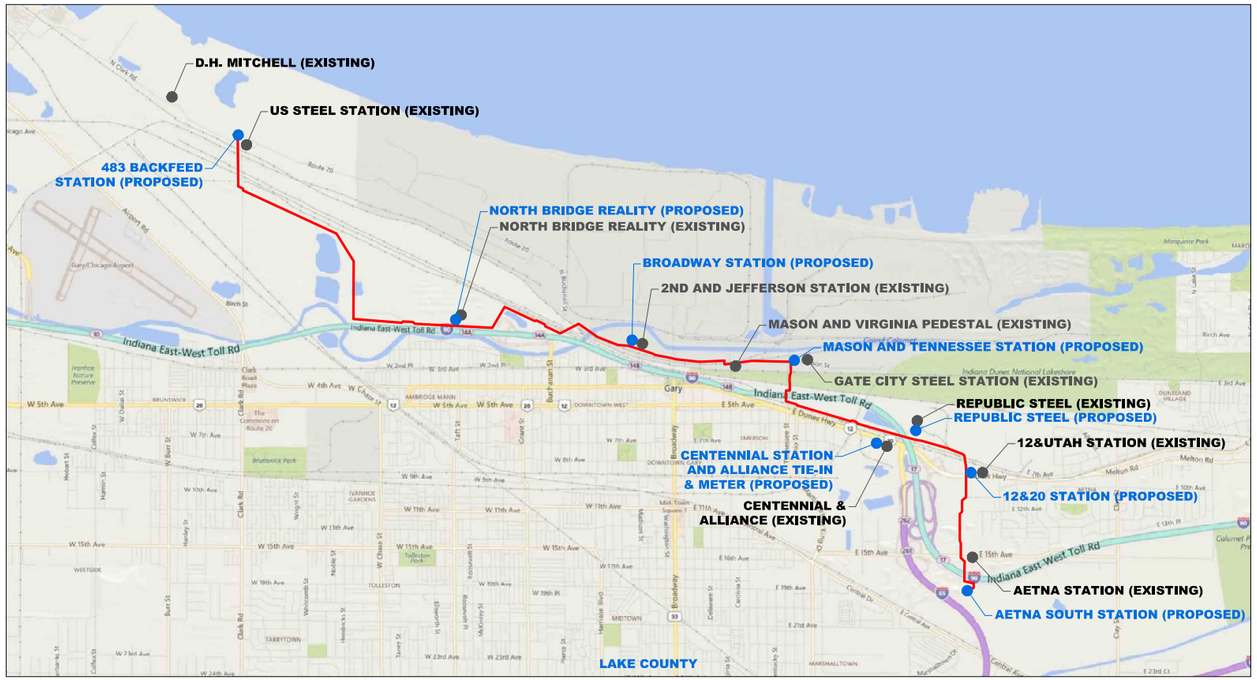
ATTACHMENT VI
Engineering Plans

NIPSCO GAS
AETNA TO 483 BACKFEED
LAKE COUNTY, INDIANA
W.O. 40347-913
NEW LINE SECTION #XXXX



LOCATION MAP
LAKE COUNTY, INDIANA
(NOT TO SCALE)

SYSTEM DATA			
	MINIMUM (PSIG / MCFH)	MAXIMUM (PSIG / MCFH)	MAOP (PSIG)
DESIGN PRESSURE	305 PSIG	550 PSIG	600 PSIG
DESIGN FLOW	15000	20000	

DESIGN DATA		
DESIGN FACTOR:	0.5	REF. CFR 192.111
DESIGN PRESSURE:	720 PSIG	≥ INLET MAOP
MINIMUM LEAK PRESSURE:		
MAXIMUM LEAK PRESSURE:		
MIN. LEAK TEST DURATION:		PER G.S. 1500.010
TEST MEDIUM:	AIR, WATER OR INERT GAS	
PERCENT X-RAY:	PER GAS STANDARD	

DWG. NO.	REFERENCE DRAWING TITLE	NO.	REVISION – DESCRIPTION	BY	DATE	CHK'D	APP'D
		–	PROPOSED ISSUED FOR CONSTRUCTION	OB	04–26–21	BP	CC

PROJECT BENCHMARKS:
PROJECT BENCHMARKS NOT PROVIDED ON PLANS. CONTACT RESIDENT ENGINEER AT TIME OF CONSTRUCTION FOR BENCHMARK ELEVATIONS.

PROPOSED ISSUED FOR CONSTRUCTION
04/26/2021

ENengineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL. 60555
TEL. 630–353–4000
FAX 630–353–7777
WWW.ENENGINEERING.COM

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219–921–4182
PAGER NO.: N/A

ENGR.: HAUSMAN/BURGOS
DATE: 11–01–19
TOWNSHIP: N/A
COUNTY: N/A

PROJECT LOCATION MAP
LOCATION:
DESCRIPTION: AETNA STATION TO 483 BACKFEED
FILENAME: AU–P–000–001.DWG
TAXING UNIT: N/A
ENE #: 1910052.00

SCALE: NONE
RET.W.O.: 70347–913
WORK ORDER NO.
40347-913
AU–P–000–001
SHEET: 1

CONTRACTOR NOTES

1. NO DRAWINGS SHALL BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY MARKED "FOR CONSTRUCTION" AND ALL PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THEIR WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION DRAWINGS, CONTRACTOR MUST IMMEDIATELY REPORT SAME TO THE OWNER'S REPRESENTATIVE BEFORE DOING ANY WORK, OTHERWISE THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF CONFLICT BETWEEN THE CONSTRUCTION DRAWINGS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTIONS FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT ITS OWN RISK AND EXPENSE.

2. ALL APPLICABLE PROVISIONS OF THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ACT ARE HEREIN INCORPORATED BY REFERENCE.

3. THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS FOR ANY SAFETY PRECAUTIONS USED BY THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF THEIR WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

4. THE CLIENT STANDARD SPECIFICATIONS, THESE CONSTRUCTION PLANS, SPECIAL PROVISIONS, GENERAL CONDITIONS AND SUBSEQUENT DETAILS ARE ALL TO BE CONSIDERED AS PART OF THE CONTRACT DOCUMENTS. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE TO BE CONSIDERED A PART OF THE CONTRACT.

5. USGS MONUMENTS AND PROPERTY BOUNDARY MARKERS WHICH ARE DISTURBED BY EXCAVATION SHALL BE RESET BY A LICENSED PROFESSIONAL LAND SURVEYOR. COST SHALL BE AT THE CONTRACTOR'S EXPENSE.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROJECT LAYOUT AND ENSURING ELEVATIONS OF THE PROPOSED PAVEMENTS, STRUCTURES AND PIPING ARE INSTALLED CORRECTLY. HORIZONTAL AND VERTICAL CONTROL (H&VC) DATA SHOWN ON THE PLANS IS BASED UPON FIELD SURVEY CONTROL. THE H&VC DATA SHOWN IS INCLUDED FOR THE CONVENIENCE OF THE CONTRACTOR IN LAYING OUT THE PROJECT. FIELD ADJUSTMENTS OF ANY PORTION OF THE WORK SHALL BE MADE ONLY WITH THE PERMISSION OF THE OWNER'S REPRESENTATIVE AND THEIR ENGINEER.

7. ALL EXISTING TRAFFIC SIGNS, STREET SIGNS, ETC. WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND ARE NOT NOTED FOR REMOVAL OR DISPOSAL SHALL BE REMOVED AND RESET BY THE CONTRACTOR AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. DAMAGE TO THESE ITEMS SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR OWN EXPENSE.

EXISTING UTILITIES

1. THE EXISTING UTILITIES AND THEIR APPURTENANCES ARE SHOWN AS A GUIDE TO THE CONTRACTOR. LOCATIONS OF EXISTING UTILITIES ARE SHOWN BASED ON FIELD SURVEY. ACTUAL LOCATION OF THESE UTILITIES MAY VARY. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS IN THE PATH OF THE PROPOSED EXCAVATION AREA.

2. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR FINAL LOCATION AND PROTECTION OF UTILITIES. IN ADDITION, THE CONTRACTOR SHALL ATTEMPT TO LOCATE ANY OTHER UTILITIES IN THE PROPOSED EXCAVATION AREA. AT EVERY POINT WHERE THE EXCAVATION PATH CROSSES A UTILITY, THE CONTRACTOR SHALL EXPOSE IDENTIFIED UTILITY BY POT HOLING LOCATION WITH HYDRO VACUUMING OR OTHER "SOFT DIG" METHODS.

3. THE CONTRACTOR IS RESPONSIBLE FOR ROUTING AROUND ALL UTILITIES SHOWN ON THE FINAL EXCAVATION PERMIT. BEFORE EXCAVATING OVER OR ADJACENT TO ANY EXISTING UTILITIES, CONTRACTOR SHALL NOTIFY THE OWNER OF SUCH UTILITIES TO ENSURE THAT PROTECTIVE WORK WILL BE COORDINATED AND PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER OF THE UTILITY INVOLVED.

4. IF ANY EXISTING SERVICE LINES, UTILITIES AND UTILITY STRUCTURES WHICH ARE TO REMAIN IN SERVICE ARE UNCOVERED OR ENCOUNTERED DURING THIS OPERATION, THEY SHALL BE SAFEGUARDED, PROTECTED FROM DAMAGE AND SUPPORTED IF NECESSARY. WHERE THERE IS POTENTIAL UTILITY CONFLICT THE CONTRACTOR SHALL SUBMIT THIS DATA TO THE OWNERS REPRESENTATIVE FOR RESOLUTION.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND SUPPORTING DURING CONSTRUCTION ALL EXISTING UTILITIES AND APPURTENANCES, AND IF DAMAGED, THEY SHALL BE IMMEDIATELY REPAIRED AT NO ADDITIONAL COMPENSATION. NO EXCAVATION WORK IS TO BE CONDUCTED WITHOUT A PROPERLY APPROVED EXCAVATION PERMIT. PROPER BARRICADING OF OPEN TRENCHES SHALL BE THE CONTRACTORS RESPONSIBILITY.

6. CONTRACTOR MUST AGREE THAT ANY EXISTING FIELD TILE ON THE PROPERTY SHALL BE PROTECTED FROM DAMAGE AND THAT EXISTING DRAINAGE THROUGH THE PROPERTY SHALL BE MAINTAINED. IF ANY EXISTING FIELD TILE IS ENCOUNTERED, IT SHALL BE REPAIRED AND/OR REROUTED BACK TO ITS ORIGINAL ROUTE AND FUNCTION.

SITE PREPARATION

1. CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT AND IMPLEMENT THE RECOMMENDED PRACTICES AND PROCEDURES DEFINED THEREIN, EXCEPT WHERE THE SPECIFICATIONS, DRAWINGS, OR GENERAL NOTES PRESCRIBE MORE STRINGENT REQUIREMENTS.

2. IF CONSTRUCTION OPERATIONS EXTEND INTO AREAS CURRENTLY COVERED WITH VEGETATED AREAS, ALL VEGETATION, ORGANIC SOILS, AND ANY OTHER UNSUITABLE MATERIALS SHOULD BE REMOVED FROM PROPOSED CONSTRUCTION AREAS. STRIPPING DEPTHS SHALL BE ADJUSTED BASED ON SITE CONDITIONS.

3. ANY TOPSOIL THAT IS TO BE REMOVED SHALL BE CAREFULLY STRIPPED TO A LIMIT OF 4 FEET BEYOND THE DESIGNED CUT, FILL, EXCAVATION, OR PAVEMENT. TOPSOIL SHALL BE PILED SEPARATELY FROM OTHER EXCAVATED MATERIALS OR STOCKPILES AND LATER SPREAD ON THE PREMISES AS DIRECTED. TOPSOIL SHALL NOT BE USED AS FILL MATERIAL.

4. ALL MATERIAL FROM EXCAVATIONS SHALL BE PILED SEPARATELY FROM TOPSOIL AND RETAINED FOR FUTURE USE OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER.

5. PROPOSED ELEVATIONS INDICATE FINISHED CONDITIONS. FOR ROUGH GRADING ELEVATIONS ALLOW FOR THICKNESS OF PROPOSED PAVING (ROADS, WALKS, DRIVES, ETC.) OR TOPSOIL AS SHOWN.

6. SOILS CONTAINING SILTS AND CLAYS CAN BE DIFFICULT TO DRY DURING WET OR COOL WEATHER. CONTRACTOR SHALL TAKE NECESSARY MEASURES TO CONTROL MOISTURE CONTENT OF SOILS DURING FILL AND COMPACTION OPERATIONS.

7. CONTROLLED FILL SHALL BE USED FOR GENERAL FILL IN SITE PREPARATION.

8. ON-SITE SOILS MAY BE CONSIDERED FOR RE-USE AS CONTROLLED FILL AS LONG AS SOILS MEET THE GRADATION, MOISTURE REQUIREMENTS, AND ARE NOT CONTAMINATED, AS DIRECTED AND APPROVED BY THE GEOTECHNICAL REPORT.

9. CONTROLLED FILL SHALL CONSIST OF NON-EXPANSIVE MATERIALS, FREE FROM ORGANIC MATTER (LESS THAN 3% BY WEIGHT) OR OTHER DELETERIOUS MATERIALS.

10. IF LOOSE SANDS ARE PRESENT AT THE DESIGN BEARING DEPTH FOR FOUNDATIONS OR THE SUBGRADE ELEVATION FOR SLABS/PAVEMENTS, THE SAND SHALL BE DENSIFIED TO AT LEAST A MEDIUM DENSE CONDITION USING VIBRATORY COMPACTION. IF THE SANDS CANNOT BE ADEQUATELY DENSIFIED IN-PLACE, CONTRACTOR MUST REMOVE AND REPLACE WITH CONTROLLED FILL.

11. AREAS RECEIVING CONTROLLED FILL SHALL BE PROOF-ROLLED USING A 10 TON (MIN) SMOOTH DRUM VIBRATORY ROLLER UNTIL A FIRM UNYIELDING CONDITION EXISTS, TYPICALLY INDICATED BY LESS THAN 3/4 INCH RUTS. IF CLAY SOILS ARE ENCOUNTERED AT SUBGRADE LEVEL, THESE SHALL BE PROOF-ROLLED USING A LOADED TANDEM-AXLE DUMP TRUCK WITH A GROSS WEIGHT OF AT LEAST 25 TONS, OR SIMILARLY LOADED EQUIPMENT.

12. UNSTABLE SUBGRADE SOILS REVEALED BY PROOF-ROLLING, WHICH CANNOT BE ADEQUATELY COMPACTED IN PLACE, SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL.

13. SUBGRADE PREPARATION SHALL BRING THE SURFACE TO WITHIN 0.1 FEET (PLUS OR MINUS) WITH THE AVERAGE SUBGRADE SURFACE WITHIN 0.02 FEET OF THE DESIGN ELEVATION.

14. FINISHED GRADE ADJACENT TO FOUNDATIONS SHALL BE BROUGHT TO THE ELEVATIONS SHOWN ON THE DRAWINGS, AND SLOPE UNIFORMLY AWAY FROM THE BUILDINGS.

15. FILL LIFT THICKNESS LAYERS SHALL BE PLACED IN RELATIVELY UNIFORM HORIZONTAL LIFTS OF 9-INCHES OR LESS WHEN SELF-PROPELLED COMPACTION EQUIPMENT IS USED OR 6-INCHES (LOOSE THICKNESS) OR LESS WHEN HAND-GUIDED EQUIPMENT IS USED AND ADEQUATELY KEYED INTO THE STRIPPED AND PREPARED SUBGRADE.

16. MINIMUM COMPACTION REQUIREMENTS:

A. IN AREAS TO BE PAVED AND LANDSCAPED, SUBGRADE SHALL BE COMPACTED TO 95% OF THE MATERIALS STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) AS DIRECTED BY THE GEOTECHNICAL REPORT.

17. OLD FOUNDATIONS, FILLED TRASH PITS, BURN PITS, OR OTHER OBSTRUCTIONS AND DELETERIOUS MATERIALS MAY BE ENCOUNTERED DURING SITE WORK OR FOUNDATION CONSTRUCTION. CONTRACTOR SHALL EXCAVATE SUCH MATERIALS AND REMOVE THEM FROM SITE, AND REPLACE WITH CONTROLLED FILL.

18. IN THE CASE OF SANDY SOILS CONSTRUCTION TRAFFIC OVER THE COMPLETED SUBGRADE SHOULD BE AVOIDED TO THE EXTENT PRACTICAL. PLACEMENT OF A LAYER OF CRUSHED LIMESTONE WOULD PROVIDE A WORKING SURFACE AND REDUCE DISTURBANCE, AFFECTED MATERIALS SHOULD EITHER BE IMPROVED BY COMPACTION OR BE REMOVED AND REPLACED.

19. IN THE CASE OF PERCHED GROUNDWATER, THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO UNDERCUT AND DEWATER.

20. LANDSCAPE PROTECTION

A. HIGHLY VISIBLE TEMPORARY BARRIER FENCES SHALL BE PLACED AROUND TREES AND LANDSCAPE AREAS DESIGNATED FOR PROTECTION. VEHICLES, EQUIPMENT AND MATERIAL STORAGE SHALL NOT BE ALLOWED WITHIN THE PROTECTION ZONE.

B. OVERHANGING TREE BRANCHES WITHIN THE CONSTRUCTION ZONE THAT ARE EXPECTED TO COME IN CONTACT WITH CONSTRUCTION EQUIPMENT SHALL BE PROPERLY REMOVED (SAW CUT) PRIOR TO CONSTRUCTION IN THE AREA. COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO TRIMMING.

21. FILL SHALL BE TIED INTO NEW OR EXISTING SLOPES OR WITH PROPERLY CONSTRUCTED BENCHES OR KEYS. BENCHES OR KEYS SHALL BE WIDE ENOUGH TO PERMIT OPERATION OF SPREADING AND COMPACTION EQUIPMENT.

22. ROADBEDS SHALL BE PROOF-ROLLED AS ABOVE.

23. UNSTABLE ROADBED SOILS REVEALED BY PROOF-ROLLING, WHICH CANNOT BE ADEQUATELY COMPACTED IN PLACE, SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL.

24. ROAD BASE SHALL BE GRADED WITHIN 0.02 FEET OF THE DESIGN ELEVATIONS.

25. CONTRACTOR SHALL FURNISH AND PLACE APPROVED AGGREGATE AS INDICATED ON THE DRAWINGS.

26. GEOTEXTILE FABRIC SHALL BE PLACED UNDER ALL GRAVEL SURFACE TREATMENT OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

27. GEOTEXTILE FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR EDGE LAP, END LAP, STAPLE SPACING, ETC.

28. DURING CONSTRUCTION, THE SITE IS TO BE KEPT CLEAN AND MEET ENVIRONMENTAL CONTAINMENT STANDARDS.

29. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT EXISTING UNDERGROUND PIPELINES ARE NOT UNDERCUT OR DAMAGED.

EXCAVATION AND BACKFILL

1. CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF OSHA CONSTRUCTION STANDARDS FOR EXCAVATIONS, 29 CFR, PART 1926 SUBPART P.

2. CONTRACTOR SHALL DO ALL NECESSARY SHORING AND ANY REQUIRED UNDERPINNING NECESSARY FOR THE SAFE AND PROPER EXECUTION OF THE WORK.

3. THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN BARRICADES, SIGNS, FLAGS, ETC., AS MAY BE NECESSARY TO PROTECT WORK AND TO SAFEGUARD LOCAL TRAFFIC. ALL EXCAVATIONS, WHEN LEFT OPEN OVERNIGHT OR UNATTENDED, SHALL BE COMPLETELY SURROUNDED WITH ORANGE SNOW FENCE AND BARRICADES WITH FLASHING LIGHTS. BARRICADES SHALL BE PLACED AT A MAXIMUM OF 50 FEET INTERVALS.

4. WATER SHALL NOT BE ALLOWED TO COLLECT IN EXCAVATIONS OR ON PADS FOR FOUNDATIONS OR SLABS. EXCAVATIONS AND PADS SHALL BE SLOPED TO A LOW POINT TO FACILITATE REMOVAL OF COLLECTED WATER.

5. CONTRACTOR SHALL PROVIDE WELL POINT DEWATERING AS NEEDED FOR MAINTAINING EXCAVATIONS. THE EXTRACTED GROUNDWATER SHALL FLOW THROUGH A STILLING BASIN FOR SAMPLING BY THE OWNER OR THE OWNERS REPRESENTATIVE. WATER FROM THE STILLING BASIN SHALL FLOW THROUGH A FILTER BAG PRIOR TO DISCHARGE.

6. BEFORE AN EXCAVATION IS BACKFILLED, FOUNDATIONS OR OTHER WORK SHALL BE INSPECTED AND APPROVED BY THE OWNER OR HIS REPRESENTATIVE. AFTER SUCH APPROVAL, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY, UNLESS REQUIRED TO BE LEFT OPEN FOR GOOD CAUSE.

7. CONTRACTOR SHALL EXERCISE CARE WHEN PLACING AND COMPACTING FILL ADJACENT TO WALLS. CONTRACTOR SHALL PLACE FILL UNIFORMLY ON EACH SIDE OF THE WALL WHERE APPLICABLE. FILL SHALL BE COMPACTED WITH A NON-VIBRATORY COMPACTOR SUCH AS WALK BEHIND SHEEP'S FOOT ROLLER.

8. BACKFILL SHALL BE PLACED AND THOROUGHLY COMPACTED BEFORE SUPPORTED EQUIPMENT OR STRUCTURE IS ERECTED.

9. MATERIAL EXCAVATED BY HYDRO-VAC METHODS MUST BE DISPOSED OF OFF-SITE AS PER OWNER, FEDERAL, AND OTHER GOVERNING AGENCIES REGULATIONS FOR CONTAMINATED AND NON-CONTAMINATED MATERIAL.

10. THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT FOR INFORMATION AND GUIDELINES FOR ALL BACKFILLING REQUIREMENTS.

PAVING

1. THE PAVING CONTRACTOR SHALL TIE INTO EXISTING PAVEMENT AS DETAILED ON THE PLANS. NEW PAVEMENT SHALL BE PLACED AGAINST EXISTING PAVEMENT MATCHING EXISTING FINISHED GRADE. THE CONTRACTOR SHALL RESTORE THE SURROUNDING, UNIMPROVED AREA TO ITS ORIGINAL CONDITION.

2. PROVIDE SMOOTH VERTICAL CURVES THROUGH HIGH AND LOW POINTS INDICATED BY SPOT ELEVATIONS. PROVIDE UNIFORM SLOPES BETWEEN NEW AND EXISTING GRADES. AVOID RIDGES AND DEPRESSIONS.

3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT EXISTING UNDERGROUND PIPELINES ARE NOT UNDERCUT OR DAMAGED.

UTILITY

1. ANY EXISTING UTILITY STRUCTURES REQUIRING ADJUSTMENT ARE TO BE ADJUSTED OR RECONSTRUCTED BY THE CONTRACTOR TO THE UTILITY OWNER'S SATISFACTION. ADJUSTMENTS OR RECONSTRUCTIONS NOT CALLED FOR ON THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

2. FINAL ADJUSTMENT OF FIRE HYDRANTS, VALVE VAULTS, MANHOLES, DRAINAGE STRUCTURES, AND EXISTING AND PROPOSED FRAME AND GRATES ARE INCIDENTAL TO THEIR COST.

DRAINAGE AND EROSION CONTROL

1. EARTHWORK AND PAVING OPERATIONS SHALL BE EXECUTED IN CONFORMANCE WITH ALL FEDERAL, STATE, AND LOCAL PROCEDURES AND STANDARDS FOR SOIL EROSION AND SEDIMENTATION CONTROL, AND THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).

2. CONTRACTOR SHALL MAINTAIN POSITIVE SITE DRAINAGE AT ALL TIMES TO REDUCE INFILTRATION OF SURFACE WATER. SITE DRAINAGE MAY BE ACHIEVED BY DITCHING, PUMPING, OR ANY OTHER ACCEPTABLE METHOD. GRADES SHALL BE SLOPED AWAY FROM FOUNDATIONS, AND DRAINAGE SHALL BE DISCHARGED SUCH THAT WATER IS NOT PERMITTED TO INFILTRATE BACKFILL AT FOUNDATIONS.

3. CONSTRUCTION SHALL NOT BLOCK OFF-SITE DRAINAGE. DRAINAGE MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

4. DURING CONSTRUCTION OPERATIONS, IF ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THIS LOOSE MATERIAL SHALL BE REMOVED AT THE END OF EACH WORKING DAY BY THE RESPONSIBLE PARTY. ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE OF DIRT AND DEBRIS.

5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO USE APPROPRIATE SOIL EROSION CONTROL DEVICES AS SHOWN ON THE PROJECT DRAWING AND EXPLAINED IN THE DETAILS TO PREVENT SEDIMENT FROM ENTERING THE EXISTING STORM SEWER SYSTEM OR SURFACE WATER.

RESTORATION (GENERAL)

1. THE CONTRACTOR SHALL PERFORM CLEAN UP AND FINAL RESTORATION IMMEDIATELY UPON COMPLETION OF WORK IN ANY AREA THAT WILL NOT RECEIVE FURTHER WORK.

2. AREAS TO BE RESTORED SHALL BE RETURNED, AS NEAR AS POSSIBLE, TO THE CONDITION IN WHICH THEY WERE FOUND PRIOR TO CONSTRUCTION. RESTORATION SHALL INCLUDE BUT IS NOT LIMITED TO ROADWAYS, DRIVEWAYS, SIDEWALKS, DITCHES, TREES, ETC.

3. EXISTING PAVING AND CURBS TO REMAIN SHALL BE PROTECTED FROM DAMAGE, AND IF DAMAGED, SHALL BE REPLACED IN ACCORDANCE TO THE STANDARD SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP.

4. THE CONTRACTOR SHALL SPREAD A MINIMUM OF 4" INCHES OF TOPSOIL OVER ALL AREAS DISTURBED BY CONSTRUCTION AND NOT OTHERWISE COVERED WITH CRUSHED STONE OR PAVING.

5. TOPSOIL THAT WAS STRIPPED AND NOT RE-SPREAD SHALL BE USED AS FILL IN NON-STRUCTURAL FILL OR LANDSCAPE AREAS AT THE DIRECTION OF THE OWNER.

6. ALL TOPSOIL, INCLUDING REMAINING STOCKPILES AND DIKES, SHALL BE SEEDED WITH A NATIVE GRASS MIX IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.

RESTORATION (UPLAND AREAS)

1. ALL DISTURBED AREAS NOT DELINEATED AS WETLAND OR STREAM WITHIN THE TEMPORARY WORKSPACE LIMITS SHALL BE RESTORED ACCORDING TO THE FOLLOWING SEQUENCE:

   A. DECOMPACT TRACKED/RUTTED WORK AREAS WHEN COMPLETE

   B. RESTORE TEMPORARY WORKSPACE TO PRE-CONSTRUCTION CONDITIONS

   C. TEMPORARY WORKSPACE TO BE RECLAIMED FOR FARMLAND

   D. INSTALL VEGETATION AND SEEDING PER PLANTING PLAN

RESTORATION (STREAM AND WETLAND AREAS)

1. ALL DISTURBED DELINEATED AS WETLAND OR STREAM WITHIN THE TEMPORARY WORKSPACE LIMITS SHALL BE RESTORED ACCORDING TO THE FOLLOWING SEQUENCE:

   A. DECOMPACT TRACKED/RUTTED WORK AREAS WHEN COMPLETE

   B. RESTORE TEMPORARY WORKSPACE TO PRE-CONSTRUCTION CONDITIONS

   C. INSTALL EROSION CONTROL BLANKETS ON STREAM BANKS IMMEDIATELY AFTER RESTORATION; EROSION CONTROL BLANKETS TO REMAIN UNTIL REVEGETATION HAS ESTABLISHED.

   D. INSTALL VEGETATION AND SEEDING PER PLANTING PLAN

SURVEY

1. EXISTING CONDITIONS ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY CONDITIONS PRIOR TO CONSTRUCTION.

2. EXISTING SITE TOPOGRAPHY, BOUNDARY, UTILITIES, AND HORIZONTAL CONTROL SHOWN ON THE DRAWINGS WERE OBTAINED FROM SURVEY DATA PREPARED BY:

   DLZ CONSTRUCTION SERVICES
   316 TECH DRIVE
   BURNS HARBOR, IN 46304
   TEL: (219) 764-4700

3. HORIZONTAL DATUM: NAD 83, INDIANA STATE PLANES, NORTH ZONE, US FOOT.

4. VERTICAL DATUM: NAD83, US FOOT.

5. ACCORDING TO THE FOLLOWING FEMA FLOODPLAIN MAPS EACH SITE IS IN ZONE X.

   5.1. 12 & 20: PANEL # 18089C0156E
   5.2. MASON & TENNESSEE: PANEL # 18089C0152E
   5.3. CENTENNIAL PROCESSING: PANEL # 18089C0156E
   5.4. ALLIANCE STEEL SERVICES: PANEL # 18089C0156E
   5.5. REPUBLIC ENGINEERED PRODUCTS: PANEL # 18089C0156E
   5.6. BROADWAY: PANEL # 18089C0152E
   5.7. NORTH BRIDGE REALTY: PANEL #18089C0151E
   5.8. 483 BACKFEED: PANEL # 18089C0044E

GENERAL CONSTRUCTION SEQUENCE

1. SURVEY AND STAKE LIMITS OF CONSTRUCTION WORKSPACES AND LODS, AS NECESSARY.

2. FLAG/FIELD MARK WETLAND AREAS, AS NECESSARY.

3. INSTALL APPROPRIATE EROSION AND SEDIMENT CONTROL DEVICES IN CONJUNCTION WITH CLEARING, GRUBBING, AND GRADING ACTIVITIES.

4. INSTALL CONSTRUCTION ENTRANCE PADS AT ALL ACCESS POINTS FROM PAVED ROADS, IF NECESSARY.

5. INSTALL PERIMETER CONTROLS AND BMPS.

6. GRADE THE WORKSPACE, IF NECESSARY.

7. EXCAVATE TRENCH FOR PIPELINE

8. POSITION AND INSTALL PIPELINE SECTIONS.

9. BACKFILL PIPELINE TRENCH WITH SUBSOIL FIRST THEN TOPSOIL IF IN NON PAVED AREAS.

10. RESTORE GRADE TO PRE-CONSTRUCTION CONDITIONS.

11. RECLAIM DISTURBED AGRICULTURAL AREAS, PERMANENTLY SEED REMAINING DISTURBED AREAS, AND RESTORE SENSITIVE AREAS WITH SPECIFIED WETLAND SEED MIX, IF REQUIRED, AT WETLANDS AND STREAM CROSSINGS.

12. MONITOR EROSION CONTROL PRACTICES.

13. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS AFTER PERMANENT STABILIZATION IS ACHIEVED.

BACKFILL AND COMPACTION

1. ALL NOTES IN THIS SECTION APPLY TO BACKFILL OF PIPE FOR ALL SECTIONS MORE THAN 4 FEET DEEP, INCLUDING ALL OPEN CUT TRENCH AREA LOCATIONS, INCLUDING BORE PIT EXCAVATIONS, FOR THE ENTIRETY OF THE OPEN CUT AREA, WITHIN FULL LENGTH OF ROAD RIGHT-OF-WAYS OR EXTENDING TO TIE-IN LOCATIONS IF TIE-IN LOCATIONS ARE BEYOND ROW.

2. CONTRACTOR SHALL INSTALL INDOT STRUCTURAL BACKFILL ACROSS THE ENTIRE WIDTH OF EXCAVATED TRENCH EXTENDING 6 INCHES BELOW THE BOTTOM OF PIPE, AROUND THE PIPE AND EXTENDING 6 INCHES ABOVE TOP OF PIPE. STRUCTURE BACKFILL SHALL CONFORM TO SECTION 904.05 IN INDOT'S DESIGN MANUAL.

3. CONTRACTOR SHALL INSTALL STRUCTURE BACKFILL IN 6 INCH LIFTS.

4. CONTRACTOR SHALL COMPACT EACH LIFT WITH MECHANICAL TAMPING EQUIPMENT TO ACHIEVE 98% STANDARD MODIFIED PROCTOR. THE STRUCTURE BACKFILL MATERIAL SHALL BE MOIST AT TIME OF INSTALLATION.

5. CONTRACTOR SHALL INSTALL BOTTOM 6 INCH LIFT TO BE SHAPED TO FIT THE LOWER QUADRANT OF THE PIPE EXTERIOR.

6. CONTRACTOR SHALL INSTALL FIRST LIFT OF MATERIAL AFTER THE PIPE IS INSTALLED ENSURING THAT THE MATERIAL IS PUSHED, BY HAND IF NECESSARY, UNDER THE HAUNCHES OF THE PIPE PRIOR TO COMPACTING THAT LIFT.

DWG. NO.	REFERENCE DRAWING TITLE

NO.	REVISION – DESCRIPTION	BY	DATE	CHK'D	APP'D
–	PROPOSED ISSUED FOR CONSTRUCTION	ED	04-26-21	BP	CC

PROPOSED ISSUED FOR CONSTRUCTION
04/26/2021

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ENGR.: NIKITARAS
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CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: DUL
DATE: 11-01-19
TOWNSHIP: N/A
COUNTY: N/A

CIVIL AND ENVIRONMENTAL GENERAL NOTES

LOCATION:
DESCRIPTION: AETNA STATION TO 483 BACKFEED

ENE #: 1910052.00
TAXING UNIT: N/A
FILENAME: AU-C-000-001.DWG

SCALE: NONE
RET.W.O.: 70347-913
WORK ORDER NO.
40347-913
AU-C-000-001
SHEET: 7

LEGEND:

- PROPOSED PIPELINE
- UNDERGROUND GAS
- EXISTING EASEMENT
- PROPOSED PERMANENT EASEMENT
- TEMPORARY WORKSPACE
- EXISTING R.O.W.
- UNDERGROUND UNKNOWN UTILITY
- OE — OVERHEAD ELECTRIC
- EUG — UNDERGROUND ELECTRIC
- FOC — UNDERGROUND FIBER OPTIC
- FO — ABOVEGROUND FIBER OPTIC
- SS — UNDERGROUND SANITARY SEWER
- ST — UNDERGROUND STORM SEWER
- TUG — UNDERGROUND TELEPHONE
- T — ABOVEGROUND TELEPHONE
- W — UNDERGROUND WATER MAIN
- CATVUG — UNDERGROUND CABLE
- RAILROAD
- X — EXISTING FENCE
- X — PROPOSED FENCE
- SECTION LINE
- PROPOSED CENTERLINE
- PROPOSED PIPE ABOVE GRADE
- PROPOSED PIPE BELOW GRADE
- EXISTING PIPE CENTERLINE
- EXISTING PIPE ABOVE GRADE
- EXISTING PIPE BELOW GRADE
- PROPOSED GRAVEL
- EXISTING GRAVEL
- TOP OF BANK
- TOE OF BANK
- PROPERTY LINE (ALIGNMENT SHEETS)
- PROPERTY LINE (STATION DRAWINGS)
- ADDITIONAL TEMPORARY WORKSPACE
- PROPOSED PROPERTY ACQUISITION
- WETLAND AREA
- CONSTRUCTION ENTRANCE
- PROPOSED CONCRETE
- EXISTING CONCRETE
- RETIREMENT HATCHING

- FO — FIBER OPTIC MARKER
- CATCH BASIN
- LIGHT POLE
- FIRE HYDRANT
- ST — STORM MANHOLE
- S — SANITARY MANHOLE
- EH — ELECTRIC HANDHOLE
- AC — AC UNIT
- WATER SHUTOFF VALVE
- W — WATER MANHOLE
- WV — WATER VALVE INDICATOR
- EM — ELECTRIC METER
- T — TELEPHONE PEDESTAL
- T — TELEPHONE MANHOLE
- TELEPHONE POLE
- E — ELECTRIC MANHOLE
- ELECTRIC POWER POLE
- GAS — GAS MARKER
- GAS METER
- GAS VALVE
- TRANSMISSION TOWER
- E — ELECTRIC RISER
- MONITORING WELL
- M — MONUMENT FOUND
- R — REBAR FOUND
- SOIL BORING LOCATION
- SOLID STATE DECOUPLER
- TEST STATION
- DRILL ENTRY/EXIT POINT
- TM — TRAFFIC MANHOLE
- R/W MARKER
- CP — CONTROL POINT
- ANTENNA

DWG. NO.	REFERENCE DRAWING TITLE	NO.	REVISION – DESCRIPTION	BY	DATE	CHK'D	APP'D
		–	PROPOSED ISSUED FOR CONSTRUCTION	KH	04–26–21	BP	CC

PROPOSED ISSUED FOR CONSTRUCTION 04/26/2021

EN Engineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL. 60555
TEL. 630–353–4000
FAX 630–353–7777
WWW.ENENGINEERING.COM

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219–921–4182
PAGER NO.: N/A

ENGR.: HAUSMAN/BURGOS
DATE: 11–01–19
TOWNSHIP: N/A
COUNTY: N/A

LEGEND, SYMBOLS, AND ABBREVIATIONS

LOCATION:
DESCRIPTION:
AETNA STATION TO 483 BACKFEED

FILENAME: AU–P–000–002.DWG
TAXING UNIT: N/A
ENE #: 1910052.00

SCALE: NONE
RET.W.O.: 70347–913
WORK ORDER NO.
40347-913
AU–P–000–002
SHEET: 8

ALIGNMENT SHEET (STA. 0+00 TO STA. 42+00)

