# CITY OF NILES

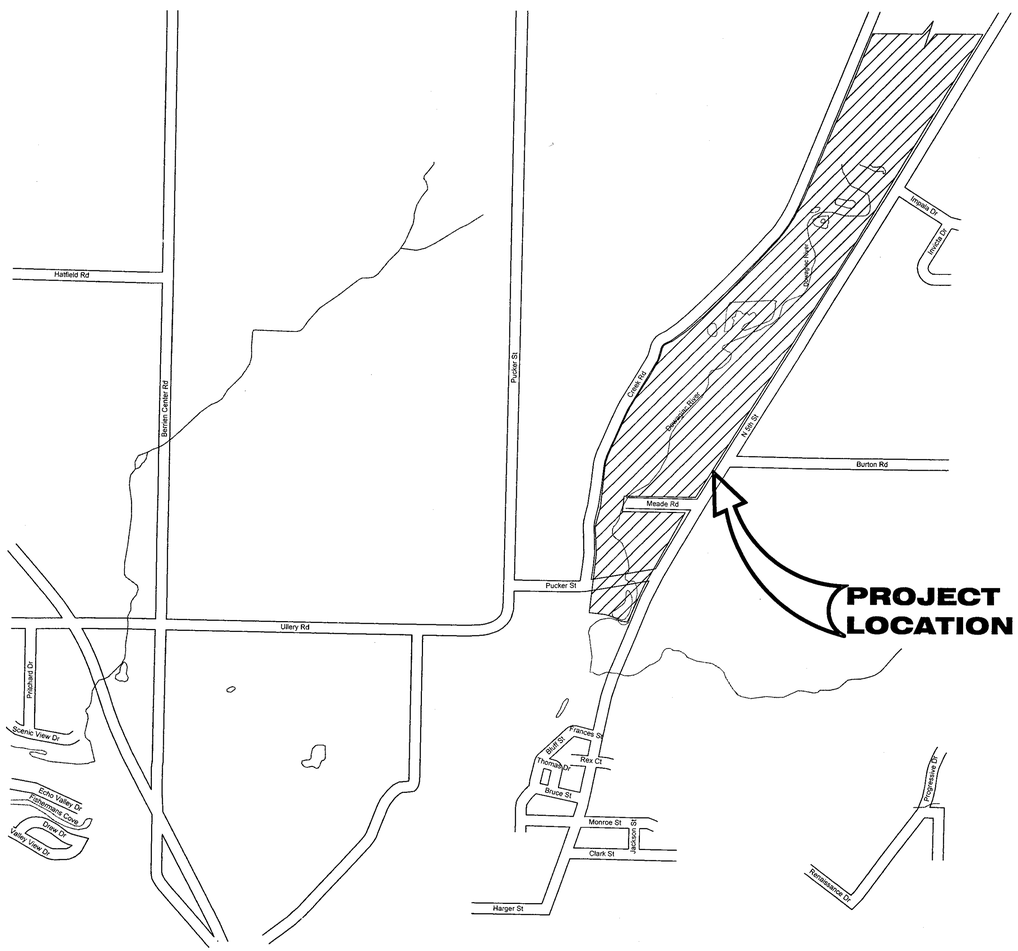
# PUCKER STREET DAM REMOVAL AND STREAM RESTORATION PROJECT

## NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE PLACING OF PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED.

THE CONTRACTOR SHALL DIAL MISS DIG @ 811 FOR PROTECTION OF UNDER GROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53 OF 1974 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.




LOCATION MAP
NOT TO SCALE

OSCAR R. LOVELESS P.E.
LIC. NO. 47608
STAMP IS FOR WIGHTMAN
DRAWING LISTED BELOW

3/28/19

JONATHON KUSA P.E.
LIC. NO. 6201062129
STAMP IS FOR INTER-FLUVE
DRAWING LISTED BELOW

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## UTILITIES

| | |
|---|---|
| ELECTRIC | INDIANA MICHIGAN POWER<br>DISTRIBUTION LINES:<br>2425 MEADOWBROOK ROAD<br>BENTON HARBOR, MI 49022<br>ATTN: KURT SCHNEIDER<br>(269) 926-0683 |
| GAS | SEMCO ENERGY GAS CO.<br>1000 BELL RD.<br>NILES, MI 49120<br>ATTN: ROB STAFFORD<br>(269) 683-6810 EXT. 5683 |
| GAS PIPELINE | TRANSCANADA PIPELINES / ANR PIPELINE COMPANY<br>700 LOUISIANA ST., SUITE 700<br>HOUSTON, TX 77002-2700<br>ATTN: US LAND MANAGEMENT<br>(800) 562-8931 |
| TELEPHONE | AT & T<br>1435 MILTON<br>BENTON HARBOR, MI 49022<br>ATTN: CHRIS O'BRIEN<br>(269) 926-0232 |
| WATER / SEWER / ELECTRIC | CITY OF NILES, UTILITIES<br>333 N. 2ND STREET<br>NILES, MICHIGAN 49120<br>ATTN: JEFF DUNLAP<br>(269) 591-0476 |
| "MISS DIG" | 811 |


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www.gowightman.com

INTER-FLUVE
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Phone: 608.441.0342


PROJECT NAME:
**PUCKER STREET DAM**
**REMOVAL AND STREAM RESTORATION PROJECT**
BERRIEN COUNTY, MICHIGAN
**CITY OF NILES**
BERRIEN COUNTY, MICHIGAN

| | | |
|---|---|---|
| 05 | 03/29/2019<br>ISSUED FOR BID | ORL |
| 04 | 12/05/2018<br>REVISED PER MDEQ COMMENTS | ORL |
| 03 | 07/31/2018<br>MDEQ PERMIT | ORL |
| 02 | 03/30/2016<br>OWNER REVIEW COMMENTS | ORL |
| 01 | 07/02/2014<br>ISSUED FOR COMMENTS | ORL |

REVISIONS

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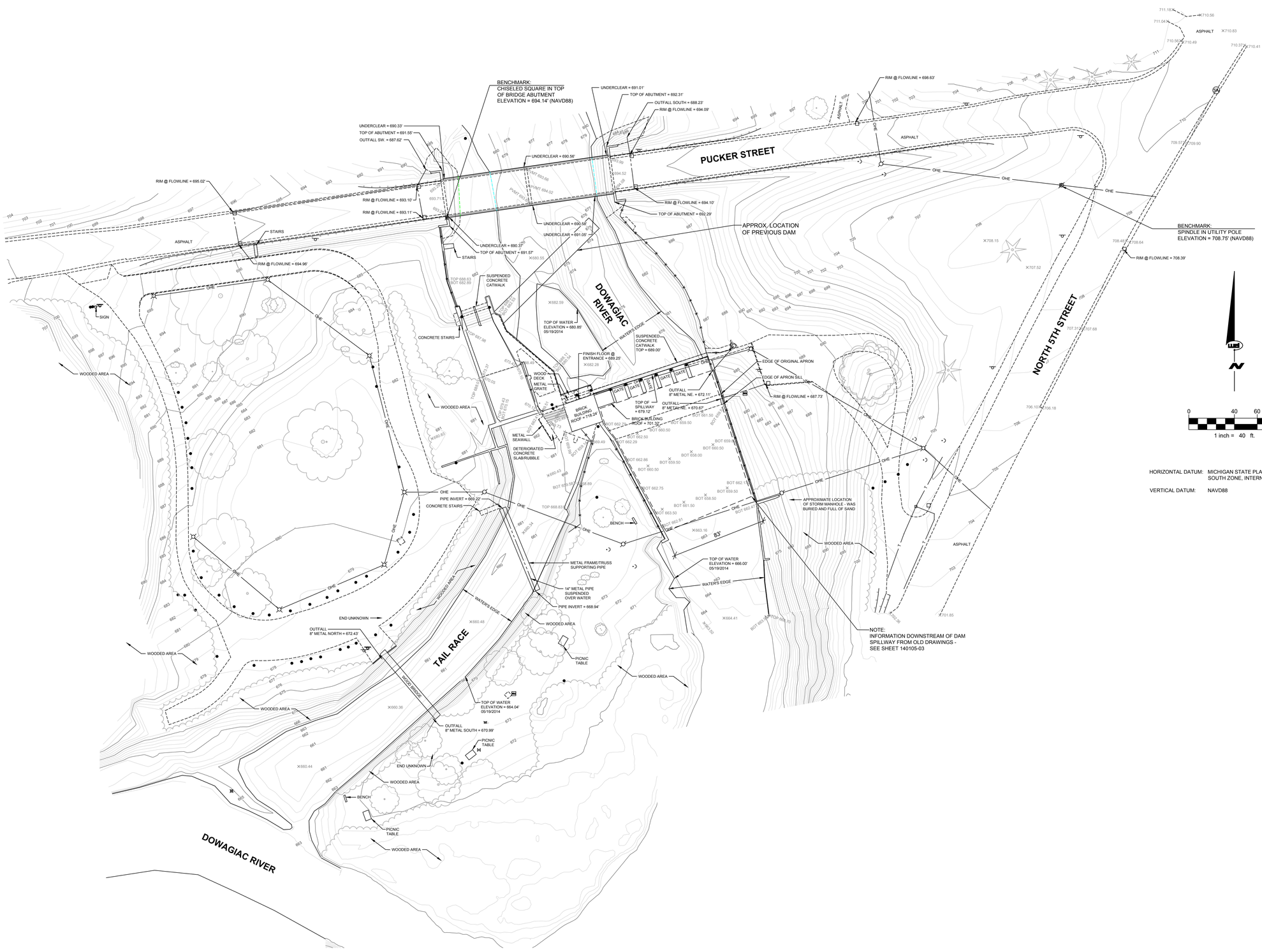
DATE: JULY, 2018
SCALE: NONE

COVER SHEET

JOB No. 140105
140105-01




HORIZONTAL DATUM: MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, INTERNATIONAL FEET

VERTICAL DATUM: NAVD88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| 01 | 07/02/2014<br>ISSUED FOR COMMENTS | ORL |

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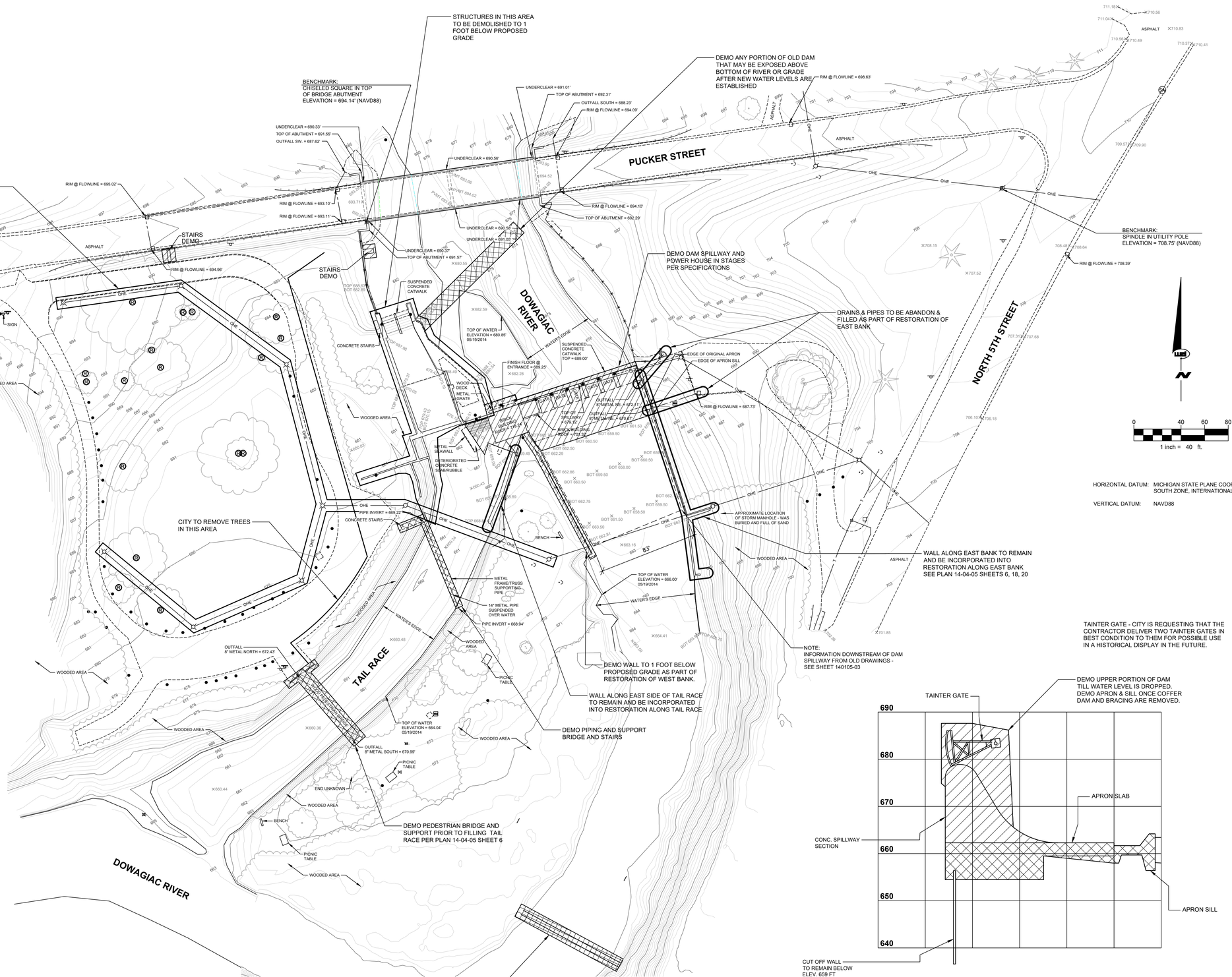
DATE: JULY, 2018

SCALE: 1" = 40'

EXISTING PLAN SHEET

JOB No. 140105

140105-02




TAINTER GATE - CITY IS REQUESTING THAT THE CONTRACTOR DELIVER TWO TAINTER GATES IN BEST CONDITION TO THEM FOR POSSIBLE USE IN A HISTORICAL DISPLAY IN THE FUTURE.




## SECTION "A-A"

N.T.S.
APPROXIMATE FROM OLD DRAWINGS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| 01 | 07/02/2014 ISSUED FOR COMMENTS | ORL |

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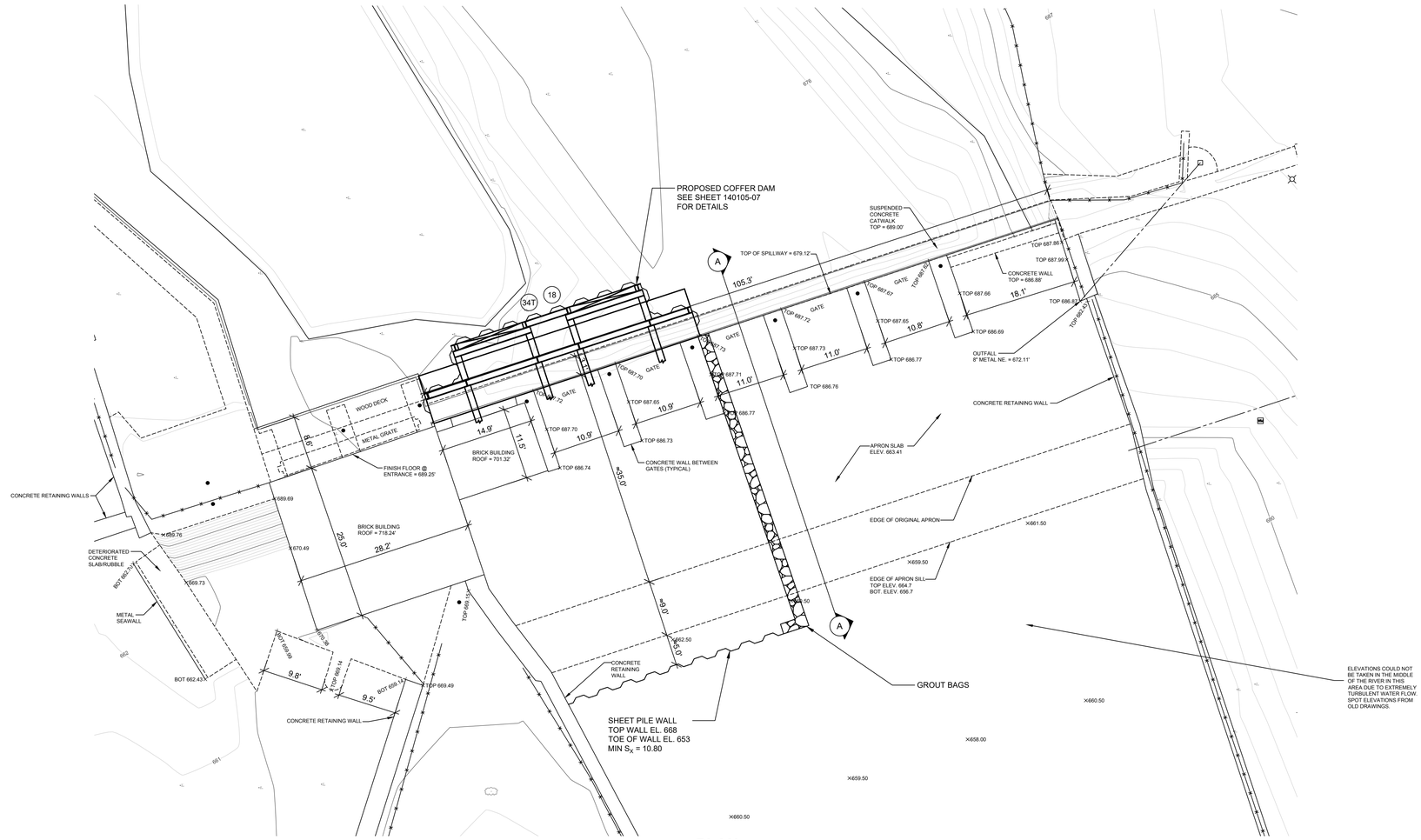
DATE: JULY, 2018
SCALE:

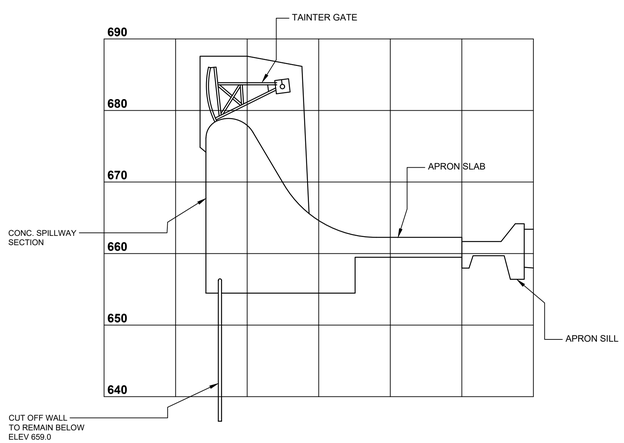
DAM DEMO SHEET

JOB No. 140105
140105-03




## PLAN

SCALE: 1" = 10'




## SECTION "A-A"

N.T.S.

APPROXIMATE FROM OLD DRAWINGS

## SOIL EROSION & SEDIMENTATION CONTROL NOTES

1. ALL CONSTRUCTION METHODS SHALL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM THE MDEQ PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY "SOIL EROSION PERMIT" AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUIRED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND SHALL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.

2. AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER, THESE COVER AREAS ACT AS SEDIMENT FILTERS.

3. ALL TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.

4. GEOTEXTILE SILT FENCE SHALL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING SHALL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.

5. MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES SHALL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.

(##) NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDOT STANDARD PLAN R-96 SERIES, SOIL EROSION & SEDIMENTATION CONTROL MEASURES. "P" DENOTES PERMANENT MEASURE AND "T" DENOTES TEMPORARY MEASURE. SOIL EROSION CONTROL PLANS DENOTE MINIMUM EROSION MEASURES REQUIRED AS DESCRIBED BELOW.

