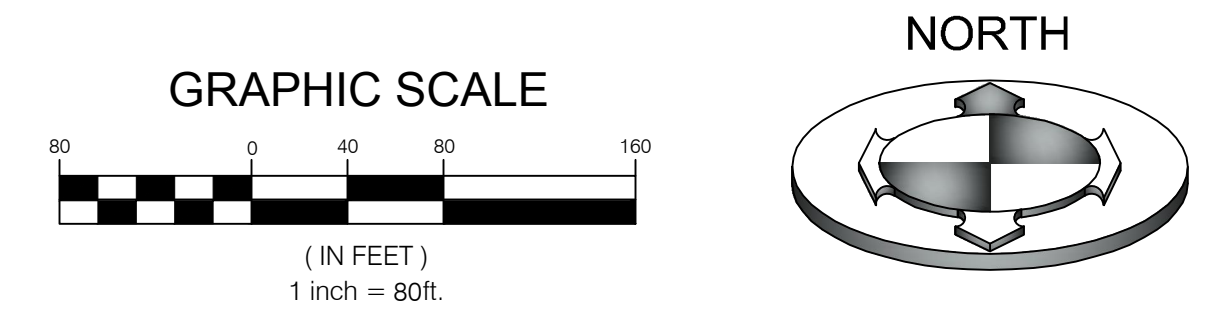
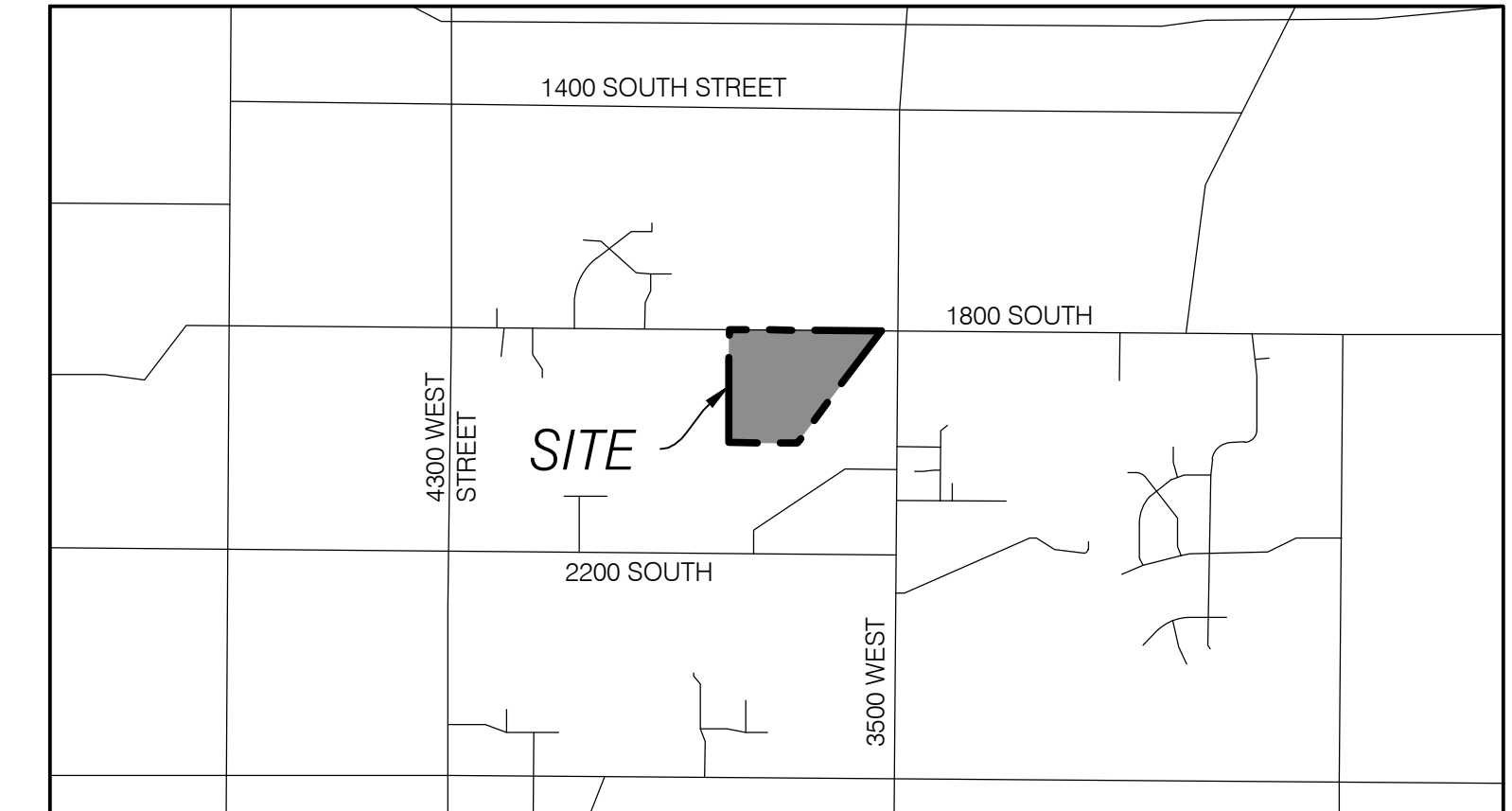
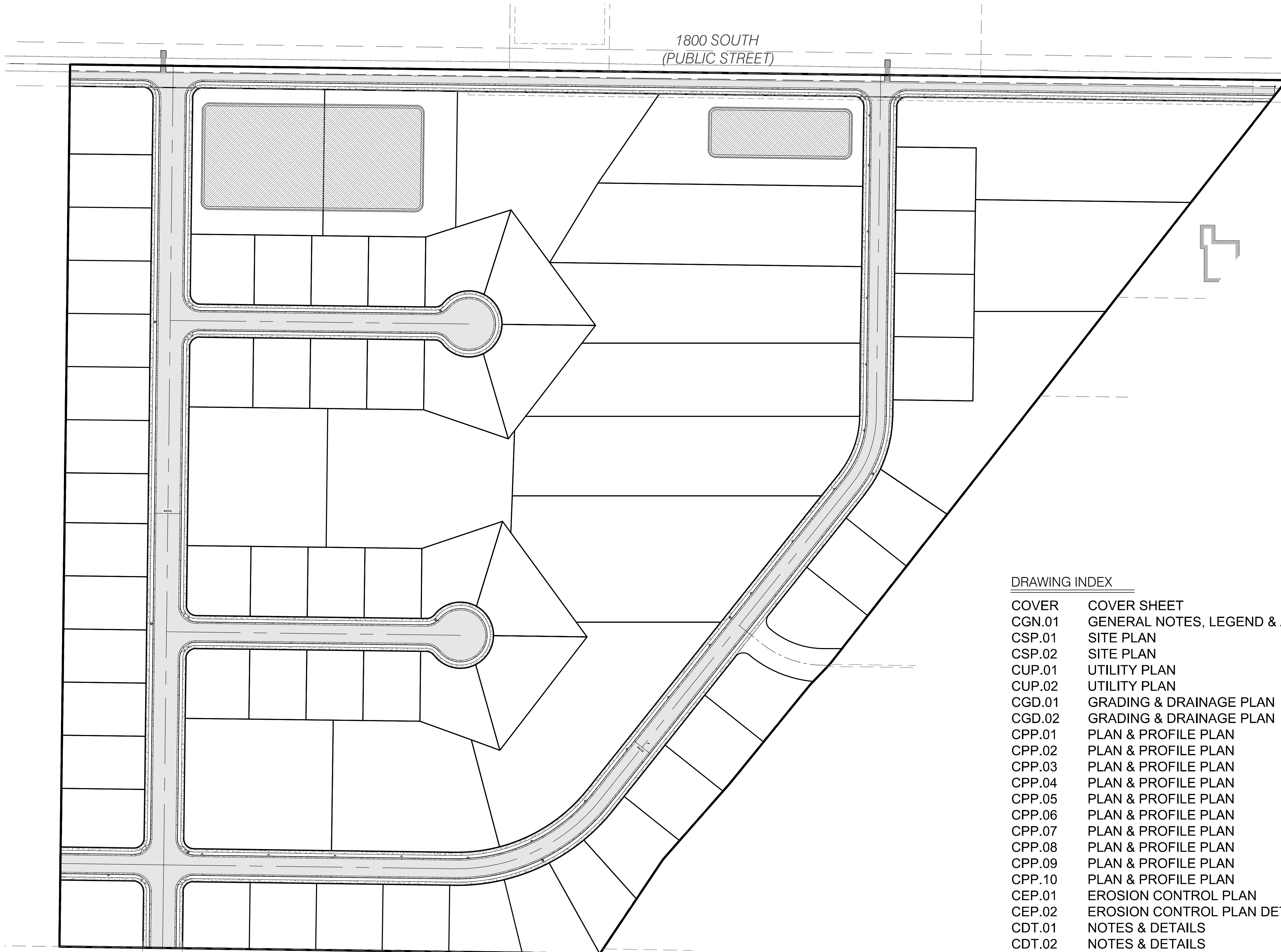


