

# BROADWAY ST. RIVER BANK & MILL POND WEIR REPAIR CITY OF MT. PLEASANT, MICHIGAN

PLAN INDEX		
DESCRIPTION	NO.	DIV
COVER SHEET	1	A/B
SITE OVERVIEW & EROSION AND SEDIMENTATION CONTROL	2	A/B
PLAN VIEW & CROSS SECTIONS (RIVER BANK)	3	A
CROSS SECTIONS (RIVER BANK)	4	A
PLAN AND PROFILE (WEIRS)	5	B
CROSS SECTIONS (WEIRS)	6	B
MISCELLANEOUS DETAILS	7	A/B

### ABBREVIATIONS

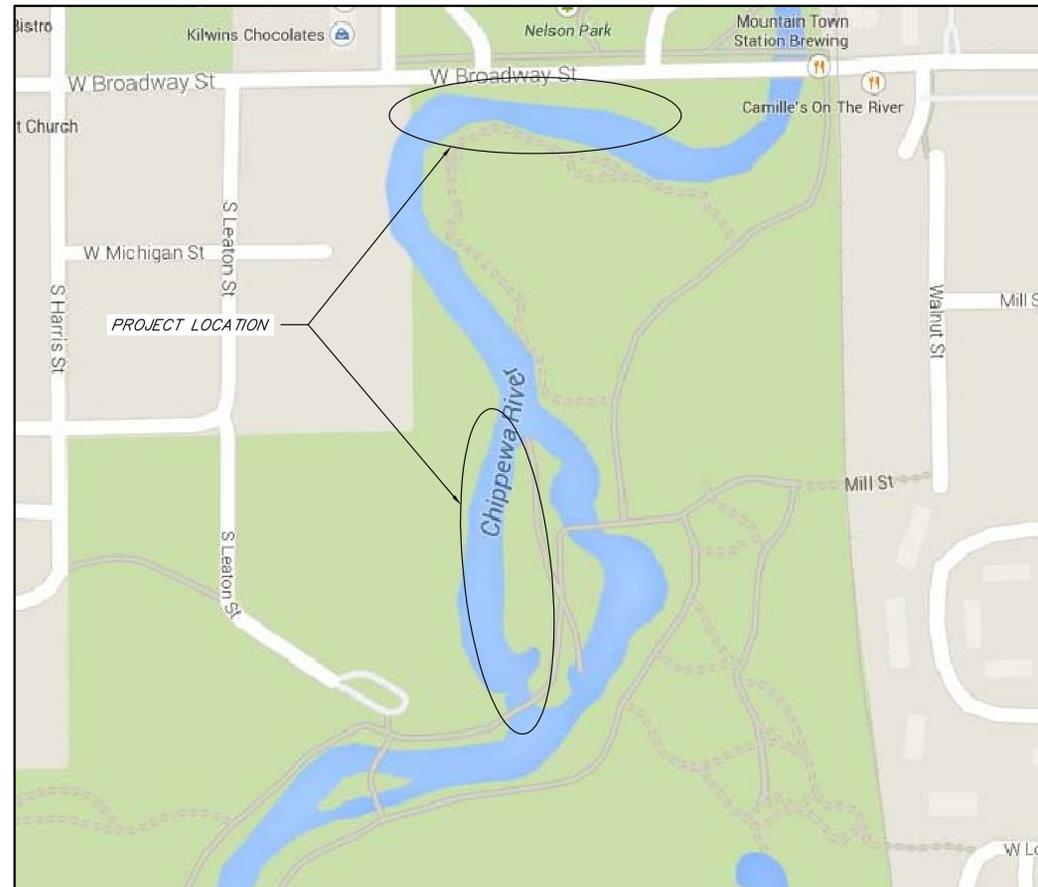
- |                             |                                |
|-----------------------------|--------------------------------|
| BIT = BITUMINOUS            | MH = MANHOLE                   |
| BM = BENCH MARK             | MIN = MINIMUM                  |
| CB = CATCH BASIN            | NFL = NOT FIELD LOCATED        |
| CF = CUBIC FEET             | NTS = NOT TO SCALE             |
| CL = CENTERLINE             | PROP = PROPOSED                |
| CMP = CORRUGATED METAL PIPE | PVC = POLYVINYL CHLORIDE       |
| CSP = CORRUGATED STEEL PIPE | RCP = REINFORCED CONCRETE PIPE |
| CONC = CONCRETE             | ROW = RIGHT OF WAY             |
| DIP = DUCTILE IRON PIPE     | SAN = SANITARY                 |
| ELEC = ELECTRIC             | SB = SOIL BORING               |
| ELEV = ELEVATION            | STA = STATION                  |
| ESMT = EASEMENT             | STM = STORM                    |
| EX OR EXIST = EXISTING      | SWR = SEWER                    |
| FF = FINISH FLOOR           | TC = TOP OF CURB               |
| FS = FINISH SURFACE         | TELE = TELEPHONE               |
| FG = FINISH GRADE           | TRW = TOP OF RETAINING WALL    |
| G = GUTTER                  | TW = TOP OF WALK               |
| HYD = HYDRANT               | WM = WATER MAIN                |
| INV = INVERT                |                                |

### SYMBOL LEGEND

- |                              |                                       |
|------------------------------|---------------------------------------|
| ○ - MANHOLE                  | ◻ - TRANSFORMER                       |
| ○ - PROPOSED MANHOLE         | ◻ - ELECTRICAL PEDESTAL               |
| ⊙ - CATCHBASIN               | ⊙ - BARRIER FREE PARKING              |
| ⊙ - CURB CATCHBASIN          | ⊙ - FENCE                             |
| ⊙ - PROPOSED CATCHBASIN      | ⊙ - SPRINKLER                         |
| ⊙ - FIRE HYDRANT             | ⊙ - RAILROAD SIGNAL                   |
| ⊙ - PROPOSED FIRE HYDRANT    | ⊙ - ANTENNA                           |
| ⊙ - GAS VALVE                | ⊙ - SATELLITE DISH                    |
| ⊙ - WATER VALVE              | ⊙ - AIR CONDITIONING UNIT             |
| ⊙ - PROPOSED WATER VALVE     | ⊙ - SOIL BORING                       |
| ⊙ - TELEPHONE PEDESTAL       | ⊙ - FOUND SURVEY CORNER               |
| ⊙ - POWER POLE               | ⊙ - SET 3/4" IRON PIPE                |
| ⊙ - TELEPHONE POLE           | ⊙ - BREAK IN LINE                     |
| ⊙ - POWER AND TELEPHONE POLE | ⊙ - STUMP                             |
| ⊙ - LIGHT POLE               | ⊙ - WETLANDS                          |
| ⊙ - GUY ANCHOR AND POLE      | ⊙ - PINE                              |
| ⊙ - MAIL BOX                 | ⊙ - BUSH                              |
| ⊙ - SIGN                     | ⊙ - TREE                              |
| ⊙ - CABLE TV PEDESTAL        | ⊙ - ACREAGE OF PARCEL WITHIN DISTRICT |

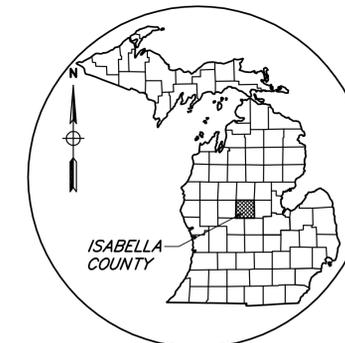
### LINE TYPE LEGEND

- |     |                                       |
|-----|---------------------------------------|
| --- | - EXISTING PROJECT DRAIN              |
| --- | - EXISTING DRAINS (OTHER)             |
| --- | - EXISTING DRAINAGE DISTRICT LINE     |
| --- | - PROPOSED DRAINAGE DISTRICT LINE     |
| --- | - PROPOSED SUB-DRAINAGE DISTRICT LINE |
| --- | - EXISTING ROAD                       |
| --- | - EXISTING WATER MAIN                 |
| --- | - EXISTING SANITARY SEWER             |
| --- | - EXISTING STORM SEWER                |
| --- | - EXISTING TELEPHONE CABLE            |
| --- | - EXISTING GAS MAIN                   |
| --- | - EXISTING ELECTRIC                   |
| --- | - PROPOSED UTILITY                    |
| --- | - EXISTING CURB & GUTTER              |
| --- | - PROPOSED CURB & GUTTER              |