(18) DENOTES DEWATERING WITH FILTER BAG

(34T) DENOTES TEMPORARY STEEL SHEET PILING COFFERDAM.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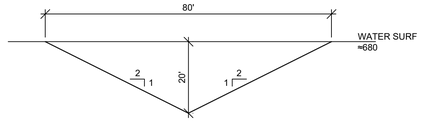
DATE: JULY, 2018

SCALE:

DAM PLAN SHEET

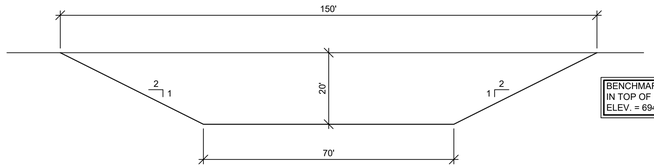
JOB No. 140105

140105-04



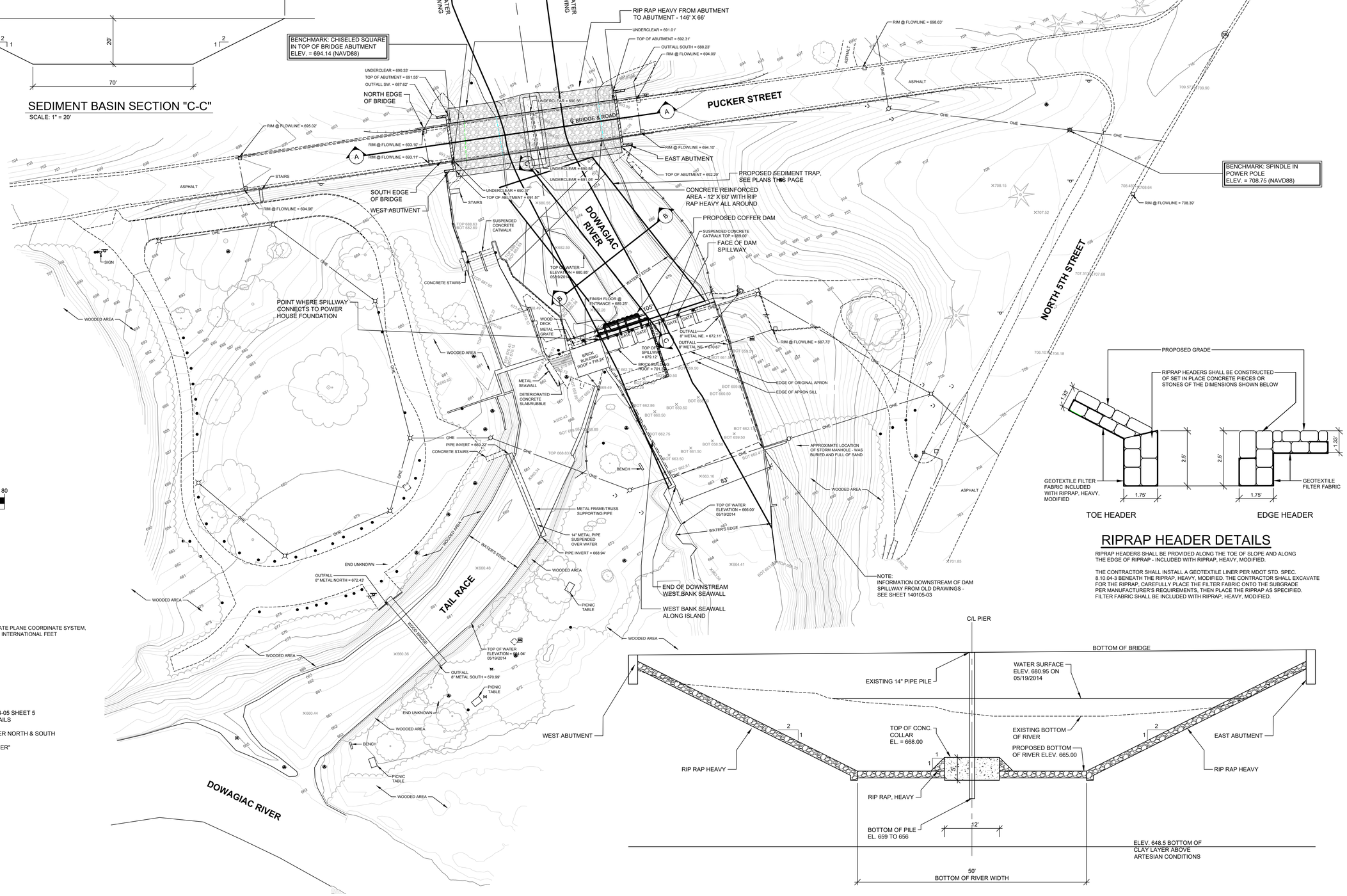

## SEDIMENT BASIN SECTION "B-B"

SCALE: 1" = 20'




## SEDIMENT BASIN SECTION "C-C"

SCALE: 1" = 20'




HORIZONTAL DATUM: MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, INTERNATIONAL FEET

VERTICAL DATUM: NAVD88

NOTE
SEE INTER-FLUVE DRAWING 14-04-05 SHEET 5 FOR STREAM RESTORATION DETAILS

PLACE PERMANENT SIGNS ON PIER NORTH & SOUTH THAT READ "KEEP 10 FT AWAY FROM PIER"




## RIPRAP HEADER DETAILS

RIPRAP HEADERS SHALL BE PROVIDED ALONG THE TOE OF SLOPE AND ALONG THE EDGE OF RIPRAP - INCLUDED WITH RIPRAP, HEAVY, MODIFIED.

THE CONTRACTOR SHALL INSTALL A GEOTEXTILE LINER PER MDOT STD. SPEC. 8.10.04-3 BENEATH THE RIPRAP, HEAVY, MODIFIED. THE CONTRACTOR SHALL EXCAVATE FOR THE RIPRAP. CAREFULLY PLACE THE FILTER FABRIC ONTO THE SUBGRADE PER MANUFACTURER'S REQUIREMENTS, THEN PLACE THE RIPRAP AS SPECIFIED. FILTER FABRIC SHALL BE INCLUDED WITH RIPRAP, HEAVY, MODIFIED.




## SECTION "A-A"

SCALE: 1" = 10'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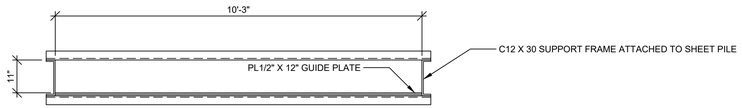
DATE: JULY, 2018

SCALE:

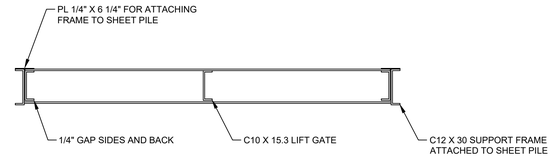
BRIDGE CROSS SECTION

JOB No. 140105

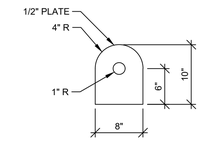
140105-05



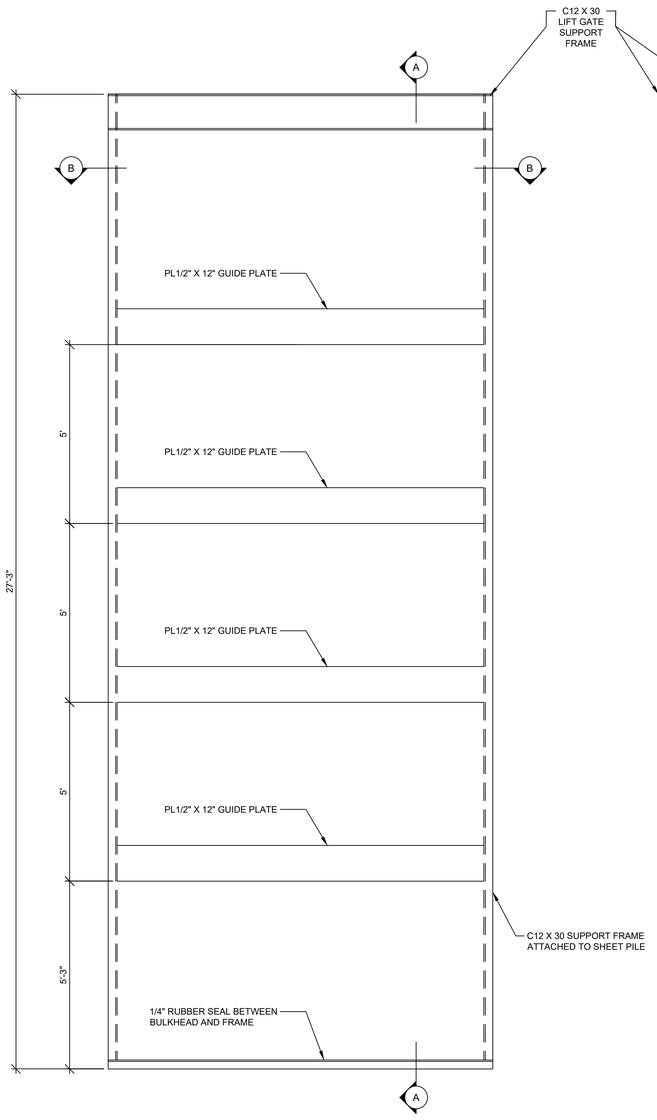

PLAN B-B



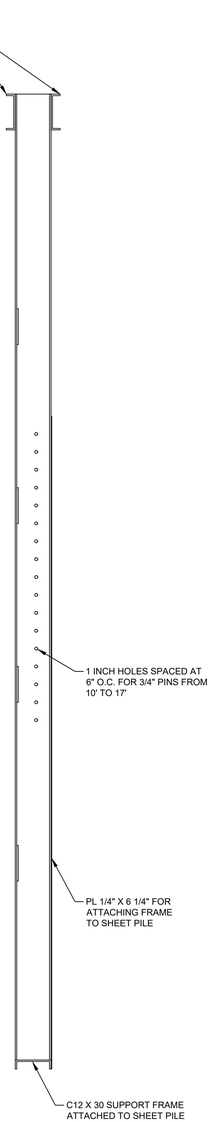

PLAN D-D



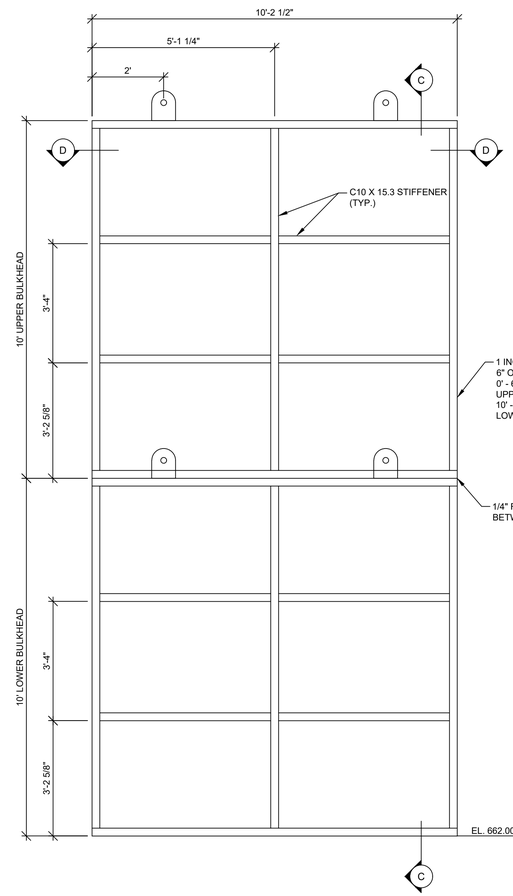

LIFTING LUG DETAIL



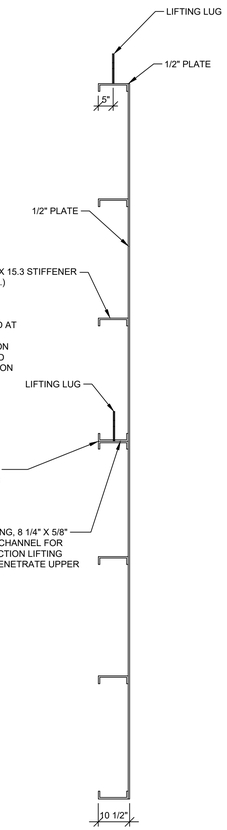

CONTROL LIFT GATE SUPPORT FRAME




SECTION A-A




CONTROL LIFT GATE




SECTION C-C

NOTE: CONTRACTOR TO SUBMIT FABRICATOR'S DETAILED SHOP DRAWINGS FOR ENGINEERS APPROVAL PRIOR TO FABRICATION OR INSTALATION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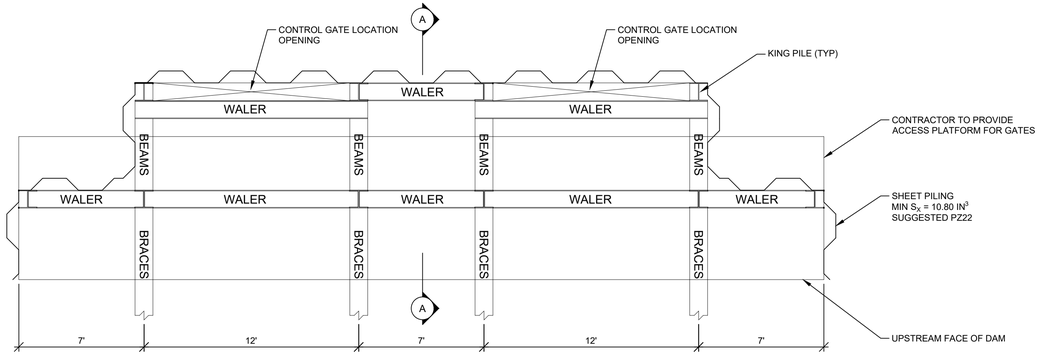
DATE: JULY, 2018

SCALE:

TEMPORARY GATE DETAILS

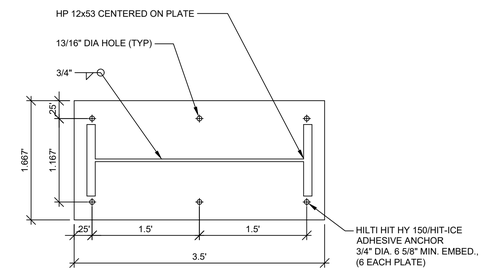
JOB No. 140105

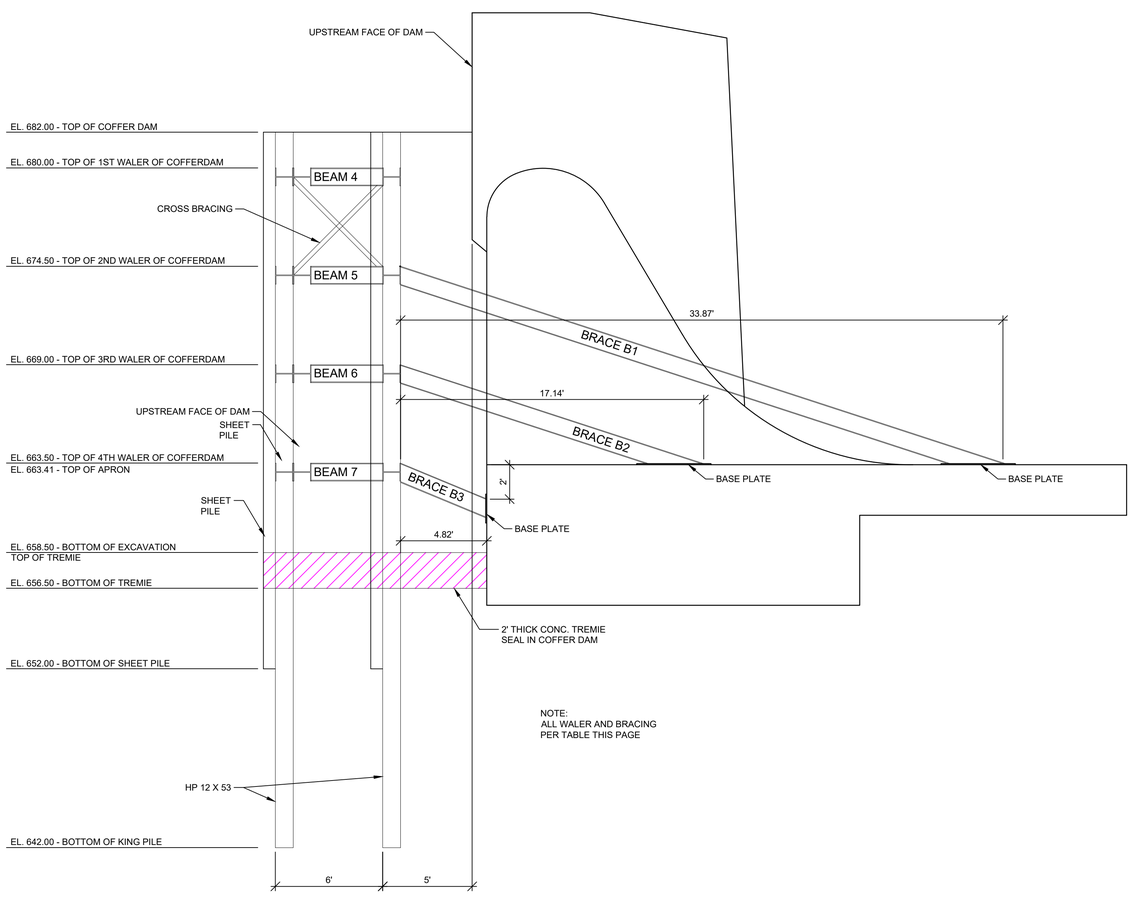
140105-06




COFFER DAM PLAN

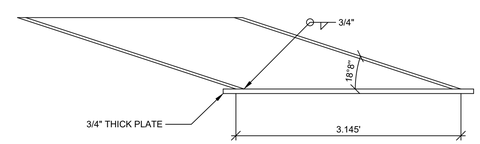
| MEMBER | STRENGTH | SIZE | LENGTH | SELECT |
|---|---|---|---|---|
| SHEET PILING | 50 KSI | MINSX = 10.80 | 30 FT | PZ22 |
| KING PILE | 50 KSI | HP 12X53 | 40 FT | HP12 X 53 |
| WALER LEVEL 1 | 50 KSI | W 12X22 | VARIES | W 12 X 22 |
| WALER LEVEL 2 | 50 KSI | W 12X22 | VARIES | W 12 X 22 |
| WALER LEVEL 3 | 50 KSI | W 12X22 | VARIES | W 12 X 22 |
| WALER LEVEL 4 | 50 KSI | W 12X22 | VARIES | W 12 X 22 |
| BRACE B1 | 50 KSI | HP 12X53 | 35.64 FT | HP 12X53 |
| BRACE B2 | 50 KSI | HP 12X53 | 18.06 FT | HP 12X53 |
| BRACE B3 | 50 KSI | HP 12X53 | 5.22 FT | HP 12X53 |
| BEAM B4 | 50 KSI | W 12X22 | 4 FT | W 12X22 |
| BEAM B5 | 50 KSI | W 12X22 | 4 FT | W 12X22 |
| BEAM B6 | 50 KSI | W 12X22 | 4 FT | W 12X22 |
| BEAM B7 | 50 KSI | W 12X22 | 4 FT | W 12X22 |
| CROSS BRACING | 50 KSI | L3X3X1/4 | 6 FT | L3X3X1/4 |



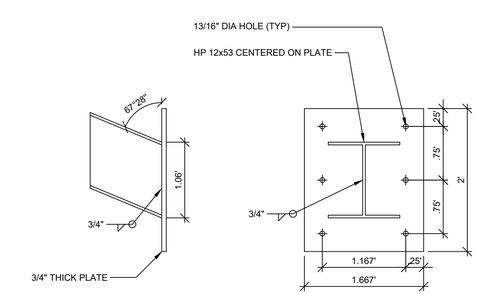




NOTE:
ALL WALER AND BRACING
PER TABLE THIS PAGE

SECTION A - A




BRACE B1 AND B2 BASE PLATE
ANGLE - 18.13°




BRACE B3 BASE PLATE
ANGLE - 67.46°

NOTE: CONTRACTOR TO SUBMIT FABRICATOR'S DETAILED SHOP DRAWINGS FOR ENGINEERS APPROVAL PRIOR TO FABRICATION OR INSTALLATION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PROJECT NAME:

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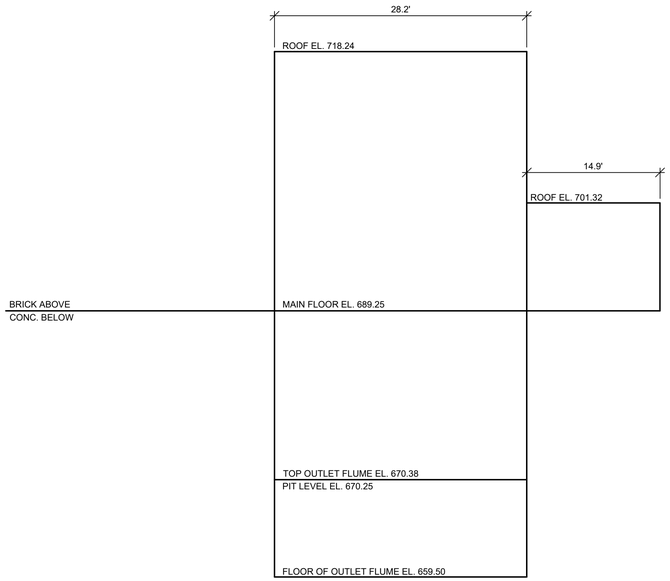
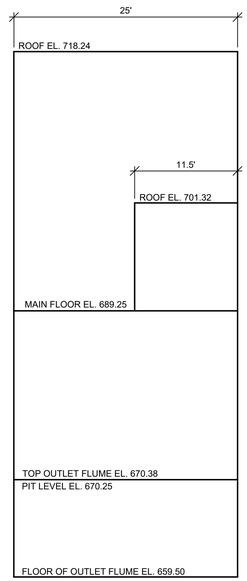
DATE: JULY, 2018
SCALE:

COFFER DAM DETAILS

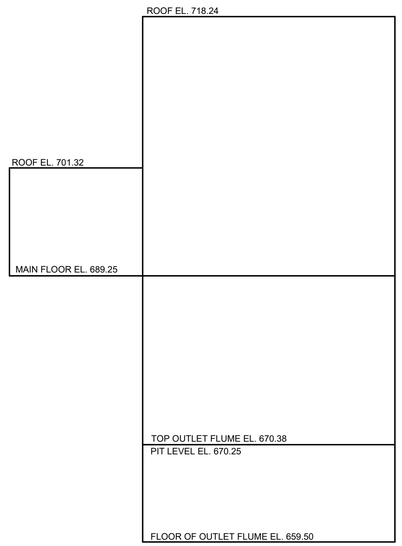
JOB No. 140105
140105-07



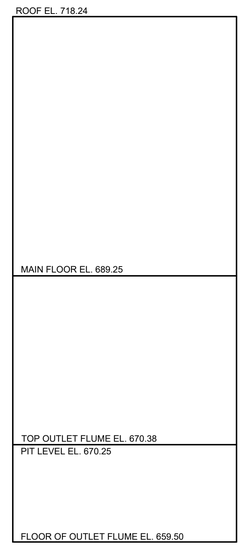

SOUTH ELEVATION
SCALE: 1/8" = 1'



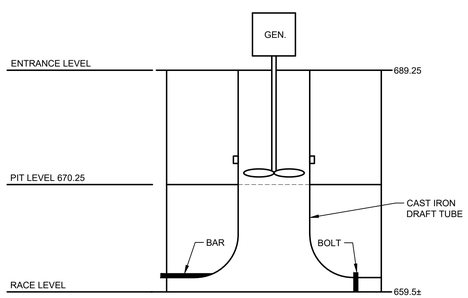

EAST ELEVATION
SCALE: 1/8" = 1'



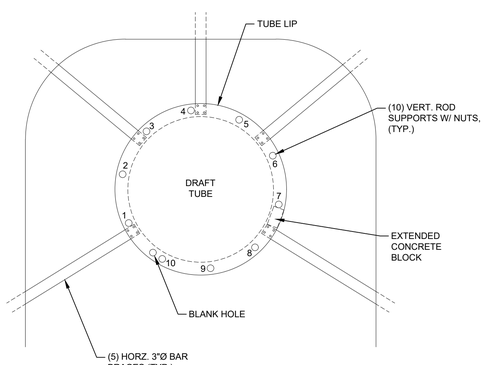

NORTH ELEVATION
SCALE: 1/8" = 1'



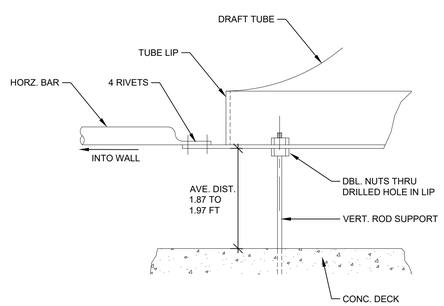

WEST ELEVATION
SCALE: 1/8" = 1'




VIEW OF UNIT CUT VERTICALLY
THROUGH DRAFT TUBE
N.T.S.




