Plate 3 List of Plates Depicting Existing Conditions and Alternative Measures:

Plate 4 Site Plan – Existing Condition – Pumping Station Dam

Plate 5 Site Plan – Fish Ladder – Pumping Station Dam

Plate 6 Pumping Station Dam – Fishway Plan & Profiles

Plate 7 Pumping Station Dam – Sections

Plate 8 Site Plan – Existing Condition – Swimming Pool Dam

Plate 9 Site Plan – Fish Ladder – Swimming Pool Dam

Plate 10 Swimming Pool Dam – Plan, Section & Profile

Plate 11 Swimming Pool Dam – Sections & Details

Plate 12 Site Plan – Existing Condition – Mill Street Dam

Plate 13 Site Plan – Remove Existing Dam – Mill Street Dam

Plate 14 Site Plan – Fish Ladder – Mill Street Dam

Plate 15 Mill Street Dam – Sections & Details

Plate 16 Mill Street Dam – Sections & Details

Plate 17 Site Plan – Existing Condition – Wiley & Russell Dam

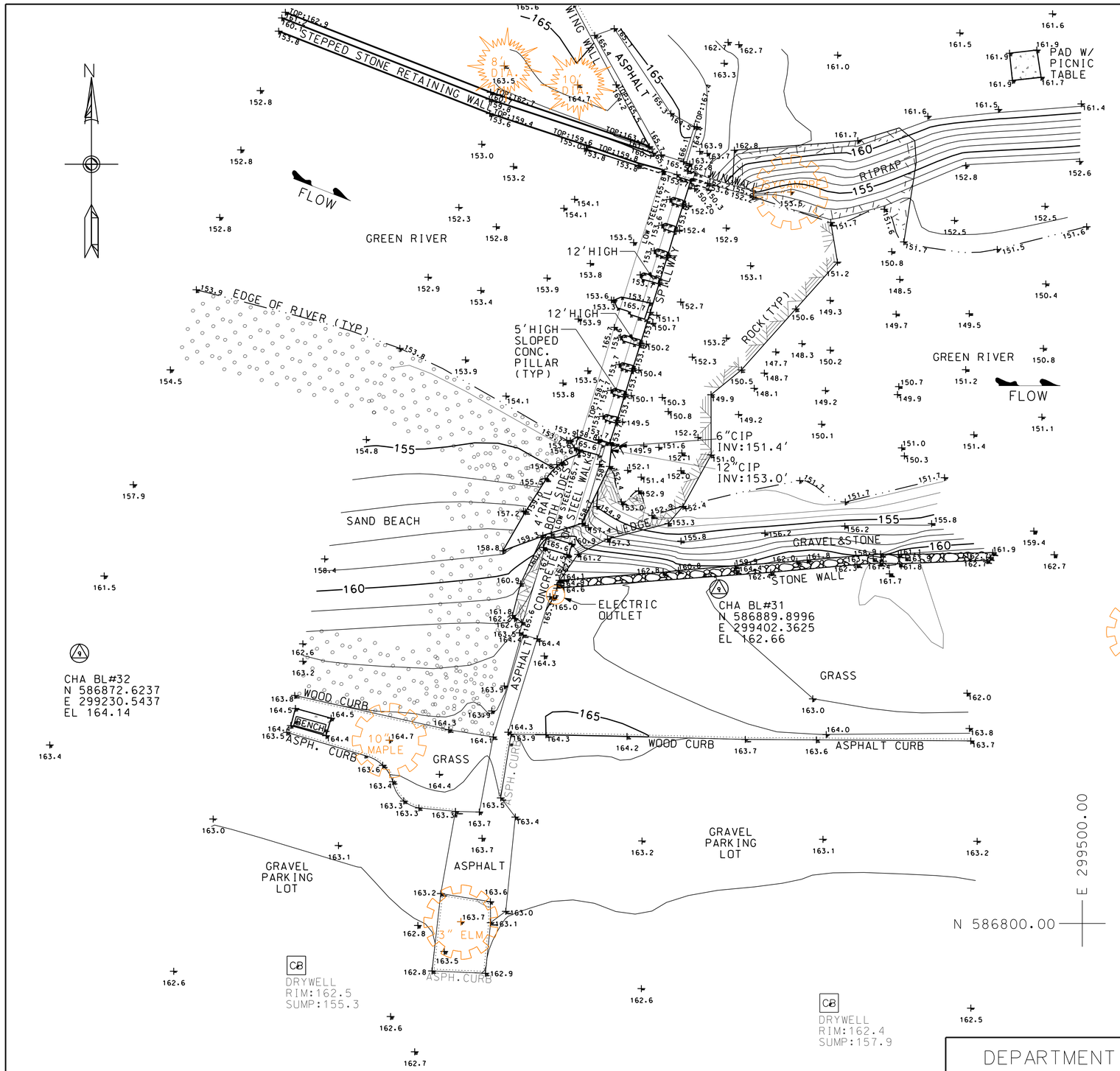
Plate 18 Site Plan – Remove Existing Dam – Wiley & Russell Dam

Plate 19 Site Plan – Fish Ladder – Wiley & Russell Dam

Plate 20 Site Plan – Rock Ramp Fishway – Wiley and Russell Dam

Plate 21 Wiley & Russell Dam – Fish Ladder Plan, Profiles, Section & Details

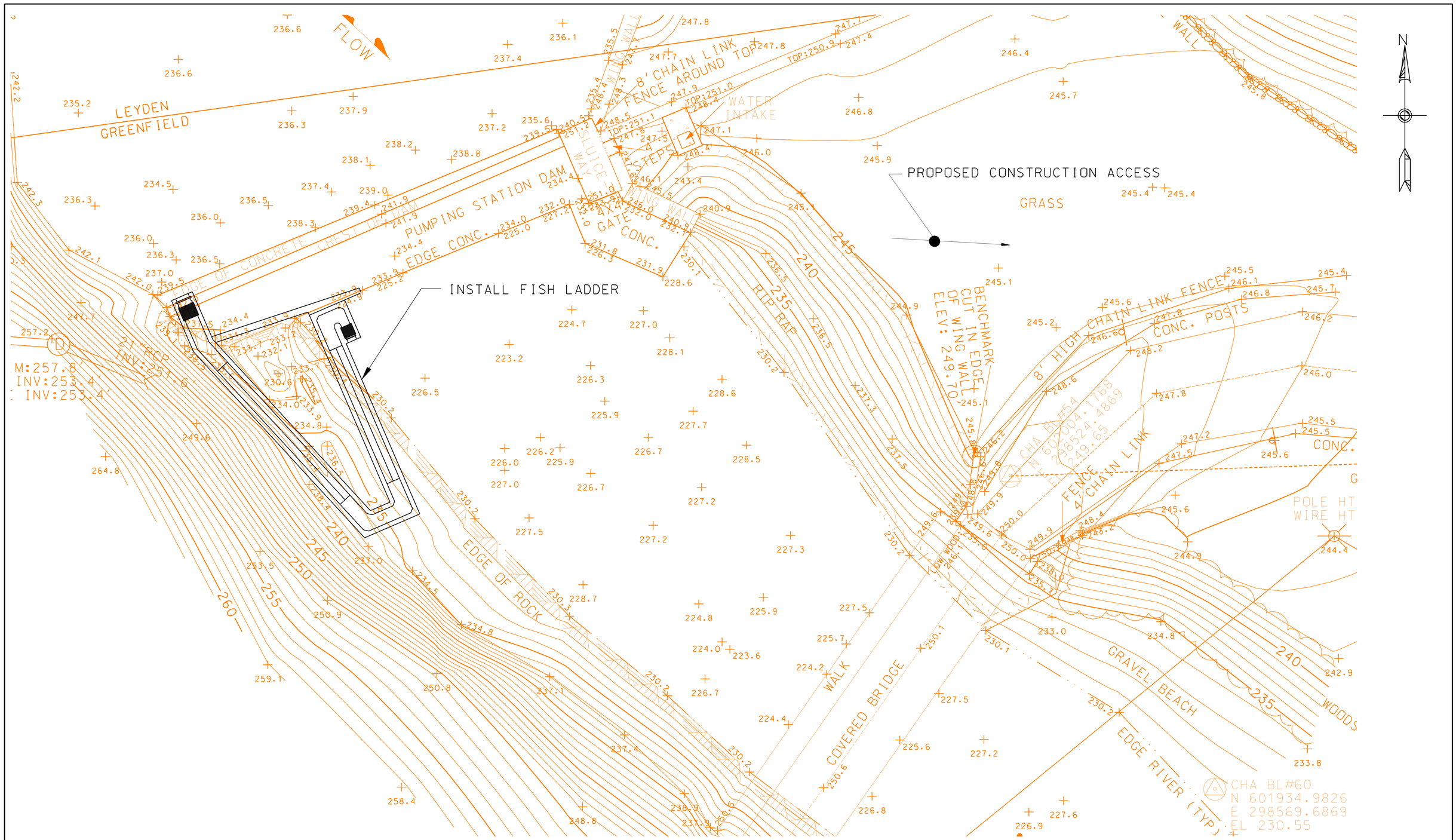
Plate 22 Wiley & Russell Dam – Rock Ramp Fishway Sections



NOTES:

1. BASE MAP PREPARED BY CLOUGH, HARBOUR & ASSOCIATES, LLP FROM A NOVEMBER 2001 FIELD SURVEY.
2. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS.
3. COORDINATES AND ELEVATIONS WERE OBTAINED USING CODE BASED GPS REFERENCED TO NGS CONTOL POINTS MZ2781, MZ2665, & MZ1186. COORDINATES ARE REFERENCED TO NAD27 MASSACHUSETTS MAINLAND ZONE AND ARE EXPRESSED IN U.S. FEET. ELEVATIONS ARE REFERENCED TO NGVD29.
4. SUBJECT TO ANY STATE OF FACT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.
5. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.
6. UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY, THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN. SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIGSAFE PRIOR TO ANY EXCAVATION.
7. A BOUNDARY SURVEY WAS NOT PERFORMED BY CLOUGH, HARBOUR & ASSOCIATES, LLP IN CONJUNCTION WITH THE PREPARATION OF THIS SITE.

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE SITE PLAN - EXISTING CONDITION SWIMMING POOL DAM	8 / 24



20 10 0 20 40FT

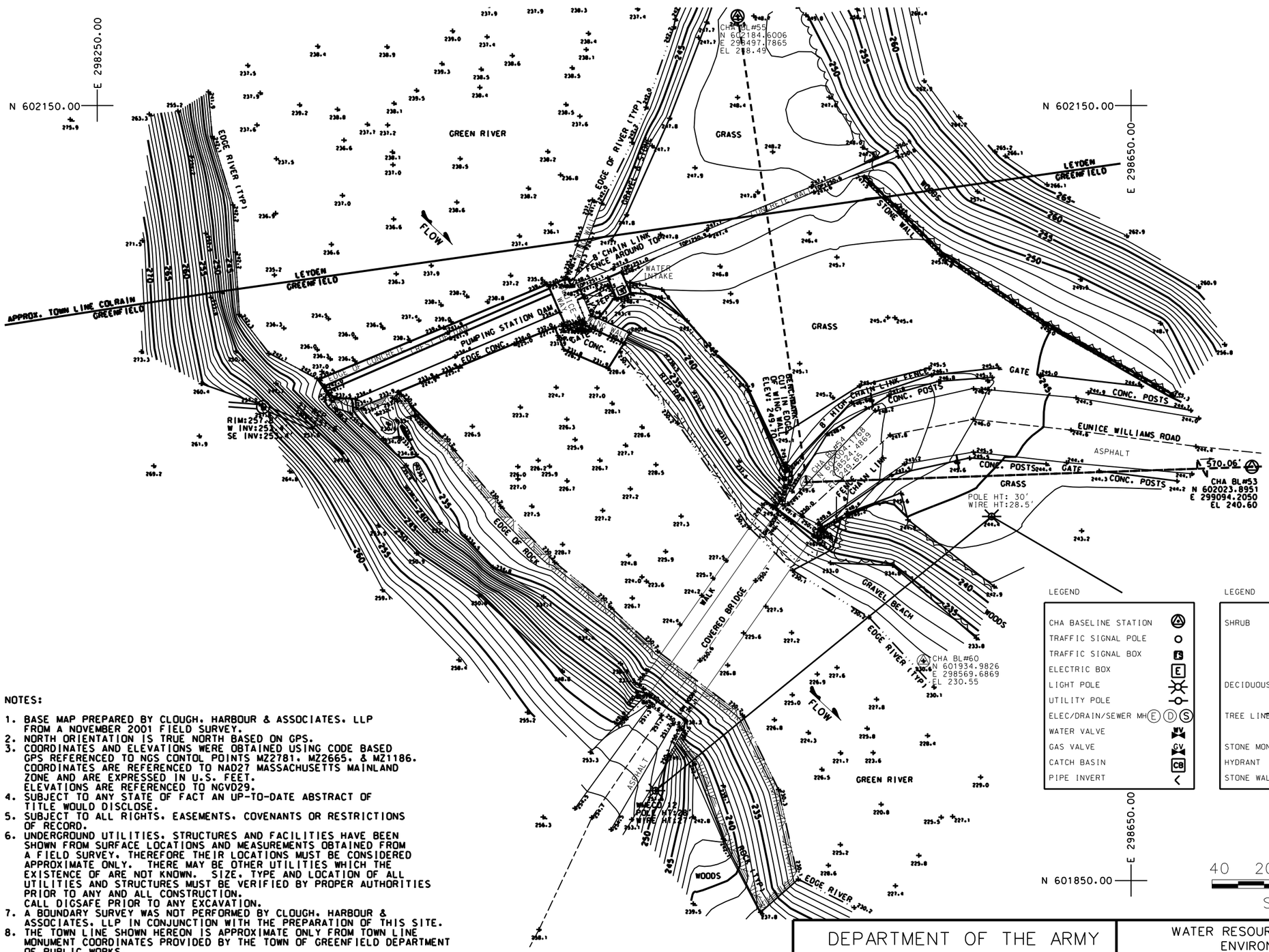
SCALE: 1"= 20'