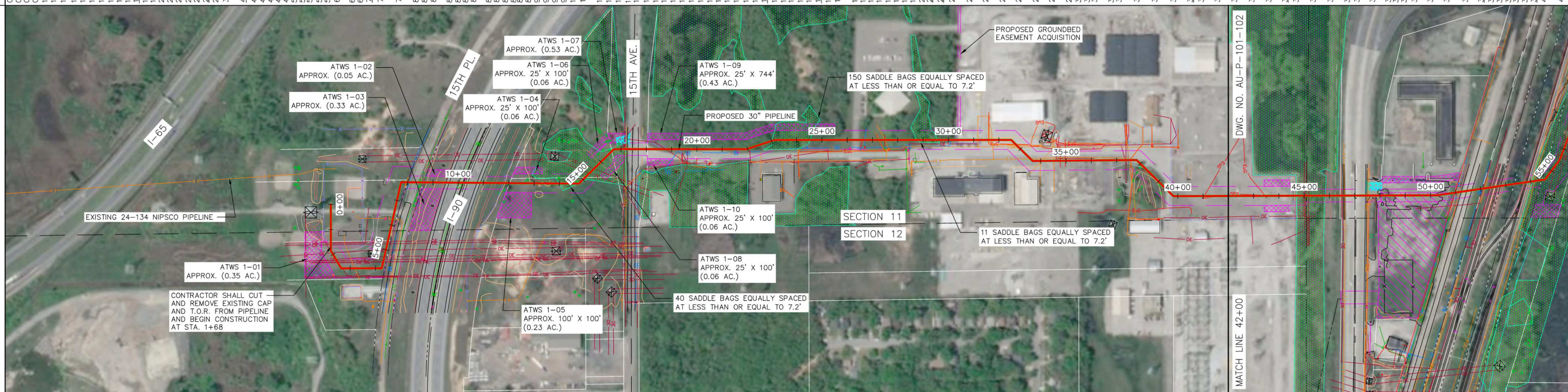
PROPERTY OWNERS

Station range	Owner	Parcel No.	Length
0+00 – 1+07	NORTHERN INDIANA PUBLIC SERVICE	45-08-11-427-005.000-004	
1+07 – 1+47	NORTHERN INDIANA PUBLIC SERVICE	45-08-12-300-002.000-004	
1+47 – 1+68	NORTHERN INDIANA PUBLIC SERVICE	45-08-12-300-003.000-004	
1+68 – 5+36	NORTHERN INDIANA PUBLIC SERVICE	45-08-12-300-003.000-004	368'
5+36 – 5+77	NORTHERN INDIANA PUBLIC SERVICE	45-08-12-300-002.000-004	41'
5+77 – 8+00	NORTHERN INDIANA PUBLIC SERVICE	45-08-11-427-005.000-004	223'
8+00 – 8+63	15TH PL		63'
8+63 – 12+03	I-90		340'
12+03 – 15+12	NORTHERN INDIANA PUBLIC SERVICE	45-08-11-427-005.000-004	309'
15+12 – 16+60	NORTHERN INDIANA PUBLIC SERVICE	45-08-11-426-001.000-004	148'
16+60 – 18+05	15TH AVE.		145'
18+05 – 42+00	NORTHERN INDIANA PUBLIC SERVICE	45-08-11-200-001.000-004	2,395'

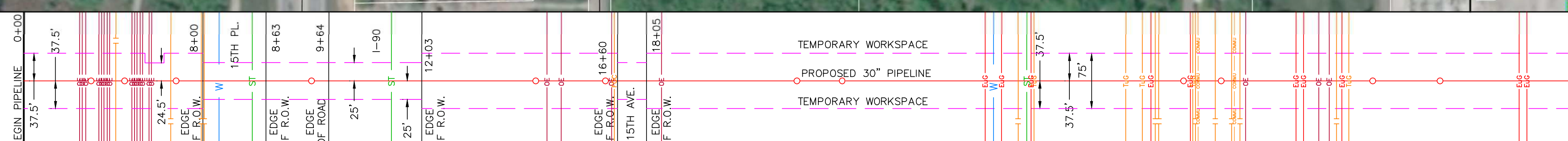
PIPELINE STATIONING & HORIZONTAL ANGLE

0+00 30" PIGGING VALVE
0+15 TEE 30" X 30"
0+22 VERTICAL ELBOW 3R 45°
0+30 VERTICAL ELBOW 3R 45°
1+07 SECTION LINE/PROPERTY LINE
1+47 PROPERTY LINE
1+51 OVERHEAD ELECTRIC
1+54 OVERHEAD ELECTRIC
1+59 AETNA STATION FENCE LINE
1+60 OVERHEAD ELECTRIC
1+63 TOP OF BANK
1+68 BEGIN PIPELINE
1+70 COUPON TEST STATION & SSD
1+80 EDGE OF GRAVEL
1+83 P.I. 30°00'00" LT.
1+94 OVERHEAD ELECTRIC
1+96 EDGE OF GRAVEL
2+00 OVERHEAD ELECTRIC
2+23 OVERHEAD ELECTRIC
2+28 OVERHEAD ELECTRIC
2+35 OVERHEAD ELECTRIC
2+39 OVERHEAD ELECTRIC
2+64 P.I. 60°00'00" LT.
2+69 OVERHEAD ELECTRIC
3+18 UNDERGROUND GAS ø12", T.O.P. EL. 605.70'
4+25 P.I. 77°17'07" LT.
4+50 OVERHEAD ELECTRIC
4+51 OVERHEAD ELECTRIC
4+60 OVERHEAD ELECTRIC
4+72 OVERHEAD ELECTRIC
4+99 OVERHEAD ELECTRIC
5+24 OVERHEAD ELECTRIC
5+34 OVERHEAD ELECTRIC
5+36 PROPERTY LINE
5+55 TOP OF BANK
5+77 SECTION LINE/PROPERTY LINE
6+24 UNDERGROUND NIPSCO PIPELINE ø24" T.O.P. EL. 603.94' (APPROX.)
6+37 EDGE OF GRAVEL
6+53 EDGE OF GRAVEL
7+74 P.I. 77°51'52" RT.
7+95 UNDERGROUND GAS ø8", T.O.P. EL. 609.37'
7+97 UNDERGROUND GAS ø8.5", T.O.P. EL. 608.58'
8+00 2-WIRE TEST STATION
8+00 EDGE OF R.O.W./PROPERTY LINE
8+06 UNDERGROUND WATERMAIN ø36", T.O.P. EL. 608.37'
8+09 EDGE OF GRAVEL
8+38 EDGE OF GRAVEL
8+43 TOP OF BANK
8+54 UNDERGROUND STORM SEWER ø36", T.O.P. EL. 605.57'
8+55 TOE OF BANK
8+61 COUPON TEST STATION & SSD
8+61 FENCE LINE
8+63 EDGE OF R.O.W./PROPERTY LINE
8+63 TOP OF BANK
8+76 TOE OF BANK
9+11 TOE OF BANK
9+44 TOP OF BANK
9+51 EDGE OF WALKWAY
9+64 EDGE OF ROAD
10+02 EDGE OF ROAD
10+11 UNDERGROUND STORM SEWER øT.B.D., T.O.P. EL. T.B.D.
10+18 EDGE OF WALL
10+21 EDGE OF WALL
10+22 EDGE OF ROW
10+28 ℄ I-90
10+37 EDGE OF ROAD
10+74 EDGE OF ROAD
10+87 EDGE OF WALKWAY
11+05 TOE OF BANK
11+37 TOP OF BANK
11+49 TOP OF BANK
11+78 FENCE LINE
11+85 TOE OF BANK
12+03 EDGE OF ROW/PROPERTY LINE
12+10 2-WIRE TEST STATION
13+39 TOE OF BANK
13+53 TOP OF BANK
13+63 TOE OF BANK
14+40 TOP OF BANK
14+78 P.I. 45°00'00" LT.
15+12 PROPERTY LINE
15+37 OVERHEAD ELECTRIC
15+62 OVERHEAD ELECTRIC
15+97 TOP OF BANK
16+60 EDGE OF R.O.W./PROPERTY LINE
16+72 P.I. 44°33'56" RT.
17+13 OVERHEAD ELECTRIC
17+19 UNDERGROUND FIBER OPTIC ø3", T.O.P. EL. 604.97'
17+24 2-WIRE TEST STATION
17+24 EDGE OF ROAD
17+44 ℄ 15TH AVE.
17+68 EDGE OF ROAD
18+05 EDGE OF R.O.W./PROPERTY LINE
18+68 COUPON TEST STATION & SSD
18+76 OVERHEAD ELECTRIC
19+01 FENCE LINE
21+96 2-WIRE TEST STATION
21+96 P.I. 18°00'00" LT.
23+14 P.I. 18°00'00" RT.
26+60 UNDERGROUND ELECTRIC ø2" TO ø1", T.O.P. EL. 607.80'
26+70 UNDERGROUND WATERMAIN ø2", T.O.P. EL. 603.3'
27+25 UNDERGROUND ELECTRIC ø1", T.O.P. EL. 605.2'
27+25 UNDERGROUND GAS ø1", T.O.P. EL. 605.4'
27+47 UNDERGROUND STORM SEWER ø6" VCP, T.O.P. EL. 605.1'
27+48 UNDERGROUND ELECTRIC ø4", T.O.P. EL. 605.9'
27+50 UNDERGROUND TELEPHONE ø2", T.O.P. EL. 604.7'
29+80 COUPON TEST STATION & SSD
30+31 FENCE LINE
30+80 RECTIFIER
31+17 UNDERGROUND TELEPHONE ø6", T.O.P. EL. 606.00'
31+24 FENCE LINE
31+58 UNDERGROUND TELEPHONE ø4", T.O.P. EL. 605.2'
31+61 UNDERGROUND ELECTRIC ø4", T.O.P. EL. 605.2'
31+62 UNDERGROUND GAS ø4", T.O.P. EL. 605.2'
31+73 UNDERGROUND GAS ø2", T.O.P. EL. 605.00'
32+49 P.I. 44°29'24" RT.
32+74 UNDERGROUND ELECTRIC ø4", T.O.P. EL. 604.8'
32+76 UNDERGROUND TELEPHONE ø4", T.O.P. EL. 605.10'
32+78 UNDERGROUND GAS ø3", T.O.P. EL. 604.70'
32+88 UNDERGROUND COMMUNICATION ø4", T.O.P. EL. 605.2'
33+55 UNDERGROUND GAS ø4", T.O.P. EL. 604.80'
33+68 P.I. 45°00'00" LT.
33+99 (2) UNDERGROUND GAS ø2", T.O.P. EL. 605.20'
34+03 (3) UNDERGROUND COMMUNICATION ø3", T.O.P. EL. 604.9'
34+52 UNDERGROUND GAS ø1", T.O.P. EL. 604.2'
34+60 OVERHEAD ELECTRIC
34+77 UNDERGROUND ELECTRIC ø1", T.O.P. EL. 604.00'
34+97 UNDERGROUND ELECTRIC ø3/4", T.O.P. EL. 605.5'
37+00 COUPON TEST STATION & SSD
37+34 OVERHEAD ELECTRIC
37+37 OVERHEAD ELECTRIC
37+46 UNDERGROUND WATERMAIN ø5", T.O.P. EL. 604.5'
37+48 UNDERGROUND GAS ø8", T.O.P. EL. 603.0'
37+55 UNDERGROUND ELECTRIC ø1", T.O.P. EL. 606.3'
37+56 12"X12" TELEPHONE DUCT, T.O.P. EL. 606.3'
37+79 P.I. 45°00'00" RT.
38+25 EDGE OF GRAVEL
38+61 TOP OF BANK
39+13 TOP OF BANK
39+70 FENCE LINE
39+71 EDGE OF GRAVEL
39+83 P.I. 44°39'46" LT.
41+05 UNDERGROUND ELECTRIC ø2", T.O.P. EL. 604.1'
41+65 UNDERGROUND ELECTRIC ø2", T.O.P. EL. 605.4'
42+00 MATCH LINE

ALIGNMENT PLAN VIEW
(SCALE: 1" = 200')



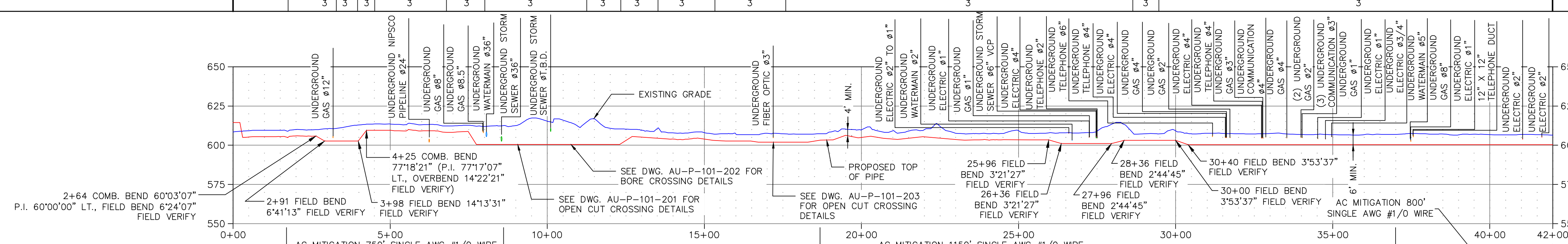
WORKSPACE DETAIL
(NOT TO SCALE)



DETAIL

DETAIL	NEW PIPE	DESIGN FACTOR	COATING	LENGTH	CLASS LOCATION
TIE-IN DETAIL (AU-M-56021-1-201)					
1+68 TS/SSD – 7+24	1	0.5	A	556'	3
7+24 – 7+27	3	0.5	A	3'	3
7+27 – 7+81	2	0.5	A	54'	3
OPEN CUT 15TH PL. (AU-P-101-201) TS1, TS/SSD (7+81 – 8+71)	2	0.5	B	90'	3
8+71 – 9+30	2	0.5	A	59'	3
BORE I-90 (INDIANA TOLL ROAD) (AU-P-101-202) TS1 (9+30 – 12+10)	2	0.5	B	280'	3
12+10 – 12+90	2	0.5	A	80'	3
12+90 – 12+93	3	0.5	A	3'	3
12+93 – 17+19	1	0.5	A	426'	3
OPEN CUT 15TH AVE. (AU-P-101-203) TS1 (17+19 – 18+09)	1	0.5	B	90'	3
18+09 – 29+77 TS/SSD, TS1	1	0.5	A	1,168'	3
29+77 – 29+80	3	0.5	A	3'	3
29+80 TS/SSD, RECT, TS/SSD – 42+00	2	0.5	A	1,220'	3

GRADE PROFILE
(SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-P-101-203	E. 15TH AVE CROSSING DETAIL
AU-P-101-202	I-90 CROSSING DETAIL
AU-P-101-201	E. 15TH PL CROSSING DETAIL
AU-M-56021-1-201	56021-1 SITE PLAN
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-102	ALIGNMENT SHEET (STA. 42+00 TO STA. 92+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION 04/26/2021

ENEngineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL. 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

NIPSCO

T-36-N
R-8-W

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A
ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 0+00 TO STA. 42+00)
LOCATION:
DESCRIPTION: AETNA TO 483 BACKFEED PIPELINE
ENE #:1910052.00
TAXING UNIT: N/A
FILENAME: AU-P-101-101.DWG

SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO. 40347-913
AU-P-101-101
SHEET: 11

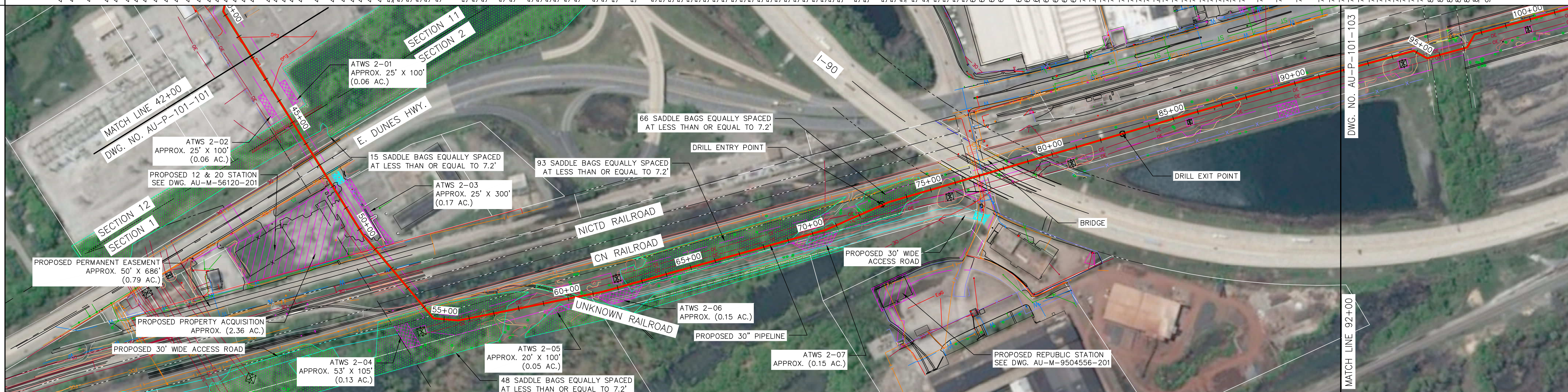
PROPERTY OWNERS

			42+00
NORTHERN INDIANA PUBLIC SERVICE	45-08-11-200-001.000-004	309'	45+09
NORFOLK & WESTERN RAILROAD	45-08-20-377-002.000-004	133'	46+42
E DUNES HWY.	45-08-20-377-002.000-004	163'	48+05
NORTH STAR TRUST COMPANY	45-08-02-478-003.000-004	291'	50+96
UNITED STATES STEEL CORPORATION	45-08-02-478-001.000-004	110'	52+06
NORTHERN INDIANA COMMUTER TRASPORTATION DISTRICT	45-08-02-502-002.000-004	73'	52+79
CHICAGO, SOUTH SHORE & SOUTH BEND R.R.	45-08-02-477-001.000-004	55'	53+34
E.J. & E. WEST COMPANY	45-08-02-503-002.000-004	110'	54+44
NORTHERN INDIANA PUBLIC SERVICE	45-08-02-476-001.000-004	2,182'	76+26
STATE OF INDIANA (I-90 BRIDGE)		329'	79+55
NORTHERN INDIANA PUBLIC SERVICE	45-08-02-326-002.000-004	1,245'	92+00