PLAN - DRAFT TUBE & SUPPORT MEMBERS
N.T.S.




SUPPORT CONNECTION DETAIL
N.T.S.

NOTE: DETAILS ON THIS DRAWING FOR DEMOLITION PURPOSES. NO CONSTRUCTION OR FABRICATION SHOWN ON THIS DRAWING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PROJECT NAME:

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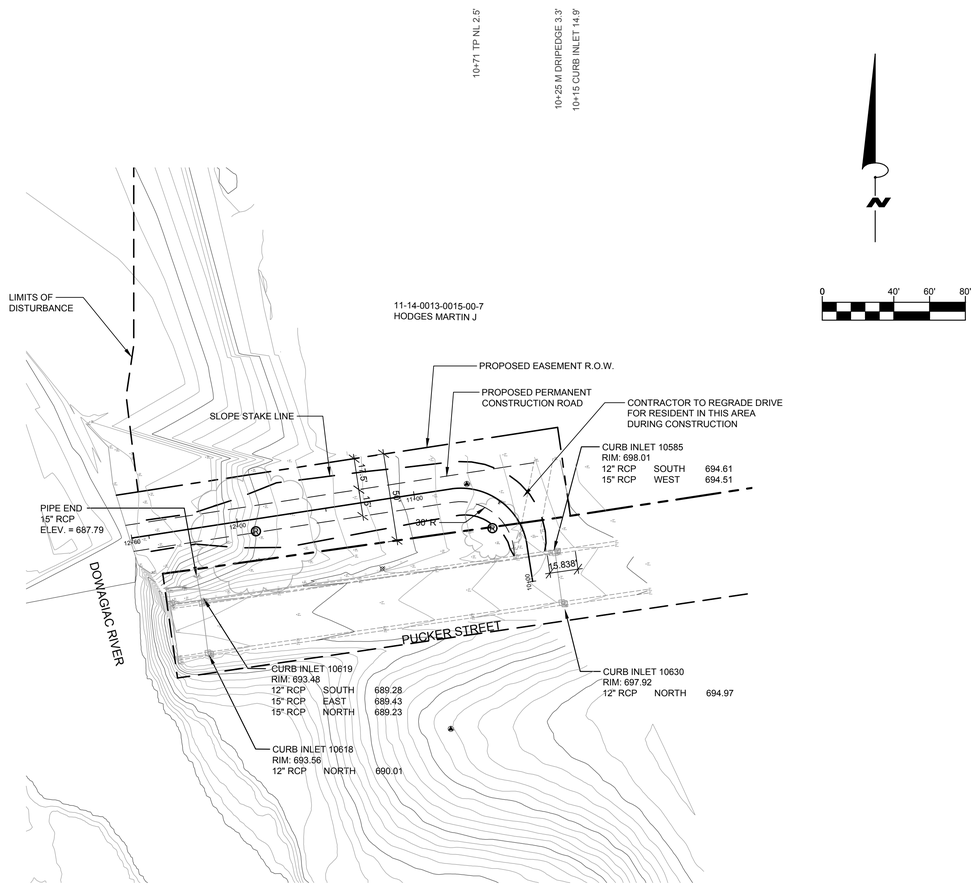
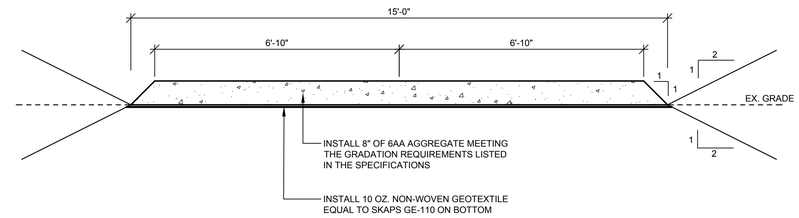
SCALE:

POWER HOUSE DETAILS

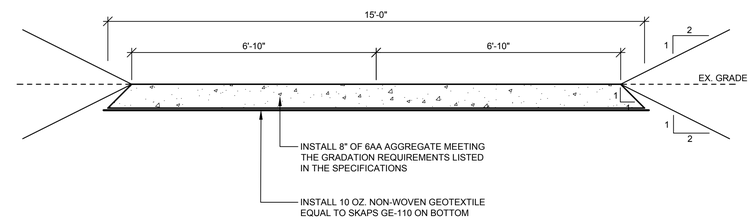
JOB No. 140105
140105-08




## TYPICAL SECTION - TEMPORARY CONSTRUCTION ROADWAY

SCALE: 1" = 2'




## TYPICAL SECTION - PERMANENT CONSTRUCTION ROADWAY

SCALE: 1" = 2'

12+44 M1 / 73.1'
12+44 M1 , BRIDGEDECK 38.6'
12+43 GUARDRAIL 40.1'

12+27 CURB INLET 70.8'
12+26 CURB INLET 40.9'

12+13 GUARDRAIL 40.1'

11+91 36" OAK 6.9' - **REMOVE**

11+69 GUARDRAIL 40.5'

11+48 GUARDRAIL 40.8'

11+27 GUARDRAIL 39.9'
11+24 BM SET RB 38.2'

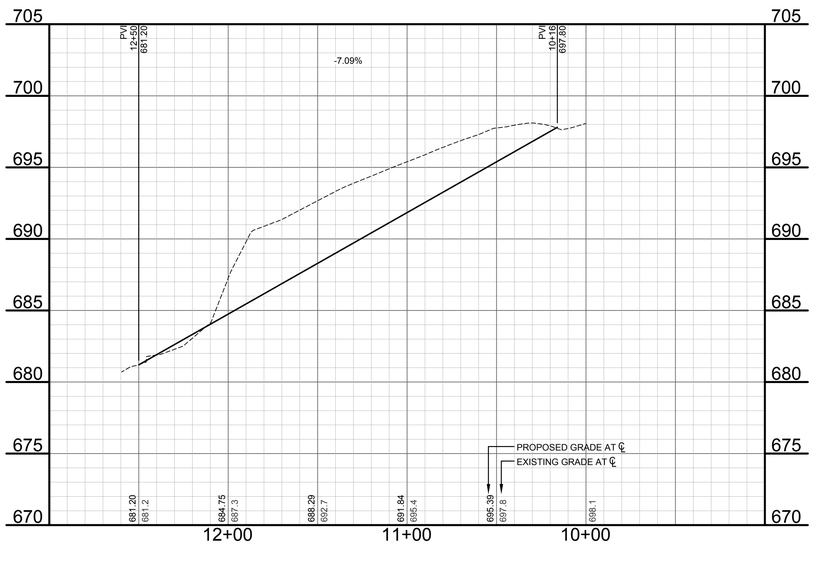
11+09 GUARDRAIL 36.0'

10+64 M DRIPEDGE 24.0'

10+50 M DRIPEDGE 0.7'

10+41 17" OAK 14.3' - **REMOVE**

10+16 M DRIPEDGE 20.2'




## GENERAL NOTES:

TEMPORARY ROAD TO BE REMOVED AND GRADE RESTORED AT END OF PROJECT UNLESS NOTED. CONTRACTOR TO CLEAR AND GRUB ROADWAY AREAS BEFORE EXCAVATION.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PROJECT NAME:

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**REMOVAL AND STREAM RESTORATION PROJECT**
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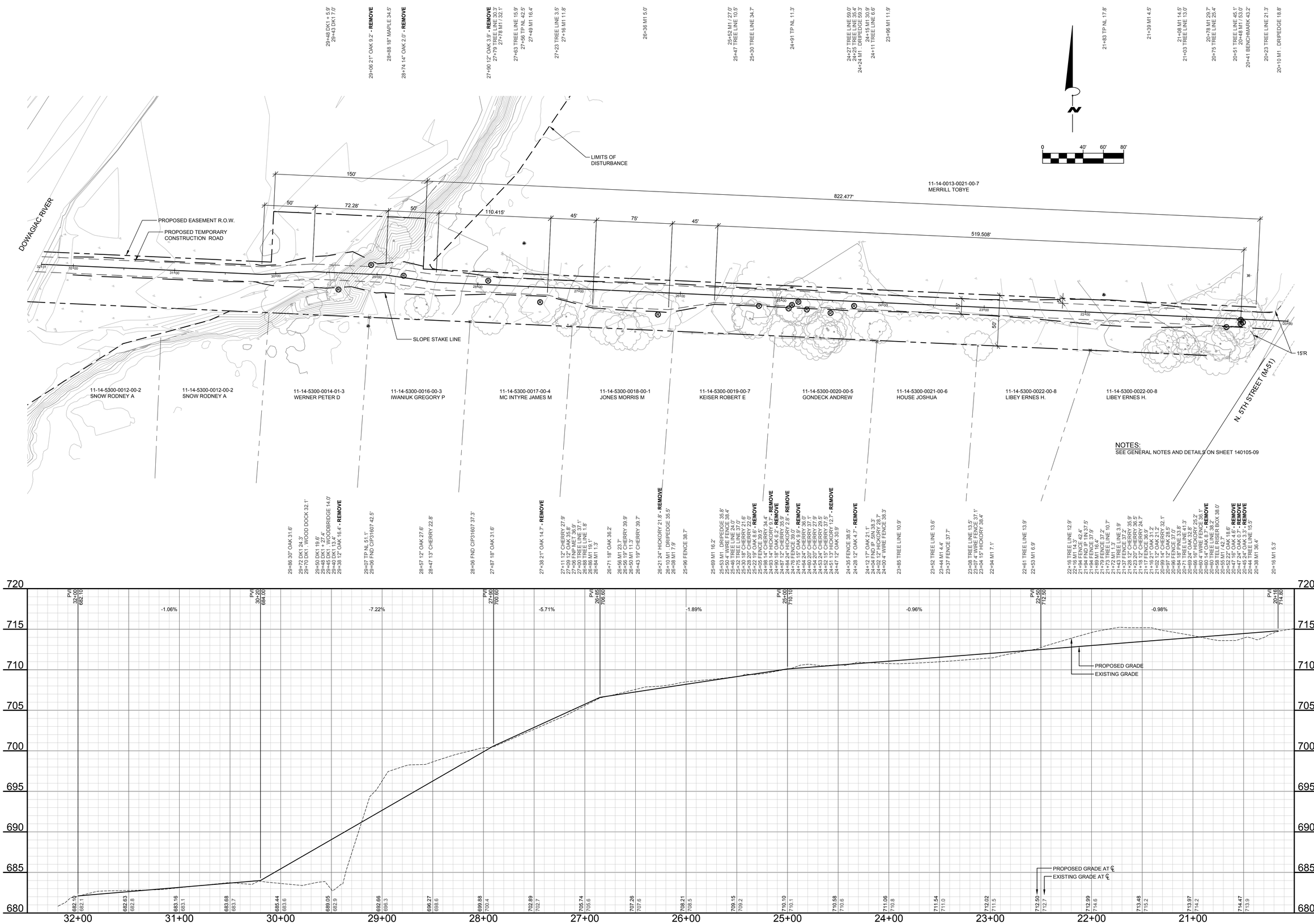
ACCESS ROAD 1 AND
TYPICAL DETAILS

JOB No. 140105

140105-09




NOTES:
SEE GENERAL NOTES AND DETAILS ON SHEET 140105-09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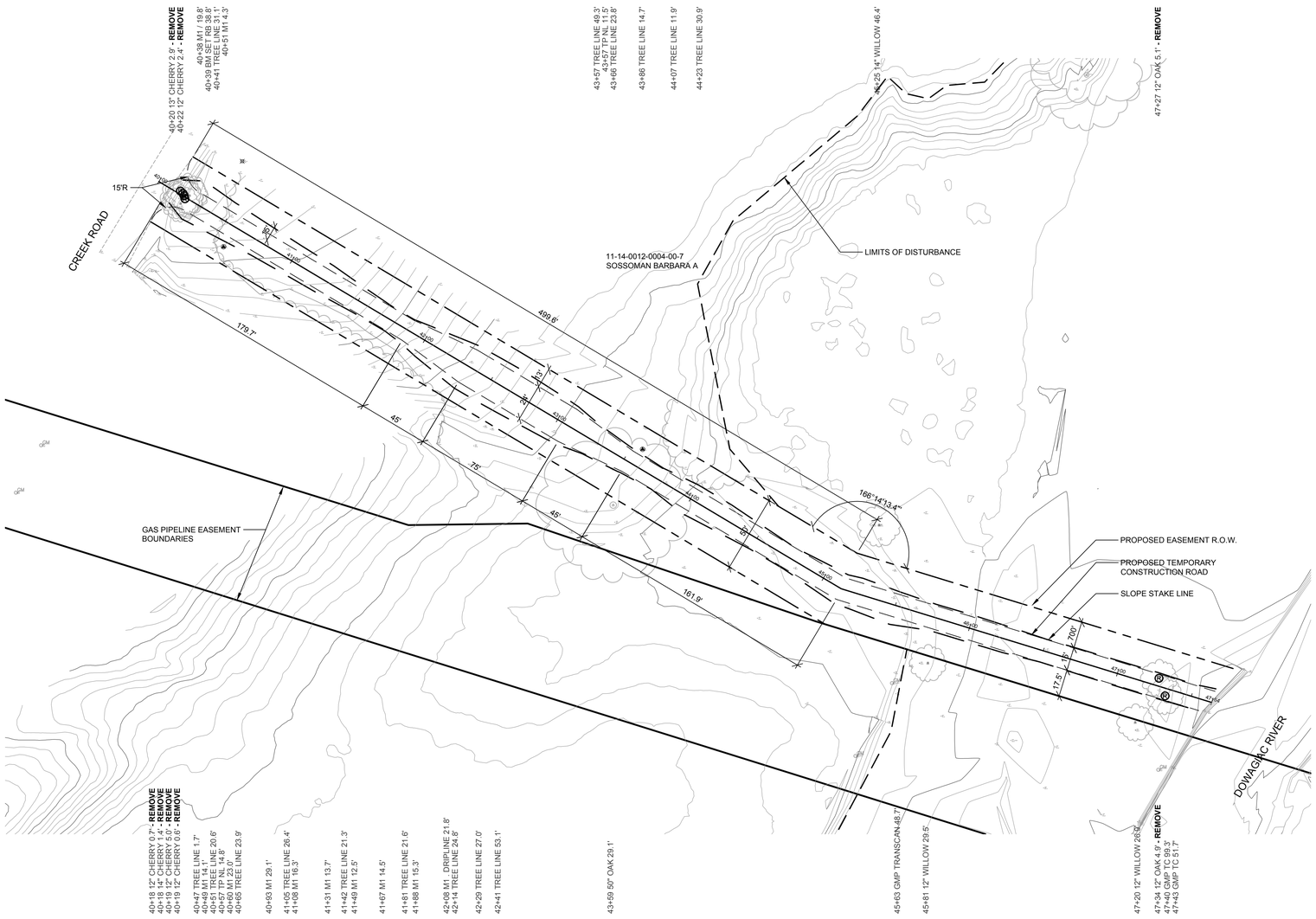
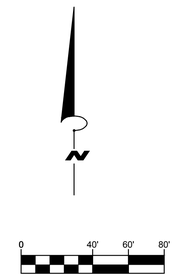
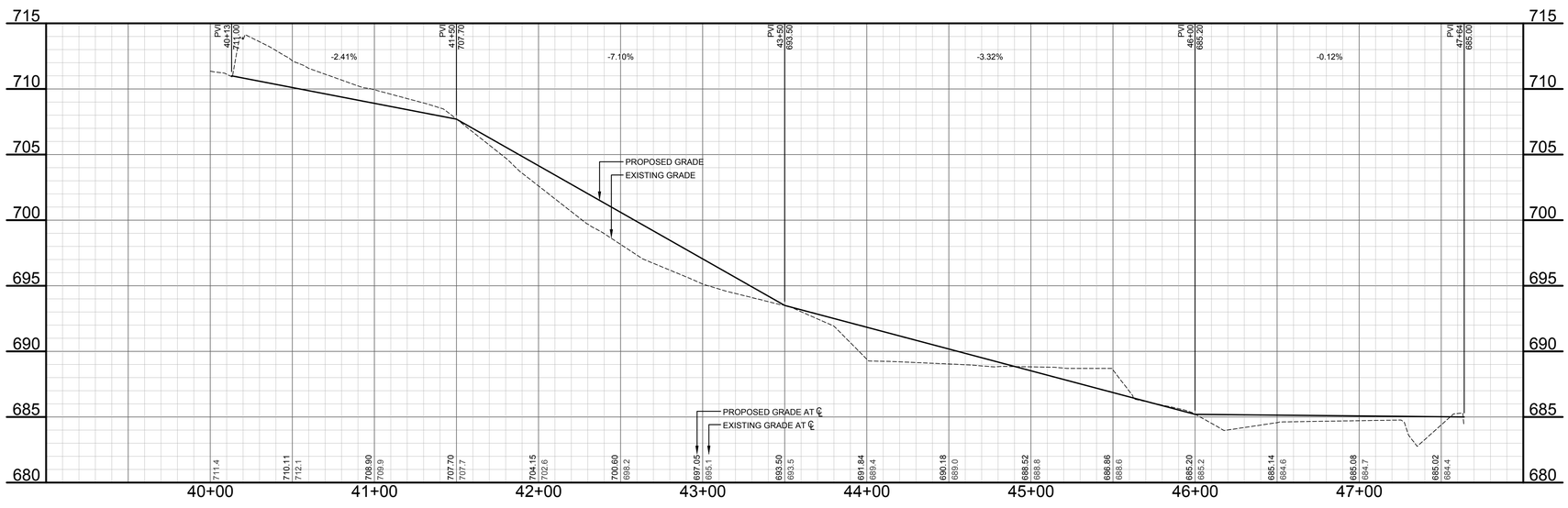
ACCESS ROAD 2 AND
TYPICAL DETAILS

JOB No. 140105
140105-10




NOTES:
SEE GENERAL NOTES AND DETAILS ON SHEET 140105-09





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ACCESS ROAD 3 AND
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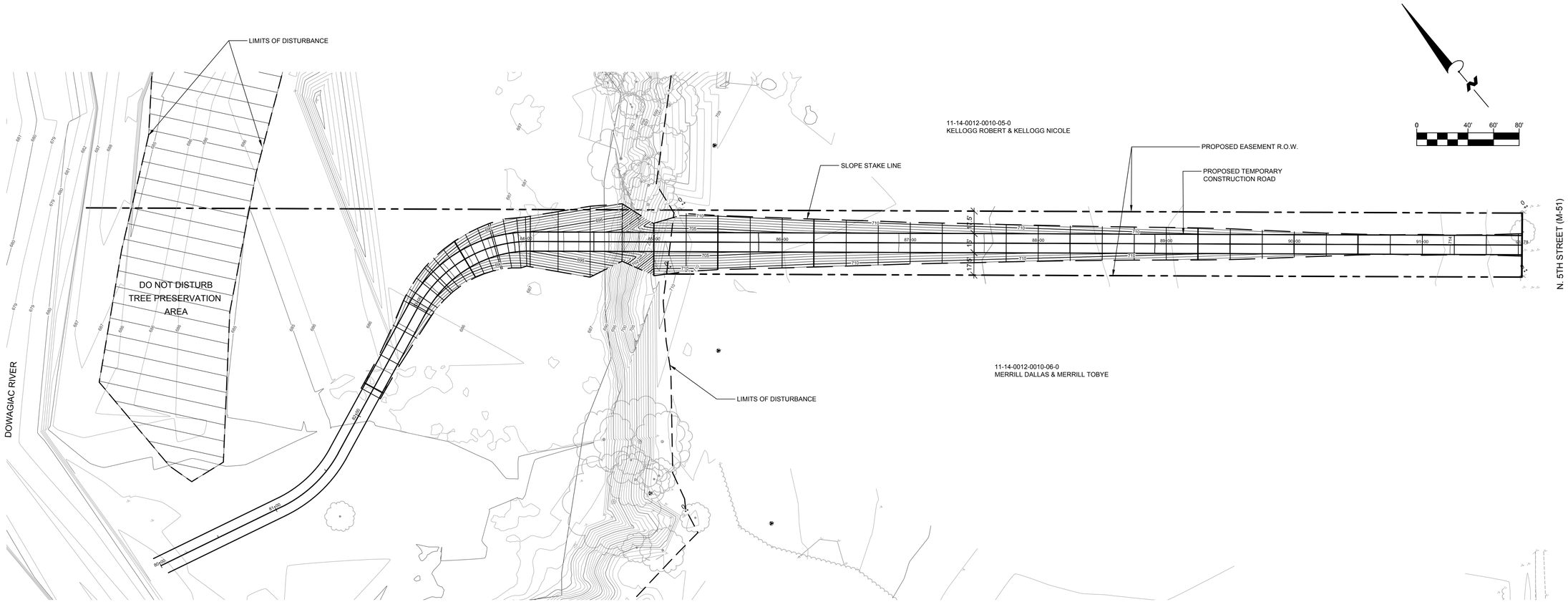
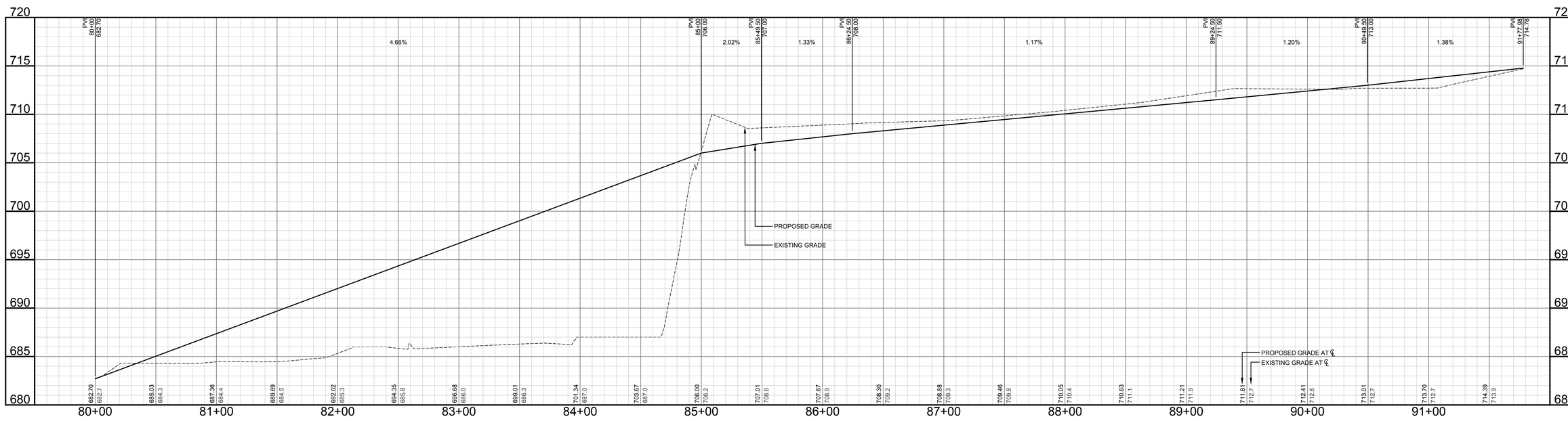
140105-11