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE

SITE PLAN - FISH LADDER
PUMPING STATION DAM

5/24



NOTES:

1. BASE MAP PREPARED BY CLOUGH, HARBOUR & ASSOCIATES, LLP FROM A NOVEMBER 2001 FIELD SURVEY.
2. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS.
3. COORDINATES AND ELEVATIONS WERE OBTAINED USING CODE BASED GPS REFERENCED TO NGS CONTOL POINTS MZ2781, MZ2665, & MZ1186. COORDINATES ARE REFERENCED TO NAD27 MASSACHUSETTS MAINLAND ZONE AND ARE EXPRESSED IN U.S. FEET. ELEVATIONS ARE REFERENCED TO NGVD29.
4. SUBJECT TO ANY STATE OF FACT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.
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7. A BOUNDARY SURVEY WAS NOT PERFORMED BY CLOUGH, HARBOUR & ASSOCIATES, LLP IN CONJUNCTION WITH THE PREPARATION OF THIS SITE.
8. THE TOWN LINE SHOWN HEREON IS APPROXIMATE ONLY FROM TOWN LINE MONUMENT COORDINATES PROVIDED BY THE TOWN OF GREENFIELD DEPARTMENT OF PUBLIC WORKS.

LEGEND

- CHA BASELINE STATION
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL BOX
- ELECTRIC BOX
- LIGHT POLE
- UTILITY POLE
- ELEC/DRAIN/SEWER MH
- WATER VALVE
- GAS VALVE
- CATCH BASIN
- PIPE INVERT

LEGEND

- SHRUB
- DECIDUOUS TREE
- TREE LINE
- STONE MONUMENT
- HYDRANT
- STONE WALL

LEGEND

- OH UTILITY LINE
- EDGE OF RIVER
- EDGE ROCK
- EDGE RIPRAP
- CONCRETE
- SAND

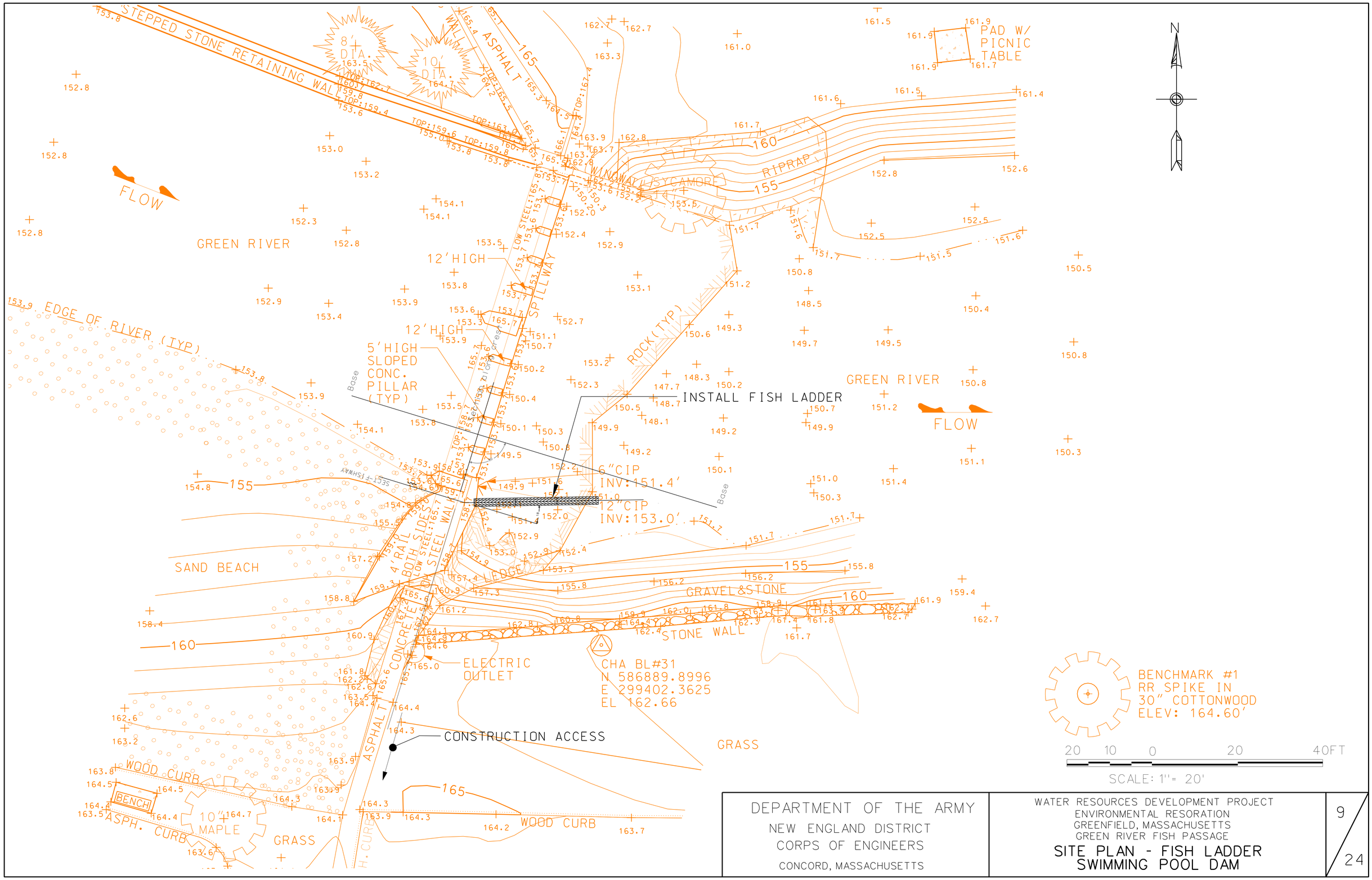
40 20 0 40 80FT

SCALE: 1"= 40'

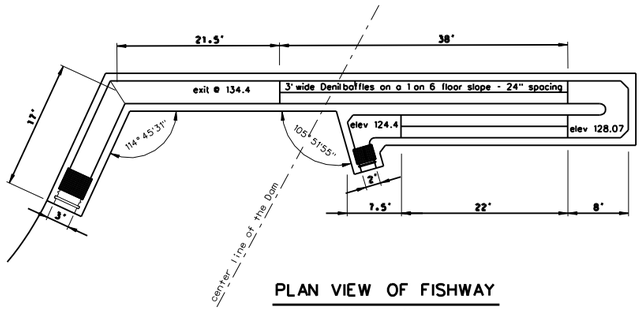
DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE

SITE PLAN - EXISTING CONDITION
PUMPING STATION DAM

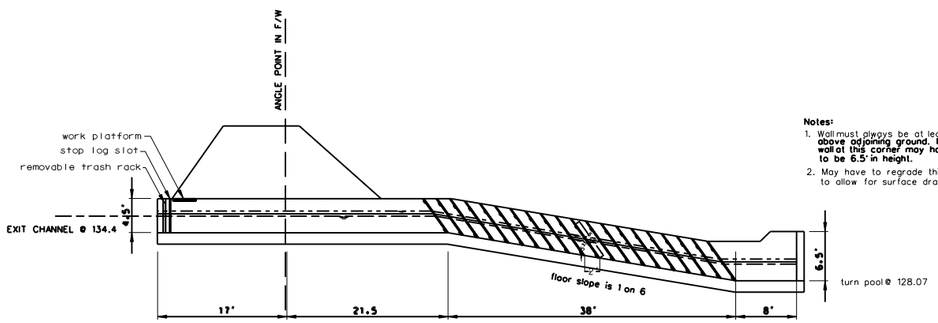


DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE SITE PLAN - FISH LADDER SWIMMING POOL DAM	9 / 24



PLAN VIEW OF FISHWAY

SCALE: 1" = 20'

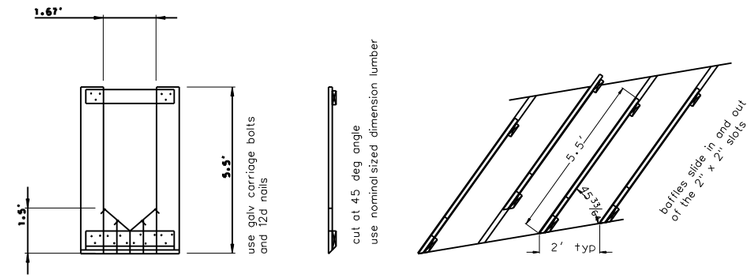


Notes:

1. Wall must always be at least 6" **above adjoining ground. Hence wall at this corner may have to be 6.5' in height.**
2. May have to regrade this section to allow for surface drainage

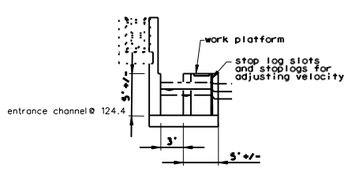
SECTION VIEW - UPPER DENIL LEG

SCALE: 1" = 20'



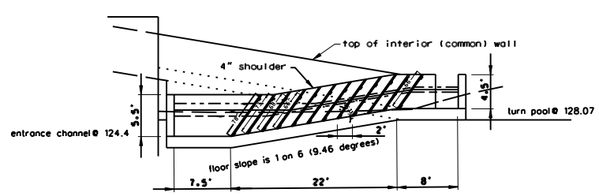
DENIL BAFFLE DETAILS

SCALE: 1" = 10'



SECTION VIEW - ENTRANCE

SCALE: 1" = 20'

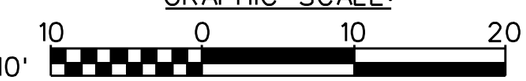


SECTION VIEW - LOWER DENIL LEG

SCALE: 1" = 20'

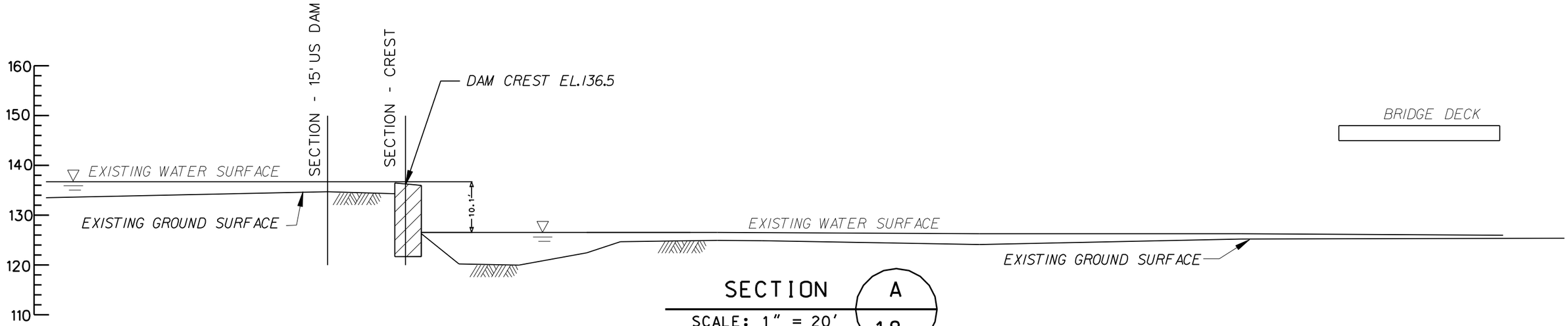
GRAPHIC SCALE:

