Figure 1. Project Location

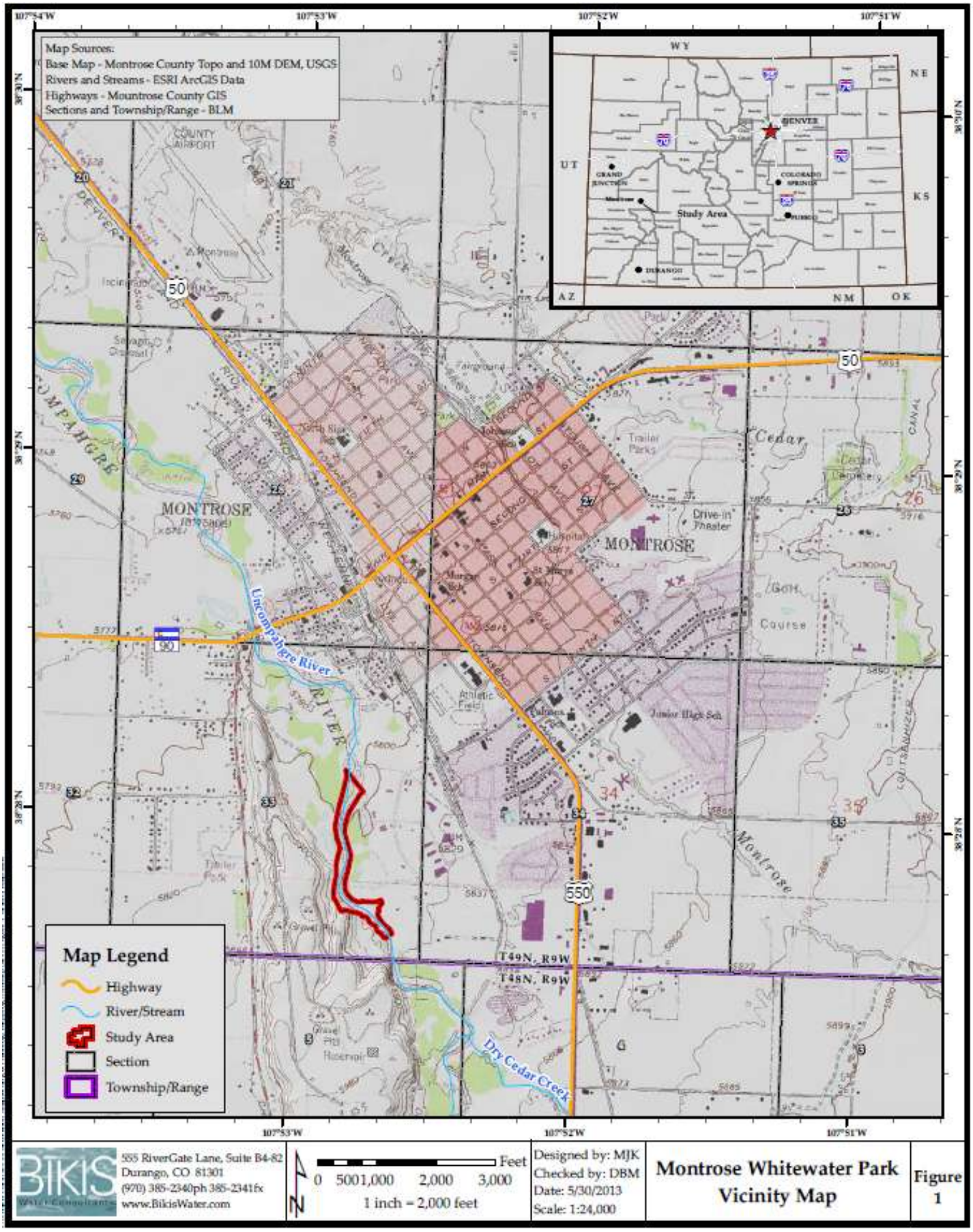
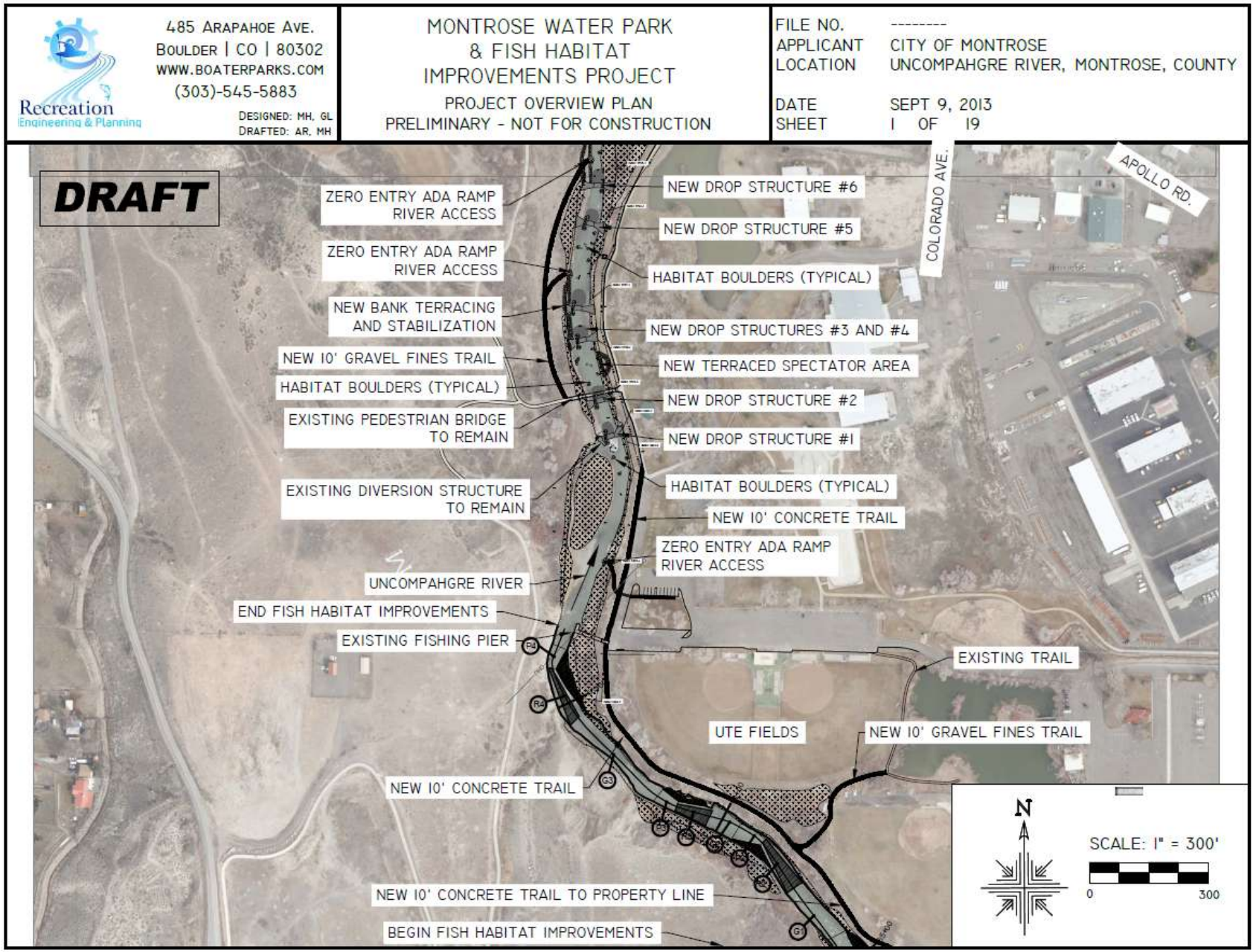


Figure 2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Boulder | CO | 80302
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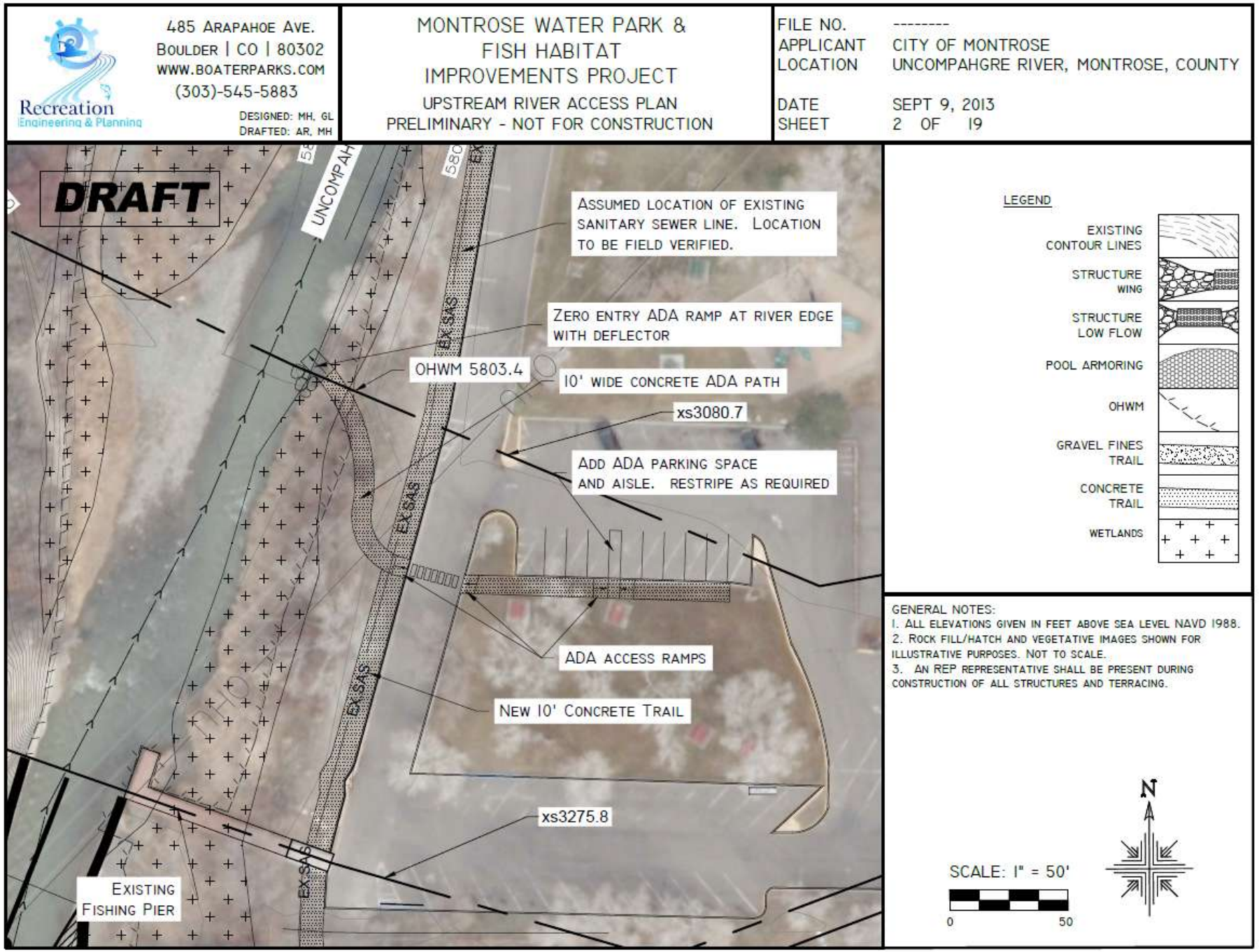
(303)-545-5883
Designed: MH, GL
Drafted: AR, MH
MONTROSE WATER PARK
& FISH HABITAT
IMPROVEMENTS PROJECT
PROJECT OVERVIEW PLAN
PRELIMINARY - NOT FOR CONSTRUCTION
FILE NO. --------
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE, COUNTY
DATE SEPT 9, 2013
SHEET 1 OF 19
DRAFT
ZERO ENTRY ADA RAMP RIVER ACCESS
ZERO ENTRY ADA RAMP RIVER ACCESS
NEW BANK TERRACING AND STABILIZATION
NEW 10' GRAVEL FINES TRAIL
HABITAT BOULDERS (TYPICAL)
EXISTING PEDESTRIAN BRIDGE TO REMAIN
EXISTING DIVERSION STRUCTURE TO REMAIN
UNCOMPAHGRE RIVER
END FISH HABITAT IMPROVEMENTS
EXISTING FISHING PIER
NEW 10' CONCRETE TRAIL
NEW 10' CONCRETE TRAIL TO PROPERTY LINE
BEGIN FISH HABITAT IMPROVEMENTS
NEW DROP STRUCTURE #6
NEW DROP STRUCTURE #5
HABITAT BOULDERS (TYPICAL)
NEW DROP STRUCTURES #3 AND #4
NEW TERRACED SPECTATOR AREA
NEW DROP STRUCTURE #2
NEW DROP STRUCTURE #1
HABITAT BOULDERS (TYPICAL)
NEW 10' CONCRETE TRAIL
ZERO ENTRY ADA RAMP RIVER ACCESS
COLORADO AVE.
APOLLO RD.
EXISTING TRAIL
UTE FIELDS
NEW 10' GRAVEL FINES TRAIL
N
SCALE: 1" = 300'
0
300