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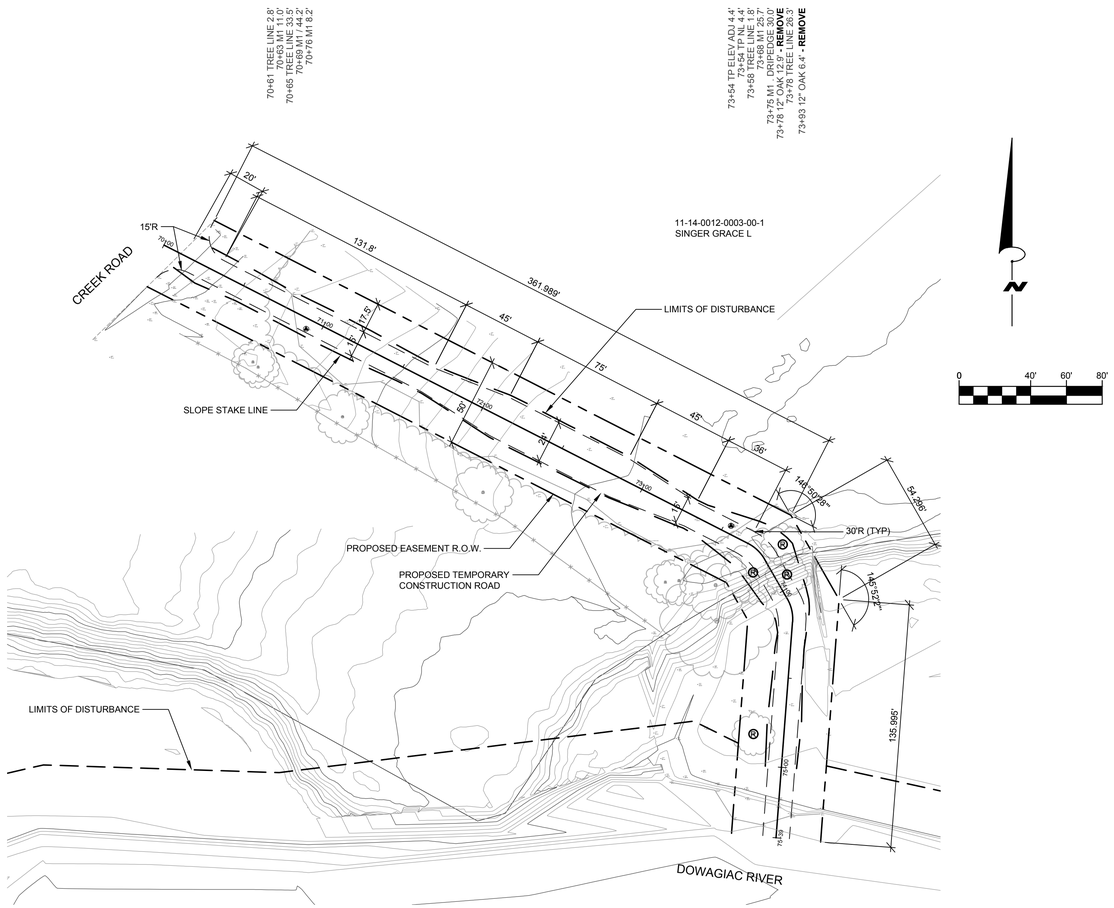
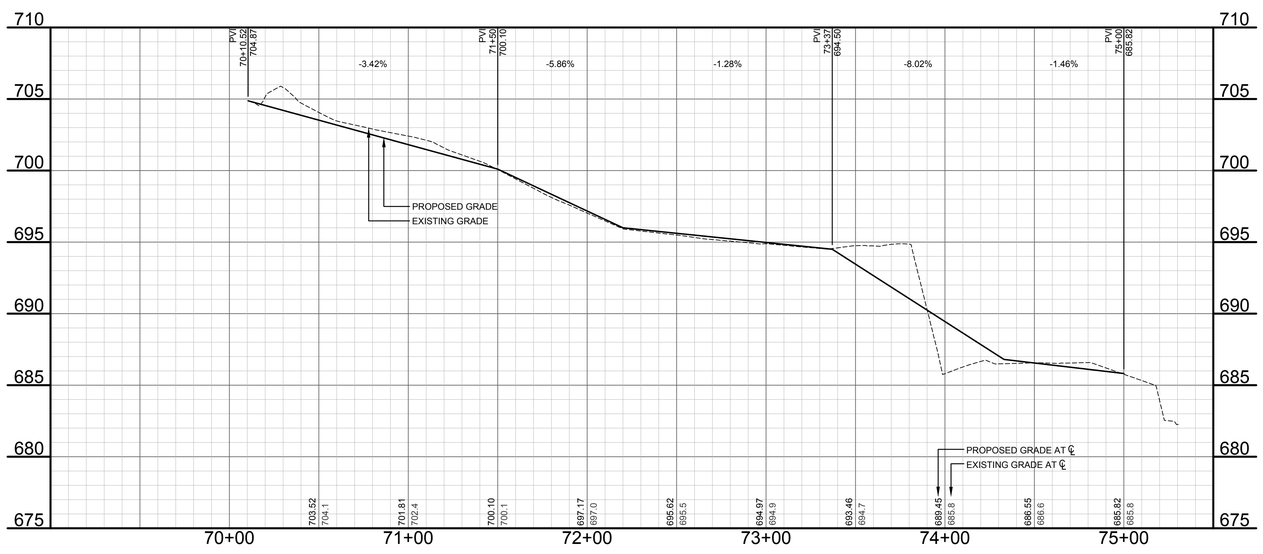
ACCESS ROAD 4 AND
TYPICAL DETAILS

JOB No. 140105
140105-12




70+18.4' WIRE FENCE 23.0'
70+28 FENCE 0.7'
70+30.4' WIREOLD FENCE 40.1'
70+72 FENCE 40.5'
70+74 TREE LINE 2.6'
70+75 TREE LINE 22.1'
70+78 12" OAK 36.7'
70+82 TP NL 5.6'
70+93 M1 15.9'
71+04 TREE LINE 25.0'
71+25 M1 23.6'
71+33 15" OAK 49.1'
71+39 FENCE 45.3'
71+42 M1 12.9'
71+48 TREE LINE 29.3'
71+67 M1 13.1'
71+73 M1 25.2'
71+99 TREE LINE 29.4'
72+05 M1 28.9'
72+17 M1 21.5'
72+22 17" HICKORY 41.9'
72+40 FENCE 49.8'
72+49 TREE LINE 30.0'
72+75 M1 19.2'
72+90 TREE LINE 28.3'
72+96 M1 23.5'
73+28 M1 23.9'
73+35 12" CHERRY 40.2'
73+41 TREE LINE 27.0'
73+42 14" CHERRY 36.0'
73+45 FENCE 66.3'
73+52 M1 6.7'
73+61 20" OAK 28.9'
73+83 18" CHERRY 9.1' - **REMOVE**
73+96 32" OAK 40.2'
74+83 12" OAK 17.0' - **REMOVE**

NOTES:
SEE GENERAL NOTES AND DETAILS ON SHEET 140105-09





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ACCESS ROAD 5 AND
TYPICAL DETAILS

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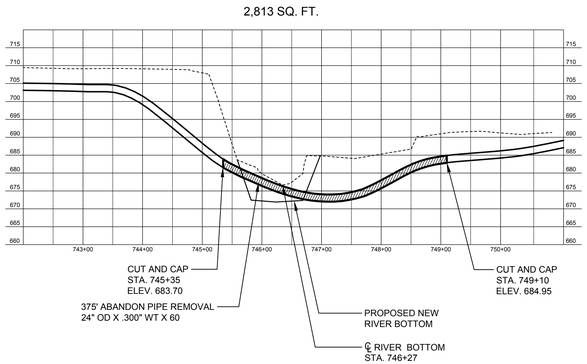
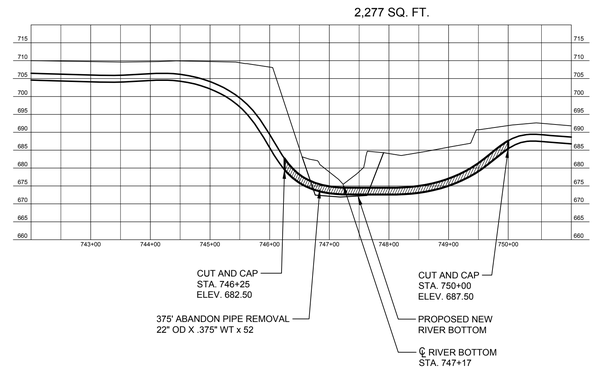
140105-13



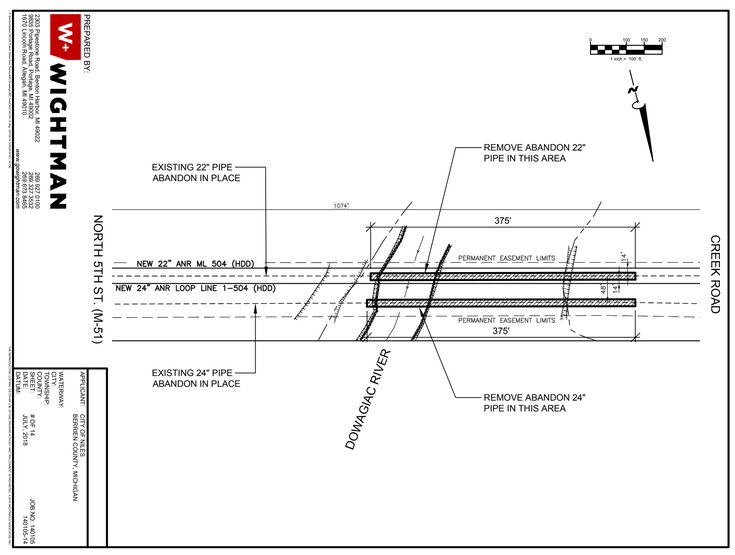

CROSS SECTION AT 24" PIPE
LOOKING DOWN STREAM

SCALE: 1" = 120'H, 20'V




CROSS SECTION AT 22" PIPE
LOOKING DOWN STREAM

SCALE: 1" = 120'H, 20'V




NOTE:
ITEMS ON THIS PAGE TO BE
PERFORMED BY OTHERS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Suite 101
Madison, WI 53717
Phone: 608.441.0342


PROJECT NAME:

**PUCKER STREET DAM**
**REMOVAL AND STREAM RESTORATION PROJECT**
BERRIEN COUNTY, MICHIGAN
**CITY OF NILES**
BERRIEN COUNTY, MICHIGAN

| | | |
|---|---|---|
| 05 | 03/29/2019<br>ISSUED FOR BID | ORL |
| 04 | 12/05/2018<br>REVISED PER MDEQ COMMENTS | ORL |
| 03 | 07/31/2018<br>MDEQ PERMIT | ORL |
| 02 | 03/30/2016<br>OWNER REVIEW COMMENTS | ORL |
| 01 | 07/02/2014<br>ISSUED FOR COMMENTS | ORL |

REVISIONS

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DATE: JULY, 2018

SCALE:

PIPELINE REMOVAL

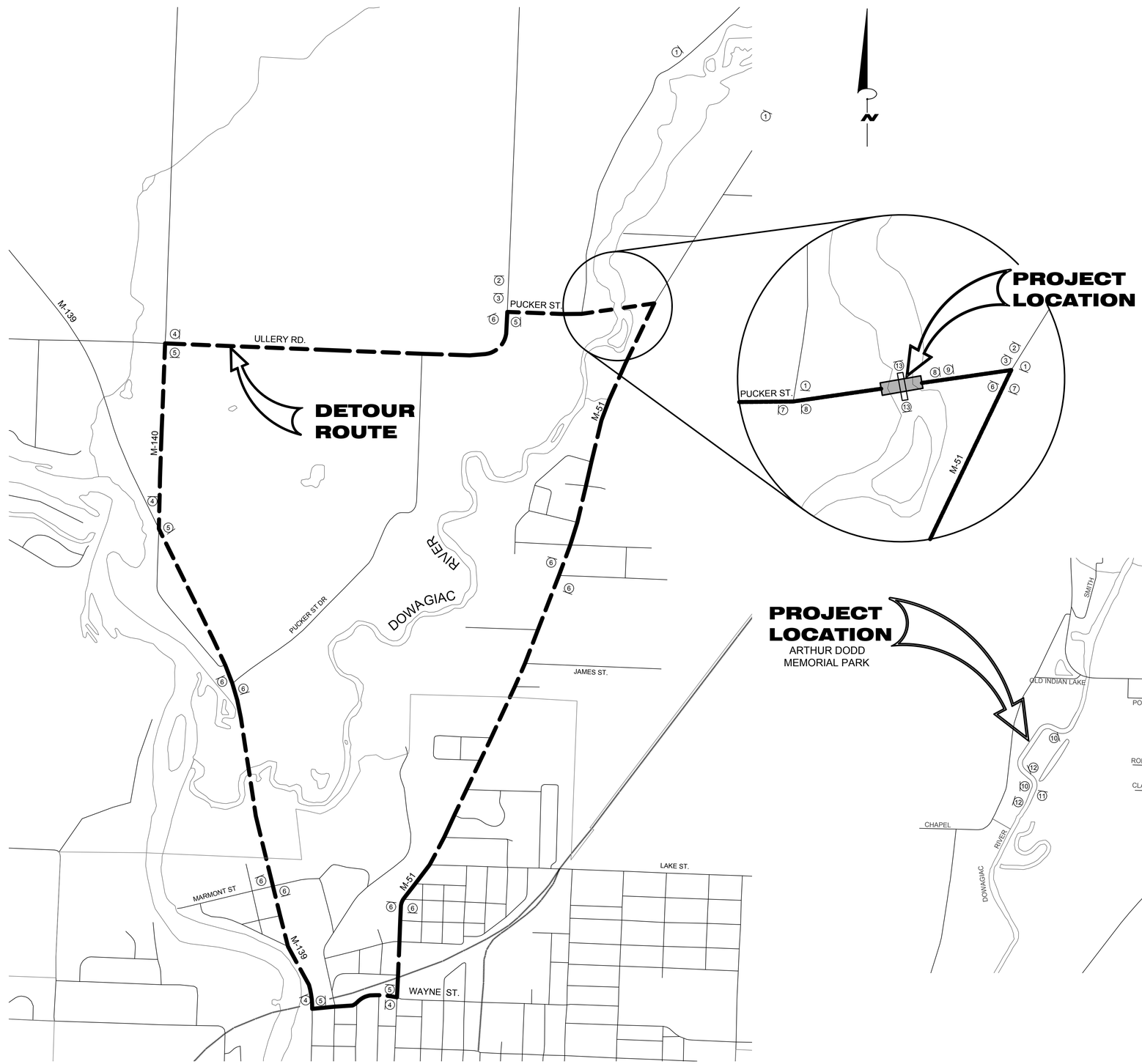
JOB No. 140105

140105-14

## LEGEND

| SIGN NO. | QTY. | SIGN DESIGNATION | DESCRIPTION | SIZE | AREA |
|---|---|---|---|---|---|
| 1 | 4 EA | W20-1 | ROAD WORK AHEAD | 48 INCH x 48 INCH | 64 SFT |
| 2 | 2 EA | W20-3 | ROAD CLOSED AHEAD | 48 INCH x 48 INCH | 32 SFT |
| | | W16-8P | Pucker St | 36 INCH x 12 INCH | 6 SFT |
| 3 | 2 EA | W20-2 | DETOUR AHEAD | 48 INCH x 48 INCH | 32 SFT |
| 4 | 4 EA | M4-9 | DETOUR | 30 INCH x 24 INCH | 20 SFT |
| | | W16-8P | Pucker St | 36 INCH x 12 INCH | 12 SFT |
| 5 | 5 EA | M4-9 | DETOUR | 30 INCH x 24 INCH | 25 SFT |
| | | W16-8P | Pucker St | 36 INCH x 12 INCH | 15 SFT |
| 6 | 10 EA | M4-9 | DETOUR | 30 INCH x 24 INCH | 50 SFT |
| | | W16-8P | Pucker St | 36 INCH x 12 INCH | 30 SFT |
| 7 | 2 EA | W16-8P | Pucker St | 36 INCH x 12 INCH | 6 SFT |
| | | M4-8a | END DETOUR | 24 INCH x 18 INCH | 6 SFT |
| 8 | 2 EA | BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, 2 REQUIRED EACH LOCATION | | 2 REQUIRED EACH LOCATION | 2 EA |
| | | R11-2 | ROAD CLOSED | 60 INCH x 30 INCH | 25 SFT |
| 9 | 1EA | BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, 1 REQUIRED EACH LOCATION | | 1 REQUIRED EACH LOCATION | 1 EA |
| | | R11-4 | ROAD CLOSED TO THRU TRAFFIC | 60 INCH x 30 INCH | 12.5 SFT |
| 10 | 2 EA | SEE TRAFFIC MAINTENANCE AND CONTROL SPECIFICATIONS | ATTENTION PADDLERS DAM REMOVAL AHEAD<br>THIS IS THE LAST SAFE LOCATION TO EXIT THE RIVER | 24 INCH x 18 INCH | 6 SFT |
| 11 | 1EA | | DAM REMOVAL AHEAD<br>EXIT NOW | 24 INCH x 18 INCH | 3 SFT |
| 12 | 2 EA | | TRAIL CLOSED<br>THIS TRAIL IS TEMPORARILY CLOSED DUE TO THE CONSTRUCTION RELATED TO THE REMOVAL OF THE PUCKER STREET DAM<br>FOR MORE INFORMATION, GO TO: www.swmpc.org/puckerdam | 24 INCH x 18 INCH | 6 SFT |
| 13 | 2 EA | SEE BRIDGE SUPPORT SPECIFICATIONS | KEEP 10 FT AWAY FROM PIER | 18 INCH x 24 INCH | 6 SFT |