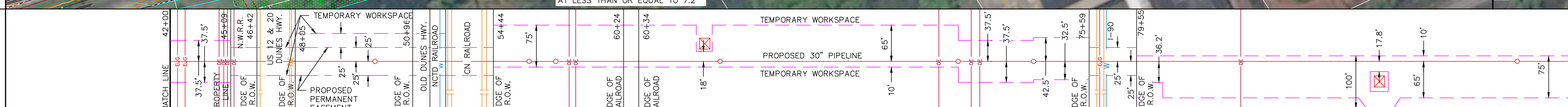
PIPELINE STATIONING & HORIZONTAL ANGLE

42+00 MATCH LINE
43+30 UNDERGROUND ELECTRIC ø1/2", T.O.P. EL. 604.5'
43+46 UNDERGROUND ELECTRIC ø1", T.O.P. EL. 603.1'
44+47 EDGE OF GRAVEL
44+63 TOE OF BANK
44+64 COUPON TEST STATION & SSD
44+64 FENCE LINE
44+66 TOP OF BANK
44+98 OVERHEAD ELECTRIC
45+04 OVERHEAD ELECTRIC
45+07 OVERHEAD ELECTRIC
45+09 SECTION LINE/PROPERTY LINE
45+19 OVERHEAD ELECTRIC
45+88 TOP OF BANK
46+05 TOP OF BANK
46+42 EDGE OF R.O.W./PROPERTY LINE
46+47 TOP OF BANK
46+55 EDGE OF WALKWAY
46+59 UNDERGROUND GAS ø6", T.O.P. EL. 605.3'
46+59 EDGE OF WALKWAY
46+61 EDGE OF CONCRETE
47+42 EDGE OF CONCRETE
47+48 EDGE OF WALKWAY
47+50 (6) UNDERGROUND TELEPHONE ø2", T.O.P. EL. 604.53'
47+56 UNDERGROUND FIBER OPTIC ø2", T.O.P. EL. 604.53'
48+05 EDGE OF R.O.W./PROPERTY LINE
48+17 2-WIRE TEST STATION
48+17 EDGE OF ROAD
48+47 EDGE OF ROAD
48+50 EDGE OF ROAD
49+20 30" X 16" TEE
50+24 P.I. 8°7'37" LT.
50+27 EDGE OF ROAD
50+70 EDGE OF GRAVEL
50+95 TOP OF BANK
50+96 PROPERTY LINE
50+97 PROPOSED DOUBLE TRACK UNDERGROUND GAS ø8", T.O.P. EL. T.B.D.
51+00 2-WIRE TEST STATION
51+01 TOE OF BANK
51+06 UNDERGROUND WATERMAIN ø8", T.O.P. EL. 600.70'
51+09 TOP OF BANK
51+12 UNDERGROUND TELEPHONE ø1.5", DEPTH 0.67'
51+19 TOP OF BANK
51+23 EDGE OF CONCRETE
51+44 ℄ OLD DUNES HWY
51+65 EDGE OF CONCRETE
51+96 8" X 12" DUCT BANK
52+02 UNDERGROUND WATERMAIN ø12", T.O.P. EL. 600.00'
52+06 EDGE OF R.O.W./PROPERTY LINE
52+10 OVERHEAD ELECTRIC
52+13 UNDERGROUND GAS ø12", T.O.P. EL. 601.2'
52+18 UNDERGROUND GAS ø10", T.O.P. EL. 603.3'
52+38 OVERHEAD ELECTRIC
52+44 TOP OF BANK
52+46 EDGE OF RAILROAD
52+52 EDGE OF RAILROAD
52+54 TOP OF BANK
52+58 TOE OF BANK
52+61 TOP OF BANK
52+64 EDGE OF RAILROAD
52+69 EDGE OF RAILROAD
52+72 TOP OF BANK
52+79 EDGE OF R.O.W./PROPERTY LINE
52+83 TOP OF BANK
52+92 TOP OF BANK
53+34 EDGE OF R.O.W./PROPERTY LINE
53+72 TOP OF BANK
53+77 TOP OF BANK
53+79 EDGE OF RAILROAD
53+84 EDGE OF RAILROAD
53+87 TOP OF BANK
53+89 EDGE OF GRAVEL
53+98 EDGE OF GRAVEL
54+03 UNDERGROUND GAS ø9", T.O.P. EL. 602.1'
54+06 TOP OF BANK
54+16 UNDERGROUND GAS ø16", T.O.P. EL. 596.6'
54+44 EDGE OF R.O.W./PROPERTY LINE
54+52 COUPON TEST STATION
54+57 P.I. 45°00'00" LT.
55+35 OVERHEAD ELECTRIC
55+56 P.I. 16°05'02" LT.
56+47 TOP OF BANK
56+68 TOP OF BANK
57+92 OVERHEAD ELECTRIC
58+14 TOP OF BANK
60+24 EDGE OF RAILROAD
60+34 EDGE OF RAILROAD
60+61 TOP OF BANK
61+17 COUPON TEST STATION, SSD & GRAVEL ACCESS PATH
61+24 TOE OF BANK
61+26 TOE OF BANK
61+38 P.I. 4°21'01" LT.
62+23 TOP OF BANK
64+95 TOP OF BANK
65+16 TOP OF BANK
69+46 TOP OF BANK
70+49 OVERHEAD ELECTRIC
70+57 P.I. 8°10'56" LT.
71+23 OVERHEAD ELECTRIC
71+26 OVERHEAD ELECTRIC
71+47 TOP OF BANK
71+58 TOP OF BANK
72+01 TOP OF BANK
72+51 OVERHEAD ELECTRIC
73+29 P.I. 7°24'24" RT.
73+49 COUPON TEST STATION & SSD
74+72 TOP OF BANK
75+41 TOE OF BANK
75+59 EDGE OF R.O.W.
76+03 TOE OF BANK
76+26 PROPERTY LINE
76+32 EDGE OF RIPRAP
76+50 EDGE OF WALL
76+52 EDGE OF WALL
76+70 EDGE OF R.O.W./EDGE OF CONCRETE/PROPERTY LINE
76+87 UNDERGROUND GAS ø4", T.O.P. EL. 601.24' (APPROX.)
76+97 UNDERGROUND ELECTRIC ø4", T.O.P. EL. 602.2' (APPROX.)
77+15 UNDERGROUND WATERMAIN ø12", T.O.P. EL. 600.9'
77+18 OVERHEAD TELEPHONE
77+30 EDGE OF R.O.W./PROPERTY LINE
77+38 EDGE OF CONCRETE
77+45 ℄ I-90
77+55 EDGE OF WALL
77+59 EDGE OF WALL
77+75 EDGE OF CONCRETE
78+27 EDGE OF CONCRETE
78+49 EDGE OF WALL
78+51 EDGE OF WALL
79+40 TOE OF BANK
79+55 EDGE OF R.O.W./PROPERTY LINE
80+12 OVERHEAD ELECTRIC
82+44 COUPON TEST STATION & SSD
85+11 TOE OF BANK
85+98 TOP OF BANK
87+67 TOE OF BANK
89+72 P.I. 1°02'16" RT.
92+00 MATCH LINE

ALIGNMENT PLAN VIEW
(SCALE: 1" = 200')



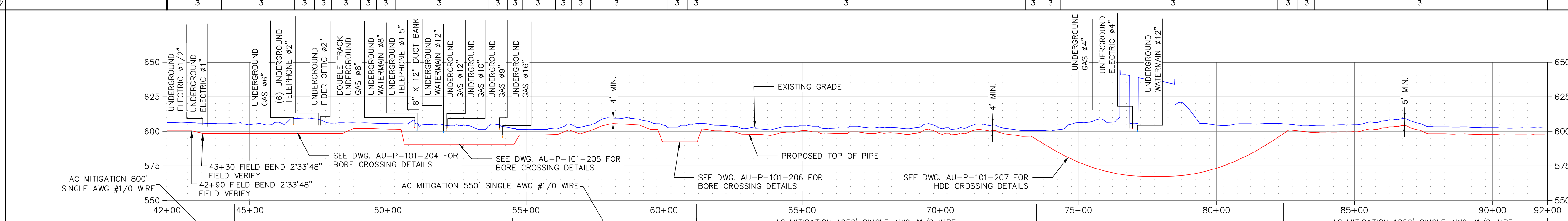
WORKSPACE DETAIL
(NOT TO SCALE)



DETAIL

DETAIL	NEW PIPE	DESIGN FACTOR	COATING	LENGTH	CLASS LOCATION
42+00 – 44+97 (TS/SSD)	2	0.5	A	297'	3
44+97 – 48+17 BORE US 12 & 20 DUNES HWY. & R.R. (AU-P-101-204)	2	0.5	B	320'	3
48+17 – 48+97 (TS1)	2	0.5	A	80'	3
48+97 – 49+00	3	0.5	A	3'	3
49+00 – 50+01	1	0.5	A	101'	3
50+01 – 50+04	3	0.5	A	3'	3
50+04 – 50+62	2	0.5	A	58'	3
50+62 – 54+52 (TS1) BORE NICTD & CN RAILROAD & OLD DUNES HWY. (AU-P-101-205)	2	0.5	B	390'	3
54+52 – 54+80 (TS/SSD)	2	0.5	A	28'	3
54+80 – 54+83	3	0.5	A	3'	3
54+83 – 59+70	1	0.5	A	487'	3
59+70 – 59+73	3	0.5	A	3'	3
59+73 – 59+97	2	0.5	A	24'	3
59+97 – 61+17 BORE UNKNOWN RAILROAD (AU-P-201-206)	2	0.5	B	120'	3
61+17 – 61+41 (TS/SSD/GAP)	2	0.5	A	24'	3
61+41 – 61+44	3	0.5	A	3'	3
61+44 – 73+06	1	0.5	A	1,162'	3
73+06 – 73+09	3	0.5	A	3'	3
73+09 – 73+49 (TS/SSD)	2	0.5	A	40'	3
73+49 – 82+44 HDD I-90 BRIDGE (AU-P-101-207)	2	0.5	C	897.3' (TRUE LENGTH)	3
82+44 – 82+84 (TS/SSD)	2	0.5	A	40'	3
82+84 – 82+87	3	0.5	A	3'	3
82+87 – 92+00	1	0.5	A	913'	3

GRADE PROFILE
(SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.
3. TS1 TO BE INSTALL AT 51+00 BUT WIRE CONNECTION ARE TO BE MADE AT 50+62 AT BORE ENTRY.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-M-56120-201	56120 SITE PLAN
AU-P-101-207	I-90 BRIDGE CROSSING DETAIL
AU-P-101-206	UNKNOWN RR CROSSING DETAIL
AU-P-101-205	NORTHERN INDIANA COMMUTER DISTRICT RR AND CN RR CROSSING DETAIL
AU-P-101-204	E. DUNES HWY CROSSING DETAIL
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-103	ALIGNMENT SHEET (STA. 92+00 TO STA. 142+00)
AU-P-101-101	ALIGNMENT SHEET (STA. 0+00 TO STA. 42+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION 04/26/2021

ENEngineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL. 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

T-36-N
R-8-W

NIPSCO

ENGR.:NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A
ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 42+00 TO STA. 92+00)

LOCATION:
DESCRIPTION: AETNA TO 483 BACKFEED PIPELINE
ENE #:1910052.00
TAXING UNIT: N/A
FILENAME: AU-P-101-102.DWG
SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO. 40347-913
AU-P-101-102
SHEET: 12

PROPERTY OWNERS

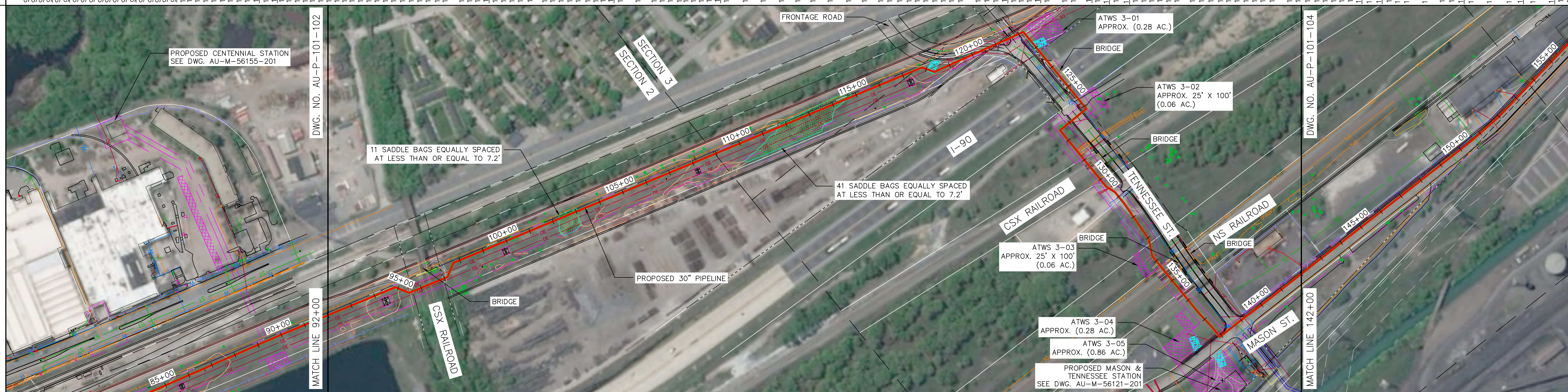
Property owner	Parcel no.	Length	Station
			92+00
NORTHERN INDIANA PUBLIC SERVICE	45-08-02-326-002.000-004	363'	95+63
CSX TRANSPORTATION, INC	45-08-02-301-003.000-004	131'	96+94
NORTHERN INDIANA PUBLIC SERVICE	45-08-02-301-002.000-004	2,230'	119+24
FRONTAGE ROAD		203'	121+27
TENNESSEE ST.		83'	122+10
RAILROAD PROPERTIES		19'	122+29
NORTHERN INDIANA PUBLIC SERVICE	45-08-02-301-002.000-004	60'	122+89
RAILROAD PROPERTIES, LLC.	45-08-02-301-001.000-004	31'	123+20
I-90 BRIDGE		240'	125+60
TENNESSEE ST.		152'	127+12
BALTIMORE & OHIO RAILROAD INC.	45-08-03-277-001.000-004	180'	128+92
CSX RAILROAD		113'	130+05
UNION CARBIDE INDUSTRIAL GASSES, INC.	45-08-03-276-001.000-004	108'	131+13
UNITED STATES OF AMERICA	45-08-03-251-001.000-004	314'	134+27
NORFOLK SOUTHERN RAILROAD	45-08-03-505-003.000-004	130'	135+57
CITY OF GARY	45-08-03-227-001.000-004	221'	137+78
MASON ST.		422'	142+00

PIPELINE STATIONING & HORIZONTAL ANGLE

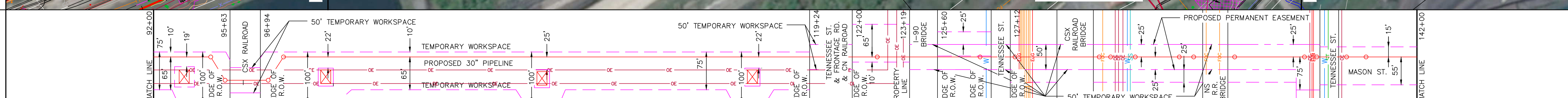
92+00 MATCH LINE
94+31 TOE OF BANK
94+84 TOE BANK
94+89 P.I. 45°00'00" RT.
95+23 OVERHEAD ELECTRIC
95+48 P.I. 45°00'00" LT.
95+54 COUPON TEST STATION, SSD & BOLLARD
95+54 TOE OF BANK
95+63 EDGE OF R.O.W./PROPERTY LINE
96+14 TOP OF BANK
96+40 TOP OF BANK
96+94 EDGE OF R.O.W./PROPERTY LINE
97+05 TOE OF BANK
97+13 P.I. 45°00'00" LT.
97+26 EDGE OF GRAVEL
97+34 EDGE OF GRAVEL
97+39 OVERHEAD ELECTRIC
97+72 COUPON TEST STATION & SSD
97+72 P.I. 45°00'00" RT.
102+97 TOP OF BANK
104+00 2-WIRE TEST STATION
106+85 TOP OF BANK
107+83 TOP OF BANK
107+95 TOE OF BANK
108+50 COUPON TEST STATION & SSD
108+95 SECTION LINE
111+78 TOE OF BANK
117+54 SECTION LINE
117+82 P.I. 43°26'43" RT.
118+09 OVERHEAD ELECTRIC
118+33 P.I. 45°00'00" LT.
119+00 COUPON TEST STATION & SSD
119+24 EDGE OF R.O.W./PROPERTY LINE
119+59 TOP OF BANK
120+16 EDGE OF WALL
120+26 OVERHEAD ELECTRIC
120+37 EDGE OF WALL
120+48 EDGE OF CURB
120+49 EDGE OF CURB
120+54 EDGE OF ROAD
120+81 ℄ FRONTAGE ROAD
121+00 EDGE OF RAILROAD
121+06 EDGE OF ROAD
121+23 EDGE OF RAILROAD
121+27 EDGE OF R.O.W./PROPERTY LINE
121+37 EDGE OF R.O.W./PROPERTY LINE
121+63 EDGE OF ROAD
121+69 ℄ TENNESSE ST.
121+74 EDGE OF ROAD
121+89 EDGE OF CONCRETE
121+94 EDGE OF WALKWAY
121+95 UNDERGROUND WATERMAIN ø16", T.O.P. EL. 597.00'
121+99 OVERHEAD ELECTRIC
122+00 EDGE OF R.O.W./PROPERTY LINE
122+10 EDGE OF R.O.W./PROPERTY LINE
122+20 P.I. 74°50'17" RT.
122+31 OVERHEAD ELECTRIC
122+47 EDGE OF GRAVEL
122+58 OVERHEAD ELECTRIC
122+89 PROPERTY LINE
123+00 2-WIRE TEST STATION/ REVERSE CURRENT SWITCH
123+20 EDGE OF R.O.W./PROPERTY LINE
123+64 EDGE OF CONCRETE
125+13 EDGE OF CONCRETE
125+59 EDGE OF GRAVEL
125+60 EDGE OF R.O.W./PROPERTY LINE
125+65 EDGE OF ROAD
125+96 EDGE OF ROAD
126+14 2-WIRE TEST STATION
126+14 P.I. 90°00'00" RT.
126+27 UNDERGROUND WATERMAIN ø12", T.O.P. EL. 592.70'
126+32 OVERHEAD ELECTRIC/ EDGE OF WALKWAY
126+36 EDGE OF CURB
126+36 EDGE OF CURB
126+62 ℄ TENNESSEE ST.
126+87 EDGE OF CURB
126+88 EDGE OF CURB
126+92 EDGE OF WALKWAY
127+12 EDGE OF R.O.W./PROPERTY LINE
127+48 2-WIRE TEST STATION
127+48 P.I. 90°00'00" LT.
128+48 UNDERGROUND ELECTRIC ø1", T.O.P. EL. 590.0'
128+51 UNDERGROUND GAS ø16", T.O.P. EL. 590.1'
128+57 UNDERGROUND GAS ø18", T.O.P. EL. 590.6'
128+63 UNDERGROUND GAS ø10", T.O.P. EL. 590.8'
128+73 UNDERGROUND PROPANE GAS ø3", T.O.P. EL. 595.1'
128+73 UNDERGROUND PROPANE GAS øT.B.D., T.O.P. EL. T.B.D.
128+74 UNDERGROUND PROPANE GAS øT.B.D., T.O.P. EL. T.B.D.
128+74 UNDERGROUND PROPANE GAS øT.B.D., T.O.P. EL. T.B.D.
128+79 UNDERGROUND ELECTRIC ø1", T.O.P. EL. 596.1'
128+92 PROPERTY LINE
129+08 EDGE OF GRAVEL
129+19 TOP OF BANK
129+20 EDGE OF RAILROAD
129+25 EDGE OF RAILROAD
129+34 EDGE OF RAILROAD
129+39 EDGE OF RAILROAD
129+40 TOP OF BANK
129+49 EDGE OF GRAVEL
129+96 UNDERGROUND FIBER OPTIC ø1", T.O.P. EL. 593.5'
130+05 PROPERTY LINE
130+32 COUPON TEST STATION & SSD
130+35 EDGE OF GRAVEL
130+36 P.I. 18°00'00" LT.
130+46 OVERHEAD ELECTRIC
130+49 OVERHEAD ELECTRIC
130+51 OVERHEAD ELECTRIC
130+76 P.I. 18°00'00" RT.
131+03 UNDERGROUND WATERMAIN ø10", T.O.P. EL. 588.4'
131+13 PROPERTY LINE
131+16 UNDERGROUND SANITARY SEWER øT.B.D., T.O.P. EL. T.B.D.
131+38 P.I. 4°43'38" RT.
131+86 EDGE OF GRAVEL
133+07 P.I. 23°47'40" RT.
133+25 PROPERTY LINE
133+75 P.I. 28°28'42" LT.
133+75 FENCE LINE
134+10 TOE OF BANK
134+13 TOE OF BANK
134+17 COUPON TEST STATION
134+27 PROPERTY LINE
134+32 UNDERGROUND FIBER OPTIC øT.B.D., T.O.P. EL. T.B.D.
134+38 EDGE OF GRAVEL
134+50 EDGE OF GRAVEL
134+55 TOP OF BANK
134+57 EDGE OF RAILROAD
134+62 EDGE OF RAILROAD
134+70 EDGE OF RAILROAD
134+75 EDGE OF RAILROAD
134+77 TOP OF BANK
134+86 EDGE OF GRAVEL
134+98 UNDERGROUND FIBER OPTIC øT.B.D., T.O.P. EL. T.B.D.
135+57 PROPERTY LINE
135+64 EDGE OF GRAVEL
135+67 TOP OF BANK
135+69 EDGE OF RAILROAD
135+74 EDGE OF RAILROAD
135+76 TOP OF BANK
135+80 EDGE OF GRAVEL
136+07 COUPON TEST STATION & SSD
136+67 P.I. 3°59'55" LT.
137+23 30" X 16" TEE
137+45 P.I. 5°12'56" RT.
137+78 EDGE OF ROW
137+83 OVERHEAD ELECTRIC
137+85 UNDERGROUND ELECTRIC ø1.5", T.O.P. EL. 593.9'
137+85 UNDERGROUND ELECTRIC ø1.5", T.O.P. EL. 593.9'
137+86 EDGE OF CURB
137+87 EDGE OF ROAD
137+92 P.I. 90°00'00" LT.
138+45 UNDERGROUND WATERMAIN ø12", T.O.P. EL. 590.7'
138+73 UNDERGROUND STORM SEWER ø36" RCP, T.O.P EL. 584.8'
139+13 OVERHEAD ELECTRIC
139+16 P.I. 2°03'50" LT.
139+30 UNDERGROUND WATERMAIN ø10", T.O.P. EL. 590.8'
139+96 P.I. 1°58'11" LT.
140+00 2-WIRE TEST STATION
142+00 MATCH LINE