Figure 3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Drafted: AR, MH
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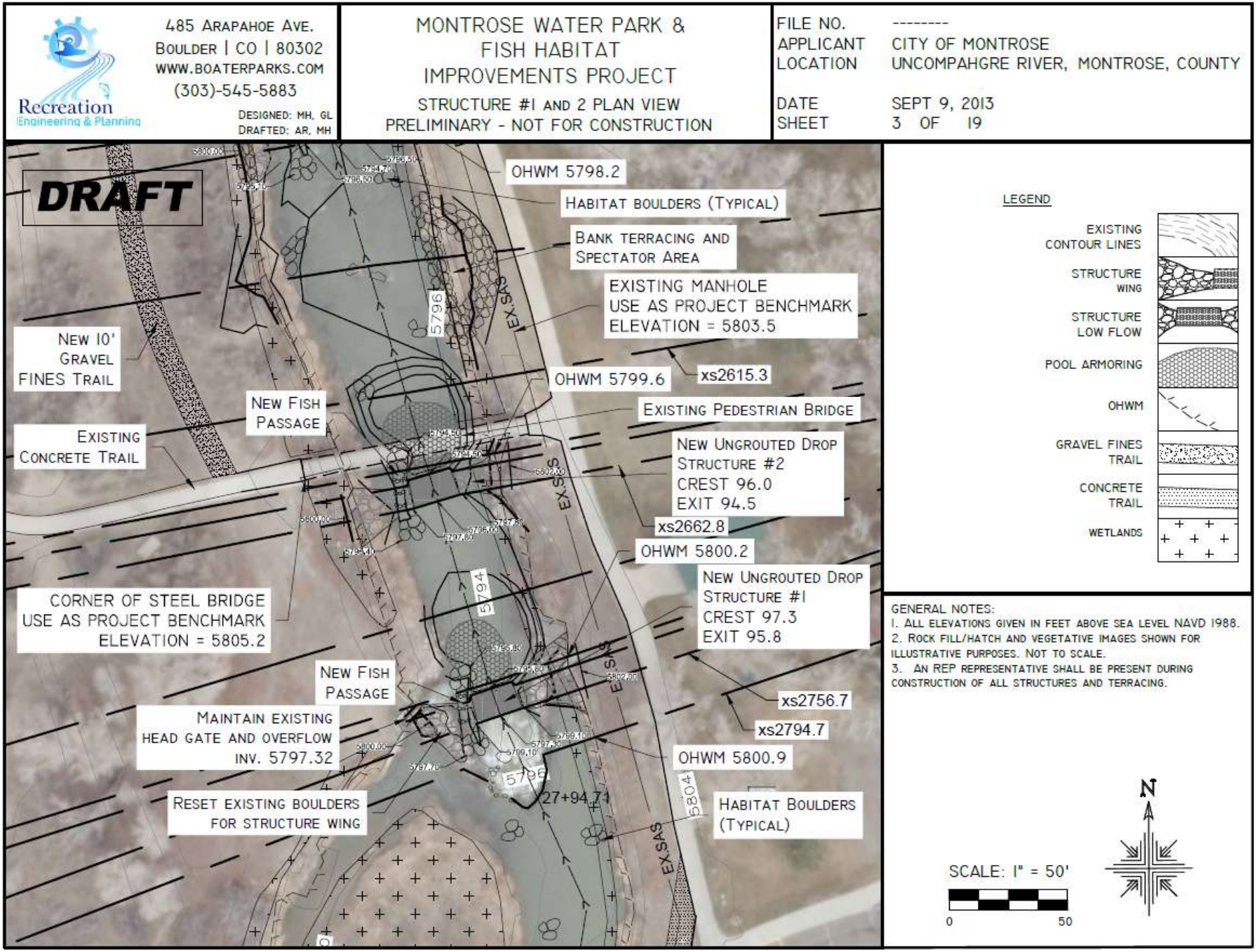
MONTROSE WATER PARK & FISH HABITAT IMPROVEMENTS PROJECT
UPSTREAM RIVER ACCESS PLAN
PRELIMINARY - NOT FOR CONSTRUCTION
FILE NO. --------
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE, COUNTY
DATE SEPT 9, 2013
SHEET 2 OF 19
DRAFT
UNCOMPAHGRE
Assumed location of existing sanitary sewer line. Location to be field verified.
Zero entry ADA ramp at river edge with deflector
OHWM 5803.4
10' wide concrete ADA path
xs3080.7
Add ADA parking space and aisle. Restripe as required
ADA access ramps
New 10' Concrete Trail
xs3275.8
Existing Fishing Pier
EX SAS
LEGEND
Existing contour lines
Structure wing
Structure low flow
Pool armoring
OHWM
Gravel fines trail
Concrete trail
Wetlands
GENERAL NOTES:
1. All elevations given in feet above sea level NAVD 1988.
2. Rock fill/hatch and vegetative images shown for illustrative purposes. Not to scale.
3. An REP representative shall be present during construction of all structures and terracing.
N
SCALE: 1" = 50'
0
50

Figure 4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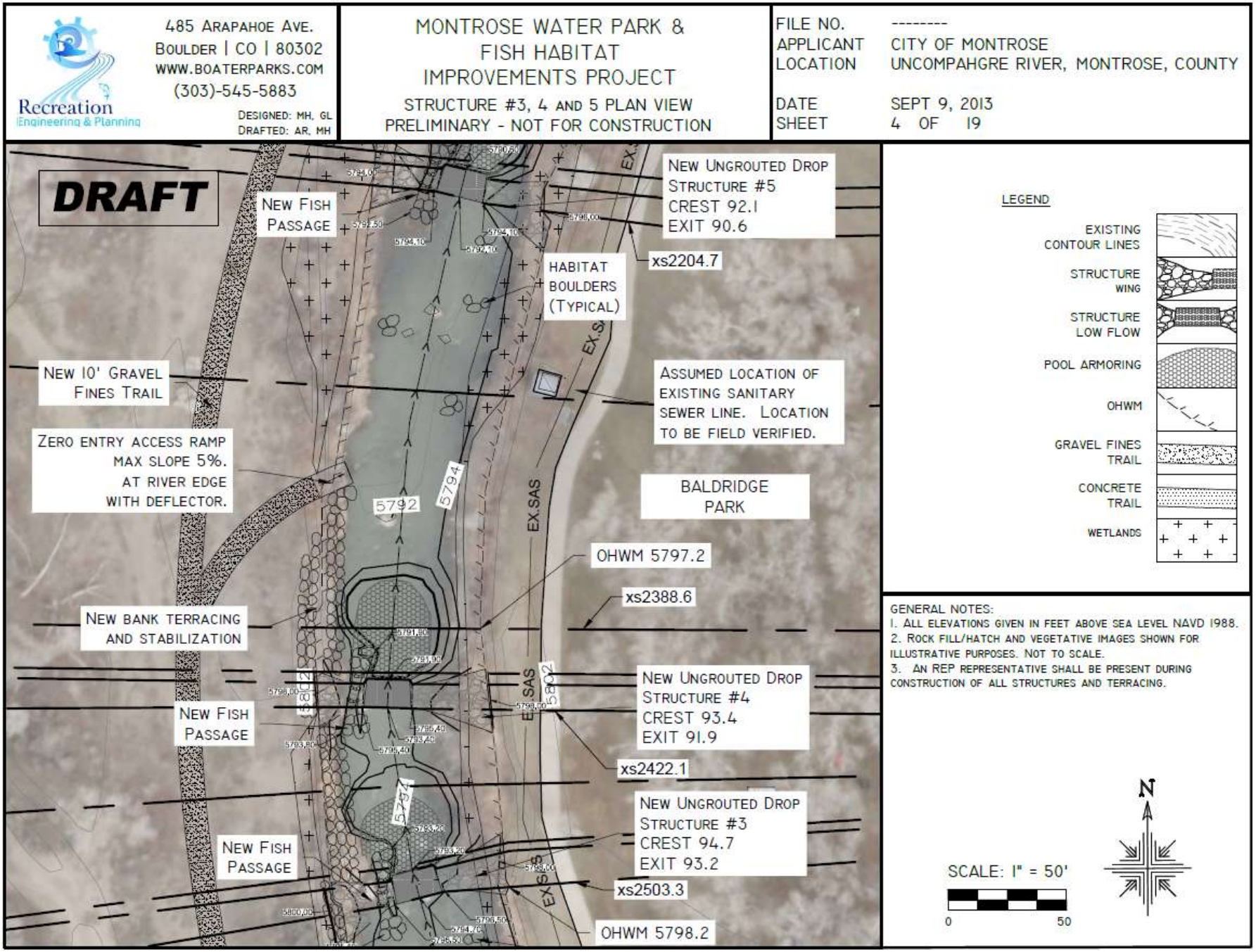
Drafted: AR, MH
MONTROSE WATER PARK &
FISH HABITAT
IMPROVEMENTS PROJECT
STRUCTURE #1 AND 2 PLAN VIEW
PRELIMINARY - NOT FOR CONSTRUCTION
FILE NO. --------
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE, COUNTY
DATE SEPT 9, 2013
SHEET 3 OF 19
DRAFT
OHWM 5798.2
Habitat boulders (Typical)
Bank terracing and
Spectator Area
EXISTING MANHOLE
USE AS PROJECT BENCHMARK
ELEVATION = 5803.5
New 10'
Gravel
Fines Trail
OHWM 5799.6
xs2615.3
New Fish
Passage
Existing Pedestrian Bridge
Existing
Concrete Trail
New Ungrouted Drop
Structure #2
CREST 96.0
EXIT 94.5
xs2662.8
OHWM 5800.2
New Ungrouted Drop
Structure #1
CREST 97.3
EXIT 95.8
CORNER OF STEEL BRIDGE
USE AS PROJECT BENCHMARK
ELEVATION = 5805.2
New Fish
Passage
xs2756.7
xs2794.7
Maintain Existing
Head Gate and Overflow
Inv. 5797.32
OHWM 5800.9
Reset Existing Boulders
for Structure Wing
27+94.71
Habitat Boulders
(Typical)
EX.SAS
LEGEND
Existing
Contour Lines
Structure
Wing
Structure
Low Flow
Pool Armoring
OHWM
Gravel Fines
Trail
Concrete
Trail
Wetlands
GENERAL NOTES:
1. All elevations given in feet above sea level NAVD 1988.
2. Rock fill/hatch and vegetative images shown for
illustrative purposes. Not to scale.
3. An REP representative shall be present during
construction of all structures and terracing.
N
SCALE: 1" = 50'
0
50

Figure 5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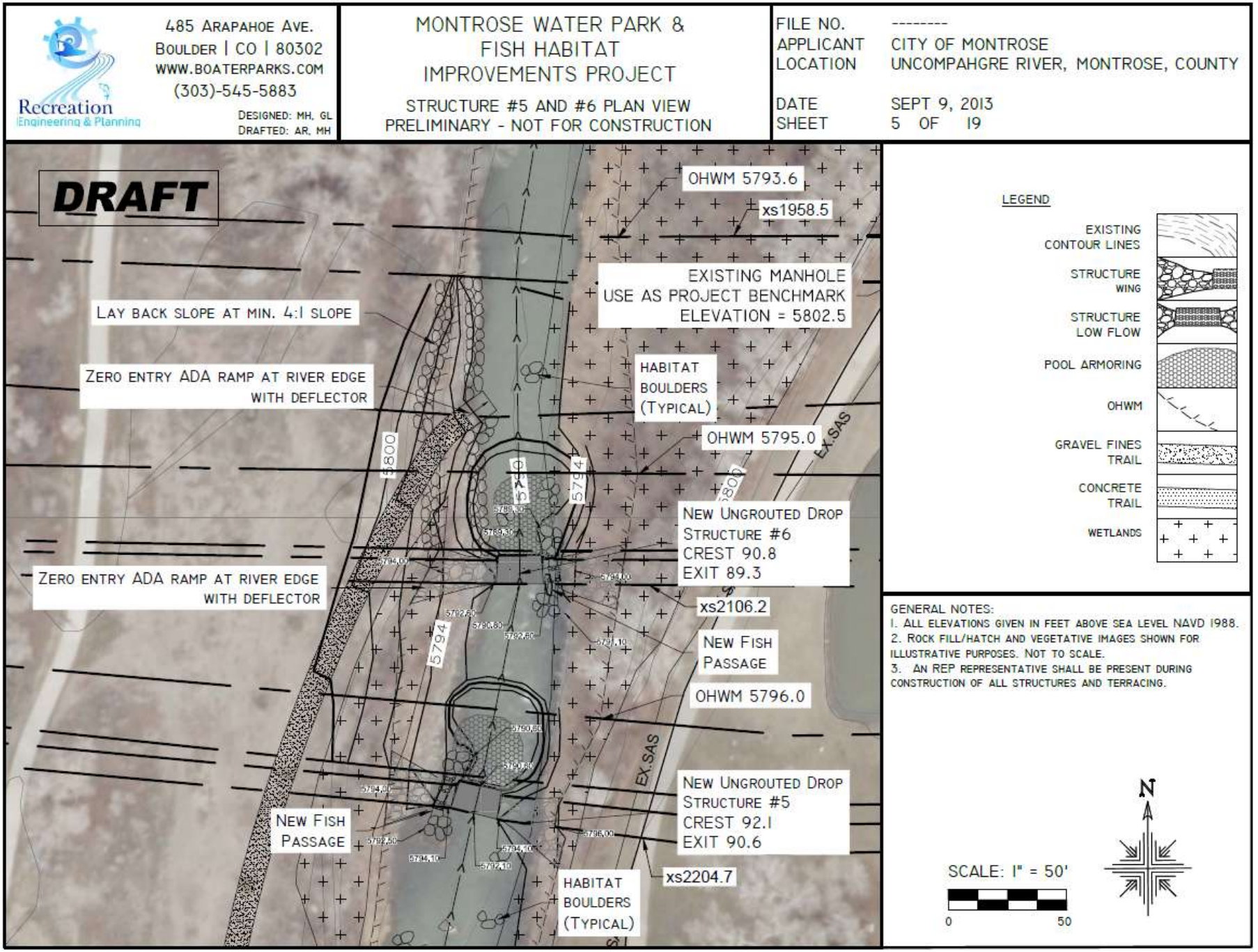
Drafted: AR, MH
MONTROSE WATER PARK &
FISH HABITAT
IMPROVEMENTS PROJECT
STRUCTURE #3, 4 AND 5 PLAN VIEW
PRELIMINARY - NOT FOR CONSTRUCTION
FILE NO. --------
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE, COUNTY
DATE SEPT 9, 2013
SHEET 4 OF 19
DRAFT
New Fish Passage
New Ungrouted Drop Structure #5
CREST 92.1
EXIT 90.6
xs2204.7
Habitat Boulders (Typical)
New 10' Gravel Fines Trail
Assumed location of existing sanitary sewer line. Location to be field verified.
Zero entry access ramp max slope 5%. at river edge with deflector.
Baldridge Park
OHWM 5797.2
xs2388.6
New Bank Terracing and Stabilization
New Fish Passage
New Ungrouted Drop Structure #4
CREST 93.4
EXIT 91.9
xs2422.1
New Ungrouted Drop Structure #3
CREST 94.7
EXIT 93.2
New Fish Passage
xs2503.3
OHWM 5798.2
EX.SAS
5792
5794
5797
5802
LEGEND
Existing Contour Lines
Structure Wing
Structure Low Flow
Pool Armoring
OHWM
Gravel Fines Trail
Concrete Trail
Wetlands
GENERAL NOTES:
1. All elevations given in feet above sea level NAVD 1988.
2. Rock fill/hatch and vegetative images shown for illustrative purposes. Not to scale.
3. An REP representative shall be present during construction of all structures and terracing.
N
SCALE: 1" = 50'
0
50