1" = 10'



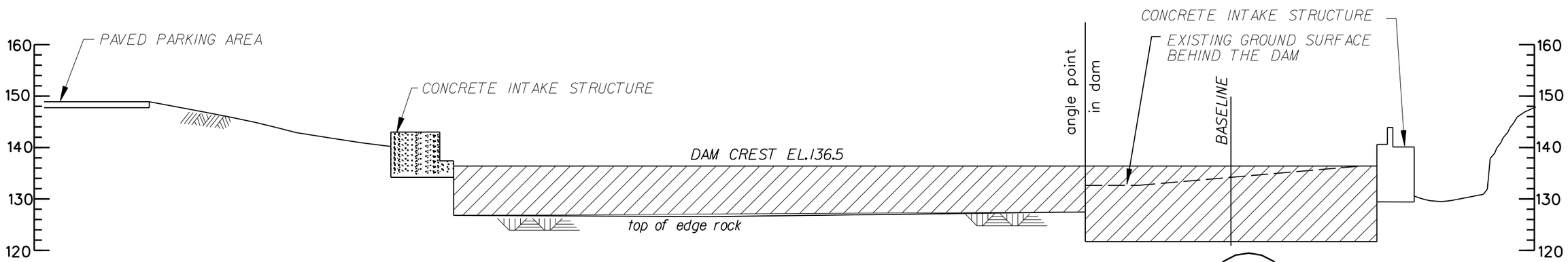
1" = 20'

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE PLAN, PROFILES, SECTION & DETAILS WILEY AND RUSSELL DAM	22/24



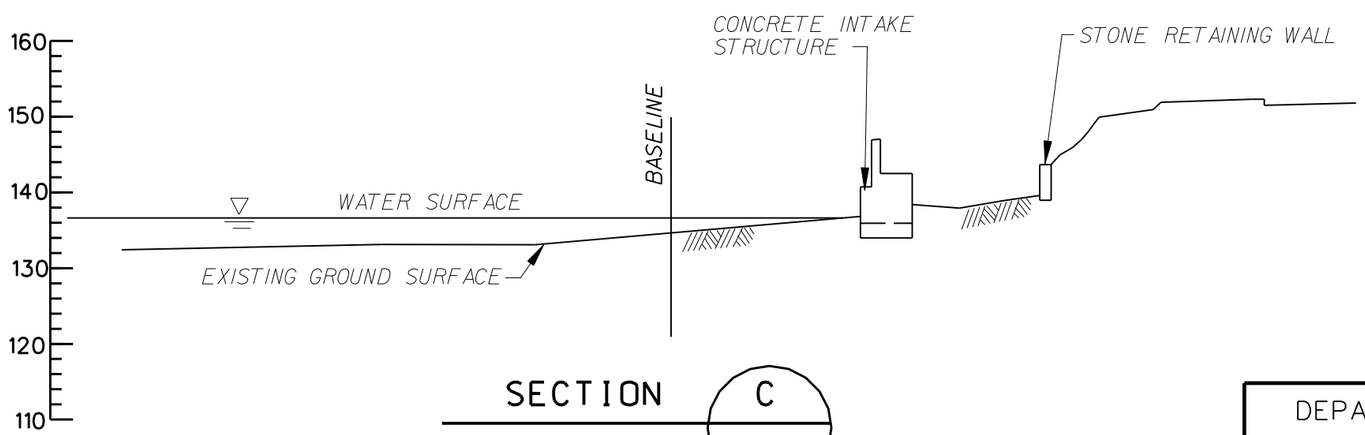
SECTION A / 18

SCALE: 1" = 20'



SECTION B / 18

SCALE: 1" = 20'

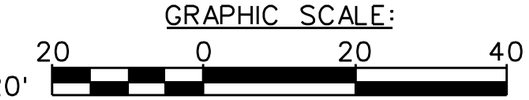


SECTION C / 18

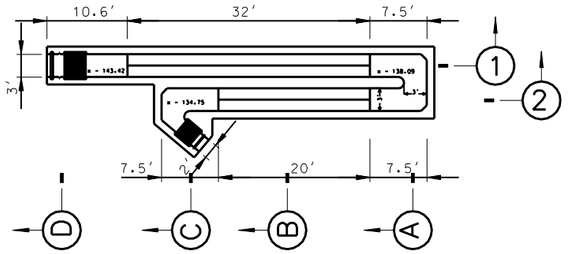
SCALE: 1" = 20'

GRAPHIC SCALE:

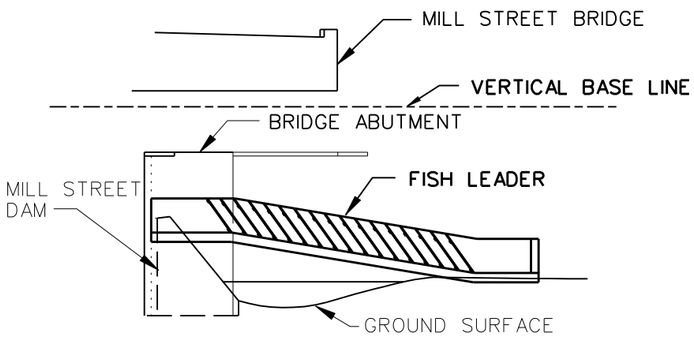
1" = 20'



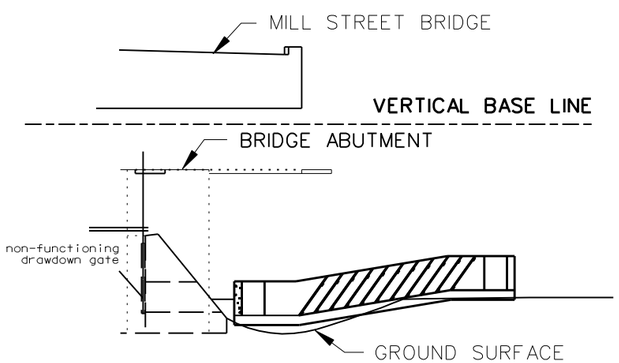
DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE SECTIONS - DAM REMOVAL WILEY & RUSSELL DAM	21/24



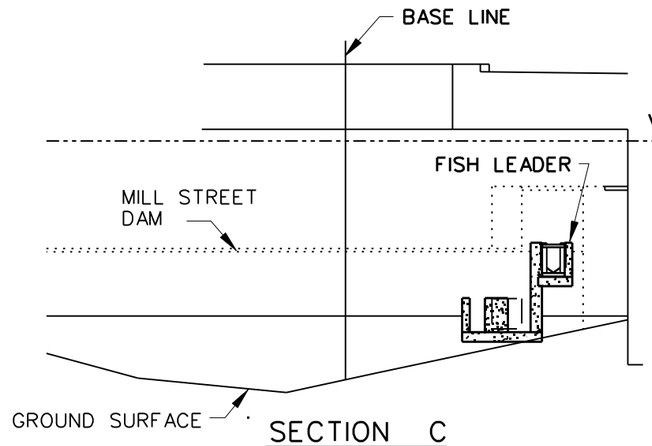
PLAN
SCALE: 1"=20'



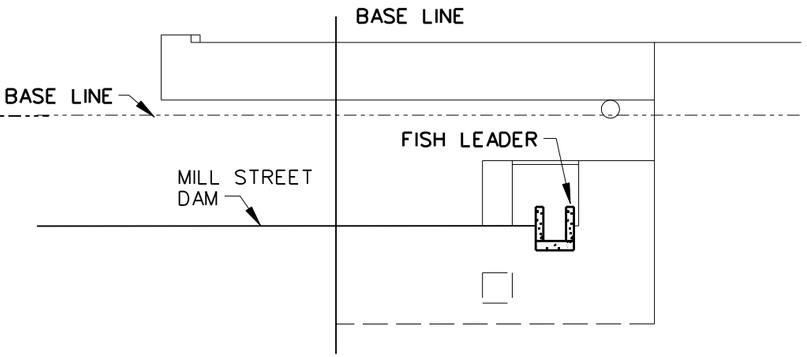
PROFILE 1
SCALE: 1"=20'



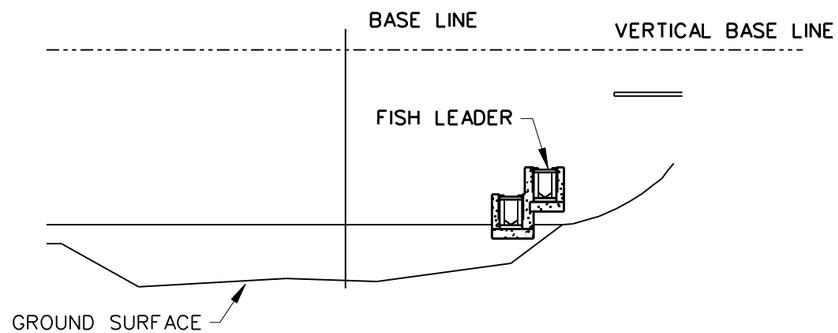
PROFILE 2
SCALE: 1"=20'



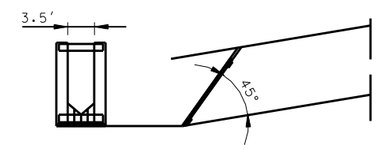
SECTION C
SCALE: 1"=20'



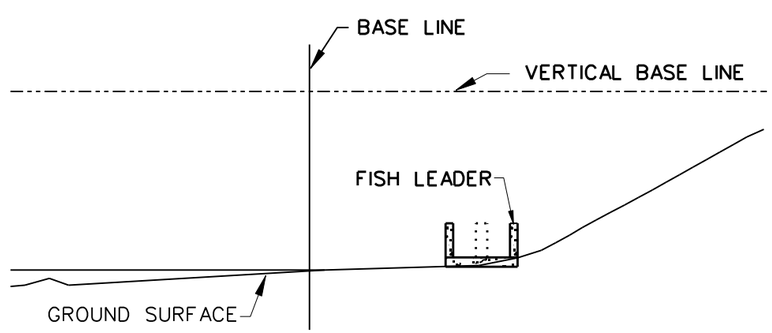
SECTION D
SCALE: 1"=20'



SECTION B
SCALE: 1"=20'



BAFFLE DETAILS
SCALE: 1"= 10'

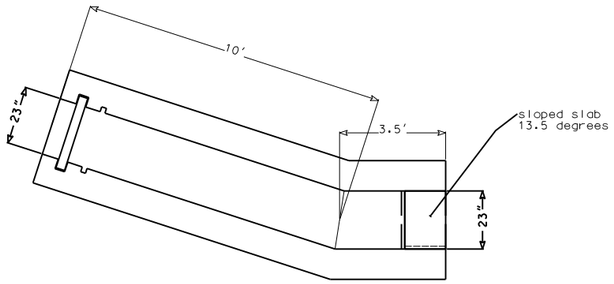


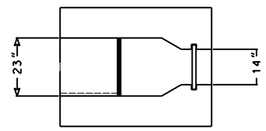
SECTION A
SCALE: 1"=20'

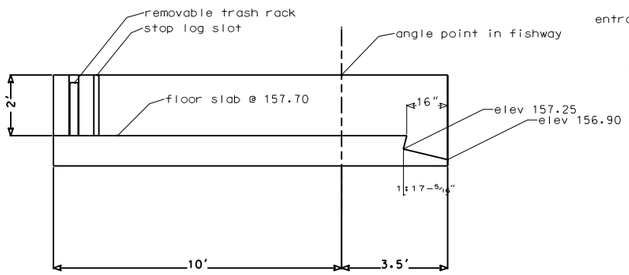
GRAPHIC SCALE:
1" = 10'
10 0 10 20

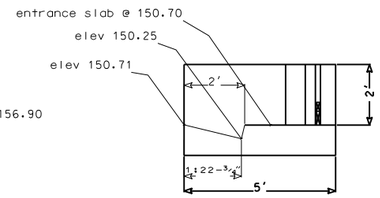
GRAPHIC SCALE:
1" = 20'
20 0 20 40

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE SECTIONS AND DETAILS MILL STREET DAM	16/24