T-36-N
R-8-W

ALIGNMENT PLAN VIEW
(SCALE: 1" = 200')



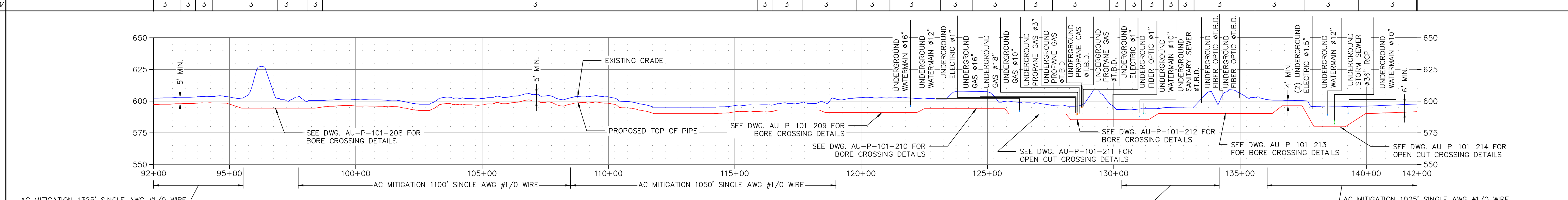
WORKSPACE DETAIL
(NOT TO SCALE)



DETAIL

Detail	New pipe	Design factor	Coating	Length	Class location
92+00 – 94+80	1	0.5	A	280'	3
94+80 – 94+83	3	0.5	A	3'	3
94+83 – 95+54 (TS/SSD)	2	0.5	A	71'	3
BORE CSX RAILROAD BRIDGE (AU-P-101-208)	2	0.5	B	156'	3
97+10 (TS/SSD)	2	0.5	A	66'	3
97+76	3	0.5	A	3'	3
97+79 – 118+25 (TS1, TS/SSD)	1	0.5	A	2,046'	3
118+25 – 118+28	3	0.5	A	3'	3
TS/SSD 119+11	2	0.5	A	83'	3
BORE TENESSEE ST. & FRONTAGE RD. & UNKNOWN RAILROAD (AU-P-101-209)	2	0.5	B	300'	3
122+11 TS1/RCS 123+06	2	0.5	A	93'	3
BORE I-90 BRIDGE (AU-P-101-210)	2	0.5	B	260'	3
125+66 TS1 126+26	2	0.5	A	60'	3
OPEN CUT TENESSEE ST. (AU-P-101-211)	2	0.5	B	110'	3
127+36 TS1 128+32	2	0.5	A	96'	3
BORE CSX RAILROAD BRIDGE (AU-P-101-212)	2	0.5	B	200'	3
TS/SSD 130+32	2	0.5	A	165'	3
131+97	3	0.5	A	3'	3
132+00	1	0.5	A	169'	3
133+69	3	0.5	A	3'	3
133+72	2	0.5	A	45'	3
134+17 TS / BORE NS RAILROAD BRIDGES (AU-P-101-213)	2 2	0.5	B	190'	3
TS/SSD 136+07	2	0.5	A	198'	3
138+05 / OPEN CUT TENESSEE ST. (AU-P-101-214)	2	0.5	B	91'	3
138+96 TS1	2	0.5	B	304'	3

GRADE PROFILE
(SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-P-101-214	TENNESSEE ST CROSSING DETAIL
AU-P-101-213	NORFOLK S. RR BRIDGE AND NORFOLK S. RR BRIDGE CROSSING DETAIL
AU-P-101-212	CSX TRANSPORTATION RR BRIDGE CROSSING DETAIL
AU-P-101-211	TENNESSEE ST CROSSING DETAIL
AU-P-101-210	I-90 BRIDGE CROSSING DETAIL
AU-P-101-209	CN RR, FRONTAGE RD AND TENNESSEE ST CROSSING DETAIL
AU-P-101-208	CSX TRANSPORTATION RR BRIDGE CROSSING DETAIL
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-104	ALIGNMENT SHEET (STA. 142+00 TO STA. 192+00)
AU-P-101-102	ALIGNMENT SHEET (STA. 42+00 TO STA. 92+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION 04/26/2021

ENEngineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL. 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 92+00 TO STA. 142+00)

LOCATION:
DESCRIPTION: AETNA TO 483 BACKFEED PIPELINE
ENE #:1910052.00
TAXING UNIT: N/A
FILENAME: AU-P-101-103.DWG

SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO. 40347-913
AU-P-101-103
SHEET: 13

PROPERTY OWNERS

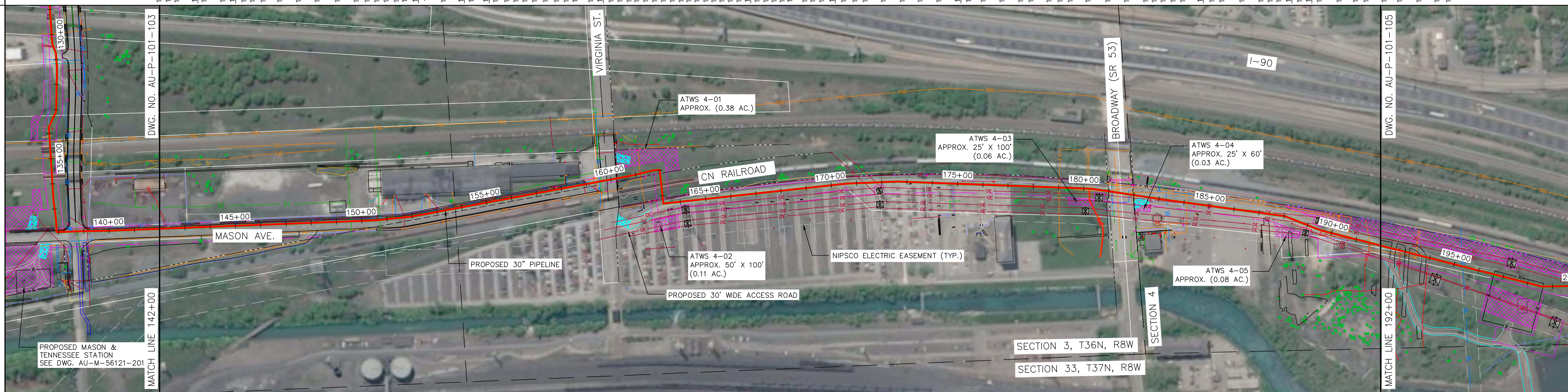
Station	Owner	Parcel No.	Length
142+00 – 160+25	MASON AVE.		1,825'
160+25 – 162+12	PRAXAIR, INC.	45-08-03-127-001.000-004	187'
162+12 – 163+12	E.J. & E. COMPANY	45-08-03-503-001.000-004	100'
163+12 – 180+98	UNITED STATE STEEL CORP.	45-04-35-400-003.000-004	1784'
180+98 – 182+01	BROADWAY (SR 53)		103'
182+01 – 192+00	NORTHERN INDIANA PUBLIC SERVICE	45-04-33-300-002.000-004	999'

T-36-N
R-8-W

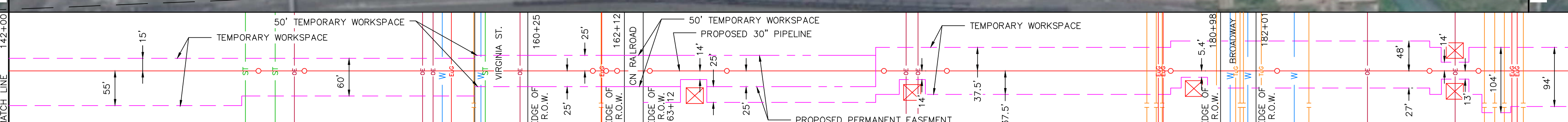
PIPELINE STATIONING & HORIZONTAL ANGLE

142+00 MATCH LINE
146+07 COUPON TEST STATION & SSD
149+57 UNDERGROUND STORM SEWER ø132", T.O.P. EL. 586.4'
150+54 P.I. 3°29'39" LT.
150+72 UNDERGROUND STORM SEWER ø96", T.O.P. EL. 587.3'
151+69 OVERHEAD ELECTRIC
151+97 P.I. 4°49'18" LT.
158+92 OVERHEAD ELECTRIC
159+03 OVERHEAD ELECTRIC
159+10 UNDERGROUND WATERMAIN ø10", T.O.P. EL. 590.7'
159+33 UNDERGROUND ELECTRIC ø3", T.O.P. EL. 593.6'
159+44 UNDERGROUND GAS ø14", T.O.P. EL. 592.9'
159+54 UNDERGROUND WATERMAIN ø14", T.O.P. EL. 591.1'
159+59 UNDERGROUND STORM SEWER ø10", T.O.P. EL. 593.2'
159+84 ℄ VIRGINIA ST.
160+22 EDGE OF ROAD
160+23 EDGE OF CURB
160+25 EDGE OF R.O.W./PROPERTY LINE
160+26 OVERHEAD ELECTRIC
160+50 2-WIRE TEST STATION
160+90 P.I. 3°13'12" LT.
161+18 UNDERGROUND PRAXAIR NITROGEN GAS ø12", T.O.P. EL. 594.6'
161+18 UNDERGROUND ELECTRIC ø2", T.O.P. EL. 594.4'
161+70 P.I. 7°34'53" RT.
161+97 COUPON TEST STATION, SSD & GRAVEL ACCESS PATH
161+97 P.I. 90°00'00" RT.
162+12 EDGE OF R.O.W./PROPERTY LINE
162+51 TOP OF BANK
162+54 EDGE OF RAILROAD
162+59 EDGE OF RAILROAD
162+65 TOP OF BANK
163+12 EDGE OF R.O.W./PROPERTY LINE
163+16 OVERHEAD ELECTRIC
163+17 FENCE LINE
163+20 COUPON TEST STATION, SSD & BOLLARDS
163+24 EDGE OF DRIVEWAY
163+32 P.I. 90°00'00" LT.
165+11 EDGE OF DRIVEWAY
165+47 EDGE OF DRIVEWAY
165+66 EDGE OF DRIVEWAY
167+24 EDGE OF DRIVEWAY
167+38 EDGE OF DRIVEWAY
167+84 EDGE OF DRIVEWAY
168+03 EDGE OF DRIVEWAY
168+44 EDGE OF DRIVEWAY
168+64 EDGE OF DRIVEWAY
169+04 EDGE OF DRIVEWAY
169+25 EDGE OF DRIVEWAY
169+67 EDGE OF DRIVEWAY
169+88 EDGE OF DRIVEWAY
170+28 EDGE OF DRIVEWAY
170+42 PROPERTY LINE
170+48 EDGE OF DRIVEWAY
170+64 P.I. 3°56'23" RT.
170+86 EDGE OF DRIVEWAY
171+08 EDGE OF DRIVEWAY
171+30 EDGE OF DRIVEWAY
171+31 OVERHEAD ELECTRIC
171+45 COUPON TEST STATION, SSD & BOLLARDS
171+78 OVERHEAD ELECTRIC
171+88 EDGE OF DRIVEWAY
172+10 EDGE OF DRIVEWAY
172+62 P.I. 4°21'24" RT.
174+78 FENCE LINE
177+03 EDGE OF DRIVEWAY
179+02 UNDERGROUND PRAXAIR GAS ø16", T.O.P. EL. 595.6'
180+19 UNDERGROUND PRAXAIR GAS ø12", T.O.P. EL. 593.0'
180+20 UNDERGROUND ELECTRIC ø2", T.O.P. EL. 594.5'
180+23 UNDERGROUND PRAXAIR GAS ø18", T.O.P. EL. 593.1'
180+24 UNDERGROUND ELECTRIC ø1.5", T.O.P. EL. 595.6'
180+32 P.I. 6°40'00" RT.
180+52 COUPON TEST STATION, SSD & BOLLARDS
180+94 UNDERGROUND GAS ø2", T.O.P. EL. 586.7'
180+98 FENCE LINE/EDGE OF R.O.W./PROPERTY LINE
180+98 EDGE OF WALKWAY
181+12 UNDERGROUND WATERMAIN ø16", T.O.P. EL. 591.2'
181+14 EDGE OF CURB
181+15 EDGE OF DRIVEWAY
181+33 UNDERGROUND TELEPHONE øT.B.D., T.O.P. EL. 593.1'
181+40 UNDERGROUND GAS ø12", T.O.P. EL. 592.2'
181+52 UNDERGROUND GAS ø12", T.O.P. EL. 592.2'
181+80 UNDERGROUND WATERMAIN ø10", T.O.P. EL. 590.7'
181+87 EDGE OF DRIVEWAY
181+88 EDGE OF CURB
181+97 SECTION LINE
182+01 EDGE OF R.O.W./PROPERTY LINE
182+04 UNDERGROUND TELEPHONE ø6", T.O.P. EL. 593.9'
183+12 P.I. 1°01'18" LT.
183+22 EDGE OF DRIVEWAY
183+31 UNDERGROUND WATERMAIN ø8", T.O.P. EL. 589.76'
184+11 UNDERGROUND GAS ø2", T.O.P. EL. 593.8'
185+01 OVERHEAD ELECTRIC
186+93 EDGE OF DRIVEWAY
187+60 EDGE OF DRIVEWAY
188+01 P.I. 13°35'48" RT.
188+70 OVERHEAD ELECTRIC
189+57 P.I. 7°02'17" RT.
189+96 UNDERGROUND NIPSCO GAS ø14", T.O.P. EL. 595.91'
190+25 UNDERGROUND NIPSCO GAS ø12", T.O.P. EL. 596.46'
190+39 EDGE OF DRIVEWAY
190+67 UNDERGROUND NIPSCO GAS ø12", T.O.P. EL. 595.11'
191+26 UNDERGROUND ELECTRIC ø3/4", T.O.P. EL. 597.44'
191+51 UNDERGROUND ELECTRIC ø3/4", T.O.P. EL. 597.26'
191+55 UNDERGROUND GAS ø4", T.O.P. EL. 594.57'
191+75 EDGE OF DRIVEWAY
192+00 MATCH LINE

ALIGNMENT PLAN VIEW
(SCALE: 1" = 200')



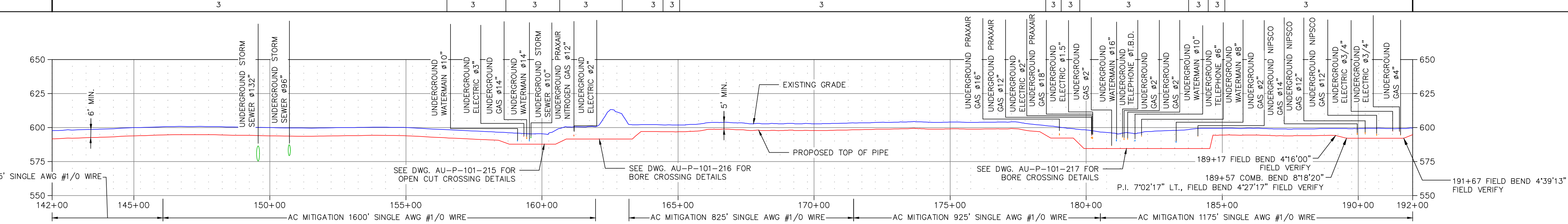
WORKSPACE DETAIL
(NOT TO SCALE)



DETAIL

	142+00 – 159+00	159+00 – 160+30	160+30 – 162+10	162+10 – 163+20	163+20 – 163+79	163+79 – 163+82	163+82 – 179+29	179+29 – 179+32	179+32 – 180+52	180+52 – 184+52	184+52 – 184+69	184+69 – 184+72	184+72 – 192+00
DETAIL	TS/SSD	OPEN CUT VIRGINIA ST. (AU-P-101-215)	TS1; TS/SSD/GAP	BORE CN RAILROAD (AU-P-101-216); TS/SSD/B∞			TS/SSD/B*		TS/SSD/B*	BORE BROADWAY ST. (AU-P-101-217)			
NEW PIPE	2	2	2	2	2	3	1	3	2	2	2	3	1
DESIGN FACTOR	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
COATING	B	B	A	B	A	A	B	A	A	B	A	A	A
LENGTH	1,700'	130'	180'	110'	59'	3'	1,547'	3'	120'	400'	17'	3'	728'
CLASS LOCATION	3	3	3	3	3	3	3	3	3	3	3	3	3

GRADE PROFILE
(SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

TS/SSD/B∞: TO BE PLACED NORTH OF FENCE
TS/SSD/B*: TO BE PLACED CLOSE TO TOWER

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-P-101-217	BROADWAY (SR 53) CROSSING DETAIL
AU-P-101-216	CANADIAN NATIONAL RR CROSSING DETAIL
AU-P-101-215	VIRGINIA ST CROSSING DETAIL
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-105	ALIGNMENT SHEET (STA. 192+00 TO STA. 242+00)
AU-P-101-103	ALIGNMENT SHEET (STA. 92+00 TO STA. 142+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION 04/26/2021

ENEngineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL. 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

NIPSCO

ENGR.:NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 142+00 TO STA. 192+00)

LOCATION:
DESCRIPTION: AETNA TO 483 BACKFEED PIPELINE
FILENAME: AU-P-101-104.DWG
ENE #:1910052.00
TAXING UNIT: N/A

SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO. 40347-913
AU-P-101-104
SHEET: 14