Figure 6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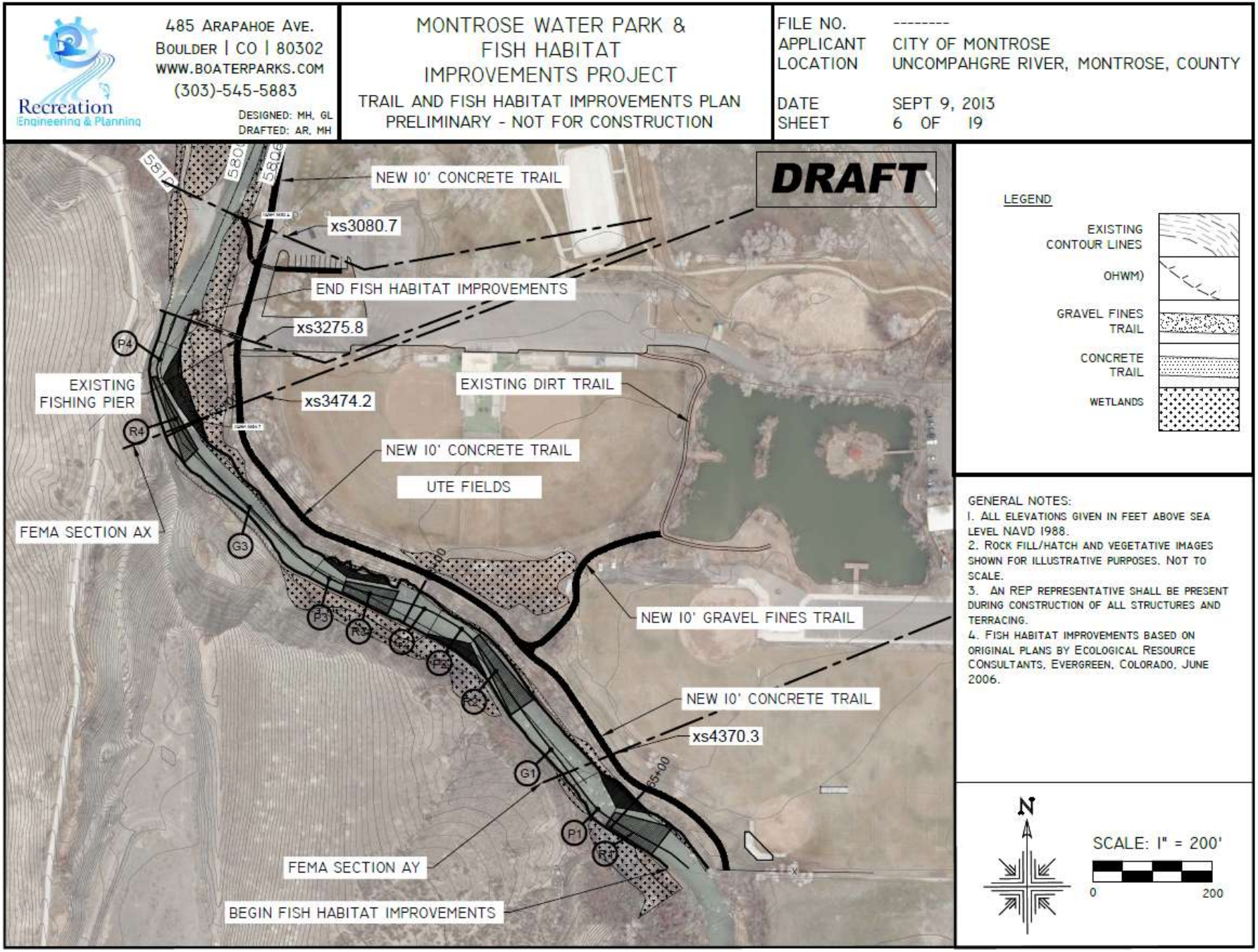
Drafted: AR, MH
MONTROSE WATER PARK &
FISH HABITAT
IMPROVEMENTS PROJECT
STRUCTURE #5 AND #6 PLAN VIEW
PRELIMINARY - NOT FOR CONSTRUCTION
FILE NO. --------
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE, COUNTY
DATE SEPT 9, 2013
SHEET 5 OF 19
DRAFT
OHWM 5793.6
xs1958.5
EXISTING MANHOLE
USE AS PROJECT BENCHMARK
ELEVATION = 5802.5
Lay back slope at min. 4:1 slope
Zero entry ADA ramp at river edge
with deflector
HABITAT
BOULDERS
(Typical)
OHWM 5795.0
EX.SAS
5800
5794
New Ungrouted Drop
Structure #6
CREST 90.8
EXIT 89.3
Zero entry ADA ramp at river edge
with deflector
xs2106.2
New Fish
Passage
OHWM 5796.0
EX.SAS
New Ungrouted Drop
Structure #5
CREST 92.1
EXIT 90.6
New Fish
Passage
xs2204.7
HABITAT
BOULDERS
(Typical)
LEGEND
EXISTING
CONTOUR LINES
STRUCTURE
WING
STRUCTURE
LOW FLOW
POOL ARMORING
OHWM
GRAVEL FINES
TRAIL
CONCRETE
TRAIL
WETLANDS
GENERAL NOTES:
1. All elevations given in feet above sea level NAVD 1988.
2. Rock fill/hatch and vegetative images shown for illustrative purposes. Not to scale.
3. An REP representative shall be present during construction of all structures and terracing.
N
SCALE: 1" = 50'
0
50

Figure 7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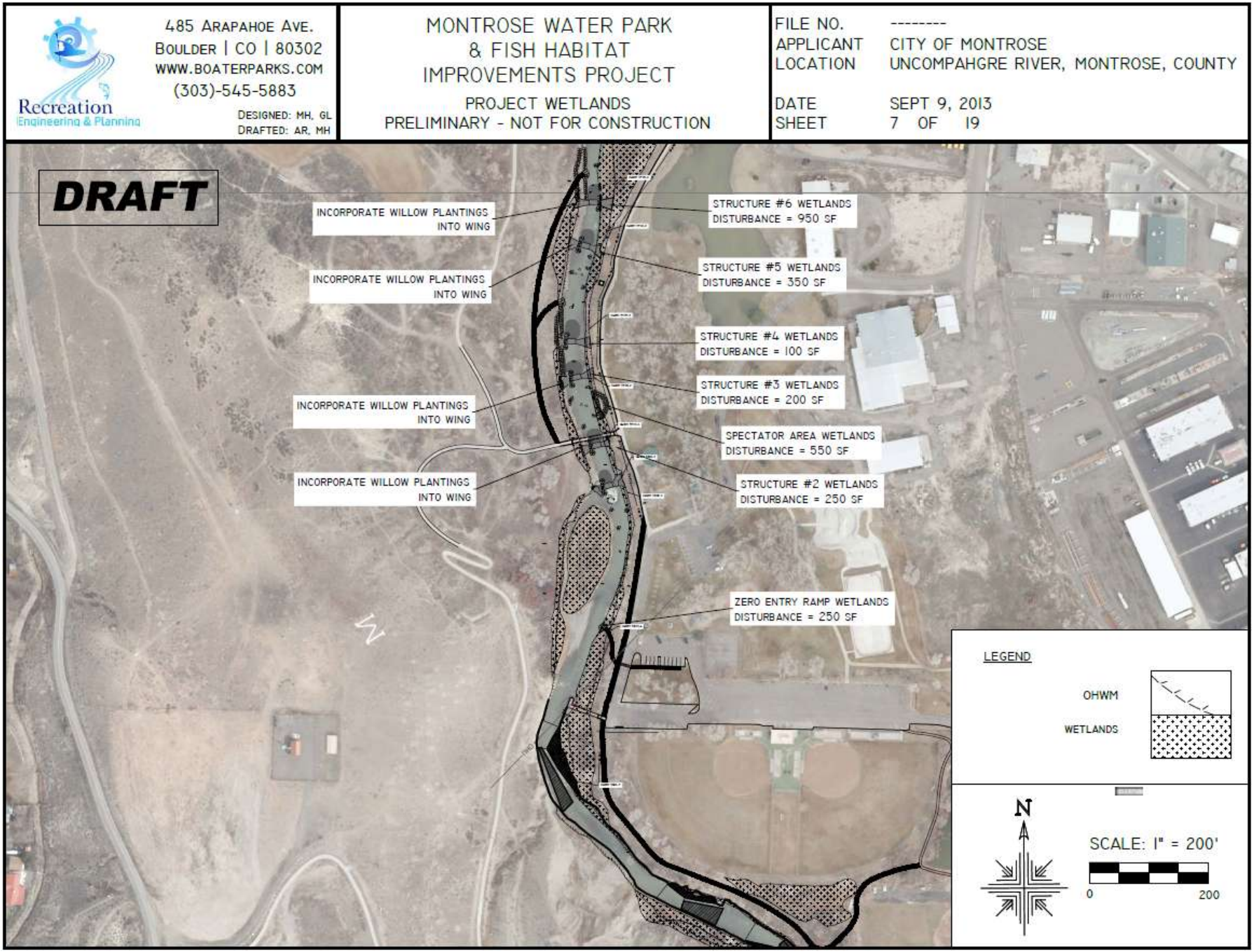
DRAFTED: AR, MH
MONTROSE WATER PARK & FISH HABITAT IMPROVEMENTS PROJECT
TRAIL AND FISH HABITAT IMPROVEMENTS PLAN
PRELIMINARY - NOT FOR CONSTRUCTION
FILE NO. --------
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE, COUNTY
DATE SEPT 9, 2013
SHEET 6 OF 19
DRAFT
NEW 10' CONCRETE TRAIL
xs3080.7
END FISH HABITAT IMPROVEMENTS
xs3275.8
EXISTING FISHING PIER
xs3474.2
EXISTING DIRT TRAIL
NEW 10' CONCRETE TRAIL
UTE FIELDS
FEMA SECTION AX
NEW 10' GRAVEL FINES TRAIL
NEW 10' CONCRETE TRAIL
xs4370.3
FEMA SECTION AY
BEGIN FISH HABITAT IMPROVEMENTS
P4
R4
G3
P3
R3
P2
R2
G1
P1
R1
LEGEND
EXISTING CONTOUR LINES
OHWM)
GRAVEL FINES TRAIL
CONCRETE TRAIL
WETLANDS
GENERAL NOTES:
1. ALL ELEVATIONS GIVEN IN FEET ABOVE SEA LEVEL NAVD 1988.
2. ROCK FILL/HATCH AND VEGETATIVE IMAGES SHOWN FOR ILLUSTRATIVE PURPOSES. NOT TO SCALE.
3. AN REP REPRESENTATIVE SHALL BE PRESENT DURING CONSTRUCTION OF ALL STRUCTURES AND TERRACING.
4. FISH HABITAT IMPROVEMENTS BASED ON ORIGINAL PLANS BY ECOLOGICAL RESOURCE CONSULTANTS, EVERGREEN, COLORADO, JUNE 2006.
N
SCALE: 1" = 200'
0
200

Figure 8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DESIGNED: MH, GL
DRAFTED: AR, MH
MONTROSE WATER PARK
& FISH HABITAT
IMPROVEMENTS PROJECT
PROJECT WETLANDS
PRELIMINARY - NOT FOR CONSTRUCTION
FILE NO. --------
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE, COUNTY
DATE SEPT 9, 2013
SHEET 7 OF 19
DRAFT
INCORPORATE WILLOW PLANTINGS INTO WING
INCORPORATE WILLOW PLANTINGS INTO WING
INCORPORATE WILLOW PLANTINGS INTO WING
INCORPORATE WILLOW PLANTINGS INTO WING
STRUCTURE #6 WETLANDS DISTURBANCE = 950 SF
STRUCTURE #5 WETLANDS DISTURBANCE = 350 SF
STRUCTURE #4 WETLANDS DISTURBANCE = 100 SF
STRUCTURE #3 WETLANDS DISTURBANCE = 200 SF
SPECTATOR AREA WETLANDS DISTURBANCE = 550 SF
STRUCTURE #2 WETLANDS DISTURBANCE = 250 SF
ZERO ENTRY RAMP WETLANDS DISTURBANCE = 250 SF
LEGEND
OHWM
WETLANDS
N
SCALE: 1" = 200'
0
200

