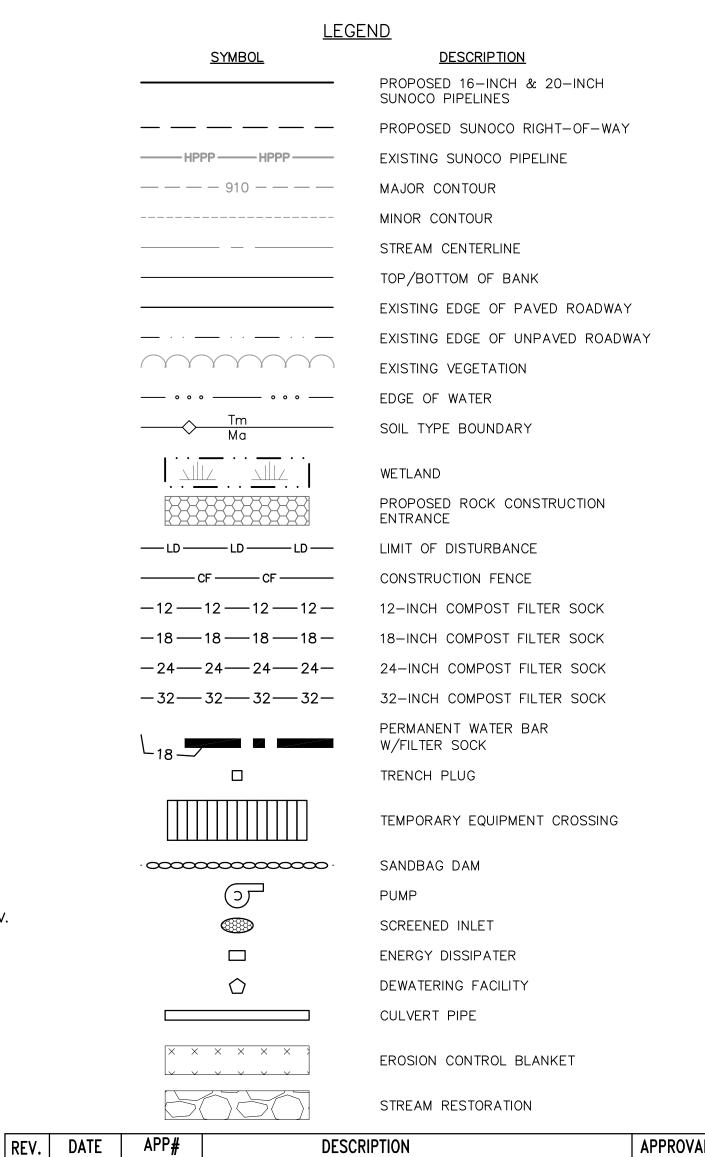


1"=10

STV PROJECT No.: 38-17335

GENERAL NOTES:

- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE. WETLAND CROSSING NOTES:
- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- STREAM CROSSING NOTES:
- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
- 4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.
- 5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS WHERE RIP-RAP IS PROPOSED (ES-0.18).
- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.



ENGINEERING RECORD

DRAWN BY PDZ

CHECKED BY CDA

APPROVED BY CDA

DATE 11/30/16

SCALE AS NOTED

REV. DATE ATT#

OLD DRAWING NO.

CHRISTOPHER D. ANTONI

PE-057385-E

PROFILE LEGEND:

PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

EXISTING GRADE

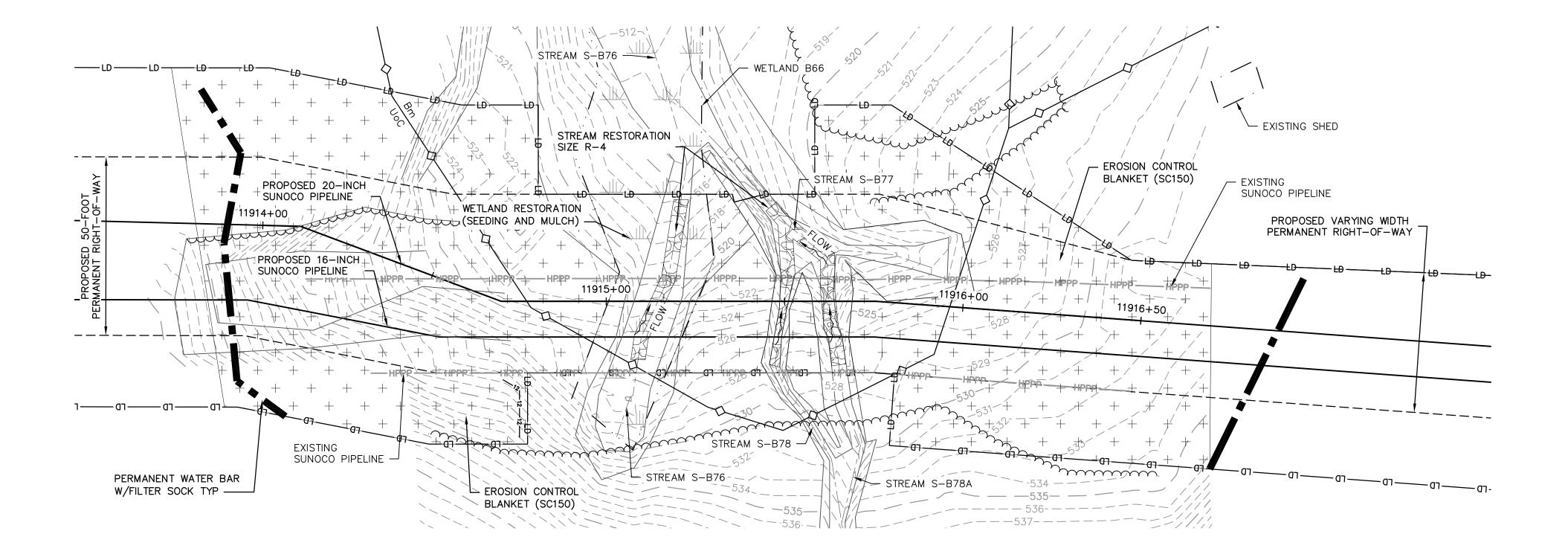
PIPE ELEV.

PENNSYLVANIA PIPELINE PROJECT STREAMS S-B76, S-B78, & S-B78A EXISTING CONDITIONS/ EROSION & SEDIMENTAION CONTROL PLAN

REV. NO.

DWG. NO. S-B77-A \\Projects\3817335\3817335_0001\90_CAD Mode



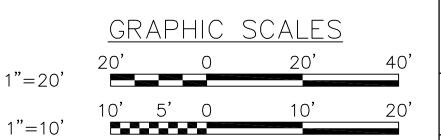


· EXISTING GRADE | STREAM S-B78A STREAM S-B76 EROSION CONTROL $_{-}$ BLANKET (SC150) $_{-}$ EROSION CONTROL __ STREAM BLANKET (SC150) — 530 RESTORATION -SIZE R-4 -520 PROPOSED 20-INCH AND 16-INCH SUNOCO PIPELINES 5' MIN -' MIN -510

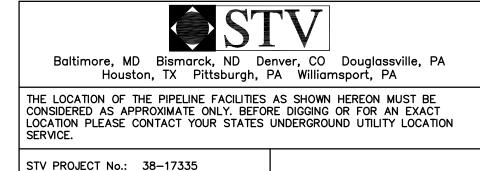
RESTORED GRADE PROFILE HORZ SCALE: 1"=20' VERT SCALE: 1"=10'

11915+00

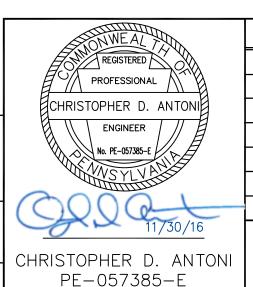
11914+00



11916+00



11916+50



ENGINEERING RECORD DRAWN BY PDZ CHECKED BY | CDA APPROVED BY | CDA 11/30/16 DATE SCALE AS NOTED

REV. DATE APP# **Sunoco Logistics** Partners L.P.

DWG. NO.

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 \times \times \times \times \times

APPROVA PENNSYLVANIA PIPELINE PROJECT STREAMS S-B76, S-B78, & S-B78A RESTORATION PLAN

LEBANON COUNTY, PA

S-B77-B

——— HPPP ——— HPPP ——— EXISTING SUNOCO PIPELINE — — — — 910 — — — —

<u>LEGEND</u>

MAJOR CONTOUR MINOR CONTOUR STREAM CENTERLINE

SUNOCO PIPELINES

DESCRIPTION

PROPOSED 16-INCH & 20-INCH

PROPOSED SUNOCO RIGHT-OF-WAY

TOP/BOTTOM OF BANK EXISTING EDGE OF PAVED ROADWAY EXISTING EDGE OF UNPAVED ROADWAY

EXISTING VEGETATION EDGE OF WATER

SOIL TYPE BOUNDARY

WETLAND PROPOSED ROCK CONSTRUCTION

ENTRANCE

LIMIT OF DISTURBANCE —LD——LD——LD— CONSTRUCTION FENCE

12-INCH COMPOST FILTER SOCK -18 --- 18 --- 18 --- 18 ---18-INCH COMPOST FILTER SOCK

24-INCH COMPOST FILTER SOCK -24—24—24—24— 32-INCH COMPOST FILTER SOCK

PERMANENT WATER BAR W/FILTER SOCK

TRENCH PLUG

TEMPORARY EQUIPMENT CROSSING SANDBAG DAM •

PUMP

SCREENED INLET ENERGY DISSIPATER

DEWATERING FACILITY CULVERT PIPE

EROSION CONTROL BLANKET

STREAM RESTORATION

DESCRIPTION

REV. NO.

PROFILE LEGEND: EXISTING GRADE

PROPOSED PIPELINE EXISTING GRADE ELEV.

GENERAL NOTES:

WETLAND CROSSING NOTES:

STREAM CROSSING NOTES:

(ES-0.01-ES-0.17).

UTILITIES PRIOR TO CONSTRUCTION.

ES-0.08, ES-0.10, AND ES-0.15).

3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)

WHERE RIP-RAP IS PROPOSED (ES-0.18).

WHEN PUMP BYPASS IS NOT IN PLACE.

1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.

3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.

6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION

3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS

2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.

OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).

OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).

7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.

REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).

4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.

5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.

1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03,

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4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.

5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS

6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP

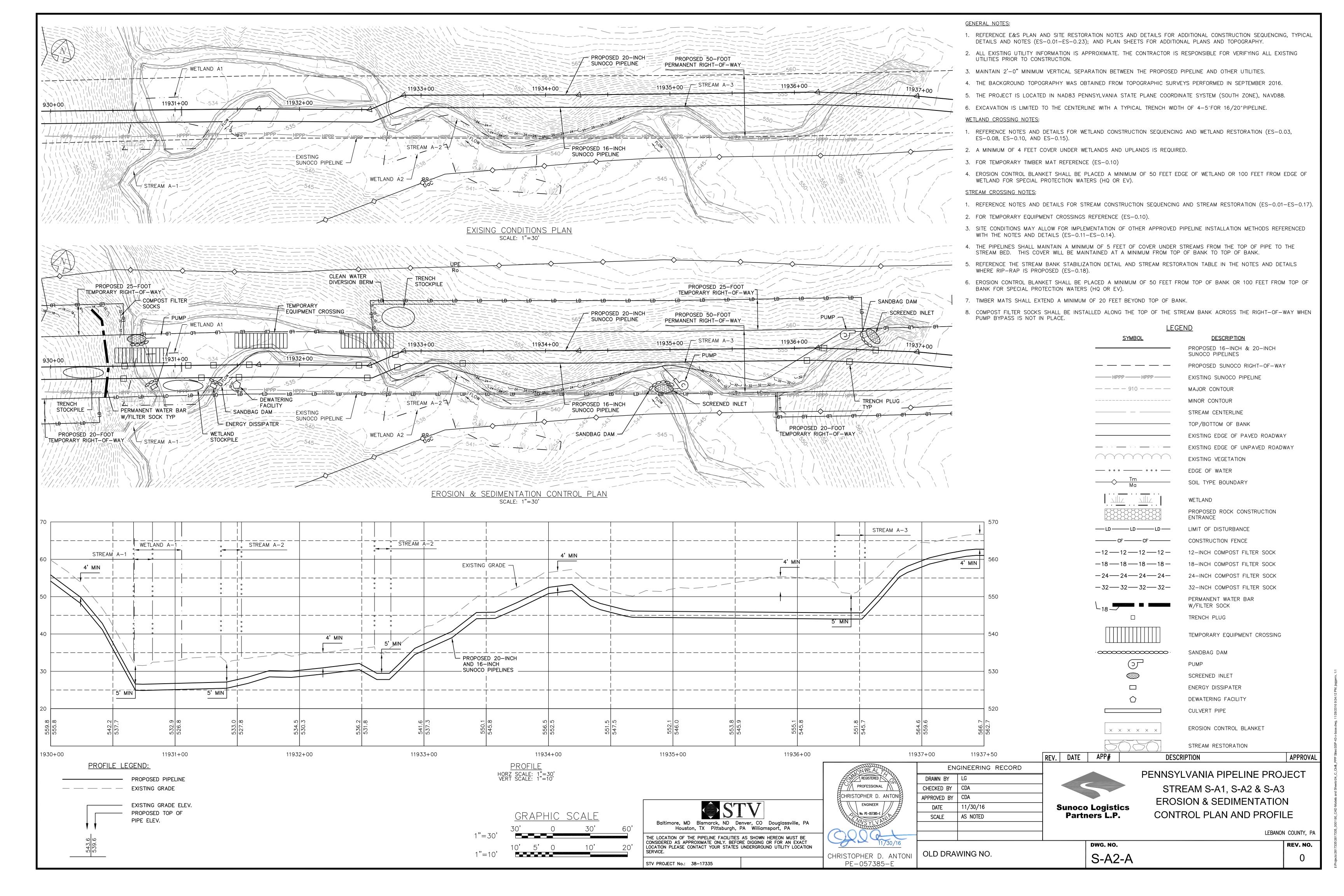
8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY

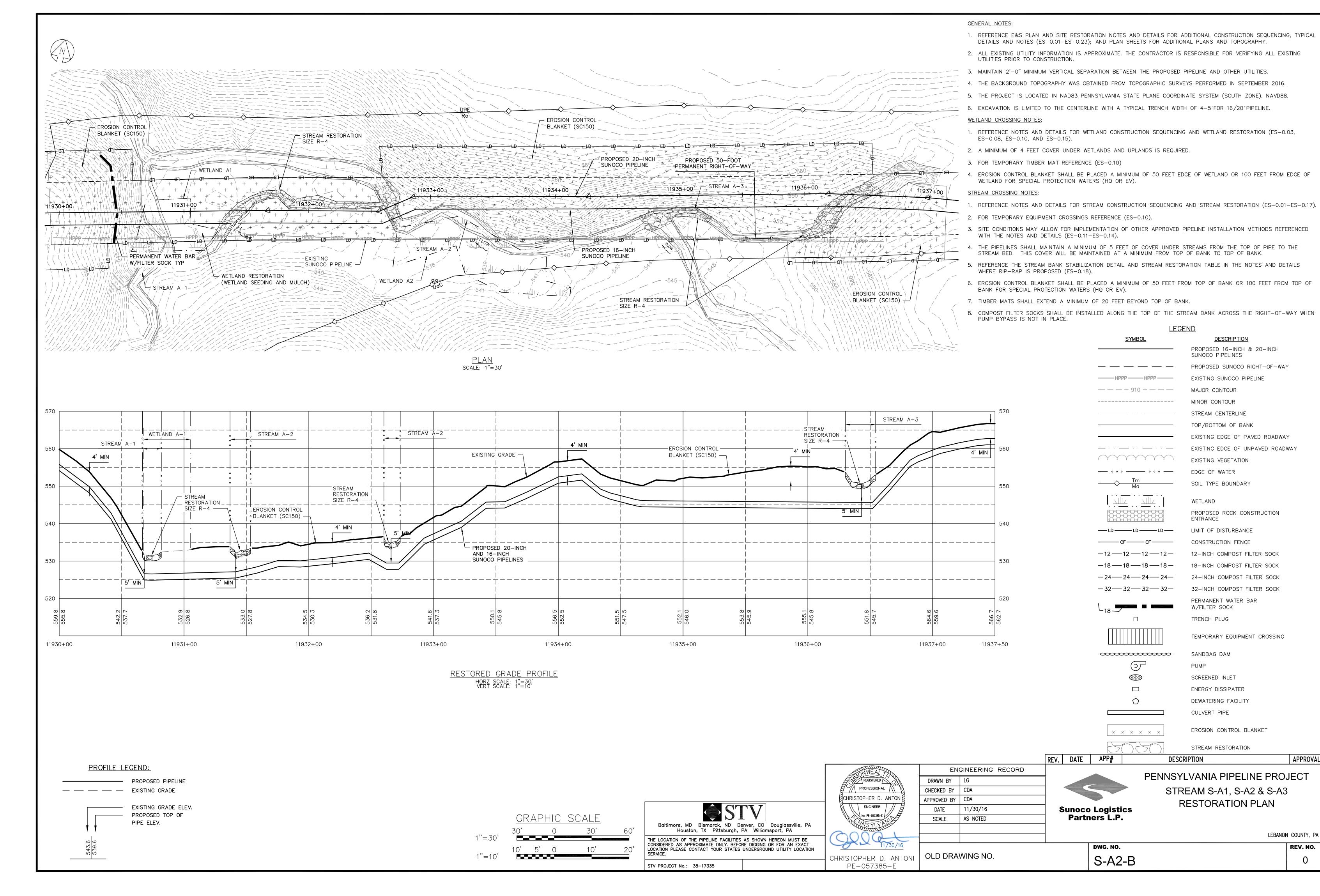
<u>SYMBOL</u>

2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING

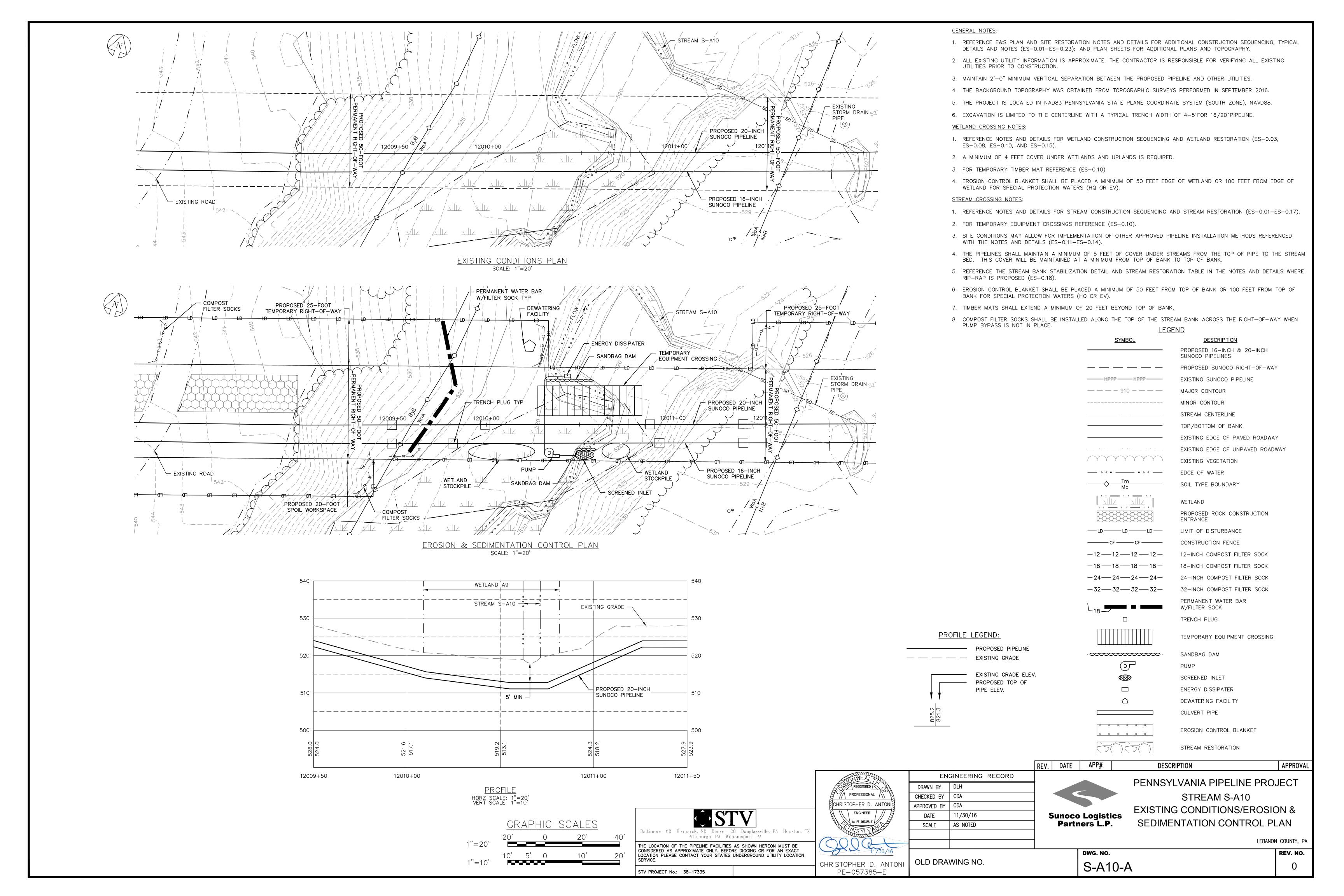
PROPOSED TOP OF PIPE ELEV.

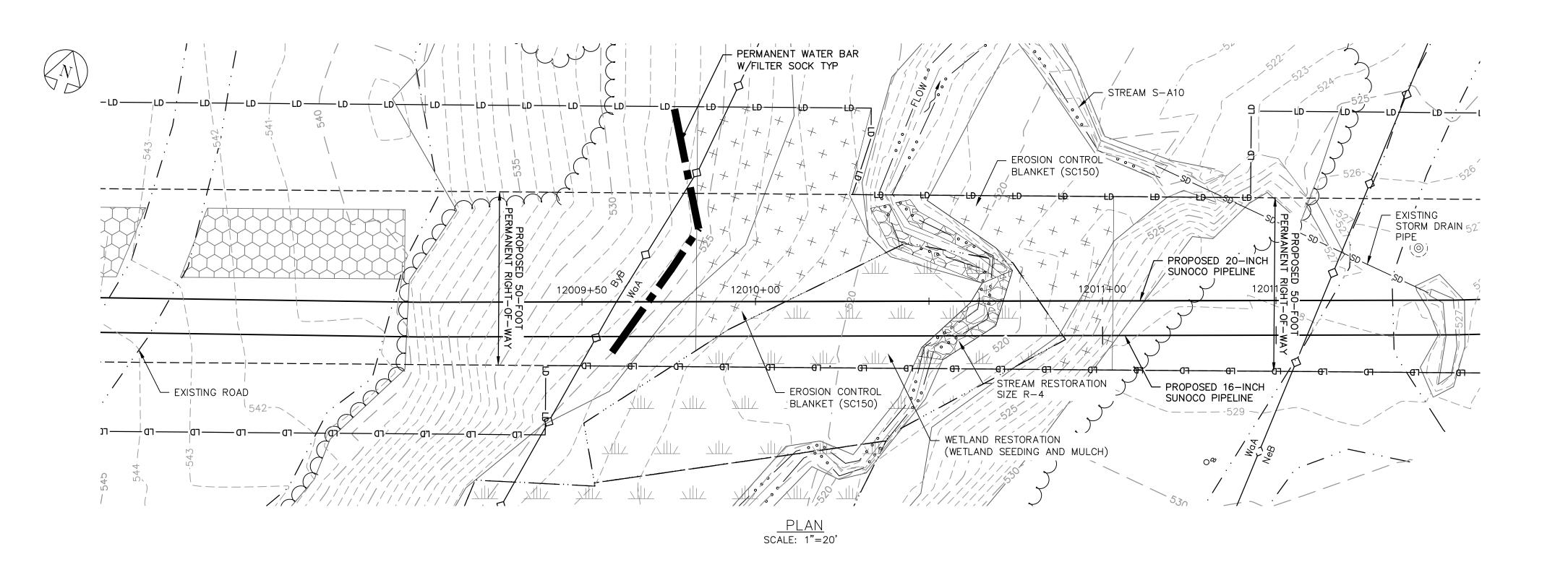
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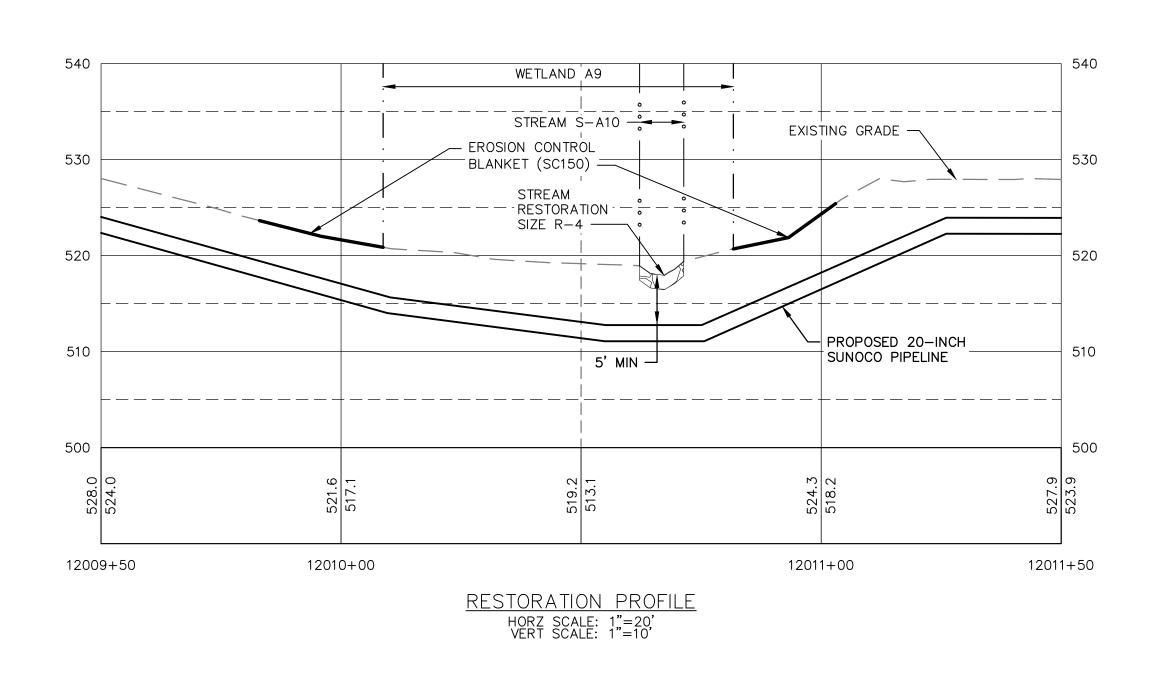




P-43-x-base.dwg, 11/28/2016 9:36:03 PM, jaggerrx, 1:1







GENERAL NOTES:

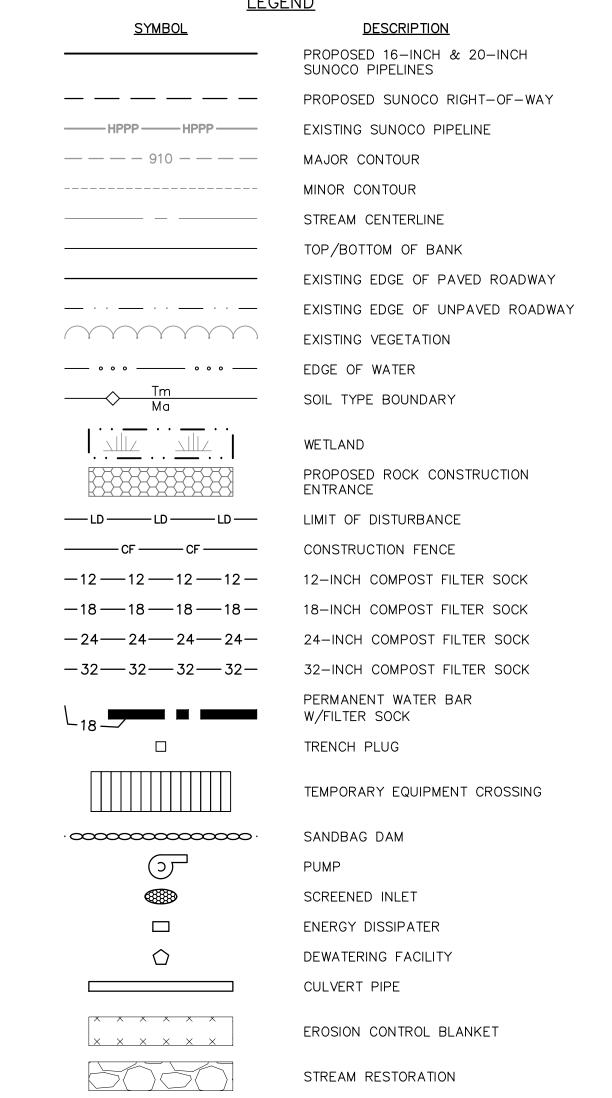
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- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
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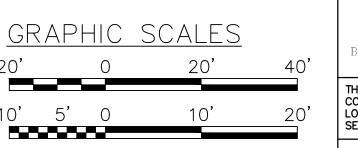
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- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
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- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

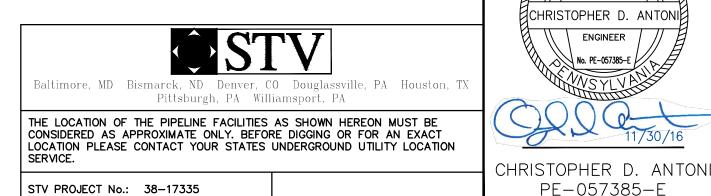
STREAM CROSSING NOTES:

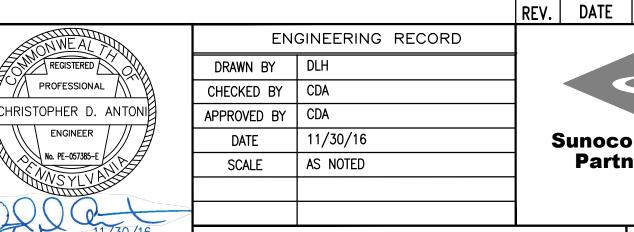
- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
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- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.





1"=10'





OLD DRAWING NO.

PROFESSIONAL

ENGINEER

No. PE-057385-E /

PE-057385-E

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

PIPE ELEV.

PENNSYLVANIA PIPELINE PROJECT STREAM S-A10 **RESTORATION PLAN** Sunoco Logistics Partners L.P.