LOCATION MAP  
NOT TO SCALE

CITY OF MT. PLEASANT, SECTION 15, T.14N.-R.4W.  
ISABELLA COUNTY, MICHIGAN



AREA MAP  
NOT TO SCALE

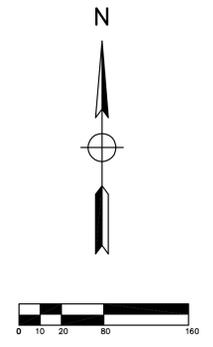
### PROJECT CONTACTS

- |  |   |
|--|---|
| <p>STACIE TEWARI, P.E.<br/>CITY OF MT. PLEASANT<br/>DEPARTMENT OF PUBLIC WORKS<br/>1303 N. FRANKLIN STREET<br/>MT. PLEASANT, MI 48858<br/>(989) 779-5404</p> <p>CHRIS BUNDY<br/>CITY OF MT. PLEASANT<br/>PARKS AND PUBLIC SPACES<br/>320 W. BROADWAY<br/>MT. PLEASANT, MI 48858<br/>(989) 779-5328</p> <p>NICK CZERWINSKI, P.E.<br/>SPICER GROUP<br/>230 S. WASHINGTON AVE.<br/>SAGINAW, MI 48602<br/>(989) 754-4717</p> <p>KATHRYN ANDERSON<br/>VERIZON/FRONTIER COMMUNICATIONS<br/>311 S. CEDAR<br/>IMLAY CITY, MI 48444</p> <p>DAN MARVIN<br/>MT. PLEASANT PUBLIC SCHOOLS<br/>1155 S. ELIZABETH STREET<br/>MT. PLEASANT, MI 48858</p> | <p>MATT MCMAHON<br/>MID MICHIGAN'S NETWORK EDUC. TELECOM<br/>P.O. BOX 310 1131 E. CENTER STREET<br/>ITHACA, MI 48847</p> <p>RICHARD KLENDER<br/>CONSUMERS ENERGY - ELECTRIC<br/>1325 WRIGHT AVE.<br/>ALMA, MI 48858<br/>(989) 466-4279</p> <p>ANDY KASDORF<br/>GMS INTER. NET LLC<br/>131 S. MAIN STREET<br/>MT. PLEASANT, MI 48858<br/>(989) 817-4046</p> <p>MARK PRICE<br/>CHARTER COMMUNICATIONS - CABLE<br/>7372 DAVISON ROAD<br/>DAVISON, MI 48423<br/>(734) 240-4015</p> <p>LARRY BOURKE<br/>DTE ENERGY - GAS<br/>609 BJORNSON STREET<br/>BIG RAPIDS, MI 49307<br/>(231) 592-3244</p> |
|--|---|

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREIN IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>BROADWAY ST. RIVER BANK &amp; WEIR REPAIRS CITY OF MT. PLEASANT, MICHIGAN</p>			
<p>COVER SHEET</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com</p>	
DE. BY: ZCS	CH. BY: NDC	PROJECT NO. 122003.14	
DR. BY: ZCS	APP. BY: RBH		
STDS.	SHEET 1 OF 7	DIV A/B	
DATE MARCH 2015	FILE NO. DR-2784-1		
SCALE NOT TO SCALE			

**MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS  
SOIL EROSION AND SEDIMENTATION CONTROL  
KEYING SYSTEM**

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	SEEDING		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and/or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	MULCH		On flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to rainfall impact, and erosive forces from wind or water.
7	RIPRAP		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
8	RIPRAP TOE OF SLOPE		Riprap and toe of slope protection is used in areas where velocities are causing drain bank erosion and are too high to stabilize using other methods.
9	OUTFALL STABILIZATION		In the stream or drain bank usually above the ordinary high water mark where an enclosed drain or tile discharges to an open drain.
15	ARMORED SPILLWAY		When concentrated flow must be conveyed down a drain bank or slope or discharge into another drain. Where slope failure or channel scour is observed or is likely to occur, or when runoff must be redirected around work in the drain.
60	STORM DRAIN INLET PROTECTION		Around the entrance to a newly constructed catch basin or an inlet that will capture runoff from an earth change activity.
80	DEBRIS REMOVAL		



CITY OF MT. PLEASANT  
SEC. 15 T.14 N.-R.4 W.  
ISABELLA COUNTY, MICHIGAN

DETAILED DRAWINGS AND SPECIFICATIONS ARE LOCATED IN THE MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL AUTHORIZED PUBLIC AGENCY PROCEDURES MANUAL.

SYMBOLY FOR INSERTION INTO CONSTRUCTION DRAWINGS:  
 = PERMANENT MEASURE  
 = TEMPORARY MEASURE

**GENERAL NOTES**

- NO WORK SHALL BE PERFORMED BEFORE 7:00 AM OR AFTER 7:00 PM MONDAY THROUGH SATURDAY. NO WORK SHALL HAPPEN ON SUNDAYS OR HOLIDAYS.
- ALL DISTURBED LAWN AREAS SHALL BE LANDSCAPED, GRADED AND HYDRO SEEDING. COST INCLUDED IN THE LUMP SUM PRICE FOR CLEAN UP AND RESTORATION.
- CONTACT THE ENGINEER 48 HOURS PRIOR FOR CONSTRUCTION STAKING AND INSPECTION.
- REMOVE EXISTING FENCES AND OTHER STRUCTURES AS NEEDED FOR CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE LOCATION OF ANY ACCESS ROADS WITH THE CITY AND THE ENGINEER. ANY ACCESS ROAD SHALL BE REPAIRED TO THE CITY'S APPROVAL. COST INCLUDED IN THE LUMP SUM PRICE FOR CLEAN UP AND RESTORATION.
- CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171) A MINIMUM OF 3 WORKING DAYS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES. SIGNAGE MUST BE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF TRAFFIC CONTROL AND SHALL BE COORDINATED WITH THE ENGINEER AND THE CITY.
- BROKEN CONCRETE AND DEBRIS SHALL BE CONSIDERED WASTE AND SHALL BE DISPOSED OF BY THE CONTRACTOR OFF SITE. COST SHALL BE INCLUDED IN THE OTHER PAY ITEMS OF THE PROJECT.
- SWEEP ROADS DAILY.
- THE CONTRACTOR SHALL REMOVE, REPLACE AND MAINTAIN ALL EXISTING MAIL BOXES, GARBAGE BOXES, POSTS, LANDSCAPE FEATURES AND SIGNS. ALL COSTS SHALL BE INCLUDED IN THE UNIT PRICE FOR CLEAN UP AND RESTORATION.
- ALL CONSTRUCTION UNDER EXISTING UTILITIES SHALL BE COMPLETELY BACKFILLED WITH SAND. COST TO BE INCLUDED IN THE UNIT PRICE FOR OTHER ITEMS ON THE PROJECT.
- THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES AND NOTIFY THE ENGINEER WHERE POSSIBLE CONFLICT EXISTS PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL CONFORM TO SOIL EROSION AND SEDIMENTATION CONTROL ACT, PART 91 OF ACT 451 OF 1994.
- ELECTRIC, GAS AND TELEPHONE UTILITIES LOCATED IN THE ROAD RIGHT-OF-WAY WILL BE RELOCATED BY OTHERS, IF REQUIRED.
- THE WORDS "RIGHT SIDE" OR "LEFT SIDE" IMPLY A REFERENCE TO RIVER FACING UPSTREAM/UPSTATION.
- COORDINATE DRIVE CLOSURES AND MAIL BOX RELOCATIONS WITH LAND OWNERS ONE DAY IN ADVANCE.

