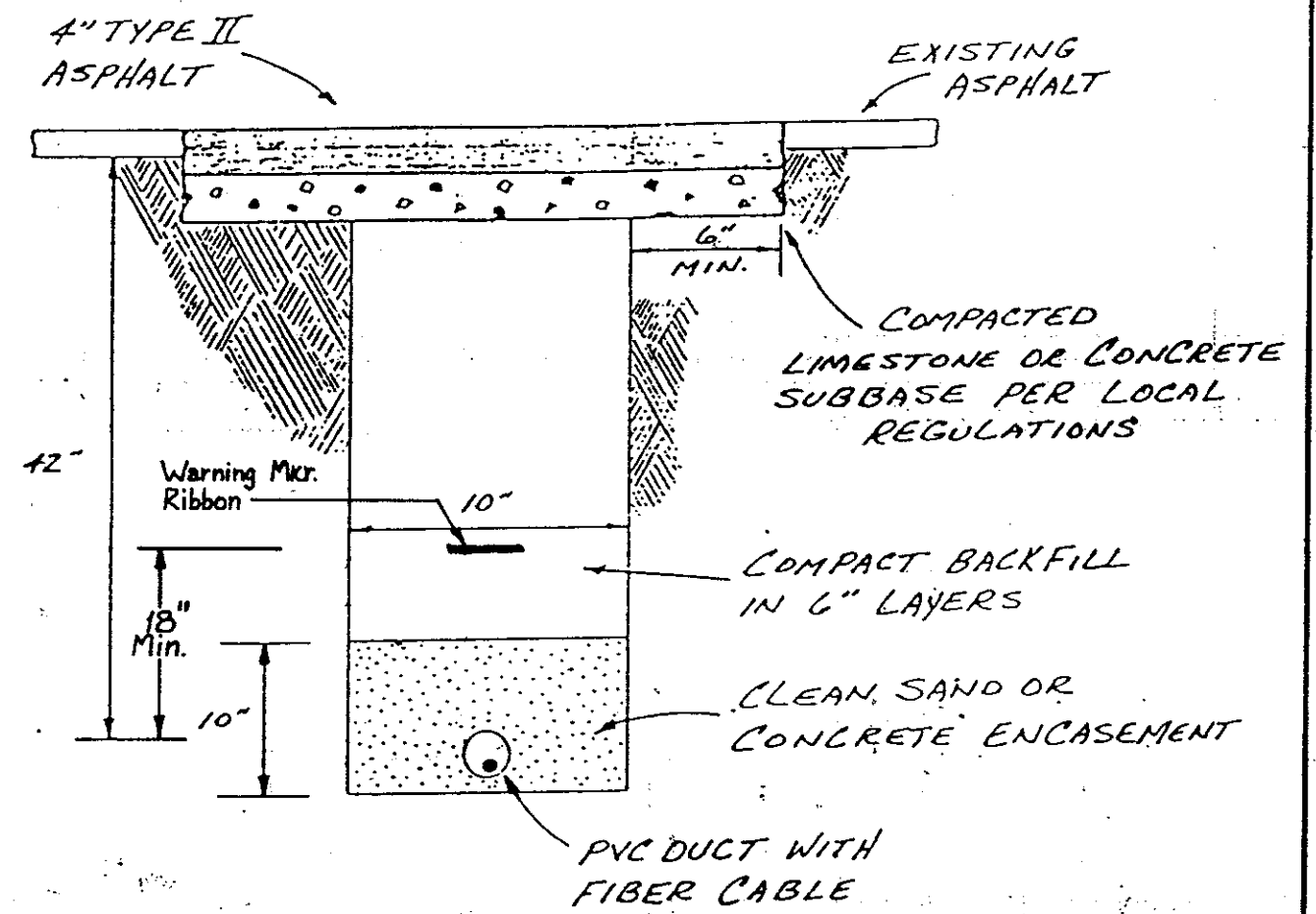
CONDUIT DETAIL

PLACE 2 INNERDUCTS & 1 FREEZE PIPE IN ALL
STEEL PIPE & 4" PVC UNLESS OTHERWISE NOTED.

TYPICAL DETAIL

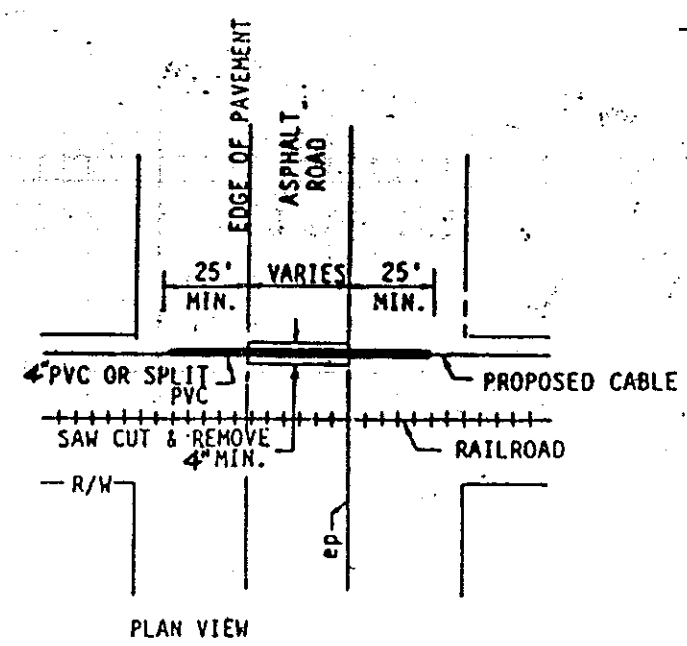
PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

ASPHALT PAVEMENT OPEN CUT RESTORATION



PROFILE VIEW

NOTE: TYPICALS ARE US SPRINTS
SPECIFICATIONS. SPECIAL CONSTRUCTION
METHODS MAY BE REQUIRED BY
PERMITTING AUTHORITY.



PLAN VIEW

ASPHALT PAVEMENT
OPEN CUT

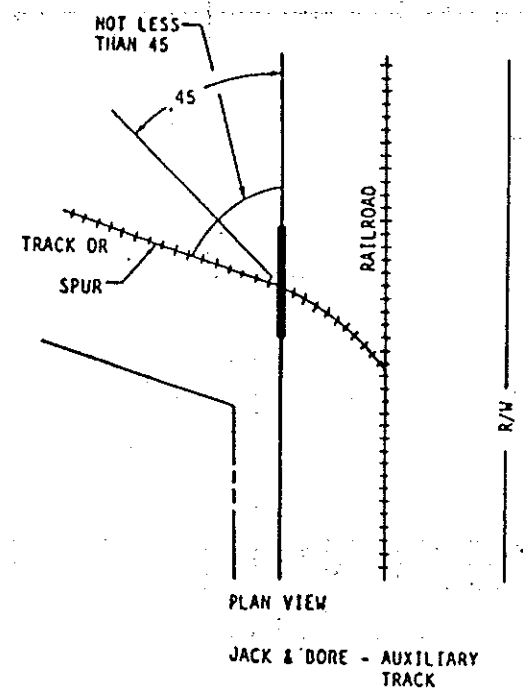
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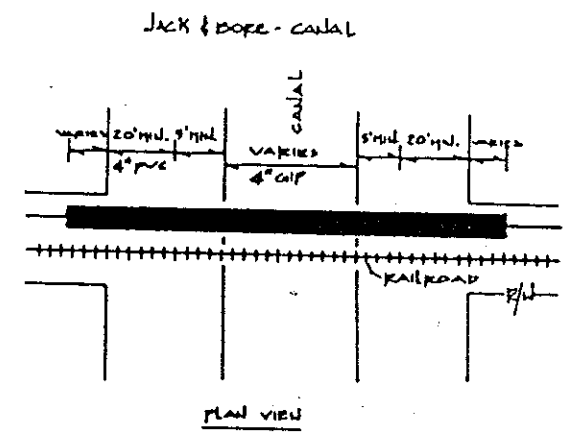
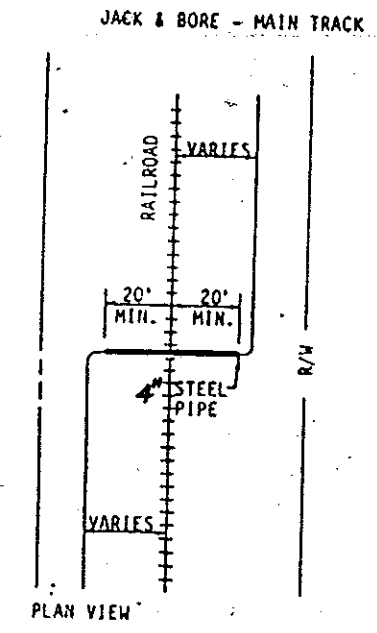
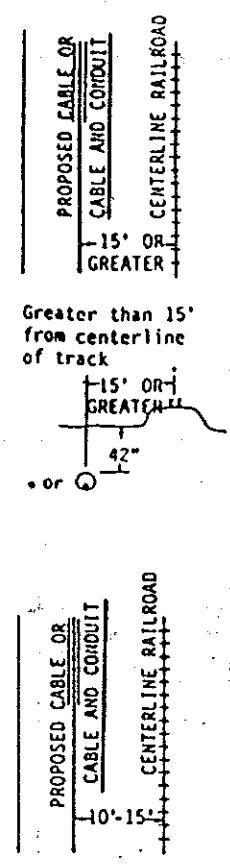
PROJ. NO. 411010-2
GLENNDIE TO BISMARCK
DETAILS

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	

REVISIONS		
ISSUE	DESCRIPTION	RELEASE NUMBER

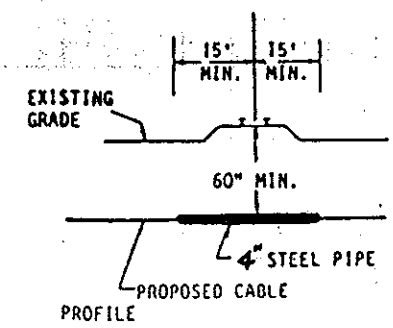


NOTE:
THE CABLE WILL HAVE TO BE LOCATED 60" BELOW OR AROUND THE END OF ALL BURLINGTON NORTHERN CULVERTS IF THE CABLE IS TO BE LOCATED OVER THE TOP OF THE CULVERT, RAILROAD APPROVAL IS REQUIRED.

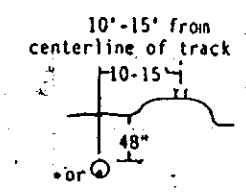


NOTE: THE STEEL PIPE CASING MUST EXTEND A MINIMUM OF 15' EACH SIDE OF THE CENTERLINE OF THE SPUR TRACK WHEN MEASURED AT RIGHT ANGLE FROM THE CENTERLINE OF THE TRACK TO THE END OF THE STEEL PIPE.

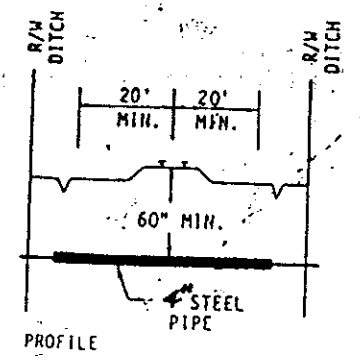
NOTE: THE STEEL PIPE MUST EXTEND A MINIMUM OF 20' EACH SIDE OF THE CENTERLINE OF THE MAIN LINE WHEN MEASURED AT RIGHT ANGLE FROM THE CENTERLINE OF THE TRACK TO THE END OF THE STEEL PIPE.



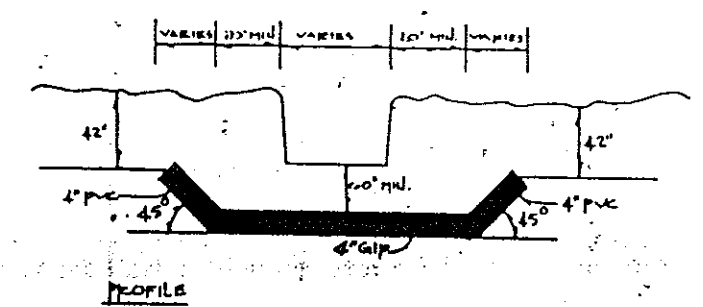
TYPICAL DETAIL
JACK & BORE AUXILIARY TRACK



TYPICAL DETAIL
FIBER-OPTIC CABLE
RUNNING LINE



TYPICAL DETAIL
JACK & BORE
MAIN TRACK



TYPICAL DETAIL
JACK & BORE - CANAL

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

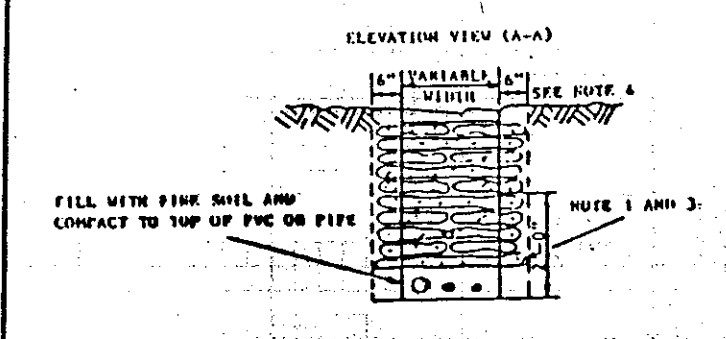
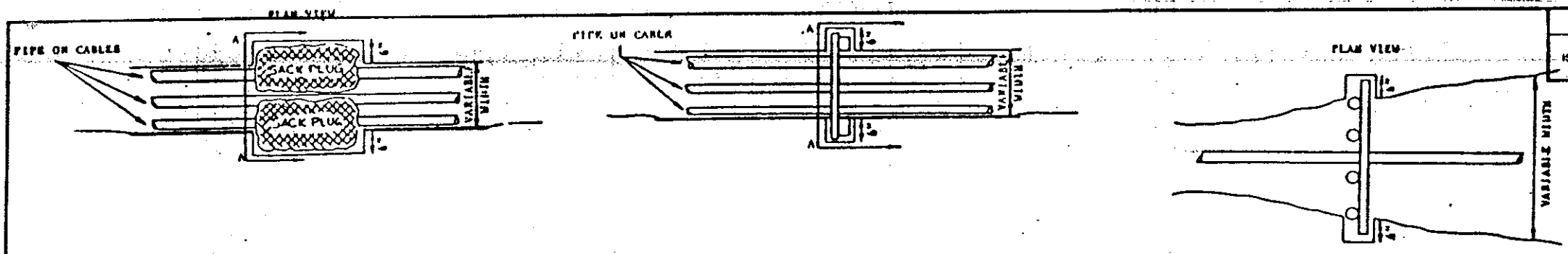
DRAFTER MDW	DATE 3-20-88
CHK'D BY MDW	DATE 12-15-88
ENGR DM	DATE 12-15-88
APPROVED BY LES	DATE 12-15-88
APPROVED BY	DATE



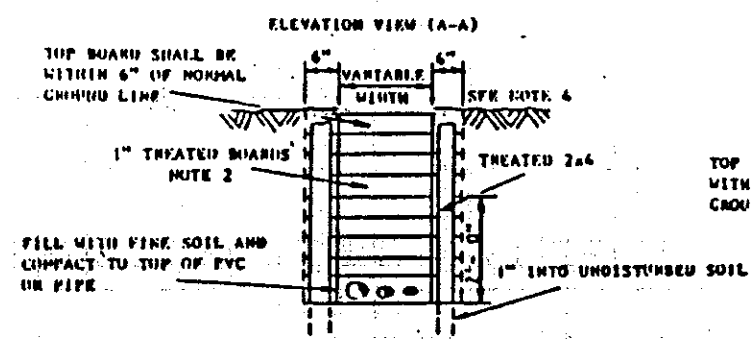
PROJ. NO. 411010-2
GLENDAVE TO BISMARCK
DETAILS

SYMBOL	DESCRIPTION	ISSUE	SCALE

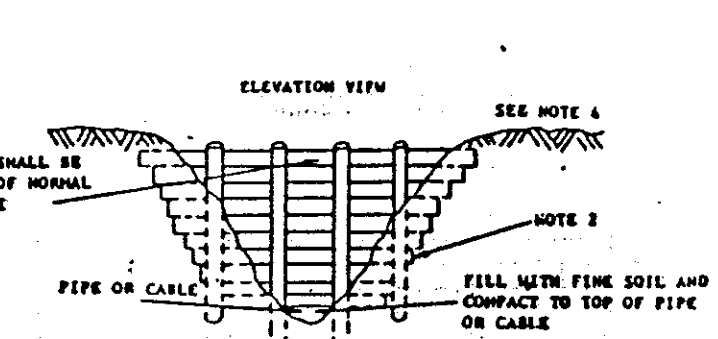
SHEET 04 OF 05	DWG. NO.	B
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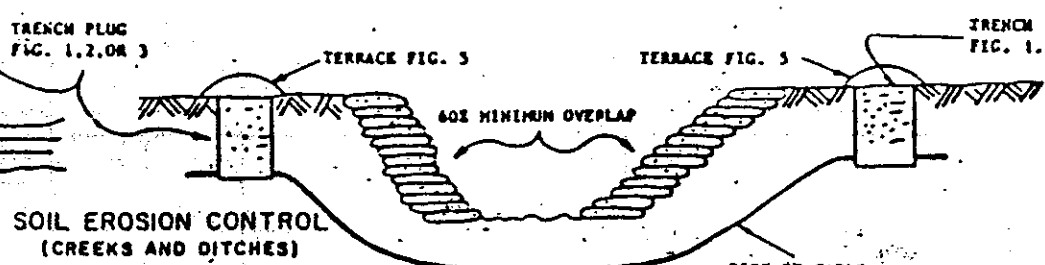
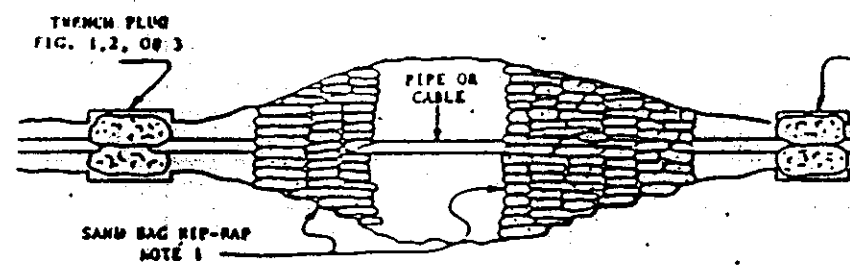
SACK TRENCH PLUG
FIGURE 1



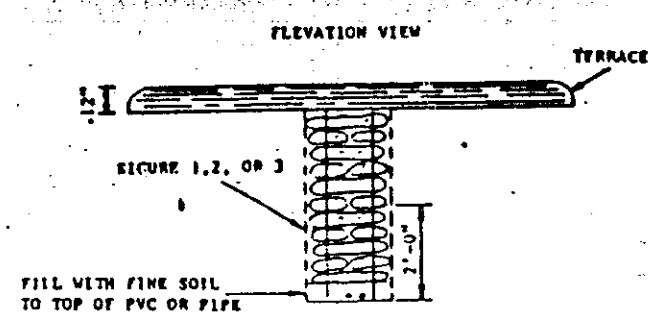
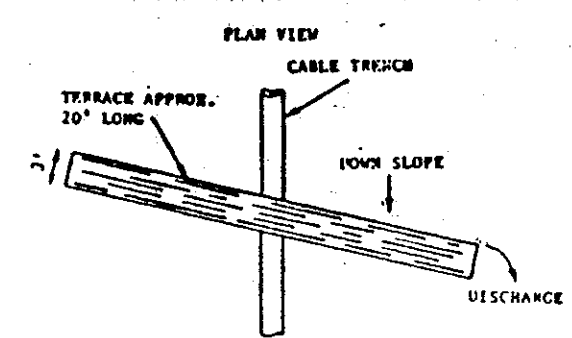
TREATED BOARD TRENCH PLUG
(NORMAL TRENCH WIDTH)
FIGURE 2



TREATED BOARD TRENCH PLUG
(WIDE TRENCH WIDTH)
FIGURE 3



SOIL EROSION CONTROL
(CREEKS AND DITCHES)
FIGURE 4



EROSION TERRACE
FIGURE 5

REVISIONS		DFT/DATE	ENGR/DATE
ISSUE	DESCRIPTION	RELEASE NUMBER	

- NOTES:
- FIG. 4 SACKS SHALL BE BURLAP BAGS OF 100 LBS. CAPACITY. FILL SACKS 2/3 FULL OF SOIL. PNEU OF ALL CLUMS OR CLUMKS
 - FIG. 2 & 3 TREATED BOARDS SHALL BE 1 INCH THICK AND ANY CONVENIENT WIDTH. PUST SHALL BE 3 INCH OR LARGER AND SHALL BE SET AT LEAST 1 FOOT INTO UNDISTURBED SOIL. BOARDS AND PUST SHALL HAVE A CHROMATE OIL OR PENTACHLOROPHTHAL TREATMENT OF NOT LESS THAN A POUNDS PER CUBIC FOOT. PUST MAY BE ROUND OR SQUARE
 - FIG. 3 & 4 PLACE FIRST LAYER OF SACKS PLUG PARALLEL TO THE CABLES IN PIPE AND THE SECOND LAYER PERPENDICULAR, ALTERNATING EACH LAYER UNTIL PLUG IS WITHIN 6 INCHES OF THE NORMAL GROUND LINE
 - FIG. 5 A TERRACE WILL BE REQUIRED OVER EACH TRENCH PLUG (FIGURES 1, 2, 3, AND 4) WHEN ONLY FIGURE 5 IS CALLED FOR, ONLY THE TERRACE WILL BE UNRESTRICTED.

- EROSION PLUG
- LOCATIONS TO BE TREATED SHALL BE NOTED ON US TELECOM CONSTRUCTION DRAWINGS OR DETERMINED BY US TELCOM PROJECT MANAGER OR HIS DESIGNEE.
 - THE MAXIMUM PLUG SPACINGS ARE AS FOLLOWS:

GRADE IN 1	SPACING IN FEET FLOWN OR TRENCHED
15-24	100
25-34	80
35-44	60
45 AND OVER	40

THE ABOVE SPACINGS ARE GENERAL GUIDES. CONDITIONS SUCH AS TYPE OF SOIL, AMOUNT AND TYPE OF GROUND COVER, TERRAIN, DISTANCE TO BE TREATED SHALL BE CONSIDERED BY CONTRACTOR. ALL LOCATIONS WILL BE TREATED WHERE IT IS EVIDENT THAT EROSION CONTROL IS NEEDED, BUT NOT INDICATED ON US TELECOM CONSTRUCTION DRAWINGS.
 - IF THE OVERALL DISTANCE TO BE TREATED IS LESS THAN 2 MAXIMUM SPACING LENGTHS, PLACE ONE PLUG AT THE MIDPOINT OF THE SLOPE, ONE PLUG AT THE TOP AND ONE PLUG AT THE BOTTOM OF THE SLOPE.
 - FOR LONG SLOPES, PLACE THE FIRST PLUG AT THE BOTTOM OF THE SLOPE. CONTINUE MAXIMUM SPACING UP THE SLOPE UNTIL THE LAST INTERVAL IS LESS THAN ONE HALF THE SPACING SPECIFIED ABOVE.
 - THE COMPOSITION OF THE MATERIAL FOR EROSION PLUGS SHALL BE ONE PART CEMENT TO 25 PARTS SAND.