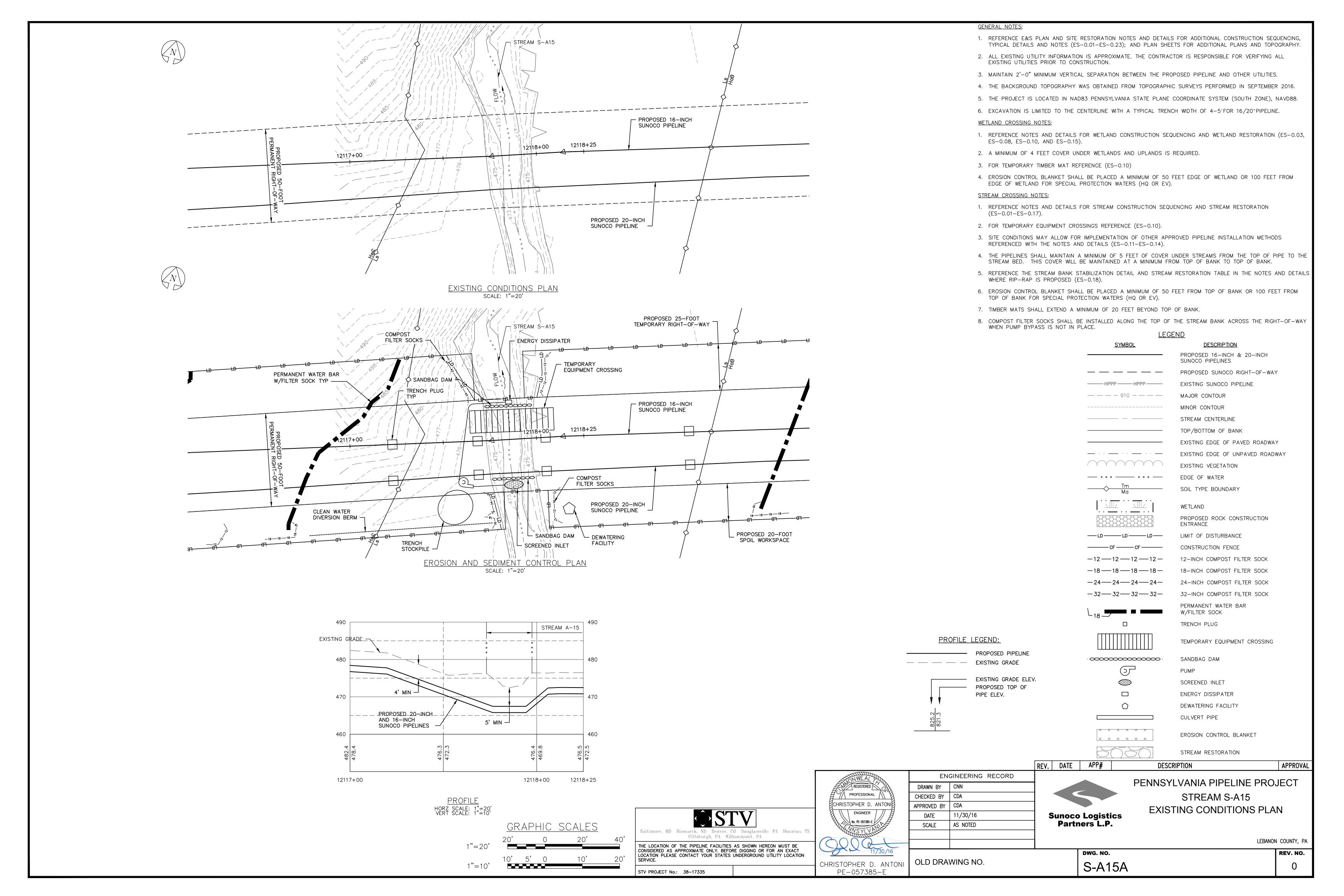
APP#

LEBANON COUNTY, PA

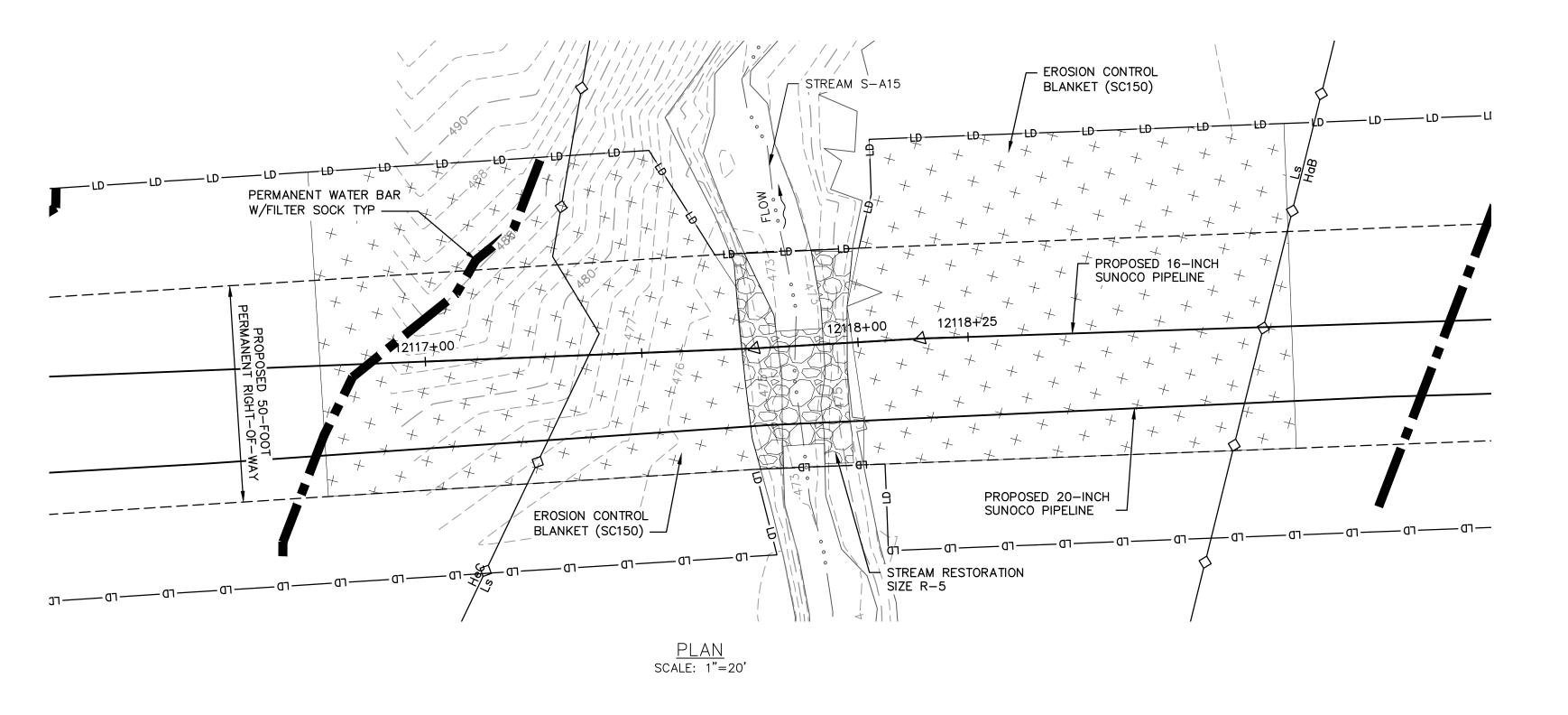
APPROVAL

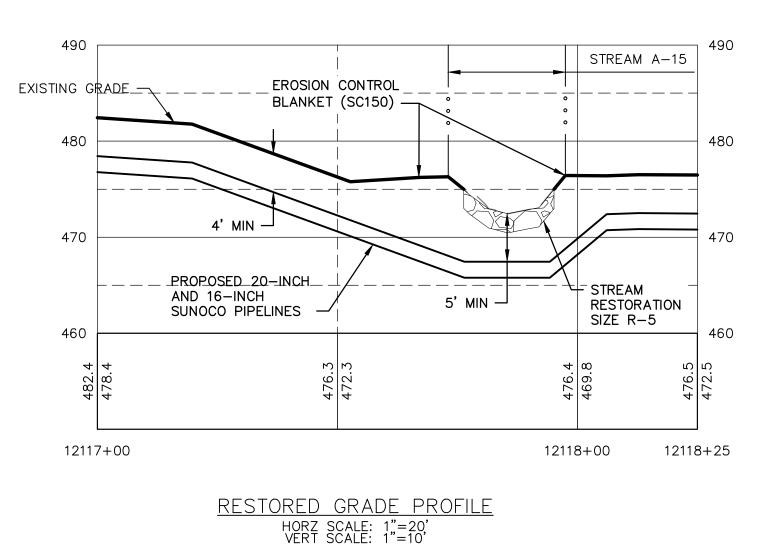
DWG. NO. REV. NO. S-A10-B

DESCRIPTION









GENERAL NOTES:

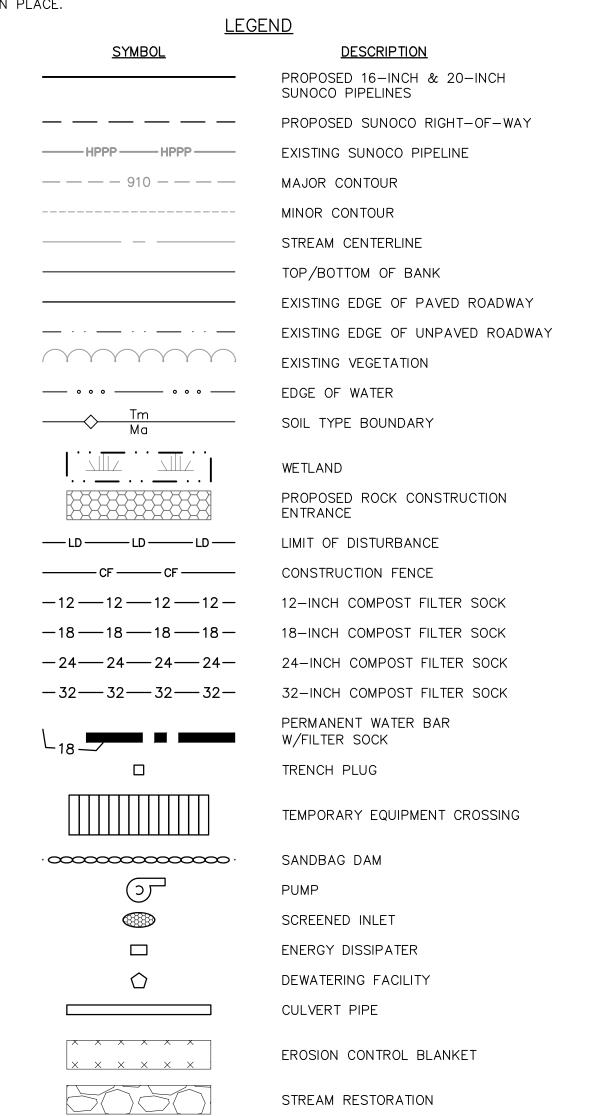
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- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

WETLAND CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
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- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
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- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.





REGISTERED PROFESSIONAL / CHRISTOPHER D. ANTONI **\$STV** ENGINEER No. PE-057385-E / Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION

REV. DATE ENGINEERING RECORD DRAWN BY CNN CHECKED BY CDA APPROVED BY | CDA 11/30/16 DATE SCALE AS NOTED

PROFILE LEGEND:

— — — EXISTING GRADE

— PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

PIPE ELEV.

APP# **Sunoco Logistics**

Partners L.P.

PENNSYLVANIA PIPELINE PROJECT STREAM S-A15 **RESTORATION PLAN**

DESCRIPTION

LEBANON COUNTY, PA

APPROVAL

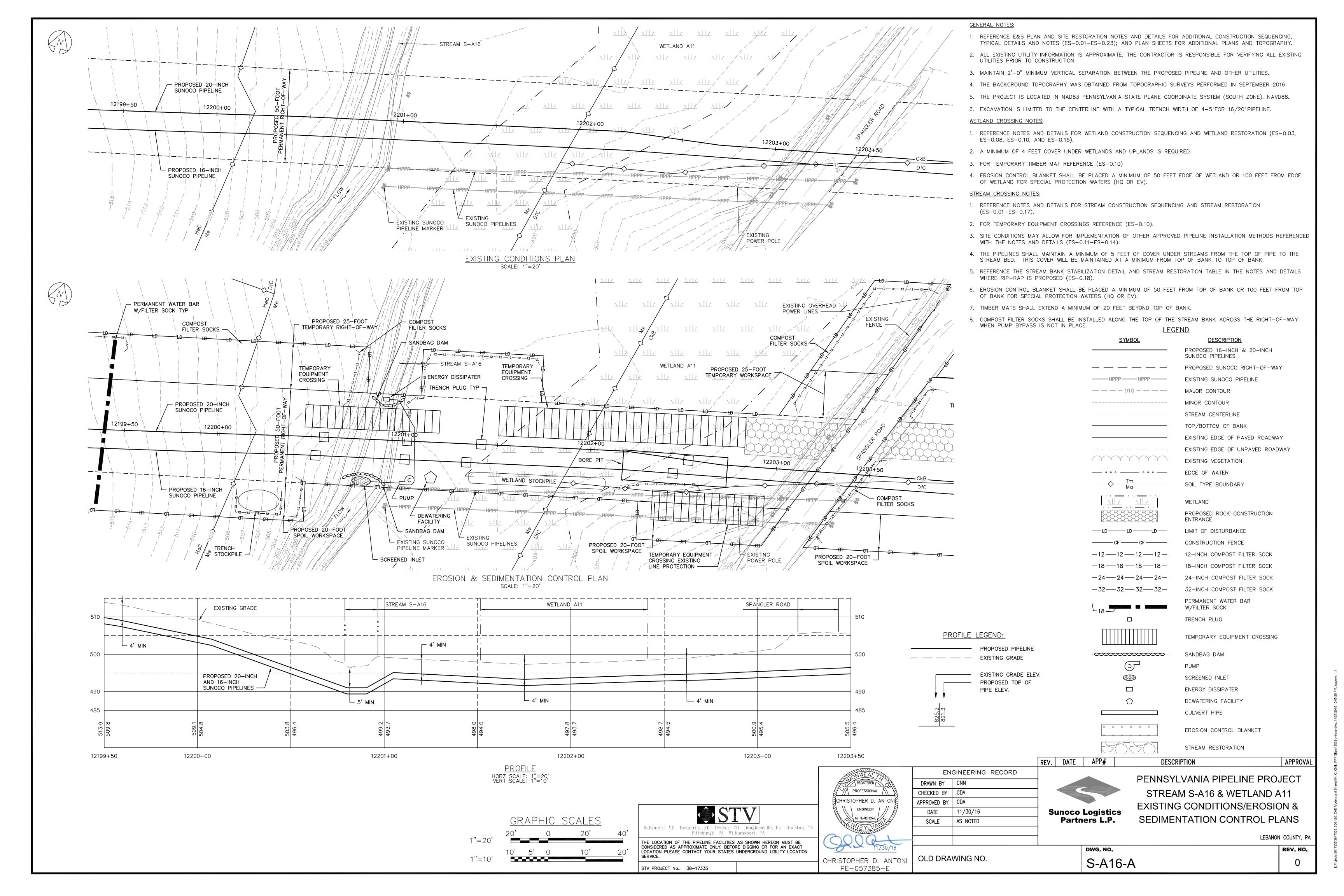
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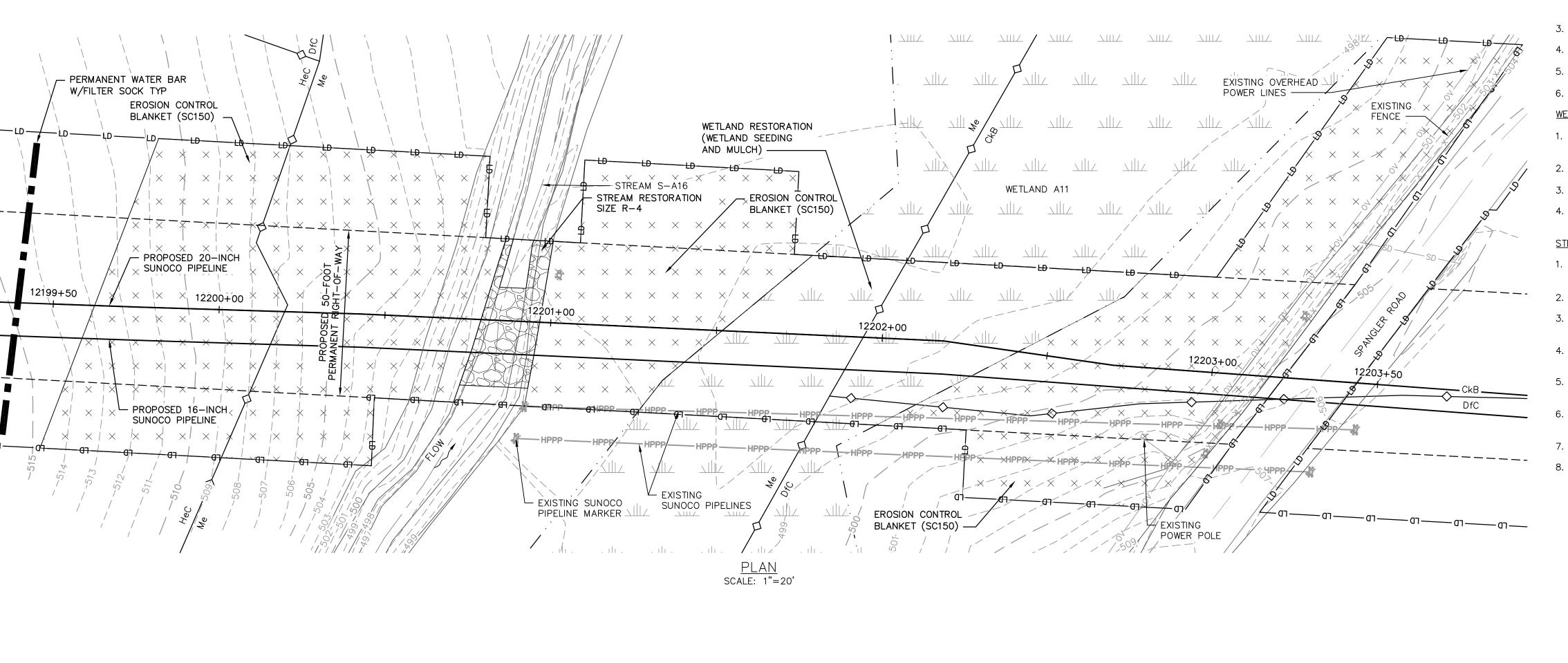
GRAPHIC SCALES

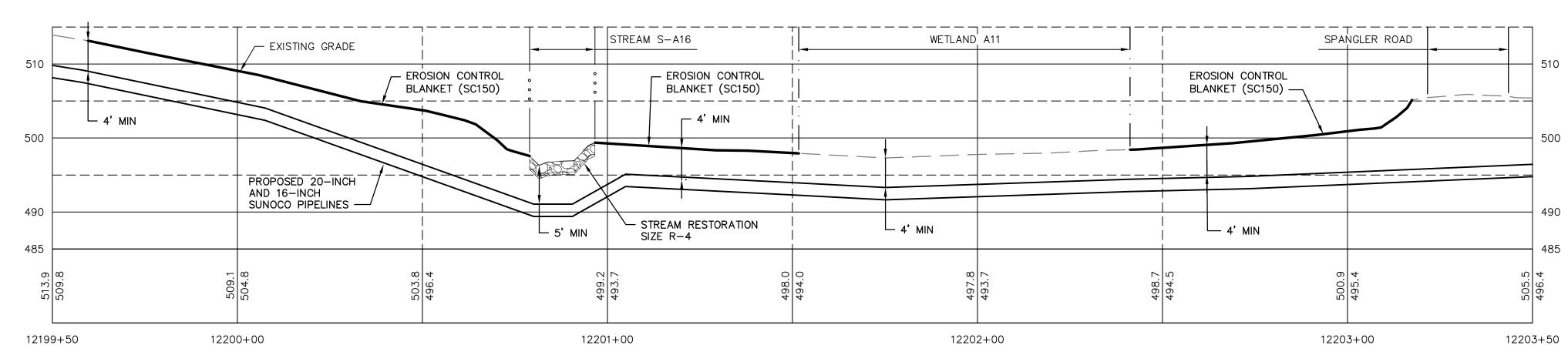
CHRISTOPHER D. ANTONI PE-057385-E STV PROJECT No.: 38-17335

OLD DRAWING NO.