**MATERIAL DISPOSAL TABLE**

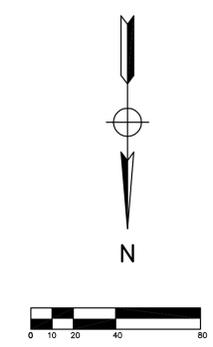
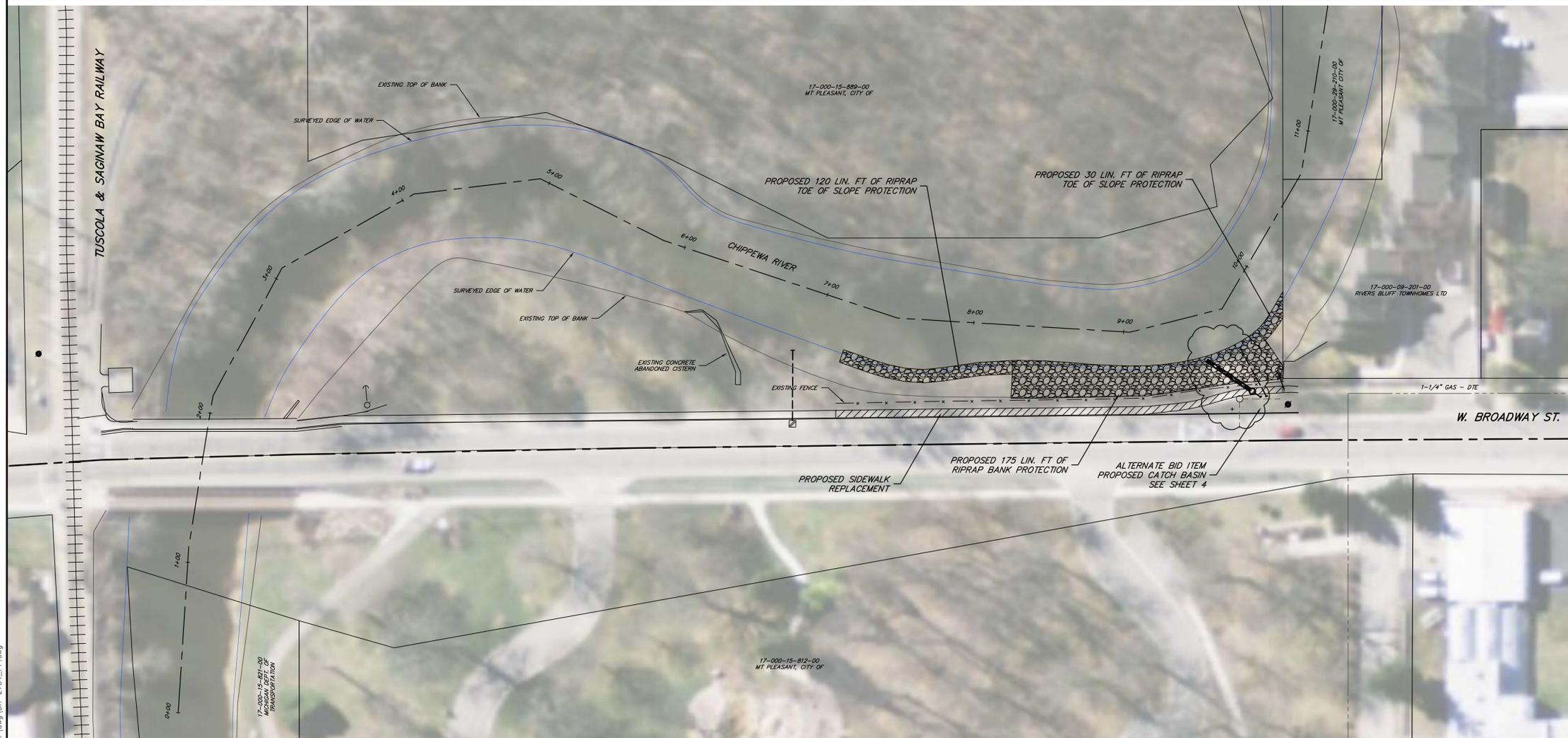
ITEM	DISPOSAL SITE	PAY ITEM FOR HAULING AND/OR DISPOSAL
EXCAVATED SOIL	CITY OWNED PARCEL - NEAR AIRPORT	SPOIL HAULING
UNCHIPPED BRUSH OR TREE TOPS, STUMPS, DEBRIS, BROKEN CONCRETE, OTHER MISC. CONSTRUCTION WASTE	CONTRACTOR TO HAUL OFF SITE AND DISPOSE OF	SITE CLEARING AND DEBRIS REMOVAL
WOOD CHIPS FROM CLEARING OPERATION, IF ANY, AND TREE TRUNKS	CONTRACTOR TO HAUL OFF SITE AND DISPOSE OF OR PROVIDE TO CITY AT CITY OWNED PARCEL - CEMETARY	SITE CLEARING AND DEBRIS REMOVAL
EXCESS OF UNSUITABLE FIELD STONE REMOVED FROM EXISTING WEIRS	CONTRACTOR TO HAUL OFF SITE AND DISPOSE OF OR PROVIDE TO CITY AT CITY OWNED PARCEL - CEMETARY	SPOIL HAULING

NOTE: MAPS TO CITY OWNED SPOIL DEPOSITION SITES ARE INCLUDED IN APPENDIX A OF THE SPECIFICATIONS

BY	MARK	REVISIONS	DATE
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BROADWAY ST. RIVER BANK & WEIR REPAIRS CITY OF MT. PLEASANT, MICHIGAN			
<b>SITE OVERVIEW &amp; EROSION AND SEDIMENTATION CONTROL</b>			
		SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com	
DE. BY: ZCS	CH. BY: NDC	PROJECT NO. 122003.14	
DR. BY: ZCS	APP. BY: RBH	SHEET 2 OF 7	
STDS.	FILE NO.	DIV	
DATE: FEBRUARY 2015	SCALE: 1" = 80'	A/B	



Q:\Proj\2014\122003\5C2014 - Broadway St. River Bank & Mill Pond Weir Repair.dwg, DR-2784-02.dwg, 5/27/2015 8:16:44 AM, Adobe PDF  
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 PLOTING SCALE: RET. F.B. PG.

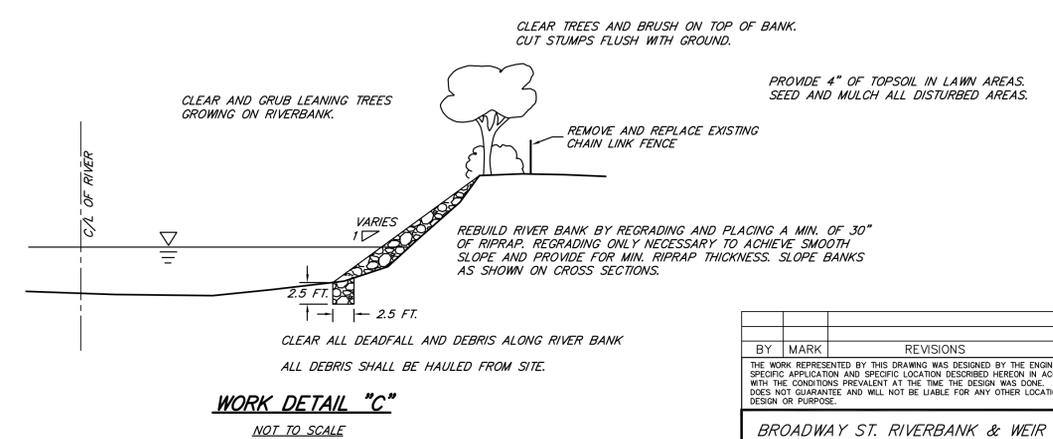
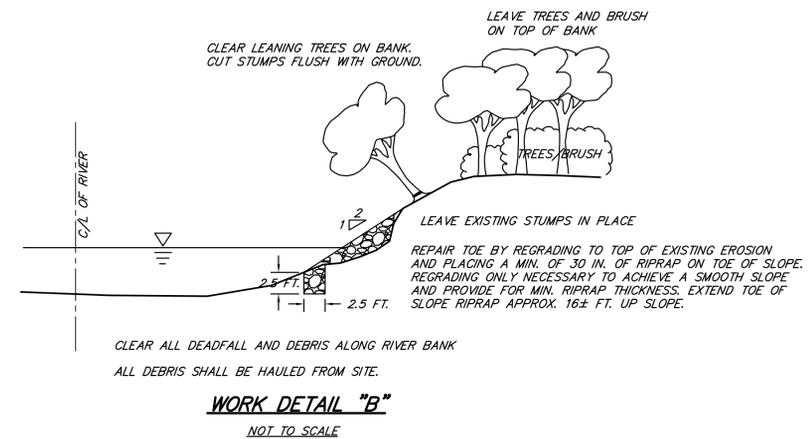
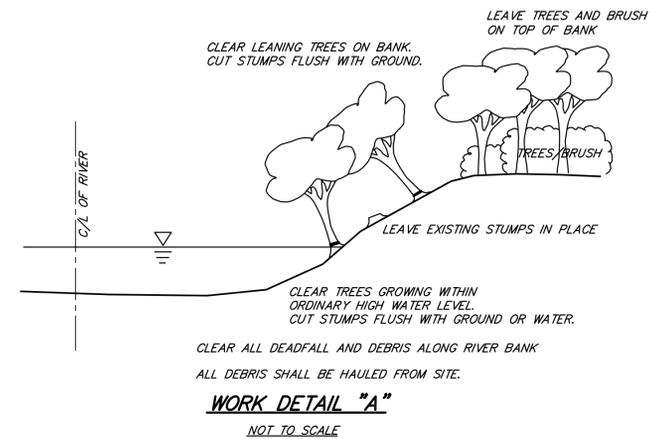