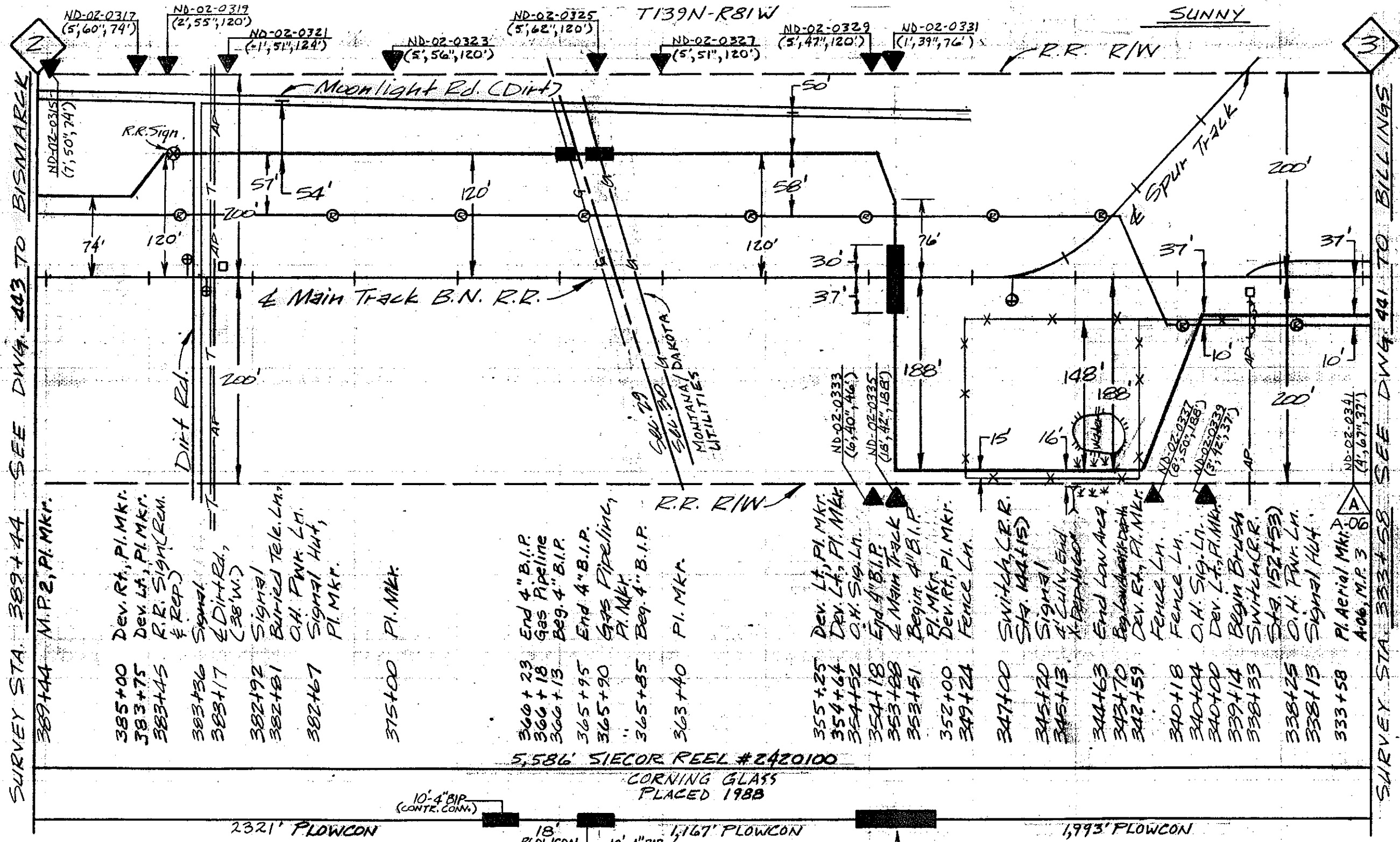
DRAFTER MDW	DATE 3-20-88
CHKD BY MDW	DATE 12-15-88
ENGR. DM	DATE 12-15-88
APPROVED BY LES	DATE 12-15-88
APPROVED BY	DATE

US Sprint

PROJ. NO. 411010-2
GLENDAVE TO BISMARCK
DETAILS

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION



SURVEY STA. 389+44 SEE DWG. 403 TO BISMARCK

SURVEY STA. 333+58 SEE DWG. 401 TO BILLINGS

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/3/88	As-Built

DRAFTER	M.M.M.	DATE	12-30-87
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	
ISSUE		SCALE	1/4"=100' H
RELEASE NUMBER			1/4"=100' V

US Sprint

PROJ. NO. 411010-2

GLENDAVE TO BISMARCK

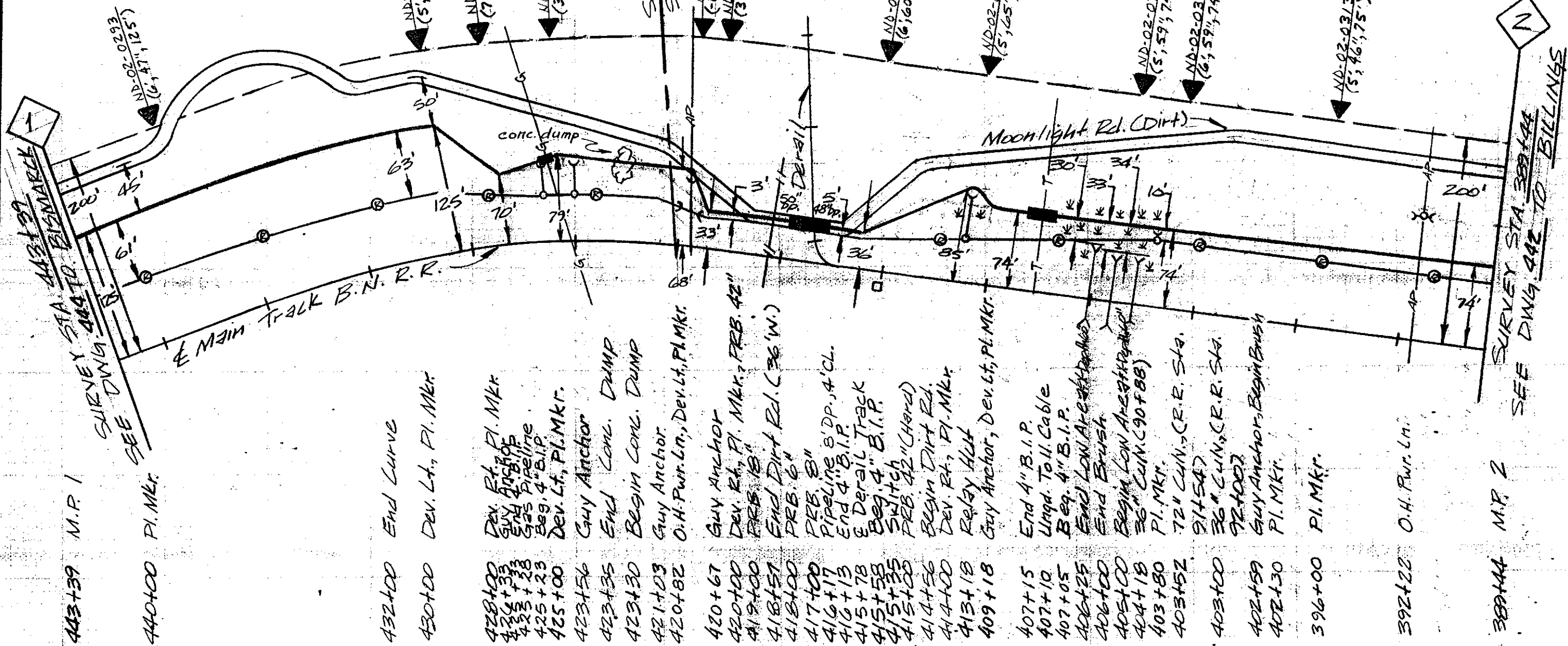
M.P. 3 TO M.P. 2

COUNTY MORTON STATE N. DAKOTA

SHEET 442 OF 461

DWG. NO. **B**

T 139 N, R 81 W



443+39 M.P. 1

440+00 P.I. MKR.

- 432+00 End Curve
- 430+00 Dev. Lt., P.I. MKR.
- 428+00 Dev. Rt., P.I. MKR.
- 426+33 Guy Anchor
- 423+28 Gas Pipeline
- 425+23 Beg. 4" B.I.P.
- 425+00 Dev. Lt., P.I. MKR.
- 423+56 Guy Anchor
- 423+35 End Conc. Dump
- 423+30 Begin Conc. Dump
- 421+03 Guy Anchor
- 420+82 O.H. Pwr. Ln., Dev. Lt., P.I. MKR.
- 420+67 Guy Anchor
- 420+00 Dev. Rt., P.I. MKR., PRB. 42"
- 419+00 PRB. 18"
- 418+57 End Dirt Rd. (36' W.)
- 418+00 PRB. 6"
- 417+00 PRB. 8"
- 416+17 Pipeline S.D.P., 4' CL.
- 416+13 End 4" B.I.P.
- 415+78 E. Derail Track
- 415+58 Beg. 4" B.I.P.
- 415+35 Switch
- 415+00 PRB. 42" (Hard)
- 414+56 Begin Dirt Rd.
- 414+00 Dev. Rt., P.I. MKR.
- 413+18 Relay Hut
- 409+18 Guy Anchor, Dev. Lt., P.I. MKR.
- 407+15 End 4" B.I.P.
- 407+10 Unqd. Toll Cable
- 407+05 Beg. 4" B.I.P.
- 406+25 End Low Air Attached
- 406+00 End Brush
- 405+00 Begin Low Air Attached
- 404+18 36" CUM. (90+88)
- 403+80 P.I. MKR.
- 403+52 72" CUM., (C.R.R. STA. 91+54)
- 403+00 36" CUM., (C.R.R. STA. 92+00)
- 402+59 Guy Anchor, Begin Brush
- 402+30 P.I. MKR.
- 396+00 P.I. MKR.
- 392+22 O.H. Pwr. Ln.

2

SURVEY STA. 388+144
SEE DWG. 442 TO BILLINGS

388+144 M.P. 2

5,395' SIECOR REEL # 2420100
CORNING GLASS
PLACED 1988

1806' FLOWCON

10'-4" B.I.P.
(CONTR. CONV.)

910' FLOWCON

55'-4" B.I.P.
55'-3-1/4" I.D.

843' FLOWCON

10'-4" B.I.P.
(CONTR. CONV.)

1,761' FLOWCON

CAUTION
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PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/3/88	As-Built

SYMBOL	DESCRIPTION
LEGEND	

DRAFTER	M.M.M.	DATE	12-30-87
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	
ISSUE		SCALE	1"=400'H
RELEASE NUMBER			1"=100'V

US Sprint

PROJ. NO. 441010-2
GLENDIVE TO BISMARCK
 M.P. 2 TO M.P. 1
 COUNTY MORTON STATE N. DAKOTA

SHEET 443 OF 461 DWG. NO. **B**

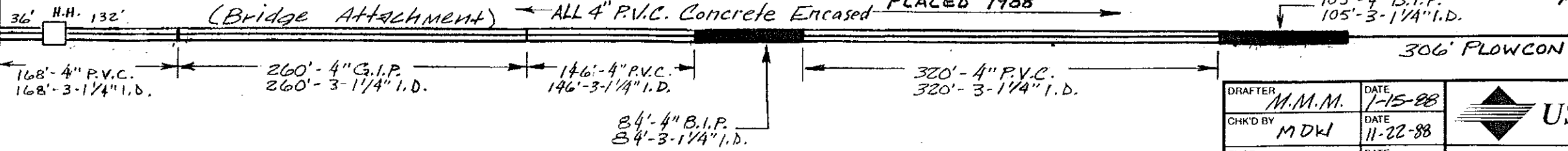
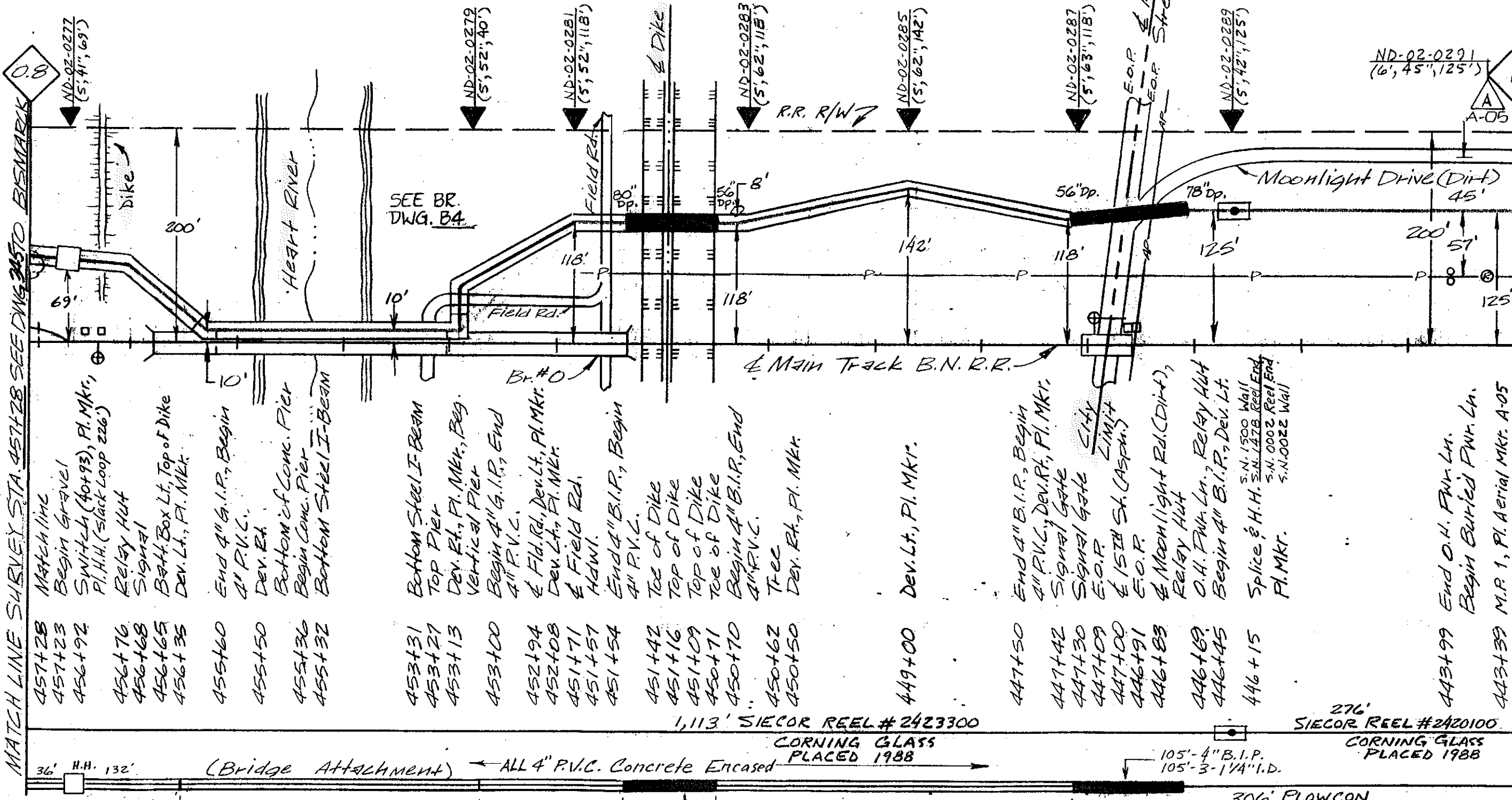
MANDAN

T139N, R81W



MATCH LINE SURVEY STA. 457+28 SEE DWG. 245 TO BISMARCK

SURVEY STA. 443+39 SEE DWG. 443 TO BILLINGS



1,113' SIECOR REEL #2423300

276' SIECOR REEL #2420100

CORNING GLASS PLACED 1988

CORNING GLASS PLACED 1988

CAUTION
 KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
 NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/3/88	As-Built

SYMBOL	DESCRIPTION
	LEGEND

DRAFTER M.M.M.	DATE 1-15-88
CHK'D BY MDW	DATE 11-22-88
ENGR. DM	DATE 11-22-88
APPROVED BY LES	DATE 11-22-88
APPROVED BY	DATE
ISSUE	SCALE 1/2"=100'
RELEASE NUMBER	11/2/88



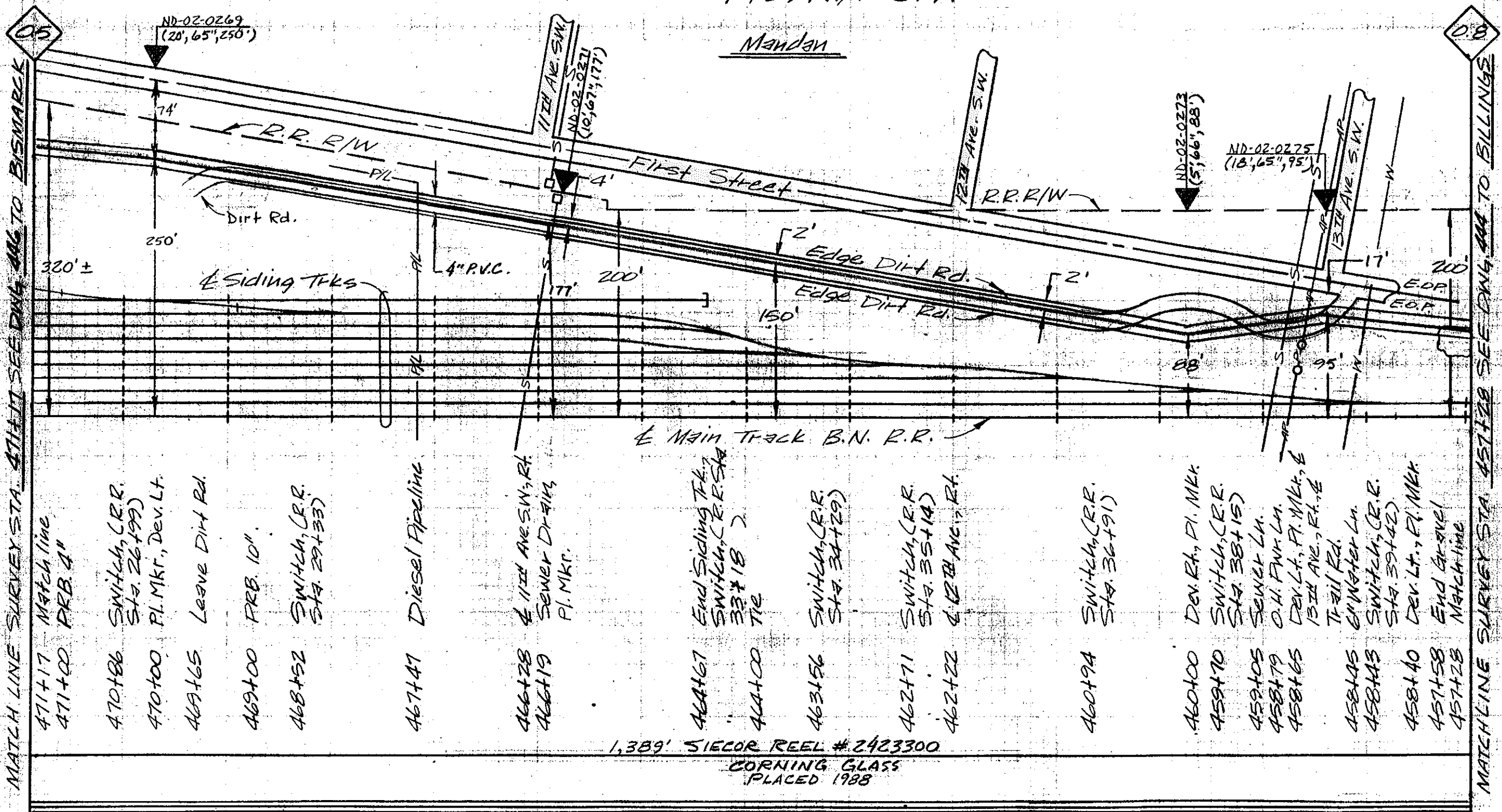
PROJ. NO. 411010-2
 GLENDIVE TO BISMARCK
 M.P. 1 TO M.P. 0.8
 COUNTY MORTON STATE N. DAKOTA

SHEET 444 OF 461

DWG. NO. B

T139N, R81W

Mandan



MATCH LINE SURVEY STA. 471+17 SEE DWG. 444 TO BISMARCK

MATCH LINE SURVEY STA. 457+28 SEE DWG. 444 TO BILLINGS

- 471+17 Match line
- 471+00 PRB. 4"
- 470+86 Switch, (R.R. Sta. 26+99)
- 470+00 P.L. Mkr., Dev. Lt.
- 469+65 Leave Dirt Rd.
- 469+00 PRB. 10"
- 468+52 Switch, (R.R. Sta. 29+33)
- 467+47 Diesel Pipeline
- 466+28 & 1124 Ave. S.W., Rt. Sewer Drains P.L. Mkr.
- 466+19
- 464+67 End Siding Trk, Switch, (R.R. Sta. 33+18)
- 464+00 Tie
- 463+56 Switch, (R.R. Sta. 34+29)
- 462+71 Switch, (R.R. Sta. 35+14)
- 462+22 & 1224 Ave. S.W., Rt.
- 460+94 Switch, (R.R. Sta. 36+91)
- 460+00 Dev. Rt., P.L. Mkr.
- 459+70 Switch, (R.R. Sta. 38+15)
- 459+05 Sewer Ln.
- 458+79 O.H. Fwr. Ln.
- 458+65 Dev. Lt., P.L. Mkr., & 1324 Ave. S.W., Rt. & Trail Rd.
- 458+45 6" Water Ln.
- 458+43 Switch, (R.R. Sta. 39+42)
- 458+40 Dev. Lt., P.L. Mkr.
- 457+58 End Grave
- 457+28 Match line

1,389' SIECOR REEL # 2423300
CORNING GLASS
PLACED 1988

1,389' - 4" P.V.C.
1,389' - 3-1/4" T.D.
ALL 4" P.V.C. Concrete Encased

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

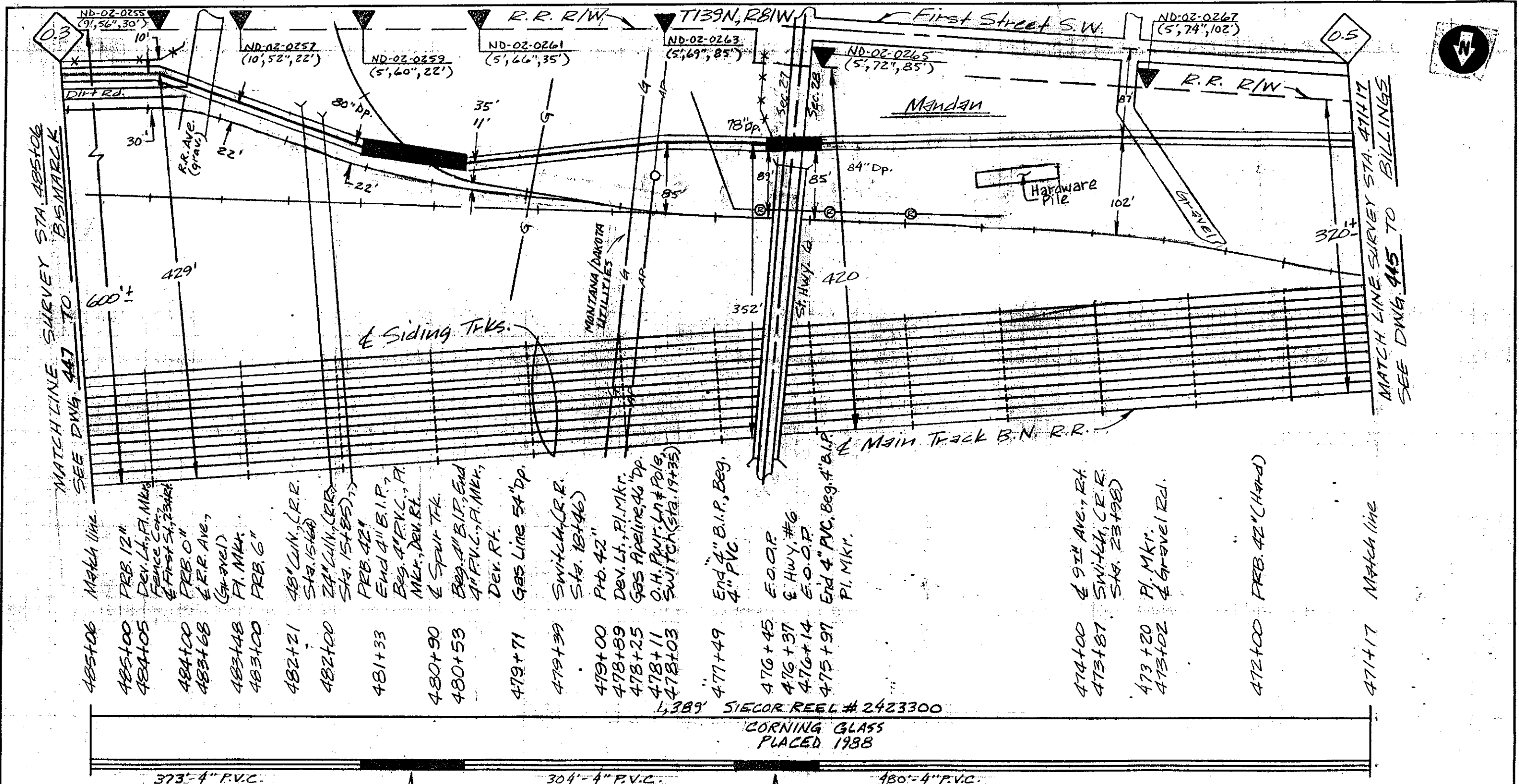
REVISIONS	
DATE	DESCRIPTION
11/3/88	As-Built

SYMBOL	DESCRIPTION
	LEGEND

DRAFTER M.M.M.	DATE 1-16-88
CHK'D BY MDW	DATE 11-22-88
ENGR. DM	DATE 11-22-88
APPROVED BY LES	DATE 11-22-88
APPROVED BY	DATE

PROJ. NO. 211010-2
GLENDAVE TO BISMARCK
M.P. 05 TO M.P. 08
COUNTY MORTON STATE N. DAKOTA

ISSUE	SCALE 1/2"=100'	SHEET 445 OF 461	DWG. NO. B
RELEASE NUMBER	11/16/88		



- 485+06 Match line SEE DWG. 447 TO BISMARCK
- 485+00 PRB. 12" Dev. Lt., P.I. Mkr. & First St. 234ft
- 484+05 PRB. 0" R.R. Ave. (Gravel) P.I. Mkr.
- 483+68 PRB. 6" 48" LIN. (R.R. Sta. 15160)
- 482+21 24" LIN. (R.R. Sta. 15185)
- 482+00 PRB. 42" END 4" B.I.P., Beg. 4" P.V.C., P.I. Mkr., Dev. Rt. & Spurt Tfk.
- 481+33 Beg. 4" B.I.P., End 4" P.V.C., P.I. Mkr., Dev. Rt.
- 480+90 Gas Line 54" Dp.
- 480+53 Switch (R.R. Sta. 18146)
- 479+71 P.B. 42" Dev. Lt., P.I. Mkr. Gas Pipeline, 46" Dp.
- 479+39 O.H. Pylon Lt. # Pole Switch (Sta. 19+35)
- 478+89 End 4" B.I.P., Beg. 4" P.V.C.
- 478+25 E.O.D.P. & HWY. #6
- 478+11 E.O.D.P.
- 478+03 End 4" P.V.C., Beg. 4" B.I.P., P.I. Mkr.
- 477+49
- 476+45
- 476+37
- 476+14
- 475+97
- 474+00 & 9th Ave., Rt.
- 473+87 Switch, C.R.R. Sta. 23+98
- 473+20 P.I. Mkr.
- 473+02 & Gravel Rd.
- 472+00 PRB. 42" (Hand)
- 471+17 Match line

L,389' SIECOR REEL # 2423300

CORNING GLASS PLACED 1988

373'-4" P.V.C. 373'-3-1/4" I.D.

80'-4" B.I.P. 80'-3-1/4" I.D.

ALL 4" P.V.C. Concrete Encased

304'-4" P.V.C. 304'-3-1/4" I.D.

480'-4" P.V.C. 480'-3-1/4" I.D.

152'-4" P.V.C. 152'-3-1/4" I.D.