DWG. NO. S-A15B







RESTORED GRADE PROFILE HORZ SCALE: 1"=20' VERT SCALE: 1"=10'

> PROPOSED PIPELINE EXISTING GRADE ELEV. PROPOSED TOP OF

PROFILE LEGEND:

PIPE ELEV.

GENERAL NOTES:

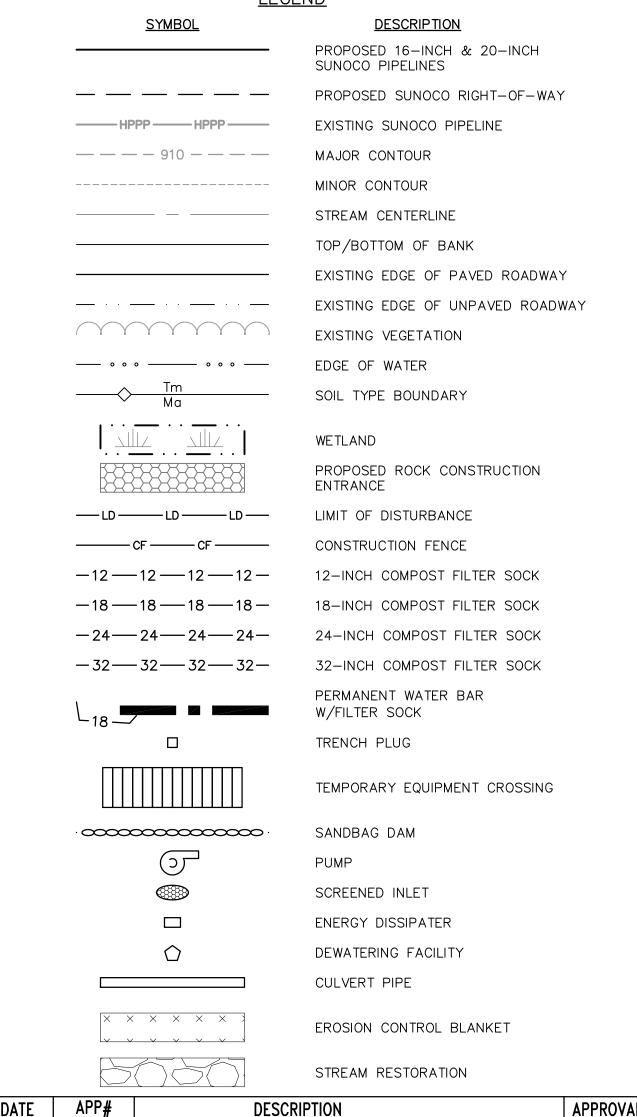
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- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
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- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
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- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)

UTILITIES PRIOR TO CONSTRUCTION.

4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
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- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.



GRAPHIC SCALES 1"=10

STV Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION

REGISTERED PROFESSIONAL CHRISTOPHER D. ANTONI ENGINEER DATE No. PE-057385-E SCALE CHRISTOPHER D. ANTONI

PE-057385-E

ENGINEERING RECORD DRAWN BY | CNN CHECKED BY | CDA APPROVED BY CDA 11/30/16 AS NOTED

REV. DATE APP# **Sunoco Logistics** Partners L.P.

DWG. NO.

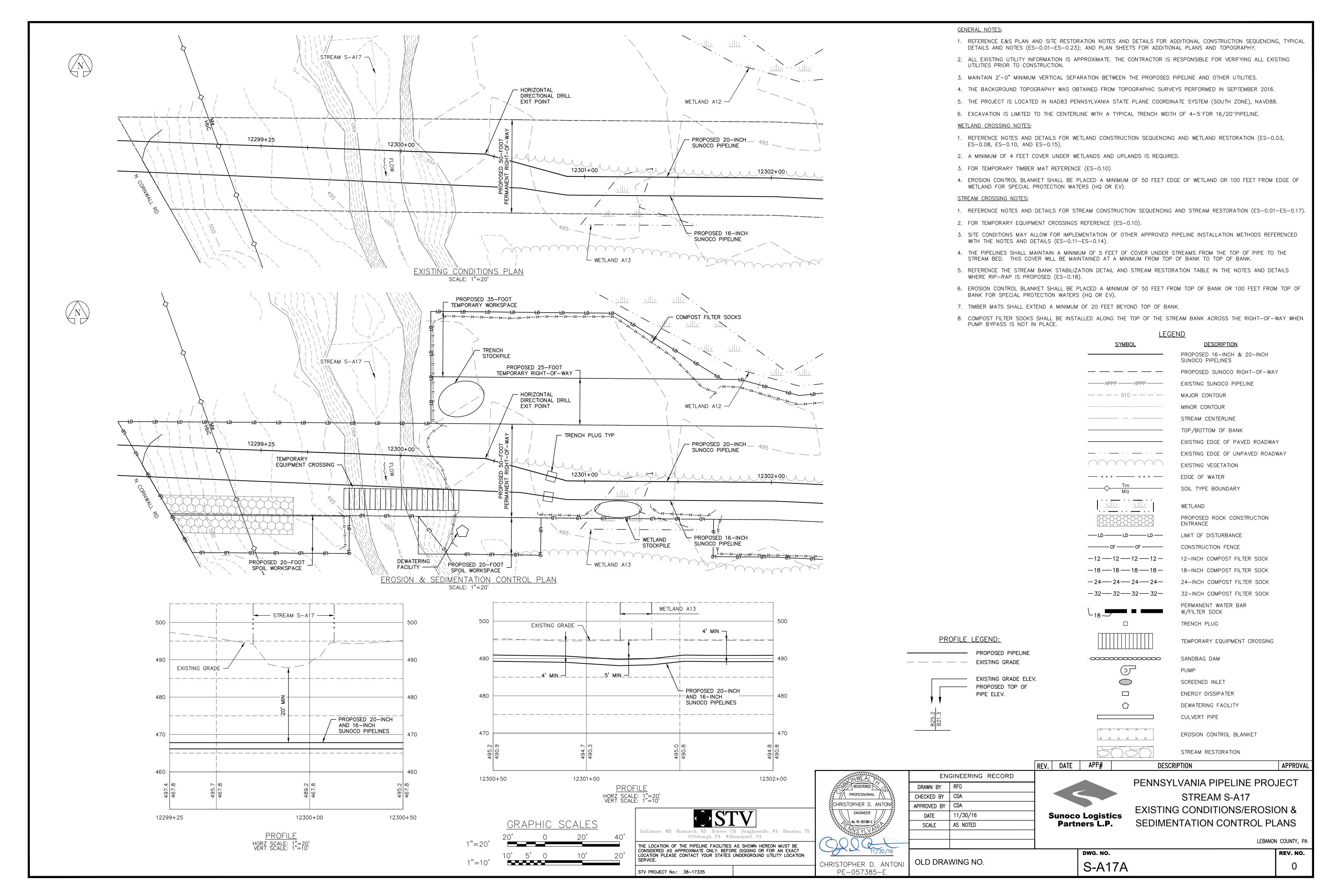
PENNSYLVANIA PIPELINE PROJECT STREAM S-A16 & WETLAND A11 RESTORATION PLAN

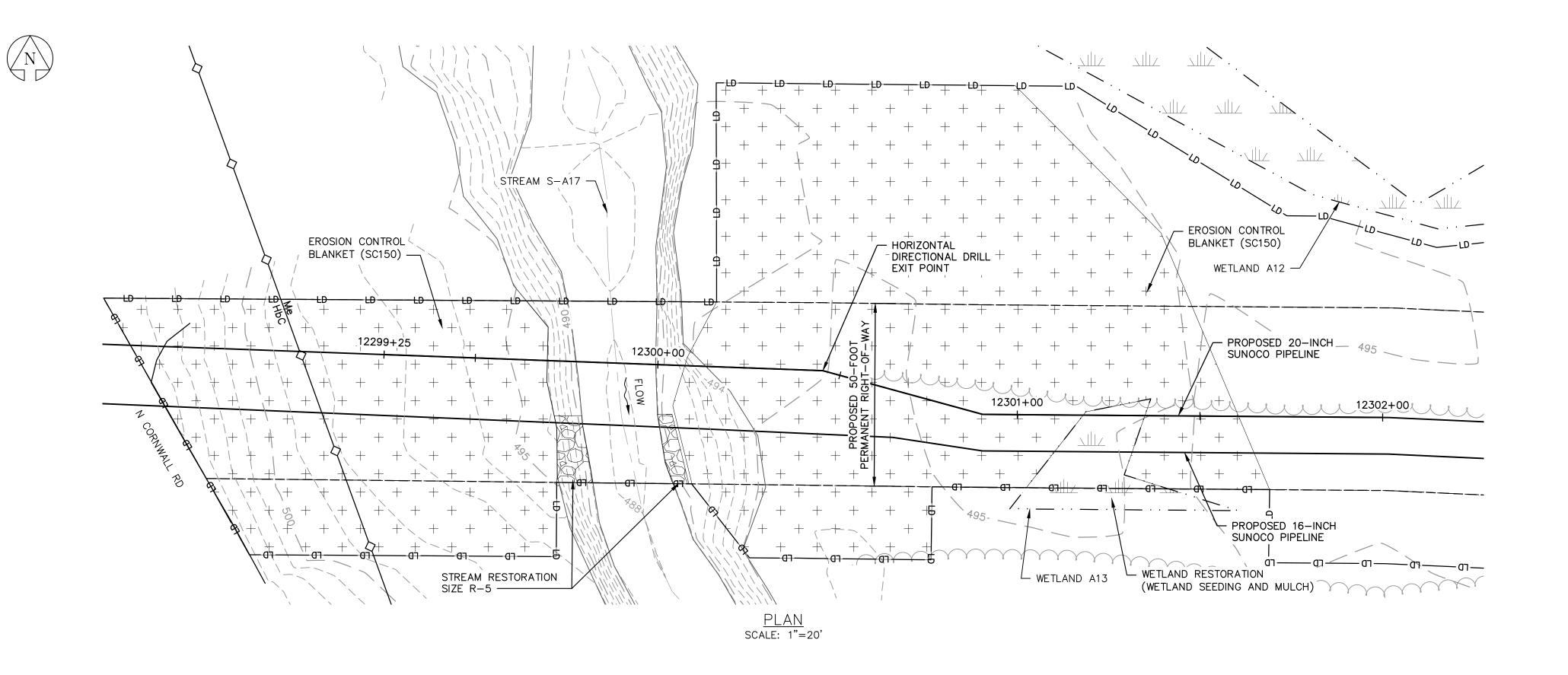
LEBANON COUNTY, PA

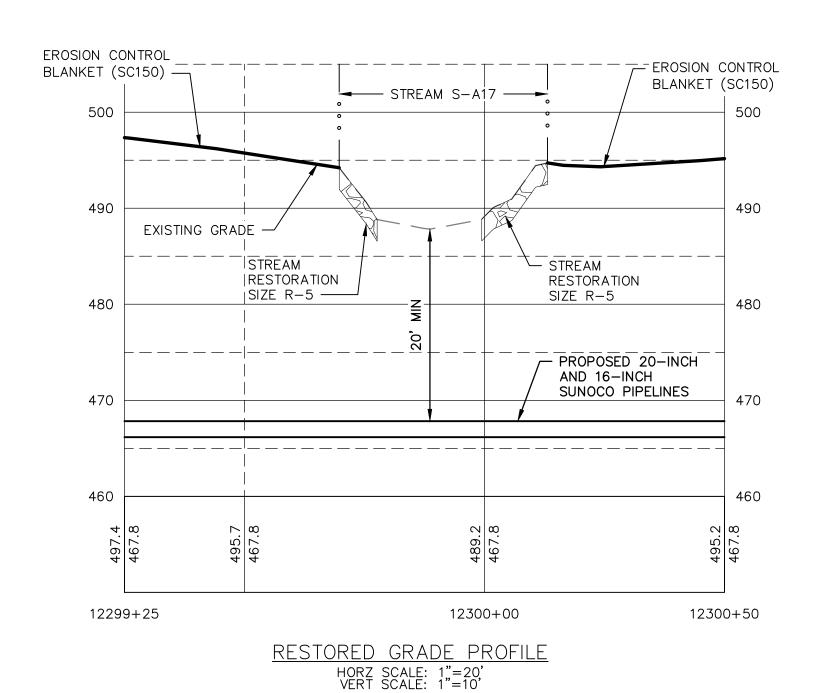
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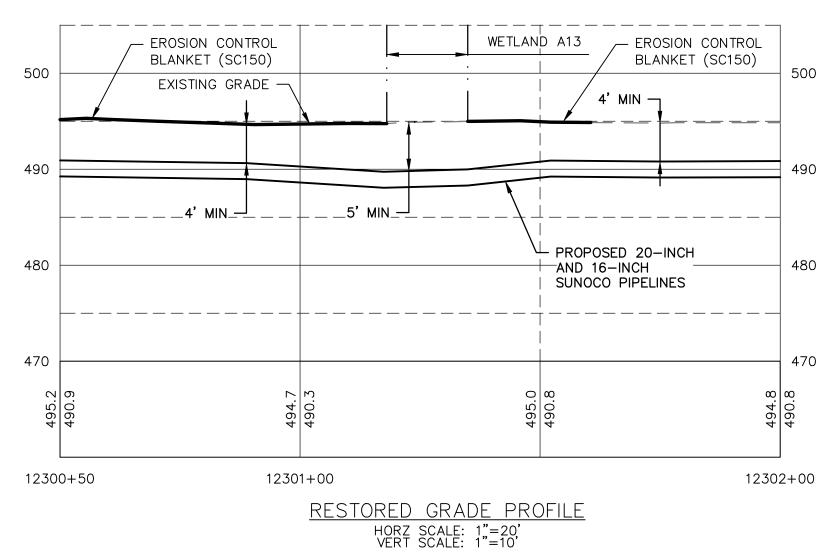
STV PROJECT No.: 38-17335

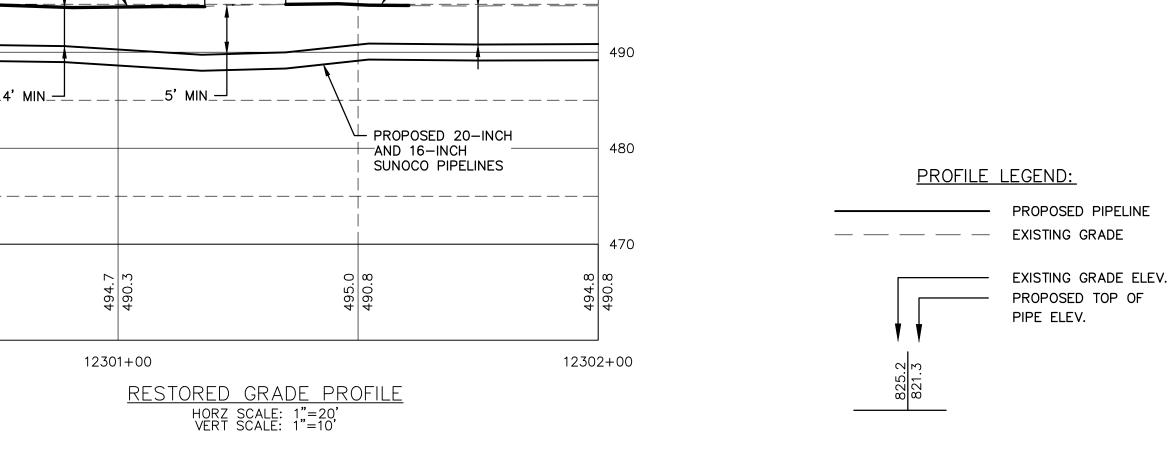
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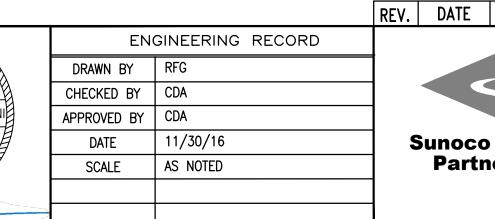








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GENERAL NOTES:

UTILITIES PRIOR TO CONSTRUCTION.

ES-0.08, ES-0.10, AND ES-0.15).

3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)

WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).

WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).

BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).

7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.

WHERE RIP-RAP IS PROPOSED (ES-0.18).

PUMP BYPASS IS NOT IN PLACE.

WETLAND CROSSING NOTES:

STREAM CROSSING NOTES:

1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL

2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING

DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.

3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.

6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.

4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.

5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.

1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03,

4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF

1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).