# WINSTON PARK

LOCATED IN THE NORTHEAST QUARTER OF SECTION 28,  
TOWNSHIP 6 NORTH NORTH, RANGE 2 WEST,  
SALT LAKE BASE AND MERIDIAN  
WEBER COUNTY, UTAH  
APRIL 2017



1800 SOUTH  
(PUBLIC STREET)




VICINITY MAP  
N.T.S

OWNER/DEVELOPER:  
RICE ASSET MANAGEMENT, LLC  
JAY RICE  
4968 HOLLADAY PINES COURT  
HOLLADAY, UT 84117  
801-633-3994  
Jrrice2014@gmail.com

## DRAWING INDEX

|        |                                      |
|--------|--------------------------------------|
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| CGN.01 | GENERAL NOTES, LEGEND & ABBREVIATION |
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| CSP.02 | SITE PLAN                            |
| CUP.01 | UTILITY PLAN                         |
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| CGD.01 | GRADING & DRAINAGE PLAN              |
| CGD.02 | GRADING & DRAINAGE PLAN              |
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| CPP.05 | PLAN & PROFILE PLAN                  |
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| CEP.01 | EROSION CONTROL PLAN                 |
| CEP.02 | EROSION CONTROL PLAN DETAILS         |
| CDT.01 | NOTES & DETAILS                      |
| CDT.02 | NOTES & DETAILS                      |
| CDT.03 | NOTES & DETAILS                      |
| CDT.04 | NOTES & DETAILS                      |

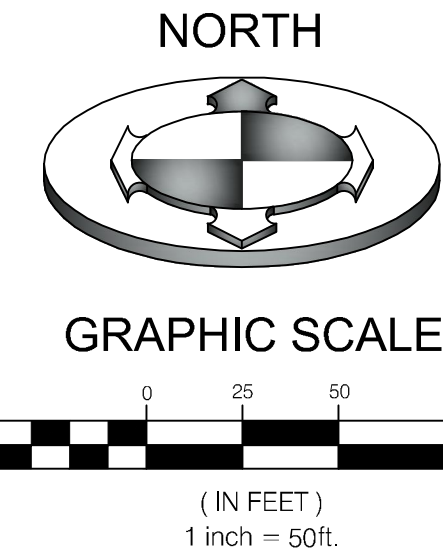
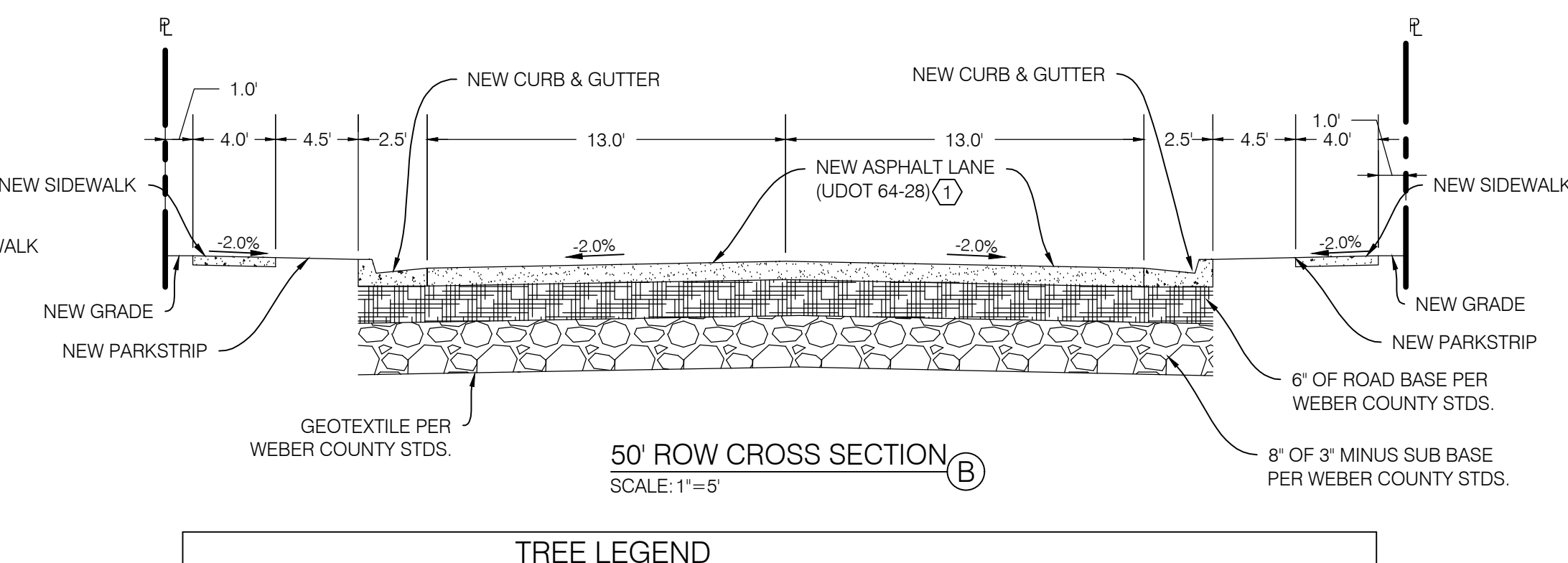
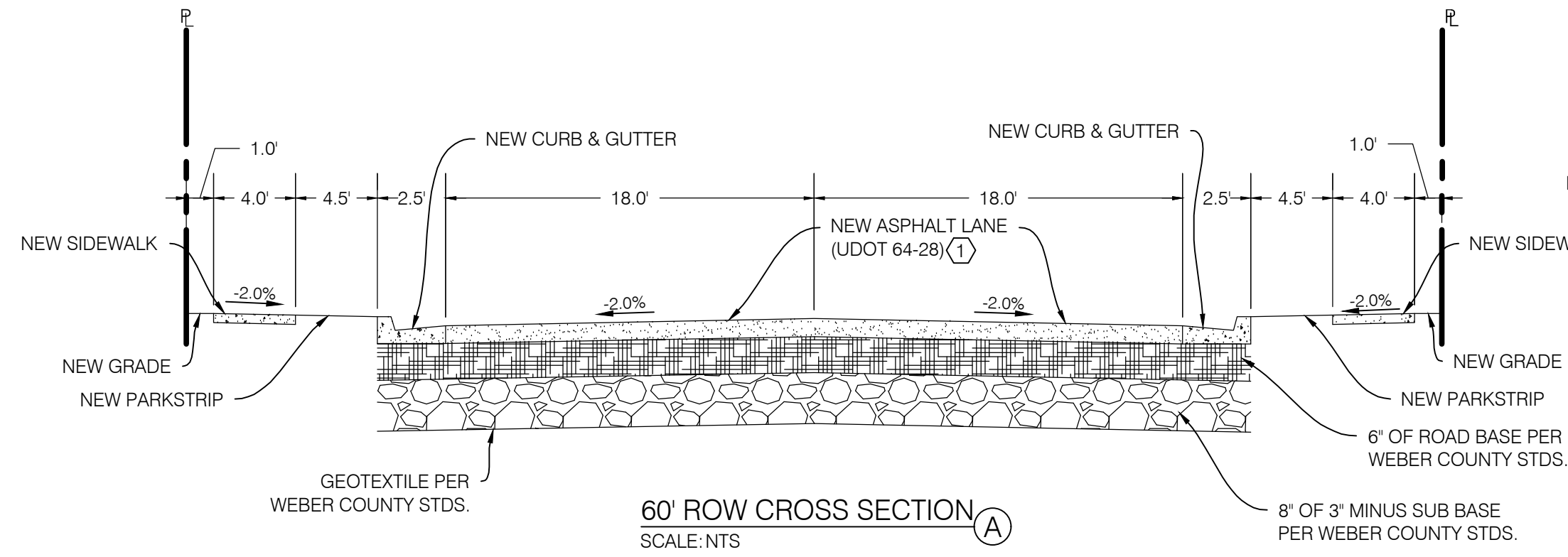
## CIVIL CONSTRUCTION PLANS