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/4/88	As-Built

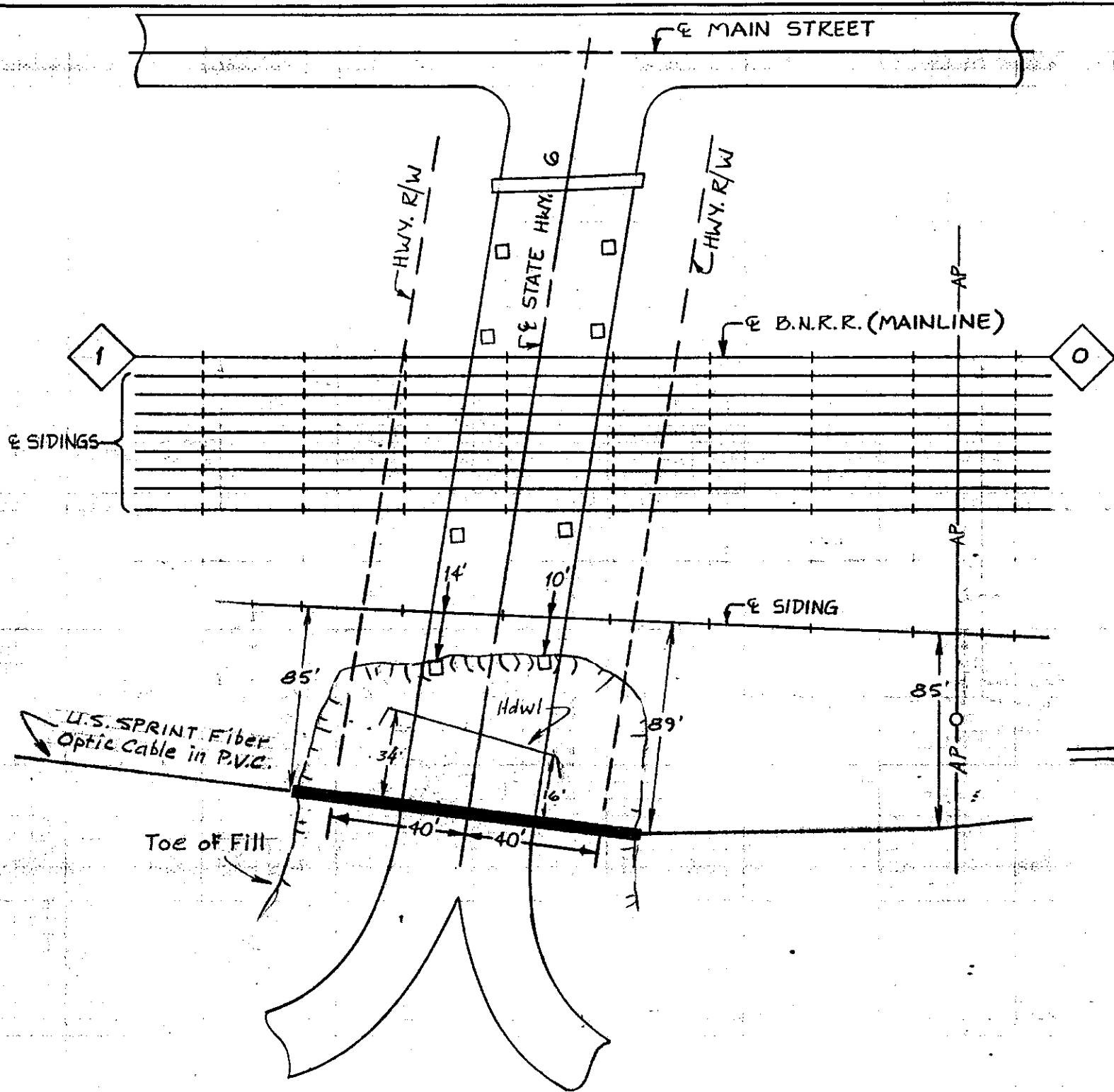
SYMBOL	DESCRIPTION
	LEGEND

DRAFTER	M.M.M.	DATE	1-20-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	
ISSUE		SCALE	1"=100'H
RELEASE NUMBER			11/6/00/V

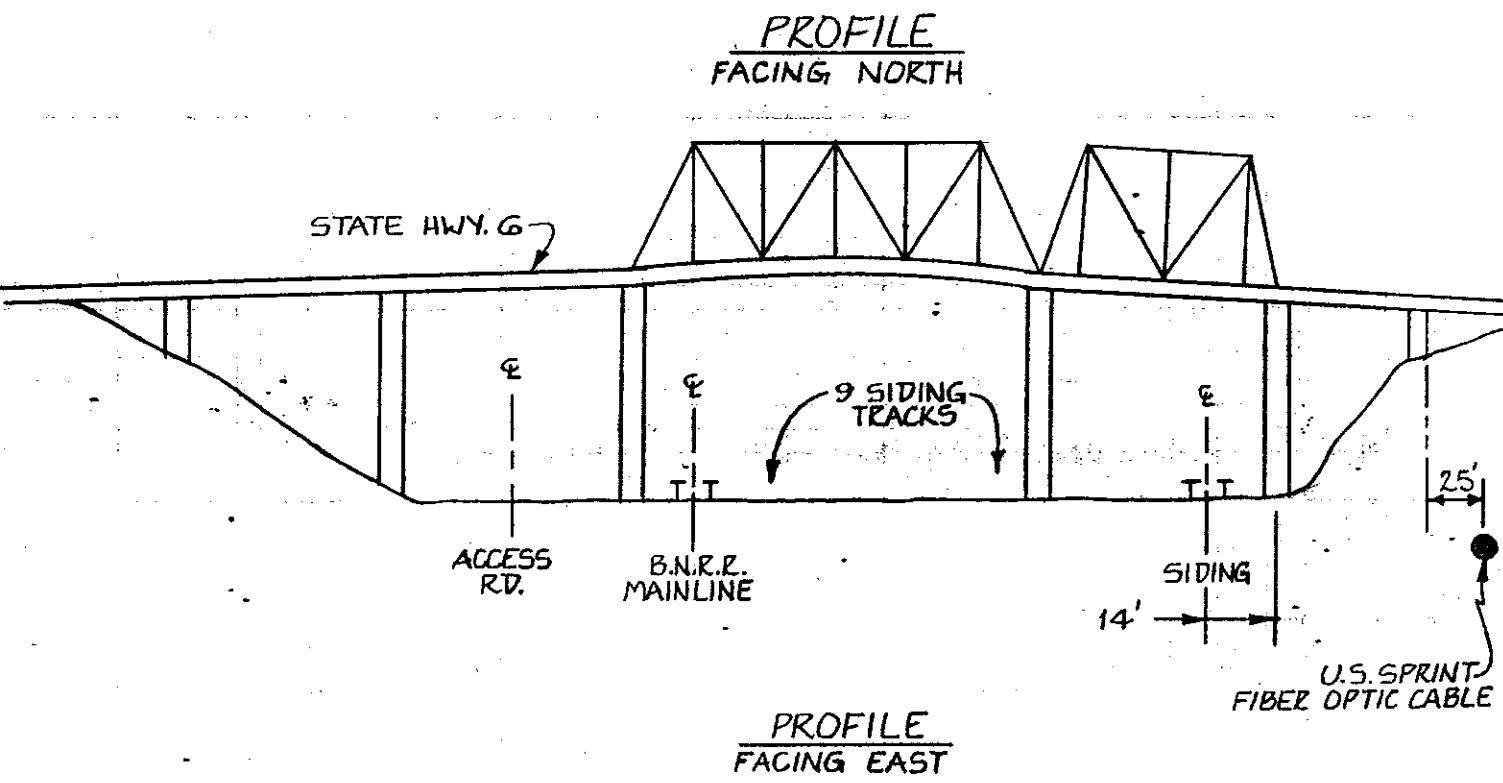
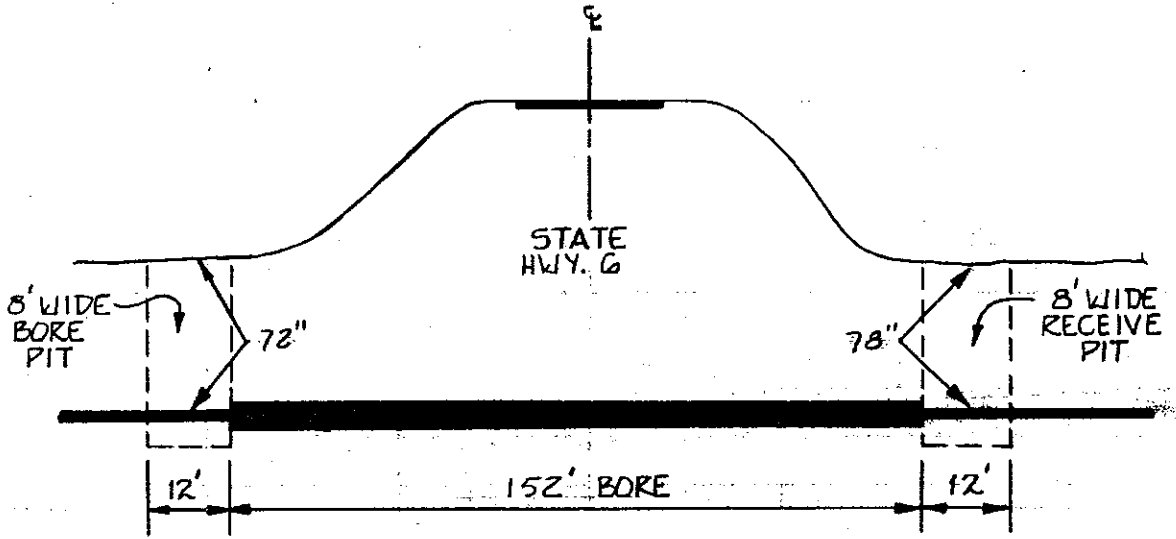
US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 M.P. 0.5 TO M.P. 0.3
 COUNTY MORTON STATE N. DAKOTA

SHEET 446 OF 461 DWG. NO. **B**



REVISIONS		
ISSUE	DESCRIPTION	DFTR/DATE / ENGR/DATE
	As-Built	11/4/88



PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

SEE CONST. DWG. #446

DRAFTER	MDW	DATE	3-4-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

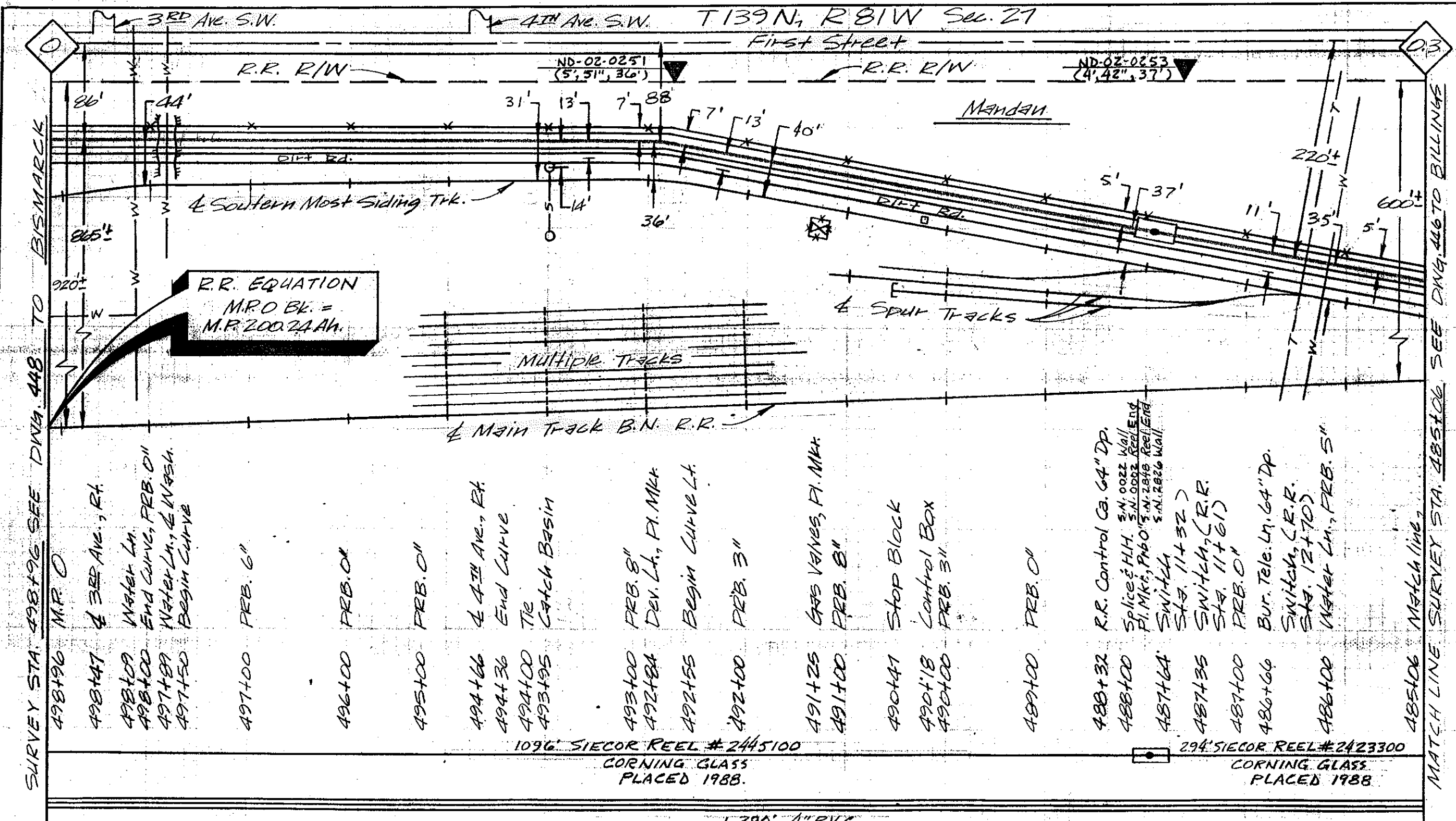
US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 MP. 0.4

COUNTY: MORTON STATE: N. DAKOTA

SHEET 446-A OF 461 DWG. NO. **B**

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	



R.R. EQUATION
M.P. 0 Bk. =
M.P. 200.2444

SURVEY STA. 498+196 SEE DWG. 448 TO BISMARCK

MATCH LINE SURVEY STA. 485+06 SEE DWG. 446 TO BILLINGS

- 498+196 M.P. 0
- 498+147 4 3RD AVE., RT.
- 498+109 Water Ln.
- 498+00 End Curve, PRB. 0"
- 497+89 Water Ln., & WASH.
- 497+50 Begin Curve
- 497+00 PRB. 6"
- 496+00 PRB. 0"
- 495+00 PRB. 0"
- 494+66 4 4TH AVE., RT.
- 494+36 End Curve
- 494+00 Tie
- 493+95 Catch Basin
- 493+00 PRB. 8"
- 492+84 Dev. Lt., P.I. MKR
- 492+55 Begin Curve Lt.
- 492+00 PRB. 3"
- 491+25 GAS VAVES, P.I. MKR
- 491+00 PRB. 8"
- 490+47 Stop Block
- 490+18 Control Box
- 490+00 PRB. 3"
- 489+00 PRB. 0"
- 488+32 R.R. Control Ca. 64" Dp.
- 488+00 Splice & H.H. S.N. 0022 Wall
P.I. MKR, PBO S.N. 0002 Reel/End
S.N. 2848 Reel/End
S.N. 2826 Wall
- 487+64 Switch
Sta. 11+32
- 487+35 Switch, (R.R.)
Sta. 11+61
- 487+00 PRB. 0"
- 486+66 Bur. Tele. Ln. 64" Dp.
- 486+00 Switch, (R.R.)
Sta. 12+70
- 486+00 Water Ln., PRB. 5"
- 485+06 Match line

1096' SIECOR REEL # 2445100
CORNING GLASS
PLACED 1988.

294' SIECOR REEL # 2423300
CORNING GLASS
PLACED 1988.

1,390' - 4" P.V.C.
1,390' - 3-1/4" I.D.
ALL 4" P.V.C. Concrete Encased

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/4/88	As-Built

SYMBOL	DESCRIPTION
LEGEND	

DRAFTER	M.M.M.	DATE	1-19-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

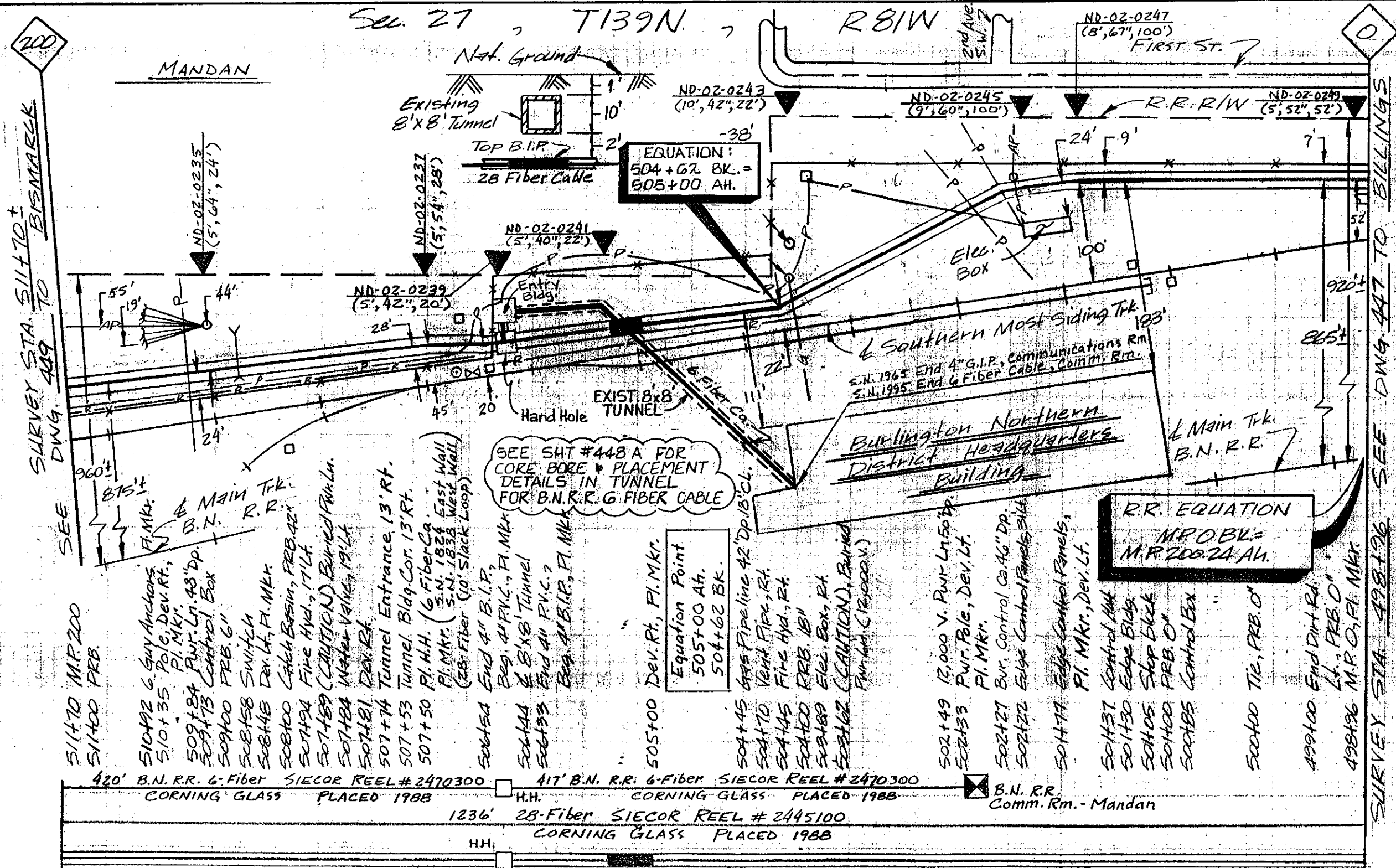


PROJ. NO. 411010-2
GLENVIEW TO BISMARCK
M.P. 03 TO M.P. 0
COUNTY MORTON STATE N. DAKOTA

ISSUE	SCALE 1/16" = 100' H
RELEASE NUMBER	1/16" = 100' V

SHEET 447 OF 461

DWG. NO. B



Sec. 27 T139N R81W

EQUATION:
504+62 BK. =
505+00 AH.

R.R. EQUATION
M.P. 0.24 =
M.P. 200.24 AH.

SEE SHT #448 A FOR
CORE BORE & PLACEMENT
DETAILS IN TUNNEL
FOR B.N.R.R. 6 FIBER CABLE

- 511470 MR. 200
- 511400 PRB.
- 510492 6 Guy Anchors
- 510435 Pole, Dev. Rt., P.I. Mkr.
- 509484 Pwr. Lt. 48" DP
- 509475 Control Box
- 509400 PRB. 6"
- 508458 Switch
- 508448 Dev. Lt., P.I. Mkr.
- 508400 Catch Basin, PRB. 42"
- 507494 Fire Hyd., 17" Lt.
- 507489 (CAUTION) Buried Panel
- 507484 Water Valve, 19" Lt.
- 507481 Dev. Rt.
- 507474 Tunnel Entrance, 13' Rt.
- 507453 Tunnel Bldg. Cor. 13' Rt.
- 507450 P.I. M.H. (6 Fiber Ca.)
- 506454 P.I. Mkr. (S.N. 1834 East Wall)
- 506433 End 4" P.V.C. (28 Fiber (10' Slack Loop))
- 506454 End 4" B.I.P.
- 506444 Beg. 4" P.V.C., P.I. Mkr.
- 506444 8' x 8' Tunnel
- 506433 End 4" P.V.C.
- 506433 Beg. 4" B.I.P., P.I. Mkr.
- 505400 Dev. Rt., P.I. Mkr.
- Equation Point
- 505400 Ah.
- 504462 BK.
- 504445 495 Pipeline 42" Dp. 18' Cl.
- 504440 Vent Pipe, Rt.
- 504445 Fire Hyd., Rt.
- 504400 PRB. 18"
- 503488 Elec. Box, Rt.
- 503462 (CAUTION) Buried Panel (12000V)
- 502449 13,000 V. Pwr. Lt. 50" DP
- 502433 Pwr. Pole, Dev. Lt. P.I. Mkr.
- 502427 Bur. Control Ca. 46" DP
- 502422 Edge Control Panels, 5114
- 501477 Edge Control Panels, P.I. Mkr., Dev. Lt.
- 501437 Control Box
- 501430 Edge Bldg.
- 501405 Stop Block
- 501400 PRB. 0"
- 500485 Control Box
- 500400 Tie, PRB. 0"
- 499400 End Dist Rd.
- 498496 M.P. 0.24 P.I. Mkr.

420' B.N.R.R. 6-Fiber SIECOR REEL #2470300 CORNING GLASS PLACED 1988

417' B.N. R.R. 6-Fiber SIECOR REEL #2470300 CORNING GLASS PLACED 1988

1236' 28-Fiber SIECOR REEL #2445100 CORNING GLASS PLACED 1988

B.N. R.R. Comm. Rm. - Mandan

516'-4" P.V.C. 516'-3-1/4" I.D.

21'-4" B.I.P. 21'-3-1/4" I.D.

699'-4" P.V.C. 699'-3-1/4" I.D.

ALL 4" P.V.C. Concrete Encased

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/4/88	AS-BUILT

SYMBOL	DESCRIPTION
	LEGEND

DRAFTER	M.M.M.	DATE	1-20-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

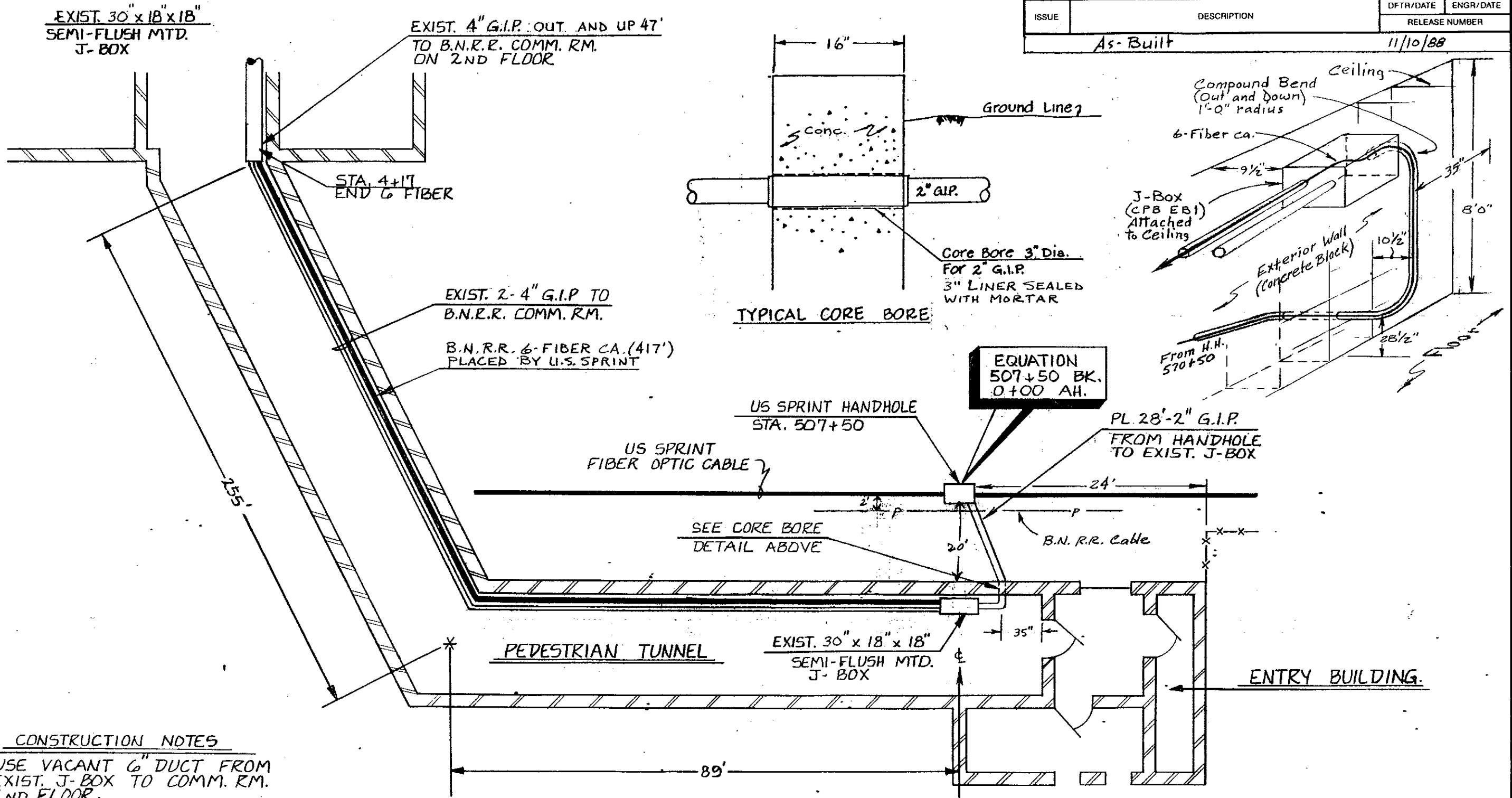
US Sprint

PROJ. NO. 411010-2
 GLENDIVE TO BISMARCK
 M.P. 0 TO M.P. 200
 COUNTY, MORTON STATE N. DAKOTA

ISSUE: 11/2/88
 SCALE: 1/2" = 100'
 RELEASE NUMBER: 11/2/88

SHEET 448 OF 461 DWG. NO. B

REVISIONS		
ISSUE	DESCRIPTION	DFTR/DATE ENGR/DATE
As-Built		11/10/88



CONSTRUCTION NOTES

1. USE VACANT 6" DUCT FROM EXIST. J-BOX TO COMM. RM. 2ND FLOOR.
2. BLOW ROPE AND PULL 1-1 1/4" INNERDUCT.
3. GROUT CORE BORE INSIDE & OUTSIDE.
4. PAINT INSIDE WALL OF TUNNEL AT CORE BORE.
5. DUCT SEAL 2" G.I.P. AT HANDHOLE & J-BOX.