3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED

4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE

5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS

6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF

8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN

<u>SYMBOL</u>

— — — — 910 — — — —

— 。。。 — — 。。。 — —

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LEGEND

DESCRIPTION

EXISTING SUNOCO PIPELINE

SUNOCO PIPELINES

MAJOR CONTOUR

MINOR CONTOUR

STREAM CENTERLINE

TOP/BOTTOM OF BANK

EXISTING VEGETATION

SOIL TYPE BOUNDARY

LIMIT OF DISTURBANCE

CONSTRUCTION FENCE

EDGE OF WATER

WETLAND

ENTRANCE

PROPOSED 16-INCH & 20-INCH

PROPOSED SUNOCO RIGHT-OF-WAY

EXISTING EDGE OF PAVED ROADWAY

PROPOSED ROCK CONSTRUCTION

12-INCH COMPOST FILTER SOCK

18-INCH COMPOST FILTER SOCK

24-INCH COMPOST FILTER SOCK

32-INCH COMPOST FILTER SOCK

TEMPORARY EQUIPMENT CROSSING

PERMANENT WATER BAR

W/FILTER SOCK

TRENCH PLUG

SANDBAG DAM

SCREENED INLET

CULVERT PIPE

ENERGY DISSIPATER

DEWATERING FACILITY

STREAM RESTORATION

EROSION CONTROL BLANKET

PUMP

DESCRIPTION

EXISTING EDGE OF UNPAVED ROADWAY

STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.

Sunoco Logistics Partners L.P.

APP#

PENNSYLVANIA PIPELINE PROJECT STREAM S-A17 **RESTORATION PLAN**

LEBANON COUNTY, PA

APPROVAL

DWG. NO. REV. NO. S-A17B

CHRISTOPHER D. ANTONI ENGINEER No. PE-057385-E /

REGISTERED

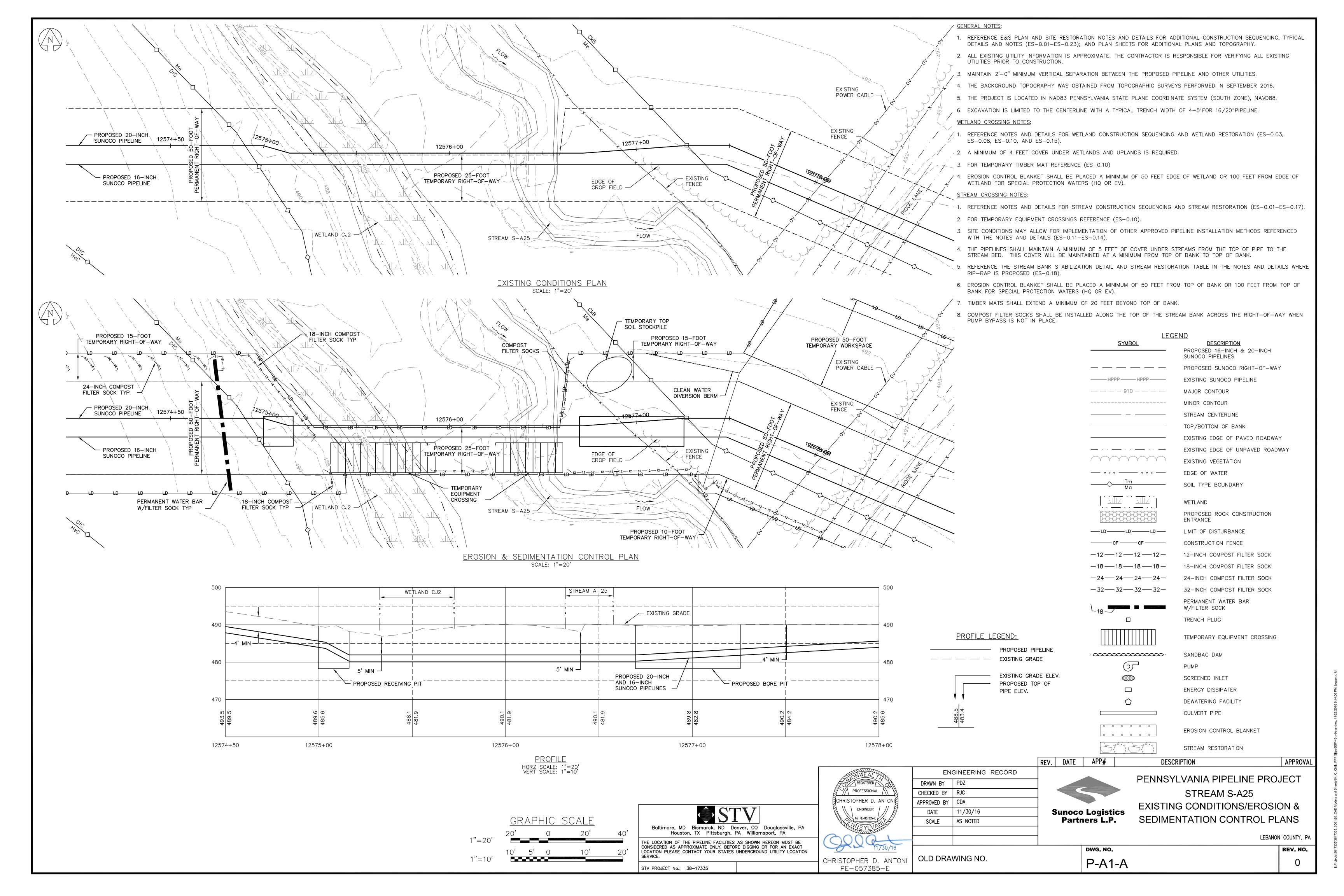
PROFESSIONAL

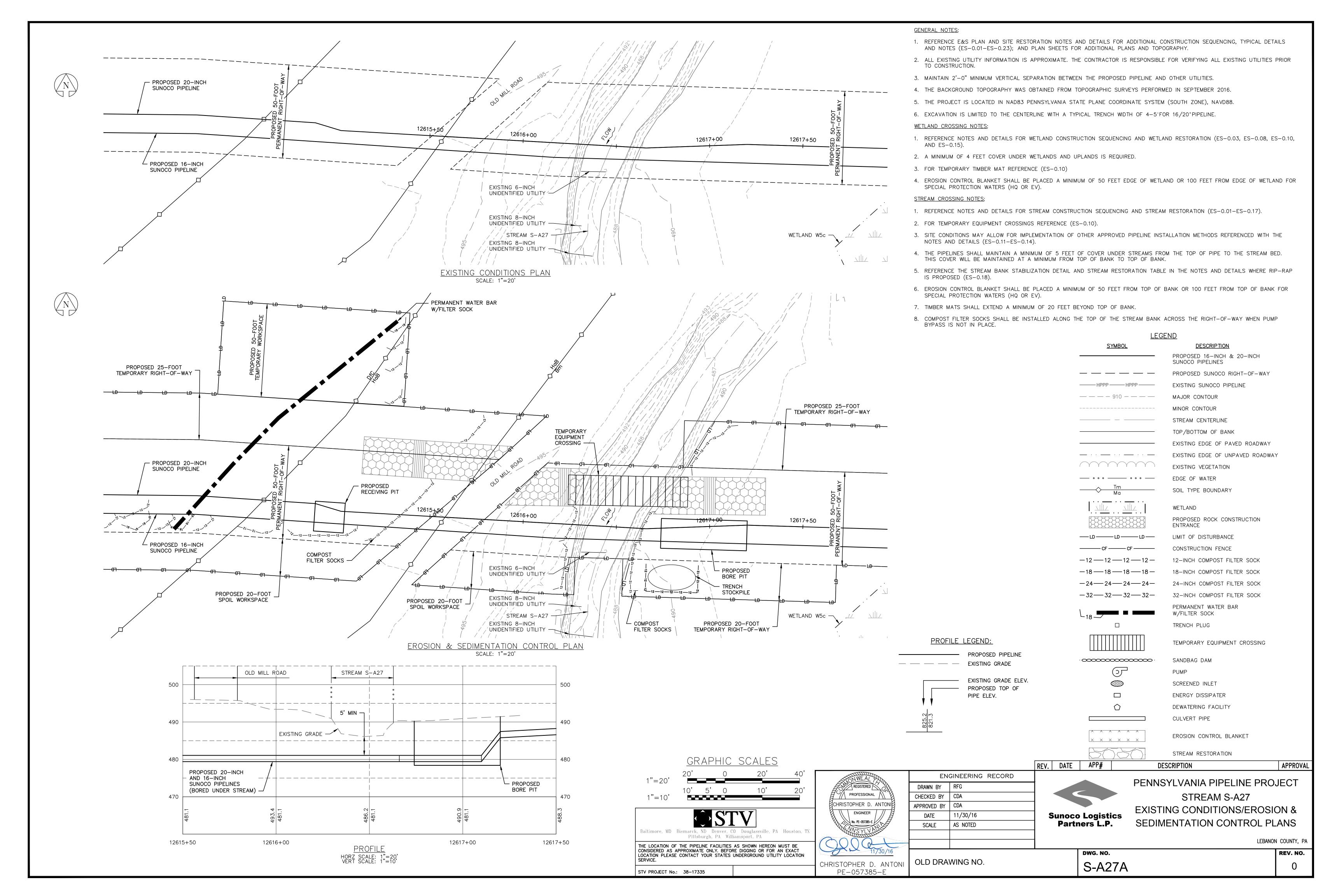
CHRISTOPHER D. ANTONI

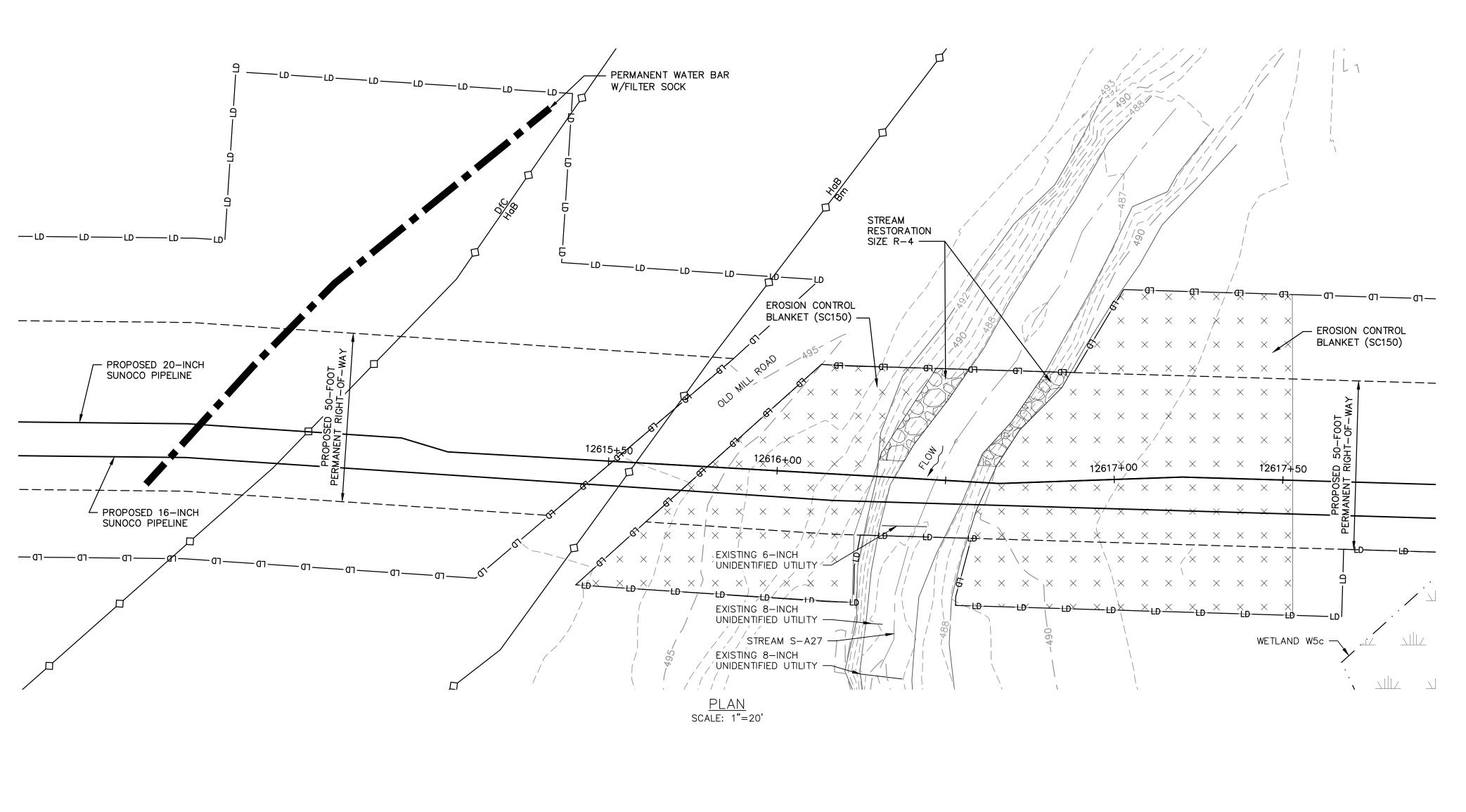
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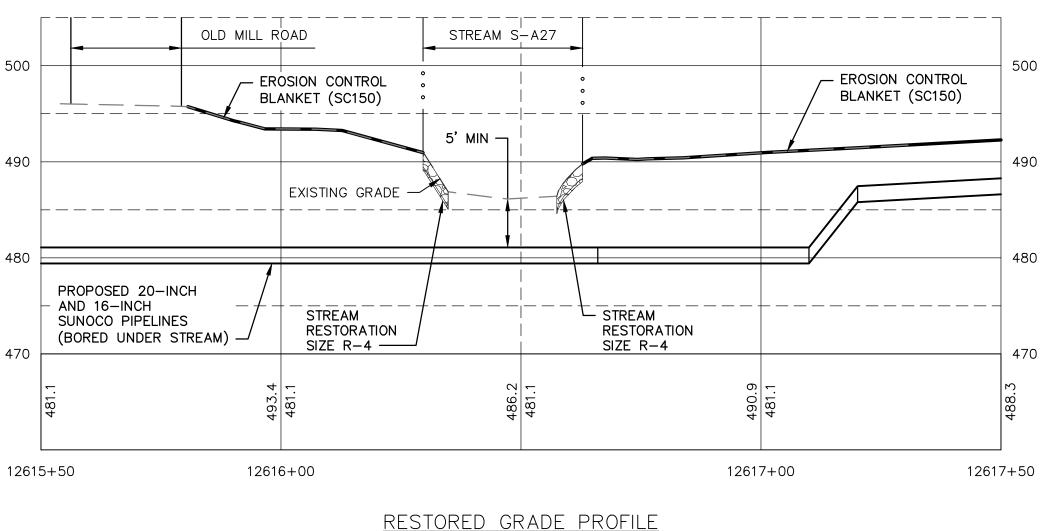
GRAPHIC SCALES

1"=10'









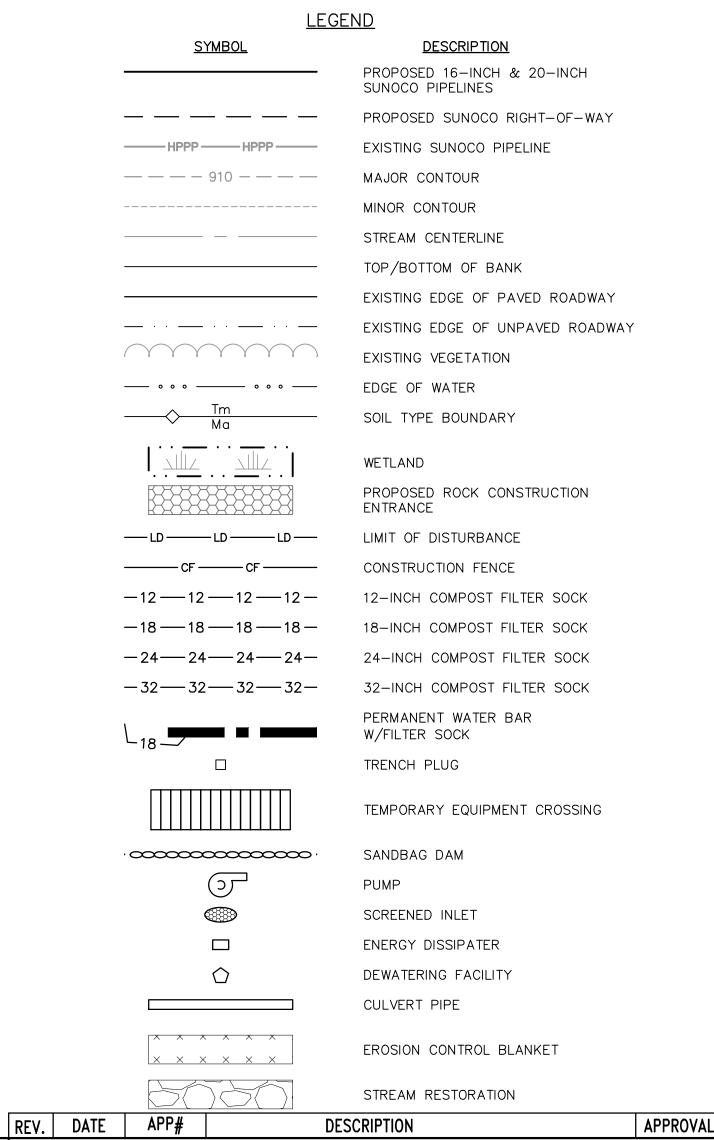
HORZ SCALE: 1"=20' VERT SCALE: 1"=10'

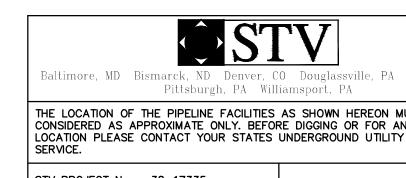
GENERAL NOTES:

- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.
- WETLAND CROSSING NOTES:
- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
- 4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.
- 5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS WHERE RIP-RAP IS PROPOSED (ES-0.18).
- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.