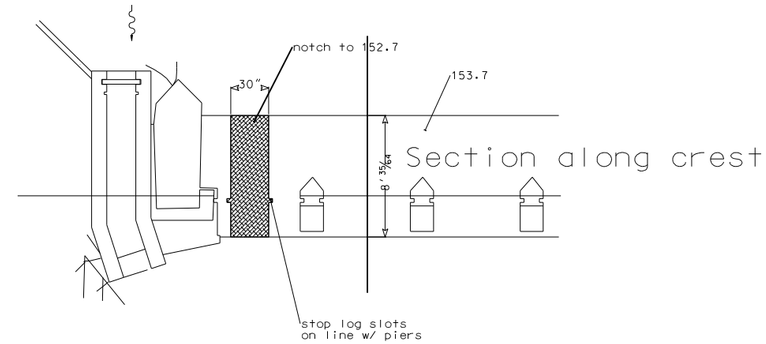




Note:
Measurements are along the center line of the fishway

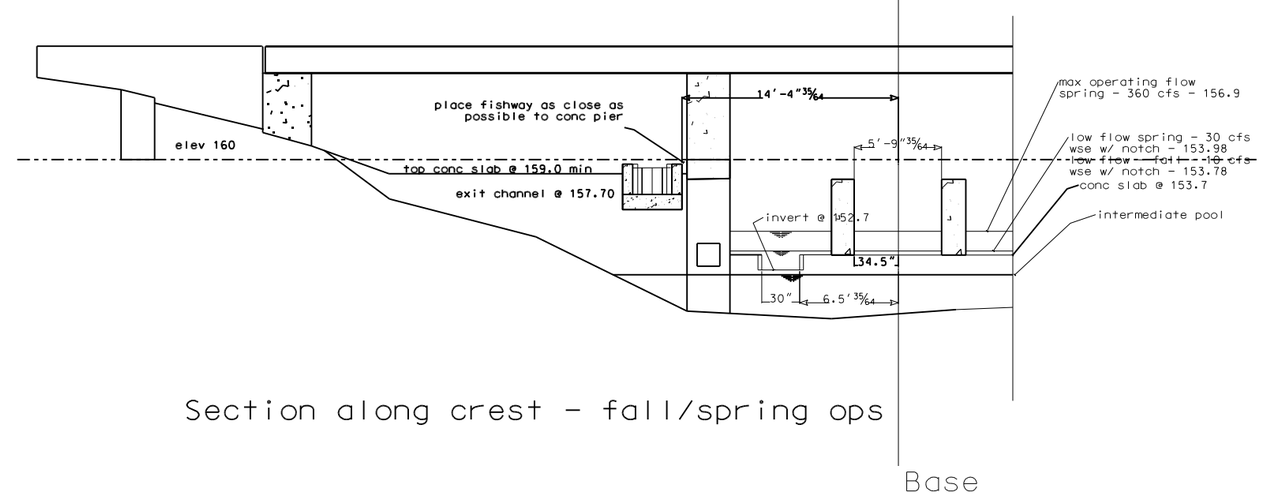
ENTRANCE & EXIT DETAILS

N.T.S.



Section along crest

Base

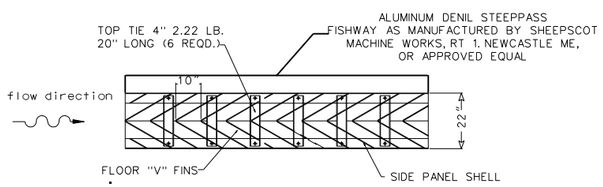


Section along crest - fall/spring ops

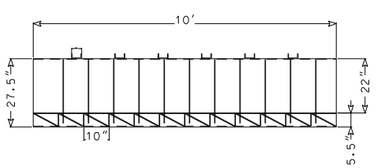
Base

NOTCH DETAILS

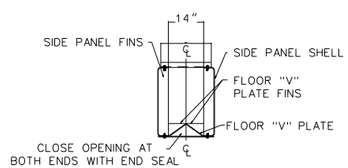
N.T.S.



PLAN - 10' STEEPPASS SECTION



SECTION

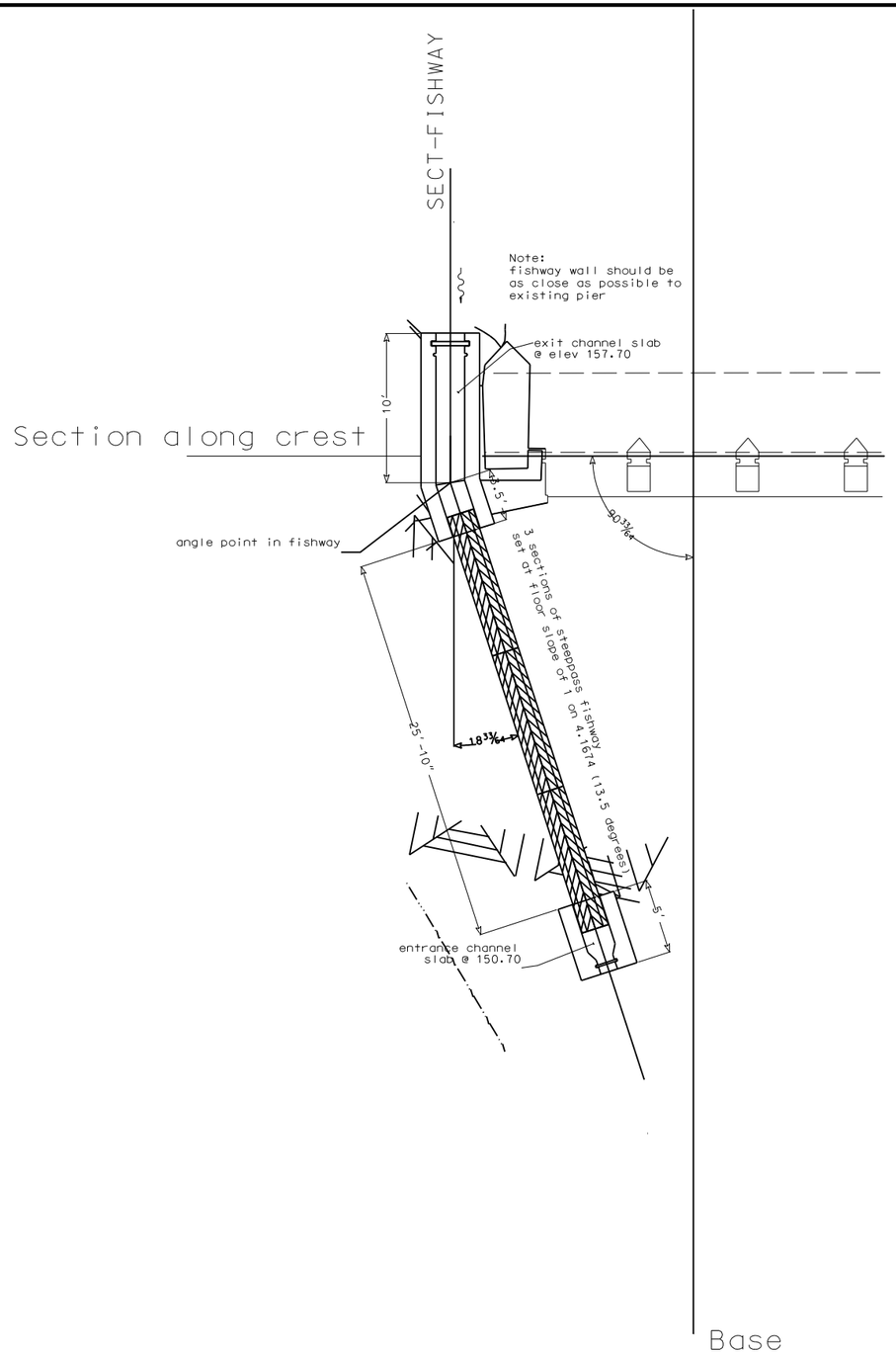


END SECTION

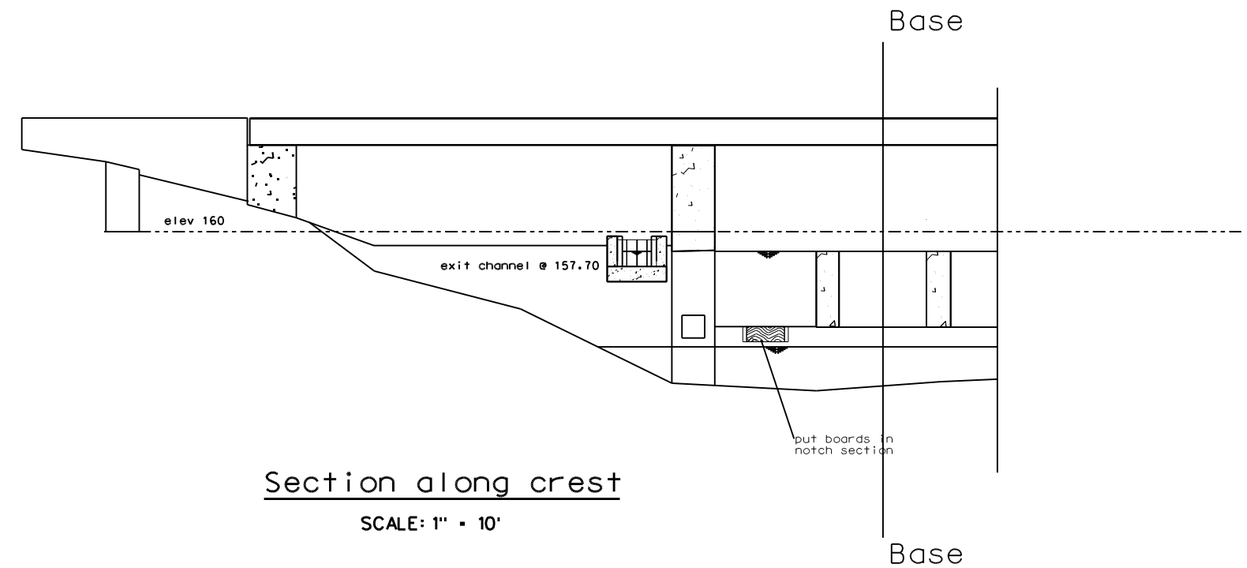
STEEPPASS DETAILS

N.T.S.

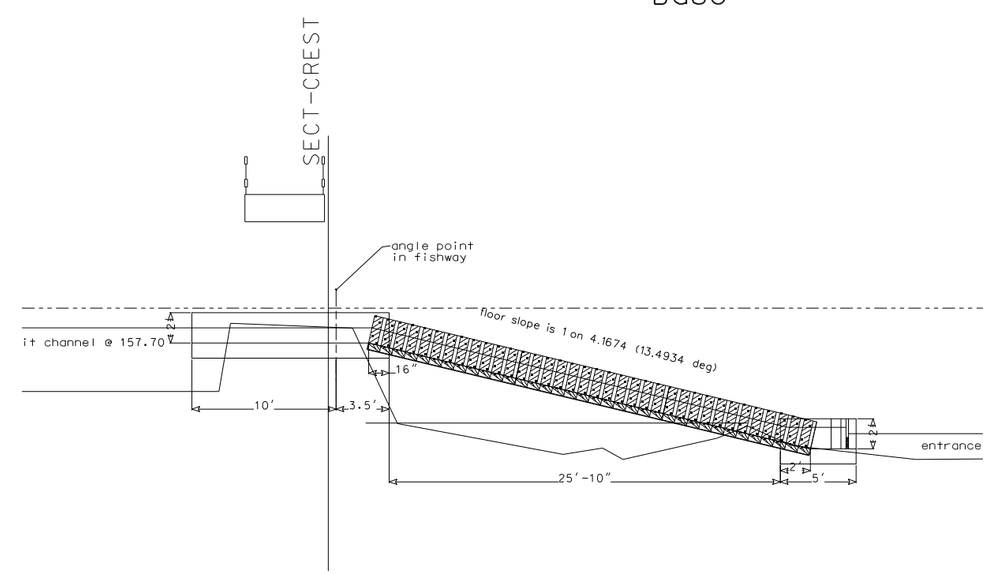
DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE SECTIONS AND DETAILS SWIMMING POOL DAM	11/24



PLAN VIEW FISHWAY
WITHOUT NOTCH
SCALE: 1" = 10'

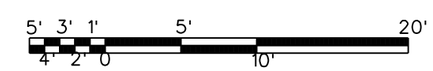


Section along crest
SCALE: 1" = 10'