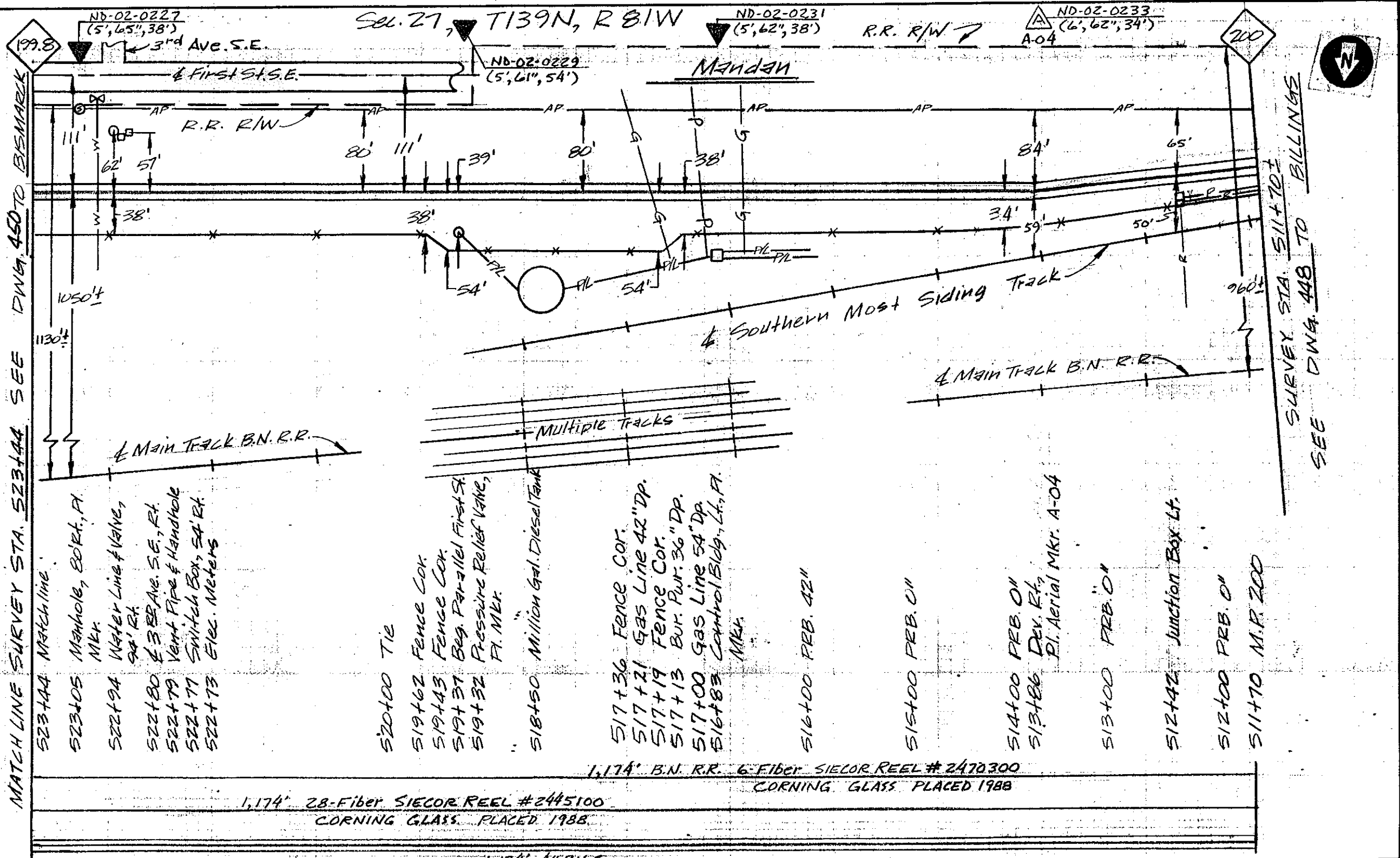
SEE CONST. DWG. #448

DRAFTER	MDW	DATE	8-10-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 DETAIL B.N.R.R. PEDESTRIAN TUNNEL

SYMBOL	DESCRIPTION	ISSUE	SCALE	SHEET	DWG. NO.
	LEGEND	RELEASE NUMBER		448-A OF 461	B



MATCH LINE SURVEY STA. 523+44 SEE DWG. 450 TO BISMARCK

SURVEY STA. 511+70 TO BILLINGS SEE DWG. 448 TO BILLINGS

- 523+05 Manhole, Bort., Pl.
- 522+94 Water Line & Valve, 94' Rt.
- 522+80 4" B.S.P. Ave. S.E., Rt.
- 522+79 Vent Pipe & Handhole
- 522+77 Switch Box, 54' Rt.
- 522+73 Elec. Meters
- 520+00 Tie
- 519+62 Fence Cor.
- 519+43 Fence Cor.
- 519+37 Beg. Parallel First St.
- 519+32 Pressure Relief Valve, Pl. Mkr.
- 518+50 Million Gal. Diesel Tank
- 517+36 Fence Cor.
- 517+21 Gas Line 42" Dp.
- 517+19 Fence Cor.
- 517+13 Bur. Pur. 36" Dp.
- 517+00 Gas Line 54" Dp.
- 516+83 Control Bldg., Lt., Pl. Mkr.
- 516+00 PRB. 0"
- 515+00 PRB. 0"
- 514+00 PRB. 0"
- 513+86 Dev. Rt., Pl. Aerial Mkr. A-04
- 513+00 PRB. 0"
- 512+42 Junction Box Lt.
- 512+00 PRB. 0"
- 511+70 M.R. 200

1,174' B.N.R.R. 6-Fiber SIECOR REEL #2470300 CORNING GLASS PLACED 1988

1,174' 28-Fiber SIECOR REEL #2445100 CORNING GLASS PLACED 1988

1,174' 4" P.V.C.
1,174' 3-1/4" I.D.
ALL 4" P.V.C. Concrete Encased

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/4/88	As-Built

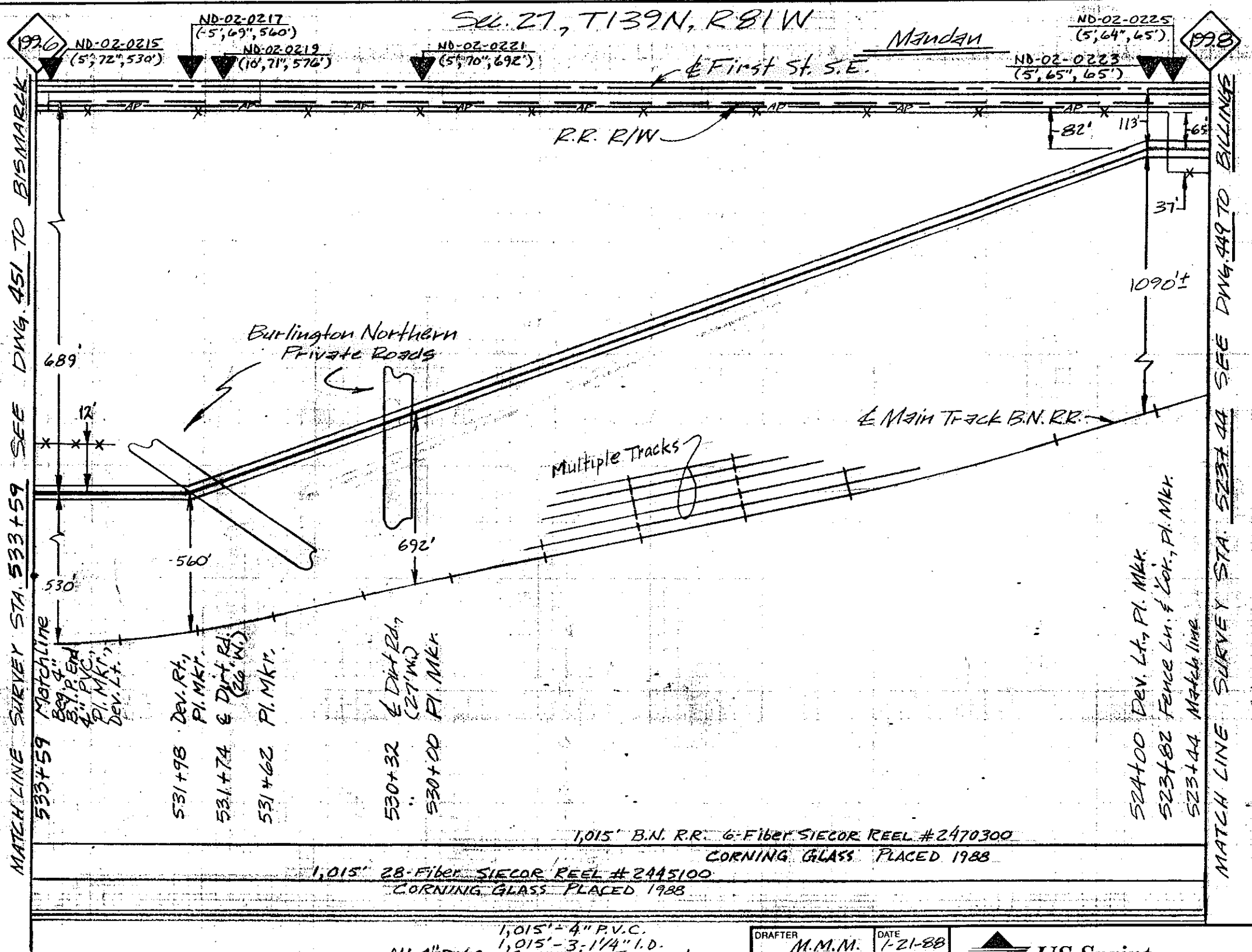
SYMBOL	DESCRIPTION
	LEGEND

DRAFTER	M.M.M.	DATE	1-20-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	
ISSUE		SCALE	1"=100' H
RELEASE NUMBER			1"=100' V

US Sprint

PROJ NO. 411010-2
 GLENDIVE TO BISMARCK
 M.P. 200 TO M.P. 192.8
 COUNTY MORTON STATE N. DAKOTA

SHEET 449 OF 461 DWG. NO. **B**



MATCH LINE SURVEY STA. 533+59 SEE DWG. 451 TO BISMARCK

MATCH LINE SURVEY STA. 523+44 SEE DWG. 449 TO BILLINGS

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/5/88	As-Built

SYMBOL	DESCRIPTION
	LEGEND

DRAFTER M.M.M.	DATE 1-21-88
CHK'D BY MDW	DATE 11-22-88
ENGR. DM	DATE 11-22-88
APPROVED BY LES	DATE 11-22-88
APPROVED BY	DATE
ISSUE	SCALE 1"=100'H
RELEASE NUMBER	11-22-88

US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 M.P. 199.8 TO M.P. 199.6
 COUNTY MORTON STATE N. DAKOTA

SHEET 450 OF 461 DWG. NO. **B**

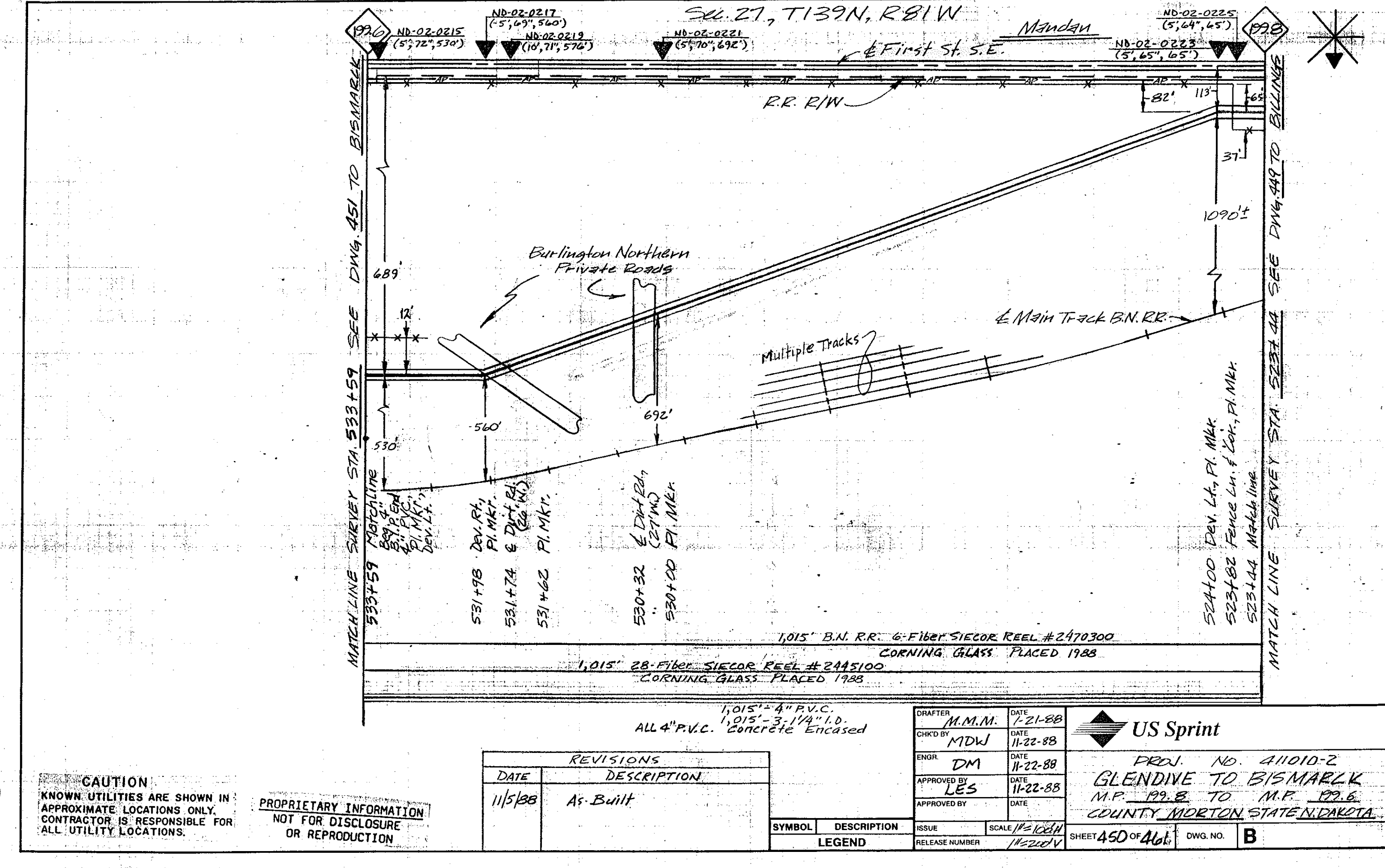
1,015' - 4" P.V.C.
 1,015' - 3-1/4" I.D.
 ALL 4" P.V.C. CONCRETE ENCASED

1,015' B.N. RR. 6-FIBER SIECOR REEL #2470300
 CORNING GLASS PLACED 1988
 1,015' 28-FIBER SIECOR REEL #2445100
 CORNING GLASS PLACED 1988

524+00 Dev. Lt., Pl. Mkr.
 523+82 Fence Ln. & Cor., Pl. Mkr.
 523+44 Match line

531+98 Dev. Rt., Pl. Mkr.
 531+74 & Dirt Rd. (26' W.)
 531+62 Pl. Mkr.
 530+32 & Dirt Rd. (27' W.)
 530+00 Pl. Mkr.

533+59 Matchline
 Beg. 4" B.S. PVC
 4" PVC
 Pl. Mkr., Dev. Lt.



PROFILE ST. HWY. 1806

Not to Scale
Profile looking East

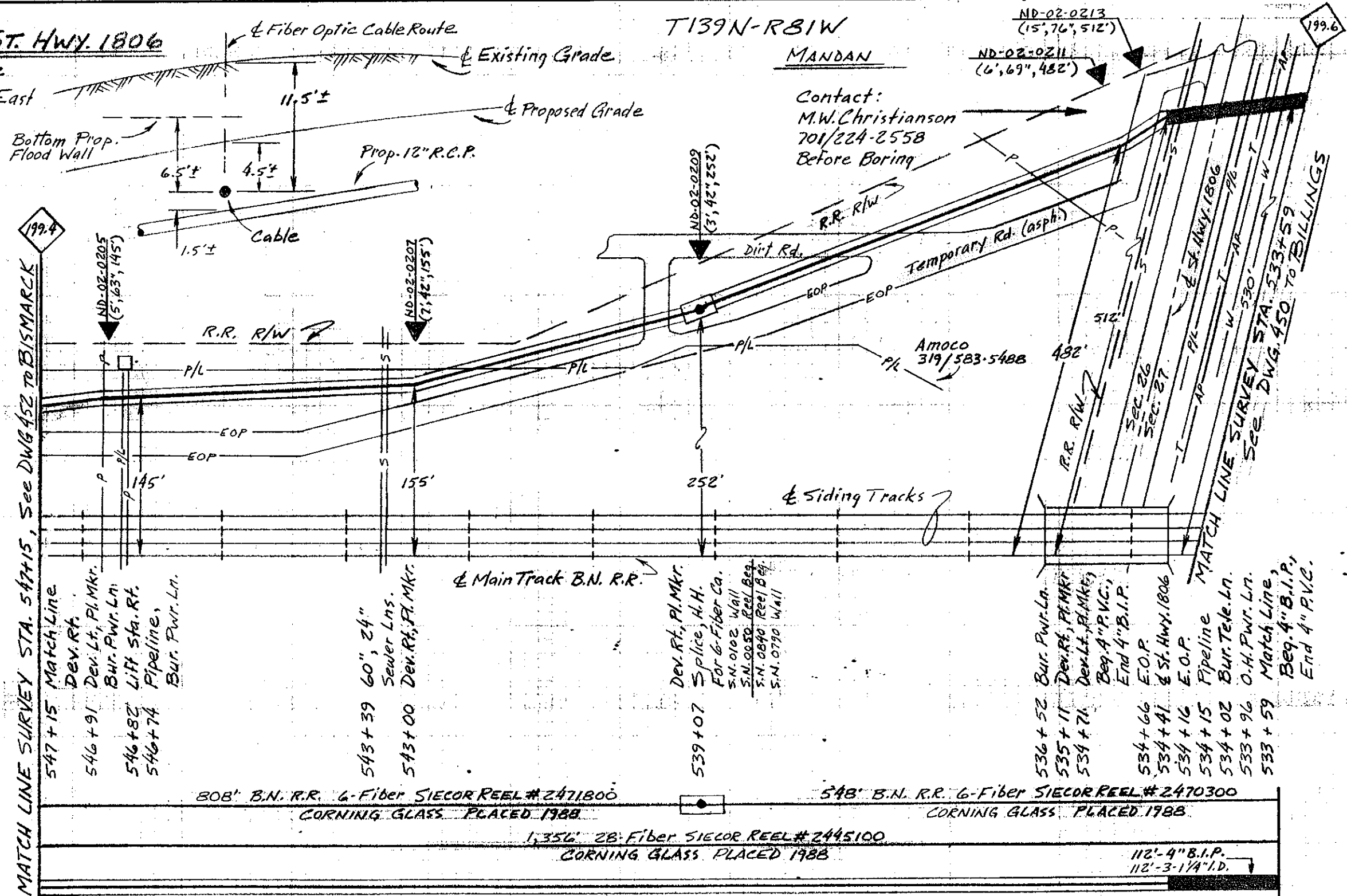
T139N-R81W

MANDAN

Contact:
M.W. Christianson
701/224-2558
Before Boring

ND-02-0213
(15', 76", 512')

ND-02-0211
(6', 69", 482')



MATCH LINE SURVEY STA. 547+15, See DWG 452 TO BISMARCK

199.4

199.6

547+15 Match Line
Dev. Rt.
546+91 Dev. Lt., Pl. Mkr.
Bur. Pwr. Ln.
546+82 Lift Sta. Rt.
546+74 Pipeline,
Bur. Pwr. Ln.

543+39 60", 24"
Sewer Lns.
543+00 Dev. Rt., Pl. Mkr.

539+07 Dev. Rt., Pl. Mkr.
Splice, A.H.
For G-Fiber Co.
S.N. 0102 Wall
S.N. 0050 Reel Beg.
S.N. 0890 Reel End
S.N. 0790 Wall

536+52 Bur. Pwr. Ln.
535+11 Dev. Rt., Pl. Mkr.
534+74 Dev. Lt., Pl. Mkr.,
Beg. 4" P.V.C.,
End 4" B.I.P.
534+66 E.O.P.
534+41 & St. Hwy. 1806
534+16 E.O.P.
534+15 Pipeline
534+02 Bur. Tele. Ln.
533+96 O.H. Pwr. Ln.
533+59 Match Line,
Beg. 4" B.I.P.,
End 4" P.V.C.

308' B.N. R.R. 6-Fiber SIECOR REEL #2471800
CORNING GLASS PLACED 1988

548' B.N. R.R. 6-Fiber SIECOR REEL #2470300
CORNING GLASS PLACED 1988

1,356' 2B-Fiber SIECOR REEL #2445100
CORNING GLASS PLACED 1988

112'-4" B.I.P.
112'-3-1/4" I.D.

1,244'-4" P.V.C.
1,244'-3-1/4" I.D.
ALL 4" P.V.C. Concrete Encased

CAUTION
KNOWN UTILITIES ARE SHOWN IN
APPROXIMATE LOCATIONS ONLY.
CONTRACTOR IS RESPONSIBLE FOR
ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/5/88	As-Built

SYMBOL	DESCRIPTION
	LEGEND

DRAFTER	G.E.	DATE	11/5/88
CHK'D BY	MDW.	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

US Sprint

PROJ. No. 411010-2
GLENDIVE TO BISMARCK
MP. 199.6 TO MP. 199.4
COUNTY MORTON STATE N. DAKOTA

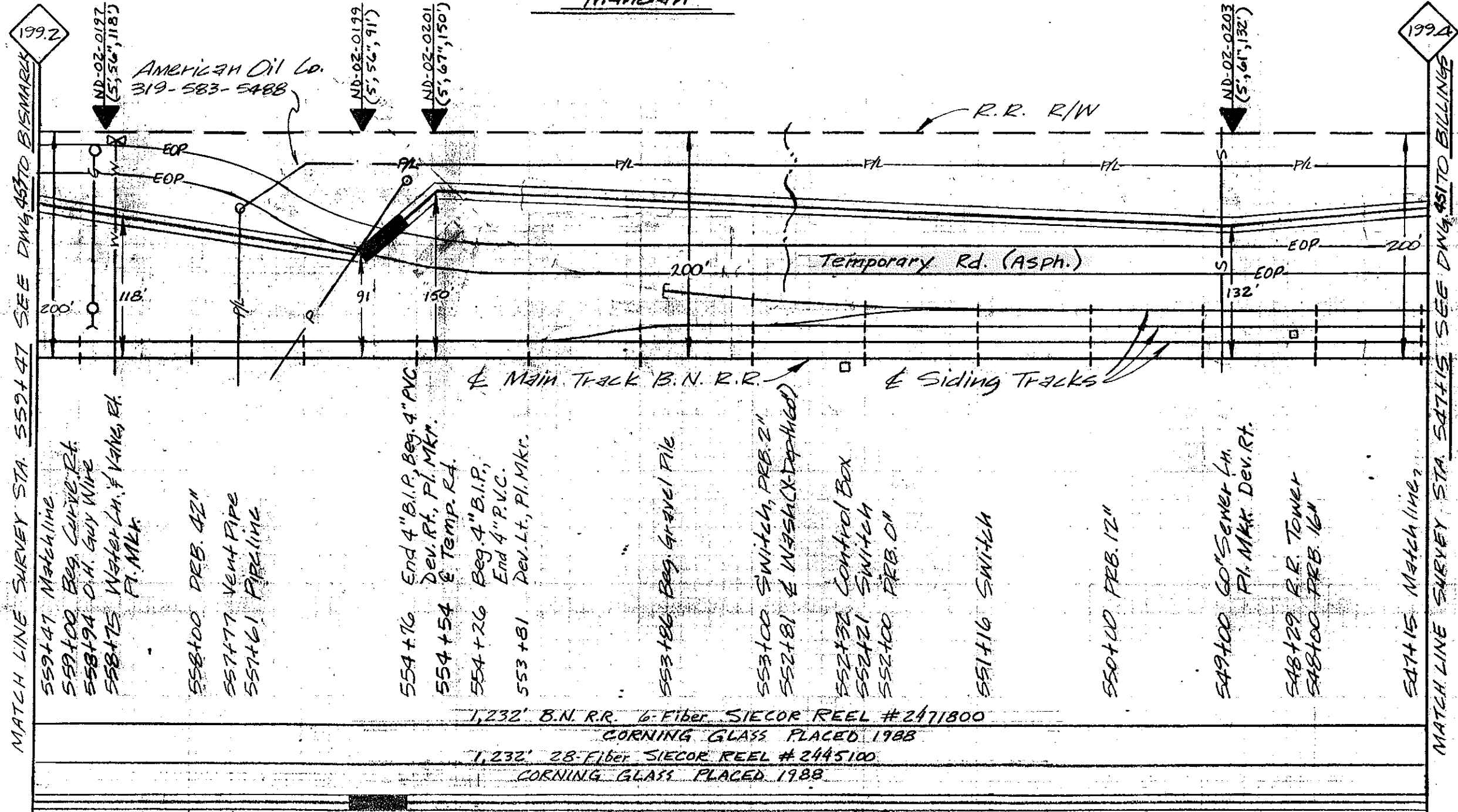
ISSUE SCALE 1" = 100' H.
RELEASE NUMBER 1" = 100' V.

SHEET 45 of 461 DWG. NO. **B**

Sec. 26, T139N; R 81W



Mandan



MATCH LINE SURVEY STA. 559+47 SEE DWG. 4570 BISMARCK 199.2

MATCH LINE SURVEY STA. 547+15 SEE DWG. 4510 BILLINGS 199.4

559+47 Matchline
559+00 Beg. Curve Rt.
558+94 C.H. Guy Wire
558+75 Water Ln. & V. W. Rt.
Pl. Mkr.

558+00 DEB. 42"
557+77 Vent Pipe
557+61 PIPING

554+76 End 4" B.I.P. Beg. 4" PVC
Dev. Rt. Pl. Mkr.
554+54 @ Temp. Rt.
554+26 Beg. 4" B.I.P.
End 4" P.V.C.
553+81 Dev. Lt. Pl. Mkr.

553+86 Beg. Gravel File

553+00 Switch, PRB. 2"
552+81 @ Wash (X-Damaged)
552+32 Control Box
552+21 Switch
552+00 PRB. 0"

551+16 Switch

550+00 PRB. 12"

549+00 CO'S Sewer Ln.
Pl. Mkr. Dev. Rt.

548+29 R.R. Tower
548+00 PRB. 16"

547+15 Matchline

1,232' B.N. R.R. 6-Fiber SIECOR REEL #2471800
CORNING GLASS PLACED 1988
1,232' 28-Fiber SIECOR REEL #2445100
CORNING GLASS PLACED 1988

471'-4" P.V.C.
471'-3-1/4" I.D.
50'-4" B.I.P.
50'-3-1/4" I.D.

ALL 4" P.V.C. Concrete Encased

711'-4" P.V.C.
711'-3-1/4" I.D.