REGISTERED DRAWN BY RFG PROFESSIONAL CHECKED BY CDA CHRISTOPHER D. ANTONI APPROVED BY | CDA ENGINEER 11/30/16 DATE No. PE-057385-E / AS NOTED SCALE

Sunoco Logistics Partners L.P.

PENNSYLVANIA PIPELINE PROJECT STREAM S-A27 **RESTORATION PLAN**

LEBANON COUNTY, PA

DWG. NO.

GRAPHIC SCALES 1"=20'

THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION

STV PROJECT No.: 38-17335

CHRISTOPHER D. ANTONI PE-057385-E

OLD DRAWING NO.

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

PIPE ELEV.

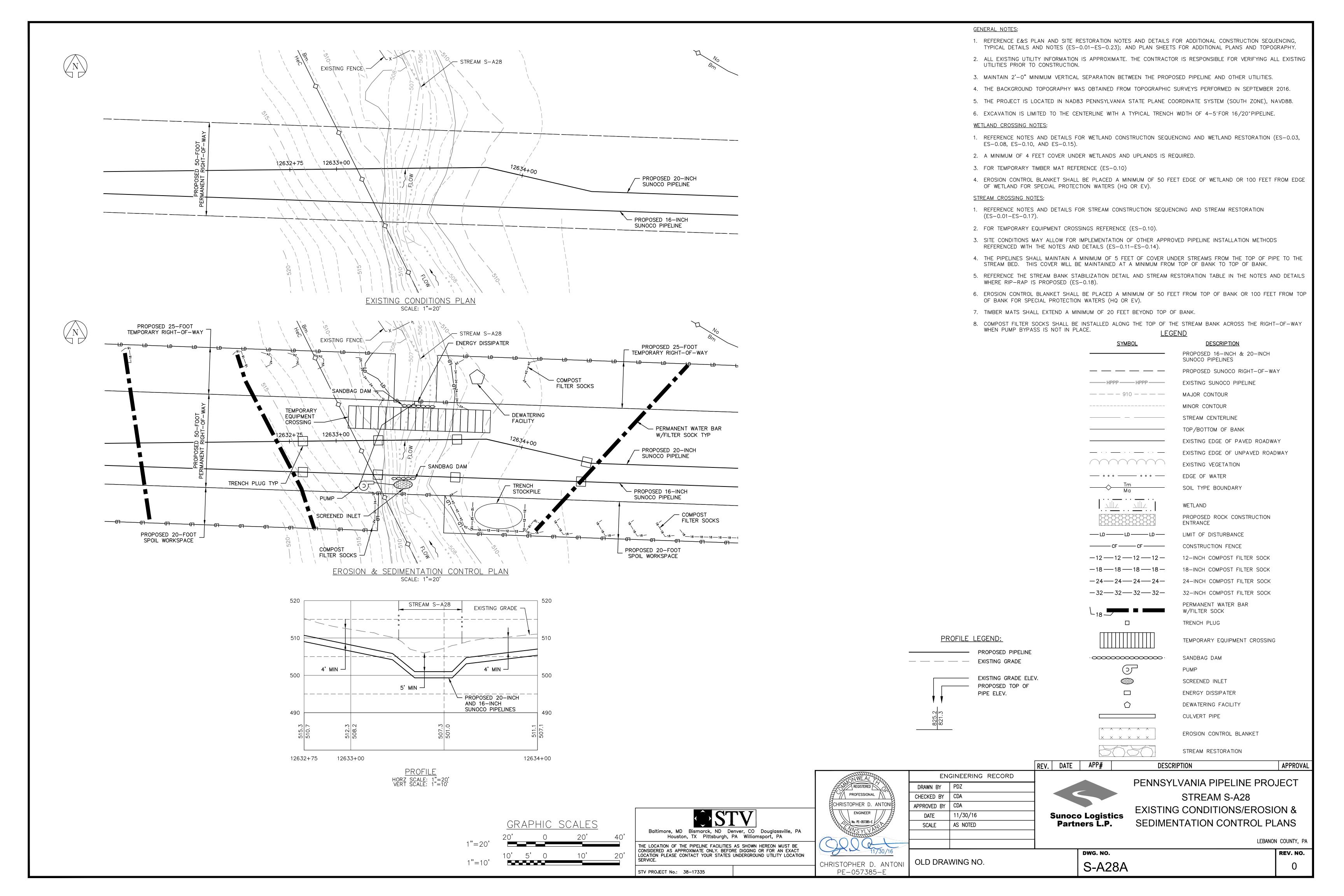
ENGINEERING RECORD

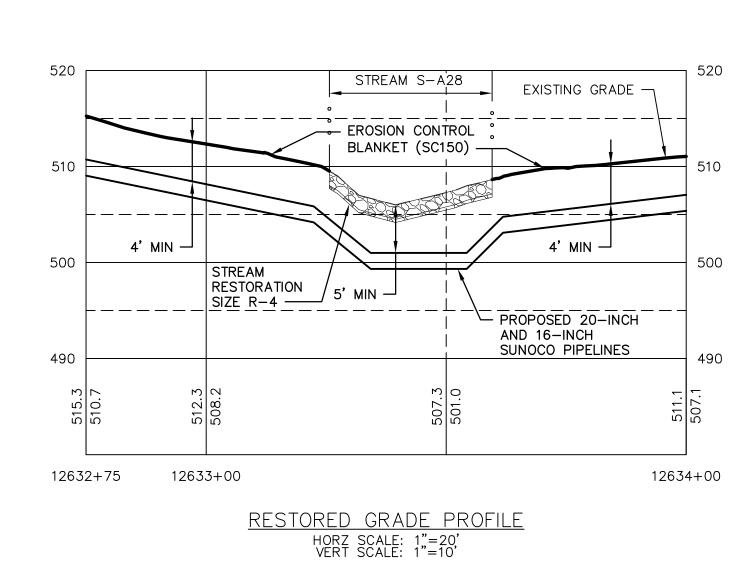
EXISTING GRADE ELEV.

PROPOSED TOP OF

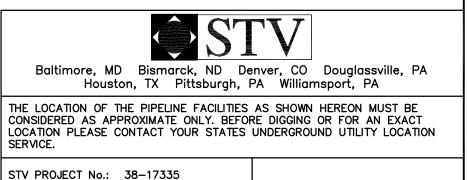
S-A27B

REV. NO.





GRAPHIC SCALES 1"=10



REGISTERED PROFESSIONAL CHRISTOPHER D. ANTONI ENGINEER No. PE-057385-E CHRISTOPHER D. ANTONI

PE-057385-E

ENGINEERING RECORD DRAWN BY PDZ CHECKED BY | CDA APPROVED BY | CDA 11/30/16 SCALE AS NOTED

OLD DRAWING NO.

REV. DATE APP# **Sunoco Logistics** Partners L.P.

DWG. NO.

S-A28-B

PENNSYLVANIA PIPELINE PROJECT STREAM S-A28 RESTORATION PLAN

LEBANON COUNTY, PA

REV. NO.

GENERAL NOTES:

1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.

2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.

4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.

5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.

6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

WETLAND CROSSING NOTES:

1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).

2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.

3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)

4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).

2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).

OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).

3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).

4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.

5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS WHERE RIP-RAP IS PROPOSED (ES-0.18).

6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP

7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.

8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE. <u>LEGEND</u>

<u>SYMBOL</u>

PROPOSED 16-INCH & 20-INCH SUNOCO PIPELINES PROPOSED SUNOCO RIGHT-OF-WAY EXISTING SUNOCO PIPELINE — — — — 910 — — — — MAJOR CONTOUR MINOR CONTOUR STREAM CENTERLINE TOP/BOTTOM OF BANK EXISTING EDGE OF PAVED ROADWAY EXISTING EDGE OF UNPAVED ROADWAY EXISTING VEGETATION EDGE OF WATER SOIL TYPE BOUNDARY WETLAND PROPOSED ROCK CONSTRUCTION ENTRANCE LIMIT OF DISTURBANCE —LD——LD——LD— CONSTRUCTION FENCE 12-INCH COMPOST FILTER SOCK 18-INCH COMPOST FILTER SOCK -24-24-24-24-24-INCH COMPOST FILTER SOCK 32-INCH COMPOST FILTER SOCK -32—32—32—32— PERMANENT WATER BAR W/FILTER SOCK TRENCH PLUG TEMPORARY EQUIPMENT CROSSING SANDBAG DAM

DESCRIPTION

PROFILE LEGEND:

PROPOSED PIPELINE — — — EXISTING GRADE EXISTING GRADE ELEV. PROPOSED TOP OF PIPE ELEV.

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 \times \times \times \times \times

ENERGY DISSIPATER DEWATERING FACILITY

PUMP

CULVERT PIPE

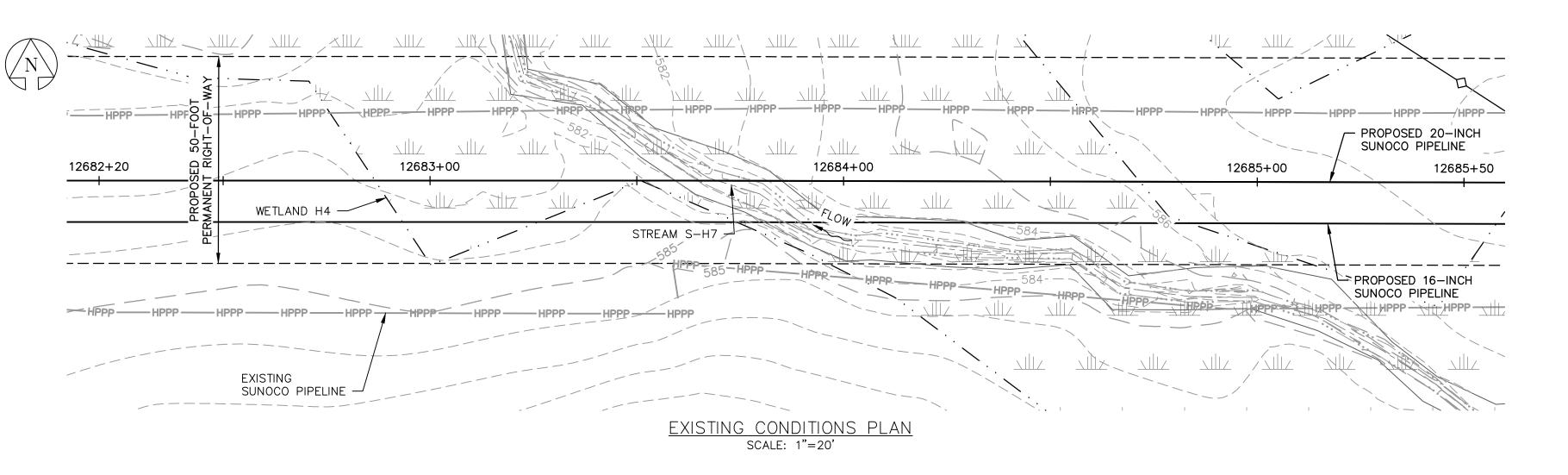
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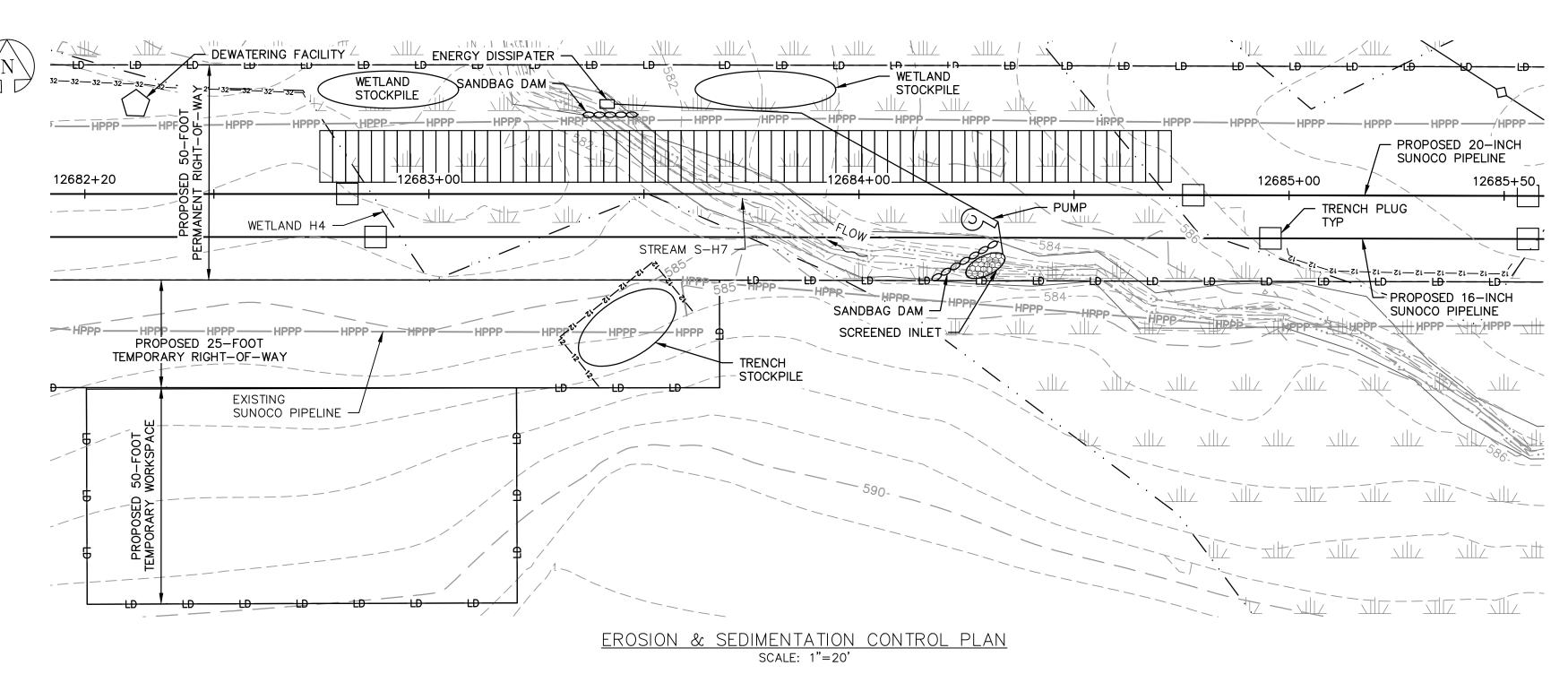
EROSION CONTROL BLANKET

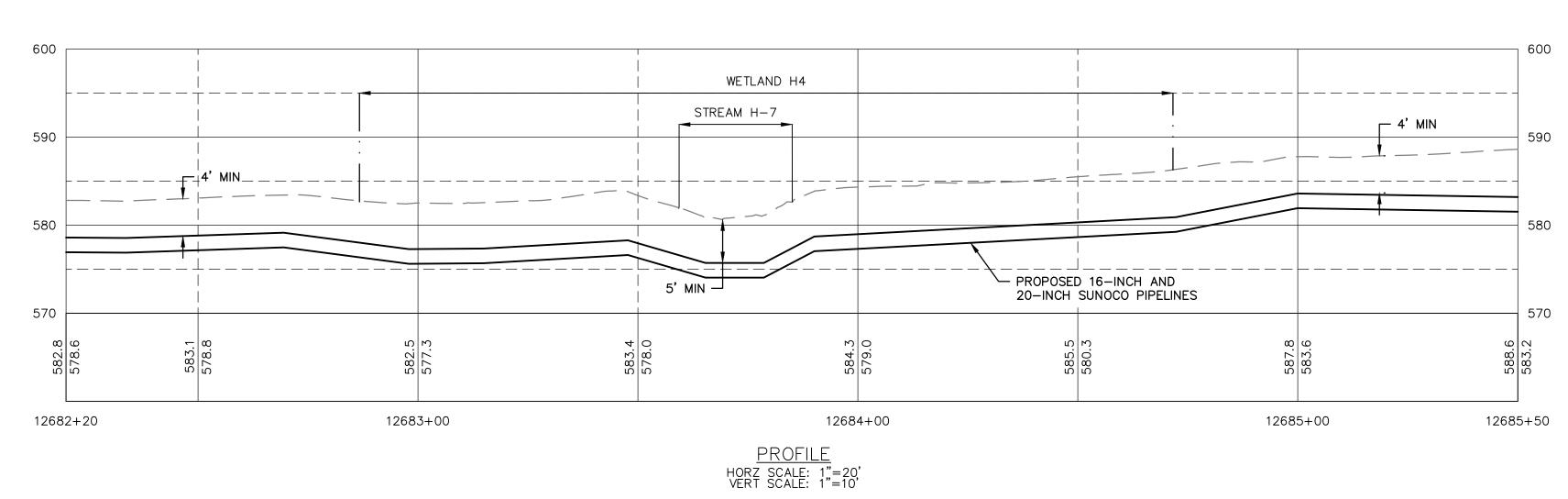
SCREENED INLET

STREAM RESTORATION

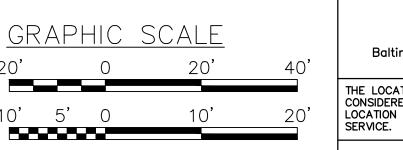
APPROVA







1"=10



Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION CHRISTOPHER D. ANTONI STV PROJECT No.: 38-17335

GENERAL NOTES:

- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

WETLAND CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)

PROFILE LEGEND:

DRAWN BY LG

CHECKED BY CDA

APPROVED BY | CDA

OLD DRAWING NO.