|                                                                                       |          |                                                                                                   |               |                        |         |
|---------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------|---------------|------------------------|---------|
|  |          | <b>BENCHMARK<br/>ENGINEERING &amp;<br/>LAND SURVEYING</b>                                         |               | PROJECT NO:<br>1607138 |         |
|                                                                                       |          | 9130 SOUTH STATE STREET SUITE # 100<br>SANDY, UTAH 84070 (801) 542-7192<br>www.benchmarkcivil.com |               |                        |         |
| WINSTON PARK<br>3701 WEST 1800 SOUTH<br>WEST WEBER, UTAH                              |          | DRAFT<br>TAB                                                                                      | DESIGN<br>DPS | CHECK<br>DPS           | COVER   |
| No.                                                                                   | DATE     | DATE                                                                                              | DATE          | DATE                   |         |
| 1                                                                                     | 10/31/17 | REVISED PER COUNTY COMMENTS                                                                       |               |                        | 1 OF 24 |
|                                                                                       |          |                                                                                                   |               |                        |         |
|                                                                                       |          |                                                                                                   |               |                        |         |
|                                                                                       |          |                                                                                                   |               |                        |         |



ZONE=A-1

| BONUS DENSITY TABLE         |                        |                        |
|-----------------------------|------------------------|------------------------|
| OVERALL AREA (S.F.)         | 1,693,711              |                        |
| R.O.W. AREA                 | 236,527                |                        |
| MAXIMUM 40,000 S.F. LOTS    | 36                     |                        |
| <b>APPLICABLE ITEMS</b>     | <b>% DENSITY BONUS</b> | <b>ADDITIONAL LOTS</b> |
| a. CLUSTER                  | 10                     | 3.6                    |
| b. ROADWAY LANDSCAPE/DESIGN | 20                     | 7.2                    |
| g. AGRICULTURE              | 15                     | 5.4                    |
| i. SEWER CAPACITY           | 5                      | 1.8                    |
| <b>TOTAL BONUS</b>          | <b>50</b>              | <b>18</b>              |
| <b>TOTAL PROPOSED LOTS</b>  | <b>54</b>              |                        |



| AREA TABLE   |           |      |
|--------------|-----------|------|
| PARTICULARS  | S.F.      | %    |
| AREA OF LOTS | 578,504   | 34.2 |
| R.O.W.       | 236,527   | 14.0 |
| OPEN SPACE   | 878,680   | 51.8 |
| TOTAL        | 1,693,711 | 100  |

AVERAGE LOT AREA = 10,571 S.F.

| CONSTRUCTION KEY NOTES REFERENCE |                                                                                            |          |
|----------------------------------|--------------------------------------------------------------------------------------------|----------|
| NO                               | DESCRIPTION                                                                                | DETAIL   |
| 1                                | ASPHALT PAVEMENT WITH GRANULAR BASE                                                        | 1/CDT.01 |
| 2                                | CONCRETE CURB AND GUTTER PER WEBER COUNTY PUBLIC STDS. SHEET 4                             | 2/CDT.01 |
| 3                                | SIDWALK PER WEBER COUNTY PUBLIC STDS. SHEET 4                                              | 2/CDT.01 |
| 4                                | ADA RAMP WITH GRAY CAST IN PLACE TRUNCATED DOME DETECTABLE WARNING SURFACE PER APWA #235.1 | 1/CDT.02 |
| 5                                | 'NO PARKING' SIGN                                                                          |          |

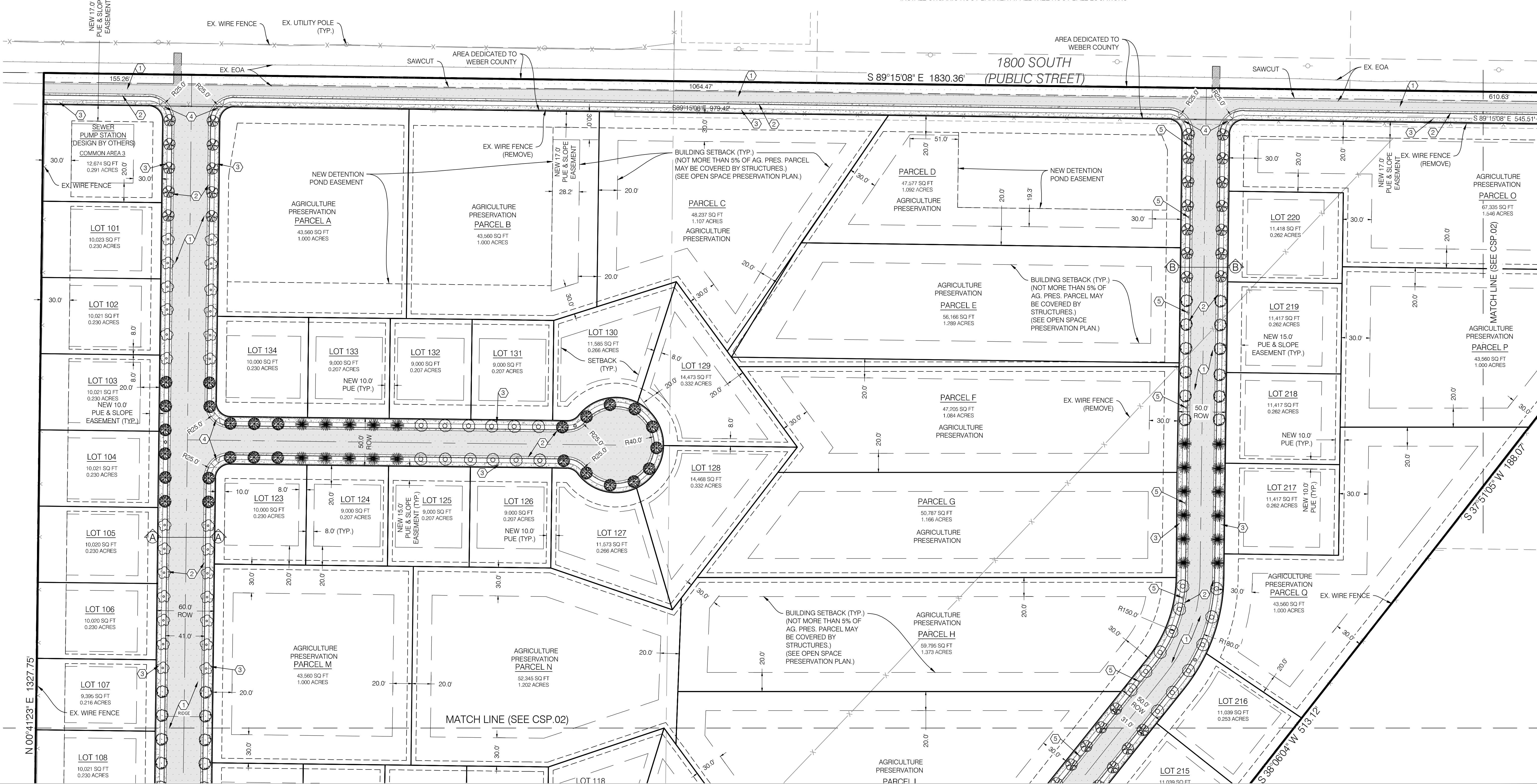
| TREE LEGEND |                     |          |
|-------------|---------------------|----------|
| NO          | TREE NAME           | DETAIL   |
| (A)         | FLOWERING PEAR      | (Symbol) |
| (B)         | COLUMNAR GINKGO     | (Symbol) |
| (C)         | ENGLISH HAWTHORN    | (Symbol) |
| (D)         | WASHINGTON HAWTHORN | (Symbol) |
| (E)         | RED MAPLE           | (Symbol) |
| (F)         | HEDGE MAPLE         | (Symbol) |