TOTAL AREA = 356.5 SFT





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REVISIONS

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DATE: JULY, 2018

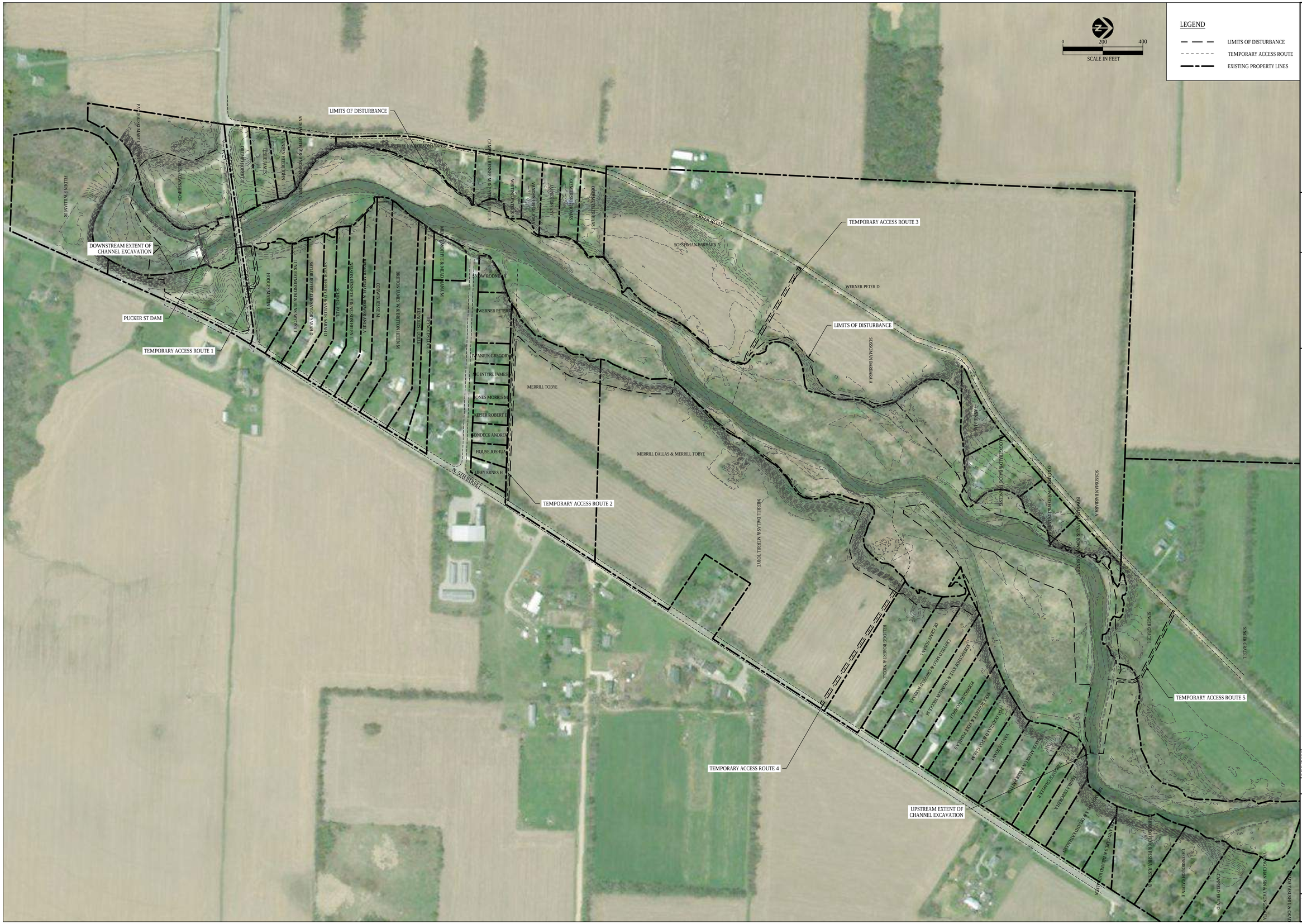
SCALE: NONE

DETOUR ROUTE

JOB No. 140105

140105-15

OF 14





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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

CORRECTION REQUEST #1

REVISIONS

Z:\Users\southwick\Documents_local_work\WightmanPucker Street\Drawings\Update\Pucker Street Dam Removal - 02011\Pucker Street Dam Removal - 02011\Dam Removal.dwg REAL ESTATE


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DATE: November 27, 2018

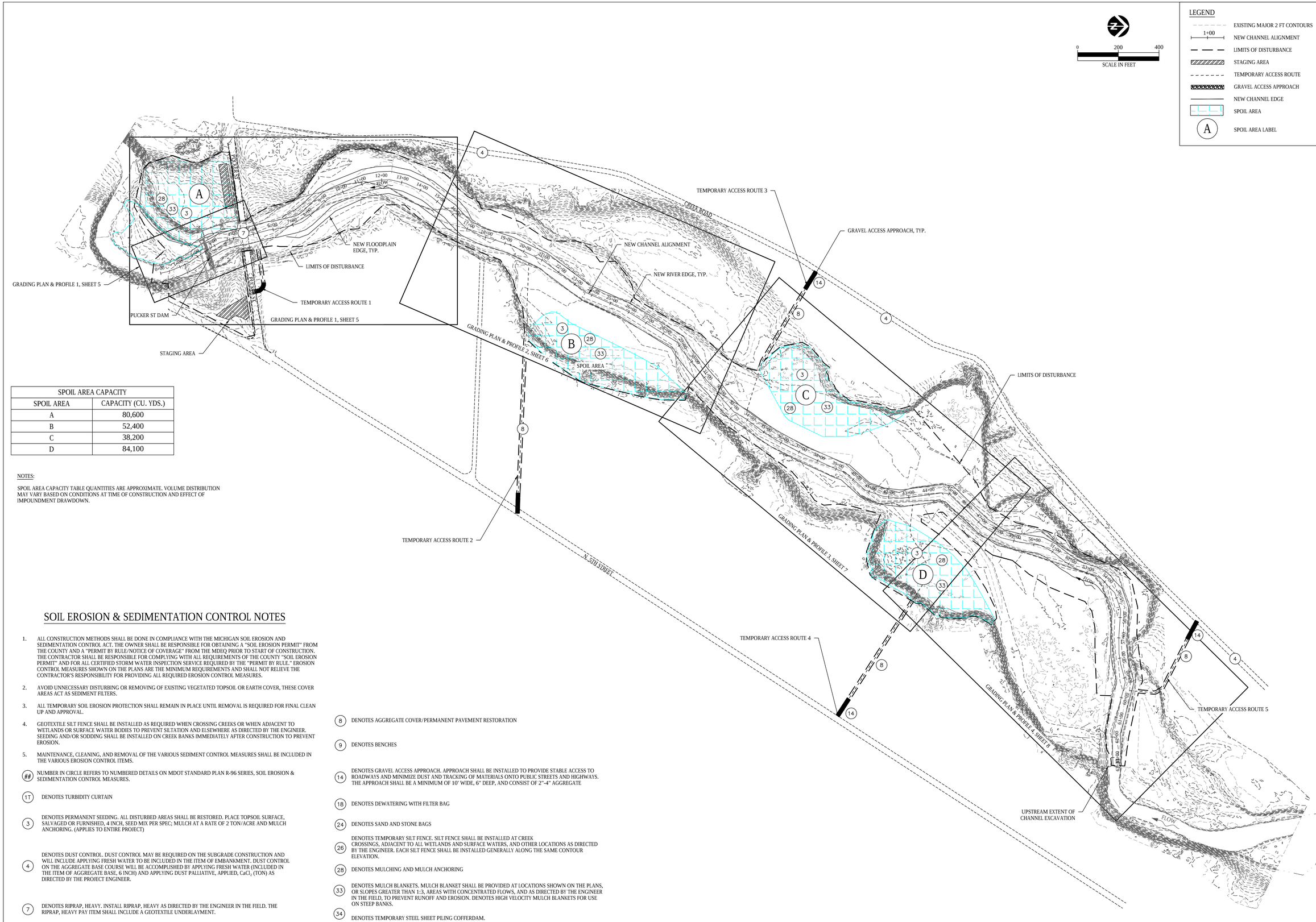
SCALE: 1" = 200'

REAL ESTATE OVERVIEW

1

JOB No.

14-04-05




| SPOIL AREA CAPACITY | |
|---|---|
| SPOIL AREA | CAPACITY (CU. YDS.) |
| A | 80,600 |
| B | 52,400 |
| C | 38,200 |
| D | 84,100 |

NOTES:

SPOIL AREA CAPACITY TABLE QUANTITIES ARE APPROXIMATE. VOLUME DISTRIBUTION MAY VARY BASED ON CONDITIONS AT TIME OF CONSTRUCTION AND EFFECT OF IMPOUNDMENT DRAWDOWN.

## SOIL EROSION & SEDIMENTATION CONTROL NOTES

1. ALL CONSTRUCTION METHODS SHALL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM THE MDEQ PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY "SOIL EROSION PERMIT" AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUIRED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND SHALL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
2. AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER, THESE COVER AREAS ACT AS SEDIMENT FILTERS.
3. ALL TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
4. GEOTEXTILE SILT FENCE SHALL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING SHALL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
5. MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES SHALL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.

(##) NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDOT STANDARD PLAN R-96 SERIES, SOIL EROSION & SEDIMENTATION CONTROL MEASURES.

(1T) DENOTES TURBIDITY CURTAIN

(3) DENOTES PERMANENT SEEDING. ALL DISTURBED AREAS SHALL BE RESTORED. PLACE TOPSOIL SURFACE, SALVAGED OR FURNISHED, 4 INCH, SEED MIX PER SPEC; MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING. (APPLIES TO ENTIRE PROJECT)

(4) DENOTES DUST CONTROL. DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF EMBANKMENT. DUST CONTROL ON THE AGGREGATE BASE COURSE WILL BE ACCOMPLISHED BY APPLYING FRESH WATER (INCLUDED IN THE ITEM OF AGGREGATE BASE, 6 INCH) AND APPLYING DUST PALLIATIVE, APPLIED, $CaCl_2$ (TON) AS DIRECTED BY THE PROJECT ENGINEER.

(7) DENOTES RIPRAP, HEAVY. INSTALL RIPRAP, HEAVY AS DIRECTED BY THE ENGINEER IN THE FIELD. THE RIPRAP, HEAVY PAY ITEM SHALL INCLUDE A GEOTEXTILE UNDERLAYMENT.

(8) DENOTES AGGREGATE COVER/PERMANENT PAVEMENT RESTORATION

(9) DENOTES BENCHES

(14) DENOTES GRAVEL ACCESS APPROACH. APPROACH SHALL BE INSTALLED TO PROVIDE STABLE ACCESS TO ROADWAYS AND MINIMIZE DUST AND TRACKING OF MATERIALS ONTO PUBLIC STREETS AND HIGHWAYS. THE APPROACH SHALL BE A MINIMUM OF 10' WIDE, 6" DEEP, AND CONSIST OF 2"-4" AGGREGATE

(18) DENOTES DEWATERING WITH FILTER BAG

(24) DENOTES SAND AND STONE BAGS

(26) DENOTES TEMPORARY SILT FENCE. SILT FENCE SHALL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE SHALL BE INSTALLED GENERALLY ALONG THE SAME CONTOUR ELEVATION.

(28) DENOTES MULCHING AND MULCH ANCHORING

(33) DENOTES MULCH BLANKETS. MULCH BLANKET SHALL BE PROVIDED AT LOCATIONS SHOWN ON THE PLANS, OR SLOPES GREATER THAN 1:3, AREAS WITH CONCENTRATED FLOWS, AND AS DIRECTED BY THE ENGINEER IN THE FIELD, TO PREVENT RUNOFF AND EROSION. DENOTES HIGH VELOCITY MULCH BLANKETS FOR USE ON STEEP BANKS.

(34) DENOTES TEMPORARY STEEL SHEET PILING COFFERDAM.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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

C:\Users\bsaylor\AppData\Local\Temp\AcPublish_2416\Drawing\transfer\Pucker Street\Drawing\transfer\Pucker Street Dam Removal - 02211\Pucker Street Dam Removal - 02001\SWPPP\PuckerStDamRemoval.dwg 5/31 OVERVIEW


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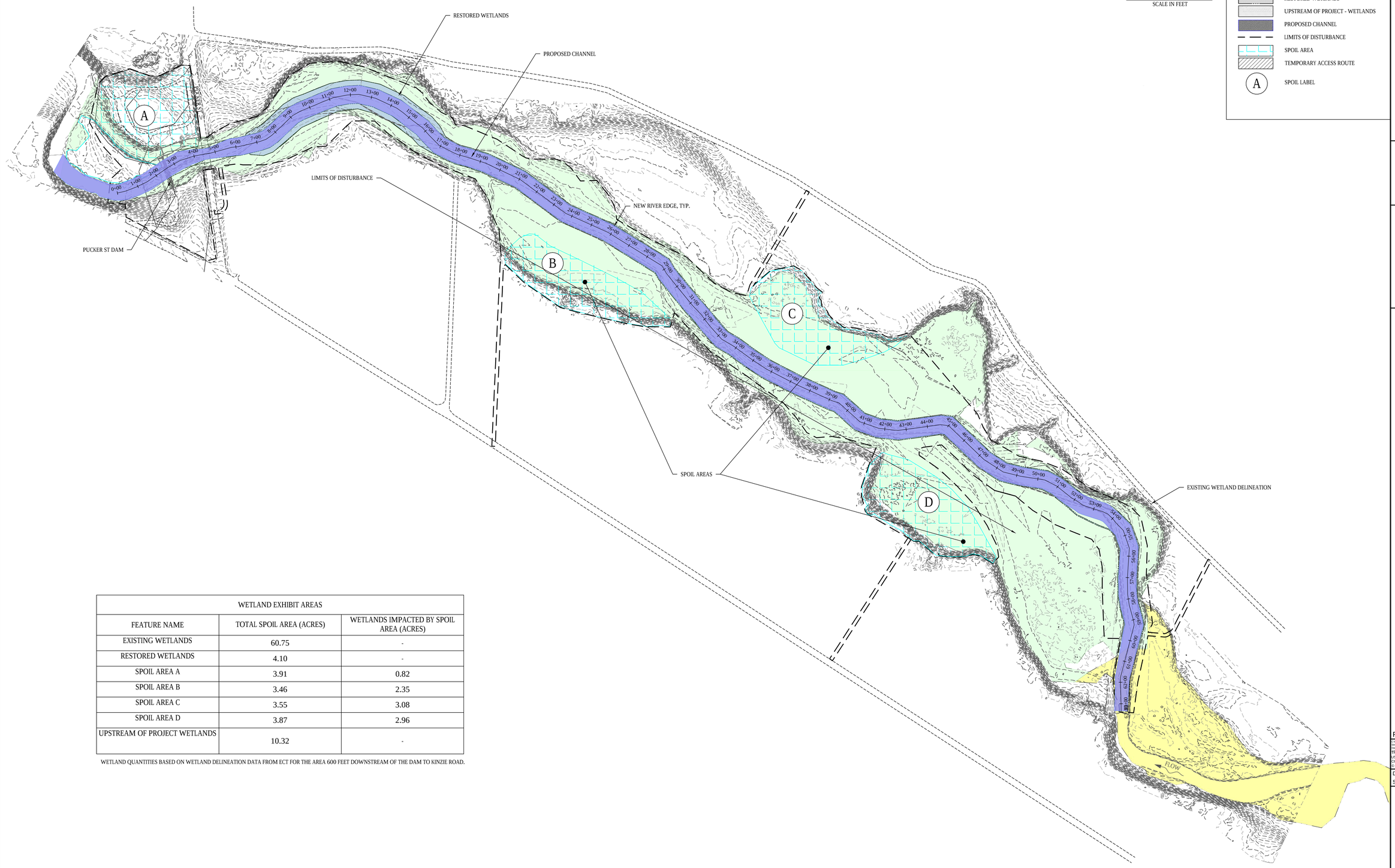
SCALE: 1" = 200'

SITE OVERVIEW & SESC OVERALL PLAN

2

JOB No.
14-04-05




LEGEND

- EXISTING MAJOR 2 FT CONTOURS
- 1+00 NEW CHANNEL ALIGNMENT
- EXISTING WETLANDS
- RESTORED WETLANDS
- UPSTREAM OF PROJECT - WETLANDS
- PROPOSED CHANNEL
- LIMITS OF DISTURBANCE
- SPOIL AREA
- TEMPORARY ACCESS ROUTE
- A SPOIL LABEL

| WETLAND EXHIBIT AREAS | | |
|---|---|---|
| FEATURE NAME | TOTAL SPOIL AREA (ACRES) | WETLANDS IMPACTED BY SPOIL AREA (ACRES) |
| EXISTING WETLANDS | 60.75 | - |
| RESTORED WETLANDS | 4.10 | - |
| SPOIL AREA A | 3.91 | 0.82 |
| SPOIL AREA B | 3.46 | 2.35 |
| SPOIL AREA C | 3.55 | 3.08 |
| SPOIL AREA D | 3.87 | 2.96 |
| UPSTREAM OF PROJECT WETLANDS | 10.32 | - |

WETLAND QUANTITIES BASED ON WETLAND DELINEATION DATA FROM ECT FOR THE AREA 600 FEET DOWNSTREAM OF THE DAM TO KINZIE ROAD.

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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

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WETLAND EXHIBIT

3

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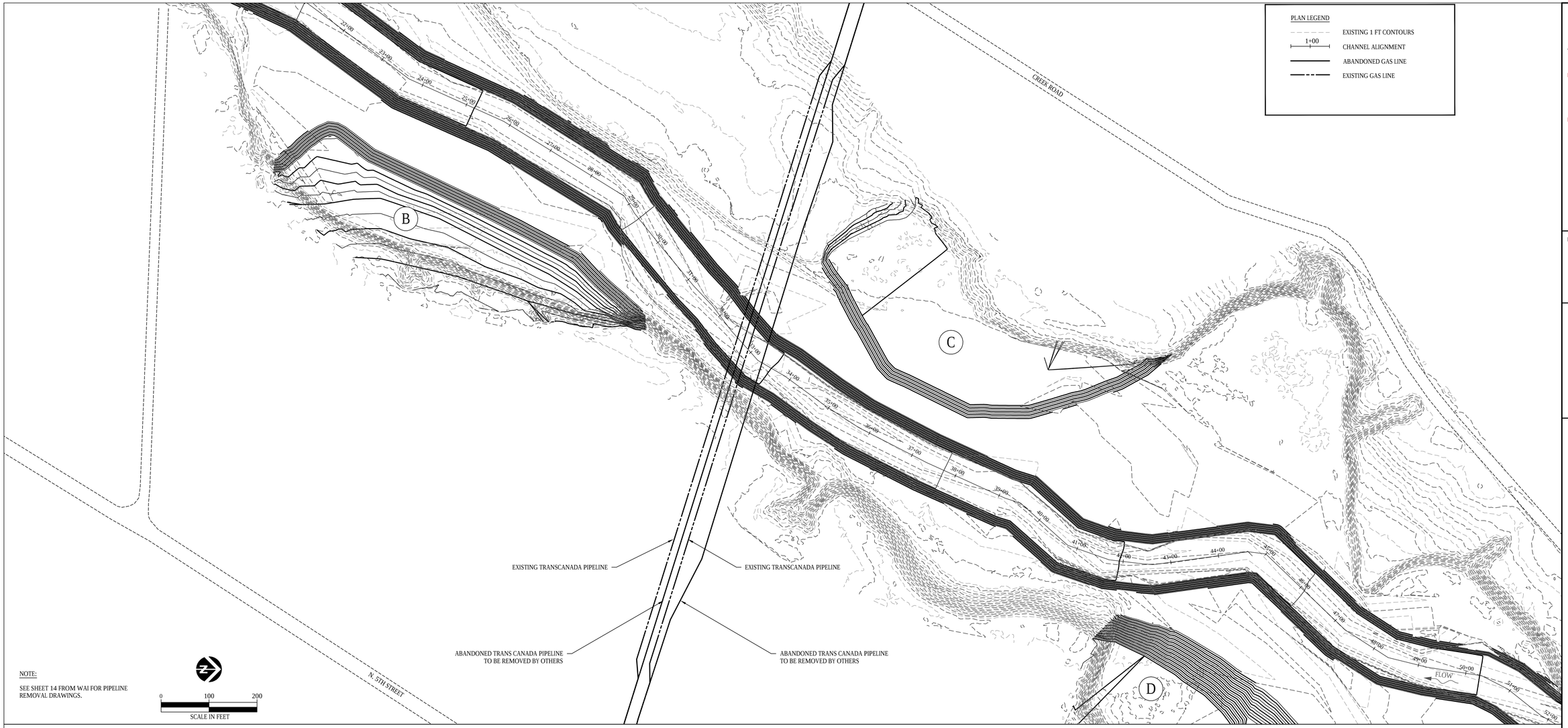
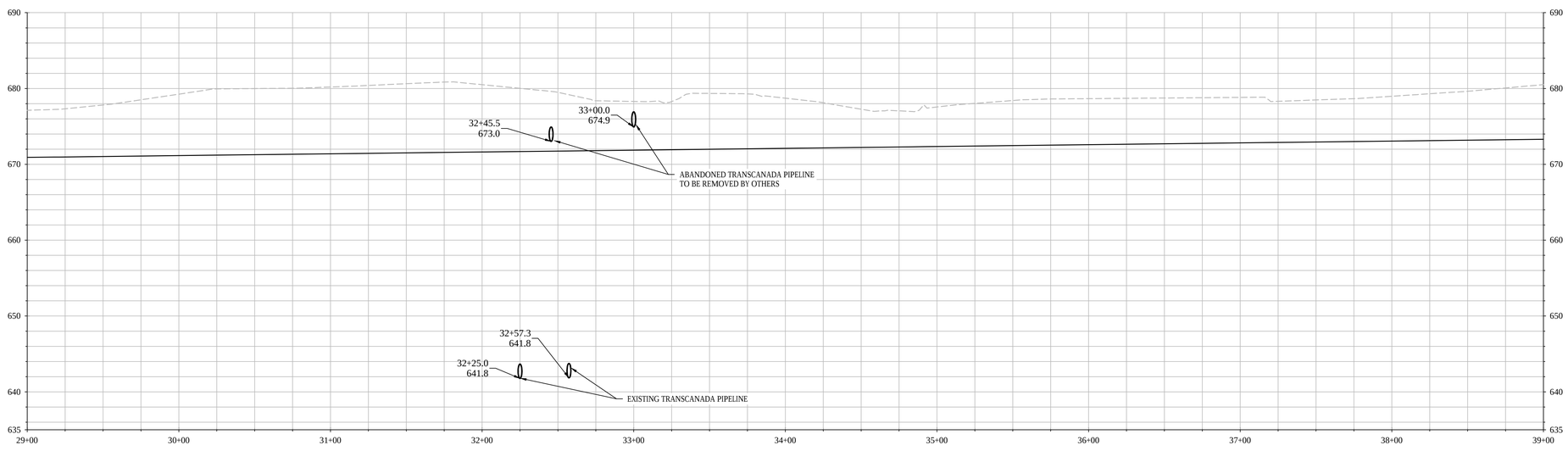



NOTE:

SEE SHEET 14 FROM WAI FOR PIPELINE REMOVAL DRAWINGS.