Figure 9

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TYPICAL DETAILS-A

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE COUNTY

DATE SEPT 9, 2013
SHEET 8 OF 19

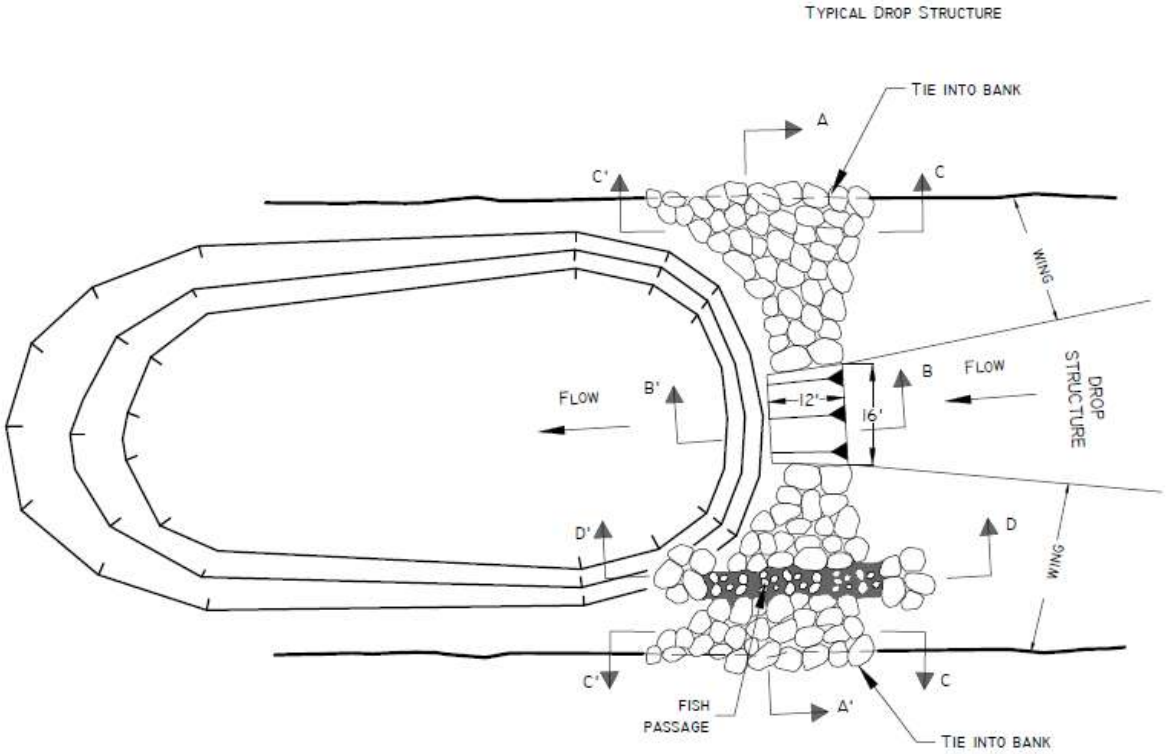

Figure 10

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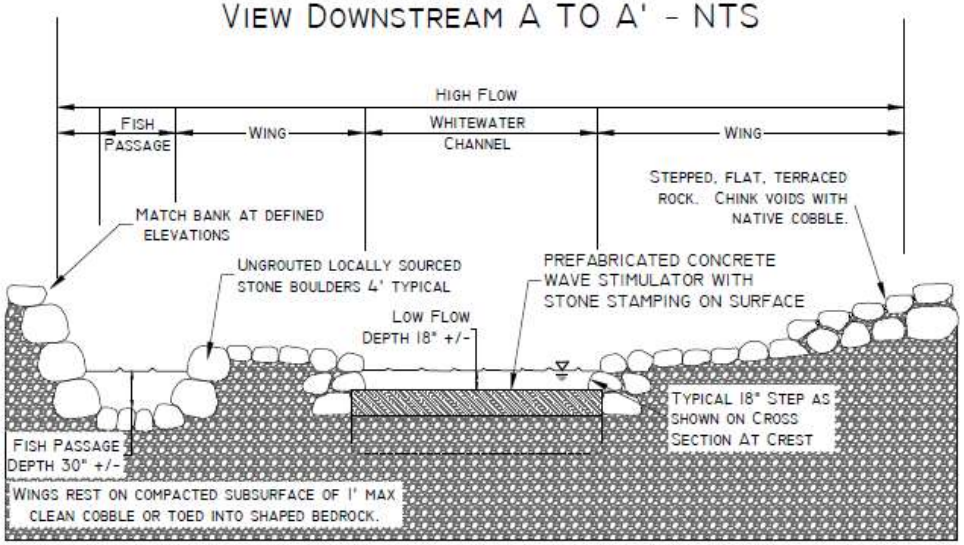
TYPICAL DETAILS-B

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE COUNTY

DATE SEPT 9, 2013
SHEET 9 OF 19

TYPICAL DROP STRUCTURE CROSS SECTION
VIEW DOWNSTREAM A TO A' - NTS



TYPICAL WILLOW PLANTINGS IN WING

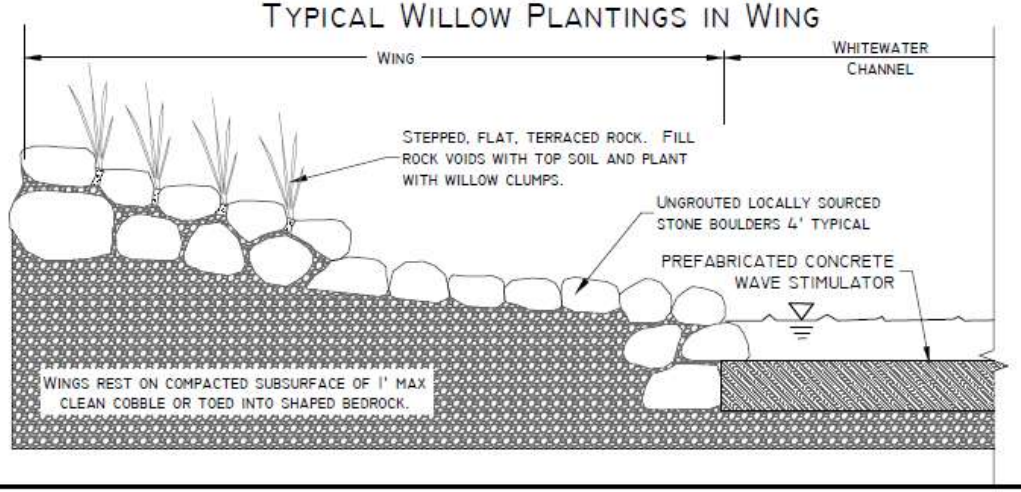


Figure 11

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TYPICAL DETAILS-C

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	10 OF 19

TYPICAL PROFILE CENTER LOW-FLOW, B TO B' - N.T.S.

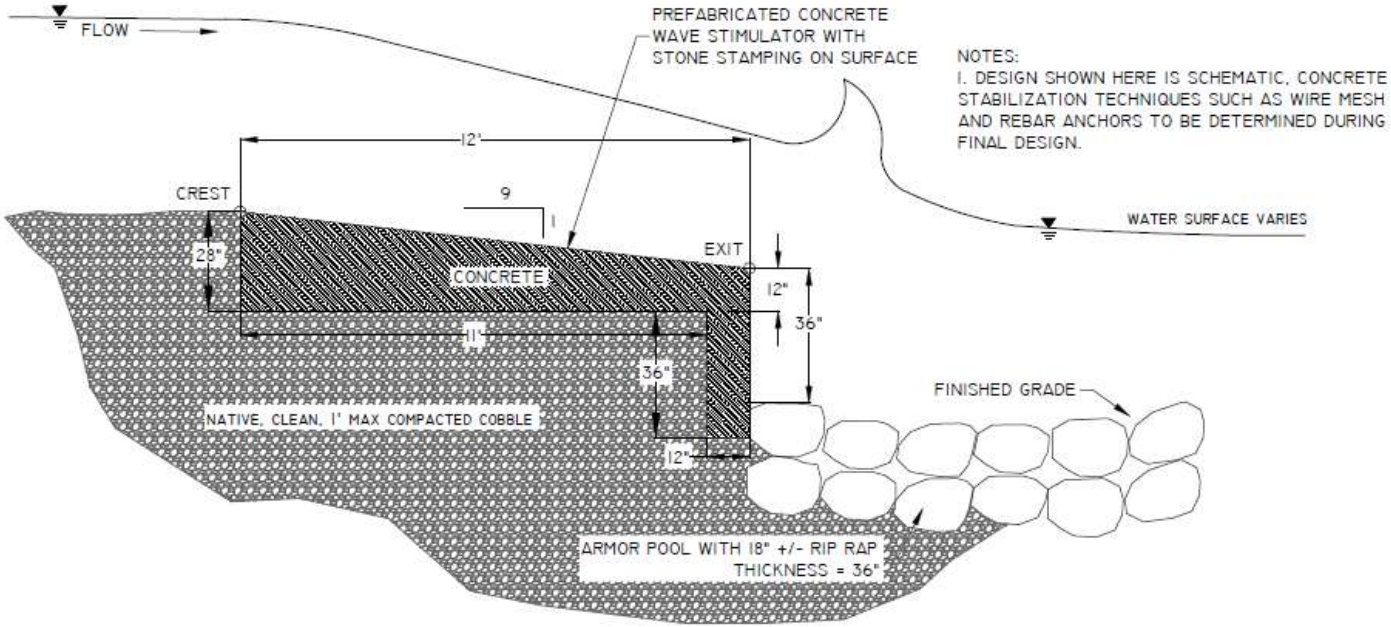

Figure 12

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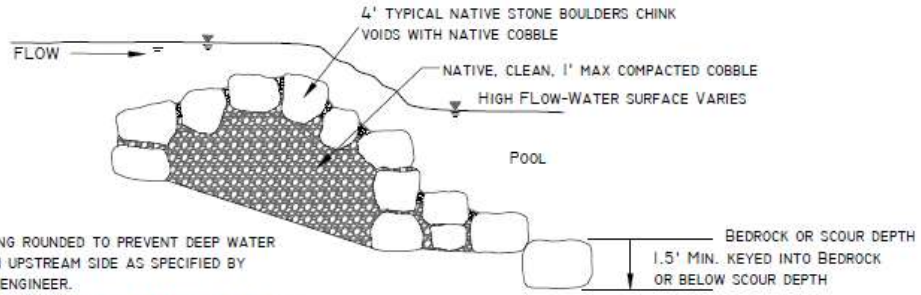
TYPICAL DETAILS-D

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE COUNTY

DATE SEPT 9, 2013
SHEET 11 OF 19



NOTE:
A) MAKE WING ROUNDED TO PREVENT DEEP WATER BOAT PINS ON UPSTREAM SIDE AS SPECIFIED BY WHITEWATER ENGINEER.
B) STEP BACK SIDE OF WINGS WITH 18" TO 30" STEPS TO BREAK UP HYDRAULICS
C) CAP VOIDS ON TOP OF THE WING WITH NATIVE SAND AND COBBLE.