INSTALL ORGANIC ROOT BARRIER AT ALL TREE ROOT BALL LOCATIONS

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www.bluestakes.org

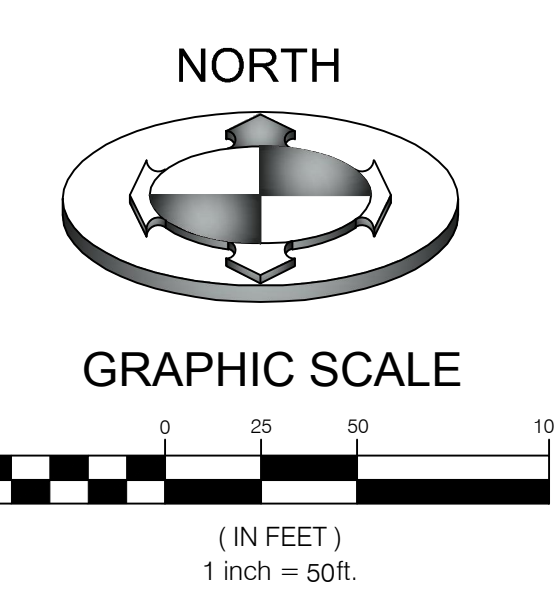
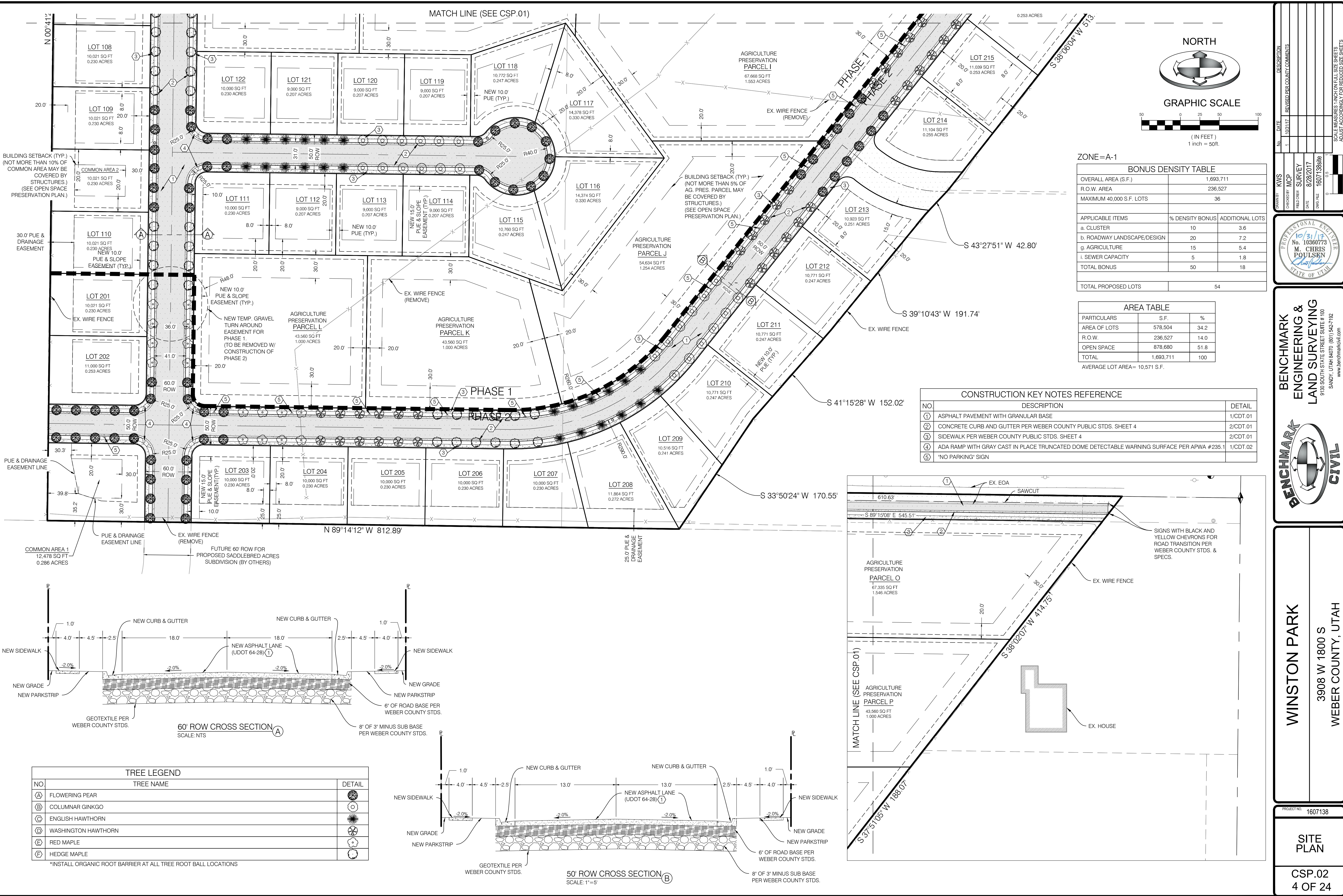


PROFESSIONAL ENGINEER  
No. 10360773  
M. CHRIS POULSEN  
STATE OF UTAH

BENCHMARK CIVIL  
BENCHMARK ENGINEERING & LAND SURVEYING  
9100 SOUTH STATE STREET SUITE # 100  
SANDY, UTAH 84070 (801) 542-7192  
www.benchmarkcivil.com

WINSTON PARK  
3908 W 1800 S  
WEBER COUNTY, UTAH

PROJECT NO. 1607138  
SITE PLAN  
CSP.01  
3 OF 24



**ZONE=A-1**

| BONUS DENSITY TABLE         |                 |                 |
|-----------------------------|-----------------|-----------------|
| OVERALL AREA (S.F.)         | 1,693,711       |                 |
| R.O.W. AREA                 | 236,527         |                 |
| MAXIMUM 40,000 S.F. LOTS    | 36              |                 |
| APPLICABLE ITEMS            | % DENSITY BONUS | ADDITIONAL LOTS |
| a. CLUSTER                  | 10              | 3.6             |
| b. ROADWAY LANDSCAPE/DESIGN | 20              | 7.2             |
| g. AGRICULTURE              | 15              | 5.4             |
| i. SEWER CAPACITY           | 5               | 1.8             |
| <b>TOTAL BONUS</b>          | <b>50</b>       | <b>18</b>       |
| <b>TOTAL PROPOSED LOTS</b>  | <b>54</b>       |                 |

| AREA TABLE                    |                  |            |
|-------------------------------|------------------|------------|
| PARTICULARS                   | S.F.             | %          |
| AREA OF LOTS                  | 578,504          | 34.2       |
| R.O.W.                        | 236,527          | 14.0       |
| OPEN SPACE                    | 878,680          | 51.8       |
| <b>TOTAL</b>                  | <b>1,693,711</b> | <b>100</b> |
| AVERAGE LOT AREA= 10,571 S.F. |                  |            |

| CONSTRUCTION KEY NOTES REFERENCE |                                                                                            |          |
|----------------------------------|--------------------------------------------------------------------------------------------|----------|
| NO                               | DESCRIPTION                                                                                | DETAIL   |
| ①                                | ASPHALT PAVEMENT WITH GRANULAR BASE                                                        | 1/CDT.01 |
| ②                                | CONCRETE CURB AND GUTTER PER WEBER COUNTY PUBLIC STDS. SHEET 4                             | 2/CDT.01 |
| ③                                | SIDEWALK PER WEBER COUNTY PUBLIC STDS. SHEET 4                                             | 2/CDT.01 |
| ④                                | ADA RAMP WITH GRAY CAST IN PLACE TRUNCATED DOME DETECTABLE WARNING SURFACE PER APWA #235.1 | 1/CDT.02 |
| ⑤                                | "NO PARKING" SIGN                                                                          |          |