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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

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SCALE: 1" = 100'

PIPELINE EXHIBIT

4

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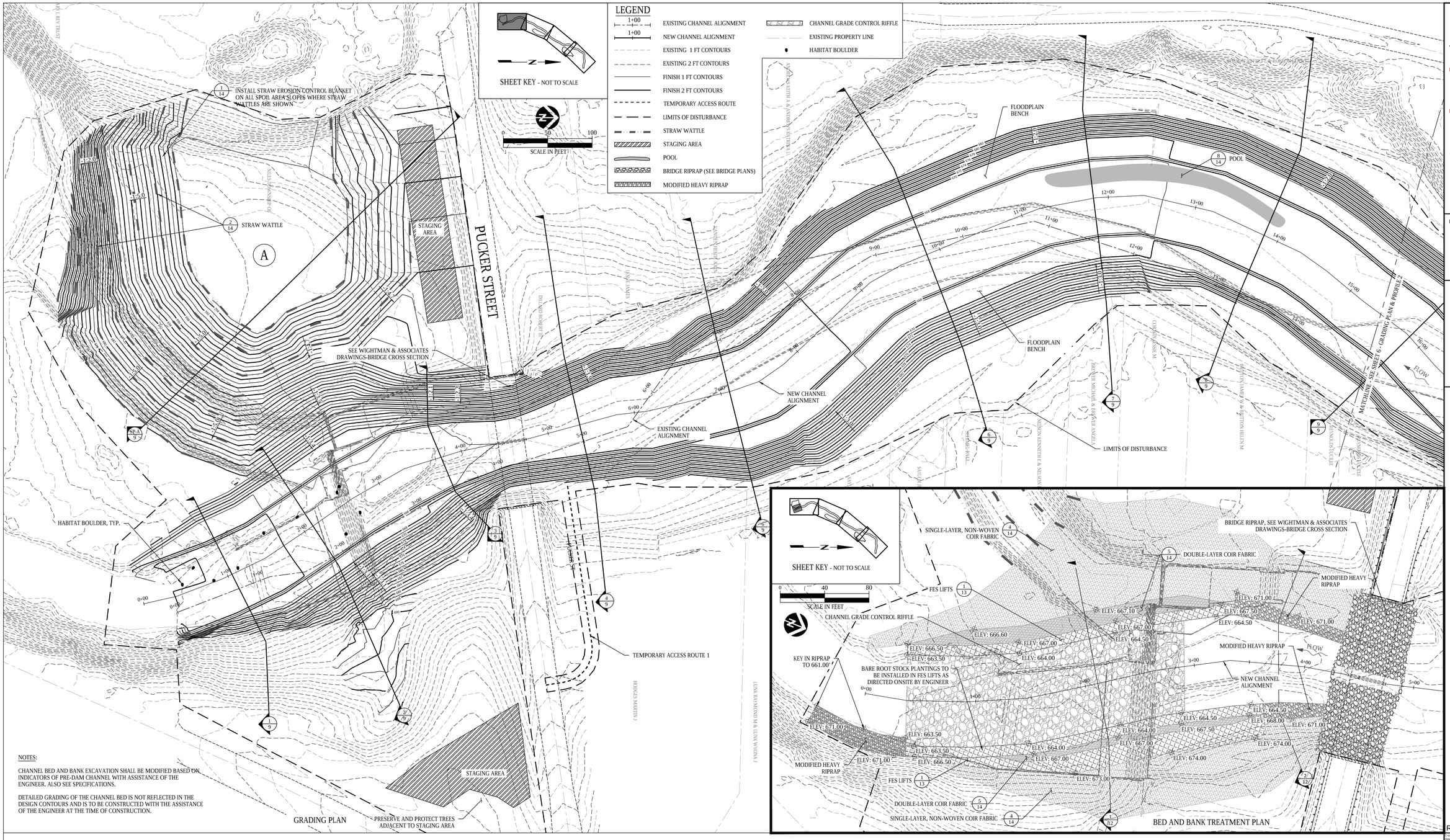
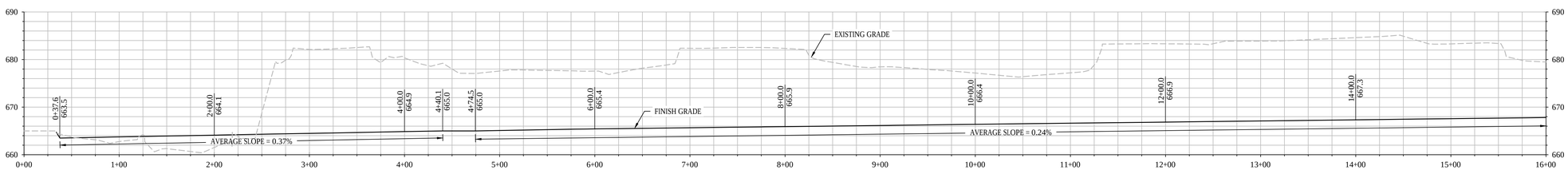



NOTES:

CHANNEL BED AND BANK EXCAVATION SHALL BE MODIFIED BASED ON INDICATORS OF PRE-DAM CHANNEL WITH ASSISTANCE OF THE ENGINEER. ALSO SEE SPECIFICATIONS.

DETAILED GRADING OF THE CHANNEL BED IS NOT REFLECTED IN THE DESIGN CONTOURS AND IS TO BE CONSTRUCTED WITH THE ASSISTANCE OF THE ENGINEER AT THE TIME OF CONSTRUCTION.




NEW CHANNEL ALIGNMENT PROFILE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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS


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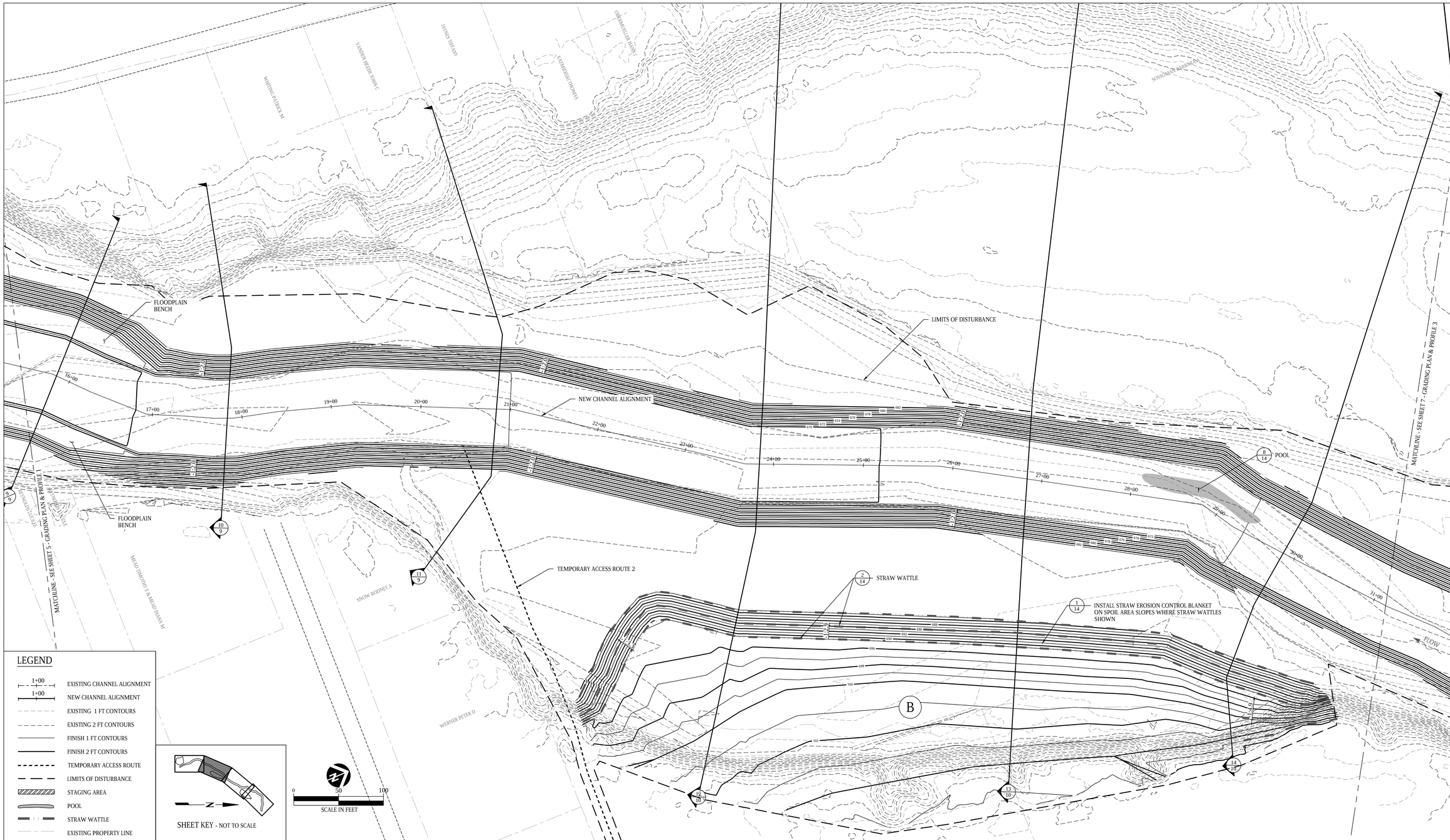
DATE: March 28, 2019

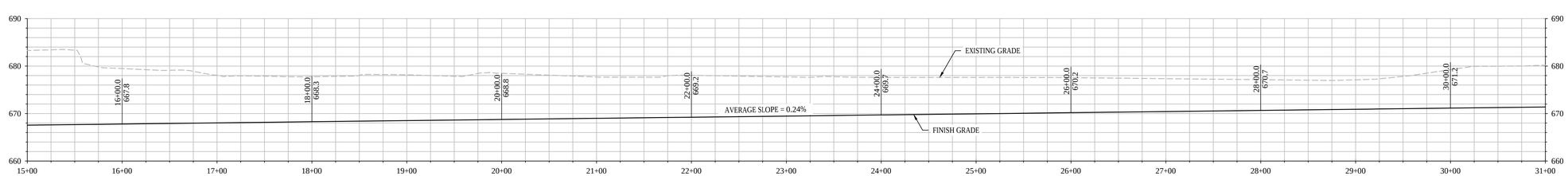
SCALE: 1" = 50'

GRADING PLAN & PROFILE 1

5

JOB No.
14-04-05

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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

C:\Users\ssutherlin\Documents_local_working\Projects\Pucker Street\Drawings\Grading\Pucker Street Dam Removal - 02\11\0\Pucker Street Dam Removal - 0200.0\01-PuckerStDamRemoval.dwg FIG2 3/28/2019 1:09:47 PM


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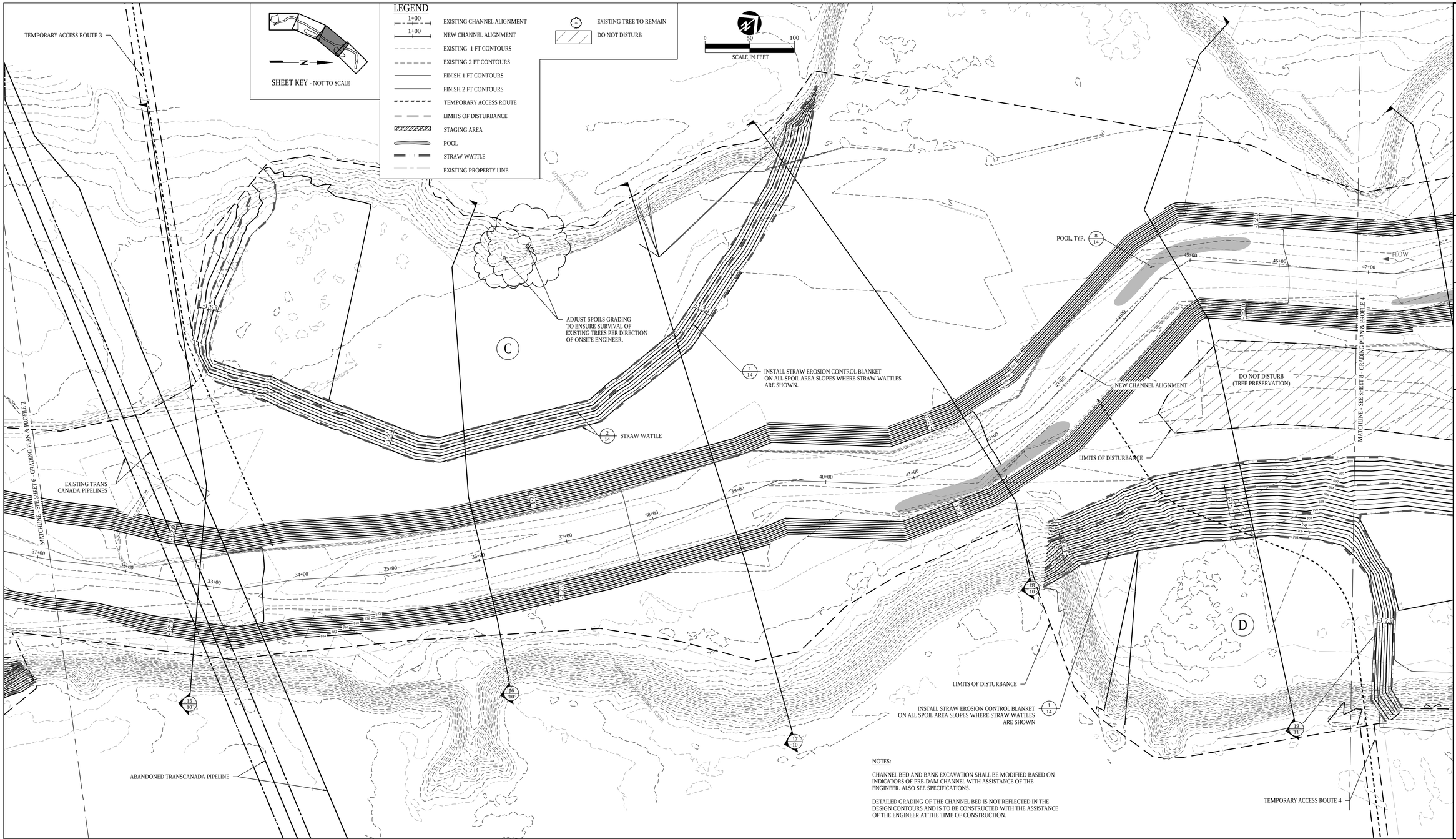
GRADING PLAN & PROFILE 2

6

JOB No.
14-04-05




NOTES:

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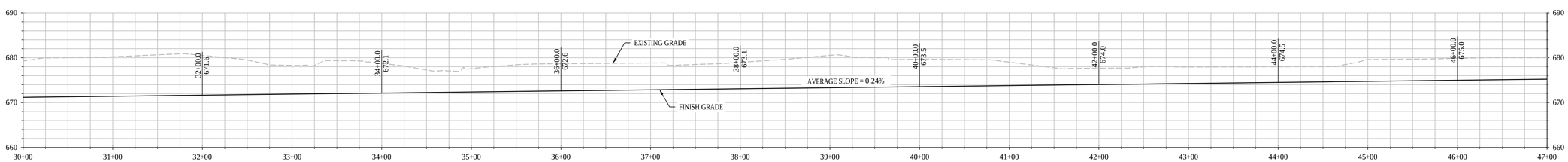


NEW CHANNEL ALIGNMENT PROFILE


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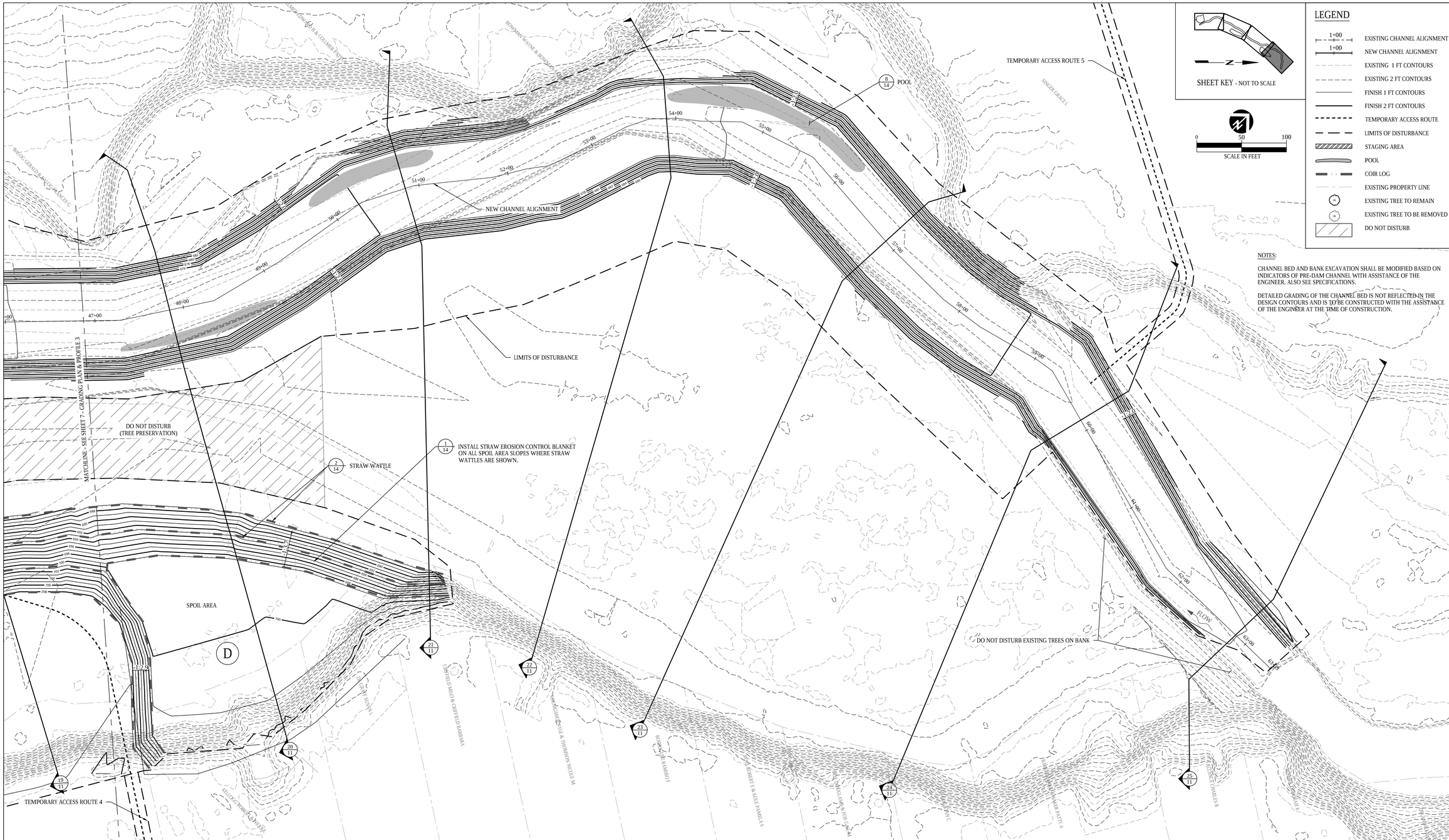
SCALE: 1" = 50'

GRADING PLAN & PROFILE 3

7

JOB No.
14-04-05




SHEET KEY - NOT TO SCALE

0 50 100
SCALE IN FEET

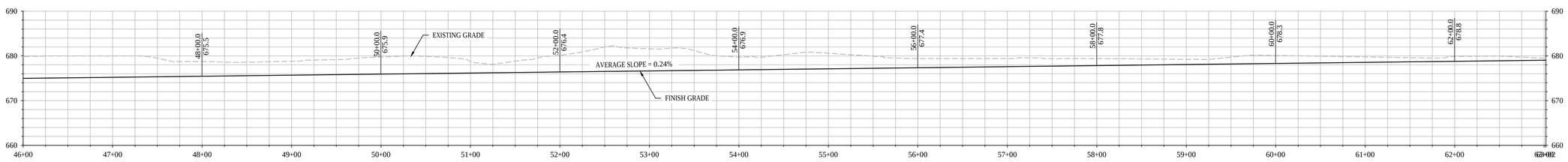
## LEGEND

- EXISTING CHANNEL ALIGNMENT
- NEW CHANNEL ALIGNMENT
- EXISTING 1 FT CONTOURS
- EXISTING 2 FT CONTOURS
- FINISH 1 FT CONTOURS
- FINISH 2 FT CONTOURS
- TEMPORARY ACCESS ROUTE
- LIMITS OF DISTURBANCE
- STAGING AREA
- POOL
- COIR LOG
- EXISTING PROPERTY LINE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- DO NOT DISTURB

NOTES:

CHANNEL BED AND BANK EXCAVATION SHALL BE MODIFIED BASED ON INDICATORS OF PRE-DAM CHANNEL WITH ASSISTANCE OF THE ENGINEER. ALSO SEE SPECIFICATIONS.

DETAILED GRADING OF THE CHANNEL BED IS NOT REFLECTED IN THE DESIGN CONTOURS AND IS TO BE CONSTRUCTED WITH THE ASSISTANCE OF THE ENGINEER AT THE TIME OF CONSTRUCTION.