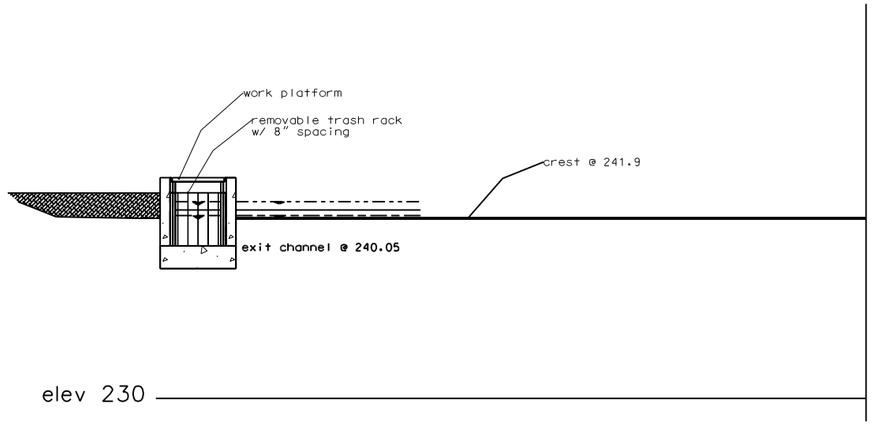


PROFILE ALONG FISHWAY
SCALE: 1" = 10'

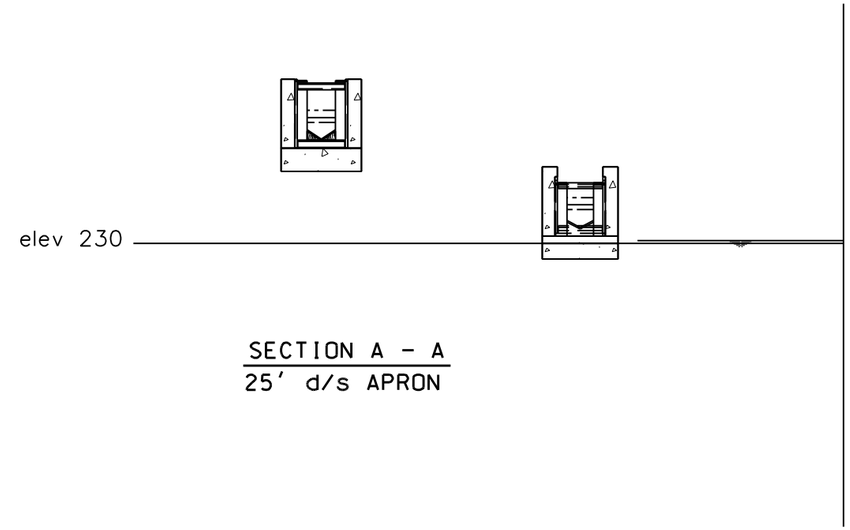
SCALE: 1" = 10'



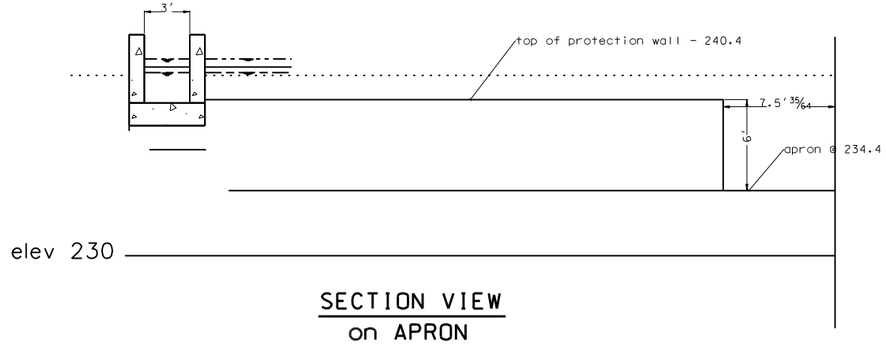
DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE SWIMMING POOL PLAN, SECTION & PROFILE	10/24



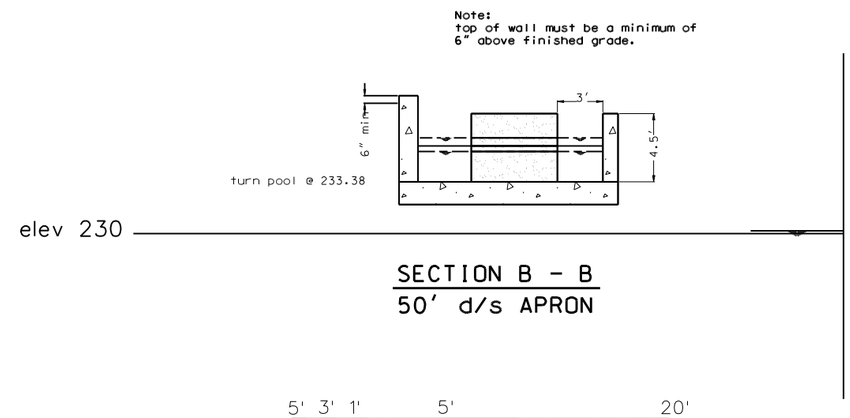
SECTION VIEW
@ CREST OF DAM



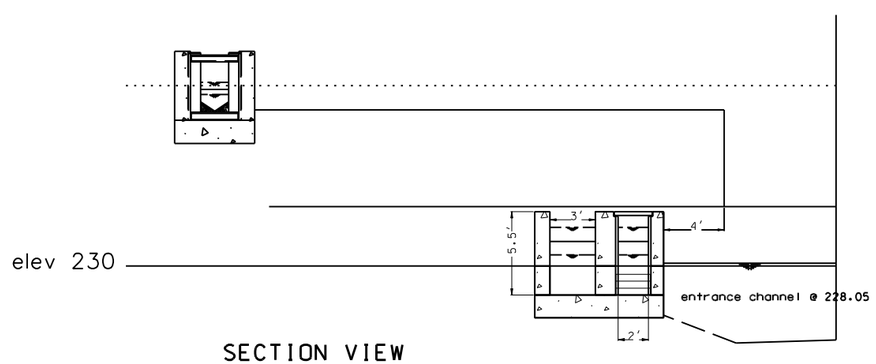
SECTION A - A
25' d/s APRON



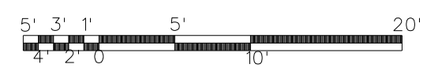
SECTION VIEW
on APRON



SECTION B - B
50' d/s APRON

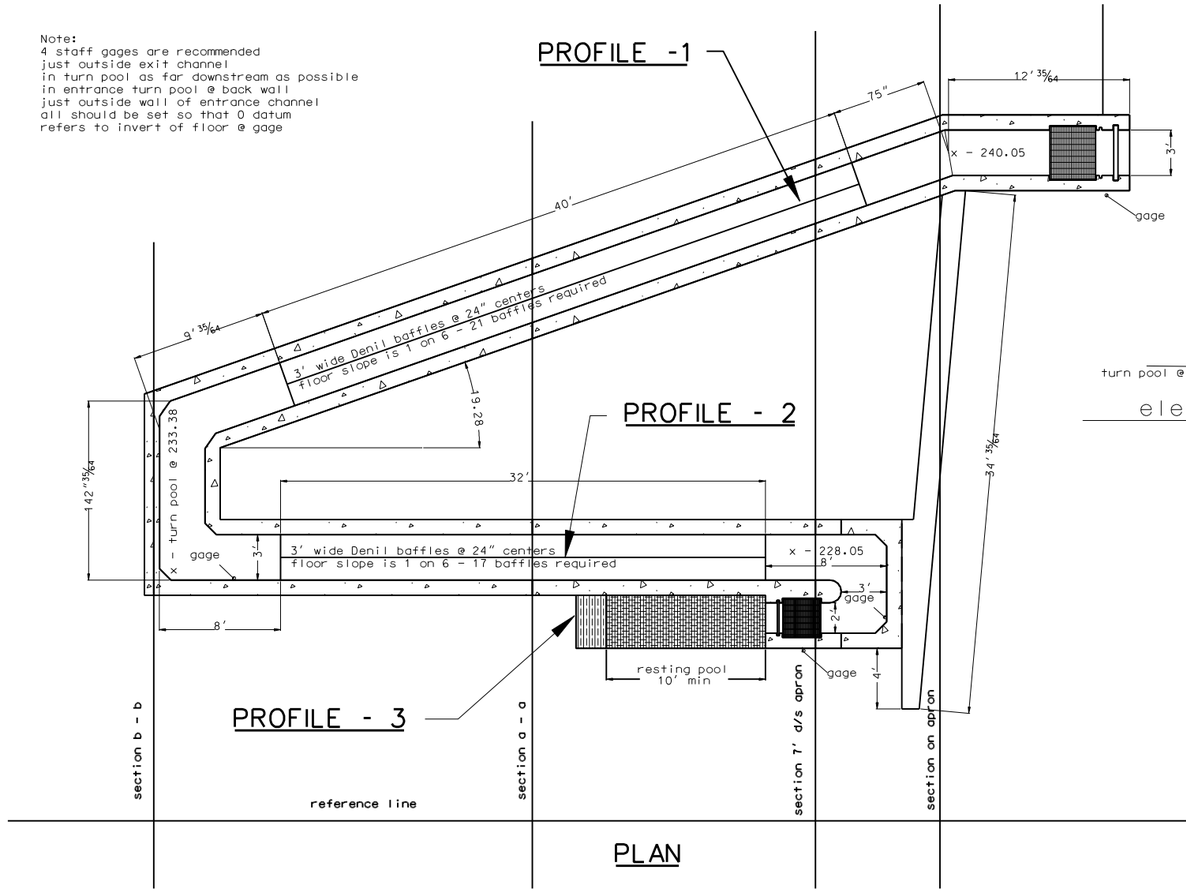


SECTION VIEW
7' D/S END OF APRON

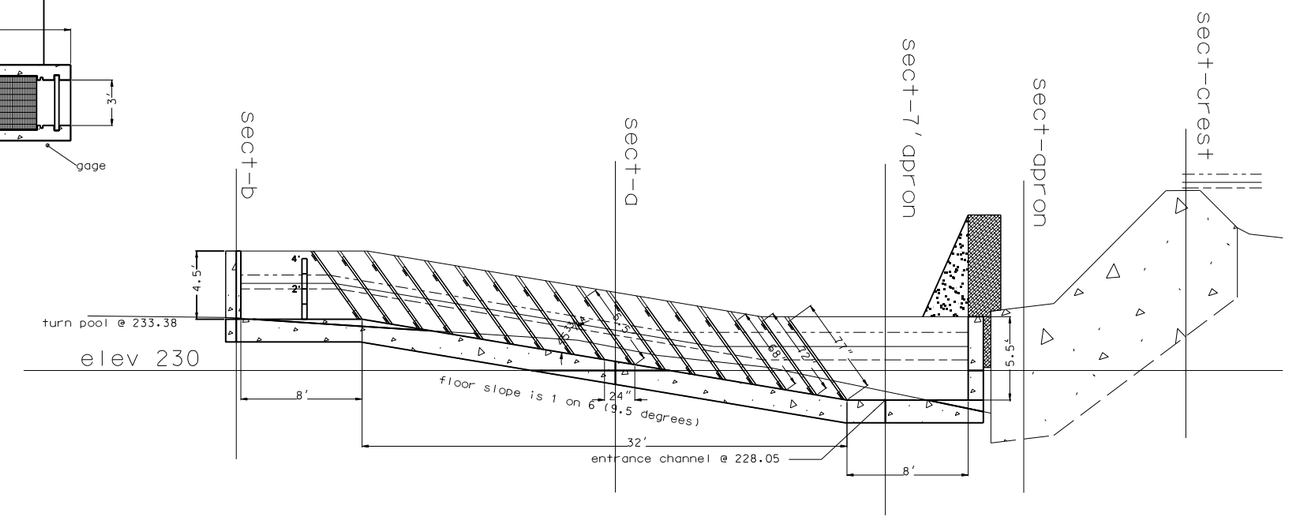


DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE PUMPING STATION DAM SECTIONS	7/24

Note:
4 staff gages are recommended
just outside exit channel
in turn pool as far downstream as possible
in entrance turn pool @ back wall
just outside wall of entrance channel
all should be set so that 0 datum
refers to invert of floor @ gage