BUILDING SETBACK (TYP.)  
(NOT MORE THAN 10% OF COMMON AREA MAY BE COVERED BY STRUCTURES.)  
(SEE OPEN SPACE PRESERVATION PLAN)

BUILDING SETBACK (TYP.)  
(NOT MORE THAN 5% OF AG. PRES. PARCEL MAY BE COVERED BY STRUCTURES.)  
(SEE OPEN SPACE PRESERVATION PLAN)

S 43°27'51" W 42.80'

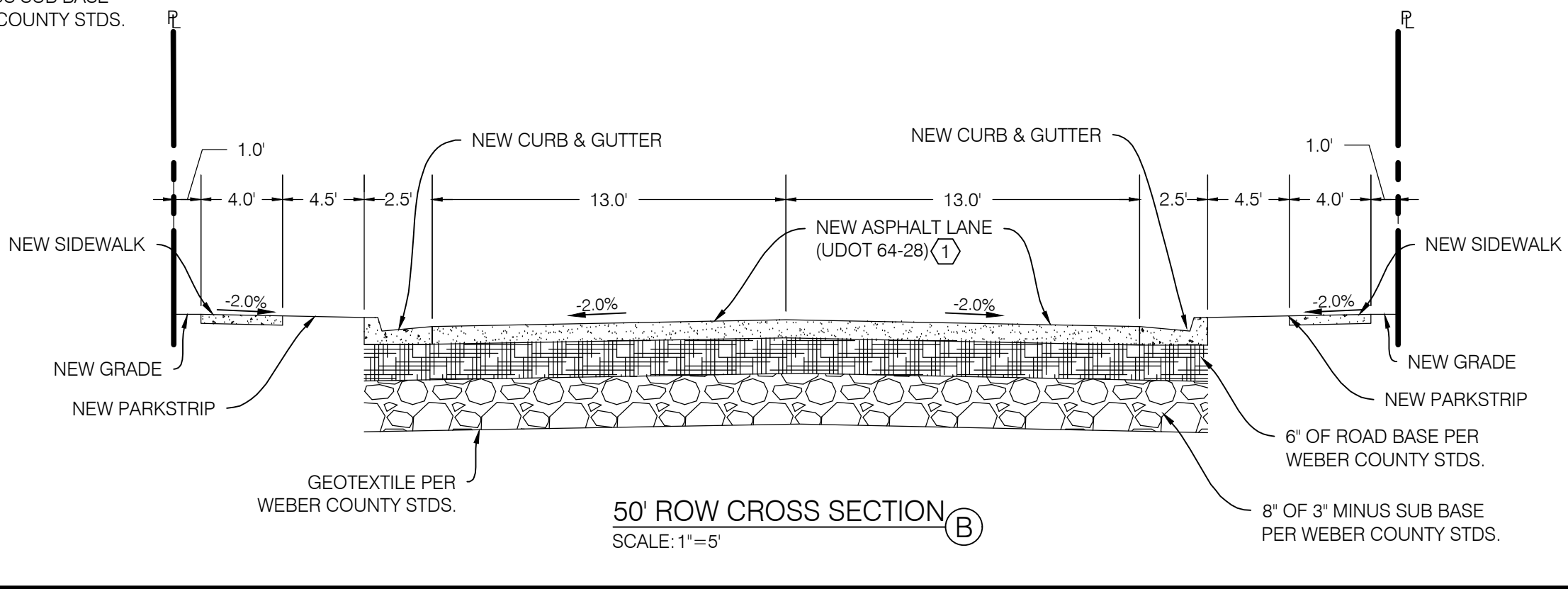
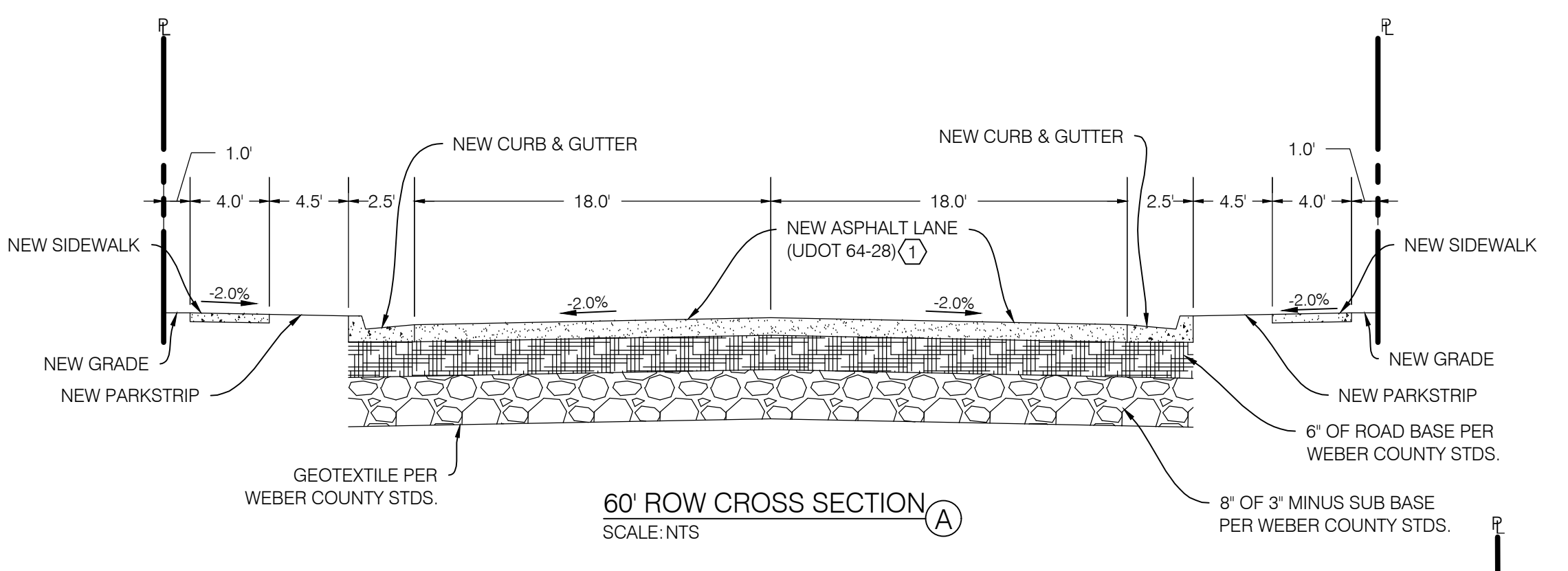
S 39°10'43" W 191.74'

S 41°15'28" W 152.02'

S 33°50'24" W 170.55'

COMMON AREA 1  
12,478 SQ FT  
0.286 ACRES

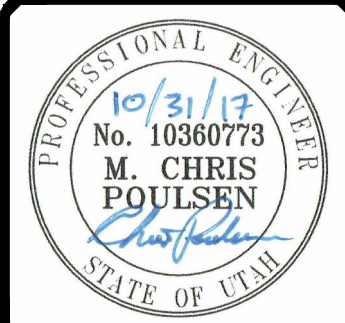
FUTURE 60' ROW FOR PROPOSED SADDLEBRED ACRES SUBDIVISION (BY OTHERS)