TYPICAL PROFILE OF ROCK IN WING, C TO C'
N.T.S

Figure 13

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TYPICAL DETAILS-E

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	--------
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	12 OF 19

TYPICAL SECTION OF DROP STRUCTURE, IN FISH PASSAGE CHANNEL D TO D' - NTS

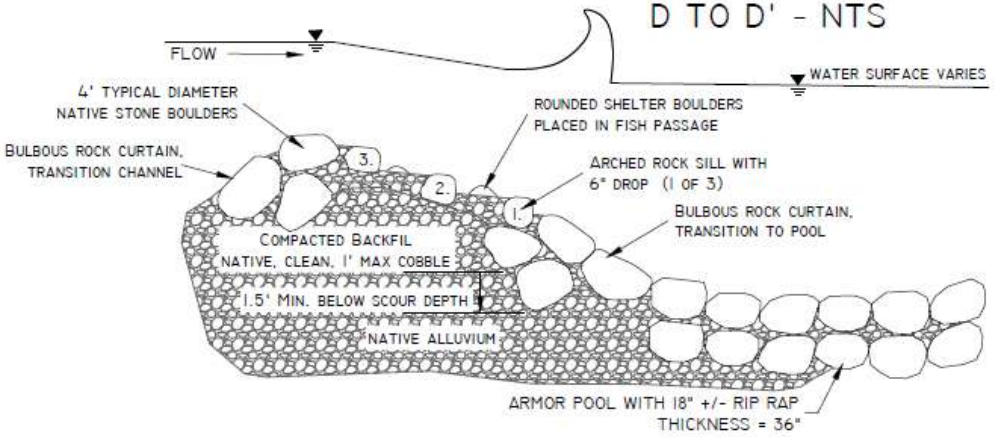

Figure 14

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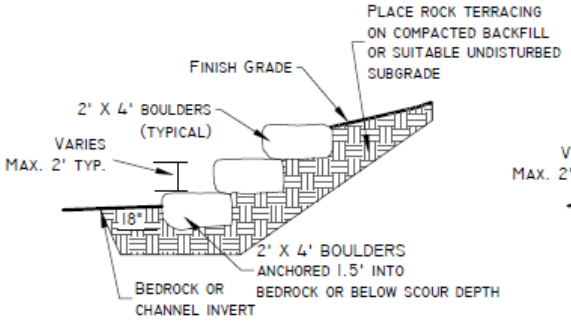
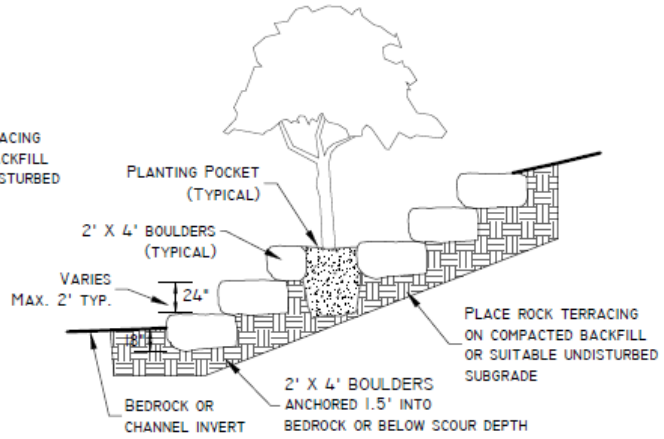
TYPICAL DETAILS-F

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	--------
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	13 OF 19



TERRACED ROCK
TYPICAL
N.T.S



TERRACED ROCK WITH
PLANTING POCKET
TYPICAL
N.T.S

Figure 15

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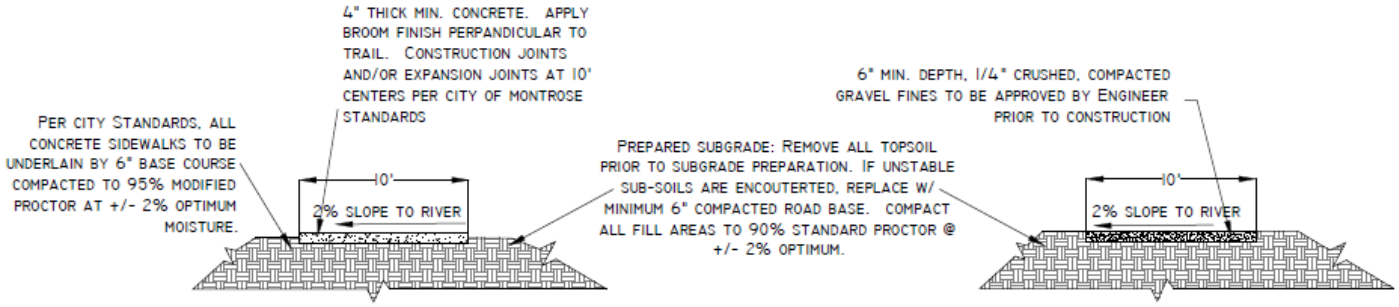
TYPICAL DETAILS-G

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	--------
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	14 OF 19



CONCRETE TRAIL

GRAVEL FINES TRAIL

TYPICAL TRAIL SECTIONS

ALL TRAILS TO BE CONSTRUCTED PER CITY OF MONTROSE SPECIFICATIONS FOR TRAILS.

Figure 16

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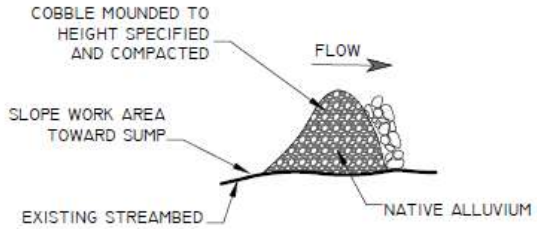
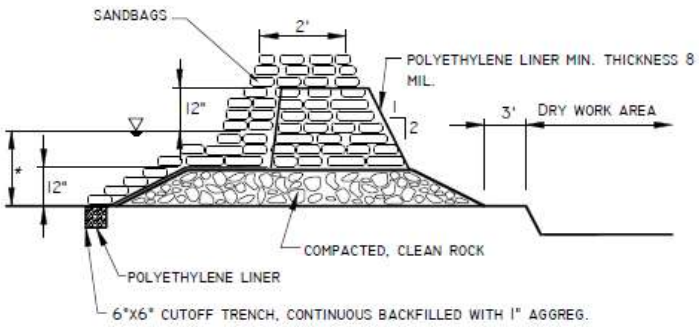
TYPICAL DETAILS-H

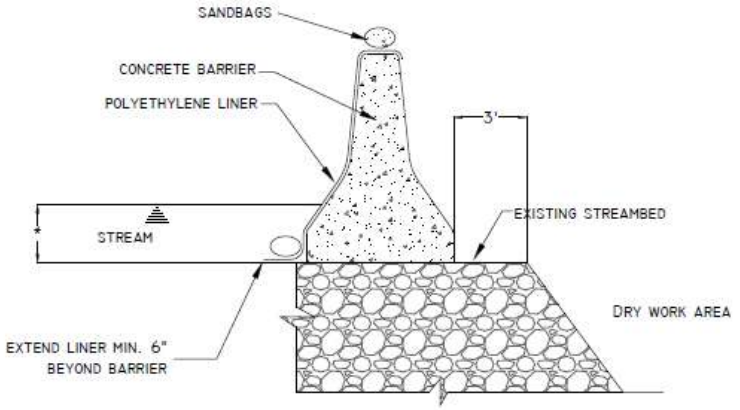
PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	--------
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	15 OF 19



TYPICAL COFFER DAM CROSS SECTION





SUGGESTED COFFERDAM METHODS

NOTE: SUGGESTED METHODS PRESENTED TO DESCRIBE FUNCTIONALITY ONLY. ACTUAL METHOD TO BE DETERMINED BY QUALIFIED CONTRACTOR, PER PERMIT CONDITIONS, IN ORDER TO ACHIEVE DRY WORK AREA.

Figure 17

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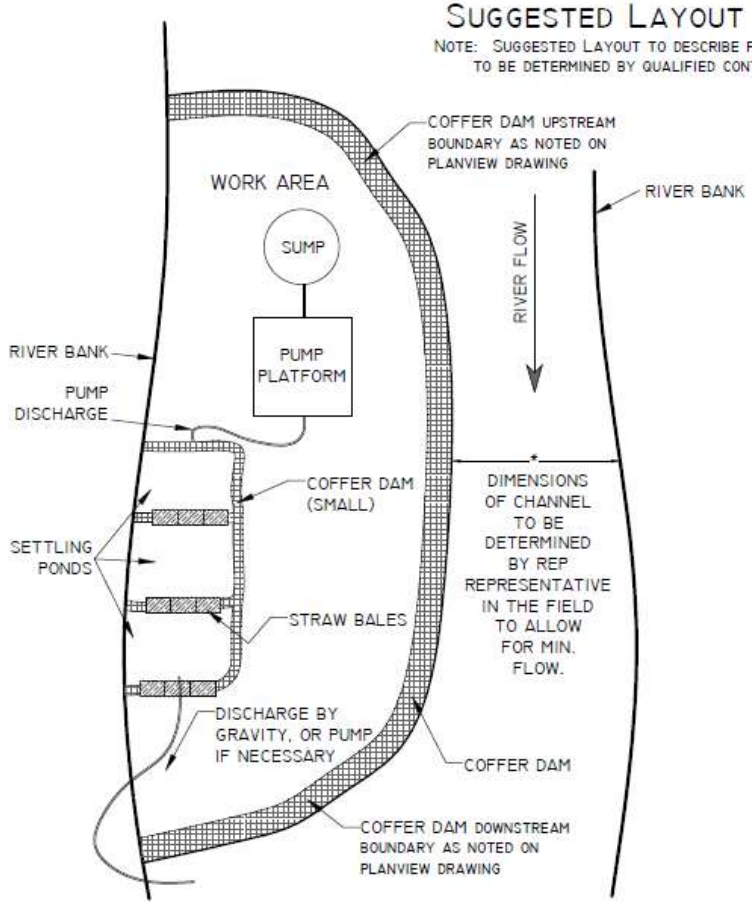
TYPICAL DETAILS-I

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	--------
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	16 OF 19

Suggested Layout Dewatering Area

Note: Suggested Layout to describe functionality only. Actual layout to be determined by qualified contractor, per permit conditions.



DEWATERING NOTES:

1. SUMPS CAN BE MADE FROM DIGGING A HOLE AND INSERTING A PERFORATED PIPE AND BACKFILLING WITH CLEAN DRAIN ROCK OR OTHER APPROVED METHOD.
2. SETTLING BASINS SHOULD BE BASED UPON SITE SPECIFICS (I.E. INFILTRATION AND SETTLING RATES, PARTICLE SIZE). DETENTION TIMES WILL BE BASED UPON THE SIZE OF THE SUSPENDED PARTICLES. IF THERE IS EXCESSIVE LEAKAGE THROUGH ANY COFFER DAM, BASE ROCK IS TO BE LINED WITH VISQUENE PRIOR TO BEING COVERED IN COBBLE. NUMBER OF SETTLING PONDS TO BE DETERMINED BY CLARITY OF DISCHARGE FLUID.
3. UPON COMPLETION VISQUENE AND SETTLED FINES SHALL BE REMOVED AND DISPOSED OF OFFSITE BY THE CONTRACTOR.
4. PUMP STATION SHALL BE ELEVATED. FUEL CONTAINMENT BMP'S SHALL BE ONSITE AT ALL TIMES.
5. PUMP REMAINING WATER IN CONSTRUCTION AREA AS NECESSARY, TO MANAGE GROUNDWATER AND LEAKAGE. ALL DISCHARGED WATER MUST BE ROUTED TO THE SETTLING BASINS.
6. CONTRACTOR IS RESPONSIBLE FOR OWN SECURITY DURING CONSTRUCTION. ANY VANDALISM WILL BE CORRECTED AT CONTRACTOR'S OWN EXPENSE.
7. DETAILS SUBJECT TO REVIEW AND CHANGE DURING 404 PERMIT APPLICATION PROCESS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARE OF ALL WATER DURING CONSTRUCTION INCLUDING MAINTENANCE OF ALL DITCHES, COFFERDAMS, LEVEES, DIVERSIONS AND PUMPS TO KEEP THE WORK AREA FREE FROM WATER.

Figure 18

485 Arapahoe Ave.
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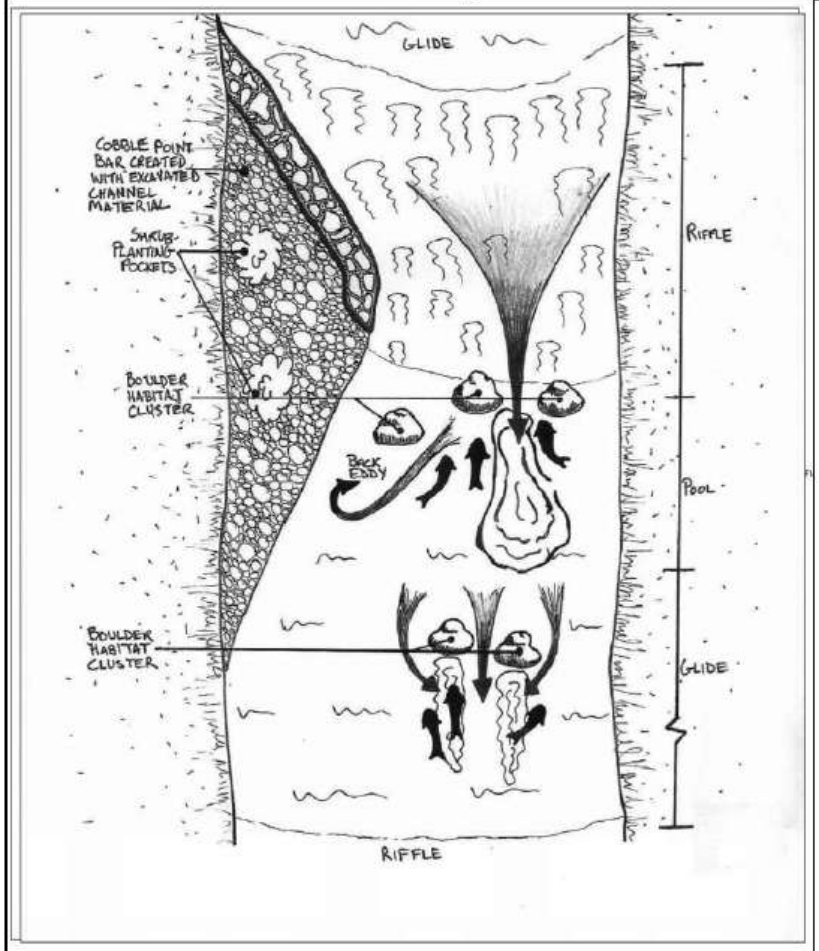
Recreation Engineering & Planning