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/5/88	As-Built

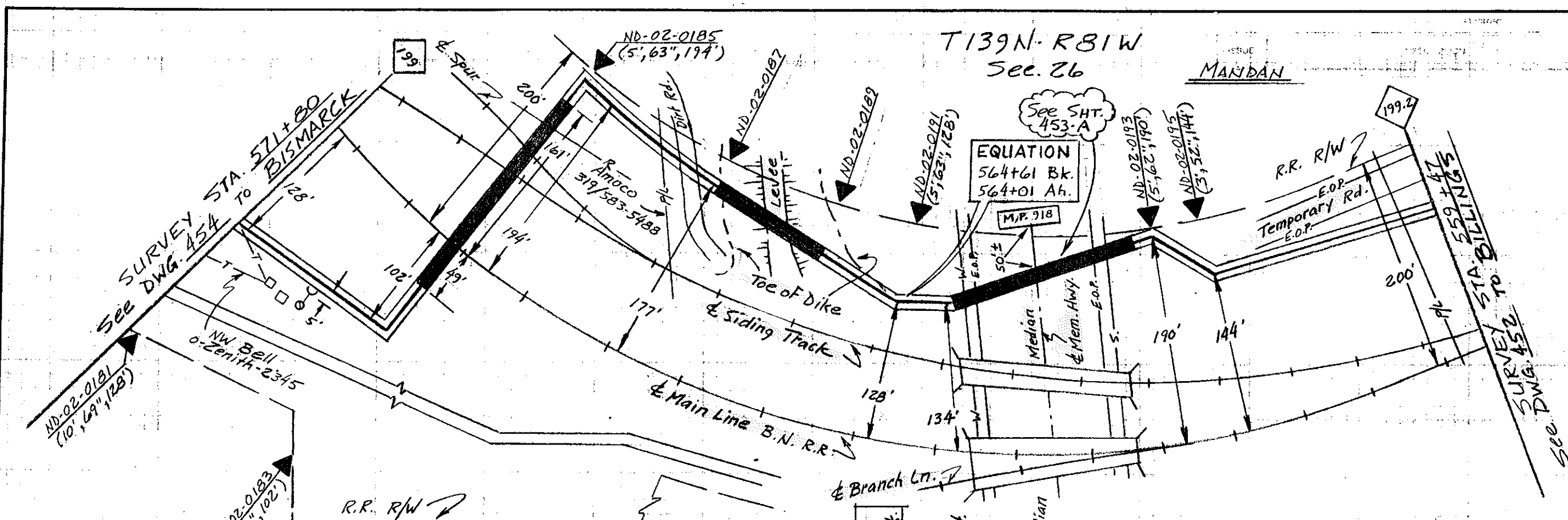
SYMBOL	DESCRIPTION
LEGEND	

DRAFTER M.M.M.	DATE 1-22-88
CHK'D BY MDW	DATE 11-22-88
ENGR. DM	DATE 11-22-88
APPROVED BY LES	DATE 11-22-88
APPROVED BY	DATE
ISSUE	SCALE 1" = 100'
RELEASE NUMBER	1" = 100'

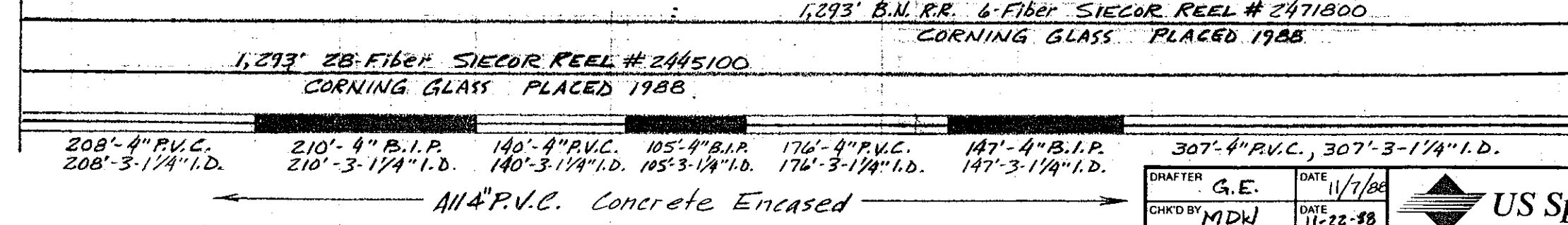
US Sprint

PROJ. No. 411010-2
GLENDIVE TO BISMARCK
 M.P. 199.4 TO M.P. 199.2
 COUNTY MORTON STATE N. DAKOTA

SHEET 452 OF 461 DWG. NO. **B**



- 571+80 M.P. 199, Dev. Rt., Pl. Mkr.
- 571+61 Bur. Tele. Ln.
- 571+17 Splice Box
- 571+02 N.W. Bell Rep. Lt.
- 570+86 Guy Anchor
- 570+25 Dev. Rt., Pl. Mkr.
- 569+72 End 4" B.I.P., Beg. 4" P.V.C.
- 569+23 & Main Track
- 568+39 & Siding Track
- 568+13 & Spur Track
- 567+67 Bur. Sig. Ln.
- 567+62 Beg. 4" B.I.P., End 4" P.V.C.
- 567+37 Dev. Lt., Pl. Mkr.
- 566+70 Pipeline (36" D)
- 566+53 & Dirt Rd.
- 566+26 Pl. Mkr.
- 566+22 End 4" B.I.P., Beg. 4" P.V.C., Toe of Dike
- 565+69 & Top of Levee
- 565+20 Toe of Dike
- 565+17 Beg. 4" B.I.P., End 4" P.V.C., Pl. Mkr.
- 564+94 EQUATION POINT 564+01 Ah. = 564+61 Bk.
- 564+61 Dev. Rt., Pl. Mkr.
- 564+01 End 4" B.I.P., Beg. 4" P.V.C., Dev. Rt.
- 563+95 Water Ln.
- 563+87 E.O.P.
- 563+28 & Memorial Hwy Median
- 562+75 Hwy. M.P. 918 Rt.
- 562+72 E.O.R.
- 562+63 Sewer Ln.
- 562+54 Beg. 4" B.I.P., End 4" P.V.C.
- 562+21 Dev. Lt., Pl. Mkr.
- 561+22 Dev. Rt., Pl. Mkr.
- 559+61 Pipeline (42" Deep)
- 559+47 Match Line.



CAUTION
 KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
 NOT FOR DISCLOSURE
 OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/7/88	As-Built

SYMBOL	DESCRIPTION
LEGEND	

DRAFTER	G.E.	DATE	11/7/88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

US Sprint

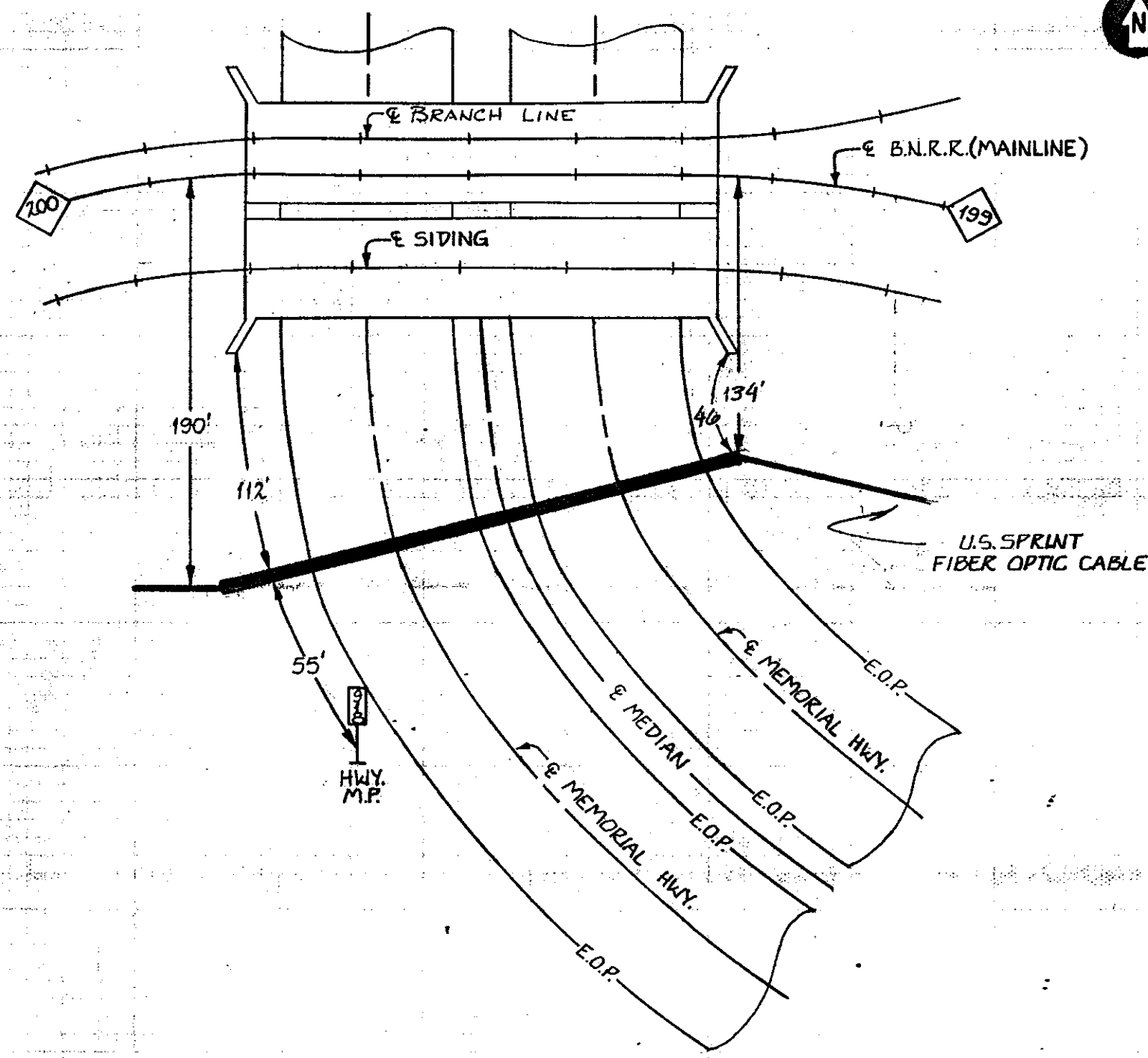
PROJ. No. 411010-2
GLENDIVE TO BISMARCK
 M.P. 199.2 TO M.P. 199
 COUNTY MORTON STATE N. DAKOTA

SCALE 1" = 100' H
 1" = 100' V

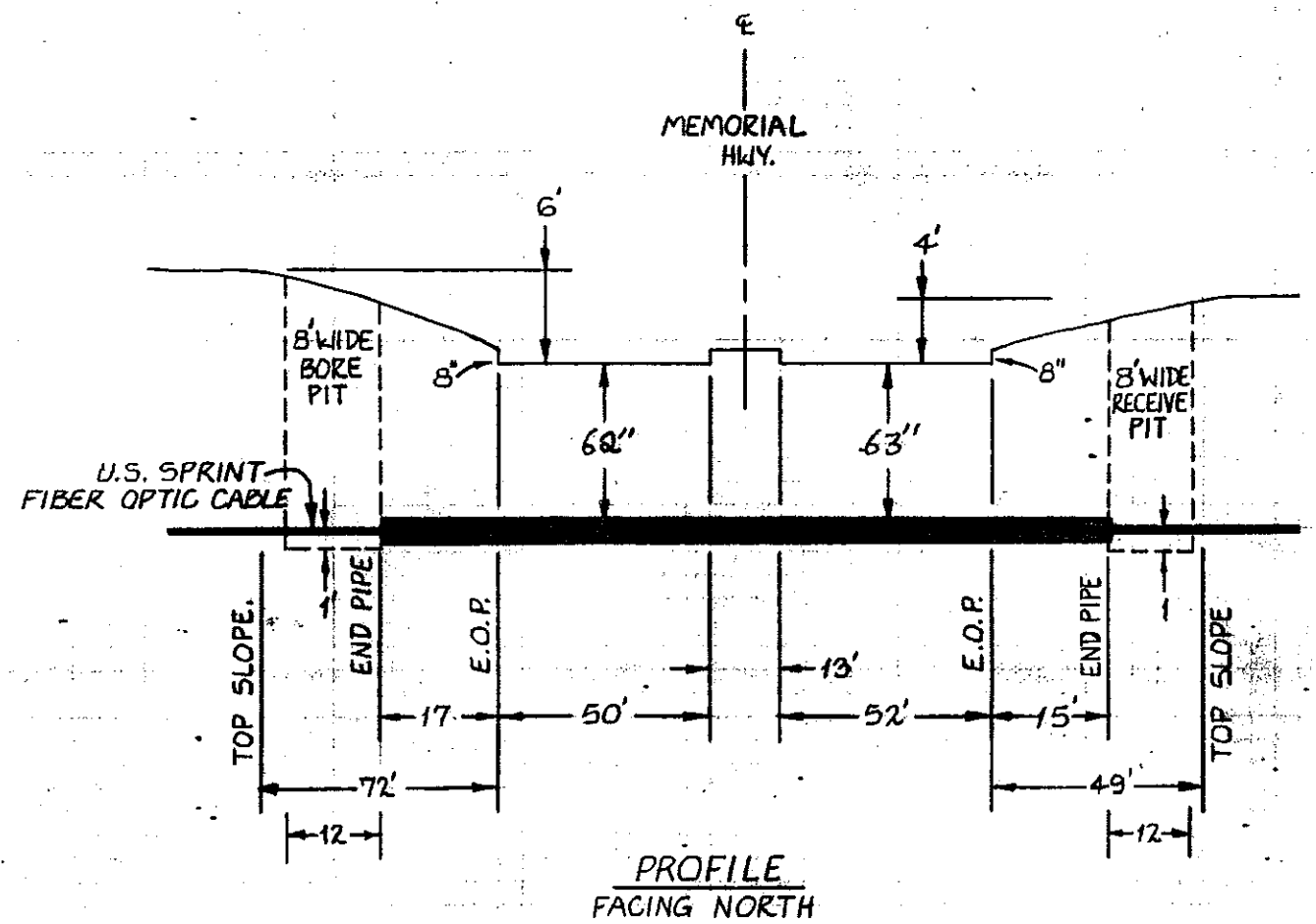
SHEET 453 OF 461 DWG. NO. **B**



REVISIONS		
ISSUE	DESCRIPTION	DFTR/DATE
	As-Built	11/7/88



PLAN



PROFILE
FACING NORTH

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

SEE CONST. DWG. #453

DRAFTER	MDW	DATE	3-2-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

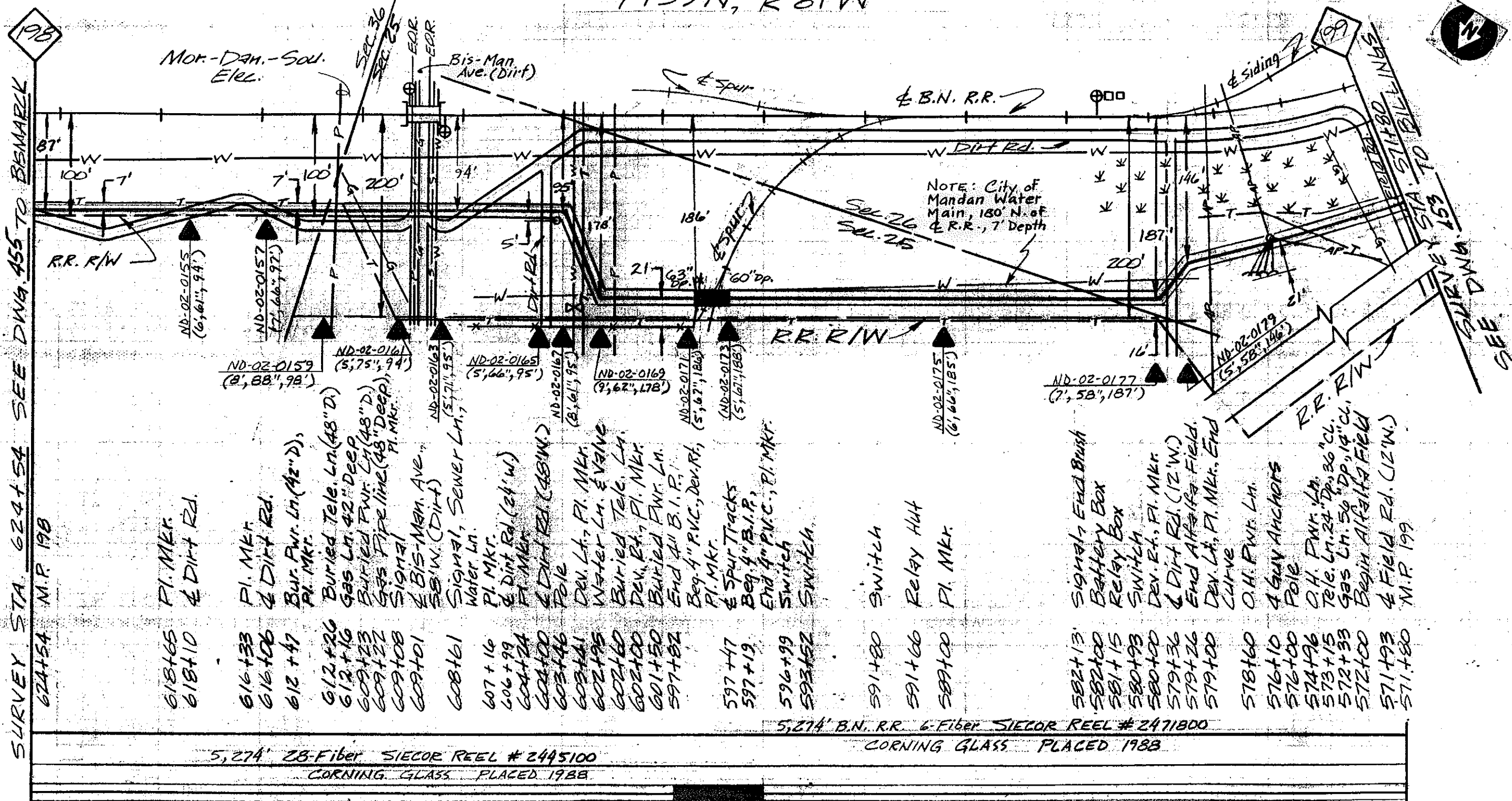
US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 M.P. 199.10
 COUNTY: MORTON STATE: N. DAKOTA

SYMBOL	DESCRIPTION
	LEGEND

ISSUE	SCALE	SHEET 453A OF 461	DWG. NO.	B
RELEASE NUMBER				

T139N, R81W



SURVEY STA. 624+54 SEE DWG. 455 TO BEMARCK 198



- 618+65 P.I. MKR.
- 618+10 & DIRT RD.
- 616+33 P.I. MKR.
- 616+06 & DIRT RD.
- 612+47 Bur. Pwr. Ln. (42" D), P.I. MKR.
- 612+26 Buried Tele. Ln. (48" D)
- 612+16 Gas Ln. 42" DEEP
- 609+23 Buried Pwr. Ln. (48" D)
- 609+22 Gas Pipeline (48" DEEP), P.I. MKR.
- 609+08 SIGNAL
- 609+01 & BIS-MAN. AVE., S.W. (DIRT)
- 608+61 Signal, Sewer Ln., Water Ln.
- 607+16 P.I. MKR.
- 606+99 & DIRT RD. (24" W)
- 604+24 P.I. MKR.
- 602+00 & DIRT RD. (48" W)
- 603+46 Pole
- 603+41 Dev. Ln., P.I. MKR.
- 602+95 Water Ln. & Valve
- 602+60 Buried Tele. Ln.
- 602+00 Dev. Ln., P.I. MKR.
- 601+50 Buried Pwr. Ln.
- 597+82 End 4" B.I.P., Beg. 4" P.V.C., Dev. Rd., P.I. MKR.
- 597+47 & Spur Tracks
- 597+19 Beg. 4" B.I.P., End 4" P.V.C., P.I. MKR.
- 596+99 Switch
- 593+52 Switch
- 591+80 Switch
- 591+60 Relay Hut
- 589+00 P.I. MKR.
- 582+13 Signal, End Brush
- 582+00 Battery Box
- 581+15 Relay Box
- 580+93 Switch
- 580+00 Dev. Ln., P.I. MKR.
- 579+36 & DIRT RD. (12" W)
- 579+26 End Alfalfa Field.
- 579+00 Dev. Ln., P.I. MKR., End Curve
- 578+60 O.H. Pwr. Ln.
- 576+10 4 GUY ANCHORS
- 576+00 Pole
- 574+96 O.H. Pwr. Ln.
- 573+15 Tele. Ln. 24" Dp., 26" Cl.
- 572+33 Gas Ln. 56" Dp., 14" Cl.
- 572+00 Begin Alfalfa Field
- 571+93 & Field Rd. (12" W)
- 571+80 M.P. 199

5,274' 28-Fiber SIECOR REEL # 2445100 CORNING GLASS PLACED 1988

5,274' B.N. R.R. 6-Fiber SIECOR REEL # 2471800 CORNING GLASS PLACED 1988

2,672'-4" P.V.C. 2,672'-3-1/4" I.D. 63'-4" B.I.P. 63'-3-1/4" I.D. 2,539'-4" P.V.C. 2,539'-3-1/4" I.D.

← All 4" P.V.C. Concrete Encased →

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/7/88	As-Built

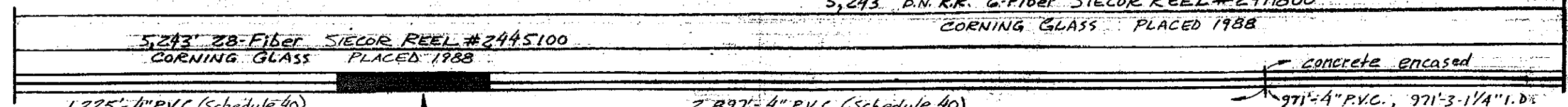
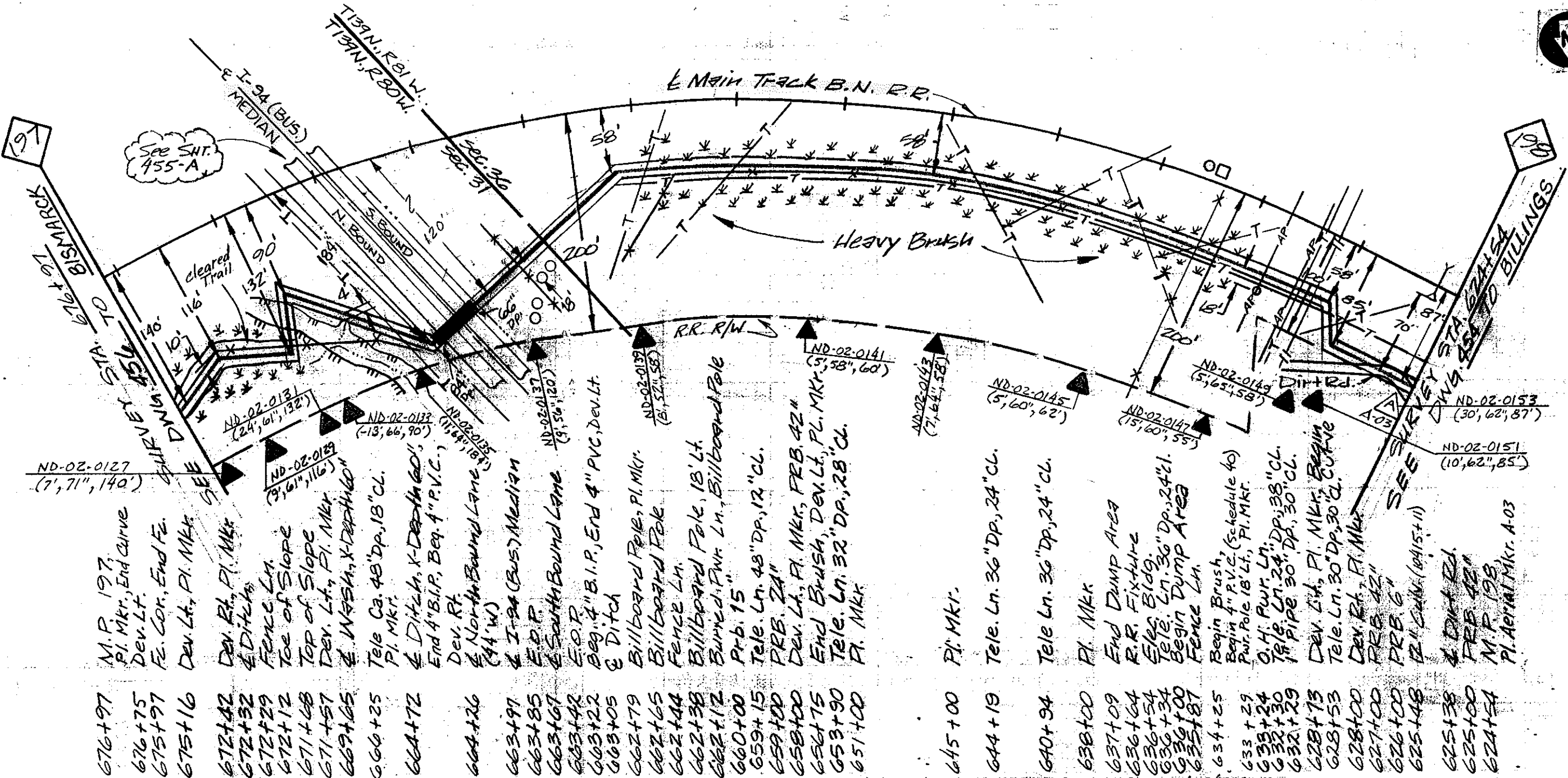
SYMBOL	DESCRIPTION
	LEGEND

DRAFTER	M.M.M.	DATE	1-4-88
CHKD BY	MDK	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	
ISSUE		SCALE	1"=100' N
RELEASE NUMBER			

US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 M.P. 199 TO M.P. 198
 COUNTY BURLEIGH STATE N. DAKOTA

SHEET 454 OF 461 DWG. NO. **B**



1,225' 4" P.V.C. (Schedule 40)
1,225'-3-1/4" I.D.
150'-4" B.I.P.
150'-3-1/4" I.D.

2,897'-4" P.V.C. (Schedule 40)
2,897'-3-1/4" I.D.

971'-4" P.V.C., 971'-3-1/4" I.D.