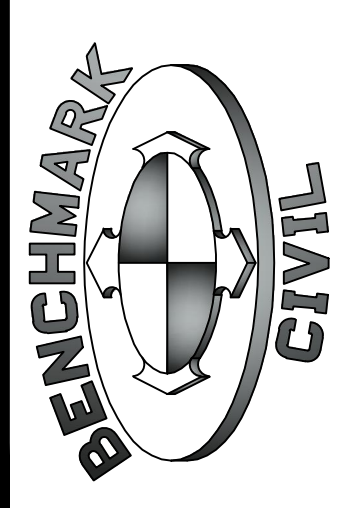
| TREE LEGEND |                     |        |
|-------------|---------------------|--------|
| NO.         | TREE NAME           | DETAIL |
| Ⓐ           | FLOWERING PEAR      |        |
| Ⓑ           | COLUMNAR GINKGO     |        |
| Ⓒ           | ENGLISH HAWTHORN    |        |
| Ⓓ           | WASHINGTON HAWTHORN |        |
| Ⓔ           | RED MAPLE           |        |
| Ⓕ           | HEDGE MAPLE         |        |

\*INSTALL ORGANIC ROOT BARRIER AT ALL TREE ROOT BALL LOCATIONS

|     |           |                             |
|-----|-----------|-----------------------------|
| NO. | DATE      | DESCRIPTION                 |
| 1   | 8/28/2017 | REVISED PER COUNTY COMMENTS |
| 2   | 8/28/2017 | REVISED PER COUNTY COMMENTS |
| 3   | 8/28/2017 | REVISED PER COUNTY COMMENTS |
| 4   | 8/28/2017 | REVISED PER COUNTY COMMENTS |
| 5   | 8/28/2017 | REVISED PER COUNTY COMMENTS |



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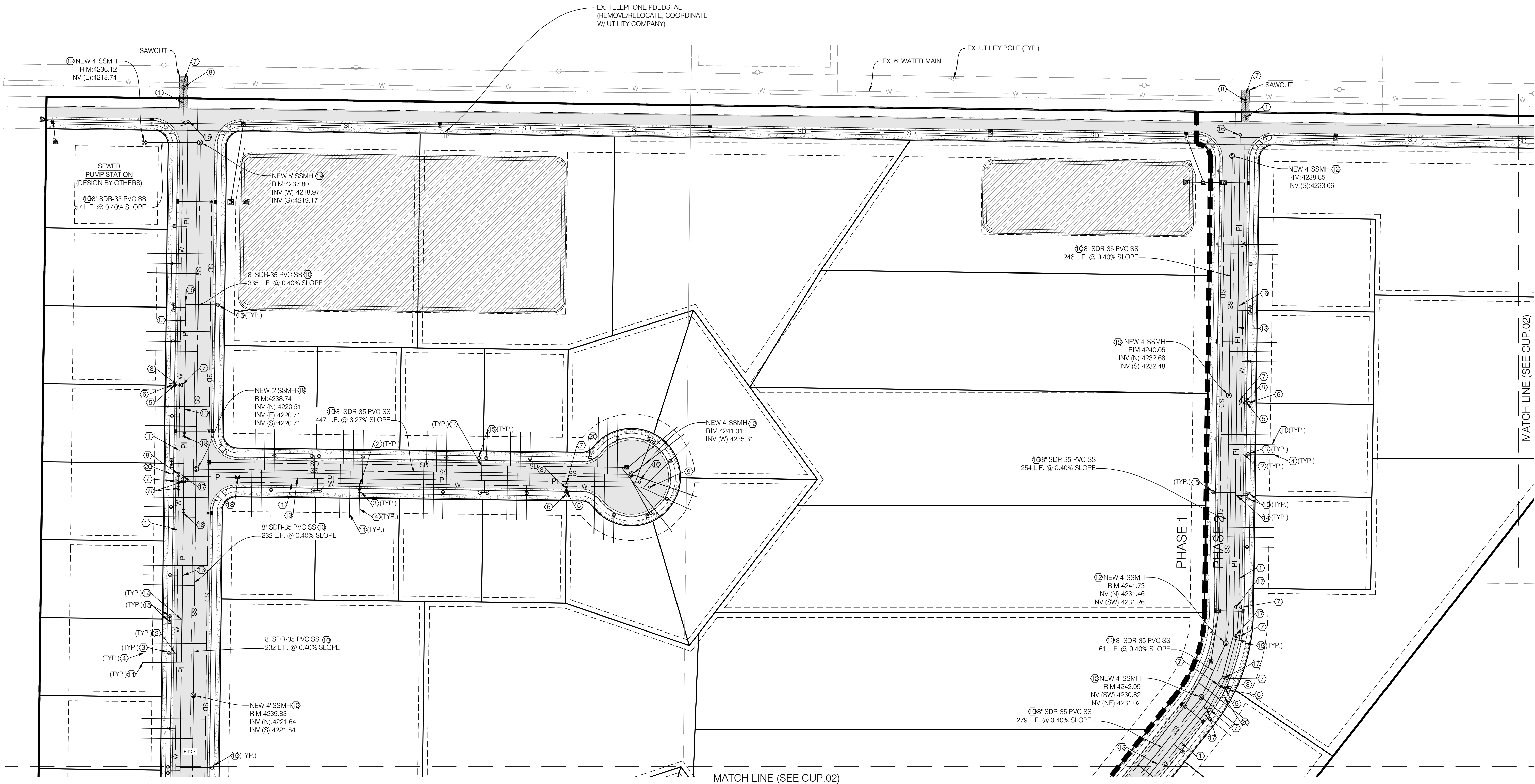
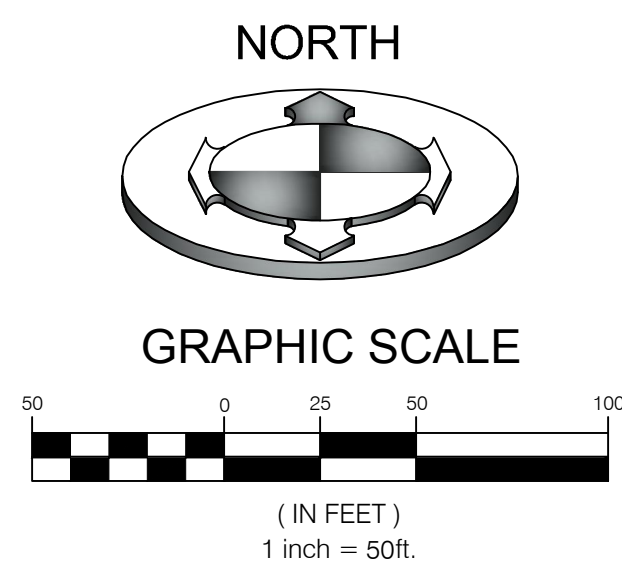
**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
**SITE PLAN**  
 CSP.02  
 4 OF 24