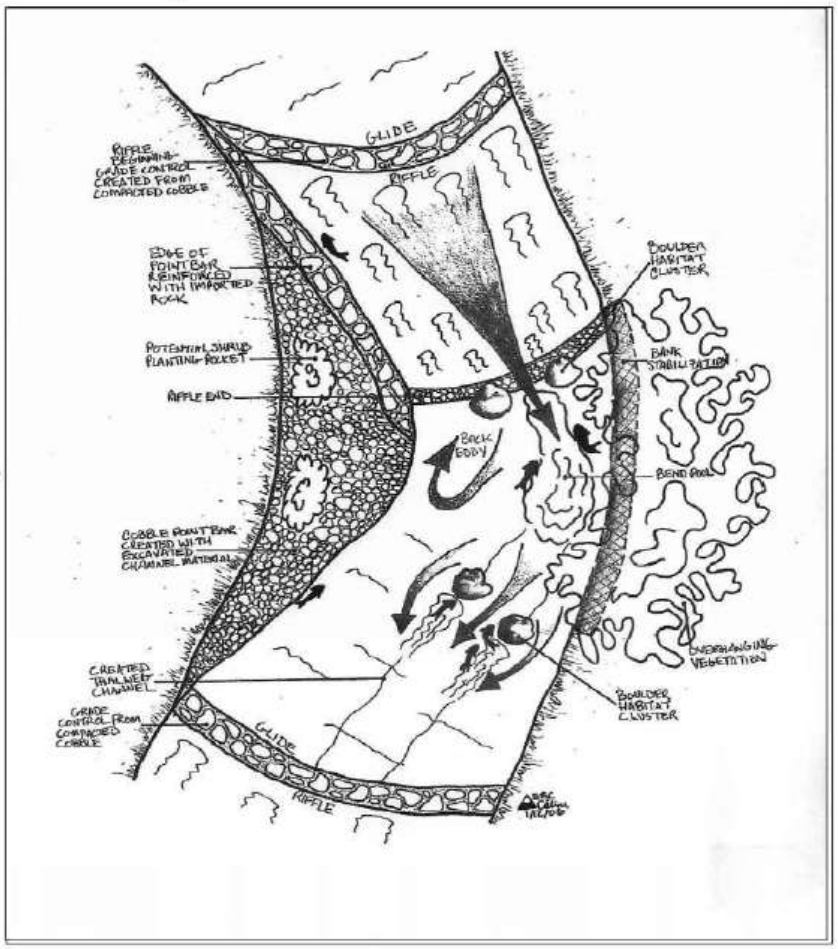
TYPICAL DETAILS-J

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	--------
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	17 OF 19



Riffle-Pool-Glide Feature
Straight Channel Section
Typical Detail



Riffle-Pool-Glide Feature
Bend Channel Section
Typical Detail

Figure 19

Recreation Engineering & Planning
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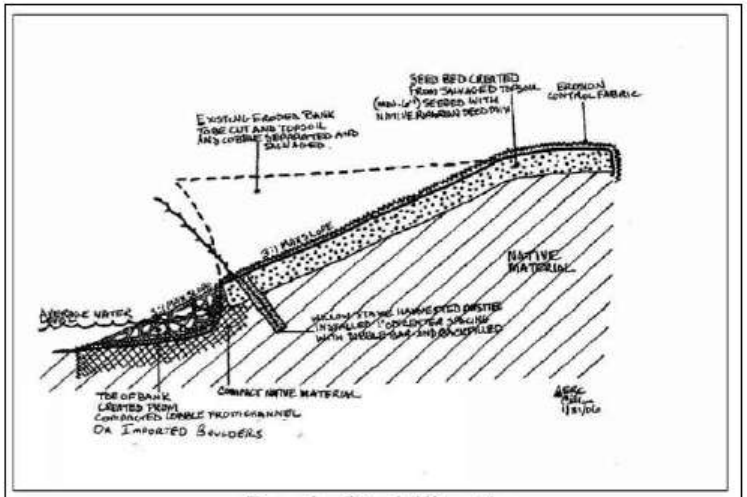
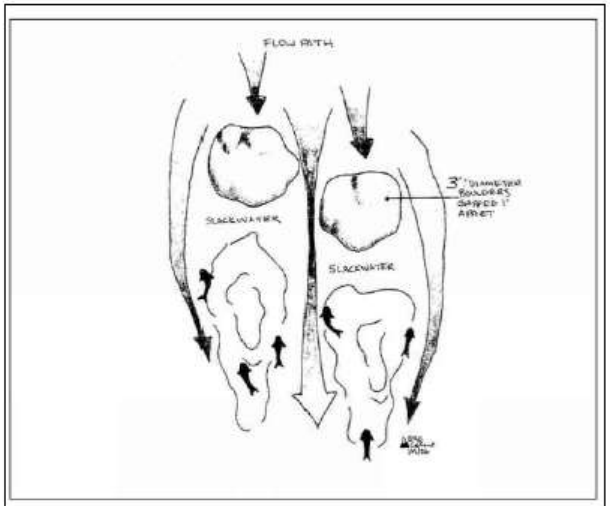
TYPICAL DETAILS-K

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.	--------
APPLICANT	CITY OF MONTROSE
LOCATION	UNCOMPAHGRE RIVER, MONTROSE COUNTY
DATE	SEPT 9, 2013
SHEET	18 OF 19



Bank Stabilization
Typical Detail



Boulder Habitat Clusters
Located in Glide Sections
Typical Detail

Figure 20

eation
ring & Planninc
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SPECIFICATIONS

PRELIMINARY - NOT FOR CONSTRUCTION

FILE NO.
APPLICANT CITY OF MONTROSE
LOCATION UNCOMPAHGRE RIVER, MONTROSE COUI

DATE SEPT 9, 2013
SHEET 19 OF 19

GENERAL NOTES

ENGINEERS OVERSIGHT

1. ALL ELEVATIONS, DIMENSIONS, ALIGNMENTS AND ORIENTATION OF ALL ELEMENTS SHOWN IN THE PLANS MUST BE APPROVED BY THE ENGINEER OR ENGINEER'S REPRESENTATIVE ("REP ENGINEER OR REP REPRESENTATIVE")
2. WORK SHALL NOT COMMENCE UNTIL AFTER THE DATE OF THE ON-SITE PRE-CONSTRUCTION MEETING WHICH WILL BE ATTENDED BY REPRESENTATIVES OF THE PROJECT OWNER, ENGINEER, CONTRACTOR AND ANY SUB-CONTRACTORS. IN THE EVENT THAT WORK DOES NOT BEGIN IMMEDIATELY FOLLOWING THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE REPRESENTATIVES OF THE PROJECT OWNER, REP ENGINEER, ANY SUB-CONTRACTORS, AND RELEVANT AGENCIES NOTED IN THE PERMIT, TWO WEEKS NOTICE BEFORE CONSTRUCTION COMMENCES.

GENERAL ENVIRONMENTAL

1. WORK SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL AGENCIES' LAWS, RULES, REGULATIONS, AND PERMITS. ALL WORK SHALL BE SUBJECT TO INSPECTIONS AND SITE INVESTIGATION BY REGULATORY AGENCIES. FAILURE TO COMPLY WITH THESE REGULATIONS IS SUBJECT TO LEGAL ENFORCEMENT ACTION.
2. COPIES OF PERMITS OBTAINED BY THE OWNER WILL BE PROVIDED TO THE CONTRACTOR. CONTRACTOR SHALL MAINTAIN COPIES OF ALL PERMITS ON THE SITE AT ALL TIMES.
3. A PRE-CONSTRUCTION MEETING WITH EQUIPMENT OPERATORS SHALL BE HELD TO DISCUSS THE PROJECT ENVIRONMENTAL REQUIREMENTS.
4. ON-SITE CONSTRUCTION REVIEWS SHALL BE CONDUCTED TO IDENTIFY MAINTENANCE NEEDS AND CHRONIC PROBLEMS THAT MAY BE OCCURRING. APPROPRIATE REMEDIAL ACTIONS SHALL BE IMPLEMENTED IN A TIMELY MANNER.
5. IF PREVIOUSLY UNKNOWN ARCHEOLOGICAL MATERIALS ARE DISCOVERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL STOP IMMEDIATELY AND THE ENGINEER AND OWNER SHALL BE CONTACTED.

SEDIMENT AND POLLUTION CONTROL

1. ALL APPROPRIATE MEASURES SHALL BE IN PLACE TO MINIMIZE SEDIMENTATION AND RIVERBED IMPACTS PRIOR TO INITIATING IN-RIVER / RIVERBANK WORK. SEDIMENT AND EROSION CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL STORM WATER POLLUTION PREVENTION PLAN (SWP3) STANDARDS AND METHODS.
2. CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR THE DESIGN, IMPLEMENTATION, AND MAINTENANCE OF SEDIMENT AND EROSION CONTROLS IN CONFORMANCE WITH THE REQUIREMENTS OF REGULATORY AGENCIES THROUGHOUT THE CONSTRUCTION PERIOD. STORMWATER MEASURES MAY BE REQUIRED TO BE INSTALLED AT ANY TIME DURING CONSTRUCTION AT THE DIRECTION OF THE ENGINEER OR OWNER.
3. TEMPORARY SEDIMENT AND EROSION CONTROLS (E.G., TEMPORARY SEEDING, MULCHING, SILT FENCE) SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN 2-DAYS IF THEY ARE TO REMAIN DORMANT FOR MORE THAN 21-DAYS. PERMANENT SOIL STABILIZATION (E.G., PERMANENT SEEDING, EROSION CONTROL FABRIC) SHALL BE IMPLEMENTED ON DISTURBED AREAS WITHIN 2-DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE PROJECT AREA.
4. TEMPORARY SEDIMENT AND EROSION CONTROLS SHALL BE MAINTAINED TO BE FUNCTIONAL UNTIL THE SITE HAS REACHED FINAL STABILIZATION. THE PROJECT AREA SHALL BE CONSIDERED TO HAVE REACHED FINAL STABILIZATION WHEN:
   A. A PERENNIAL, VEGETATIVE COVER HAS GROWN TO A 70-PERCENT DENSITY THROUGHOUT THE ENTIRE DISTURBED AREA.
   B. ALL TEMPORARY SEDIMENT AND EROSION CONTROLS HAVE BEEN REMOVED AND DISPOSED OF PROPERLY.
   C. ALL TRAPPED SEDIMENT HAS BEEN REMOVED AND PERMANENTILY STABILI ZED TO PREVENT FURTHER EROSION.
   D. ALL CONSTRUCTION ACTIVITIES HAVE CEASED.
5. STEPS SHALL BE EMPLOYED THROUGHOUT THE COURSE OF THE PROJECT TO AVOID THE CREATION OF EXCESSIVE TURBIDITY WHICH MAY DEGRADE WATER QUALITY OR ADVERSELY AFFECT AQUATIC LIFE.
6. MATERIALS USED IN THIS PROJECT FOR FILL OR BANK PROTECTION SHALL CONSIST OF SUITABLE MATERIAL FREE FROM TOXIC CONTAMINANTS. FILL PLACED IN STREAM SHALL CONSIST OF CLEAN, NON-ERODIBLE MATERIAL.
7. SPOIL PILES SHALL BE COVERED OR OTHERWISE MANAGED TO REDUCE SEDIMENTATION. ALL MATERIAL WHICH IS TO BE PLACED AT UPLAND SITES SHALL BE DISPOSED OF IN SUCH A WAY THAT SEDIMENT RUNOFF IS CONTROLLED AND MINIMIZED.
8. CONTRACTOR SHALL NOT STORE EQUIPMENT WITHIN AREAS THAT BECOME SUBMERGED.
9. ALL FUELING OPERATIONS, LUBRICATING, HYDRAULIC TOPPING OFF, FUEL TANK PURGING, AND EQUIPMENT MAINTENANCE/REPAIRS SHALL BE PERFORMED AT AN UPLAND SITE OUTSIDE OF THE BANKS OF THE RIVER AT A LOCATION TO BE DETERMINED BY THE ENGINEER OR OWNER. THESE ACTIVITIES SHALL TAKE PLACE ON AN APPROVED PAD WITH SPILL CONTROL/ COLLECTION DEVICES IN PLACE.
10. ALL CONSTRUCTION EQUIPMENT SHALL BE INSPECTED DAILY FOR HYDRAULIC AND FUEL LEAKS. LEAKS SHALL BE REPAIRED PRIOR TO OPERATION WITHIN THE 100-YEAR FLOODPLAN. WHEN NOT IN USE, FUEL AND HYDRAULIC FLUIDS SHALL BE STORED AT AN UPLAND SITE OUTSIDE OF THE 100-YEAR FLOODPLAIN. EMERGENCY SPILL RESPONSE DEVICES SHALL BE ON-SITE AT ALL TIMES DURING CONSTRUCTION IN WATERWAYS AND FLOODPLAINS AND SHALL BE READY TO DEPLOY IN THE EVENT OF A SPILL.
11. NO CHEMICALS, FUELS, LUBRICANTS, BRUSH, ETC. SHALL BE DISCHARGED OR DI SPOSED OF INTO OR ALONGSIDE ANY STREAM, WATERCOURSE, OR FLOODPLAIN UNDER ANY CIRCUMSTANCES.
12. CONTRACTOR SHALL PREPARE A DEWATERING PLAN TO BE APPROVED BY THE ENGINEER OR OWNER PRIOR TO COMMENCEMENT OF ANY DEWATERING ACTIVITIES. ALL DEWATERING DISCHARGES MUST BE FILTERED TO REMOVE EXCESSIVE SEDIMENTS AND MUST BE DISCHARGED ONTO AN ENERGY-DISSIPATION DEVICE (E.G., SPLASH PUP, CONCRETE WEIGHT, OR EQUIVALENT) PRIOR TO DISCHARGE INTO ANY SURFACE WATER. FISH OR MUSSELS TRAPPED IN THE DRY AREA MUST BE PROPERLY RELOCATED TO A DOWNSTREAM SECTION OF THE RIVER BY A DESIGNATED/QUALIFIED INDIVIDUAL.
13. LITTER AND CONSTRUCTION DEBRIS SHALL BE CONTAINED DAILY. ALL CONSTRUCTION DEBRIS AND LITTER SHALL BE COMPLETELY REMOVED OFFSITE AND DISPOSED OF PROPERLY UPON PROJECT COMPLETION.
14. NO WASTEWATER SHALL BE DISCHARGED INTO THE RIVER.
15. ANY REVEGETATION OR PLANTING SHALL OCCUR WITHIN THE APPROPRIATE PLANTING WINDOWS AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
16. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS NECESSARY TO PROVIDE ACCESS TO CONSTRUCTION AREAS FROM ALL EXISTING ROADWAYS AND PATHS TO MINIMIZE GROUND DISTURBANCE AND SEDIMENT TRACKING FROM VEHICLE TIRES. ADJACENT ROADWAYS AND PATHS SHALL BE VISUALLY INSPECTED DAILY TO ENSURE THAT SEDIMENT IS NOT BEING CARRIED OFF-SITE. IF SEDIMENT IS BEING CARRIED OFF-SITE, THE ADJACENT ROADWAYS AND PATHS SHALL BE SWEPT CLEAN DAILY.