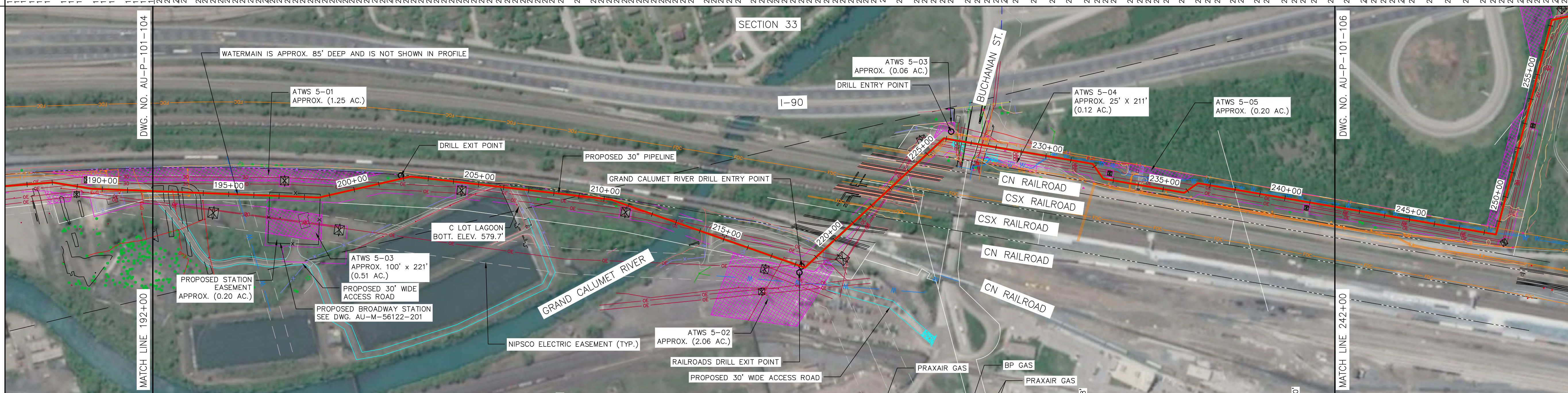
PROPERTY OWNERS

Station range	Owner	Parcel No.	Length
192+00 – 212+72	NORTHERN INDIANA PUBLIC SERVICE	45–04–33–300–002.000–004	2,072'
212+72 – 213+67	GRAND CALUMET RIVER		95'
213+67 – 220+21	NORTHERN INDIANA PUBLIC SERVICE	45–04–33–300–002.000–004	654'
220+21 – 221+50	EJ & E WEST COMPANY	45–04–33–503–003.000–004	129'
221+50 – 223+13	NEWYORK CENTRAL TRANS. CO.	45–04–33–505–002.000–004	163'
223+13 – 224+39	BALTIMORE & OHIO RAILROAD COMPANY	45–04–33–501–002.000–004	126'
224+39 – 225+02	EJ & E WEST COMPANY	45–04–33–503–003.000–004	63'
225+02 – 242+00	NORTHERN INDIANA PUBLIC SERVICE	45–04–32–400–002.000–004	1,698'

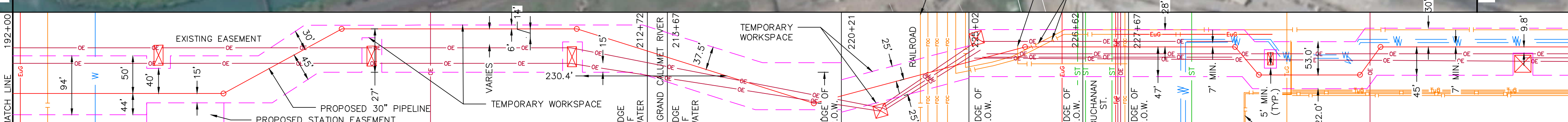
PIPELINE STATIONING & HORIZONTAL ANGLE

192+00 MATCH LINE
192+05 EDGE OF DRIVEWAY
192+12 COUPON TEST STATION & SSD
192+42 EDGE OF ROAD
192+62 EDGE OF ROAD
192+78 UNDERGROUND ELECTRIC ø3/4", T.O.P. EL. 597.07'
193+00 EDGE OF ROAD
193+17 EDGE OF ROAD
193+46 UNDERGROUND GAS ø20", T.O.P. EL. 596.18'
193+64 EDGE OF ROAD
193+85 EDGE OF ROAD
195+36 UNDERGROUND WATERMAIN øT.B.D., DEPTH APPROX. 85.0'
196+00 RECTIFIER
196+72 EDGE OF GRAVEL
196+81 MAINLINE VALVE
198+57 P.I. 15°04'54" LT.
200+26 OVERHEAD ELECTRIC
201+16 OVERHEAD ELECTRIC
202+30 P.I. 19°25'05" RT.
202+33 COUPON TEST STATION, SSD & GRAVEL ACCESS PATH
205+67 TOP OF BANK
205+83 OVERHEAD ELECTRIC
205+86 EDGE OF WALKWAY
205+90 EDGE OF WALKWAY
206+00 2-WIRE TEST STATION
206+23 TOP OF BANK
206+29 EDGE OF GRAVEL
206+85 2-WIRE TEST STATION
206+85 FENCE LINE
210+26 P.I. 12°43'51" RT.
212+31 OVERHEAD ELECTRIC
212+50 2-WIRE TEST STATION
212+72 EDGE OF WATER/PROPERTY LINE
213+67 EDGE OF WATER/PROPERTY LINE
214+08 OVERHEAD ELECTRIC
214+10 TOP OF BANK
214+23 FENCE LINE
214+30 EDGE OF DRIVEWAY
214+49 EDGE OF DRIVEWAY
214+50 2-WIRE TEST STATION
214+95 EDGE OF DRIVEWAY
215+68 EDGE OF DRIVEWAY
217+47 OVERHEAD ELECTRIC
217+59 EDGE OF DRIVEWAY
217+95 COUPON TEST STATION & SSD
218+01 OVERHEAD ELECTRIC
218+39 P.I. 62°09'13" LT.
218+49 EDGE OF DRIVEWAY
218+70 OVERHEAD ELECTRIC
218+71 OVERHEAD ELECTRIC
219+02 EDGE OF DRIVEWAY
219+06 OVERHEAD ELECTRIC
219+21 EDGE OF DRIVEWAY
219+29 OVERHEAD ELECTRIC
219+48 FENCE LINE
219+68 TOP OF BANK
220+00 EDGE OF RAILROAD
220+05 EDGE OF RAILROAD
220+12 EDGE OF RAILROAD
220+18 EDGE OF RAILROAD
220+21 EDGE OF R.O.W./PROPERTY LINE
220+62 EDGE OF RAILROAD
220+68 EDGE OF RAILROAD
221+89 EDGE OF RAILROAD
220+95 EDGE OF RAILROAD
221+50 EDGE OF R.O.W./PROPERTY LINE
221+71 TOE OF BANK
221+87 TOE OF BANK
221+90 UNDERGROUND GAS øT.B.D., T.O.P. EL. T.B.D.
221+95 UNDERGROUND FIBER OPTIC øT.B.D., T.O.P. EL. T.B.D.
222+33 TOP OF BANK
222+35 OVERHEAD ELECTRIC
222+43 TOE OF BANK
222+48 TOP OF BANK
222+50 EDGE OF RAILROAD
222+56 EDGE OF RAILROAD
222+59 TOP OF BANK
222+62 TOE OF BANK
222+65 TOP OF BANK
222+67 EDGE OF RAILROAD
222+73 EDGE OF RAILROAD
222+76 TOP OF BANK
222+91 TOE OF BANK
222+93 UNDERGROUND FIBER OPTIC øT.B.D., T.O.P. EL. T.B.D.
222+95 TOP OF BANK
223+13 EDGE OF R.O.W./PROPERTY LINE
223+16 OVERHEAD ELECTRIC
223+24 TOE OF BANK
223+26 UNDERGROUND FIBER OPTIC øT.B.D., T.O.P. EL. T.B.D.
223+36 OVERHEAD ELECTRIC
223+75 TOP OF BANK
223+78 EDGE OF RAILROAD
223+84 EDGE OF RAILROAD
223+87 TOE OF BANK
223+89 TOE OF BANK
223+92 TOP OF BANK
223+95 EDGE OF RAILROAD
224+01 EDGE OF RAILROAD
224+04 TOP OF BANK
224+30 TOE OF BANK
224+39 EDGE OF R.O.W./PROPERTY LINE
224+41 TOP OF BANK
224+48 EDGE OF RAILROAD
224+54 EDGE OF RAILROAD
224+58 TOP OF BANK
224+85 UNDERGROUND PRAXAIR NITROGEN GAS ø16", T.O.P. EL. 582.77'
224+91 UNDERGROUND PRAXAIR GAS ø16", T.O.P. EL. 584.61'
224+92 TOE OF BANK
225+02 EDGE OF R.O.W./PROPERTY LINE
225+19 TOP OF BANK
225+24 EDGE OF GRAVEL
225+24 UNDERGROUND BP GAS øT.B.D., T.O.P. EL. T.B.D.
225+51 OVERHEAD ELECTRIC
225+59 OVERHEAD ELECTRIC
225+77 OVERHEAD ELECTRIC
225+85 COUPON TEST STATION & SSD
225+91 P.I. 52°38'04" RT.
226+03 UNDERGROUND PRAXAIR GAS ø16", T.O.P. EL. 584.02'
226+13 UNDERGROUND PRAXAIR GAS ø18", T.O.P. EL. 579.00'
226+44 UNDERGROUND ELECTRIC ø3", T.O.P. EL. 584.56'
226+45 UNDERGROUND STORM SEWER ø72", T.O.P. EL. 583.79'
226+54 OVERHEAD ELECTRIC
226+62 EDGE OF R.O.W.
226+66 EDGE OF DRIVEWAY
226+75 UNDERGROUND STORM SEWER ø12", T.O.P. EL. 583.46'
226+75 EDGE OF DRIVEWAY
226+77 EDGE OF CURB
226+79 EDGE OF ROAD
227+27 EDGE OF ROAD
227+28 UNDERGROUND STORM SEWER ø15" RCP, T.O.P. EL. 583.65'
227+41 UNDERGROUND ELECTRIC ø1/2", T.O.P. EL. 582.50'
227+43 OVERHEAD ELECTRIC
227+44 OVERHEAD ELECTRIC
227+57 UNDERGROUND FIBER OPTIC øT.B.D., T.O.P. EL. T.B.D.
227+67 EDGE OF R.O.W.
227+74 COUPON TEST STATION, SSD & BOLLARDS
228+29 EDGE OF DRIVEWAY
228+42 UNDERGROUND ELECTRIC ø2" (3), T.O.P. EL. 585.90'
228+45 EDGE OF DRIVEWAY
229+18 EDGE OF DRIVEWAY
230+03 EDGE OF DRIVEWAY
230+10 UNDERGROUND WATERMAIN ø18", T.O.P. EL. 584.87'
230+15 UNDERGROUND WATERMAIN ø8", T.O.P. EL. 583.29'
230+16 UNDERGROUND STORM SEWER ø24" CPP, T.O.P. EL. 586.75'
231+87 P.I. 45°00'00" RT.
232+08 OVERHEAD ELECTRIC
232+19 OVERHEAD ELECTRIC
232+39 OVERHEAD ELECTRIC
232+59 P.I. 45°00'00" LT.
233+66 UNDERGROUND TELEPHONE ø2", T.O.P. EL. 593.15'
233+68 UNDERGROUND NITROGEN GAS ø16", T.O.P. EL. 590.48'
233+69 UNDERGROUND GAS ø2.5", T.O.P. EL. 593.42'
233+70 UNDERGROUND NITROGEN GAS ø16", T.O.P. EL. 590.56'
234+93 TOE OF BANK
233+98 EDGE OF DRIVEWAY
234+09 EDGE OF DRIVEWAY
234+16 TOE OF BANK
235+85 P.I. 45°00'00" LT.
236+04 OVERHEAD ELECTRIC
236+35 OVERHEAD ELECTRIC
236+51 COUPON TEST STATION & SSD
236+51 P.I. 45°00'00" RT.
242+00 MATCH LINE

ALIGNMENT PLAN VIEW
(SCALE: 1" = 200')



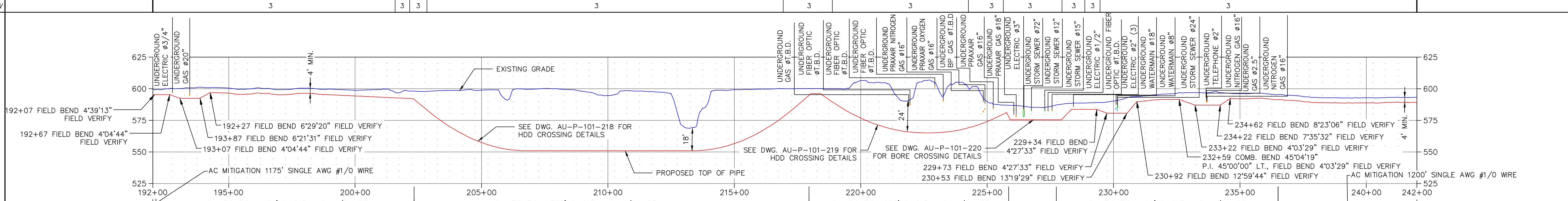
WORKSPACE DETAIL
(NOT TO SCALE)



DETAIL

DETAIL	TS/SSD, RECT (192+00 – 201+84)	201+84 – 201+87	TS/SSD/GAP (201+87 – 202+33)	HDD GRAND CALUMET RIVER (AU–P–101–218), TS1 TS1 TS1 TS1 (202+33 – 217+95)	TS/SSD (217+95 – 218+47)	HDD CN & CSX RAILROAD (AU–P–101–219) (218+47 – 225+77)	TS/SSD (225+77 – 226+34)	BORE BUCHANAN ST. (AU–P–101–220) (226+34 – 227+74)	TS/SSD/B (227+74 – 228+54)	228+54 – 228+57	TS/SSD (228+57 – 242+00)
NEW PIPE	1	3	2	2	2	2	2	2	2	3	1
DESIGN FACTOR	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
COATING	A	A	A	C	A	C	A	B	A	A	A
LENGTH	984'	3'	46'	1565.6' (TRUE LENGTH)	52'	732.0' (TRUE LENGTH)	57'	140'	80'	3'	1,343'
CLASS LOCATION	3	3	3	3	3	3	3	3	3	3	3

GRADE PROFILE
(SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU–CP–TYP–101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU–CP–TYP–117 & AU–CP–TYP–118)
TS1: 2–WIRE TEST STATION (SEE DWG. AU–CP–TYP–102)
RECT: RECTIFIER (SEE DWG. AU–CP–TYP–110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU–P–TYP–502)
B: BOLLARD (SEE DWG. AU–P–TYP–303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU–CP–TYP–121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

DESIGNED IN ACCORDANCE WITH TITLE 49–PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12–18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32–38 MILS TOTAL)
C = FUSION BONDED EPOXY (12–18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU–M–56122–201	56122 SITE PLAN
AU–P–101–220	BUCHANAN ST CROSSING DETAIL
AU–P–101–219	CN AND CSX TRANSPORTATION RAILROADS CROSSING DETAIL
AU–P–101–218	GRAND CALUMET RIVER CROSSING DETAIL
AU–P–000–501	PIPELINE BILL OF MATERIAL
AU–P–101–106	ALIGNMENT SHEET (STA. 242+00 TO STA. 292+00)
AU–P–101–104	ALIGNMENT SHEET (STA. 142+00 TO STA. 192+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION HP	04–26–21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION 04/26/2021

ENEngineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL. 60555
TEL. 630–353–4000
FAX 630–353–7777
WWW.ENENGINEERING.COM

T–37–N
R–8–W

NIPSCO

ENGR.:NIKITARAS
PHONE NO.: N/A
CELL NO.: 219–921–4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11–01–19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 192+00 TO STA. 242+00)

LOCATION:
DESCRIPTION: AETNA TO 483 BACKFEED PIPELINE
ENE #:1910052.00
TAXING UNIT: N/A
FILENAME: AU–P–101–105.DWG

SCALE: 1" = 200'
RET.W.O.: 70347–913
WORK ORDER NO. 40347–913
AU–P–101–105
SHEET: 15

PROPERTY OWNERS

242+00 — NORTHERN INDIANA PUBLIC SERVICE, 45-04-32-400-002.000-004, 4,353' — 285+53

INDIANA INDUSTRIAL INVESTMENTS LIMITED PARTNERSHIP, 45-04-32-300-002.000-004, 165' — 287+18

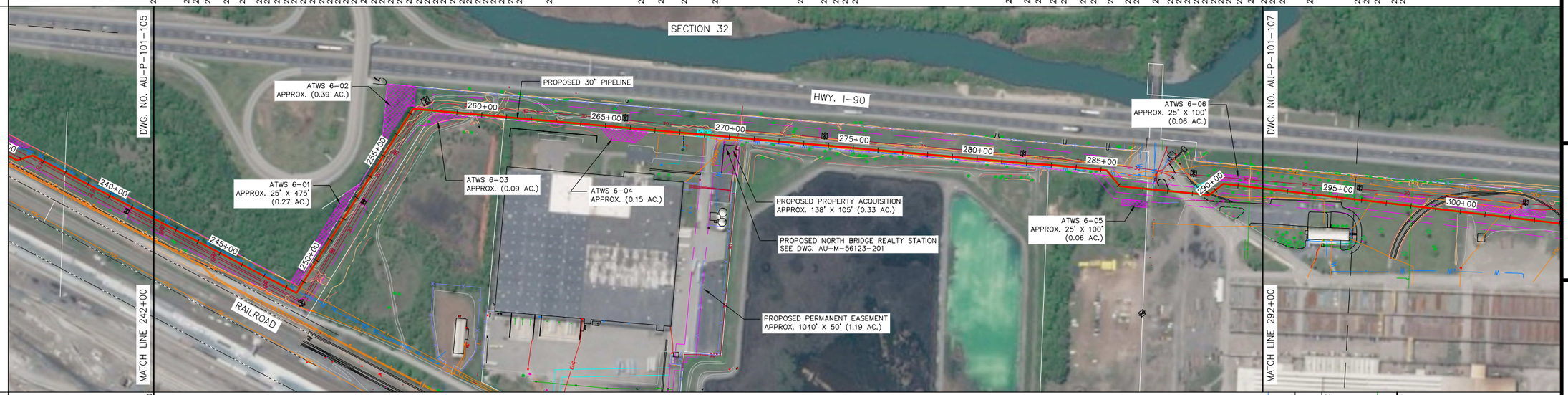
INDIANA INDUSTRIAL INVESTMENTS LIMITED PARTNERSHIP, 45-04-32-300-001.000-004, 482' — 292+00