CAUTION
KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/3/88	As-Built

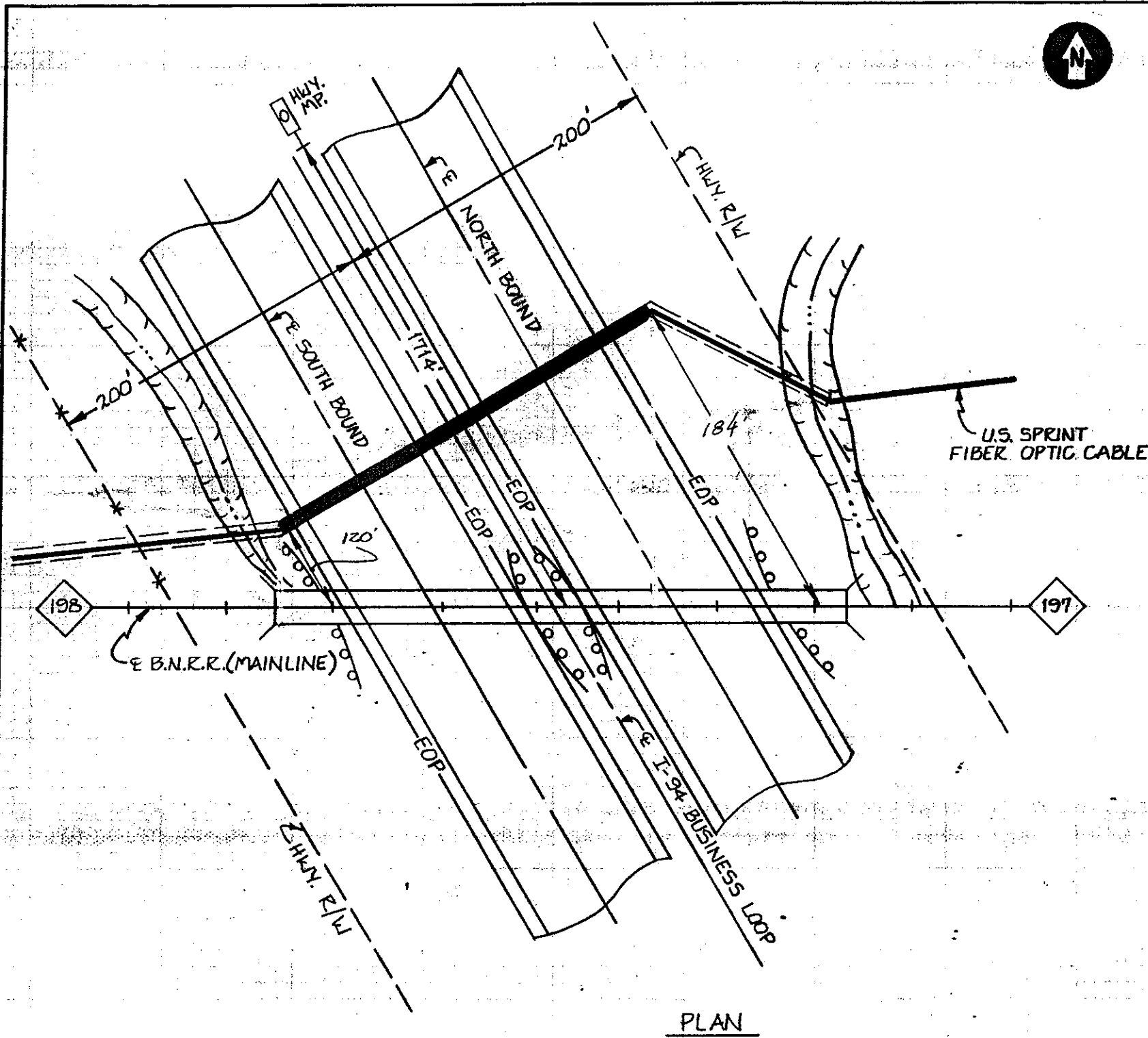
SYMBOL	DESCRIPTION
LEGEND	

DRAFTER M.M.M.	DATE 1-4-88
CHK'D BY MDW	DATE 11-22-88
ENGR DM	DATE 11-22-88
APPROVED BY LES	DATE 11-22-88
APPROVED BY	DATE



PROJ. NO. 317010-2
GLENDDIVE TO BISMARCK
M.P. 198 TO M.P. 197
COUNTY MORTON STATE N. DAKOTA

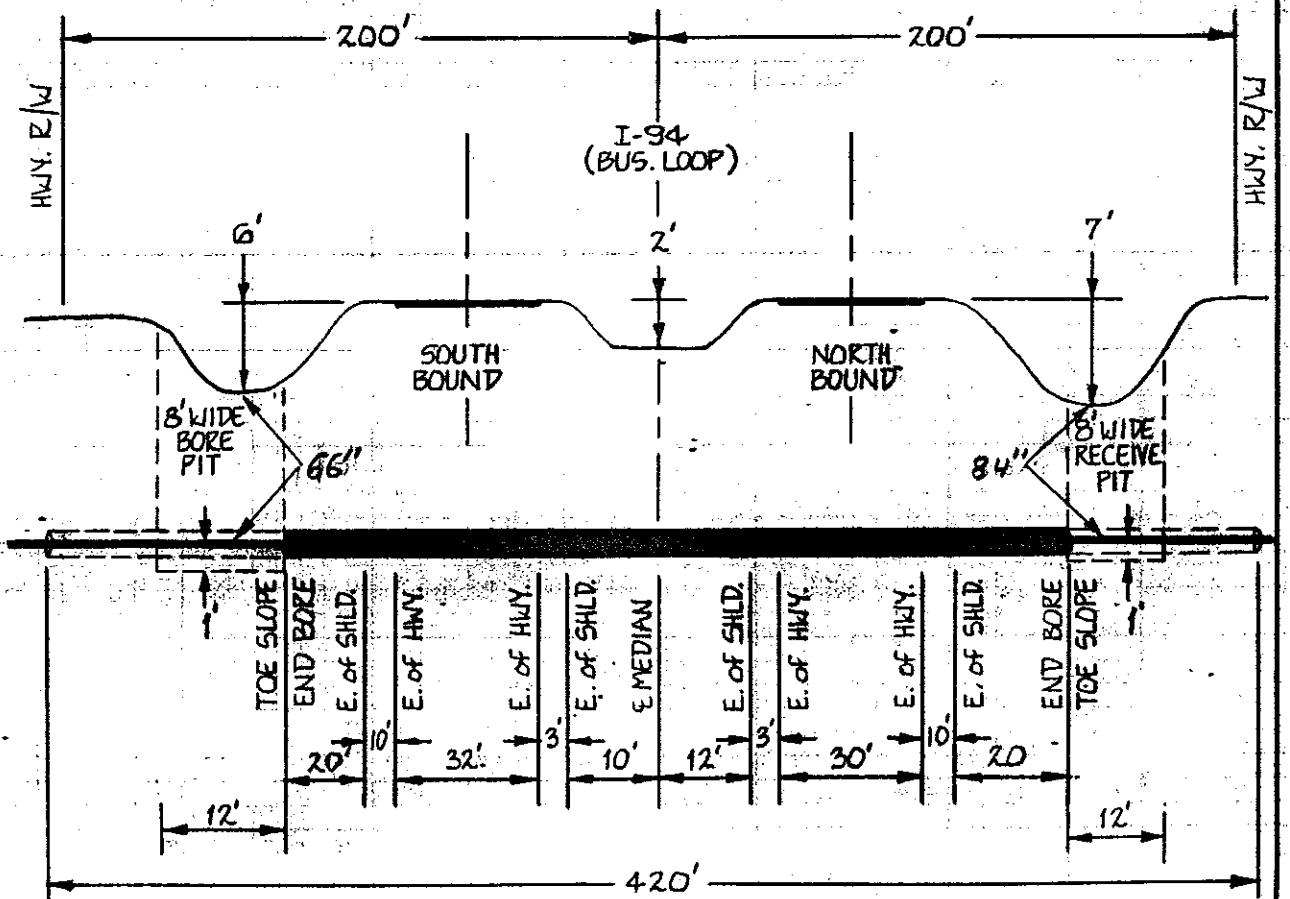
SHEET 455 OF 461 DWG. NO. B



PLAN



REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
	As-Built	11/8/88	



PROFILE
FACING NORTH

SEE CONST. DWG. # 455

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

DRAFTER	MDW	DATE	3-7-88
CHK'D BY	MDW	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	

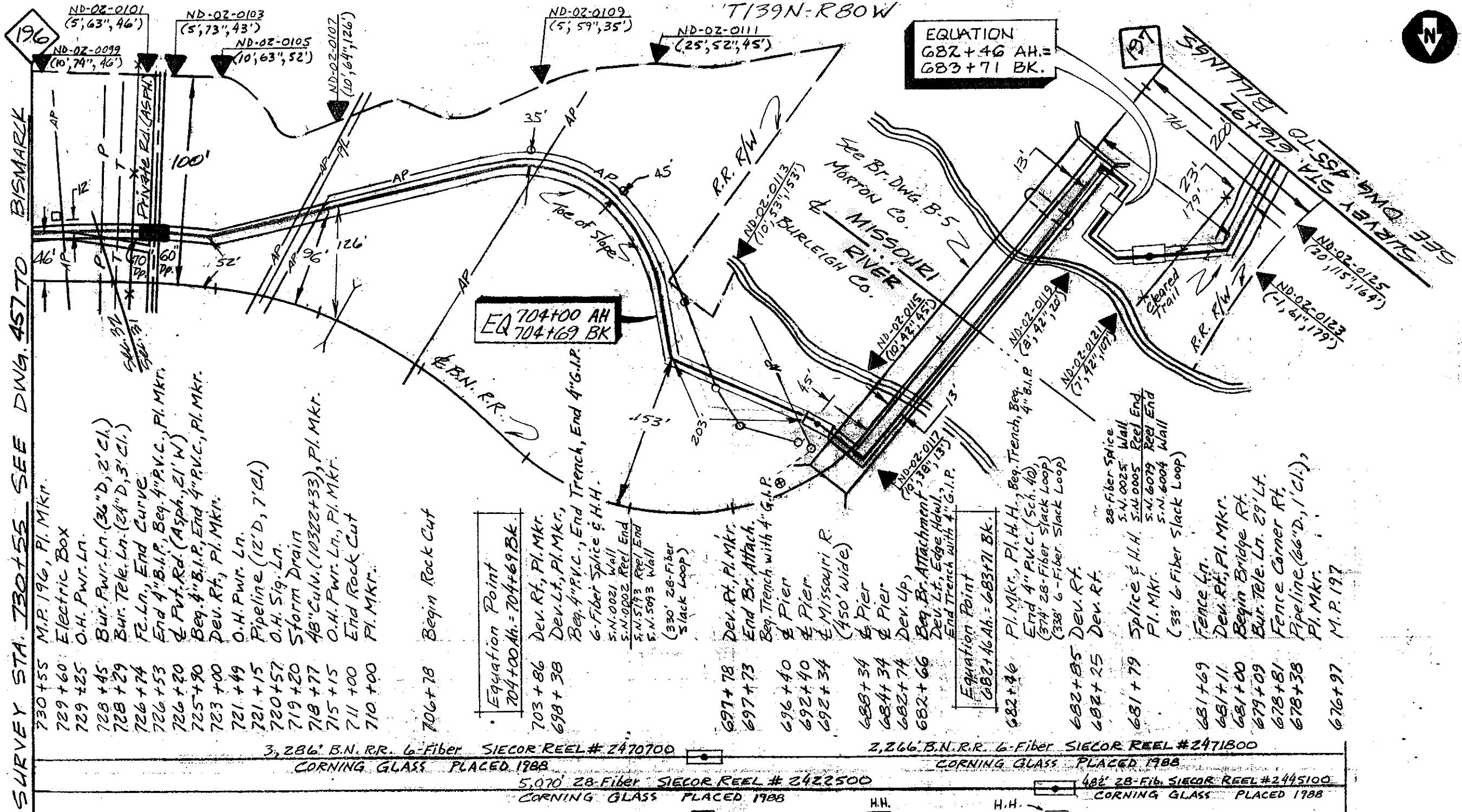
US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 MP. 197.30

COUNTY: MORTON STATE: N. DAKOTA

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	

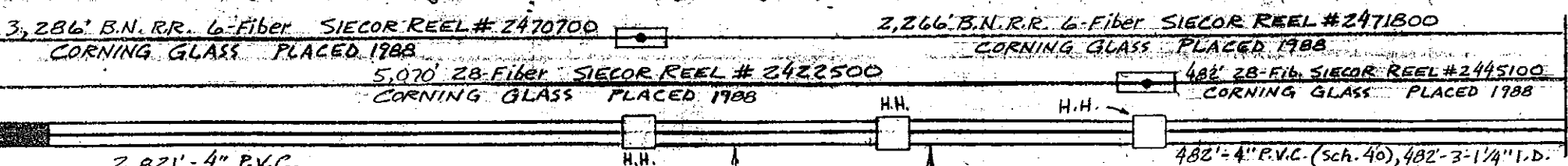
SHEET 455 OF 461	DWG. NO. B
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SURVEY STA. 730+55 SEE DWG. 457 TO BISMARCK

- 730+55 M.P. 196, Pl. Mkr.
- 729+60 Electric Box
- 729+25 O.H. Pwr. Ln.
- 728+45 Bur. Pwr. Ln. (36" D, 2' Cl.)
- 728+29 Bur. Tele. Ln. (24" D, 3' Cl.)
- 726+74 Fl. Ln., End Curve
- 726+53 End 4" B.I.P., Beg. 4" P.V.C., Pl. Mkr.
- 726+20 4" Pvt. Rd. (Asph., 21' W)
- 725+90 Beg. 4" B.I.P., End 4" P.V.C., Pl. Mkr.
- 723+00 Dev. Rt., Pl. Mkr.
- 721+49 O.H. Pwr. Ln.
- 721+15 Pipeline (12" D, 7' Cl.)
- 720+57 O.H. Sig. Ln.
- 719+20 Storm Drain
- 718+77 48" Culv. (10322+33), Pl. Mkr.
- 715+15 O.H. Pwr. Ln., Pl. Mkr.
- 711+00 End Rock Cut
- 710+00 Pl. Mkr.

- 706+78 Begin Rock Cut
- Equation Point 704+00 Ah = 704+69 Bk.
- 703+86 Dev. Rt., Pl. Mkr.
- 698+38 Dev. Lt., Pl. Mkr.
- Beg. 4" P.V.C., End Trench, End 4" G.I.P.
- 6-Fiber Splice & H.H.
- S.N. 0021 Wall
- S.N. 0002 Reel End
- S.N. 5173 Reel End
- S.N. 5093 Wall
- (330' 28-Fiber Slack Loop)
- 697+78 Dev. Rt., Pl. Mkr.
- 697+73 End Br. Attach.
- Beg. Trench with 4" G.I.P.
- 696+40 & Pier
- 692+40 & Pier
- 692+34 & Missouri R. (450' wide)
- 688+34 & Pier
- 684+34 & Pier
- 682+74 Dev. Up,
- 682+66 Beg. Br. Attachment
- Dev. Lt., Edge Haul,
- End Trench with 4" G.I.P.
- Equation Point 682+46 Ah = 683+71 Bk.
- 682+46 Pl. Mkr., Pl. H.H., Beg. Trench, Beg. 4" B.I.P.
- End 4" P.V.C. (Sch. 40)
- (374' 28-Fiber Slack Loop)
- (338' 6-Fiber Slack Loop)
- 682+85 Dev. Rt.
- 682+25 Dev. Rt.
- 681+79 Splice & H.H.
- Pl. Mkr.
- (33' 6-Fiber Slack Loop)
- 28-Fiber Splice
- S.N. 0025 Wall
- S.N. 0005 Reel End
- S.N. 6079 Reel End
- S.N. 6004 Wall
- 681+69 Fence Ln.
- 681+11 Dev. Rt., Pl. Mkr.
- 681+00 Begin Bridge Rt.
- 679+09 Bur. Tele. Ln. 29' Lt.
- 678+81 Fence Corner Rt.
- 678+38 Pipeline (66" D, 1' Cl.), Pl. Mkr.
- 676+97 M.P. 197



CAUTION
 KNOWN UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.

PROPRIETARY INFORMATION
 NOT FOR DISCLOSURE
 OR REPRODUCTION

REVISIONS	
DATE	DESCRIPTION
11/8/88	As-Built

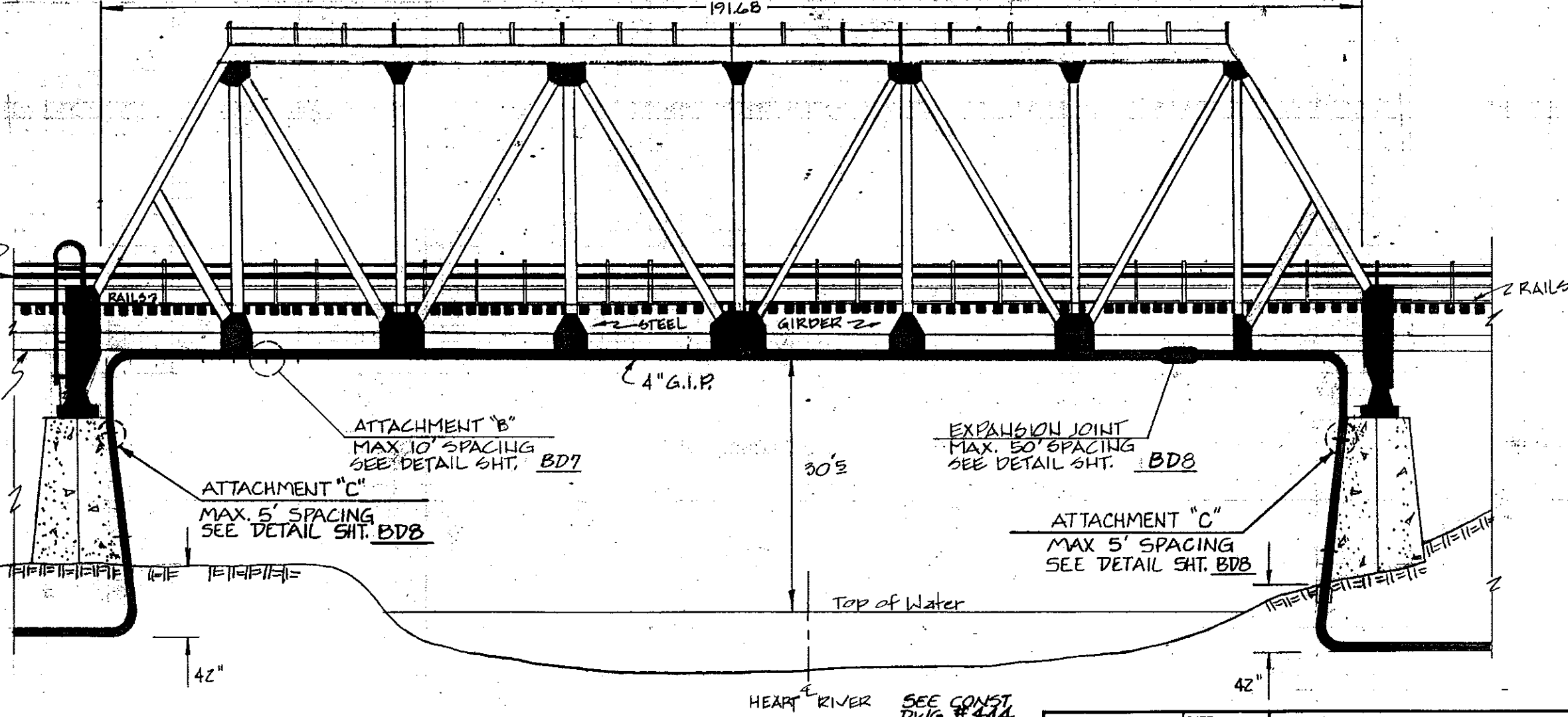
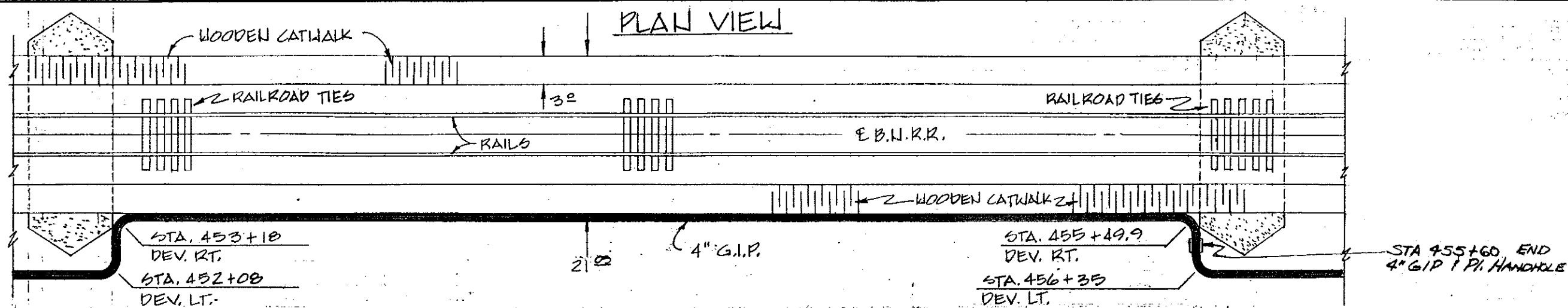
SYMBOL	DESCRIPTION
	LEGEND

DRAFTER	M.M.M.	DATE	1-5-88
CHK'D BY	MDKJ	DATE	11-22-88
ENGR.	DM	DATE	11-22-88
APPROVED BY	LES	DATE	11-22-88
APPROVED BY		DATE	
ISSUE		SCALE	1"=100' H
RELEASE NUMBER			11/2001 V

US Sprint

PROJ. NO. 411010-2
 GLENDIVE TO BISMARCK
 M.P. 197 TO M.P. 196
 COUNTY MORTON STATE N. DAKOTA

SHEET 456 OF 461 DWG. NO. B



B.N. SWITCH LINE
3" CONDUIT

I-BEAM
12x12

ATTACHMENT "C"
MAX. 5' SPACING
SEE DETAIL SHT. BD8

ATTACHMENT "B"
MAX. 10' SPACING
SEE DETAIL SHT. BD7

EXPANSION JOINT
MAX. 50' SPACING
SEE DETAIL SHT. BD8

ATTACHMENT "C"
MAX. 5' SPACING
SEE DETAIL SHT. BD8

Top of Water

HEART RIVER
SEE CONST. DWG. # 444

BURLINGTON NORTHERN R.R.
SEC. 25, T139N-R81W
BRIDGE NO. 0
MORTON CO.
NORTH DAKOTA

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

ELEVATION

DRAFTER	REF	DATE	2-24-88
CHK'D BY	MDK	DATE	12-13-88
ENGR.	DM	DATE	12-13-88
APPROVED BY	LES	DATE	12-13-88
APPROVED BY		DATE	



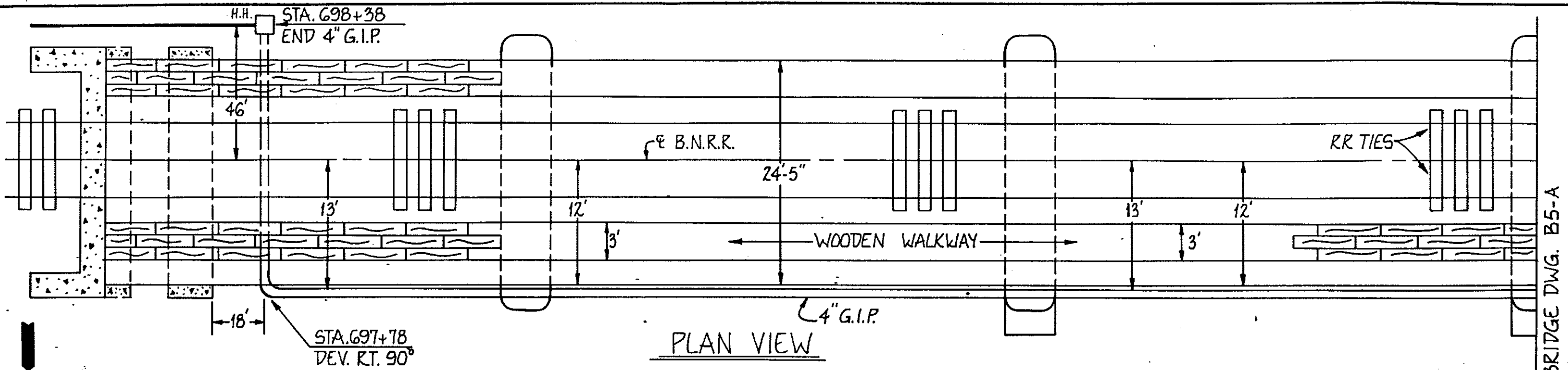
PROJ NO. 411010-2
GLEN DIVE TO BISMARCK
BRIDGE ATTACHMENT HEART RIVER

SYMBOL	DESCRIPTION	ISSUE	SCALE	HOWE
LEGEND				
		RELEASE NUMBER		

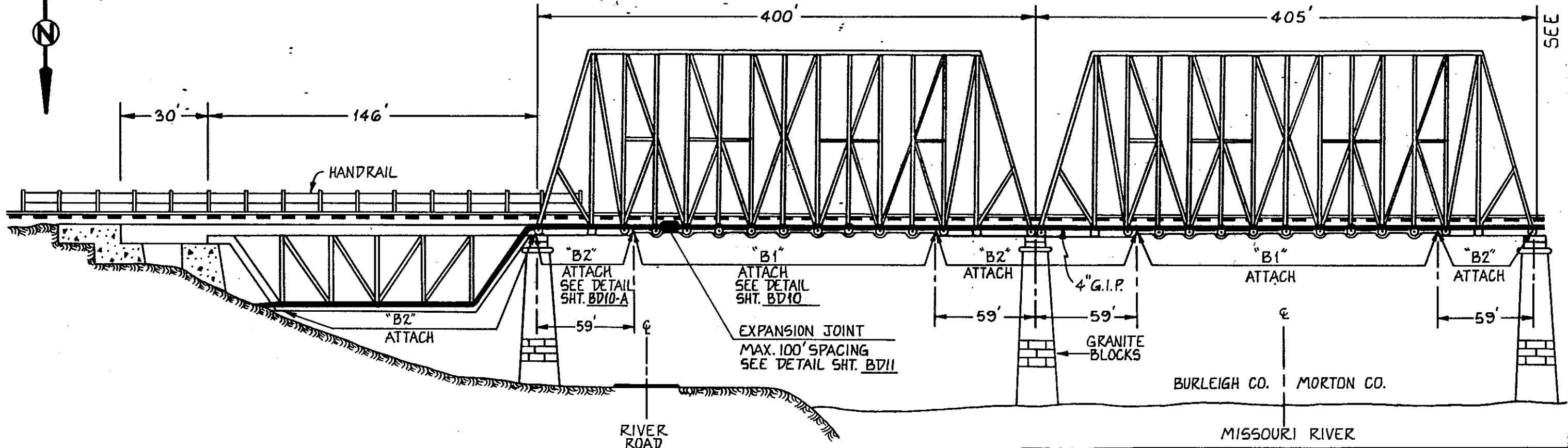
SHEET 84 OF 87

DWG. NO.