WORK LIMITS AND LAYDOWN

1. WORK LIMITS, ACCESS, STAGING, LAYDOWN, AND STOCKPILE AREAS SHALL BE LOCATED WHERE SHOWN ON THE CONSTRUCTION DRAWINGS OR OTHERWISE AS APPROVED BY THE ENGINEER OR OWNER.
2. ALL CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN CURRENTLY DISTURBED AREAS TO THE EXTENT POSSIBLE
3. DISTURBED/ EXPOSED RIVERBANKS AND STAGING AND PROJECT ACCESS AREAS SHALL BE PROPERLY STABILIZED (SEEDED, MULCHED, OR OTHERWISE) WITH NATIVE VEGETATION IMMEDIATELY AFTER GRADING TO PREVENT EROSION AND ESTABLISHMENT OF INVASIVE PLANT SPECIES.
4. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO VEGETATION OR PROPERTY OUTSIDE THE WORK LIMITS RESULTING FROM CONSTRUCTION OPERATIONS.
5. ALL AREAS TEMPORARILY DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, SLOPES, AND ELEVATIONS, UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWNGS.

UTILITIES

1. THE CONTRACTOR SHALL LOCATE ALL UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION.
2. NO EXCAVATION SHALL OCCUR IN THE AREA SURROUNDING A UTILITY CROSSING. NO IMPROVEMENTS THAT MAY CAUSE SCOUR, ARE TO BE PLACED IN THE VICINITY OF AN AT-GRADE, ABOVE OR BELOW GRADE, UTILITY CROSSING.
3. IF UTILITIES ARE IDENTIFIED WITHIN THE PROJECT AREA. A MINIMUM BUFFER OF NO DISTURBANCE IS TO BE MAINTAINED.

ROCK QUALITY

1. INDIVIDUAL STONE BOULDERS SHALL BE DENSE, SOUND AND FREE FROM CRACKS, SEAMS AND OTHER DEFECTS CONDUCIVE TO ACCELERATED WEATHERING.
2. AT A MINIMUM EXPOSED ROCK SHOULD HAVE ONE FLAT SURFACE AND THIS SHOULD BE THE ONLY EXPOSED SURFACE.
3. THE ROCK SHALL HAVE THE FOLLOWING PROPERTIES:
   a. BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) NOT LESS THAN 2.5.
   b. ABSORPTION NOT MORE THAN 2% BY WEIGHT.
   c. THE BULK SPECIFIC GRAVITY AND ABSORPTION SHALL BE DETERMINED BY ASTM METHOD C-127.
4. ROCK THAT FAILS TO MEET THESE REQUIREMENTS MAY BE ACCEPTED ONLY IF SIMILAR ROCK FROM THE SAME SOURCE HAS BEEN DEMONSTRATED TO BE SOUND AFTER FIVE YEARS OR MORE OF SERVICE UNDER CONDITIONS OF WEATHER, WETTING AND DRYING, AND EROSIVE FORCES SIMILAR TO THOSE ANTICIPATED. ALTERNATIVELY NATIVE OR IMPORTED STONE, ALREADY AT THE SITE AND MEETING THE STANDARDS OUTLINED ABOVE, MAY BE USED.
5. RECREATION, ENGINEERING AND PLANNING RETAINS THE RIGHT OF REFUSAL FOR ANY ROCK BROUGHT TO THE SITE WHICH IS NOT SUITABLE AND DOES NOT MEET THE ABOVE CRITERIA AND/OR SHOWS EXCESSIVE WEATHERING, CRACKING OR DEFORMATION.

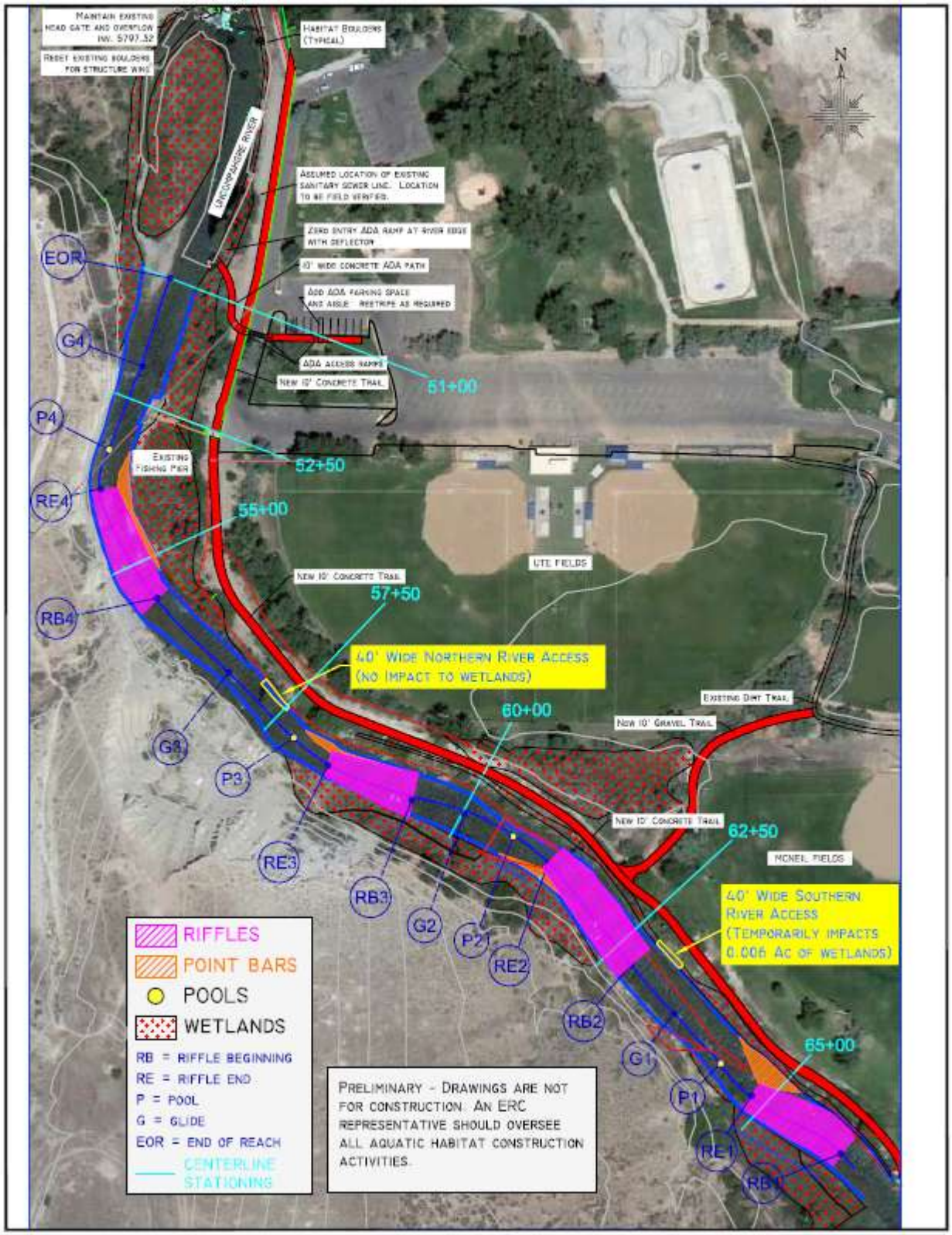
SITE PREPARATION- STONES PLACED IN CHANNEL

1. NO ROCK PLACEMENT SHALL OCCUR IN CHANNEL UNTIL APPROPRIATE WATER CONTROL MEASURES ARE IN PLACE (AS OUTLINED IN THE WATER CONTROL DETAILED PLAN).
2. EACH STONE SHALL BE PLACED TO THE FINAL POSITION BY SUITABLE EQUIPMENT FOR HANDLING MATERIAL AND, IF NECESSARY; THE STONE SHALL BE PICKED UP AND REPOSITIONED.
3. IT SHOULD BE ANTICIPATED THAT RE-HANDLING OF INDIVIDUAL STONES, AFTER INITIAL PLACEMENT WILL BE REQUIRED TO ACHIEVE REQUIRED SLOPES, GRADES, ELEVATIONS AND POSITION.
4. THE ENGINEER SHALL OBSERVE AND APPROVE CONTRACTOR'S METHOD FOR STONE PLACEMENT IN A REPRESENTATIVE AREA FOR EACH PROJECT COMPONENT.

OTHER

1. IN THE EVENT AN ITEM IS NOT COVERED IN THE SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THEY MUST APPROVE ANY ADDITIONS OR MODIFICATIONS TO THE SPECIFICATIONS.
2. ALL WASTE MATERIAL AND/OR EXCESS EXCAVATION NOT USED AS PART OF THE WORK SHALL BE REMOVED FROM THE JOB SITE AND DISPOSED OF AT ACCEPTABLE LOCATIONS IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
3. THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION SHALL PROVIDE WARNING SIGNS, BARRICADES, AND OTHER SAFETY DEVICES (INCLUDING TEMPORARY FENCING AROUND THE JOB SITE) TO PROTECT PUBLIC SAFETY AND HEALTH.

Figure 21



Ecological Resource Consultants, Inc.
35715 US Hwy 40 Ste D204
Evergreen,CO 80439
(303) 679-4820

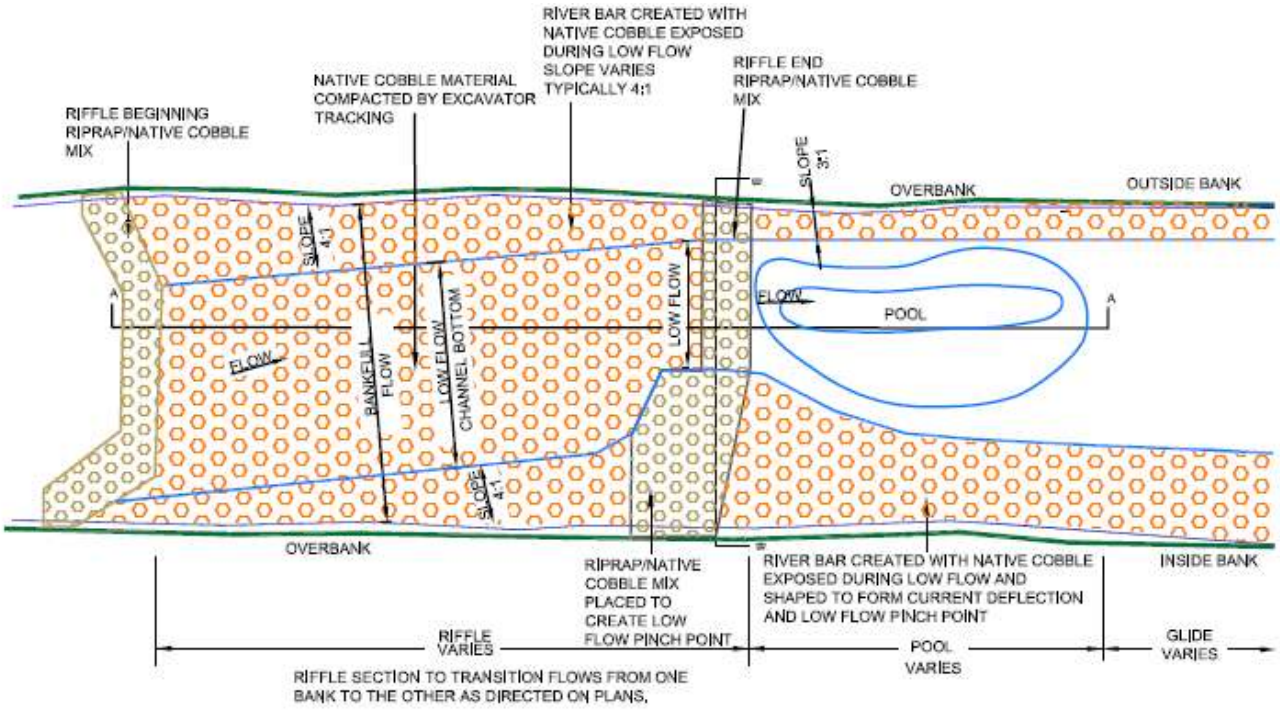
Designed By: ERC
Drawn By: JWH
Date: September 9, 2013
Project No.: 4854.301
Plot Path: 1854.301 Plan View