CITY OF MT. PLEASANT  
SEC. 15 T.14 N.-R.4 W.  
ISABELLA COUNTY, MICHIGAN

FROM STATION	TO STATION	TYPICAL WORK DETAIL	QTY.
2+00	7+20	A	520 LIN. FT.
7+20	8+30	B	120 LIN. FT.
8+30	9+75	C	175 LIN. FT.
9+75	10+00	B	30 LIN. FT.

**CONSTRUCTION NOTES**

- REMOVE AND REPLACE EXISTING CHAIN LINK FENCE ALONG W. BROADWAY ST.
- ALL DIVISION A RIPRAP SHALL BE ANGULAR CRUSHED LIMESTONE RANGING FROM 10" TO 30" IN DIAMETER WITH A D50 OF 15.5".
- DO NOT DISTURB EXISTING ABANDONED CISTERN LOCATED AT APPROX. STA. 6+75.
- INSTALL N.A.G. C-350 AS DIRECTED BY ENGINEER TO STABILIZE ERODING AREAS NOT SPECIFIED TO RECEIVE RIPRAP.
- REPAIR EXISTING TILE OUTLETS NEAR STA 9+75 PER DETAIL ON SHEET 7.



**BENCH MARKS**

BM #500 - SET GEAR SPIKE N.W. FACE POWER POLE BETWEEN R.R. TRACKS AND CONSUMERS MINI STATION 74.2' NORTH TO C/L BROADWAY DOUBLE LINE  
ELEV=769.168

BM #501 - SET GEAR SPIKE IN SOUTH FACE UTILITY POLE 124± WEST TO C/L ENTRANCE OF RIVERS BLUFF TOWNHOUSES, 24.6' TO C/L BROADWAY STREET YELLOW LINE  
ELEV=760.99

BY	MARK	REVISIONS	DATE

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**BROADWAY ST. RIVERBANK & WEIR REPAIRS**  
CITY OF MT. PLEASANT, MICHIGAN

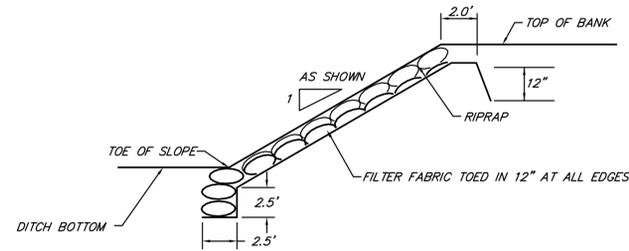
**PLANVIEW & CROSS SECTIONS**  
RIVERBANK REPAIRS

**Spicer group**  
SAGINAW OFFICE  
230 S. Washington Ave.  
Saginaw, MI 48607  
Tel. 989-754-4717  
Fax. 989-754-4440  
www.SpicerGroup.com

DE. BY: ZCS CH. BY: NDC  
DR. BY: ZCS APP. BY: RBH

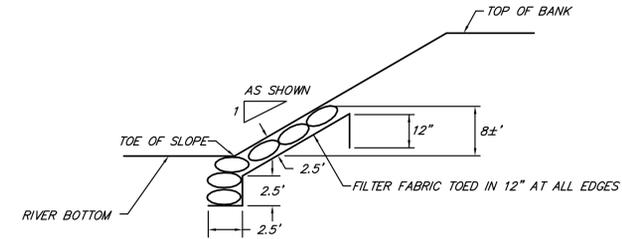
PROJECT NO.  
**122003.14**

STDS. SHEET **3** OF **7** DIV  
DATE FEBRUARY 2015 FILE NO. **DR-2784-3** A  
SCALE 1" = 40'