| CONSTRUCTION KEY NOTES REFERENCE |                                                                       |          |
|----------------------------------|-----------------------------------------------------------------------|----------|
| NO.                              | DESCRIPTION                                                           | DETAIL   |
| 1                                | 8" PVC C-900 CULINARY WATER MAIN                                      |          |
| 2                                | 3/4" TYPE K COPPER WATER SERVICE LINE                                 |          |
| 3                                | 3/4" WATER METER PER WEBER COUNTY ENGINEERING STDS.                   | 3/CDT.01 |
| 4                                | 3/4" POLY WATER SERVICE LINE                                          |          |
| 5                                | 6" PVC C-900 FIRELINE                                                 |          |
| 6                                | FIRE HYDRANT PER WEBER COUNTY ENGINEERING STDS.                       | 3/CDT.01 |
| 7                                | THRUST BLOCK PER WEBER COUNTY ENGINEERING STDS.                       | 3/CDT.01 |
| 8                                | GATE VALVE PER WEBER COUNTY ENGINEERING STDS.                         |          |
| 9                                | BLOW OFF VALVE PER TAYLOR-WEST WEBER WATER ID STDS.                   |          |
| 10                               | 8" PVC SDR-35 SEWER MAIN PER WEBER COUNTY ENGINEERING STDS.           |          |
| 11                               | 4" PVC SDR-35 SEWER LATERAL (2.0% MIN. SLOPE)                         | 2/CDT.03 |
| 12                               | 4" SSMH PER WEBER COUNTY ENGINEERING STDS.                            | 1/CDT.03 |
| 13                               | 8" PVC C-900 SECONDARY WATER LINE PER HOOPER IRRIGATION COMPANY STDS. |          |
| 14                               | 2" POLY SECONDARY WATER LINE PER HOOPER IRRIGATION COMPANY STDS.      |          |
| 15                               | SECONDARY WATER VALVE ASSEMBLY PER HOOPER IRRIGATION COMPANY STDS.    | 2/CDT.02 |
| 16                               | COMBINATION AIR VAC PER HOOPER IRRIGATION COMPANY STDS.               | 1/CDT.04 |
| 17                               | THRUST BLOCK PER HOOPER IRRIGATION COMPANY STDS.                      | 2/CDT.04 |
| 18                               | GATE VALVE PER HOOPER IRRIGATION COMPANY STDS.                        | 5/CDT.01 |
| 19                               | 5" SSMH PER WEBER COUNTY ENGINEERING STDS.                            | 1/CDT.03 |
| 20                               | STREET LIGHT PER WEBER COUNTY STDS.                                   |          |

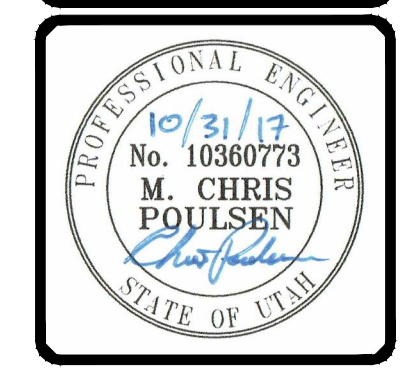
NOTE:  
PRIOR TO FABRICATION OR CONSTRUCTION, CONTRACTOR IS TO BEGIN AT THE LOW END OF ALL GRAVITY UTILITY LINES AND VERIFY THE INVERT ELEVATION OF THE POINT OF CONNECTION AND NOTIFY ENGINEER IF THIS POINT IS HIGHER THAN SHOWN ON THE PLANS FOR A REDESIGN.

NOTE:  
CONTRACTOR IS RESPONSIBLE FOR POTHOLING TO IDENTIFY ANY CONFLICTS BEFORE ANY PIPE INSTALLATION. CONTACT ENGINEER IF ANY CONFLICTS ARE IDENTIFIED.



| NO. | DATE     | DESCRIPTION                 |
|-----|----------|-----------------------------|
| 1   | 10/31/17 | REVISED PER COUNTY COMMENTS |

DRAWN BY: KVIS  
 CHECKED BY: MCP  
 SURVEY DATE: 8/28/2017  
 DATE: 8/28/2017  
 PWS FILE: 1607138.rvt

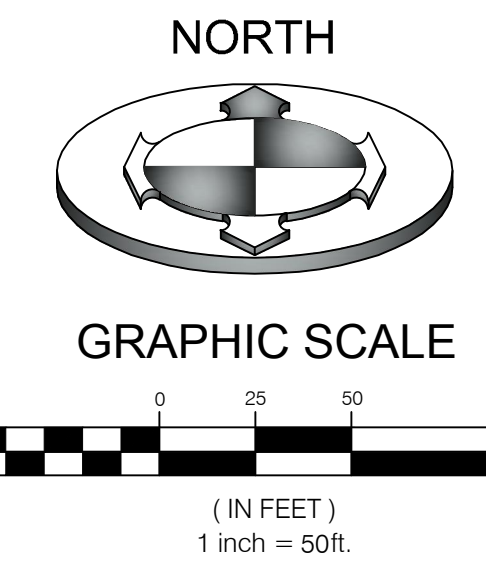


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**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
**UTILITY PLAN**  
 CUP.01  
 5 OF 24

MATCH LINE (SEE CUP.01)