DATE

SCALE

11/30/16

AS NOTED

PROFESSIONAL

CHRISTOPHER D. ANTONI

ENGINEER

No. PE-057385-E /

PE-057385-E

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE

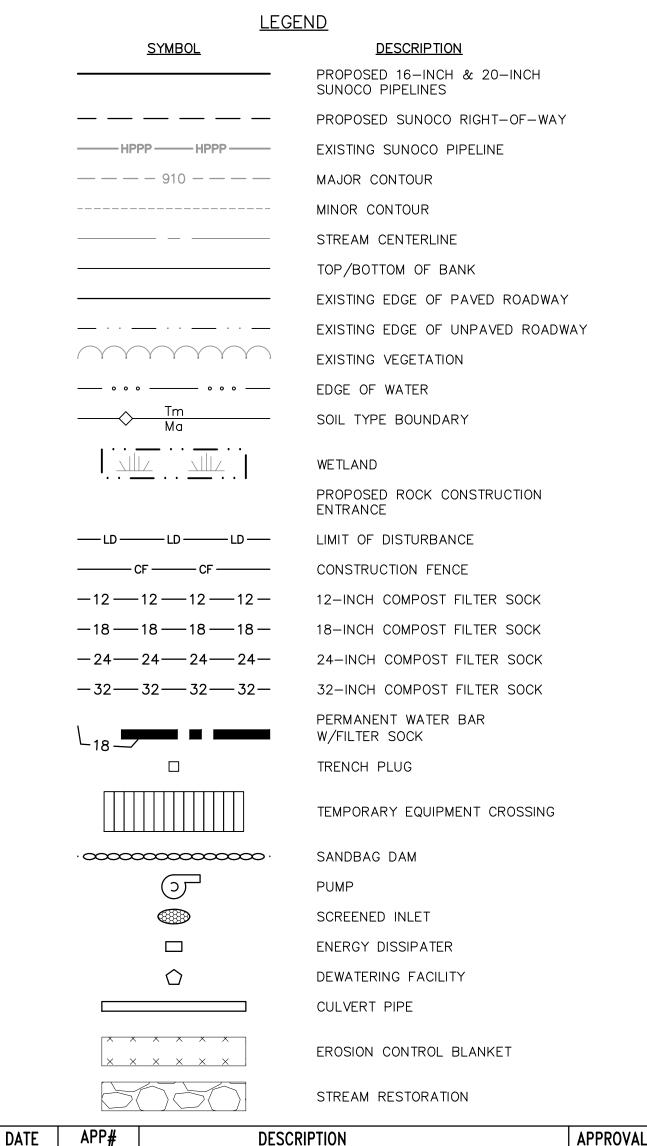
EXISTING GRADE ELEV.

PROPOSED TOP OF

4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

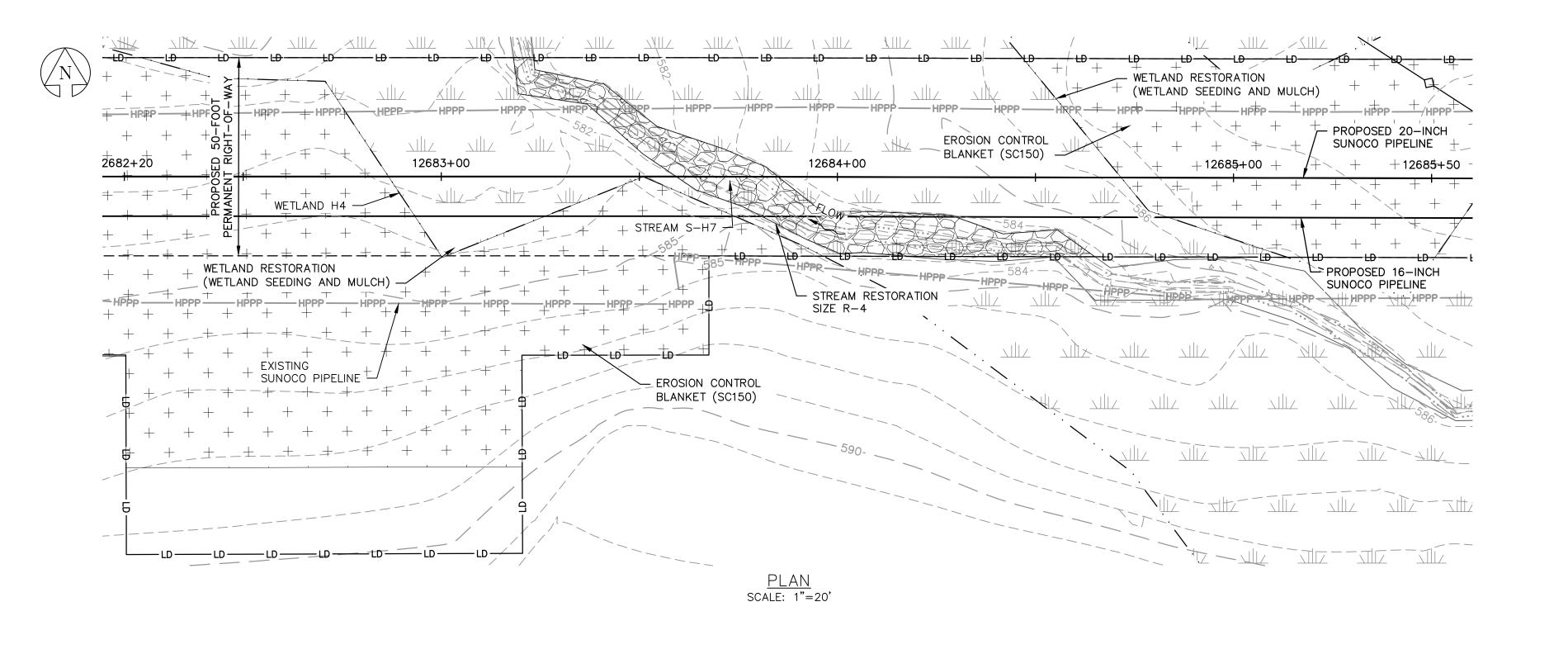
- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
- 4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.
- 5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS WHERE RIP-RAP IS PROPOSED (ES-0.18).
- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.

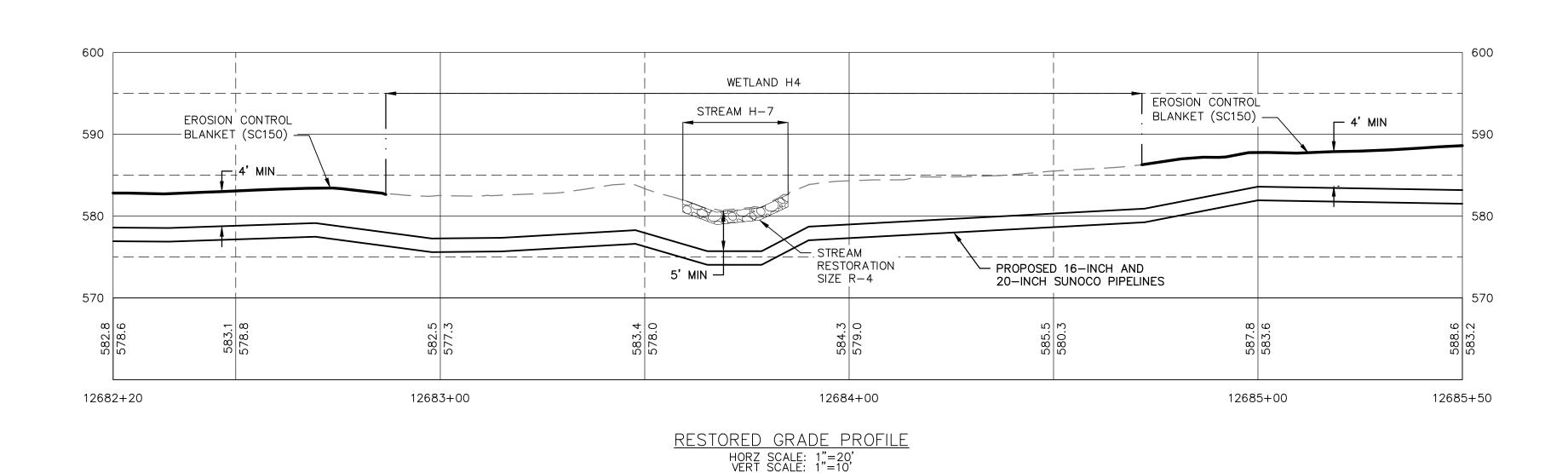


APP# REV. DATE DESCRIPTION ENGINEERING RECORD PENNSYLVANIA PIPELINE PROJECT STREAM S-H47 **EROSION & SEDIMENTATION Sunoco Logistics CONTROL PLAN AND PROFILE** Partners L.P.

LEBANON COUNTY, PA

DWG. NO. REV. NO. S-H7-A





GENERAL NOTES:

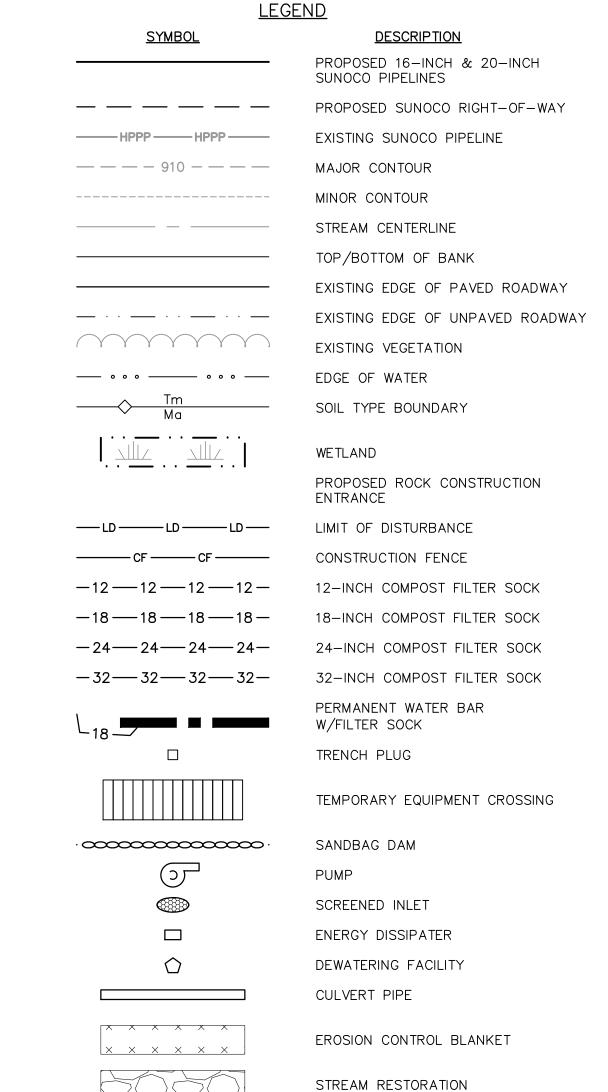
- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

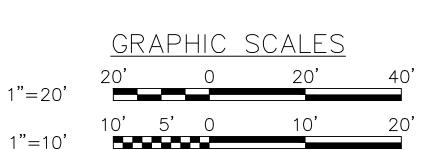
WETLAND CROSSING NOTES:

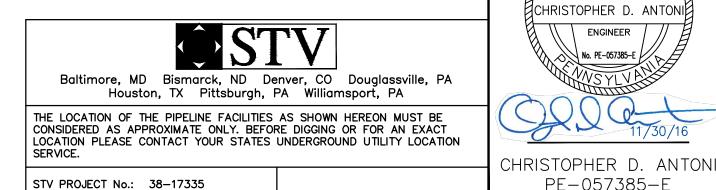
- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

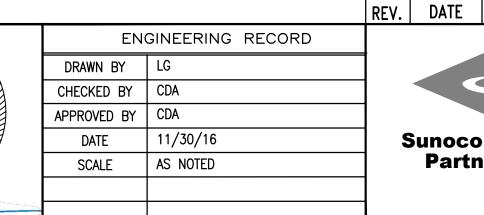
STREAM CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
- 4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.
- 5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS WHERE RIP-RAP IS PROPOSED (ES-0.18).
- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.









OLD DRAWING NO.

REGISTERED

PROFESSIONAL

CHRISTOPHER D. ANTONI

ENGINEER

No. PE-057385-E /

PE-057385-E

PROFILE LEGEND:

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE

EXISTING GRADE ELEV.

PROPOSED TOP OF

Sunoco Logistics Partners L.P.