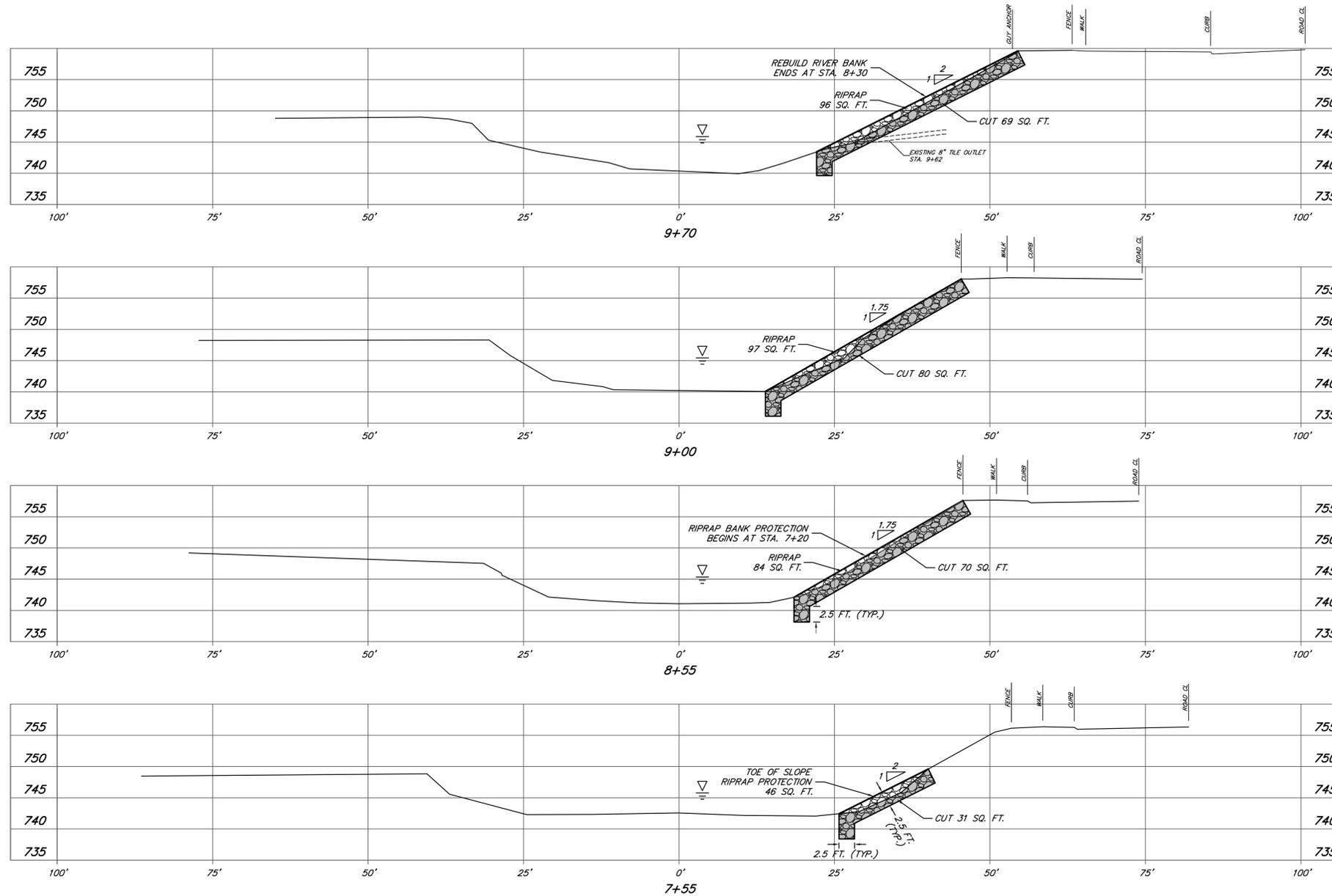


**RIPRAP BANK PROTECTION INSTALLATION DETAIL**  
(FOR BROADWAY STREET RIVER BANK PORTION OF PROJECT ONLY)  
NOT TO SCALE

NOTES FOR RIPRAP TOE OF SLOPE AND BANK INSTALLATION:  
1. FILTER FABRIC MUST BE TOED-IN TO UNDISTURBED EXISTING GROUND A MIN. OF 12" ON ALL SIDES.  
2. ALL DISTURBED AREAS ARE TO BE RESEDED AND COVERED WITH STRAW MULCH BLANKET IMMEDIATELY. MULCH BANKETS ARE TO BE STAKED DOWN BY CONTRACTOR ACCORDING TO MANUFACTURERS SPECIFICATIONS.



**RIPRAP TOE OF SLOPE PROTECTION INSTALLATION DETAIL**  
(FOR BROADWAY STREET RIVER BANK PORTION OF PROJECT ONLY)  
NOT TO SCALE

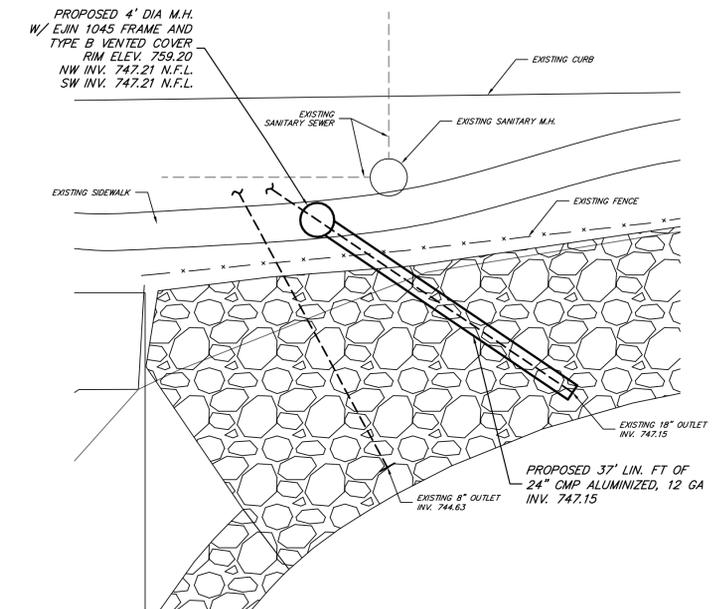


**RIVER BANK CROSS SECTIONS**

NOTE: CROSS SECTIONS SHOWN LOOKING UPSTREAM

LEGEND

	PROPOSED RIPRAP FILL
	PROPOSED CUT



**ALTERNATE BID ITEM  
STORM SEWER MANHOLE / OUTLET PIPE DETAIL**

SCALE: 1" = 10'

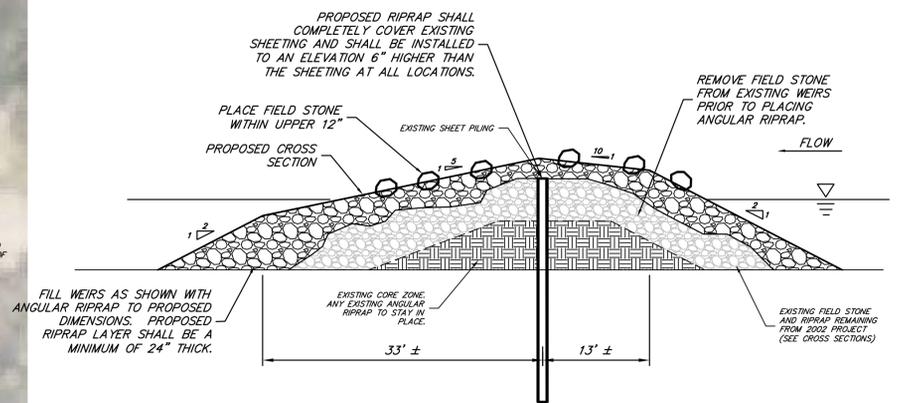
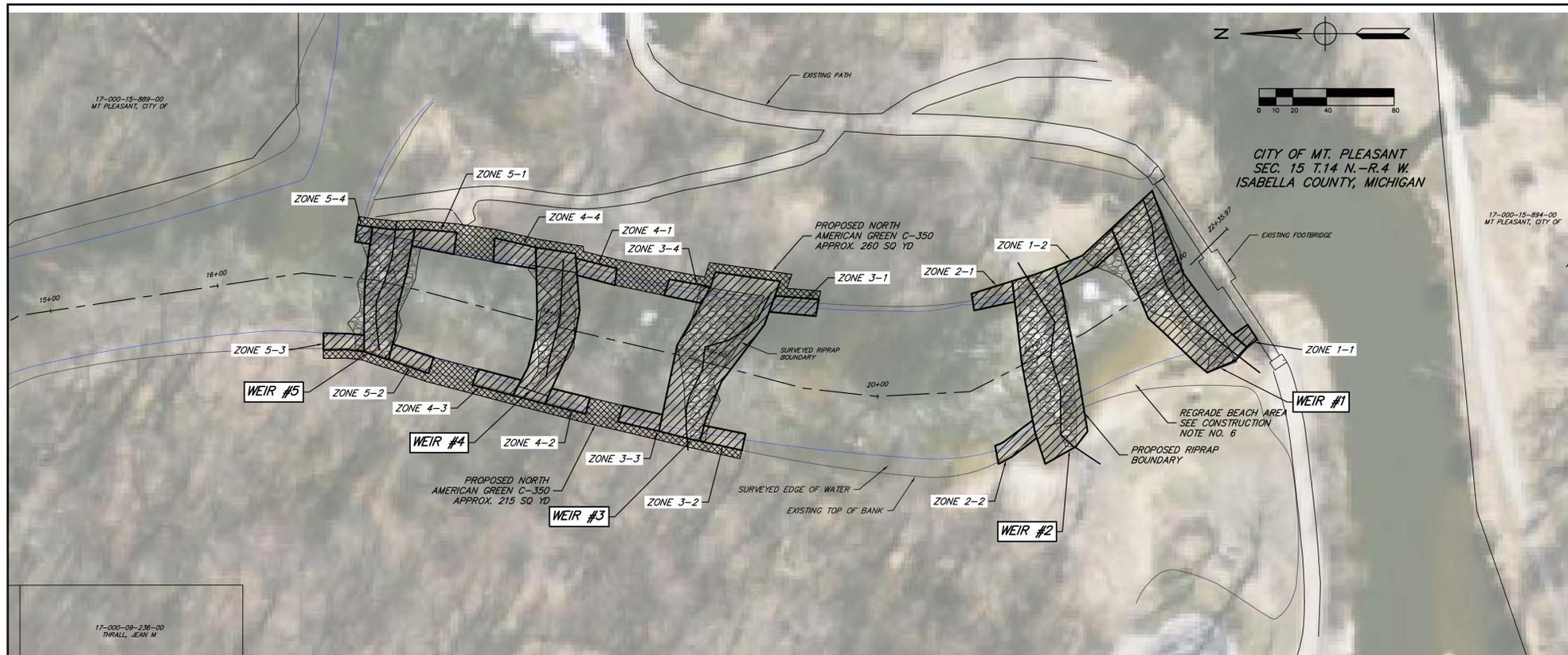
\* CONTRACTOR TO FIELD VERIFY ALL PROPOSED INVERTS W/ ENGINEER PRIOR TO INSTALLATION.