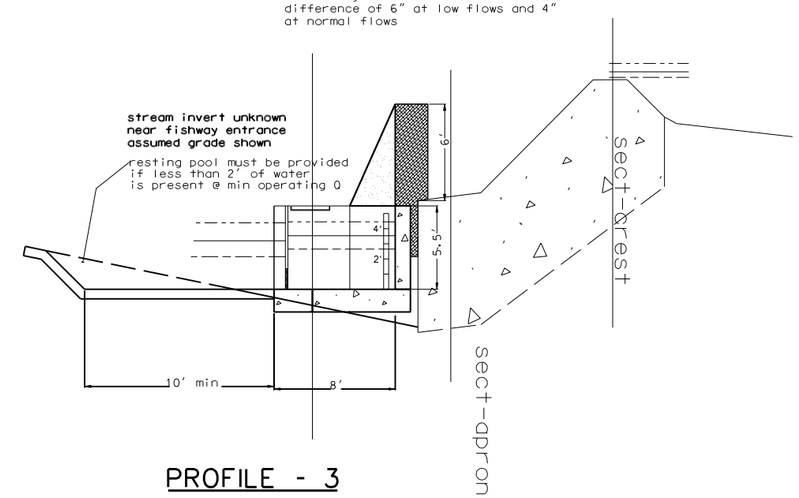


PLAN

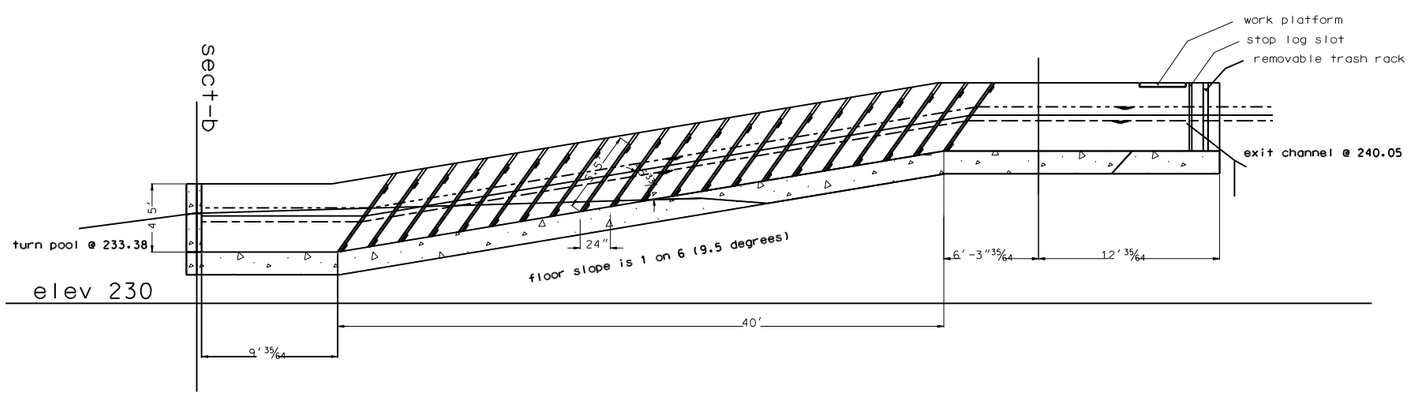


PROFILE - 2

Note:
stop logs must be adjusted inside of slots
in fishway entrance to obtain a head
difference of 6" at low flows and 4"
at normal flows



PROFILE - 3

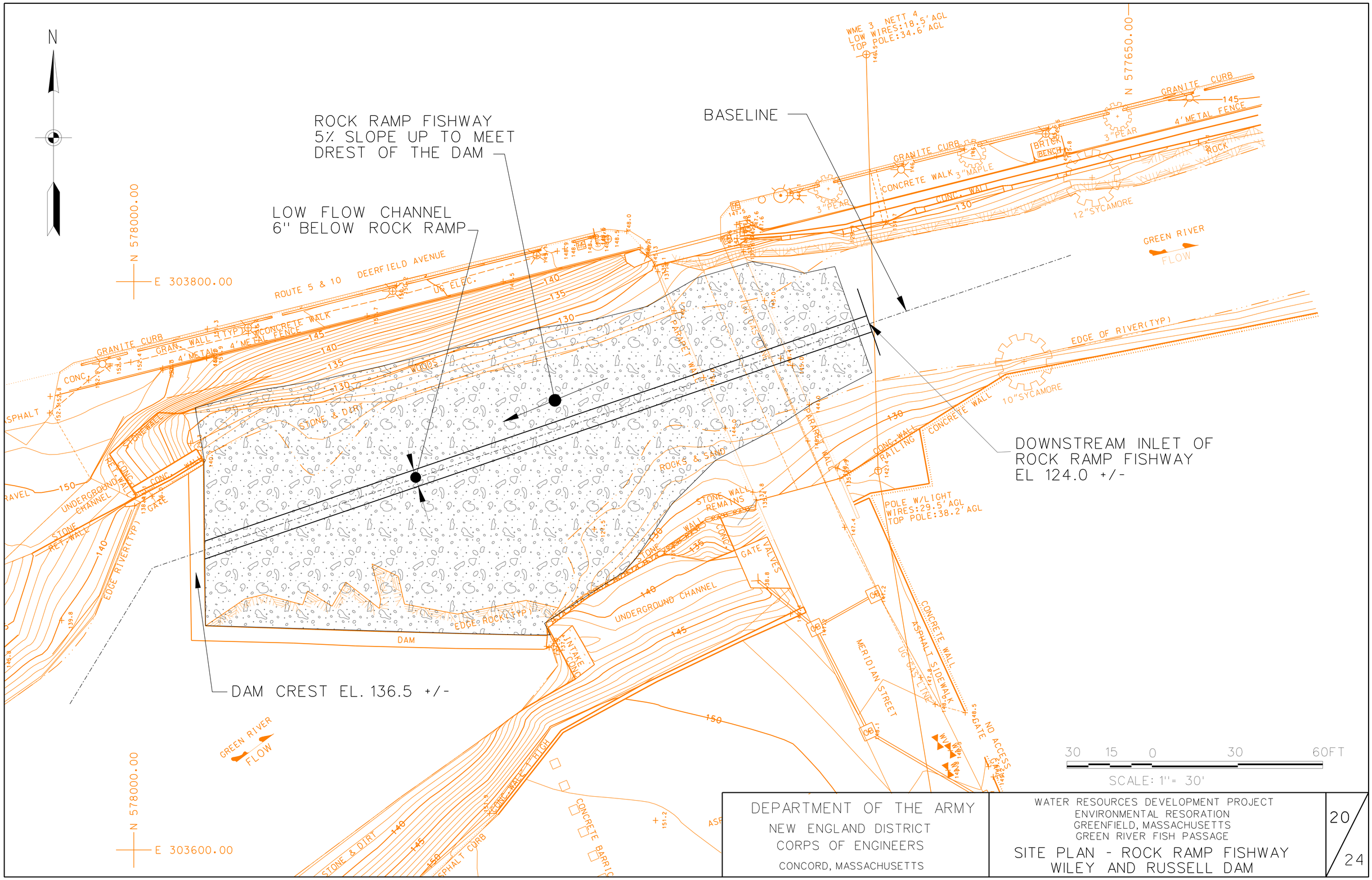


PROFILE -1

10 5 0 10 20FT

SCALE: 1"= 10'