PIPELINE STATIONING & HORIZONTAL ANGLE

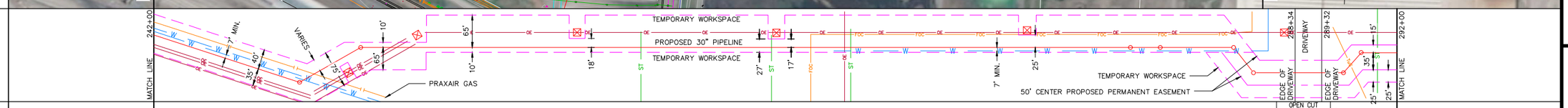
242+00 MATCH LINE

248+47 COUPON TEST STATION & SSD
248+47 P.I. 85°07'28" LT.
248+54 UNDERGROUND WATERMAIN ø8", T.O.P. EL. 590.10'
248+59 UNDERGROUND WATERMAIN ø8", T.O.P. EL. 590.87'
248+71 UNDERGROUND PRAXAIR GAS ø16", T.O.P. EL. 590.99'
249+56 TOP OF BANK
249+68 TOE OF BANK
251+95 TOE OF BANK
252+13 TOP OF BANK
252+47 TOE OF BANK
253+44 TOE OF BANK
253+98 TOP OF BANK
254+78 TOP OF BANK
254+84 TOP OF BANK
255+59 TOE OF BANK
255+62 TOP OF BANK
256+75 TOE OF BANK
257+23 P.I. 62°42'47" RT.
257+30 TOE OF BANK
257+33 TOP OF BANK
257+39 OVERHEAD ELECTRIC
257+56 OVERHEAD ELECTRIC
257+62 OVERHEAD ELECTRIC
257+72 TOP OF BANK
257+91 TOP OF BANK
258+23 EDGE OF GRAVEL
258+29 EDGE OF GRAVEL
259+55 TOP OF BANK
259+62 EDGE OF GRAVEL
259+79 EDGE OF GRAVEL
260+04 TOE OF BANK
260+34 TOP OF BANK
260+37 TOP OF BANK
260+52 TOE OF BANK
260+71 TOP OF BANK
260+79 TOP OF BANK
260+89 TOE OF BANK
262+25 UNDERGROUND STORM SEWER ø18" PVC, T.O.P. EL. 589.63'
263+00 COUPON TEST STATION & SSD
267+41 UNDERGROUND STORM SEWER ø18" VCP, T.O.P. EL. 590.19'
268+99 UNDERGROUND FIBER OPTIC ø2", T.O.P. EL. 588.85'
269+00 COUPON TEST STATION, SSD & BOLLARS
269+27 EDGE OF DRIVEWAY
270+15 30" X 16" TEE
270+34 OVERHEAD ELECTRIC
270+45 UNDERGROUND STORM SEWER ø42", T.O.P. EL. 589.6'
281+89 P.I. 1°14'53" LT.
283+09 P.I. 1°40'09" RT.
285+23 COUPON TEST STATION, SSD & BOLLARS
285+23 P.I. 45°00'00" RT.
285+25 UNDERGROUND TELEPHONE ø1.B.D., T.O.P. EL. 600.0'
285+31 EDGE OF DRIVEWAY
285+35 UNDERGROUND WATERMAIN ø8", T.O.P. EL. 587.1'
285+36 UNDERGROUND TELEPHONE ø1", T.O.P. EL. 588.52'
285+53 PROPERTY LINE
285+54 TOP OF BANK
286+07 P.I. 45°00'00" LT.
287+18 PROPERTY LINE
287+21 EDGE OF DRIVEWAY
287+28 EDGE OF WALKWAY
288+03 EDGE OF WALL
288+10 EDGE OF WALL
288+34 EDGE OF DRIVEWAY
289+32 EDGE OF DRIVEWAY
289+33 EDGE OF CURB
289+50 2-WIRE TEST STATION
289+68 P.I. 43°48'25" LT.
289+72 EDGE OF WALKWAY
289+76 EDGE OF WALKWAY
289+80 UNDERGROUND TELEPHONE ø1/2", T.O.P. EL. 592.4'
290+40 P.I. 45°00'00" RT.
291+41 TOP OF BANK
291+46 TOE OF BANK
291+47 UNDERGROUND STORM SEWER ø24", T.O.P. EL. 584.4'
291+53 TOP OF BANK
292+00 MATCH LINE

ALIGNMENT PLAN VIEW (SCALE: 1" = 200')



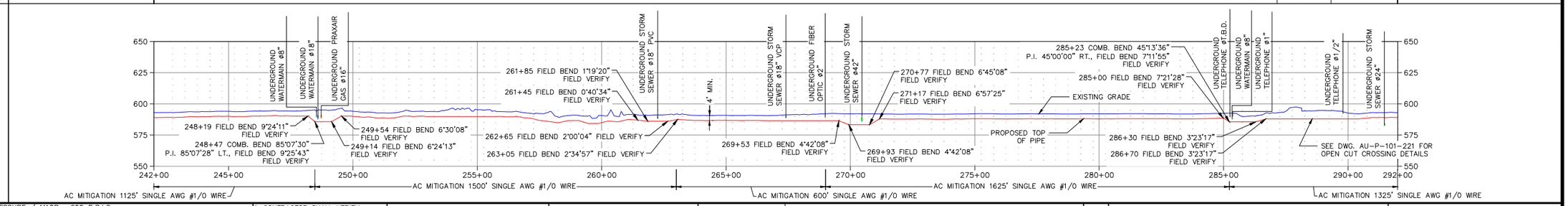
WORKSPACE DETAIL (NOT TO SCALE)



DETAIL

	TS/SSD	TS/SSD	TS/SSD/B	TS/SSD/B	
				287+15 OPEN CUT DRIVEWAY (AU-P-101-221)	289+65
NEW PIPE	1			1	1
DESIGN FACTOR	0.5			0.5	0.5
COATING	A			B	A
LENGTH	4,515'			250'	235'
CLASS LOCATION	3			3	3

GRADE PROFILE (SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-M-56123-201	56123 SITE PLAN
AU-P-101-221	DRIVEWAY CROSSING DETAIL
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-107	ALIGNMENT SHEET (STA. 292+00 TO STA. 312+00)
AU-P-101-105	ALIGNMENT SHEET (STA. 192+00 TO STA. 242+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION				
	HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION
04/26/2021

ENEngineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

T-37-N
R-8-W

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 242+00 TO STA. 292+00)

LOCATION:
DESCRIPTION:
AETNA TO 483 BACKFEED PIPELINE

FILENAME: AU-P-101-106.DWG
TAXING UNIT: N/A
ENE #:1910052.00

SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO.
40347-913
AU-P-101-106
SHEET: 16

PROPERTY OWNERS

INDIANA INDUSTRIAL INVESTMENTS LIMITED PARTNERSHIP

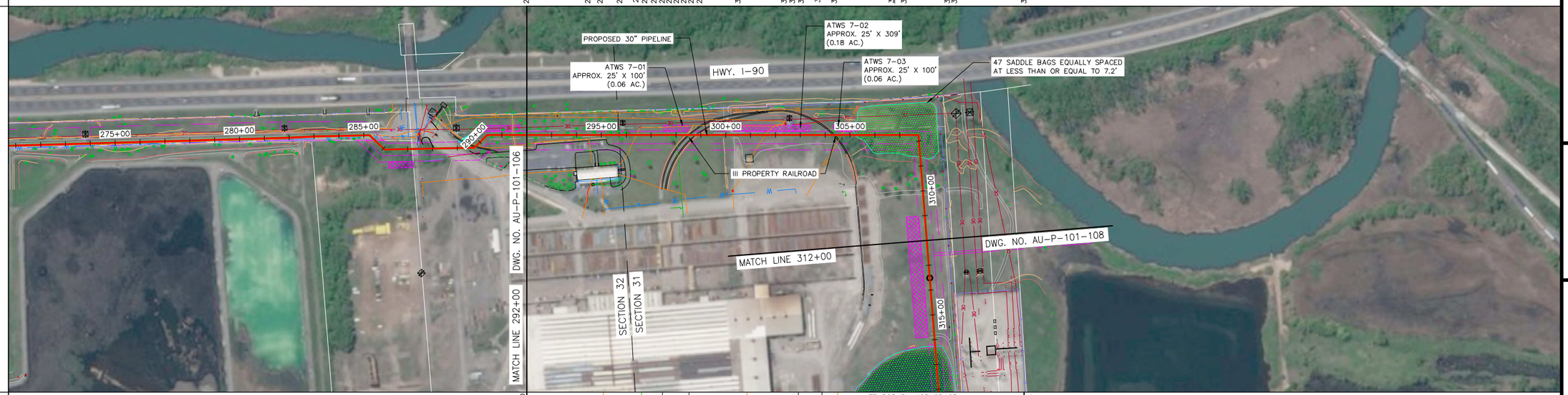
45-04-32-300-001.000-004

2,000'

PIPELINE STATIONING & HORIZONTAL ANGLE

292+00 MATCH LINE
295+71 EDGE OF ROW
296+41 UNDERGROUND CABLE LINE ø2", T.O.P. EL. 590.5'
298+03 UNDERGROUND STORM SEWER ø30" RCP, INV. EL. 584.1'
298+26 COUPON TEST STATION & SSD
298+36 TOP OF BANK
298+43 TOE OF BANK
298+46 EDGE OF RAILROAD
298+53 EDGE OF RAILROAD
298+77 EDGE OF RAILROAD
298+85 EDGE OF RAILROAD
298+89 TOE OF BANK
298+95 TOP OF BANK
301+59 UNDERGROUND TELEPHONE ø1", T.O.P. EL. 587.7'
304+33 EDGE OF RAILROAD
304+39 EDGE OF RAILROAD
304+66 UNDERGROUND FIBER OPTIC ø1"B.D., T.O.P. EL. 1"B.D.
304+94 COUPON TEST STATION, SSD & BOLLARD
305+13 TOP OF BANK
307+75 P.I. 85°29'21" RT.
308+65 TOP OF BANK
309+97 EDGE OF GRAVEL
310+15 EDGE OF GRAVEL
312+00 MATCH LINE

ALIGNMENT PLAN VIEW
(SCALE: 1" = 200')

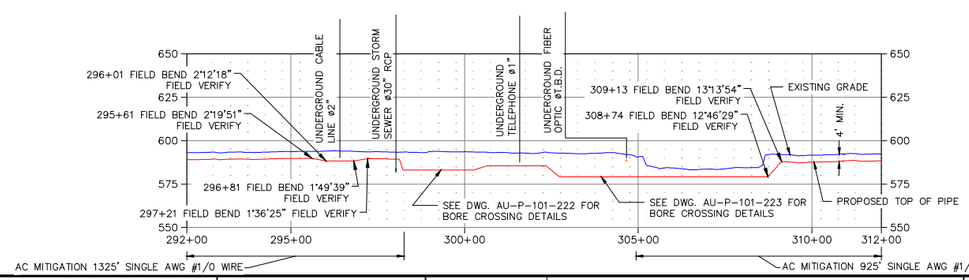


WORKSPACE DETAIL
(NOT TO SCALE)

DETAIL

	292+00 MATCH LINE	298+06	298+09	TS/SSD	BORE RAILROAD (AU-P-101-222)	300+06	300+86	300+89	302+11	302+14	302+94	BORE RAILROAD (AU-P-101-223)	304+94 TS/SSD/B	305+34	305+37	312+00 MATCH LINE
NEW PIPE	1	3	2	298+26	2	2	3	1	3	2	2		2	3		1
DESIGN FACTOR	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5
COATING	A	A	A		B	A	A	A	A	A	B		A	A		A
LENGTH	606'	3'	17'		180'	80'	3'	122'	3'	80'	200'		40'	3'		663'
CLASS LOCATION	3	3	3		3	3	3	3	3	3	3		3	3		3

GRADE PROFILE
(SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



NOTES

DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-P-101-223	CANADIAN NATIONAL RR CROSSING DETAIL
AU-P-101-222	CANADIAN NATIONAL RR CROSSING DETAIL
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-108	ALIGNMENT SHEET (STA. 312+00 TO STA. 337+00)
AU-P-101-106	ALIGNMENT SHEET (STA. 242+00 TO STA. 292+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION				
	HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION
04/26/2021

ENengineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

T-37-N
R-8-W

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 292+00 TO STA. 312+00)

LOCATION:
DESCRIPTION:
AETNA TO 483 BACKFEED PIPELINE

FILENAME: AU-P-101-107.DWG
TAXING UNIT: N/A
ENE #:1910052.00

SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO.
40347-913
AU-P-101-107
SHEET: 17

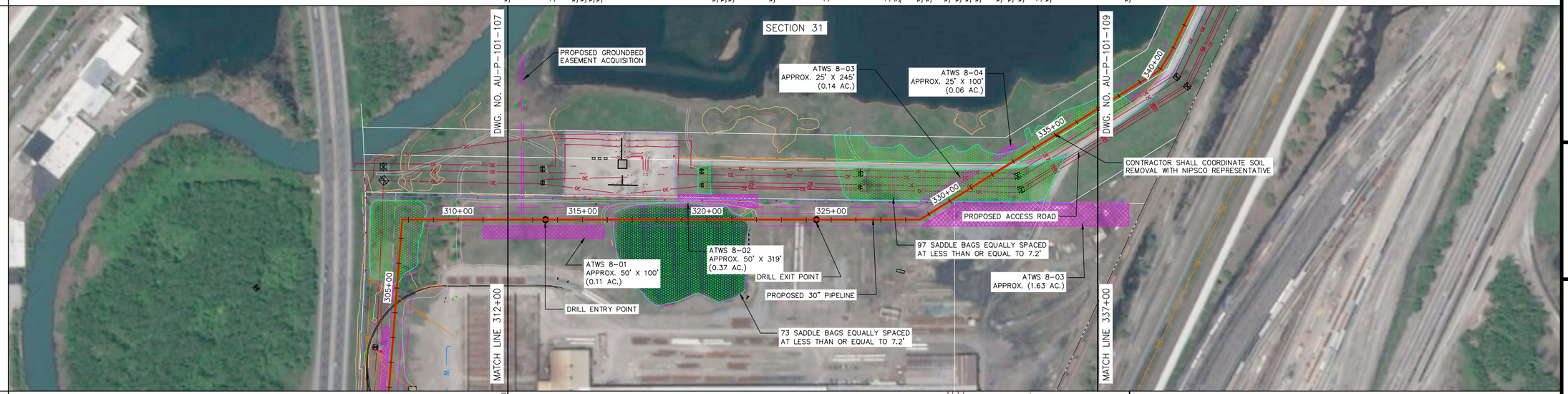
PROPERTY OWNERS	INDIANA INDUSTRIAL INVESTMENTS LIMITED PARTNERSHIP 45-04-32-300-001.000-004 1,795'	NORTHERN INDIANA PUBLIC SERVICE 45-04-31-100-001.000-004 279'	NORTHERN INDIANA PUBLIC SERVICE 45-04-31-100-002.000-004 426'
	312+00 — 329+95	329+95 — 332+74	332+74 — 337+00

T-37-N
R-8-W

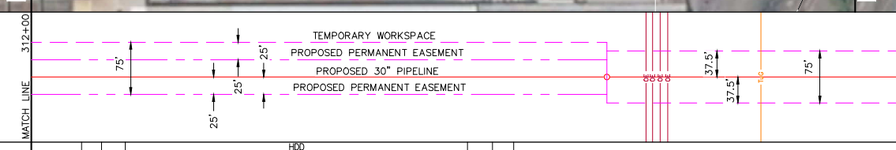
PIPELINE STATIONING & HORIZONTAL ANGLE

312+00 MATCH LINE
314+02 COUPON TEST STATION & SSD
315+76 EDGE OF GRAVEL
315+88 EDGE OF GRAVEL
316+11 TOP OF BANK
316+30 EDGE OF POND
321+51 EDGE OF POND
321+55 TOP OF BANK
321+74 TOE OF BANK
321+88 TOE OF BANK
323+90 COUPON TEST STATION & SSD
328+57 COUPON TEST STATION
328+57 P.I. 31°56'31" LT.
329+94 FENCE LINE
329+95 PROPERTY LINE
330+71 OVERHEAD ELECTRIC
331+12 OVERHEAD ELECTRIC
331+71 OVERHEAD ELECTRIC
332+14 OVERHEAD ELECTRIC
332+46 EDGE OF GRAVEL
332+74 PROPERTY LINE
332+84 EDGE OF GRAVEL
333+00 COUPON TEST STATION & SSD
333+01 UNDERGROUND TELEPHONE ø1", T.O.P. EL. 588.90'
337+00 MATCH LINE

ALIGNMENT PLAN VIEW (SCALE: 1" = 200')



WORKSPACE DETAIL (NOT TO SCALE)

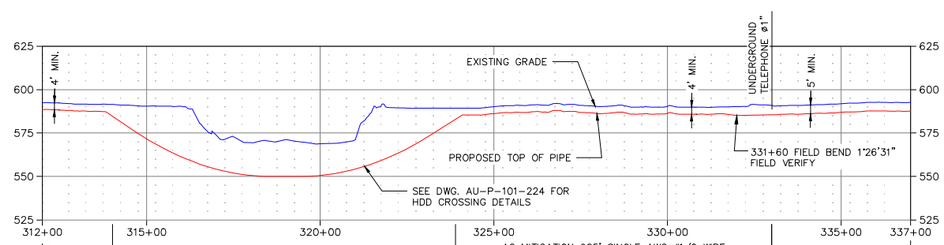


DETAIL

	313+59	313+62	TS/SSD	HDD POND (AU-P-101-224)	TS/SSD	324+29	324+32	TS	TS/SSD
NEW PIPE	1	3	2	2	2	3		1	
DESIGN FACTOR	0.5	0.5	0.5	0.5	0.5	0.5		0.5	
COATING	A	A	A	C	A	A		A	
LENGTH	159'	3'	40'	990.3' (TRUE LENGTH)	40'	3'		1268'	
CLASS LOCATION	3	3	3	3	3	3		3	

314+02 — 323+90

GRADE PROFILE (SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-109	ALIGNMENT SHEET (STA. 337+00 TO STA. 385+00)
AU-P-101-107	ALIGNMENT SHEET (STA. 292+00 TO STA. 312+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION				
	HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION
04/26/2021

ENEngineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 312+00 TO STA. 337+00)

LOCATION:
DESCRIPTION:
AETNA TO 483 BACKFEED PIPELINE

ENE #:1910052.00
TAXING UNIT: N/A
FILENAME: AU-P-101-108.DWG

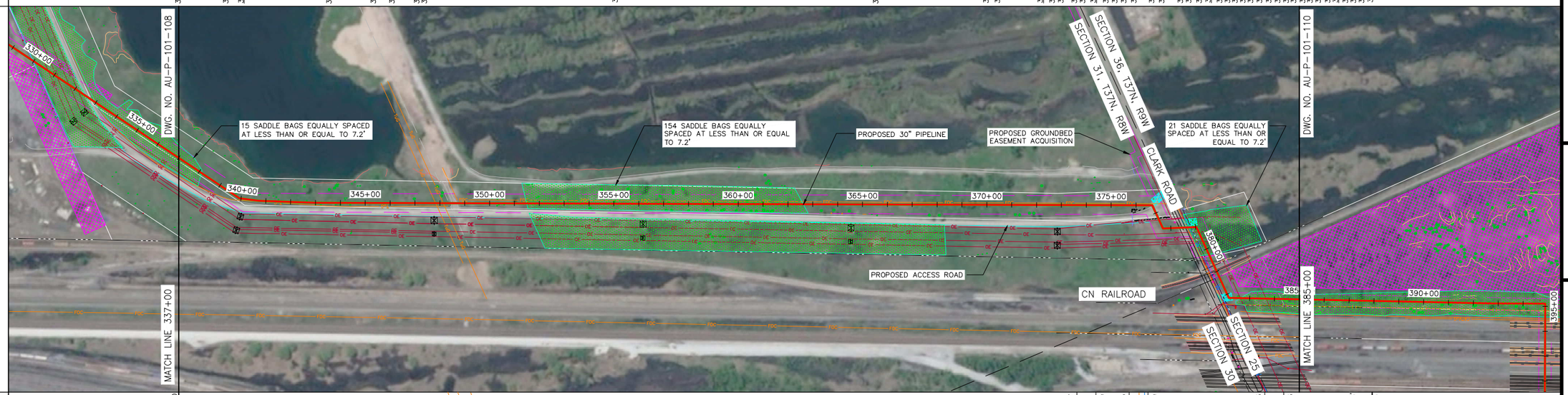
SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO.
40347-913
AU-P-101-108
SHEET: 18

PROPERTY OWNERS	NORTHERN INDIANA PUBLIC SERVICE 45-04-31-100-002.000-004 4,017'	NORTHERN INDIANA PUBLIC SERVICE 45-04-31-100-001.000-004 165'	NORTHERN INDIANA PUBLIC SERVICE 45-03-36-266-002.000-004 149'	EJ & E WEST COMPANY 45-03-36-503-005.000-004 22'	EJ & E WEST COMPANY 45-03-36-503-006.000-004 20'	EJ & E WEST COMPANY 45-03-36-503-004.000-004 50'	CITY OF GARY 45-03-25-400-003.000-004 377'
	337+00	377+17	378+82	380+31	380+53	380+73	381+23 / 385+00