ALTERNATE BID ITEM INCLUDES THE FOLLOWING WORK ITEMS:

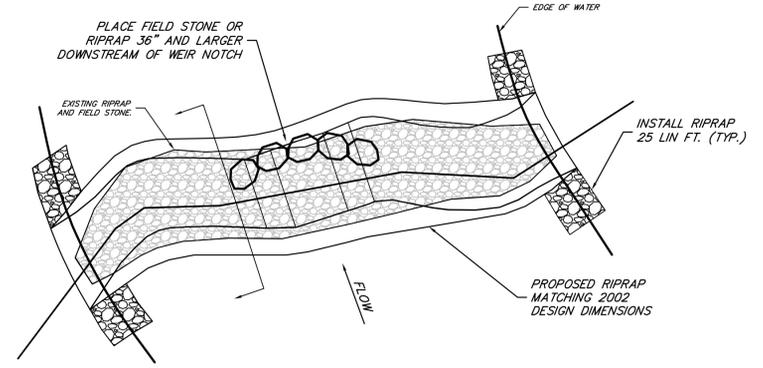
1. LOCATE AND EXCAVATE THE EXISTING STORM SEWER OUTLET.
2. ANY STAKING REQUIRED TO COMPLETE THE WORK.
3. INSTALL 4" DIAMETER MANHOLE W/ CASTING ON EXISTING STORM SEWER.
4. REMOVE ALL EXISTING STORM SEWER DOWNSTREAM OF PROPOSED MANHOLE.
5. INSTALL NEW CMP STORM SEWER OUTLET PIPE FROM MANHOLE TO RIVER.
6. ALL ASSOCIATED RESTORATION FOR THE INSTALLATION DESCRIBED ABOVE THAT IS ABOVE AND BEYOND THE BASE PROJECT SCOPE.

NOTE: ALTERNATE BID ITEM IS IN LIEU OF, NOT IN ADDITION TO THE 18" TILE OUTLET REPAIR IN THE BASE BID.

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BROADWAY ST. RIVERBANK & WEIR REPAIRS CITY OF MT. PLEASANT, MICHIGAN			
<b>CROSS SECTIONS RIVER BANK REPAIRS STA. 7+55 TO STA. 9+70</b>			
		SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com	
DE. BY: ZCS	CH. BY: NDC	PROJECT NO. 122027.14	
DR. BY: ZCS	APP. BY: RBH	SHEET 4 OF 7	
STDS.	FILE NO.	DIV	
DATE: FEBRUARY 2015	SCALE: 1" = 10'	DR-2784-04	
		A	

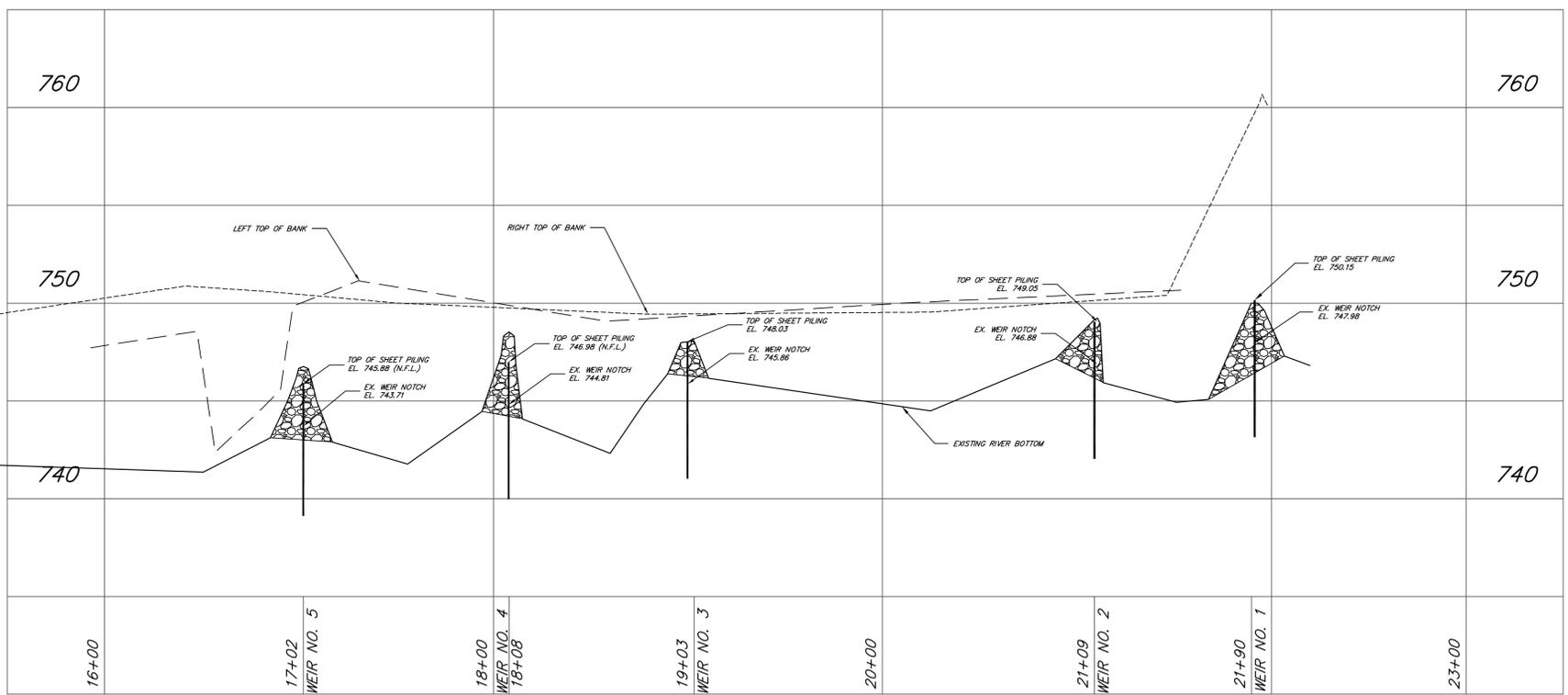


TYPICAL WEIR REPAIR DETAILS - SECTION



TYPICAL WEIR REPAIR DETAILS - PLANVIEW

WEIR #	LENGTH
1	108 FT.
2	105 FT.
3	103 FT.
4	91 FT.
5	75 FT.



LEGEND

- PROPOSED RIPRAP BOUNDARY
- PROPOSED NORTH AMERICAN GREEN C-350
- PROPOSED RIPRAP
- EXISTING RIPRAP

- CONSTRUCTION NOTES
- CONTRACTOR TO CLEAR ACCESS PATH ALONG WEST SIDE OF RIVER AS NEEDED TO PERFORM WORK ON WEIRS. COST INCLUDED IN LUMP SUM PRICE FOR SITE CLEARING.
  - CONTRACTOR TO PERFORM WORK ON EAST SIDE OF RIVER AS SHOWN ON CONSTRUCTION STAGING DETAIL ON SHEET 7.
  - RESTRICT TREE REMOVAL TO WHAT IS NEEDED TO PERFORM WORK ON THE WEIRS.
  - RIPRAP FOR TOE OF SLOPE PROTECTION ON DIVISION B IS TO BE ANGULAR CRUSHED LIMESTONE RANGING IN SIZE FROM 8" TO 15" WITH A D50 OF 12".
  - RIPRAP FOR FILL AT WEIRS IS TO BE ANGULAR CRUSHED LIMESTONE RANGING IN SIZE FROM 15" TO 48" WITH A D50 OF 24".
  - REGRADE/SMOOTH OUT EACH AREA FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES. COST INCLUDED IN LUMP SUM BID PRICE FOR CLEANUP AND RESTORATION.