APP#

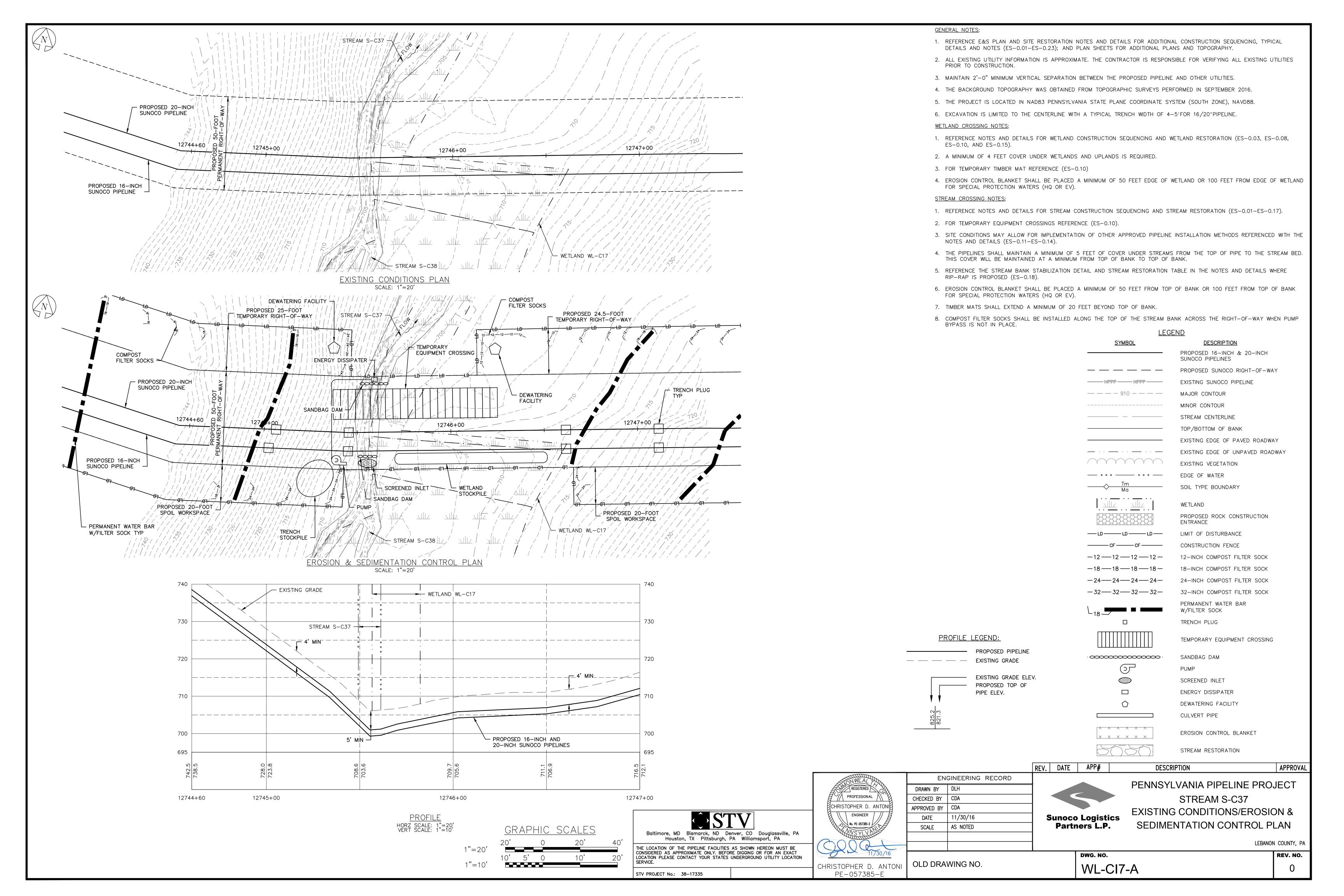
PENNSYLVANIA PIPELINE PROJECT STREAM S-H47 **RESTORATION PLAN**

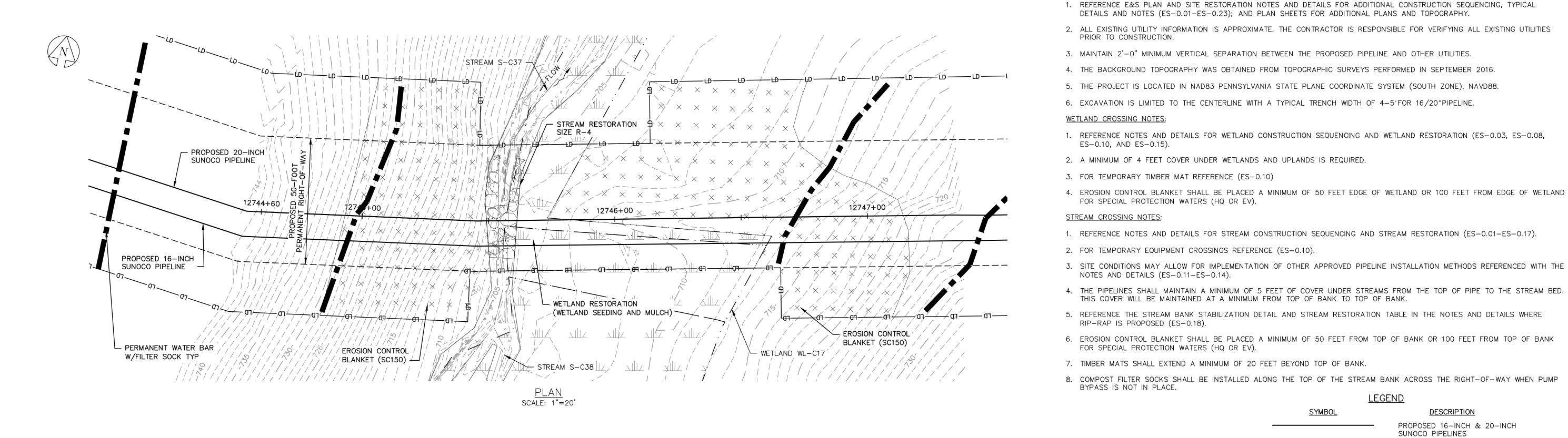
LEBANON COUNTY, PA

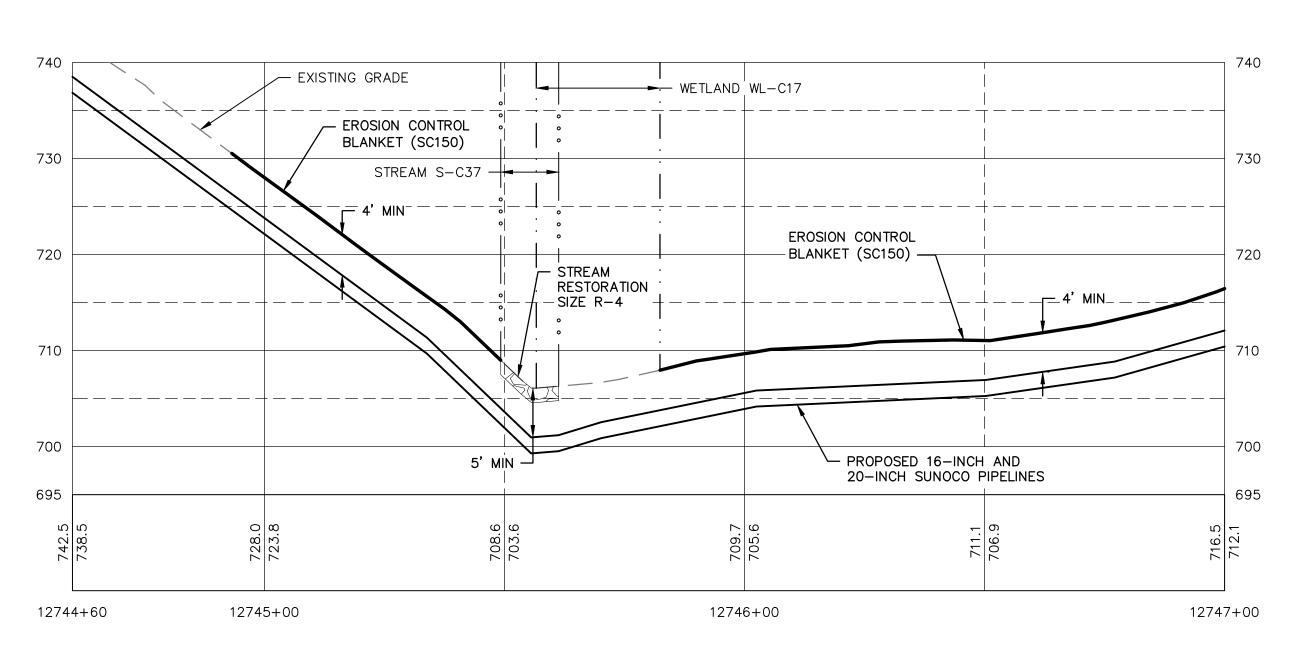
APPROVAL

DWG. NO. REV. NO. S-H7-B

DESCRIPTION







RESTORED GRADE PROFILE HORZ SCALE: 1"=20' VERT SCALE: 1"=10'

GRAPHIC SCALES

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION STV PROJECT No.: 38-17335

PROFESSIONAL CHRISTOPHER D. ANTONI ENGINEER No. PE-057385-E CHRISTOPHER D. ANTONI

ENGINEERING RECORD DRAWN BY DLH CHECKED BY | CDA APPROVED BY | CDA 11/30/16 DATE AS NOTED SCALE

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF

GENERAL NOTES:

PENNSYLVANIA PIPELINE PROJECT STREAM S-C37 RESTORATION PLAN

DWG. NO. REV. NO. WL-CI7-B

<u>SYMBOL</u>

<u>LEGEND</u>

DESCRIPTION PROPOSED 16-INCH & 20-INCH SUNOCO PIPELINES PROPOSED SUNOCO RIGHT-OF-WAY ——— HPPP ——— HPPP ——— EXISTING SUNOCO PIPELINE — — — — 910 — — — — MAJOR CONTOUR

> MINOR CONTOUR STREAM CENTERLINE TOP/BOTTOM OF BANK

> > EXISTING EDGE OF PAVED ROADWAY EXISTING EDGE OF UNPAVED ROADWAY

EXISTING VEGETATION EDGE OF WATER — 。。。 — — 。。。 —

> SOIL TYPE BOUNDARY WETLAND

PROPOSED ROCK CONSTRUCTION ENTRANCE LIMIT OF DISTURBANCE

CONSTRUCTION FENCE

12-INCH COMPOST FILTER SOCK -18 - 18 - 18 - 18 -18-INCH COMPOST FILTER SOCK

-24—24—24—24— 24-INCH COMPOST FILTER SOCK -32—32—32—32—

32-INCH COMPOST FILTER SOCK PERMANENT WATER BAR W/FILTER SOCK

TRENCH PLUG

TEMPORARY EQUIPMENT CROSSING

SANDBAG DAM PUMP

SCREENED INLET ENERGY DISSIPATER

DEWATERING FACILITY CULVERT PIPE

× × × × × EROSION CONTROL BLANKET \times \times \times \times \times

DESCRIPTION

STREAM RESTORATION

REV. DATE APP#

Sunoco Logistics Partners L.P.

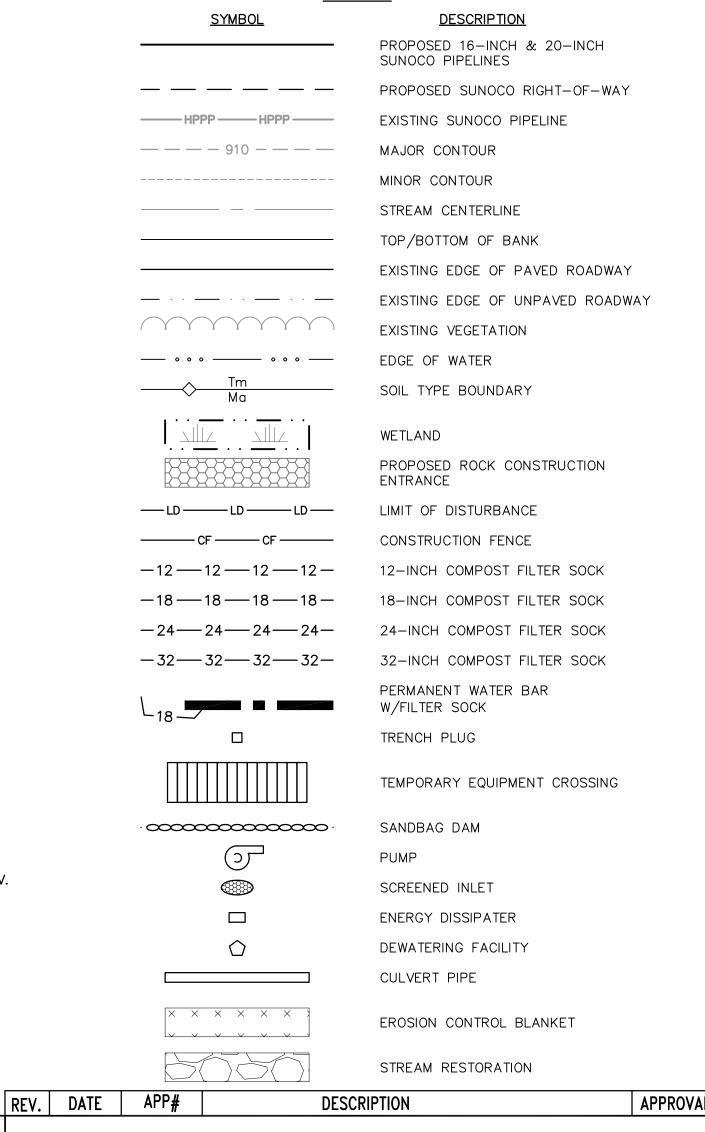
LEBANON COUNTY, PA

| APPROVAL

OLD DRAWING NO.

PE-057385-E

- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20" PIPELINE.
- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
- 4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.
- 5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS
- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE. **LEGEND**



DWG. NO.

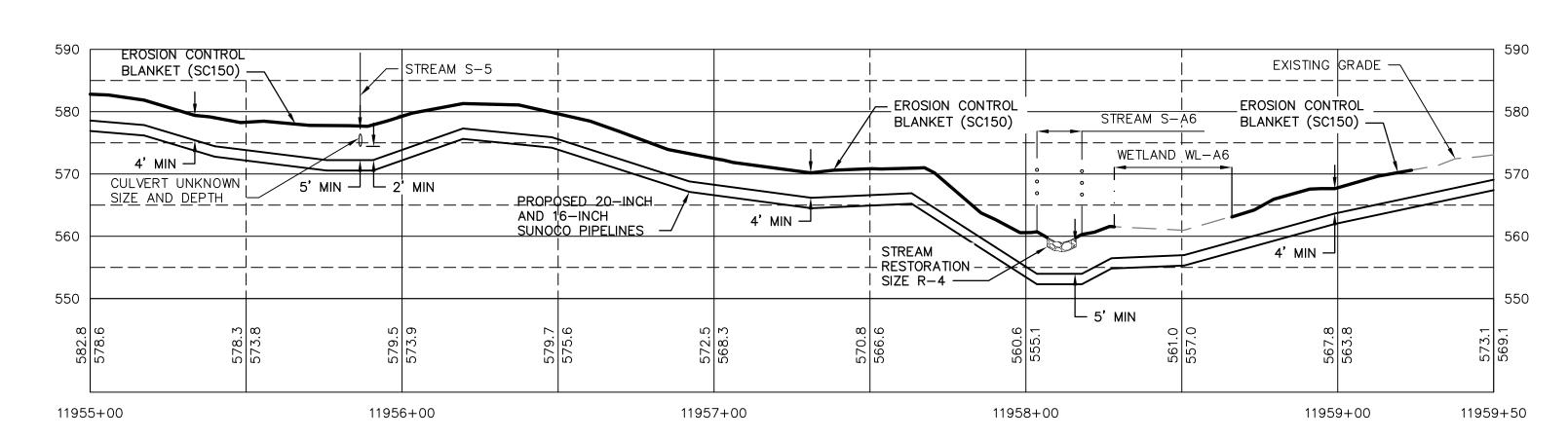
S-A5-A

Sunoco Logistics Partners L.P.

PENNSYLVANIA PIPELINE PROJECT STREAMS S-A5A & S-A6 **EXISTING CONDITIONS/EROSION &** SEDIMENTATION CONTROL PLANS

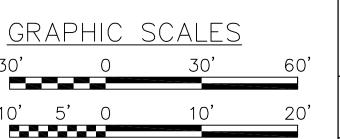
LEBANON COUNTY, PA

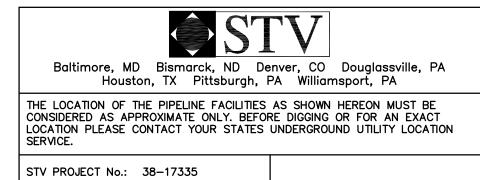
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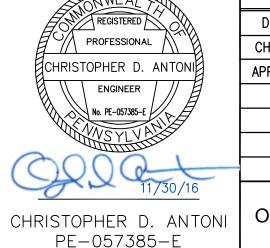


RESTORED GRADE PROFILE HORZ SCALE: 1"=30' VERT SCALE: 1"=10'

1"=10'







ENGINEERING RECORD DRAWN BY PDZ CHECKED BY | CDA APPROVED BY | CDA 11/30/16 DATE AS NOTED SCALE

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF

REV. DATE APP# **Sunoco Logistics** Partners L.P.

APPROVA DESCRIPTION PENNSYLVANIA PIPELINE PROJECT STREAMS S-A5A & S-A6 RESTORATION PLAN

LEBANON COUNTY, PA

4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.

5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88. 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.

1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.

2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING

WETLAND CROSSING NOTES:

UTILITIES PRIOR TO CONSTRUCTION.

GENERAL NOTES:

1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).

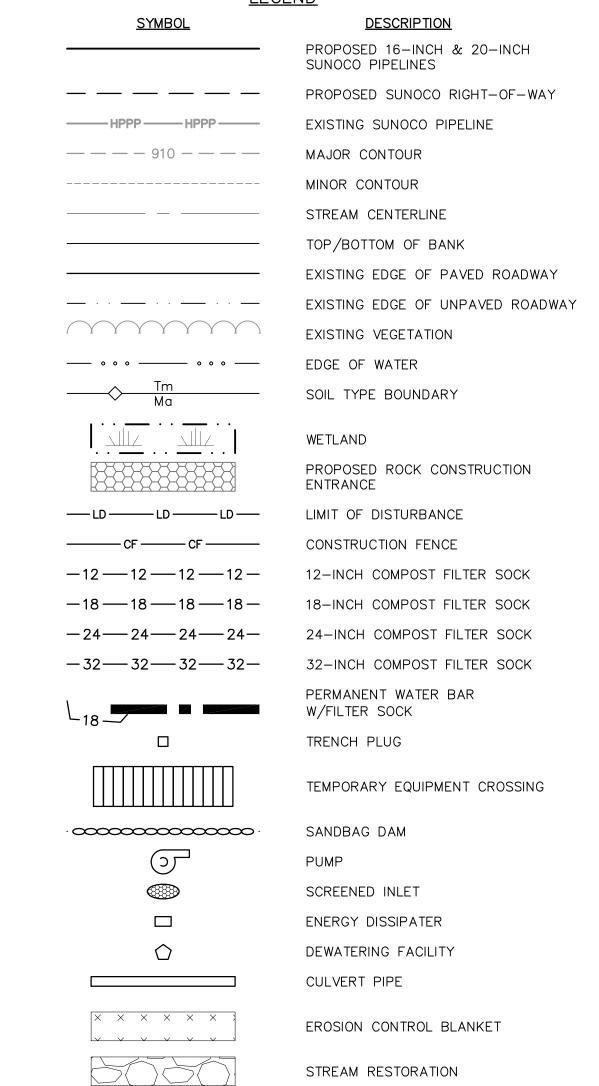
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).

BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).

- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
- 4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.
- 5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS WHERE RIP-RAP IS PROPOSED (ES-0.18).
- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE. **LEGEND**



OLD DRAWING NO.

DWG. NO. S-A5-B REV. NO.