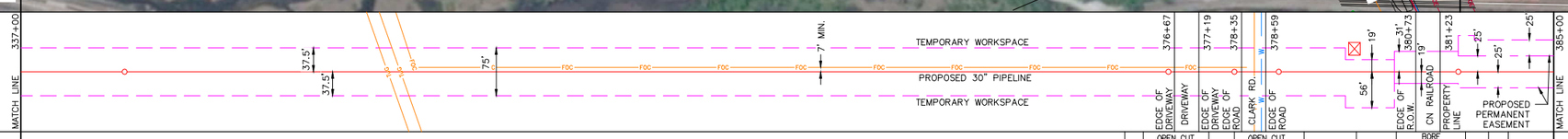
PIPELINE STATIONING & HORIZONTAL ANGLE

337+00 MATCH LINE
340+25 2-WIRE TEST STATION
340+25 P.I. 33°26'34" LT.
344+00 COUPON TEST STATION & SSD
347+83 UNDERGROUND TELEPHONE øT.B.D., T.O.P., EL. T.B.D.
348+14 UNDERGROUND TELEPHONE øT.B.D., T.O.P., EL. T.B.D.
348+47 EDGE OF GRAVEL
348+70 EDGE OF GRAVEL
355+00 COUPON TEST STATION, SSD & GRAVEL ACCESS PATH
366+00 COUPON TEST STATION, SSD & GRAVEL ACCESS PATH
376+00 RECTIFIER
376+30 COUPON TEST STATION, SSD & BOLLARDS
376+66 P.I. 65°17'29" RT.
376+67 EDGE OF DRIVEWAY
377+17 PROPERTY LINE
377+19 EDGE OF DRIVEWAY
377+31 OVERHEAD ELECTRIC
377+68 P.I. 67°54'30" LT.
378+35 EDGE OF ROAD
378+46 SECTION LINE
378+59 EDGE OF ROAD
378+65 UNDERGROUND GAS ø4", T.O.P., EL. T.B.D.
378+71 OVERHEAD ELECTRIC (2)
378+76 UNDERGROUND WATERMAIN øT.B.D., T.O.P., EL. 586.9'
378+82 EDGE OF R.O.W./PROPERTY LINE
378+85 FENCE LINE
378+95 2-WIRE TEST STATION
379+03 P.I. 67°54'30" RT.
379+25 OVERHEAD ELECTRIC
379+63 OVERHEAD ELECTRIC
379+67 OVERHEAD ELECTRIC
379+75 OVERHEAD ELECTRIC
380+31 PROPERTY LINE
380+67 TOE OF BANK
380+73 PROPERTY LINE
380+90 TOP OF BANK
380+92 EDGE OF RAILROAD
380+99 TOP OF BANK
381+23 SECTION LINE/PROPERTY LINE
381+68 COUPON TEST STATION & SSD
382+18 P.I. 64°15'04" LT.
382+63 OVERHEAD ELECTRIC
383+66 OVERHEAD ELECTRIC
384+25 EDGE OF WETLAND
385+00 MATCH LINE

ALIGNMENT PLAN VIEW (SCALE: 1" = 200')



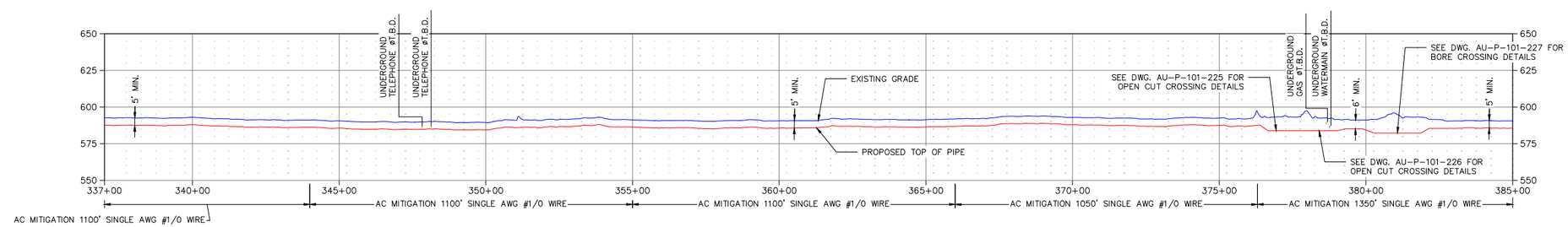
WORKSPACE DETAIL (NOT TO SCALE)



DETAIL

	TS1	TS/SSD	TS/SSD/GAP	TS/SSD/GAP	REC1	TS/SSD/ø	376+71	OPEN CUT DRIVEWAY (AU-P-101-225)	377+34	OPEN CUT CLARK RD. (AU-P-101-226)	378+95	TS1	379+65	380+48	BORE RAILROAD (AU-P-101-227)	381+68	TS/SSD	382+23	382+26
NEW PIPE			1				3	2	2	2		2	2	2		2	3	1	
DESIGN FACTOR			0.5				0.5	0.5	0.5	0.5		0.5	0.5	0.5		0.5	0.5	0.5	
COATING			A				A	B	A	B		A	A	B		A	A	A	
LENGTH			3,920'				3'	60'	81'	80'		70'	80'	120'		55'	3'	274'	
CLASS LOCATION			3				3	3	3	3		3	3	3		3	3	3	

GRADE PROFILE (SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
2. SADDLE BAGS TO BE PLACED EVERY 7.2' ALONG THE PIPELINE WITHIN DELINEATED WETLANDS.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

1 = 30" O.D. X 0.375" W.T. 5L X65
2 = 30" O.D. X 0.500" W.T. 5L X65
3 = 30" O.D. X 0.500" W.T. 5L X65 (TRANSITION PIECE)

COATING & WRAP

A = SINGLE COATED FUSION BONDED EPOXY (12-18 MILS TOTAL)
B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-P-101-227	CANADIAN NATIONAL RR CROSSING DETAIL
AU-P-101-226	N. CLARK RD CROSSING DETAIL
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-110	ALIGNMENT SHEET (STA. 385+00 TO STA. 410+23)
AU-P-101-108	ALIGNMENT SHEET (STA. 312+00 TO STA. 337+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION				
	HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION
04/26/2021

ENengineering
28100 TORCH PARKWAY, STE. 400
WARRENVILLE, IL 60555
TEL. 630-353-4000
FAX 630-353-7777
WWW.ENENGINEERING.COM

T-37-N
R-8-W.
R-9-W

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 337+00 TO STA. 385+00)

LOCATION:
DESCRIPTION:
AETNA TO 483 BACKFEED PIPELINE

FILENAME: AU-P-101-109.DWG
TAXING UNIT: N/A
ENE #:1910052.00

SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO.
40347-913
AU-P-101-109
SHEET: 19

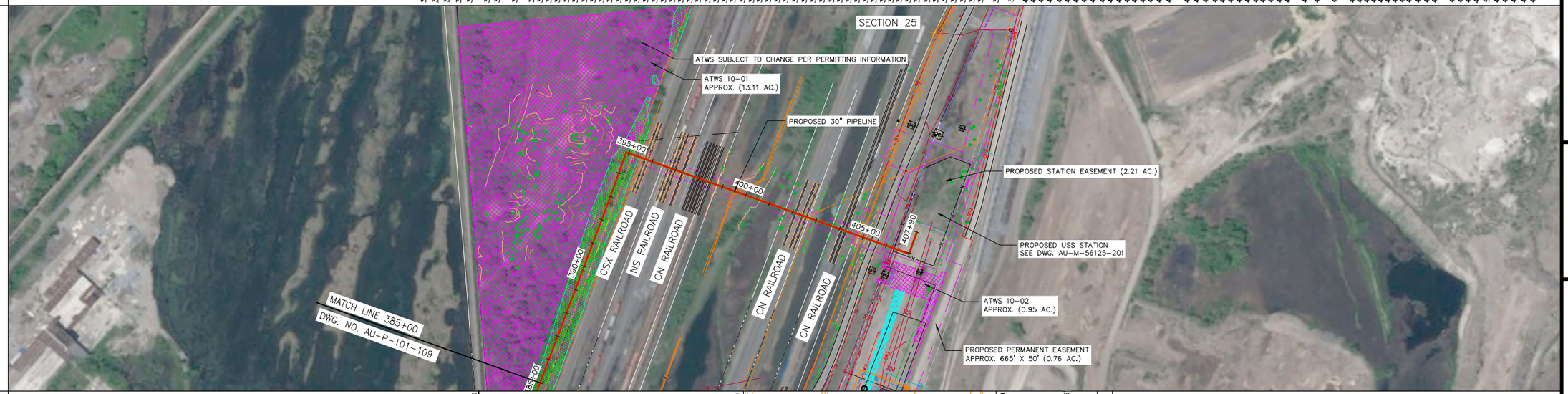
PROPERTY OWNERS

Owner	Station	Length
CITY OF GARY 45-03-25-400-003.000-004	385+00 – 395+19	1,019'
BALTIMORE & OHIO RAILROAD CO. 45-03-25-501-017.000-004	395+19 – 396+44	125'
NORFOLK SOUTHERN RAILROAD 45-04-30-505-001.000-004	396+44 – 398+35	191'
NEW YORK CENTRAL RAILROAD 45-03-25-501-009.000-004	398+35 – 398+77	42'
UNITED STATES STEEL CORP. 45-03-25-400-002.000-004	398+77 – 401+69	292'
EJ & E WEST COMPANY 45-03-25-503-012.000-004	401+69 – 402+69	100'
EJ & E WEST COMPANY 45-03-25-503-009.000-004	402+69 – 403+69	100'
EJ & E WEST COMPANY 45-03-25-503-003.000-004	403+69 – 404+69	100'
NORTHERN INDIANA PUBLIC SERVICE 45-03-25-400-001.000-004	404+69 – 406+28	159'
UNITED STATES STEEL CORP. 45-04-30-100-001.000-004	406+28 – 407+90	162'

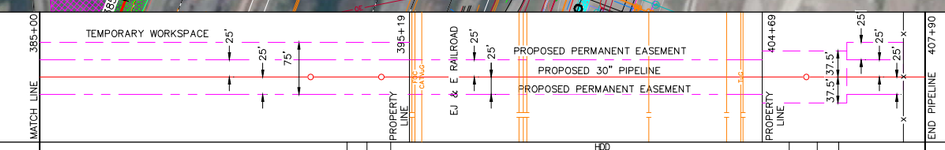
PIPELINE STATIONING & HORIZONTAL ANGLE

385+00 MATCH LINE
392+81 P.I. 1°00'00" LT.
394+89 P.I. 90°00'00" RT.
395+01 COUPON TEST STATION & SSD
395+18 UNDERGROUND GAS ø16", T.O.P., EL. 584.10'
395+19 UNDERGROUND FIBER OPTIC ø1.5", T.O.P., EL. 585.79'
395+50 UNDERGROUND CABLE ø1.B.D., T.O.P., EL. T.B.D.
395+57 EDGE OF RAILROAD
395+60 TOP OF BANK
395+65 TOE OF BANK
395+66 EDGE OF RAILROAD
395+71 EDGE OF RAILROAD
395+73 TOE OF BANK
395+75 TOE OF BANK
395+80 EDGE OF RAILROAD
395+84 EDGE OF RAILROAD
395+86 TOE OF BANK
395+90 TOP OF BANK
396+44 PROPERTY LINE
396+46 EDGE OF GRAVEL
396+57 EDGE OF GRAVEL
396+61 TOE OF BANK
396+68 EDGE OF RAILROAD
396+73 EDGE OF RAILROAD
396+75 TOE OF BANK
396+80 TOE OF BANK
396+82 EDGE OF RAILROAD
396+86 EDGE OF RAILROAD
396+88 TOE OF BANK
396+94 TOP OF BANK
397+96 EDGE OF RAILROAD
397+00 EDGE OF RAILROAD
397+02 TOE OF BANK
397+08 TOP OF BANK
397+21 TOP OF BANK
397+24 EDGE OF RAILROAD
397+28 EDGE OF RAILROAD
397+32 TOE OF BANK
397+35 TOE OF BANK
397+38 TOP OF BANK
397+42 EDGE OF GRAVEL
397+65 EDGE OF GRAVEL
397+79 EDGE OF RAILROAD
397+84 EDGE OF RAILROAD
397+93 EDGE OF RAILROAD
397+97 EDGE OF RAILROAD
398+05 EDGE OF RAILROAD
398+11 EDGE OF RAILROAD
398+19 EDGE OF RAILROAD
398+24 EDGE OF RAILROAD
398+32 EDGE OF RAILROAD
398+35 PROPERTY LINE
398+36 EDGE OF RAILROAD
398+40 EDGE OF RAILROAD
398+45 EDGE OF RAILROAD
398+58 EDGE OF RAILROAD
398+69 TOP OF BANK
398+77 PROPERTY LINE
398+79 TOE OF BANK
398+85 TOP OF BANK
399+55 UNDERGROUND PRAXAIR ARGON LINE ø44", T.O.P., EL. 586.00'
399+61 UNDERGROUND PRAXAIR NITROGEN LINE-LINE 66 ø18", T.O.P., EL. 586.00'
399+66 UNDERGROUND PRAXAIR NITROGEN LINE ø16", T.O.P., EL. 586.00'
400+60 TOE OF BANK
401+81 TOP OF BANK
401+69 PROPERTY LINE
402+07 TOP OF BANK
402+09 EDGE OF RAILROAD
402+14 EDGE OF RAILROAD
402+15 EDGE OF BANK
402+34 TOP OF BANK
402+38 TOE OF BANK
402+40 EDGE OF RAILROAD
402+45 EDGE OF RAILROAD
402+47 TOE OF BANK
402+54 EDGE OF BANK
402+56 EDGE OF RAILROAD
402+60 EDGE OF RAILROAD
402+62 TOE OF BANK
402+69 PROPERTY LINE
402+78 UNDERGROUND PRAXAIR OXYGEN LINE-LINE 90 ø18", T.O.P., EL. 583.00'
402+98 EDGE OF WETLAND
403+69 PROPERTY LINE
403+71 EDGE OF WETLAND
404+04 TOE OF BANK
404+08 EDGE OF RAILROAD
404+12 EDGE OF RAILROAD
404+23 EDGE OF RAILROAD
404+43 TOE OF BANK
404+55 TOP OF BANK
404+69 PROPERTY LINE
404+75 TOP OF BANK
404+77 UNDERGROUND GAS ø16", T.O.P., EL. 586.6'
404+87 TOE OF BANK
404+96 UNDERGROUND TELEPHONE ø2", T.O.P., EL. 587.2'
404+97 UNDERGROUND GAS ø12", T.O.P., EL. 587.2'
405+00 TOP OF BANK
405+13 TOE OF BANK
405+20 TOP OF BANK
405+27 TOE OF BANK
405+36 EDGE OF ROAD
405+45 EDGE OF ROAD
405+65 TOE OF BANK
405+79 TOP OF BANK
406+24 OVERHEAD ELECTRIC
406+28 FENCE LINE/PROPERTY LINE
406+32 OVERHEAD ELECTRIC
407+71 PROPOSED USS STATION FENCE LINE
406+42 EDGE GRAVEL
406+49 OVERHEAD ELECTRIC
406+85 EDGE GRAVEL
406+97 P.I. 90°00'00" RT.
407+46 VERTICAL ELBOW 3R 45°
407+61 VERTICAL ELBOW 3R 45°
407+73 TEE 30" x 20"
407+80 TEE 30" x 16"
407+90 END PIPELINE/ 30" PIGGING VALVE

ALIGNMENT PLAN VIEW
(SCALE: 1" = 200')



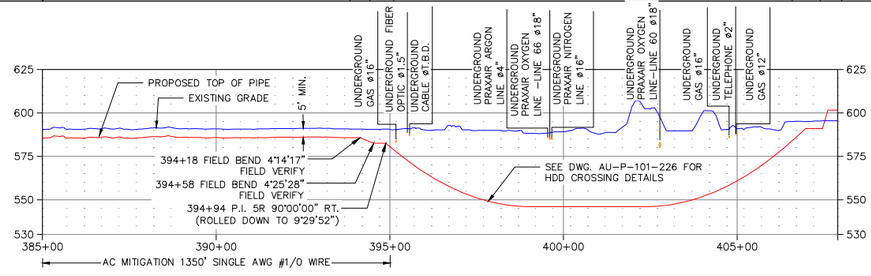
WORKSPACE DETAIL
(NOT TO SCALE)



DETAIL

	394+73	394+76	TS/SSD	HDD CN, CSX AND NS RAILROAD (AU-P-101-228)	406+85	407+09	407+12	
NEW PIPE	1	3	2	2		2	3	1
DESIGN FACTOR	0.5	0.5	0.5	0.5		0.5	0.5	0.5
COATING	A	A	A	C		A	A	A
LENGTH	973'	3'	25'	1188.9' (TRUE LENGTH)		24'	3'	78'
CLASS LOCATION	3	3	3	3		3	3	3

GRADE PROFILE
(SCALE: HORIZONTAL: 1" = 200' VERTICAL: 1" = 40')



DESIGN PRESSURE / MAOP : 600 P.S.I.G.
DESIGN FACTOR: 0.50
PIPING PRESSURE TEST NOTES:
CONTRACTOR SHALL HYDROSTATIC TEST PIPE TO:
1125 P.S.I.G. MAX (ANSI CLASS 300 PRESSURE LIMITATIONS)
900 P.S.I.G MIN (1.5 X DESIGN PRESSURE)
DURATION: 8 HOUR MIN.

TS: COUPON TEST STATION (SEE DWG. AU-CP-TYP-101)
SSD: SOLID STATE DECOUPLER (SEE DWG. AU-CP-TYP-117 & AU-CP-TYP-118)
TS1: 2-WIRE TEST STATION (SEE DWG. AU-CP-TYP-102)
RECT: RECTIFIER (SEE DWG. AU-CP-TYP-110)
GAP: GRAVEL ACCESS PATH (SEE DWG. AU-P-TYP-502)
B: BOLLARD (SEE DWG. AU-P-TYP-303)
RCS: REVERSE CURRENT SWITCH (SEE DWG. AU-CP-TYP-121)

NOTES

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DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

PIPE SUMMARY

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COATING & WRAP

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B = DUAL COATED FUSION BONDED EPOXY (32-38 MILS TOTAL)
C = FUSION BONDED EPOXY (12-18 MILS TOTAL) & ARO FLEX (40 MILS)

REFERENCE DRAWINGS

DRAWING NO.	TITLE
AU-M-56125-201	56125 SITE PLAN
#REF!	#REF!
AU-P-000-501	PIPELINE BILL OF MATERIAL
AU-P-101-109	ALIGNMENT SHEET (STA. 337+00 TO STA. 385+00)

REVISIONS

REV	DRAWN BY	DATE REVISED	CHECKED BY	PROJECT ENG.	APPROVED BY
—	PROPOSED ISSUED FOR CONSTRUCTION				
	HP	04-26-21	BP	KH	CC

PROPOSED ISSUED FOR CONSTRUCTION
04/26/2021

ENengineering
28100 TORCH PARKWAY, STE. 400
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T-37-N
R-9-W

NIPSCO

ENGR.: NIKITARAS
PHONE NO.: N/A
CELL NO.: 219-921-4182
PAGER NO.: N/A

ENGR.: WOHLDMAN
DATE: 11-01-19
TOWNSHIP: CALUMET
COUNTY: LAKE

ALIGNMENT SHEET (STA. 385+00 TO STA. 410+23)

LOCATION:
DESCRIPTION:
AETNA TO 483 BACKFEED PIPELINE

FILENAME: AU-P-101-110.DWG
TAXING UNIT: N/A
ENE #:1910052.00

SCALE: 1" = 200'
RET.W.O.: 70347-913
WORK ORDER NO.
40347-913
AU-P-101-110
SHEET: 20