NEW CHANNEL ALIGNMENT PROFILE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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

C:\Users\Goodhart\Documents_local_working\Projects\Pucker Street Dam Removal - 5390\5390-Pucker\Pucker Street Dam Removal - 5390\5390-Pucker\5390-Pucker-Removal.dwg FG4 3/28/2019


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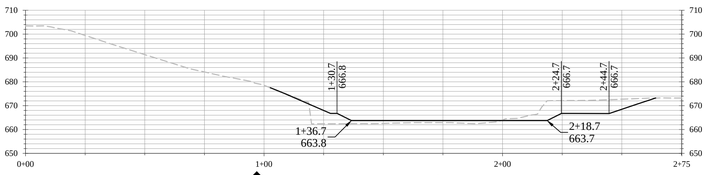
DATE: March 28, 2019

SCALE: 1" = 50'

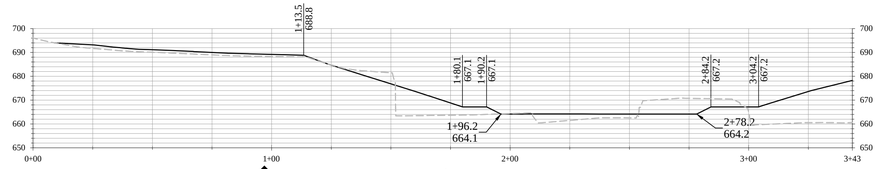
GRADING PLAN & PROFILE 4

8

JOB No.
14-04-05




1/9 CROSS SECTION
STA: 1+05



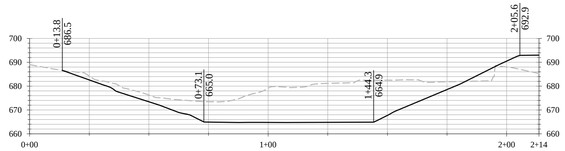

2/9 CROSS SECTION
STA: 2+11

LEGEND

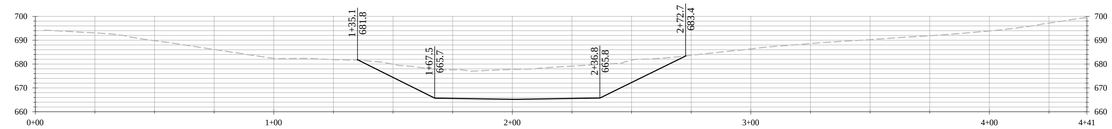
EXISTING GRADE

FINISH GRADE

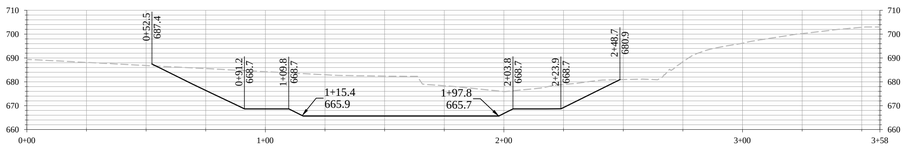
SCALE IN FEET
30
30



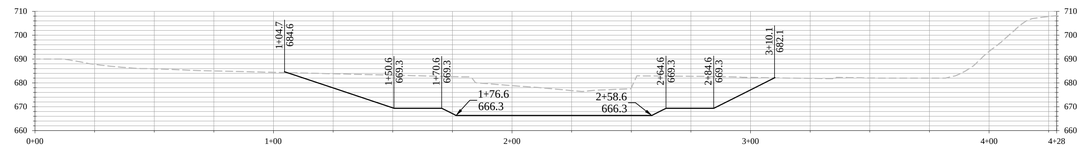

3/9 CROSS SECTION
STA: 3+76



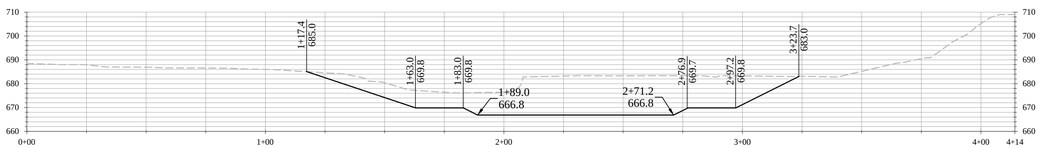

4/9 CROSS SECTION
STA: 5+37



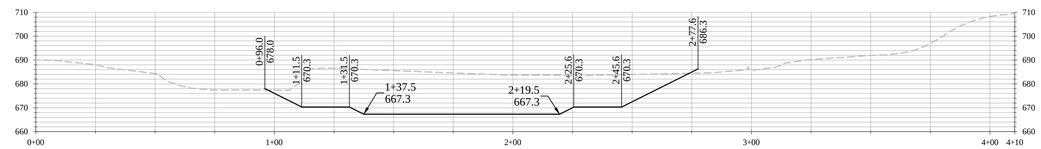

5/9 CROSS SECTION
STA: 7+10



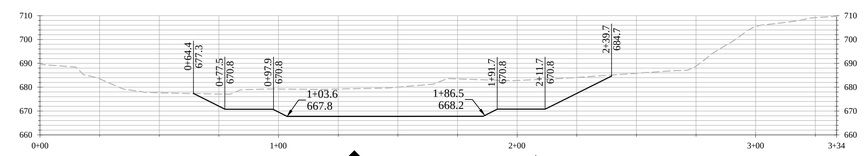

6/9 CROSS SECTION
STA: 9+83



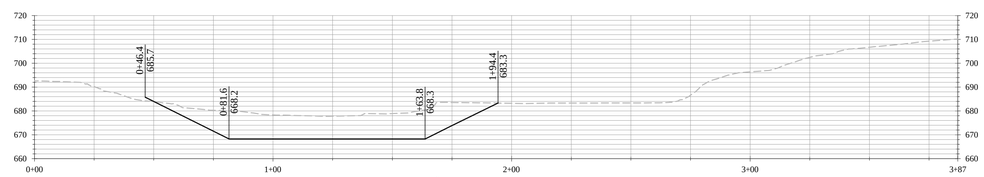

7/9 CROSS SECTION
STA: 11+83



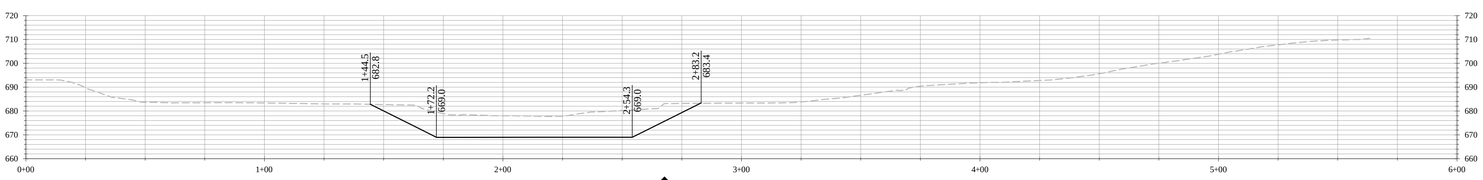

8/9 CROSS SECTION
STA: 13+83



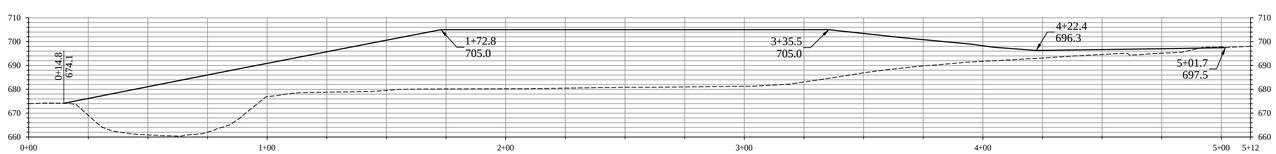

9/9 CROSS SECTION
STA: 15+83




10/9 CROSS SECTION
STA: 17+83




11/9 CROSS SECTION
STA: 20+83




SP-A/9 CROSS SECTION
SPOIL AREA A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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS


C:\Users\cody\AppData\Local\Temp\AcPublish_1216_0\Wright\Projects\Pucker Street\Drawings\Grants\Pucker Street Dam Removal - 02011\Pucker Street Dam Removal - 02011R1-PuckerStDamRemoval.dwg 4/21/2019
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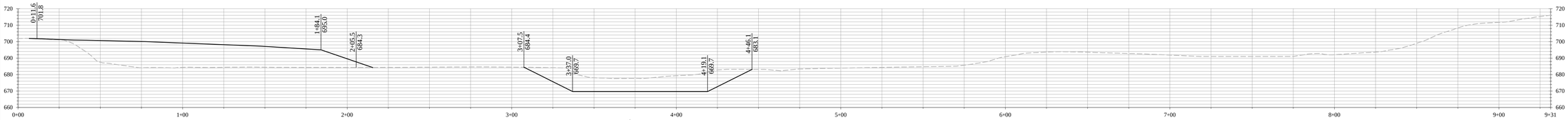
DATE: March 28, 2019

SCALE: 1" = 30'

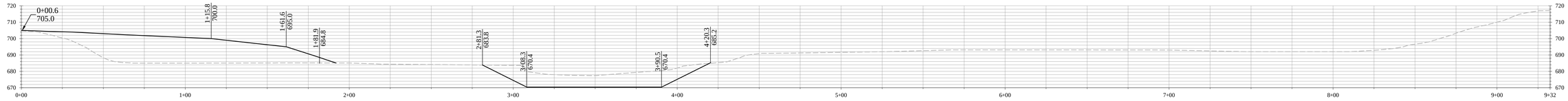
CROSS SECTIONS
1

9

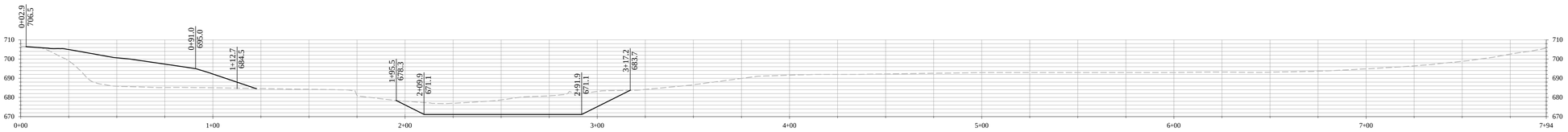
JOB No.
14-04-05




12/10 CROSS SECTION
STA: 23+83




13/10 CROSS SECTION
STA: 26+83



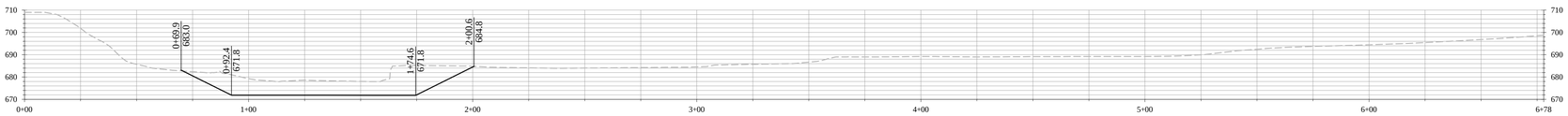

14/10 CROSS SECTION
STA: 29+83

LEGEND

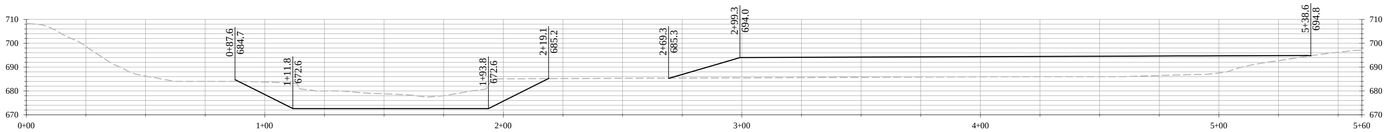
EXISTING GRADE

FINISH GRADE

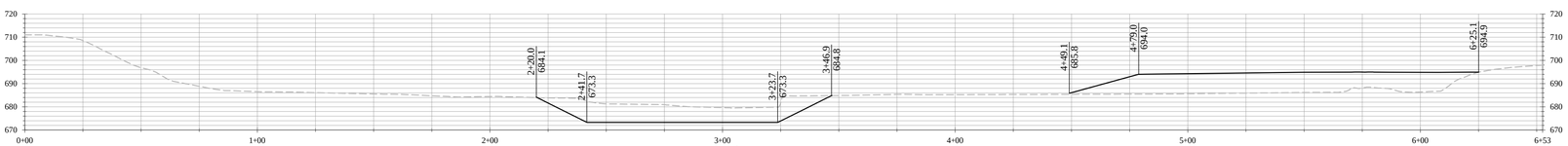
SCALE IN FEET
30
30



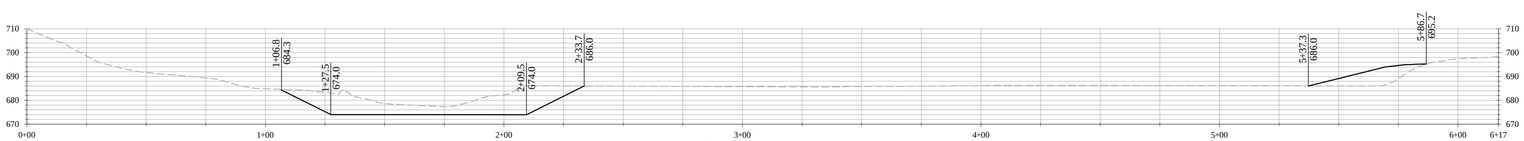

15/10 CROSS SECTION
STA: 32+83




16/10 CROSS SECTION
STA: 36+05




17/10 CROSS SECTION
STA: 38+83




18/10 CROSS SECTION
STA: 41+83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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

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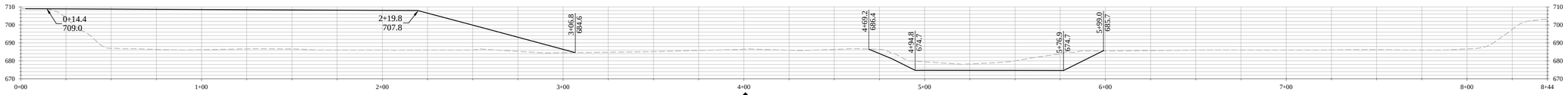
DATE: March 28, 2019

SCALE: 1" = 30'

CROSS SECTIONS
2

10

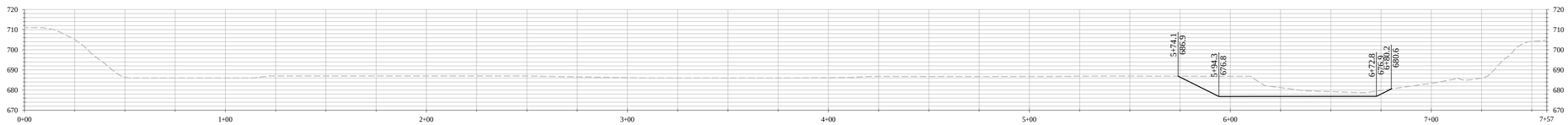
JOB No.
14-04-05




19 / 11 CROSS SECTION
STA: 44+83

20 / 11 CROSS SECTION
STA: 47+83

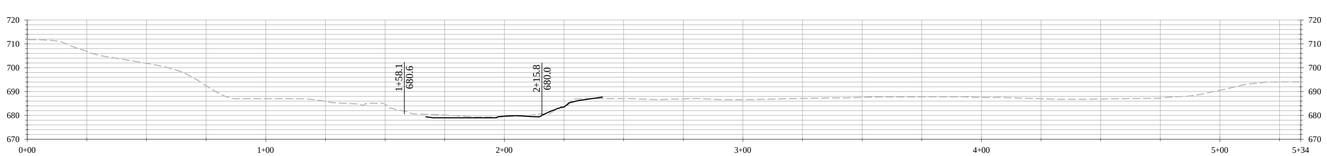
21 / 11 CROSS SECTION
STA: 50+83




22 / 11 CROSS SECTION
STA: 53+83

23 / 11 CROSS SECTION
STA: 56+83

24 / 11 CROSS SECTION
STA: 59+83




25 / 11 CROSS SECTION
STA: 62+83

LEGEND

EXISTING GRADE

FINISH GRADE

SCALE IN FEET
30
30

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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

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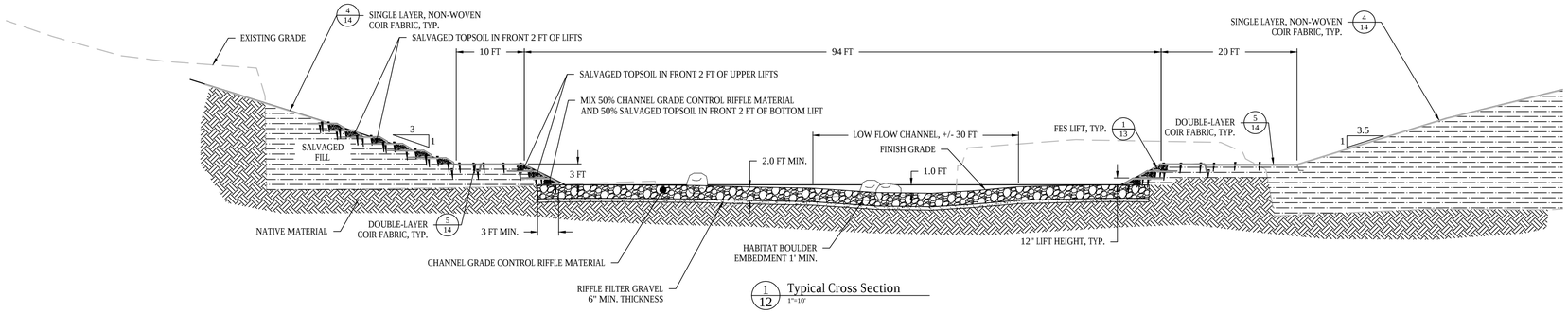
DATE: March 28, 2019

SCALE: 1" = 30'

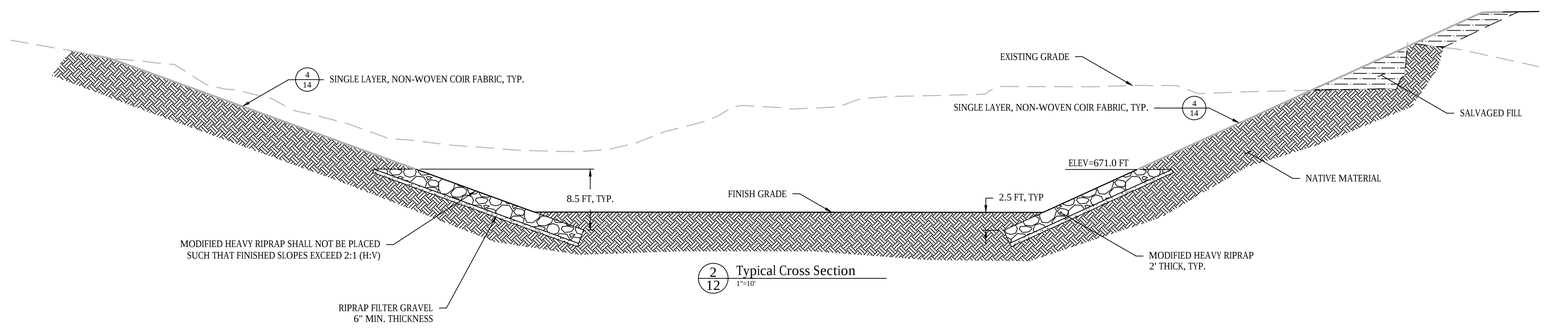
CROSS SECTIONS
3

11

JOB No.
14-04-05




1/12 Typical Cross Section
1"=10'




2/12 Typical Cross Section
1"=10'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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

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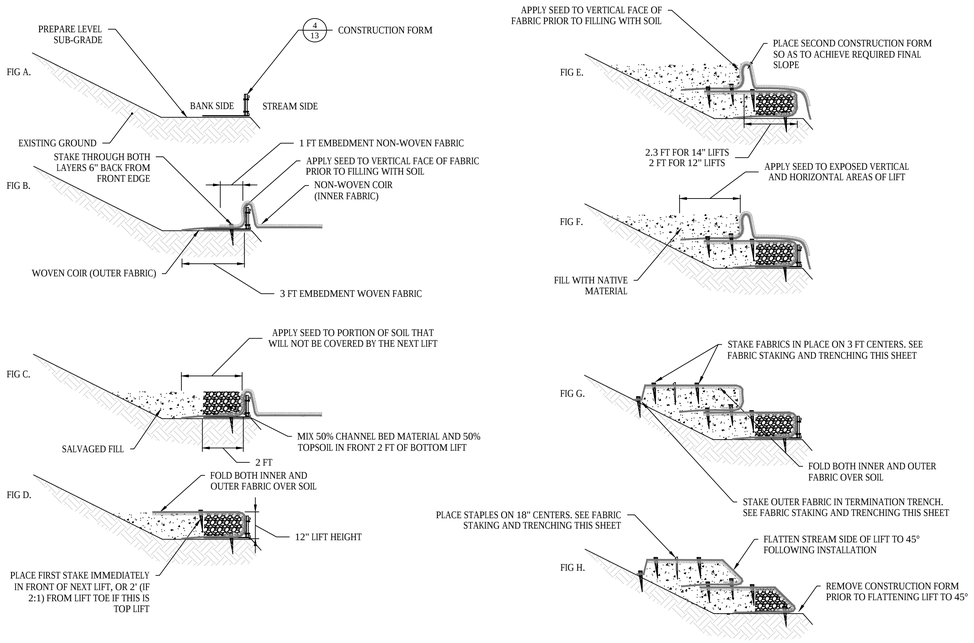
DATE: November 27, 2018

SCALE: NTS

TYPICAL CROSS SECTIONS

12

JOB No.
14-04-05




1/13 TYPICAL DETAILS
SUGGESTED FABRIC ENCAPSULATED SOIL (FES) LIFT SEQUENCING
NOT TO SCALE

SUGGESTED SEQUENCE FOR PLACEMENT OF FORMS

PROFILE VIEW LOOKING INTO BANK



FIG 1. PLACE A ROW OF CONSTRUCTION FORMS ALONG DESIRED CHANNEL ALIGNMENT FOR FIRST FES LIFT.

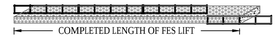



FIG 2. CONSTRUCT FES LIFTS ALONG LENGTH OF FIRST SET OF FORMS AND THEN BEGIN PLACEMENT OF FORMS AND CONSTRUCTION OF SECOND LIFT.