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE PUMPING STATION DAM FISHWAY PLAN & PROFILES	6 / 24

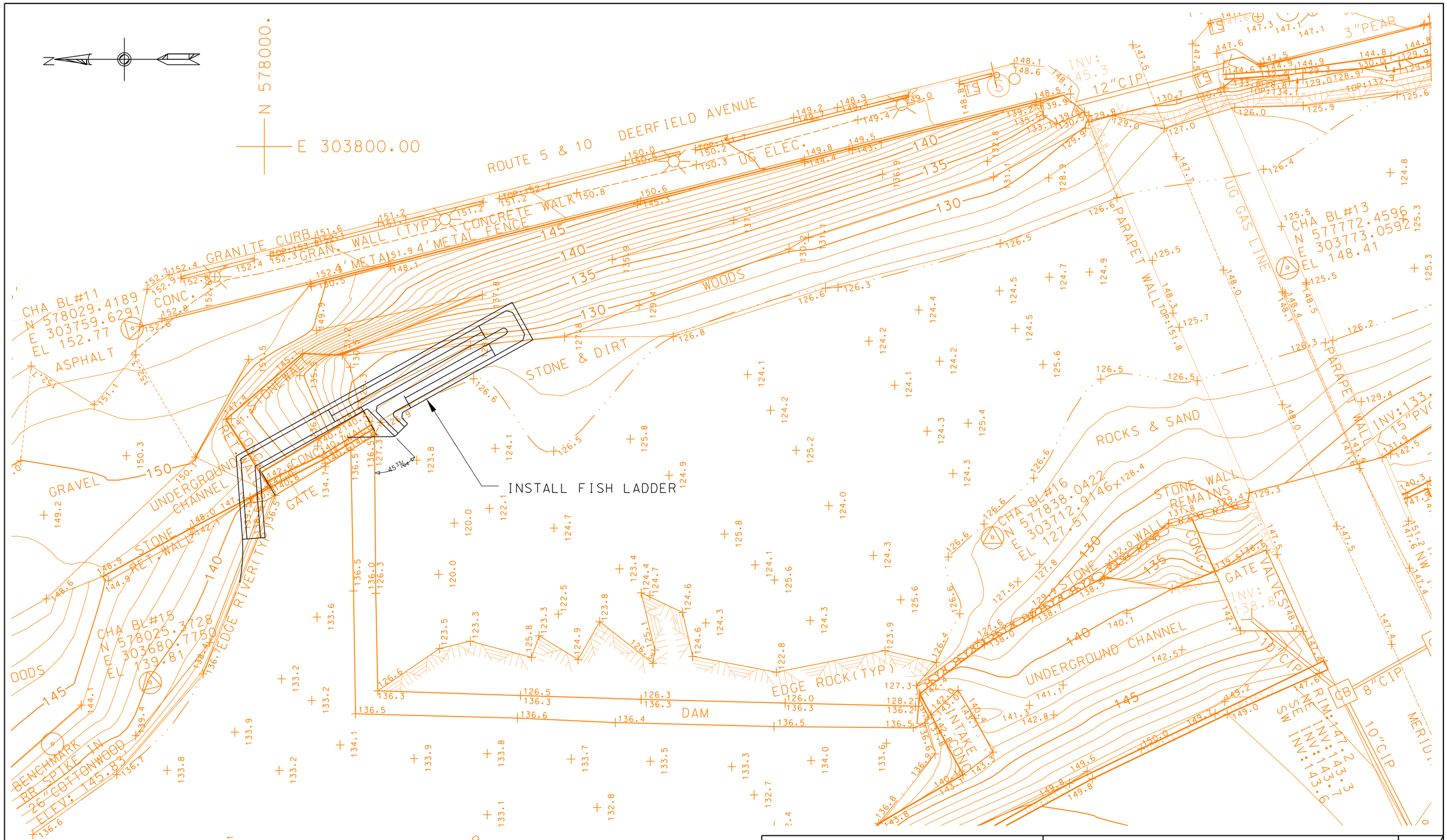


DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE

SITE PLAN - ROCK RAMP FISHWAY
WILEY AND RUSSELL DAM

20/24

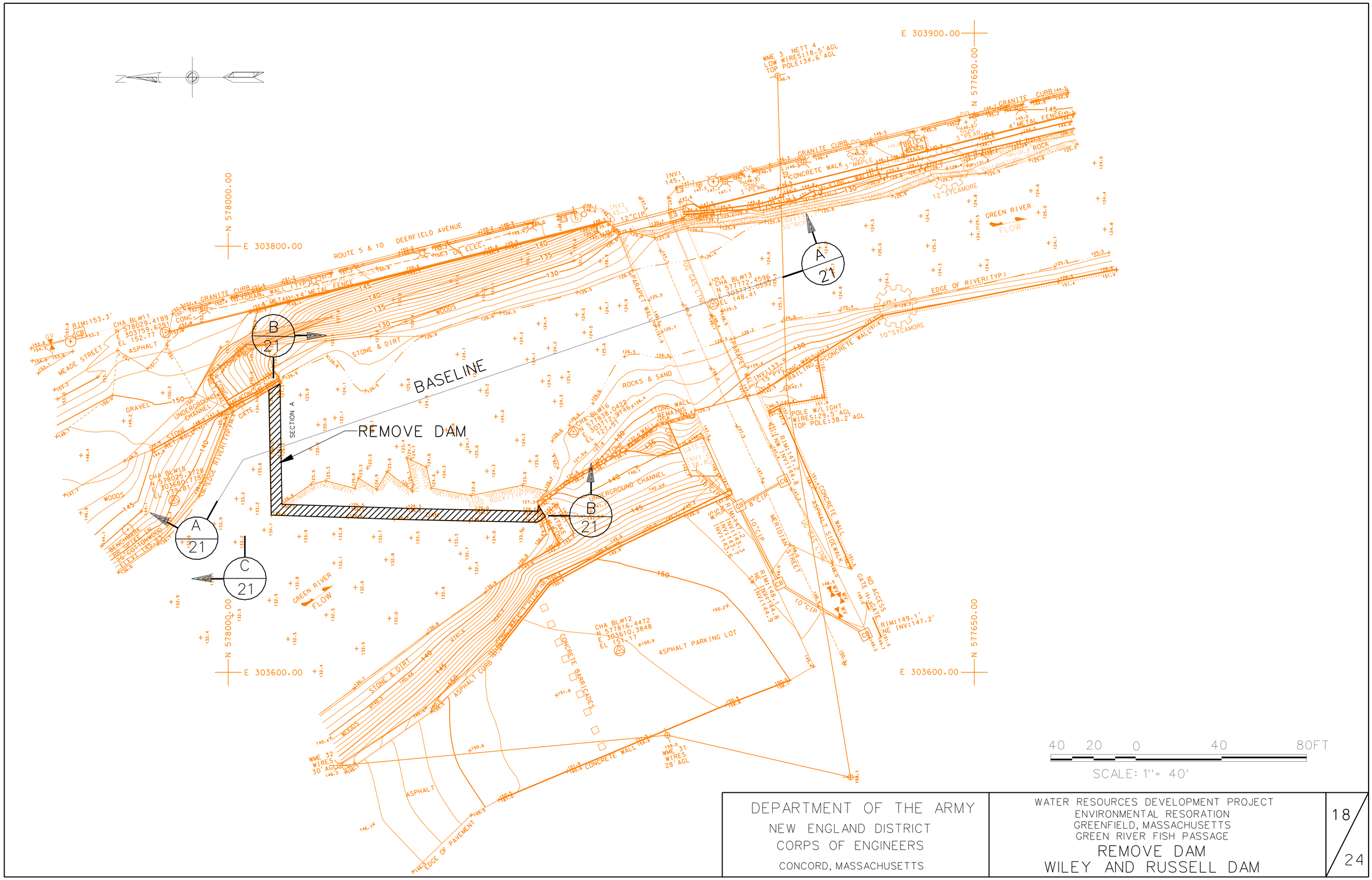


DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE

FISH LADDER-SITE PLAN
WILEY AND RUSSELL DAM

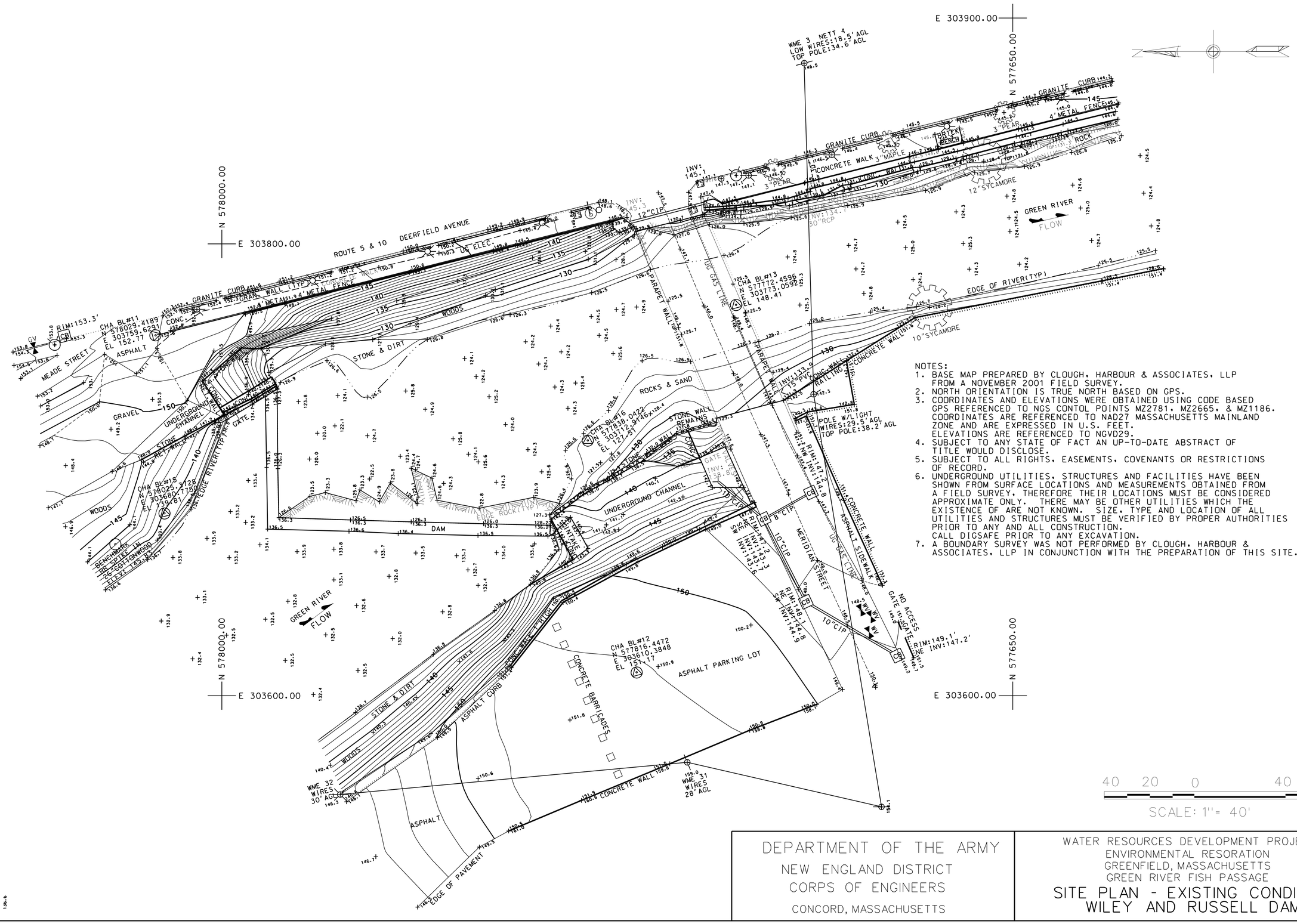
19/24



40 20 0 40 80FT

SCALE: 1"= 40'

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE REMOVE DAM WILEY AND RUSSELL DAM	18/24



NOTES:

1. BASE MAP PREPARED BY CLOUGH, HARBOUR & ASSOCIATES, LLP FROM A NOVEMBER 2001 FIELD SURVEY.
2. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS.
3. COORDINATES AND ELEVATIONS WERE OBTAINED USING CODE BASED GPS REFERENCED TO NGS CONTOL POINTS MZ2781, MZ2665, & MZ1186. COORDINATES ARE REFERENCED TO NAD27 MASSACHUSETTS MAINLAND ZONE AND ARE EXPRESSED IN U.S. FEET. ELEVATIONS ARE REFERENCED TO NGVD29.
4. SUBJECT TO ANY STATE OF FACT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.
5. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.
6. UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY, THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN. SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIGSAFE PRIOR TO ANY EXCAVATION.
7. A BOUNDARY SURVEY WAS NOT PERFORMED BY CLOUGH, HARBOUR & ASSOCIATES, LLP IN CONJUNCTION WITH THE PREPARATION OF THIS SITE.

40 20 0 40 80FT

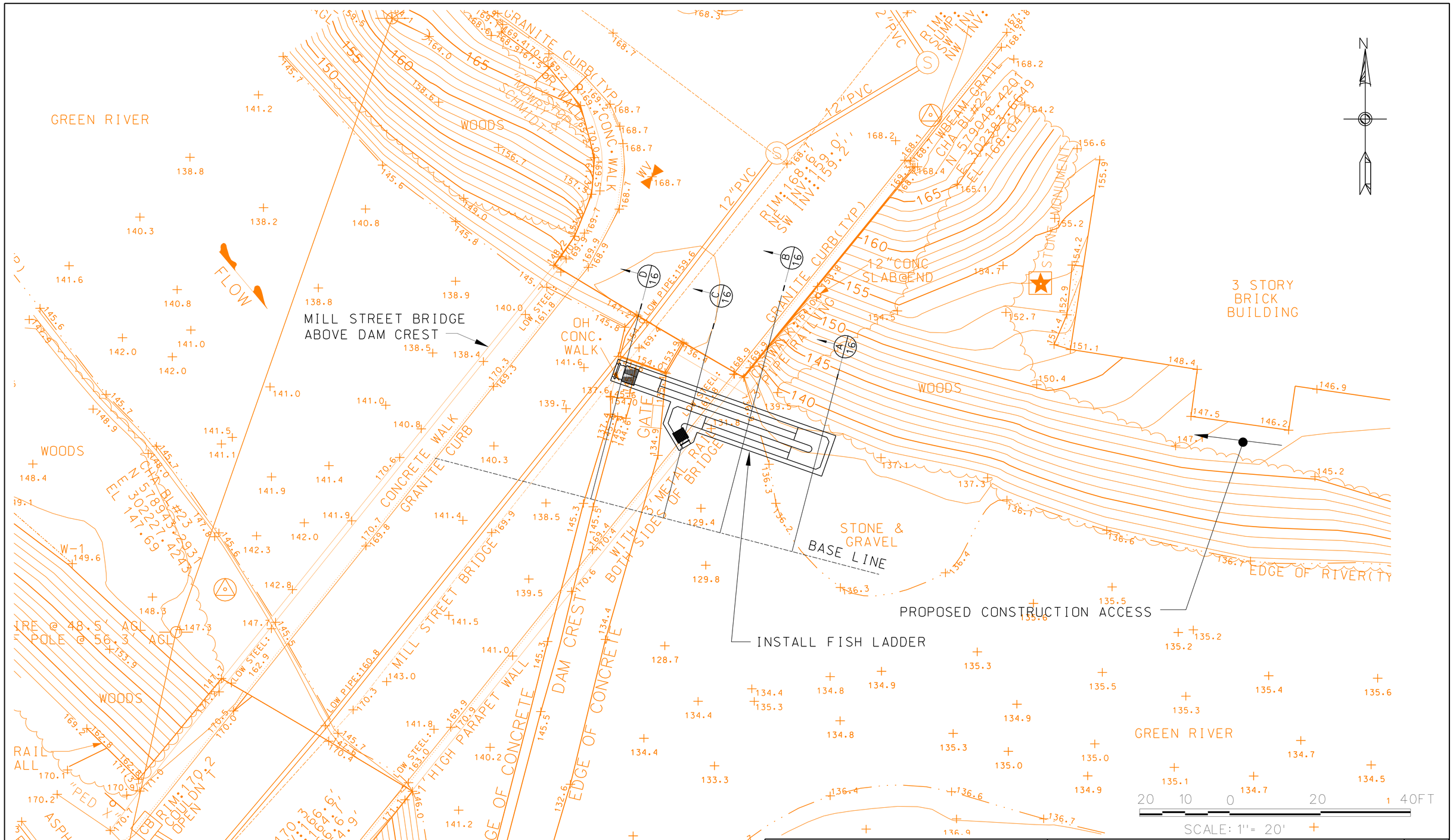
SCALE: 1"= 40'