RIPRAP TOE OF SLOPE PROTECTION

WEIR #1		WEIR #2	
ZONE	LENGTH	ZONE	LENGTH
1-1	10	2-1	25
1-2	40	2-2	25
WEIR #3		WEIR #4	
ZONE	LENGTH	ZONE	LENGTH
3-1	25	4-1	25
3-2	25	4-2	25
3-3	25	4-3	25
3-4	25	4-4	25
WEIR #5			
ZONE	LENGTH		
5-1	25		
5-2	25		
5-3	25		
5-4	10		

BENCH MARKS

BM #502 - CHISELED SQUARE IN NORTHERLY CORNER OF CONCRETE PAD FOR WEST END OF WALKING BRIDGE. ELEV=761.15

BM #503 - SET GEAR SPIKE IN N.W. FACE 40" MAPLE EAST SIDE OF PAVED TRAILS BETWEEN DRAINS 250± SOUTH OF WHERE DRAIN COME TOGETHER. ELEV=751.92

BY	MARK	REVISIONS	DATE

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**BROADWAY ST. RIVER BANK & WEIR REPAIR  
ISABELLA COUNTY, MICHIGAN**

**PLAN AND PROFILE  
MILL POND WEIR REPAIRS**

**Spicer group**  
SAGINAW OFFICE  
230 S. Washington Ave.  
Saginaw, MI 48607  
Tel: 989-754-4717  
Fax: 989-754-4440  
www.SpicerGroup.com

DE. BY: ZCS CH. BY: NDC  
DR. BY: ZCS APP. BY: RBH

PROJECT NO. 122003.14

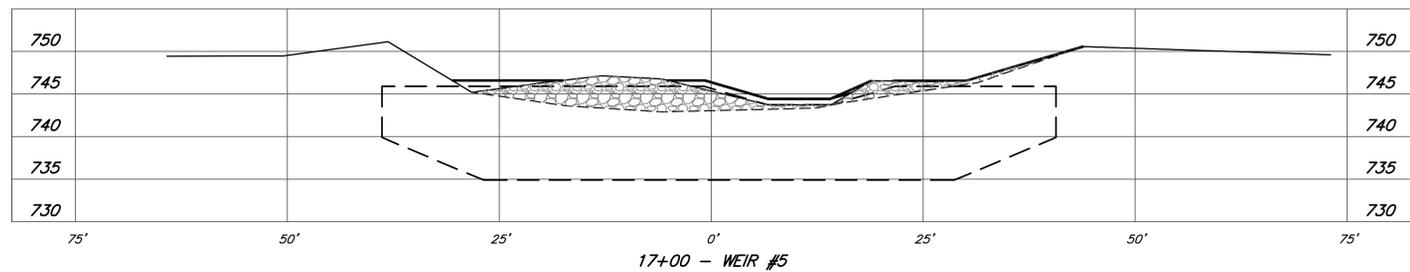
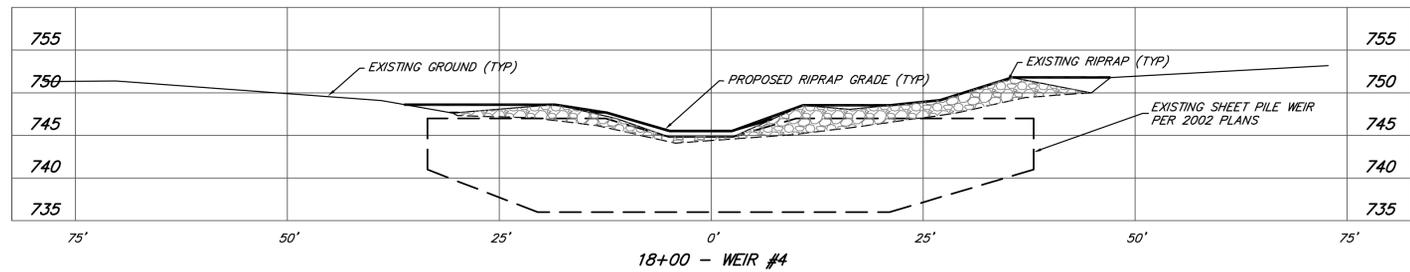
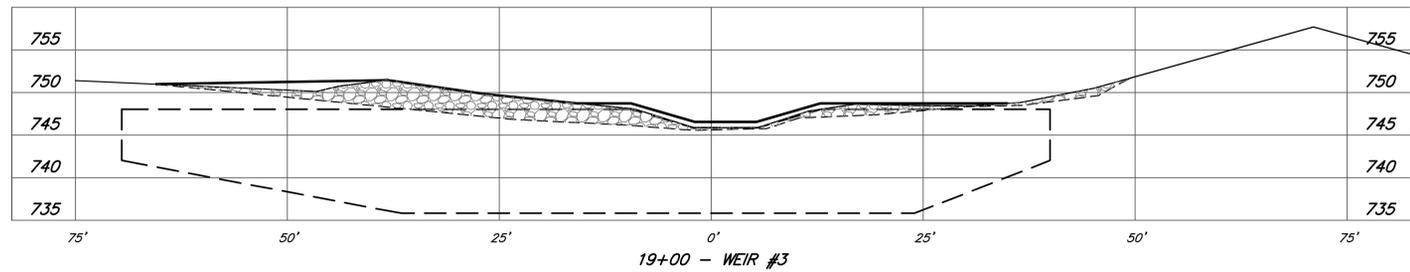
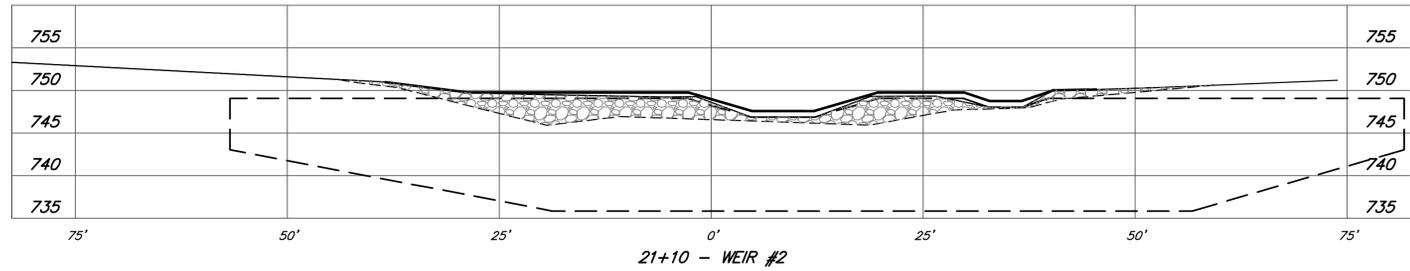
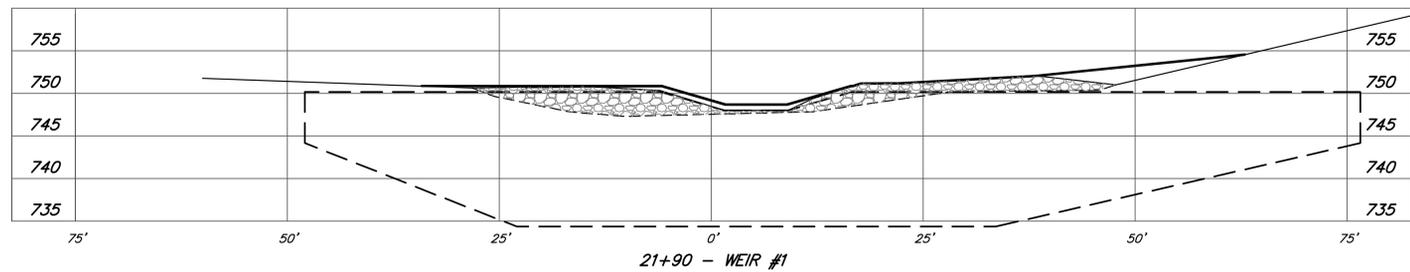
STDS. SHEET 5 OF 7 DIV B

DATE FEBRUARY 2015 FILE NO. DR-2784-5

SCALE H: 1"=40' V: 1"=4'