B



PLAN VIEW



ELEVATION

BURLINGTON NORTHERN R.R.
 SEC. 31; T. 139N., R. 80W.
 BRIDGE NO. 196
 MORTON & BURLEIGH CO.
 NORTH DAKOTA

SEE CONST. DWG. #45G

DRAFTER	MDW	DATE	5-5-88
CHK'D BY	MDW	DATE	12-13-88
ENGR.	MDW	DATE	5-1-88
APPROVED BY	LES	DATE	12-13-88
APPROVED BY		DATE	

US Sprint

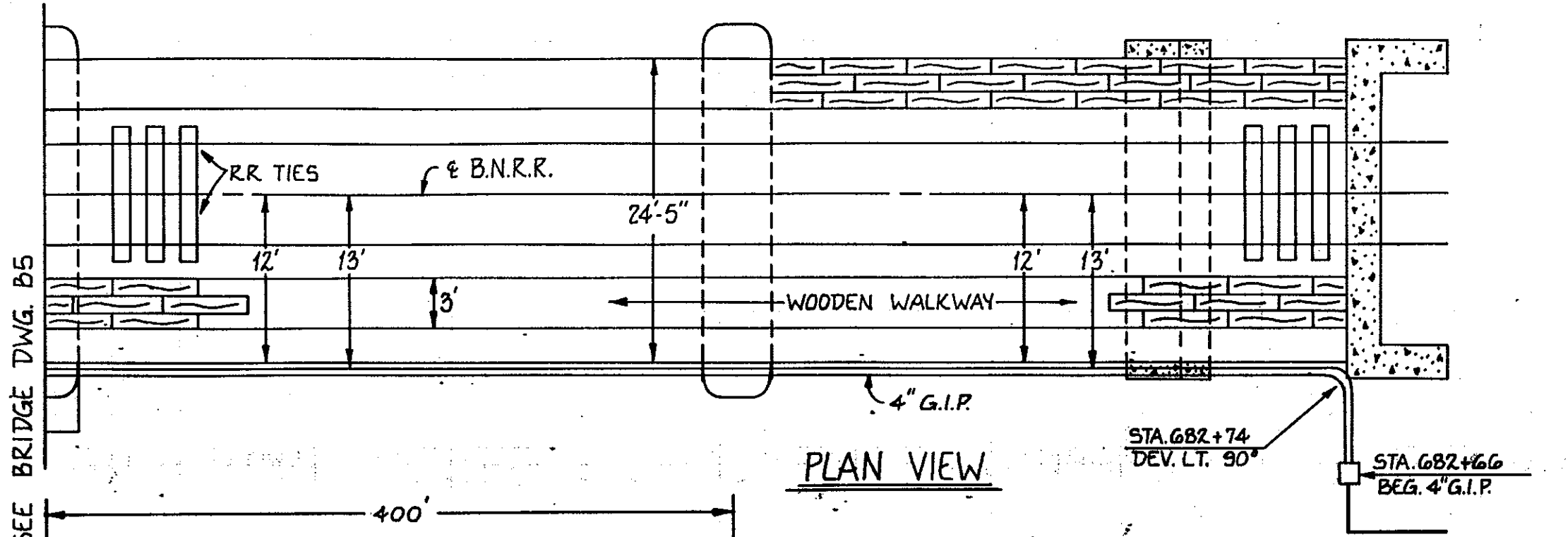
PROJ. NO. 411010-2
 GLENDIVE TO BISMARCK
 BRIDGE ATTACHMENT MISSOURI RIVER

SYMBOL	DESCRIPTION
	LEGEND

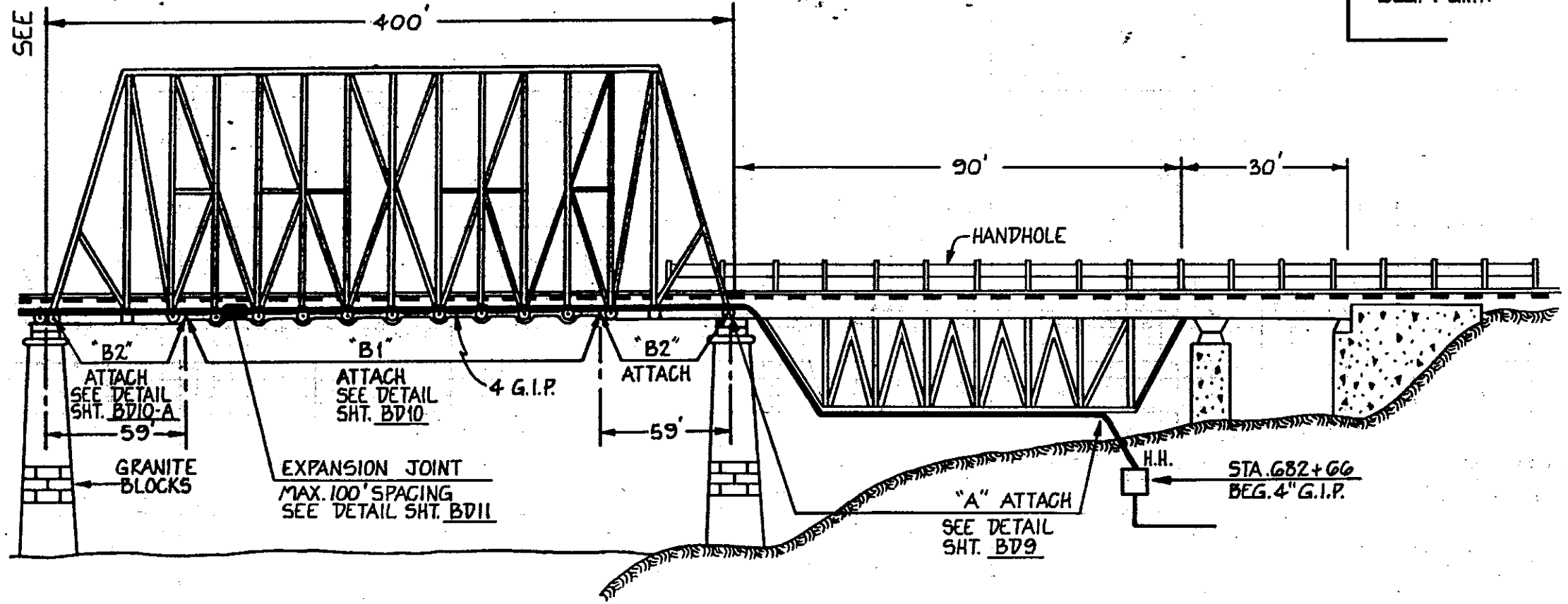
ISSUE	SCALE NONE
RELEASE NUMBER	

SHEET B5 OF B7	DWG. NO. B
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SEE BRIDGE DWG. B5-A



PLAN VIEW



ELEVATION

SEE CONST. DWG. *456



BURLINGTON NORTHERN R.R.
 SEC. 31 T139N. R. 80W.
 BRIDGE NO. 196
 MORTON CO.
 NORTH DAKOTA

DRAFTER	MDW	DATE	5-6-88
CHK'D BY	MDW	DATE	12-13-88
ENGR.	MDW	DATE	5-1-88
APPROVED BY	LES	DATE	12-13-88
APPROVED BY		DATE	



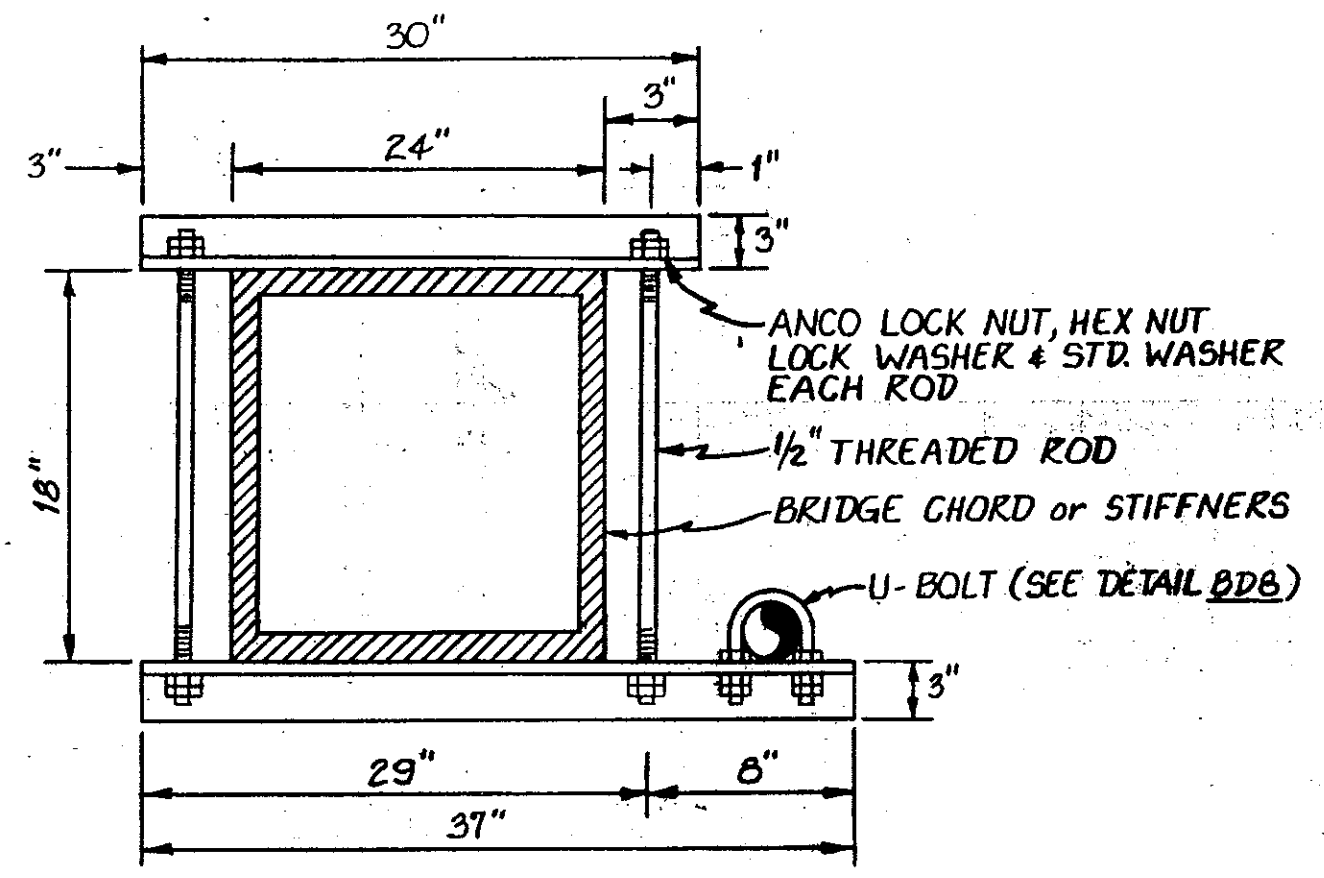
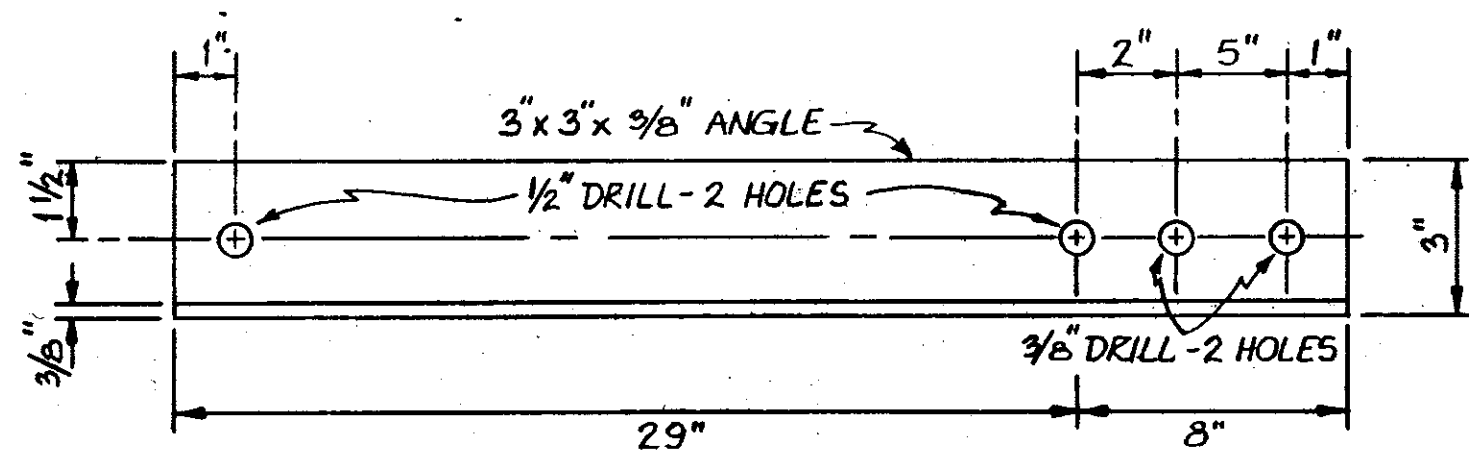
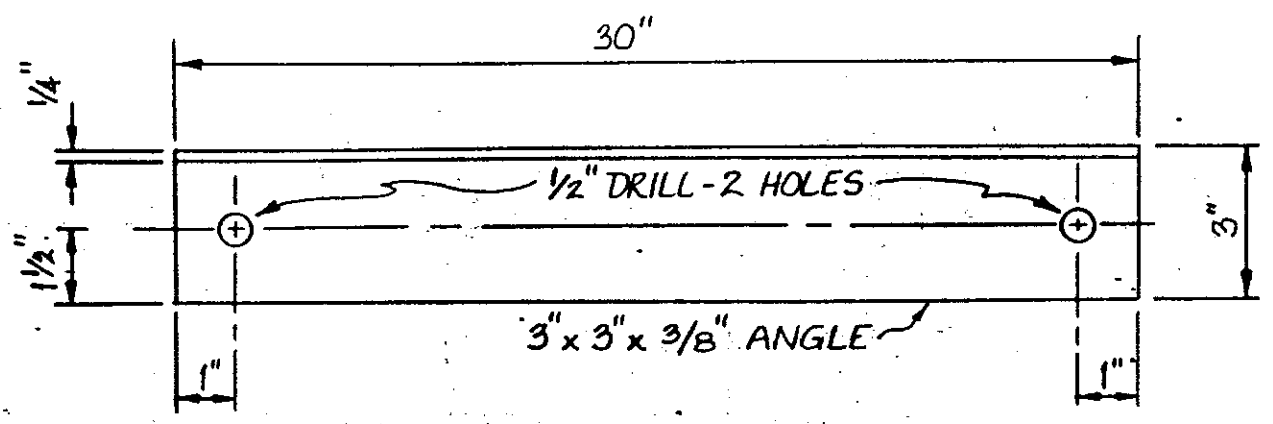
PROJ. NO. 411010-2
 GLENDIVE TO BISMARCK
 BRIDGE ATTACHMENT MISSOURI RIVER

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	SCALE	NONE
		RELEASE NUMBER	

SHEET B5-A OF B7

DWG. NO. B

REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
		RELEASE NUMBER	



NOTE: ATTACHMENT "B" AS CALLED FOR ON BRIDGE DRAWINGS WILL INCLUDE U-BOLT, NUTS, BOLTS, WASHERS, LOCKWASHERS, AND ALL HARDWARE NECESSARY FOR ATTACHMENT.

ATTACHMENT "B"

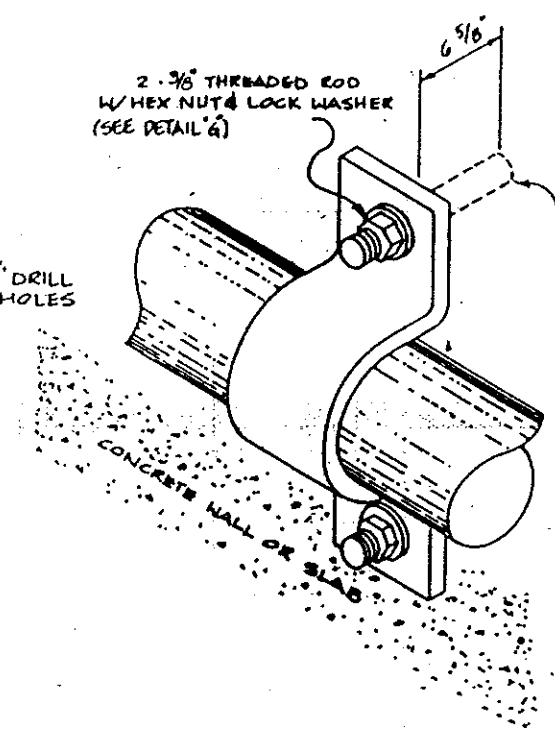
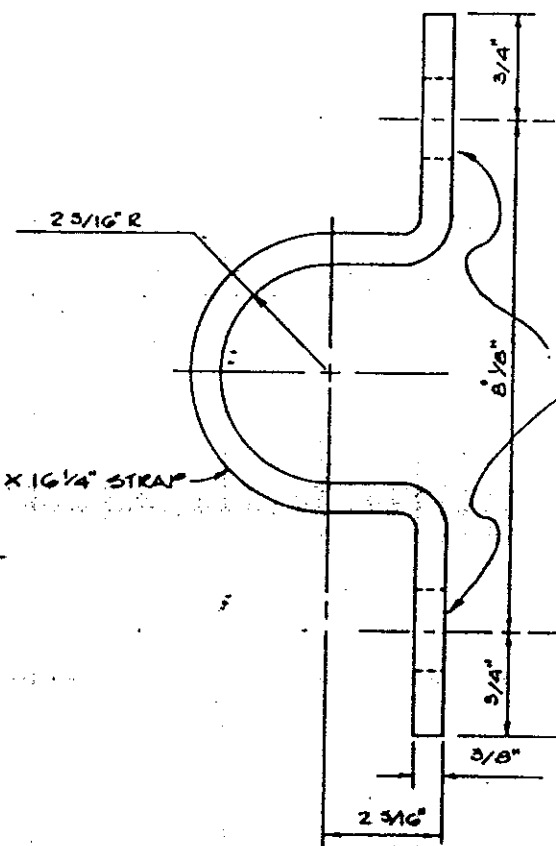
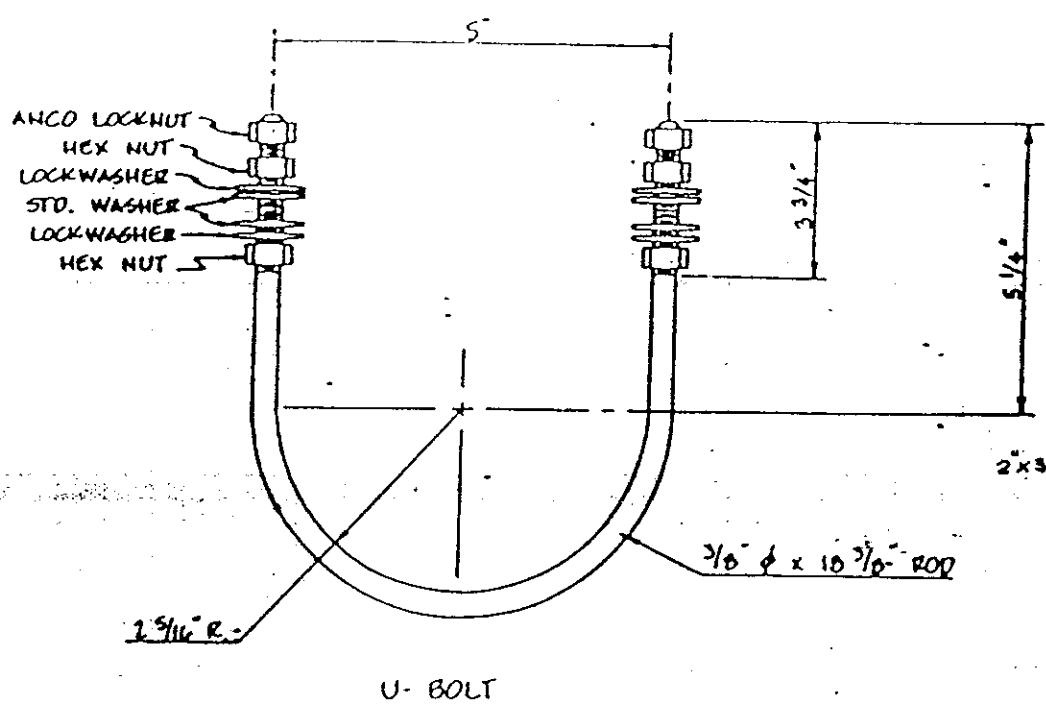
PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

DRAFTER MDW	DATE 1-13-87
CHK'D BY MDW	DATE 12-15-88
ENGR. MDW	DATE 1-13-87
APPROVED BY LES	DATE 12-15-88
APPROVED BY	DATE

US Sprint
PROJ. NO. 411010-2
GLEN DIVE TO BISMARCK
BRIDGE DETAILS HEART RIVER

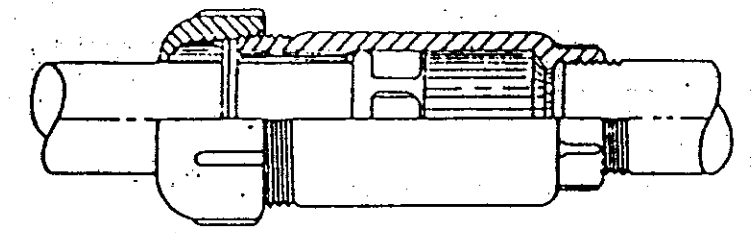
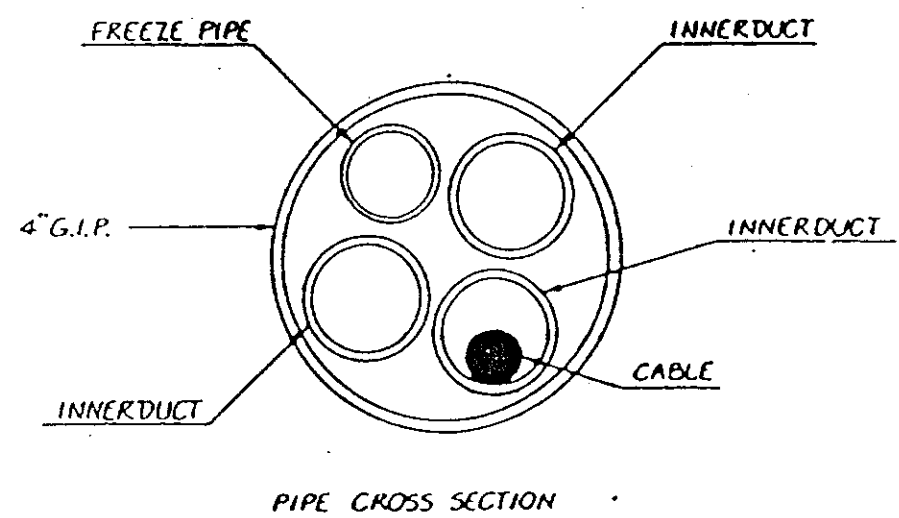
SYMBOL	DESCRIPTION	ISSUE	SCALE NONE	SHEET BD7 OF BDA	DWG. NO.	B
LEGEND		RELEASE NUMBER				

REVISIONS			
ISSUE	DESCRIPTION	DATE	ENGR/DATE
			RELEASE NUMBER



NOTE: ATTACHMENT "C" AS CALLED FOR ON BRIDGE DRAWINGS WILL INCLUDE ADHESIVE CARTRIDGES, THREADED RODS, HEX NUTS, LOCK WASHERS, AND ALL HARDWARE NECESSARY FOR ATTACHMENT.

ATTACHMENT "C"



EXPANSION JOINT
 OZ GEDNEY AXB-400
 OR EQUIVALENT
 BONDING JUMPER REQUIRED
 W/ INSTALLATION CAT. NO.
 BJ-3540-24

PROPRIETARY INFORMATION
 NOT FOR DISCLOSURE
 OR REPRODUCTION

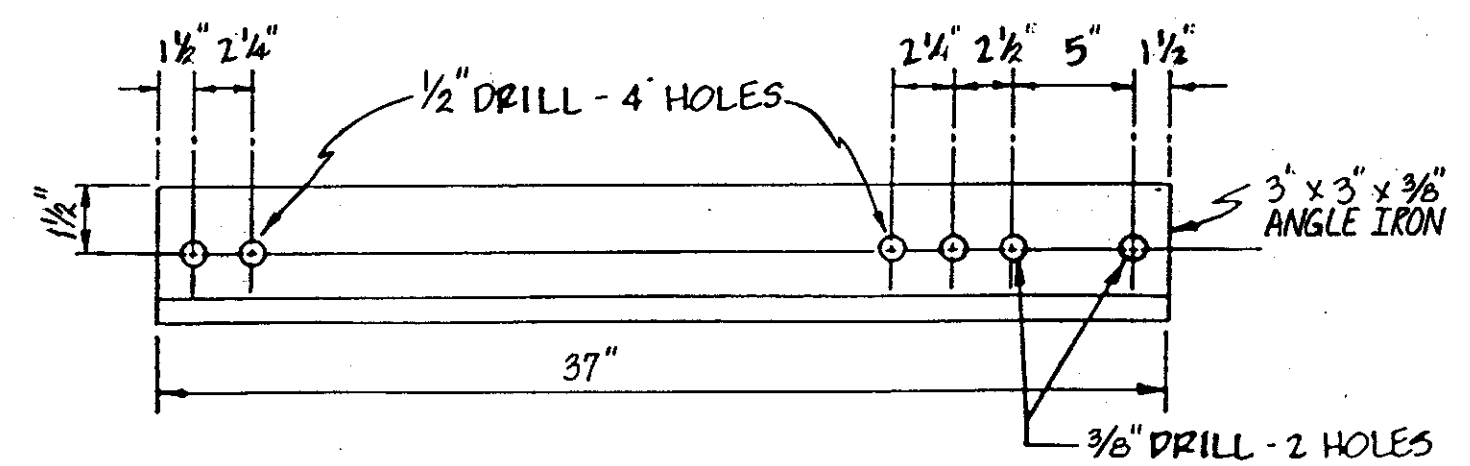
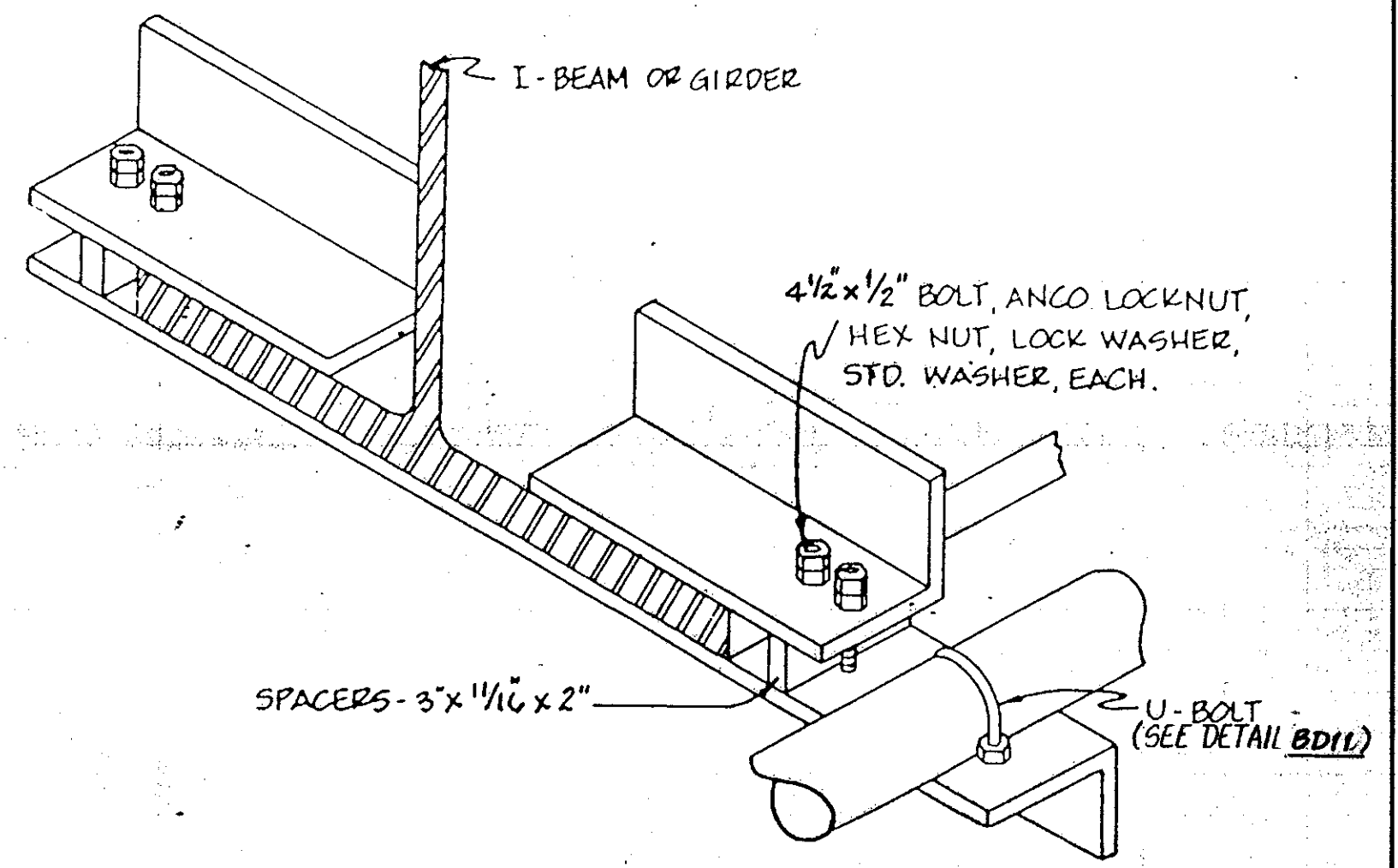
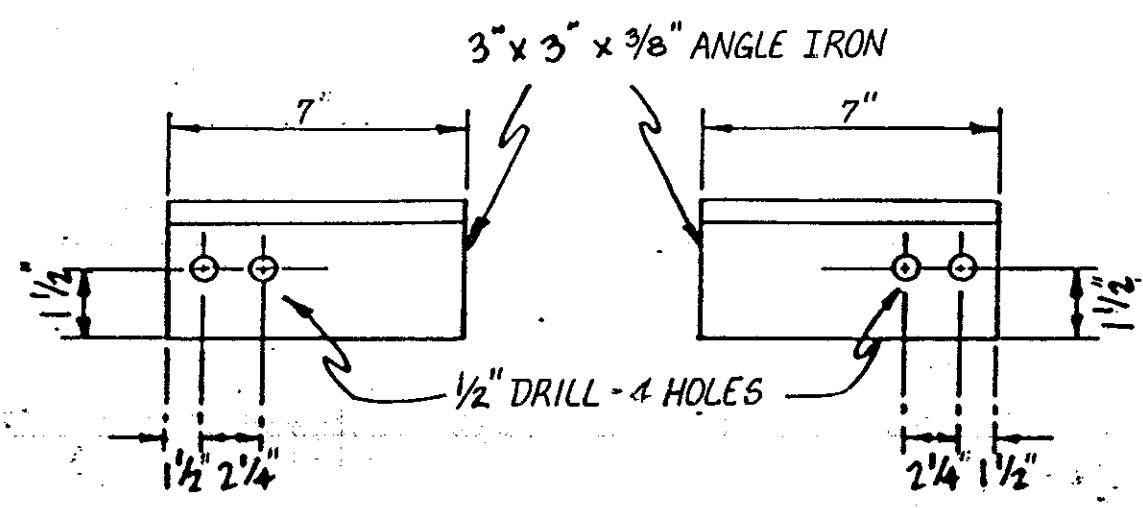
DRAFTER	MDW	DATE	1-13-87
CHK'D BY	MDW	DATE	12-15-88
ENGR	DM	DATE	12-15-88
APPROVED BY	LES	DATE	12-15-88
APPROVED BY		DATE	

US Sprint
 PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
 BRIDGE ATTACHMENT HEART RIVER

SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	

SHEET BDB of BD14 DWG NO B

REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
		RELEASE NUMBER	



NOTE: ATTACHMENT "A" AS CALLED FOR ON BRIDGE DRAWINGS WILL INCLUDE U-BOLTS, NUTS, BOLTS, WASHERS, LOCKWASHERS, AND ALL HARDWARE NECESSARY FOR ATTACHMENT. ALL HARDWARE TO BE GALVANIZED DIPPED BEFORE INSTALLATION.