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE

SITE PLAN - EXISTING CONDITION
WILEY AND RUSSELL DAM

17/24

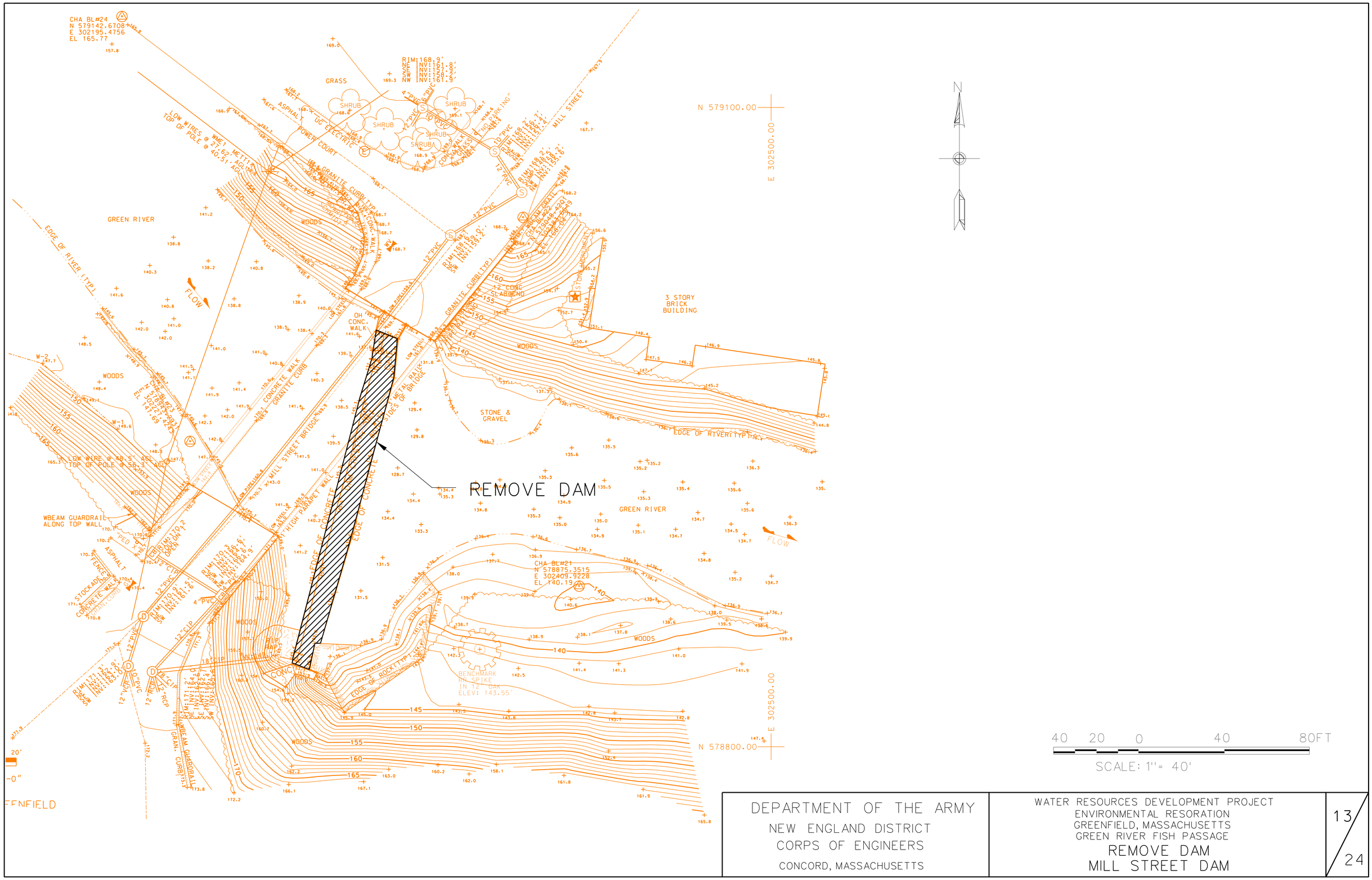


DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE

FISH LADDER - SITE PLAN
MILL STREET DAM

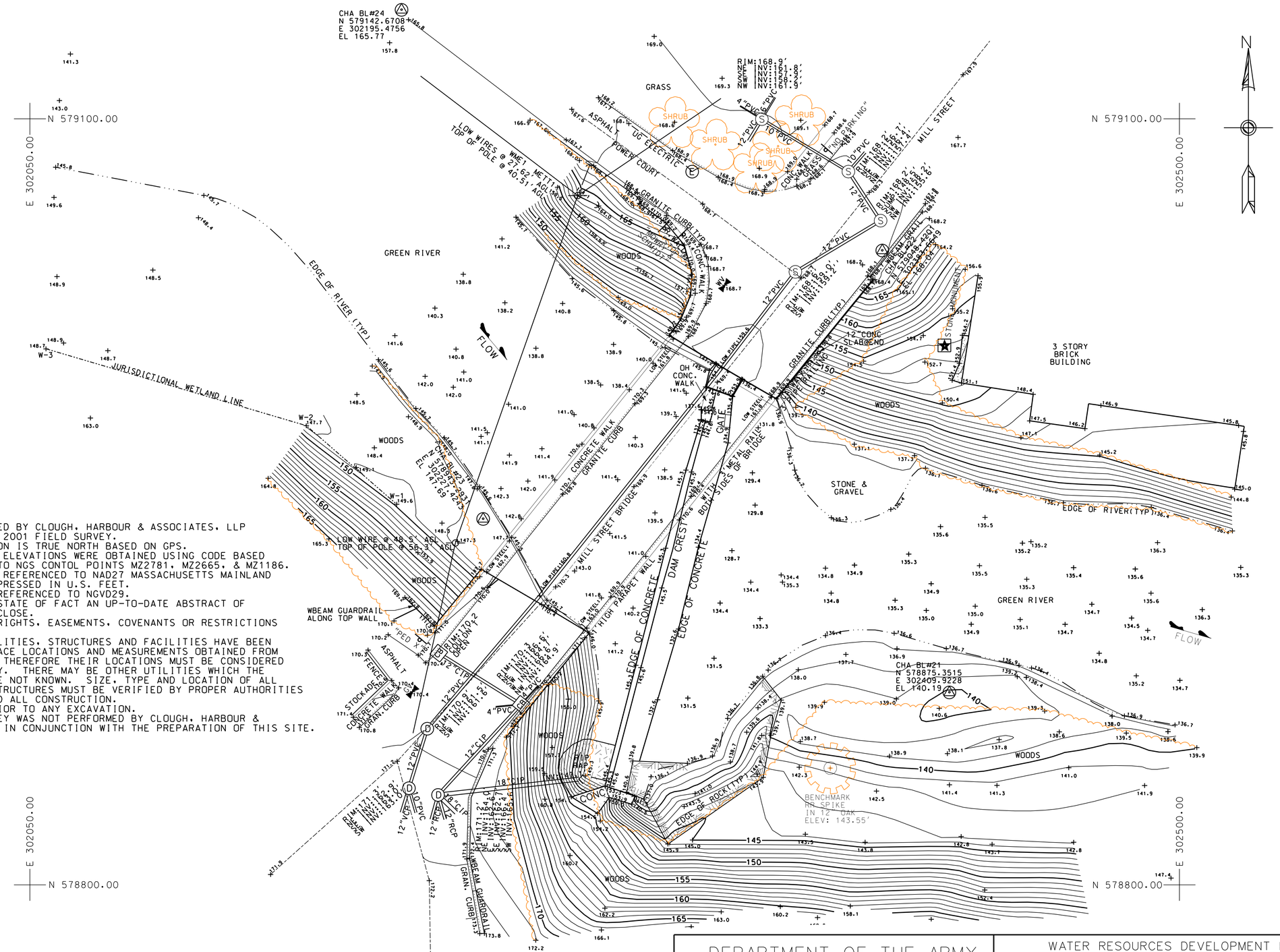
14/24



DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE
REMOVE DAM
MILL STREET DAM

13/24



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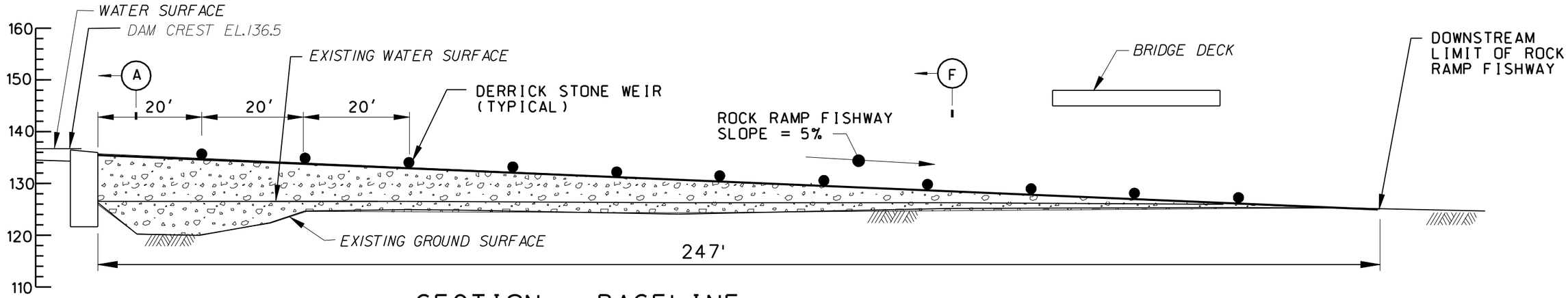
40 20 0 40 80FT

SCALE: 1"= 40'

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

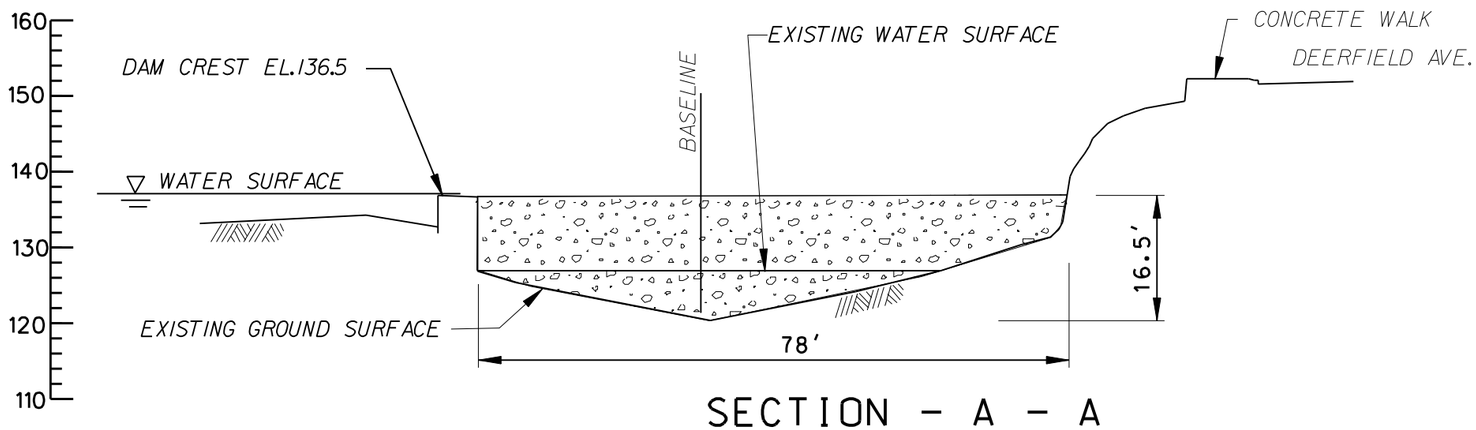
WATER RESOURCES DEVELOPMENT PROJECT
ENVIRONMENTAL RESORATION
GREENFIELD, MASSACHUSETTS
GREEN RIVER FISH PASSAGE

SITE PLAN - EXISTING CONDITION
MILL STREET DAM



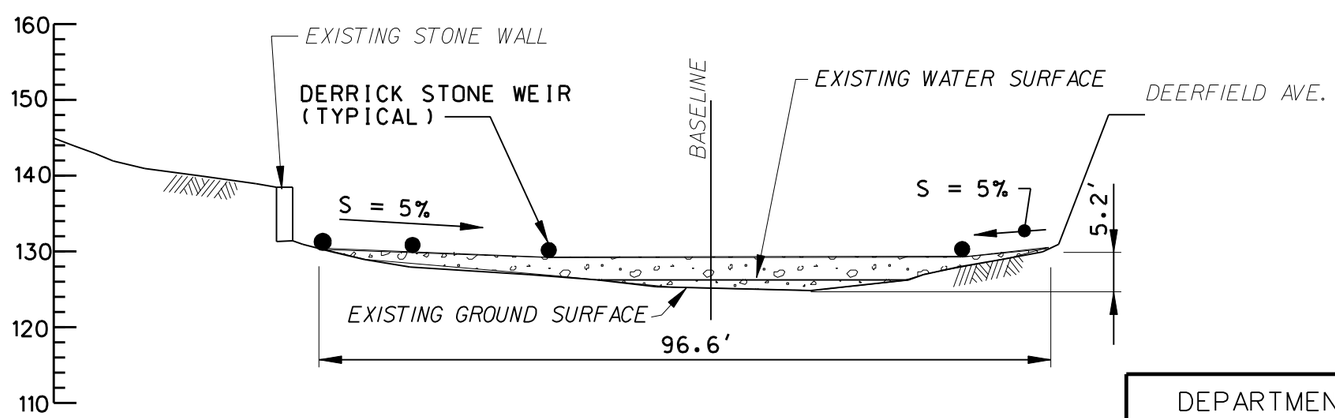
SECTION - BASELINE

SCALE: 1" = 20'



SECTION - A - A

SCALE: 1" = 20'



SECTION - F - F

GRAPHIC SCALE:

1" = 20'

20 0 20 40

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	WATER RESOURCES DEVELOPMENT PROJECT ENVIRONMENTAL RESORATION GREENFIELD, MASSACHUSETTS GREEN RIVER FISH PASSAGE ROCK RAMP FISHWAY SECTIONS WILEY & RUSSELL DAM	23/24