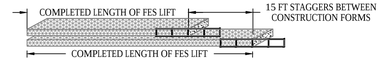
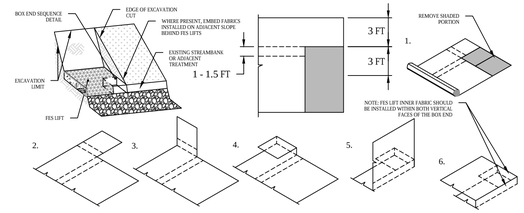



FIG 3. STAGGER FABRIC OVERLAPS A MINIMUM OF 15 FT BETWEEN LIFTS.

GENERAL INSTRUCTIONS FOR FABRIC ENCAPSULATED LIFTS

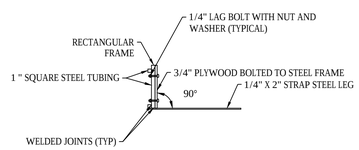
1. BANKS MAY BE CONSTRUCTED IN EITHER AN UPSTREAM OR DOWNSTREAM DIRECTION, AS LONG AS THE FABRIC IS OVERLAPPED IN THE PROPER DIRECTION.
2. PLACE A SERIES OF THREE OR MORE FORMS ON THE GROUND SO THAT THE FORMS FOLLOW THE PROPOSED STREAM BANK ALIGNMENT. BUTT THE ENDS OF THE FORMS TIGHTLY TOGETHER.
3. UNROLL THE OUTER FABRIC PARALLEL TO THE LONG AXIS OF THE CHANNEL AND POSITION IT SO THAT 3 FEET EXTENDS FOR EMBEDMENT ON THE BANK SIDE OF THE FORMS (FIG B), AND A MINIMUM 3 FEET EXTENDS LENGTHWISE BEYOND THE LAST FORM FOR OVERLAP. DRAPE THE REMAINDER OF THE FABRIC OVER THE TOP OF THE FORMS ON THE STREAM SIDE (FIG B).
4. UNROLL THE INNER FABRIC OVER THE TOP OF THE WOVEN COIR FABRIC (FIG B) AND POSITION IT SO THAT AT LEAST 1 FOOT OF THE INNER FABRIC EXTENDS AS AN EMBEDMENT LENGTH ON THE BANK SIDE OF THE FORMS (FIG C). DRAPE THE REMAINDER OF THE FABRIC OVER THE TOP OF THE FORMS ON THE STREAM SIDE AND ALIGN THE LONG EDGES OF THE FABRICS. STRETCH AND PULL THE FABRIC LAYERS TO REMOVE WRINKLES.
5. APPLY NATIVE SEED MIX TO INNER FABRIC ALONG VERTICAL EDGE OF LIFT (FIG C). PLACE SPECIFIED FILL OVER THE FABRIC ON THE BANK SIDE OF THE FORMS. LEVEL THE FILL AND COMPACT TO 85-90 PERCENT RELATIVE COMPACTION (FIG C).
6. APPLY NATIVE SEED MIX TO TOP OF FILL FROM THE FRONT OF THE LIFT TO 3 FT BACK FROM FRONT OF THE LIFT (FIG C).
7. FOLD THE LOOSE ENDS OF THE TWO COIR FABRIC LAYERS BACK OVER THE COMPACTED FILL MATERIAL AND STRETCH TIGHTLY TO REMOVE WRINKLES (FIG D). SECURE WITH WOODEN STAKES 1 PER 3 L.F. ALONG THE BACK EDGE AND INTO UNDISTURBED SOIL.
8. REMOVE THE FORMS FROM THE FRONT OF THE COMPLETED LIFTS (FIG. 2). LEAVE THE LAST FORM IN PLACE AT THE END OF THE NEWLY CONSTRUCTED LIFT (FIG. 2).
9. WHERE THE TOP OF THE LIFT MEETS THE GROUND SURFACE, EXCAVATE A KEY TRENCH 1.5 FEET WIDE AND 1 FOOT DEEP ALONG THE EDGE OF THE OUTER FABRIC LAYER, PARALLEL TO THE FORMS. SEED ENTIRE AREA OF TOP LIFT. SECURE FABRIC IN THE KEY TRENCH WITH WOODEN STAKES, 3 FT O.C.
10. BACKFILL THE KEY TRENCH WITH TOPSOIL AND CONTINUE TO APPLY TOPSOIL TO SMOOTHLY MERGE WITH EXISTING CONTOURS. APPLY NATIVE SEED MIX TO KEY TRENCH AREA.
11. SUPPLEMENT LIFT STAKING WITH ADDITIONAL WOODEN STAPLES ON 18" CENTERS EXCEPT WHERE WOODEN STAKES HAVE ALREADY BEEN PLACED.

2/13 WOODEN STAKE AND STAPLES FABRICATING DETAIL
NOT TO SCALE

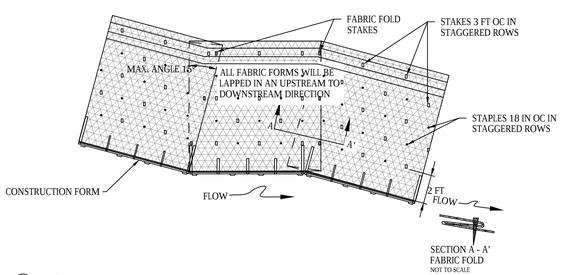



3/13 SUGGESTED CONSTRUCTION SEQUENCE
FES LIFT - BOX ENDS
NOT TO SCALE

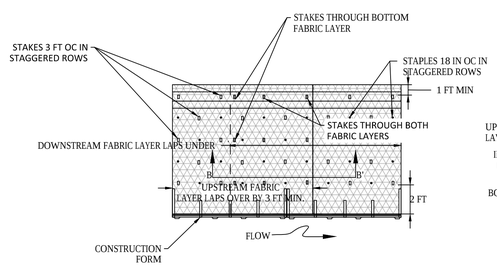


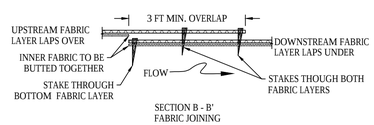




4/13 TYPICAL DETAILS
STREAM BANK CONSTRUCTION FORM - FES LIFT
NOT TO SCALE

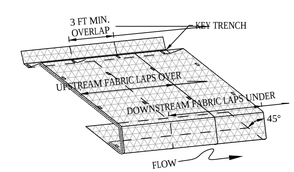



5/13 TYPICAL DETAIL
FOLDING OF OUTER FABRIC
NOT TO SCALE

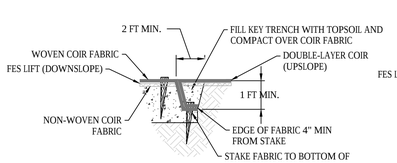


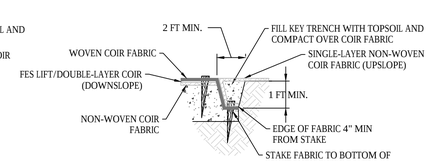

6/13 TYPICAL DETAIL
FABRIC JOINING
NOT TO SCALE



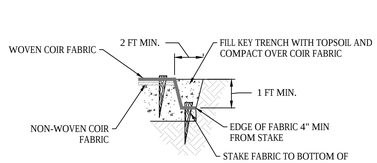

7/13 ISOMETRIC DETAIL
FABRIC JOINING
NOT TO SCALE



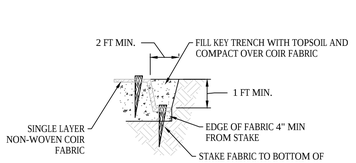

8/13 FES LIFT TO DOUBLE-LAYER COIR TRANSITION TRENCH
NOT TO SCALE



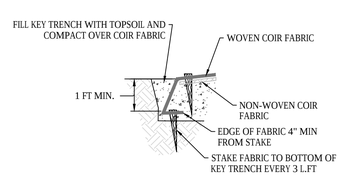

9/13 FES LIFT/DOUBLE-LAYER COIR TO SINGLE-LAYER COIR TRANSITION TRENCH
NOT TO SCALE



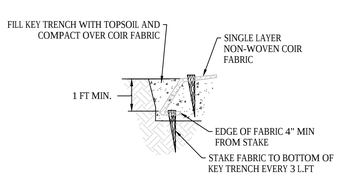

10/13 KEY TRENCH DETAIL: FES LIFT AND DOUBLE-LAYER COIR UPSLOPE TERMINATION TRENCH
NOT TO SCALE




11/13 KEY TRENCH DETAIL: SINGLE-LAYER COIR UPSLOPE TERMINATION TRENCH
NOT TO SCALE




12/13 KEY TRENCH DETAIL: DOUBLE-LAYER COIR DOWNSLOPE TERMINATION TRENCH
NOT TO SCALE




13/13 KEY TRENCH DETAIL: SINGLE-LAYER COIR DOWNSLOPE TERMINATION TRENCH
NOT TO SCALE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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

C:\Users\jeremiah.fowler_fow_wightman\Desktop\Pucker Street Dam Removal - 02011\Pucker Street Dam Removal - 02011R1-Parker\02ianRemoval.dwg-FES 3/28/2018


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FES LIFT INSTALLATION DETAILS

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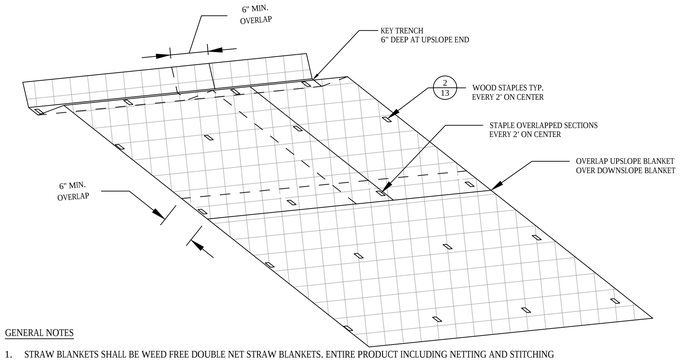
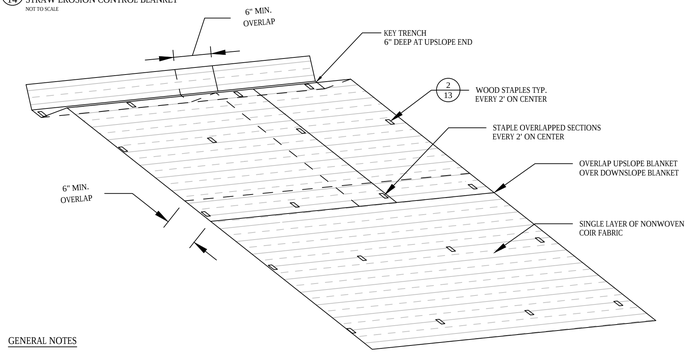
JOB No.
14-04-05




GENERAL NOTES

1. STRAW BLANKETS SHALL BE WEED FREE DOUBLE NET STRAW BLANKETS. ENTIRE PRODUCT INCLUDING NETTING AND STITCHING SHALL BE MADE FROM NATURAL FIBERS.
2. UPSLOPE END SHALL BE TRENCHED IN 6" DEEP.
3. WOODEN STAPLES SHALL BE PLACED EVERY 2' ON CENTER. INSTALLATION OF STAPLES SHALL BE CONSIDERED INCIDENTAL TO BLANKETS.
4. OVERLAP ON BLANKETS SHALL BE 6" MINIMUM. UPSLOPE BLANKET SHALL OVERLAP DOWNSLOPE BLANKET.
5. INSTALL STRAW BLANKETS ON ALL STOCKPILE SLOPES.

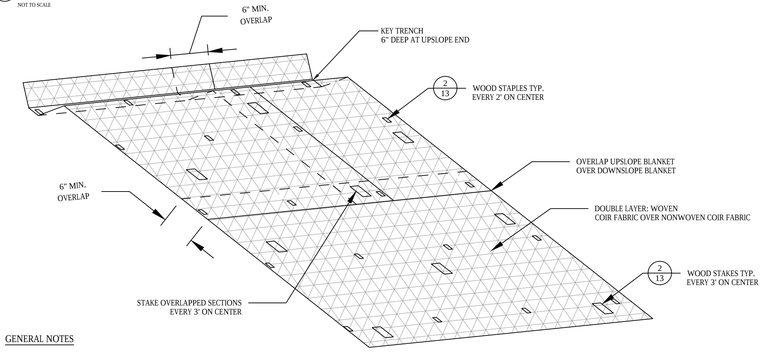
1/14 TYPICAL DETAIL
STRAW EROSION CONTROL BLANKET
NOT TO SCALE




GENERAL NOTES

1. UPSLOPE END SHALL BE TRENCHED IN 6" DEEP.
2. WOODEN STAPLES SHALL BE PLACED EVERY 2' ON CENTER. INSTALLATION OF STAPLES SHALL BE CONSIDERED INCIDENTAL.
3. OVERLAP ON FABRIC SHALL BE 6" MINIMUM. UPSLOPE FABRIC SHALL OVERLAP DOWNSLOPE FABRIC.

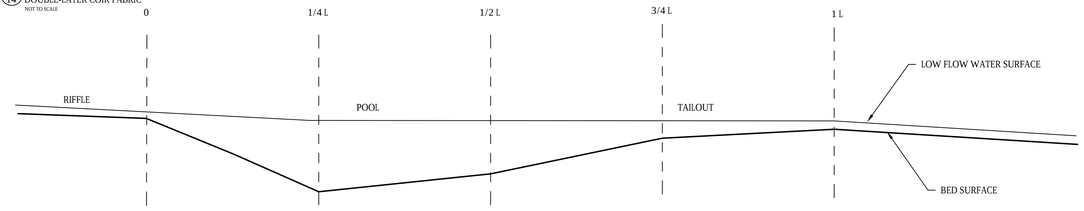
4/14 TYPICAL DETAIL
SINGLE-LAYER COIR FABRIC
NOT TO SCALE



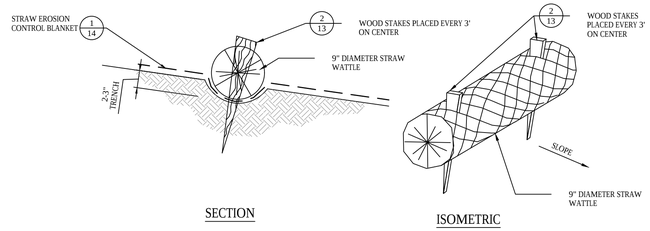

GENERAL NOTES

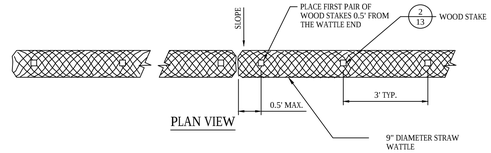
1. UPSLOPE END SHALL BE TRENCHED IN 6" DEEP.
2. WOODEN STAPLES SHALL BE PLACED EVERY 2' ON CENTER. INSTALLATION OF STAPLES SHALL BE CONSIDERED INCIDENTAL.
3. WOODEN STAKES SHALL BE PLACED 3' ON CENTER. INSTALLATION OF STAKES SHALL BE CONSIDERED INCIDENTAL.
4. OVERLAP ON FABRIC SHALL BE 6" MINIMUM. UPSLOPE FABRIC SHALL OVERLAP DOWNSLOPE FABRIC.

5/14 TYPICAL DETAIL
DOUBLE-LAYER COIR FABRIC
NOT TO SCALE




6/14 GENERAL RIFFLE - POOL PROFILE VIEW
NOT TO SCALE

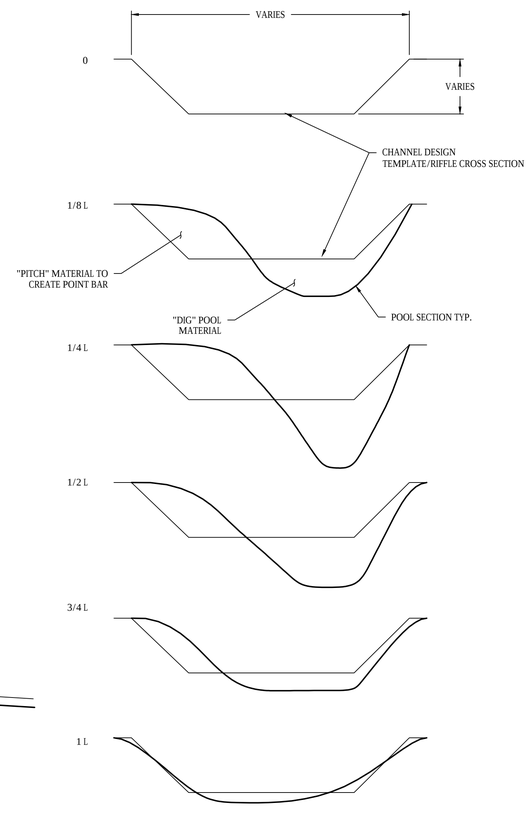


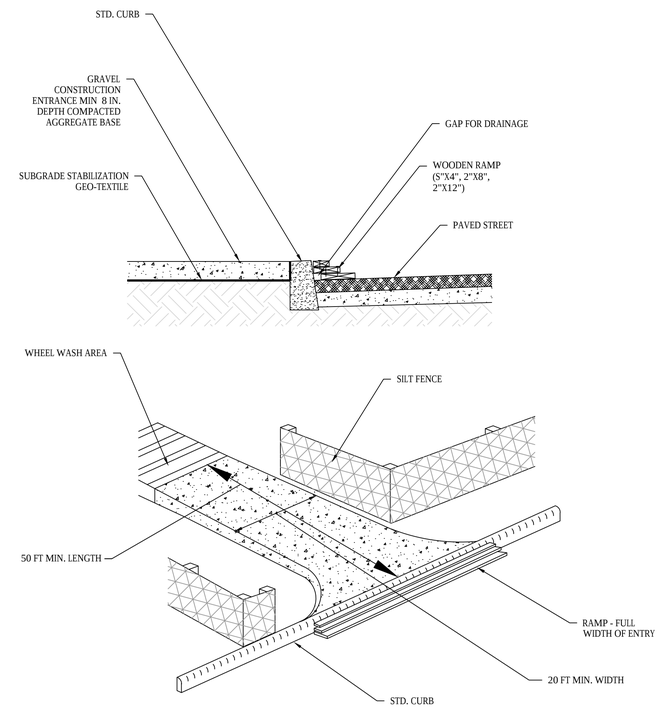

GENERAL NOTES ON INSTALLING STRAW WATTLE

1. STRAW WATTLES SHALL BE INSTALLED ALONG SPOIL PILE SLOPES AS SHOWN IN THE PLANS.
2. STRAW WATTLES SHALL HAVE A MINIMUM DIAMETER OF 9".
3. EXTERIOR NETTING SHALL BE MADE OF NATURAL FIBERS.
4. INSTALL STRAW WATTLES WITHIN TRENCH, SO THAT NO GAPS EXIST BETWEEN THE SOIL AND THE BOTTOM OF THE WATTLE. THE ENDS OF ADJACENT WATTLES SHALL BE TIGHTLY ABUTTED SO THAT NO OPENING EXISTS FOR WATER OR SEDIMENT TO PASS THROUGH.
5. WOOD STAKES SHALL BE USED TO FASTEN THE WATTLES TO THE SOIL. ANGLE THE STAKE SUCH THAT IT IS PERPENDICULAR TO THE SLOPE.
6. CARE SHALL BE TAKEN DURING INSTALLATION SO AS TO AVOID DAMAGE OCCURRING TO THE WATTLES AS A RESULT OF THE INSTALLATION PROCESS. SHOULD WATTLES BE DAMAGED DURING INSTALLATION, A WOODEN STAKE SHALL BE PLACED EITHER SIDE OF THE DAMAGED AREA TERMINATING THE WATTLE SEGMENT.
7. ANY WATTLE DAMAGED DURING PLACEMENT SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

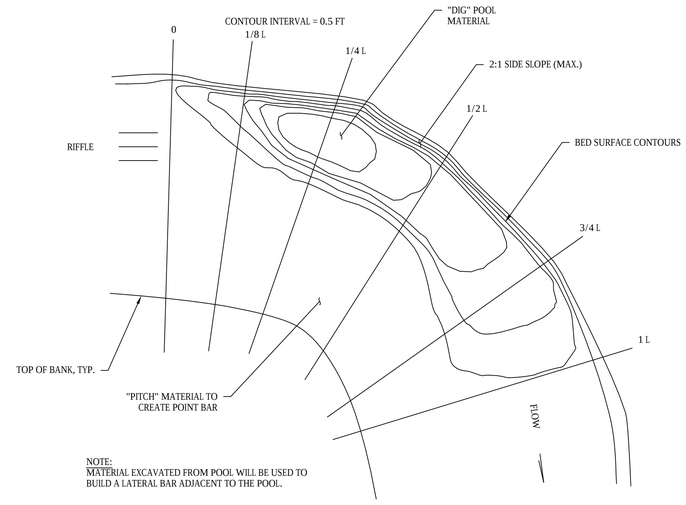
2/14 TYPICAL DETAIL
STRAW WATTLE
NOT TO SCALE




7/14 POOL & RIFFLE CROSS SECTIONS
NOT TO SCALE




3/14 TYPICAL DETAIL
GRAVEL CONSTRUCTION ENTRANCE
NOT TO SCALE




NOTE:
MATERIAL EXCAVATED FROM POOL WILL BE USED TO BUILD A LATERAL BAR ADJACENT TO THE POOL.

8/14 TYPICAL RIFFLE-POOL GRADING PLAN VIEW (DIG & PITCH)
NOT TO SCALE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PUCKER STREET DAM REMOVAL AND DOWAGIAC RIVER RESTORATION

REVISIONS

C:\Users\cloudman\Documents_local_working\Projects\Pucker Street\Drawings\Acad\PuckerStreet Dam Removal - 5221\1\Pucker Street Dam Removal 2018.dwg\Pucker-Pucker\Demolition.dwg TYPICAL DETAILS


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TYPICAL DETAILS

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