ATTACHMENT "A"

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

DRAFTER	MDW	DATE	1-13-87
CHK'D BY	MDW	DATE	12-15-88
ENGR.	MDW	DATE	1-13-87
APPROVED BY	LES	DATE	12-15-88
APPROVED BY		DATE	
ISSUE		SCALE	NONE
RELEASE NUMBER			

US Sprint

PROJ. NO. 411010-2

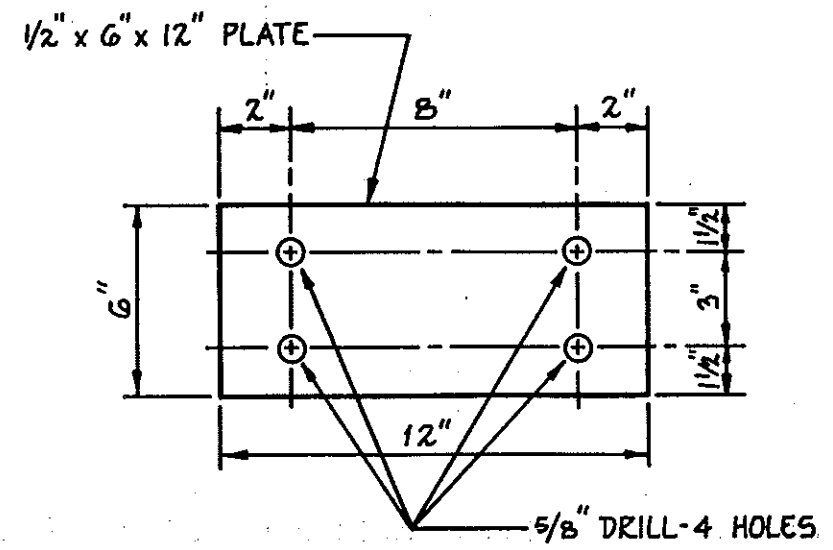
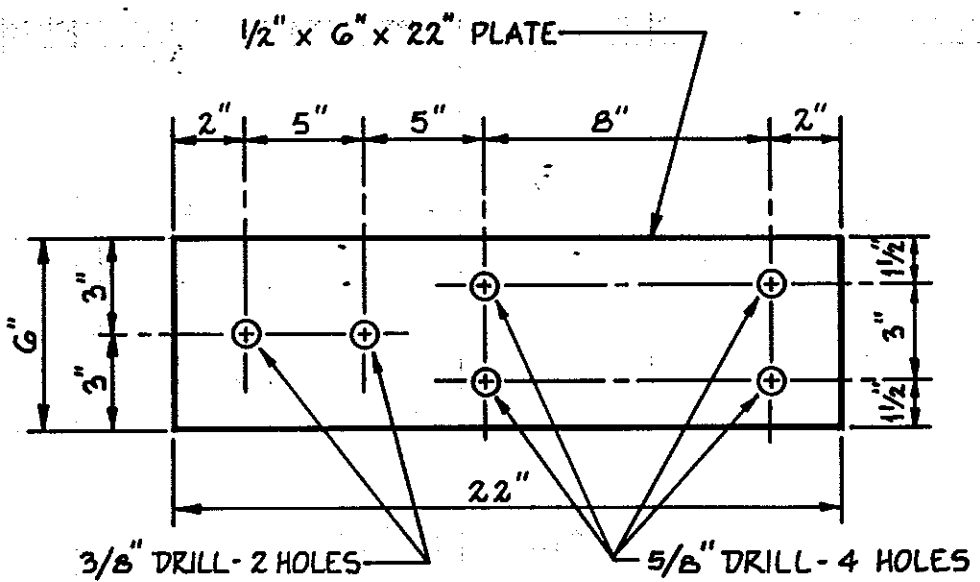
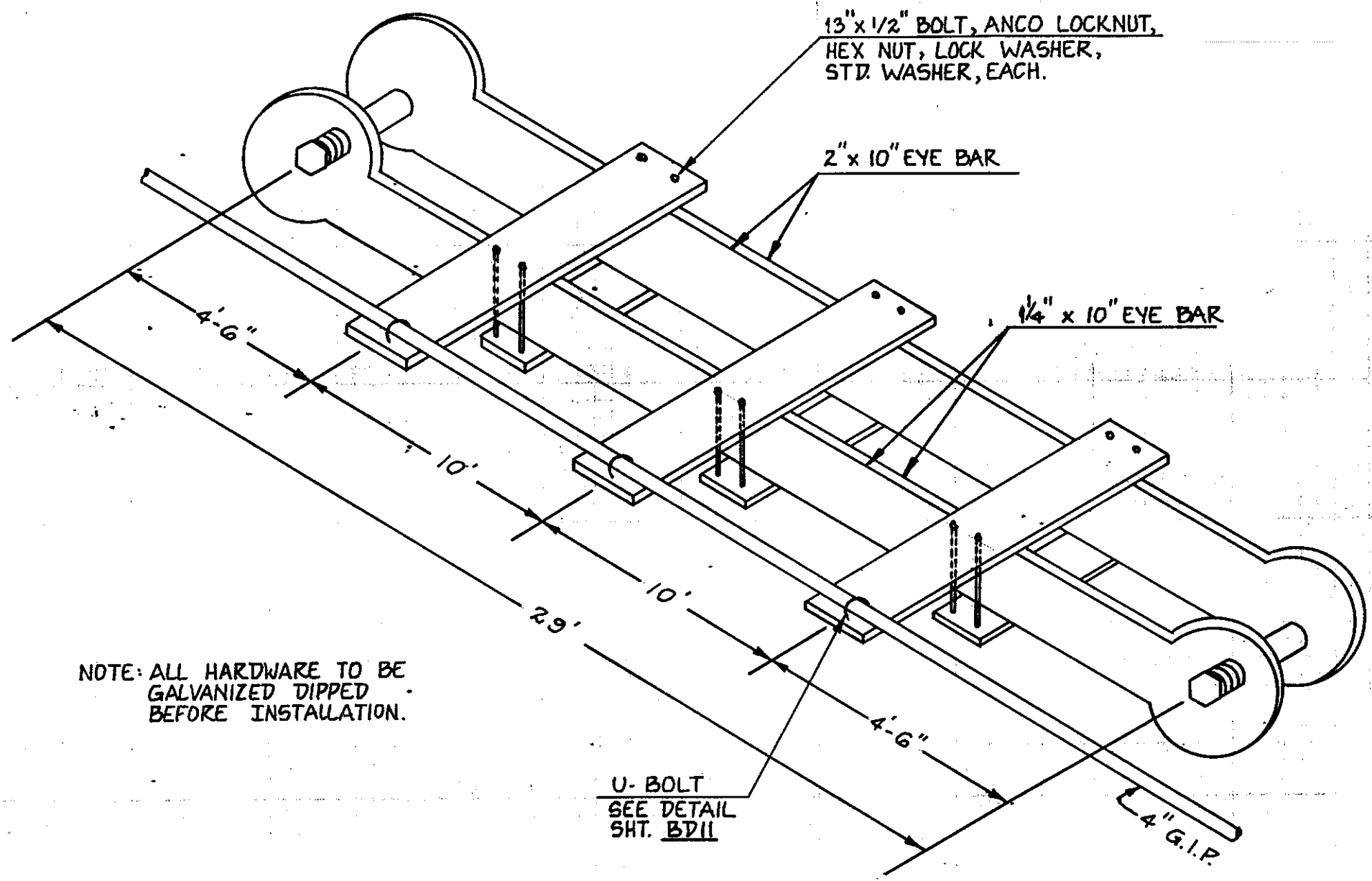
GLENDIVE TO BISMARCK

BRIDGE DETAIL MISSOURI RIVER

SHEET 809 OF 804 DWG. NO. **B**

SYMBOL	DESCRIPTION
	LEGEND

REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
		RELEASE NUMBER	



NOTE: ALL HARDWARE TO BE GALVANIZED DIPPED BEFORE INSTALLATION.

ATTACHMENT "B1"
ATTACHMENT SPACING AS SHOWN ON DETAIL

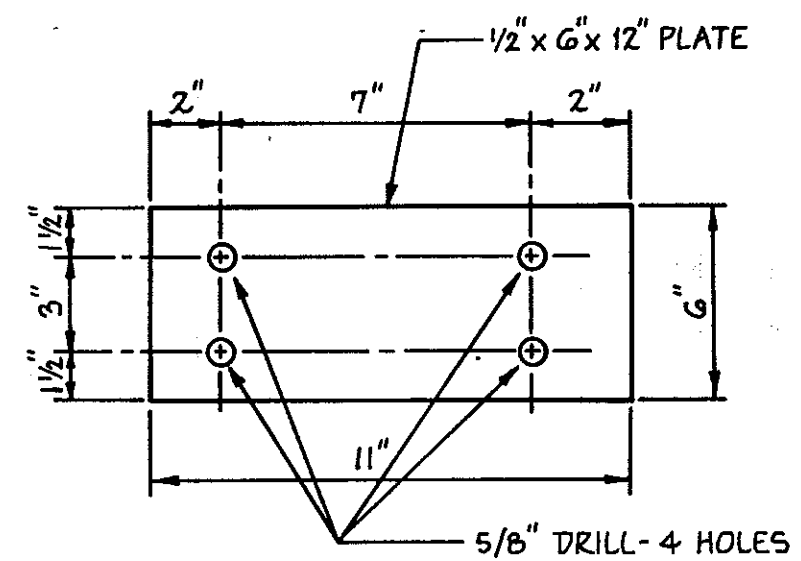
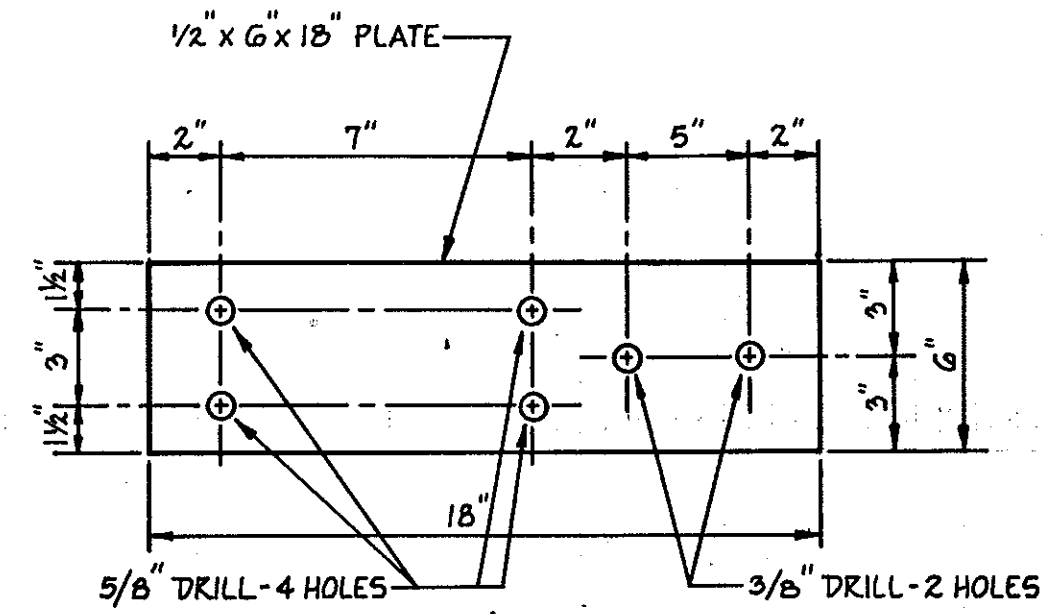
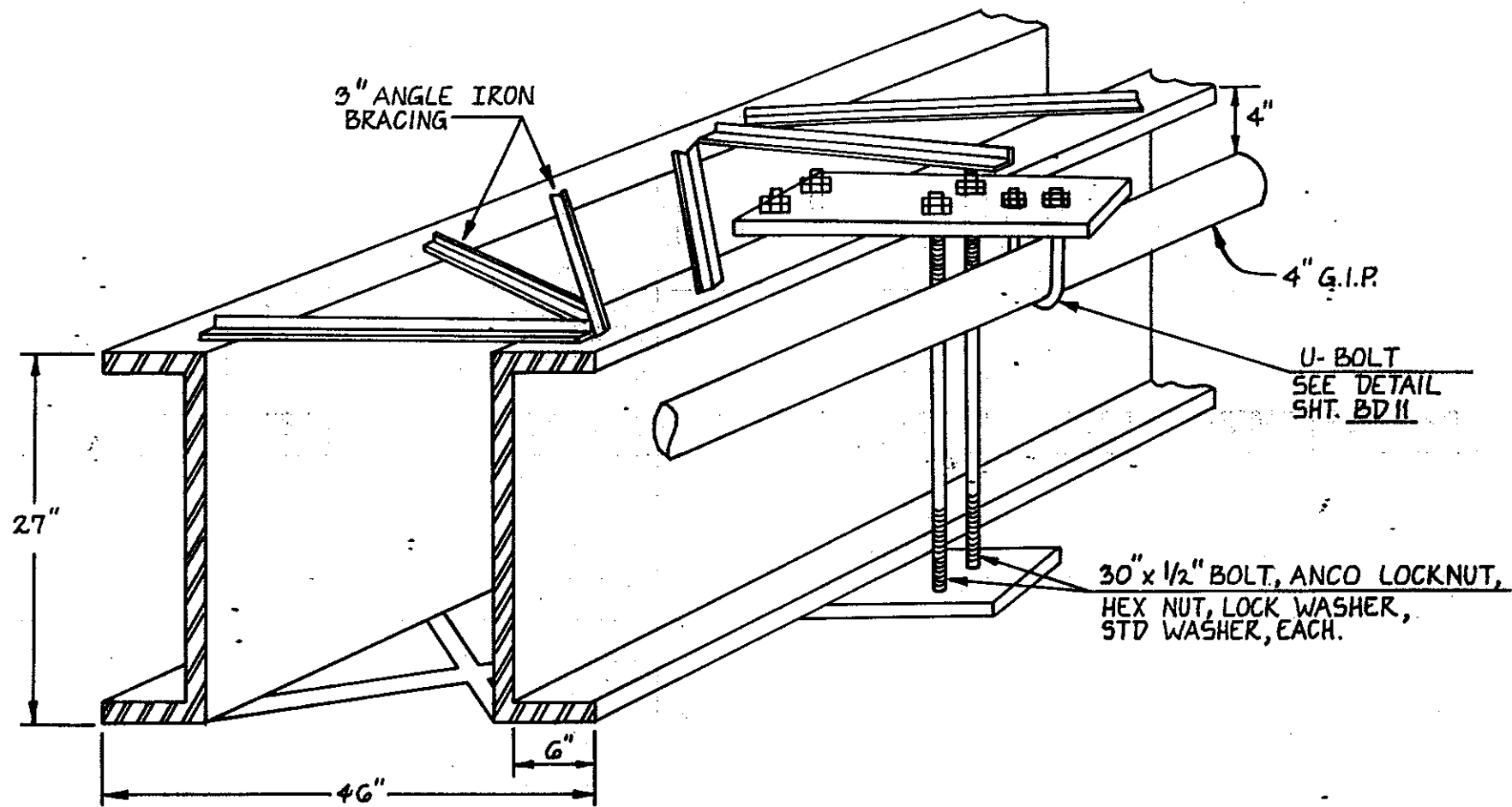
DRAFTER	MDW	DATE	5-7-88
CHK'D BY	MDW	DATE	12-15-88
ENGR.	MDW	DATE	5-1-88
APPROVED BY	LES	DATE	12-15-88
APPROVED BY		DATE	

US Sprint
PROJ. NO. 411010-2
GLEN DIVE TO BISMARCK
BRIDGE ATTACHMENT MISSOURI RIVER

SYMBOL	DESCRIPTION	ISSUE	SCALE	RELEASE NUMBER
	LEGEND		NONE	

SHEET	BD10	OF	BD14	DWG. NO.	B
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REVISIONS			
ISSUE	DESCRIPTION	DFTR/DATE	ENGR/DATE
		RELEASE NUMBER	



NOTE: ALL HARDWARE TO BE GALVANIZED DIPPED BEFORE INSTALLATION.

ATTACHMENT "B2"
10' MAX. SPACING ON ATTACHMENT AS SHOWN

DRAFTER	MDW	DATE	5-7-88
CHK'D BY	MDW	DATE	12-15-88
ENGR.	MDW	DATE	5-1-88
APPROVED BY	LES	DATE	12-15-88
APPROVED BY		DATE	

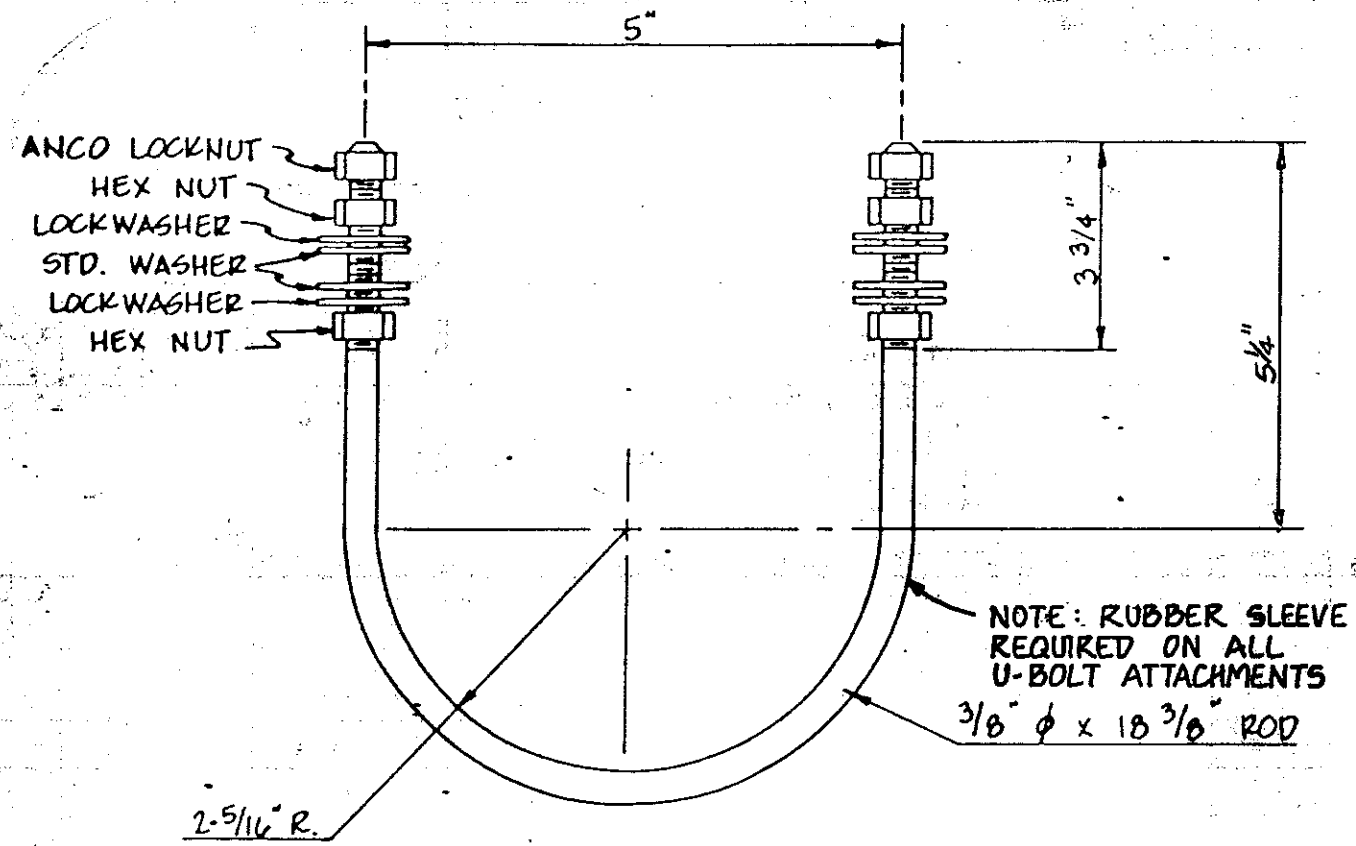
US Sprint

PROJ. NO. 411010-2
GLENDIVE TO BISMARCK
BRIDGE ATTACHMENT MISSOURI RIVER

SHEET **BD10-A** OF **BD14** DWG. NO. **B**

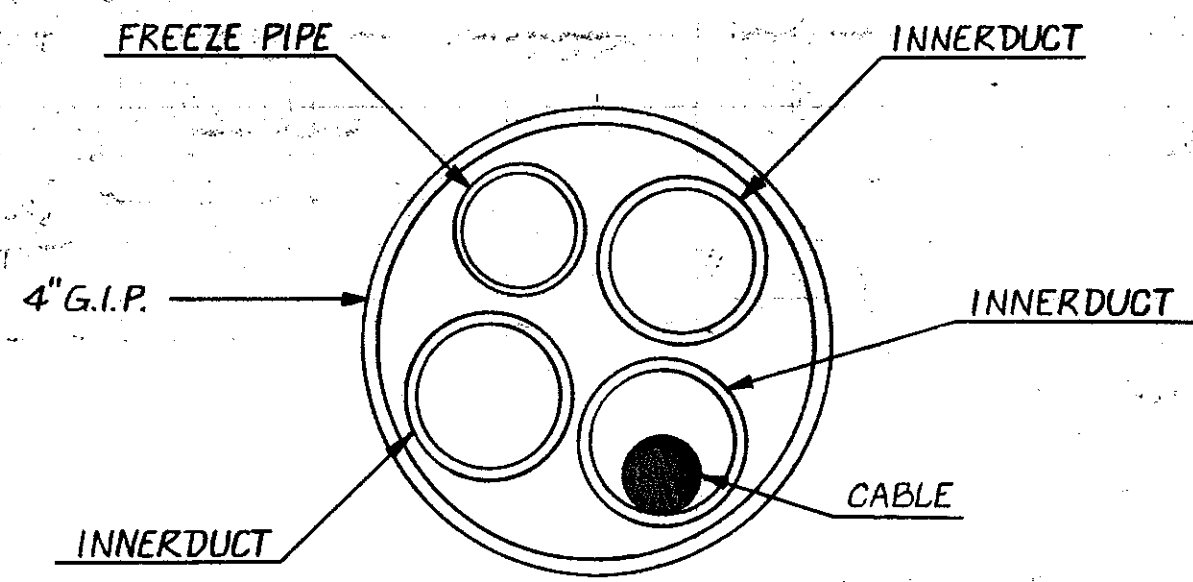
SYMBOL	DESCRIPTION	ISSUE	SCALE
	LEGEND	RELEASE NUMBER	NONE

REVISIONS		
ISSUE	DESCRIPTION	DFTR/DATE ENGR/DATE
		RELEASE NUMBER

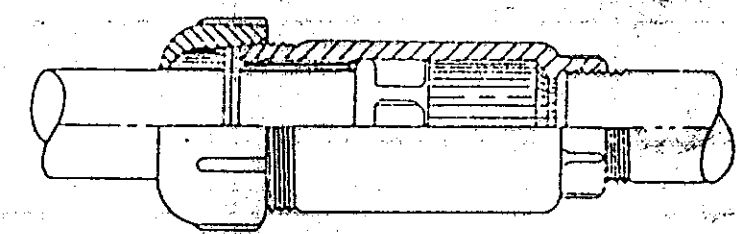


NOTE: ALL HARDWARE TO BE GALVANIZED DIPPED BEFORE INSTALLATION.

U-BOLT
DETAIL



PIPE CROSS SECTION



EXPANSION JOINT
02 GEDNEY AXB-400
OR EQUIVALENT
BONDING JUMPER REQUIRED
w/INSTALLATION CAT. NO.
BJ-3540-24

PROPRIETARY INFORMATION
NOT FOR DISCLOSURE
OR REPRODUCTION

DRAFTER MDW	DATE 1-13-87
CHK'D BY MDW	DATE 12-15-88
ENGR. MDW	DATE 1-13-87
APPROVED BY LES	DATE 12-15-88
APPROVED BY	DATE

US Sprint
PROJ. NO. 411010-2
GLENDALE TO BISMARCK
BRIDGE DETAILS MISSOURI RIVER

SYMBOL	DESCRIPTION	ISSUE	SCALE NONE
LEGEND		RELEASE NUMBER	

SHEET **BD11** OF **BD14** DWG. NO. **B**