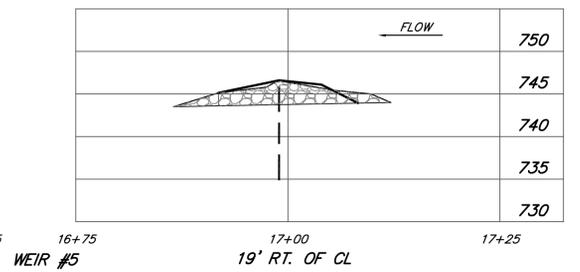
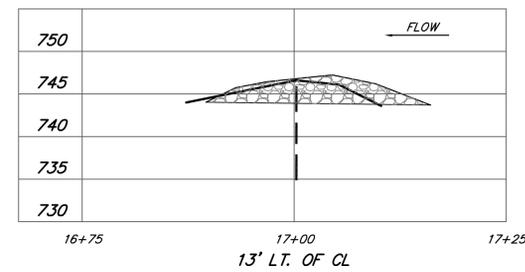
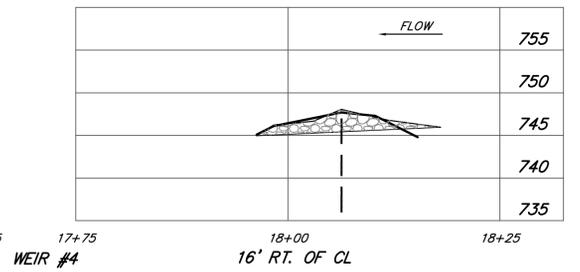
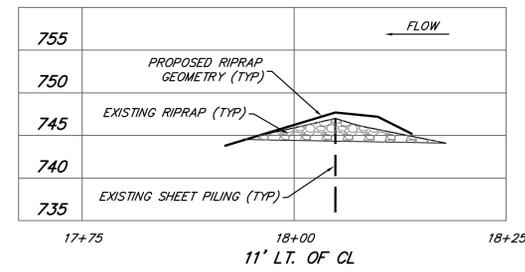
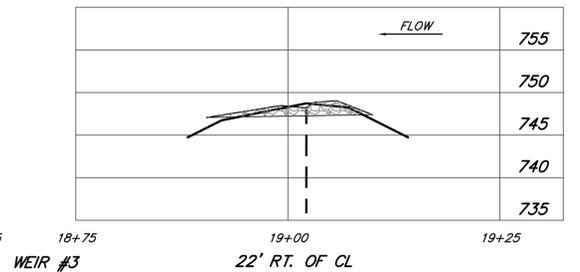
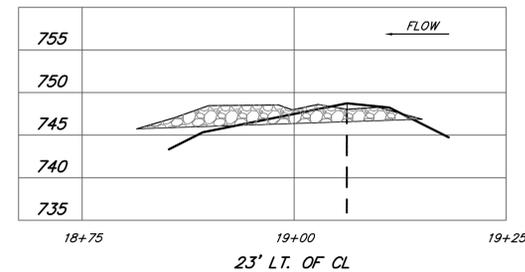
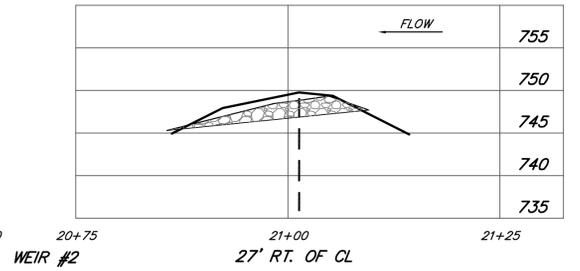
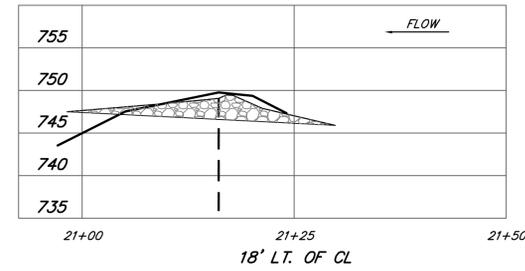
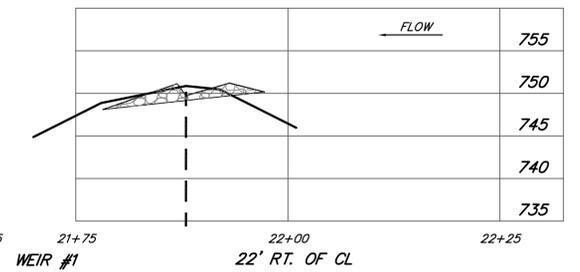
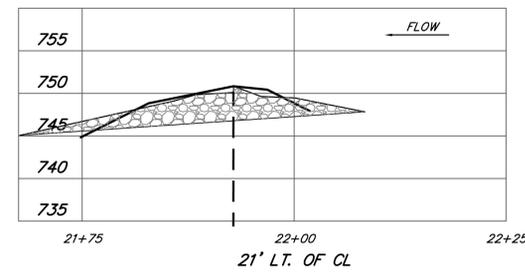
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**WEIR CROSS SECTIONS**

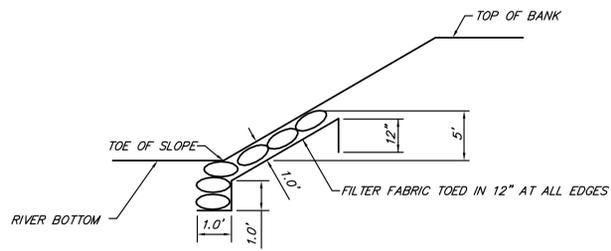
NOTE: CROSS SECTIONS SHOWN LOOKING UPSTREAM



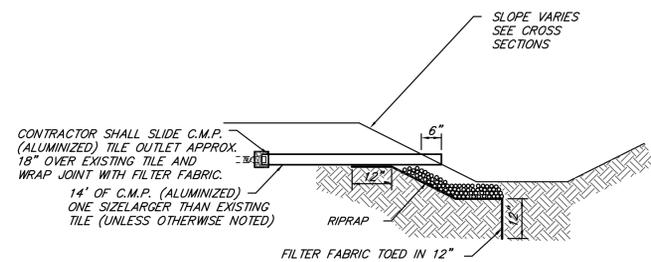
**WEIR PROFILE SECTIONS**

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>BROADWAY ST. RIVERBANK &amp; WEIR REPAIRS CITY OF MT. PLEASANT, MICHIGAN</p>			
<p><b>CROSS SECTIONS WEIR REPAIRS STA. 17+00 TO STA. 21+90</b></p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY: ZCS	CH. BY: NDC	PROJECT NO. 122027.14	
DR. BY: ZCS	APP. BY: RBH	DATE FEBRUARY 2015	
STDS.		SHEET 6 OF 7	DIV B
SCALE 1" = 10'		FILE NO. DR-2784-6	

PLOTTING SCALE: RET. F.B. PG. ACAD FILE: G:\Proj\2014\122003502014 - Broadway St. River Bank & Mill Pond Weir Repair\wg\DR-2784-6.dwg  
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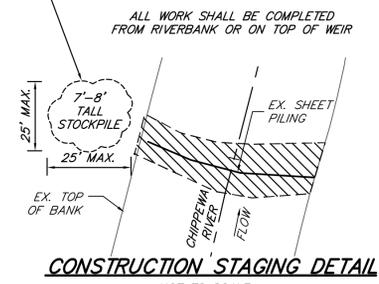


**RIPRAP TOE OF SLOPE PROTECTION INSTALLATION DETAIL**  
 (FOR TOE OF SLOPE PROTECTION ADJACENT TO WEIRS ONLY)  
 NOT TO SCALE



**DRAIN TILE OUTLET DETAIL & COBBLESTONE SPLASH PAD DETAIL**  
 NOT TO SCALE

CONTRACTOR TO REMOVE EXISTING REUSEABLE STONE AND TEMPORARILY PILE ALONG RIVER IMMEDIATELY ADJACENT TO EXISTING WEIRS. ANY STONE NOT REUSED SHALL BE HAULED OFFSITE.



**CONSTRUCTION STAGING DETAIL**  
 NOT TO SCALE

NOTE: ALL TEMPORARY FILL WILL BE REMOVED WITHIN TWO WEEKS OF PLACEMENT

BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
BROADWAY ST. RIVER BANK & WEIR REPAIR CITY OF MT. PLEASANT, MICHIGAN			
<b>MISCELLANEOUS DETAILS</b>			
		SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com	
DE. BY: LDO	CH. BY: NDC	PROJECT NO. 122003.14	
DR. BY: LDO	APP. BY: RBH		
STDS.	SHEET 7 OF 7	DIV A/B	
DATE SCALE	MAY 2015 AS SHOWN	FILE NO. DR-2784-7	