City of Montrose, CO
Uncompahgre River

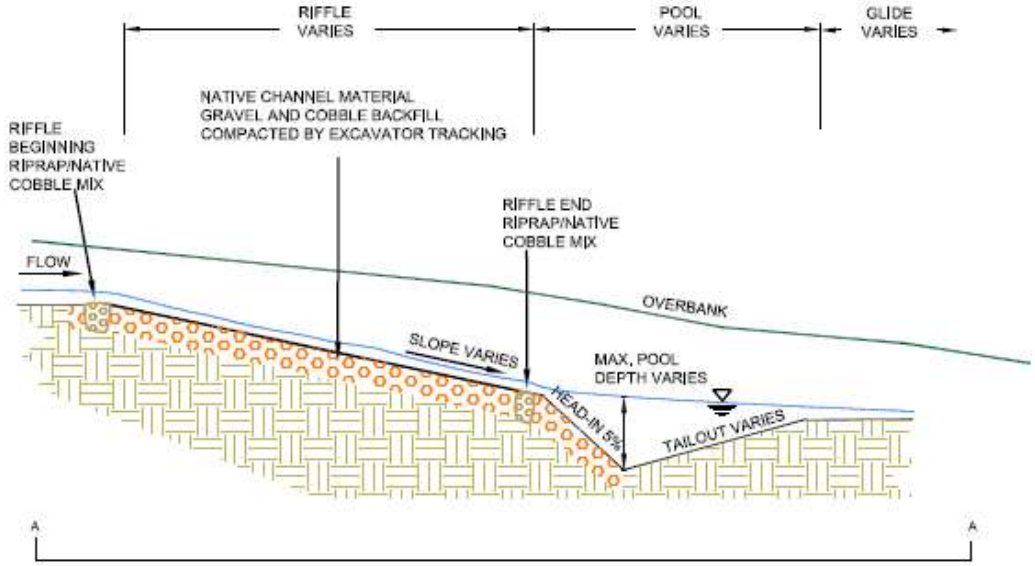
Design Plan
Project Area Plan View

SHEET 1

Figure 22

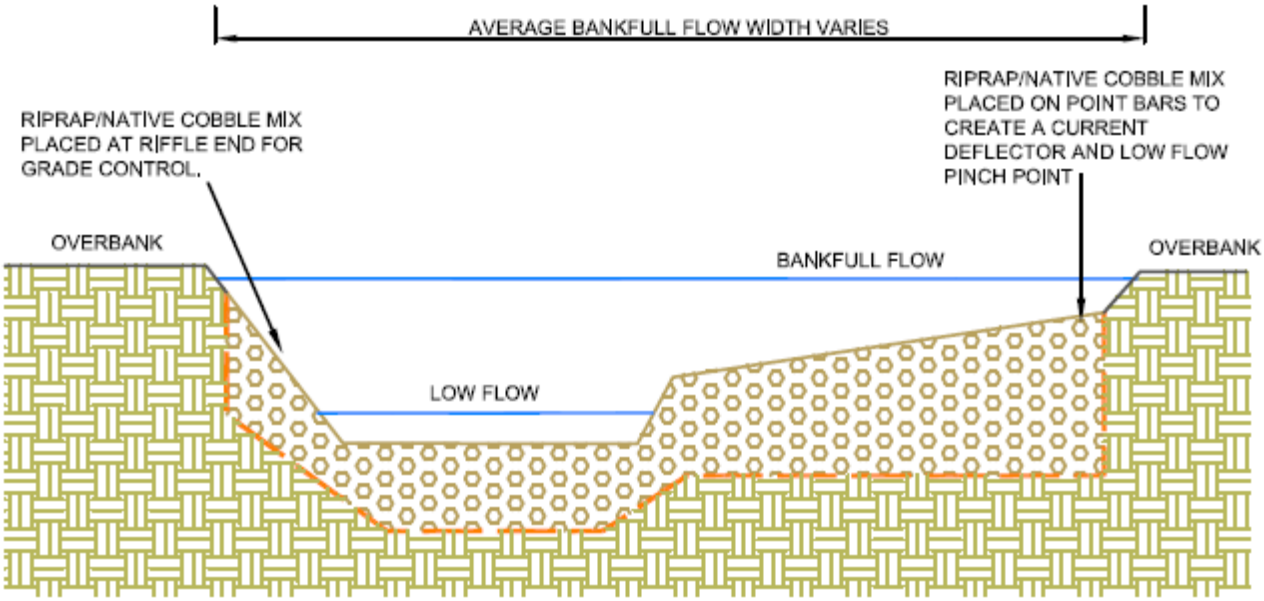


RIFFLE-POOL
PLAN VIEW - NTS



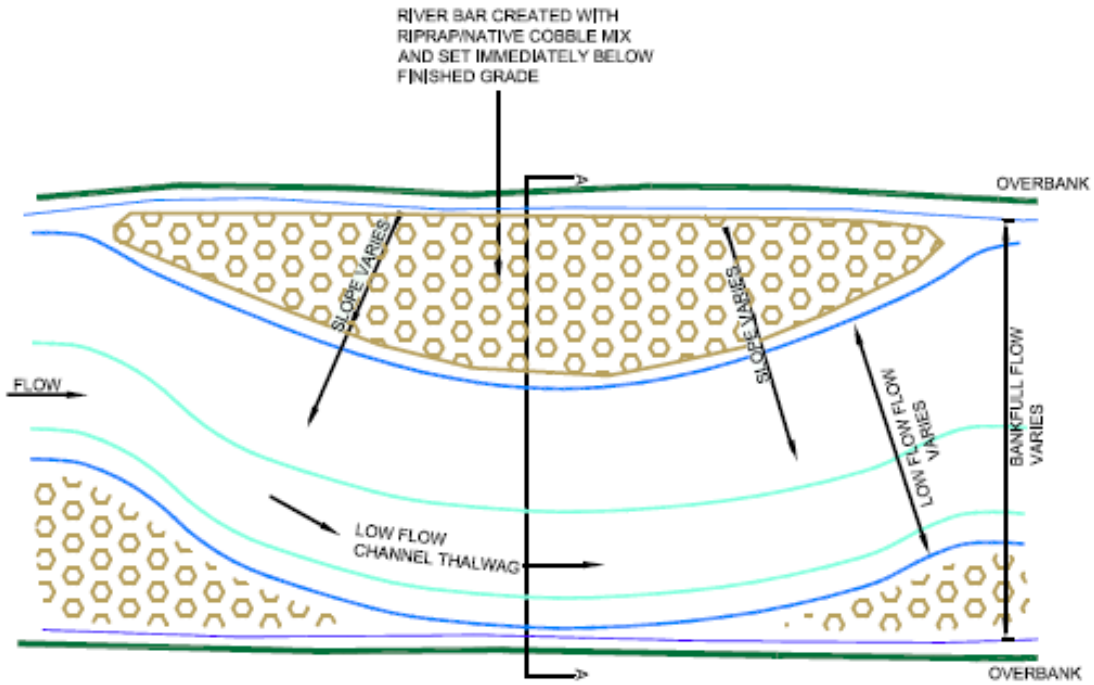
RIFFLE-POOL
CROSS- SECTION A - NTS

Figure 23

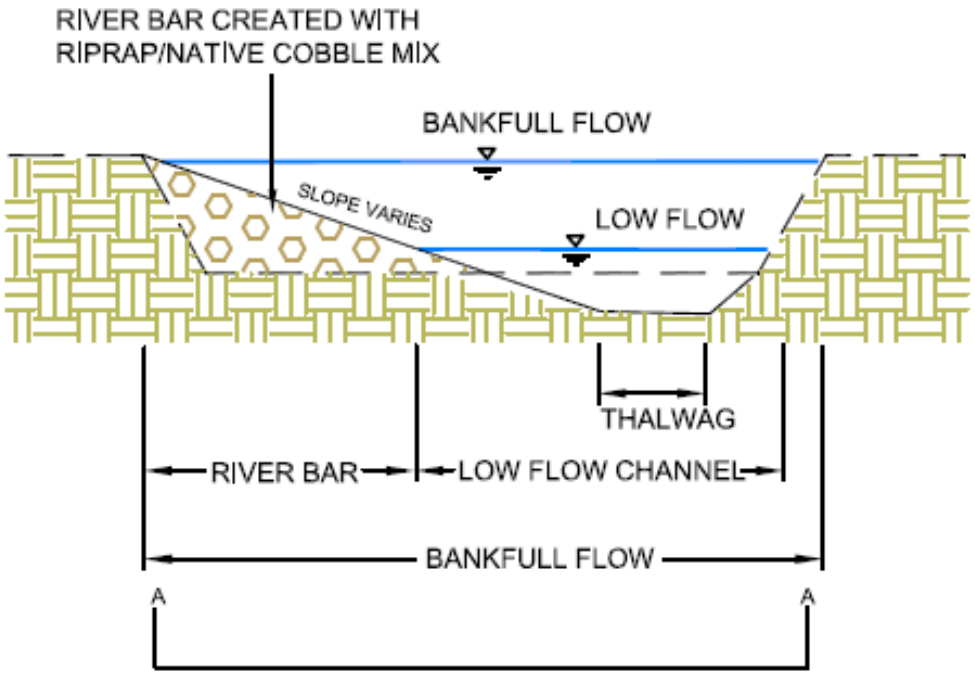


RIFFLE-POOL
CROSS- SECTION B – NTS

Figure 24

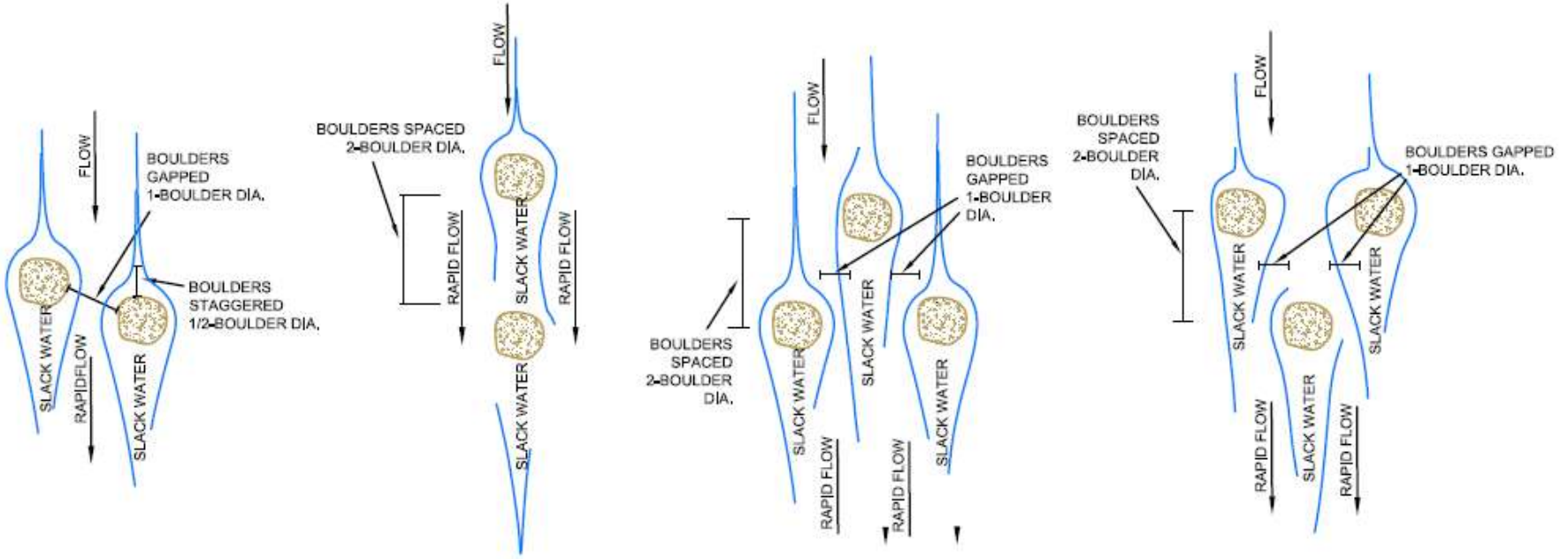


GENERAL CHANNEL RESHAPING
PLAN VIEW - NTS



GENERAL CHANNEL RESHAPING
CROSS SECTION A - NTS

Figure 25



OFFSET 2-BOULDER CONFIGURATION

INLINE 2-BOULDER CONFIGURATION

UPSTREAM "V" 3-BOULDER CONFIGURATION

DOWNSTREAM "V" 3-BOULDER CONFIGURATION

NUMBER OF BOULDERS AND CONFIGURATION TO BE FIELD DETERMINED BY ERC.

3' x 3' x2' BOULDERS TO BE USED FOR EACH FEATURE.
BOULDERS SHALL BE BURIED INTO RIVERBED A MIN. OF ½ THE DIAMETER.

BOULDER SPACING SHOWN IS TYPICAL, AND WILL NOT NECESSARILY BE UNIFORM THROUGHOUT.

BOULDER HABITAT CLUSTERS
PLAN VIEW - NTS

PRELIMINARY - DRAWINGS ARE NOT FOR CONSTRUCTION. AN ERC REPRESENTATIVE SHOULD OVERSEE ALL AQUATIC HABITAT CONSTRUCTION ACTIVITIES.

Ecological Resource Consultants, Inc.
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Evergreen,CO 80439
(303) 679-4820

Designed By: ERC
Drawn By: RMH
Date: September 9, 2013
Project No.: 485-1301
File Path: 09-09-13 Feature Details

City of Montrose, CO
Uncompahgre River

Design Plan
Typical Feature Details

SHEET
3