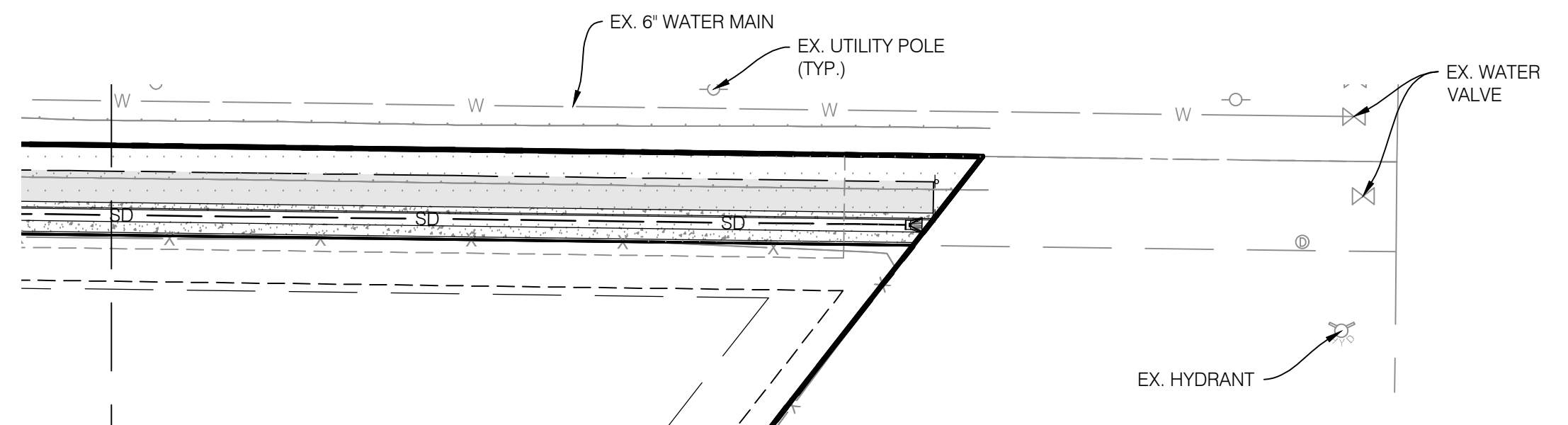
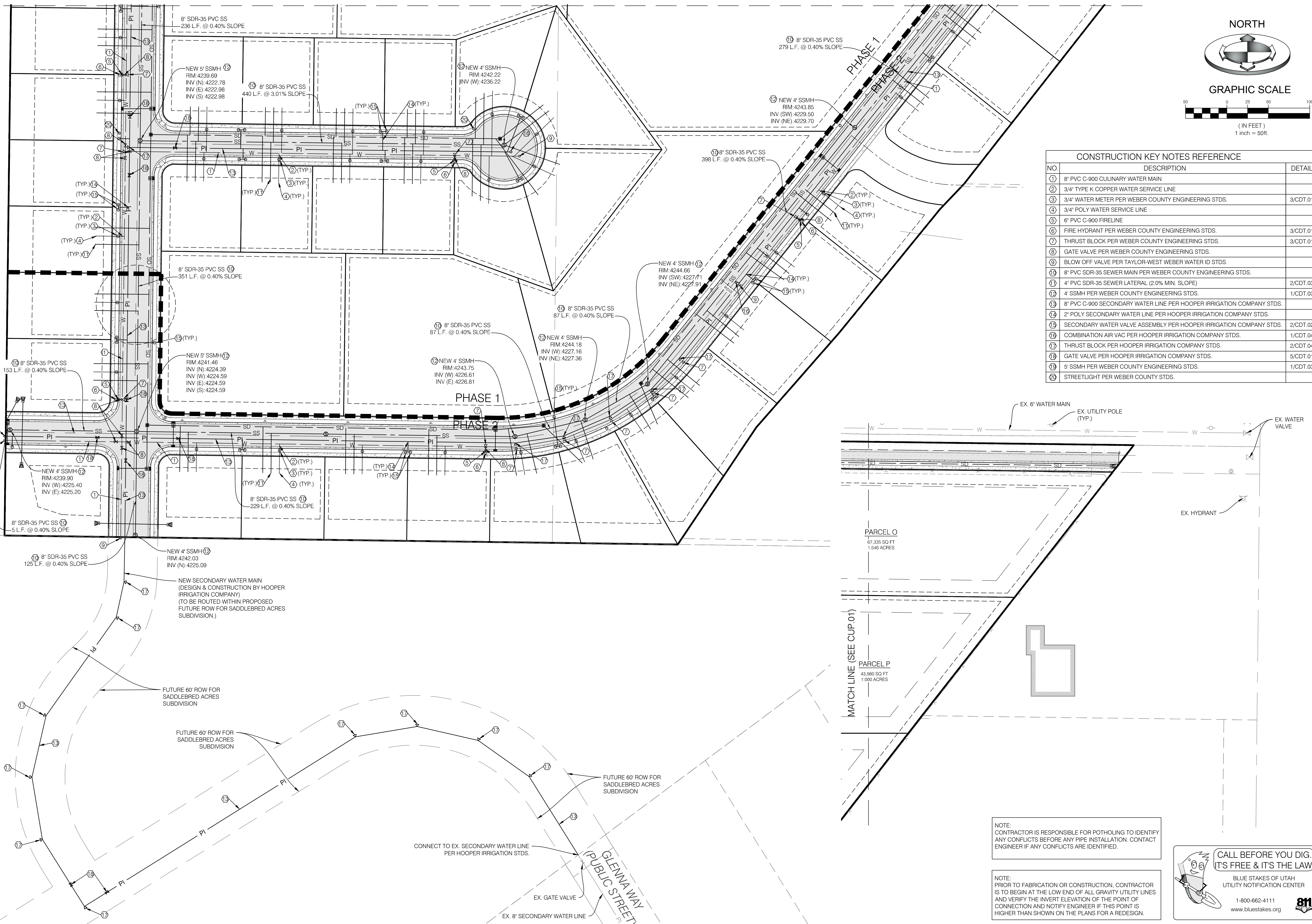
| CONSTRUCTION KEY NOTES REFERENCE |                                                                       |          |
|----------------------------------|-----------------------------------------------------------------------|----------|
| NO.                              | DESCRIPTION                                                           | DETAIL   |
| ①                                | 8" PVC C-900 CULINARY WATER MAIN                                      |          |
| ②                                | 3/4" TYPE K COPPER WATER SERVICE LINE                                 |          |
| ③                                | 3/4" WATER METER PER WEBER COUNTY ENGINEERING STDS.                   | 3/CDT.01 |
| ④                                | 3/4" POLY WATER SERVICE LINE                                          |          |
| ⑤                                | 6" PVC C-900 FIRELINE                                                 |          |
| ⑥                                | FIRE HYDRANT PER WEBER COUNTY ENGINEERING STDS.                       | 3/CDT.01 |
| ⑦                                | THRUST BLOCK PER WEBER COUNTY ENGINEERING STDS.                       | 3/CDT.01 |
| ⑧                                | GATE VALVE PER WEBER COUNTY ENGINEERING STDS.                         |          |
| ⑨                                | BLOW OFF VALVE PER TAYLOR-WEST WEBER WATER ID STDS.                   |          |
| ⑩                                | 8" PVC SDR-35 SEWER MAIN PER WEBER COUNTY ENGINEERING STDS.           |          |
| ⑪                                | 4" PVC SDR-35 SEWER LATERAL (2.0% MIN. SLOPE)                         | 2/CDT.03 |
| ⑫                                | 4" SSMH PER WEBER COUNTY ENGINEERING STDS.                            | 1/CDT.03 |
| ⑬                                | 6" PVC C-900 SECONDARY WATER LINE PER HOOPER IRRIGATION COMPANY STDS. |          |
| ⑭                                | 2" POLY SECONDARY WATER LINE PER HOOPER IRRIGATION COMPANY STDS.      |          |
| ⑮                                | SECONDARY WATER VALVE ASSEMBLY PER HOOPER IRRIGATION COMPANY STDS.    | 2/CDT.02 |
| ⑯                                | COMBINATION AIR VAC PER HOOPER IRRIGATION COMPANY STDS.               | 1/CDT.04 |
| ⑰                                | THRUST BLOCK PER HOOPER IRRIGATION COMPANY STDS.                      | 2/CDT.04 |
| ⑱                                | GATE VALVE PER HOOPER IRRIGATION COMPANY STDS.                        | 5/CDT.01 |
| ⑲                                | 5" SSMH PER WEBER COUNTY ENGINEERING STDS.                            | 1/CDT.03 |
| ⑳                                | STREETLIGHT PER WEBER COUNTY STDS.                                    |          |

DRAWN BY: KVIS  
 CHECKED BY: MCP  
 SURVEY DATE: 8/28/2017  
 DATE: 8/28/2017  
 PROJECT NO.: 1607138/IB  
 SCALE: MEASUREMENTS SHOWN ON FULL SIZE SHEETS ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

**BENCHMARK ENGINEERING & LAND SURVEYING**  
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**BENCHMARK CIVIL**  
 WINSTON PARK  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
**UTILITY PLAN**  
 CUP.02  
 6 OF 24



NOTE: CONTRACTOR IS RESPONSIBLE FOR POTHOLING TO IDENTIFY ANY CONFLICTS BEFORE ANY PIPE INSTALLATION. CONTACT ENGINEER IF ANY CONFLICTS ARE IDENTIFIED.

NOTE: PRIOR TO FABRICATION OR CONSTRUCTION, CONTRACTOR IS TO BEGIN AT THE LOW END OF ALL GRAVITY UTILITY LINES AND VERIFY THE INVERT ELEVATION OF THE POINT OF CONNECTION AND NOTIFY ENGINEER IF THIS POINT IS HIGHER THAN SHOWN ON THE PLANS FOR A REDESIGN.

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 www.bluestakes.org

| GRADING AND DRAINAGE KEY NOTES REFERENCE |                                                                                      |           |
|------------------------------------------|--------------------------------------------------------------------------------------|-----------|
| NO.                                      | DESCRIPTION                                                                          | DETAIL    |
| 1                                        | GRADE SITE TO ELEVATIONS SHOWN ON PLAN                                               |           |
| 2                                        | 7.5" ORIFICE PLATE (SEE DETAIL 'A')                                                  | 5A/CDT.04 |
| 3                                        | 3.8" ORIFICE PLATE (SEE DETAIL 'B')                                                  | 5B/CDT.04 |
| 4                                        | STORM DRAIN INLET BOX                                                                | 4/CDT.01  |
| 5                                        | 5'X5' SDCO W/ BAFFLE (SEE DETAIL 'A')                                                | 6A/CDT.04 |
| 6                                        | STORM DRAIN CLEANOUT                                                                 | 4/CDT.01  |
| 7                                        | STORM DRAIN COMBO BOX                                                                | 3/CDT.04  |
| 8                                        | FLARED END SECTION                                                                   | 4/CDT.04  |
| 9                                        | REVERSED STORM DRAIN COMBO BOX                                                       |           |
| 10                                       | SNOUT                                                                                | 3/CDT.03  |
| 11                                       | 4" PVC FOUNDATION DRAIN LATERAL PER WEBER COUNTY ENGINEERING STDS. (0.5% MIN. SLOPE) |           |
| 12                                       | 4'X4' SDCO W/ BAFFLE (SEE DETAIL 'B')                                                | 6B/CDT.04 |
| 13                                       | BACKFLOW PREVENTER VALVE (4" & S VALVE OR APPROVED EQUAL)                            |           |

NOTE:  
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NOTE:  
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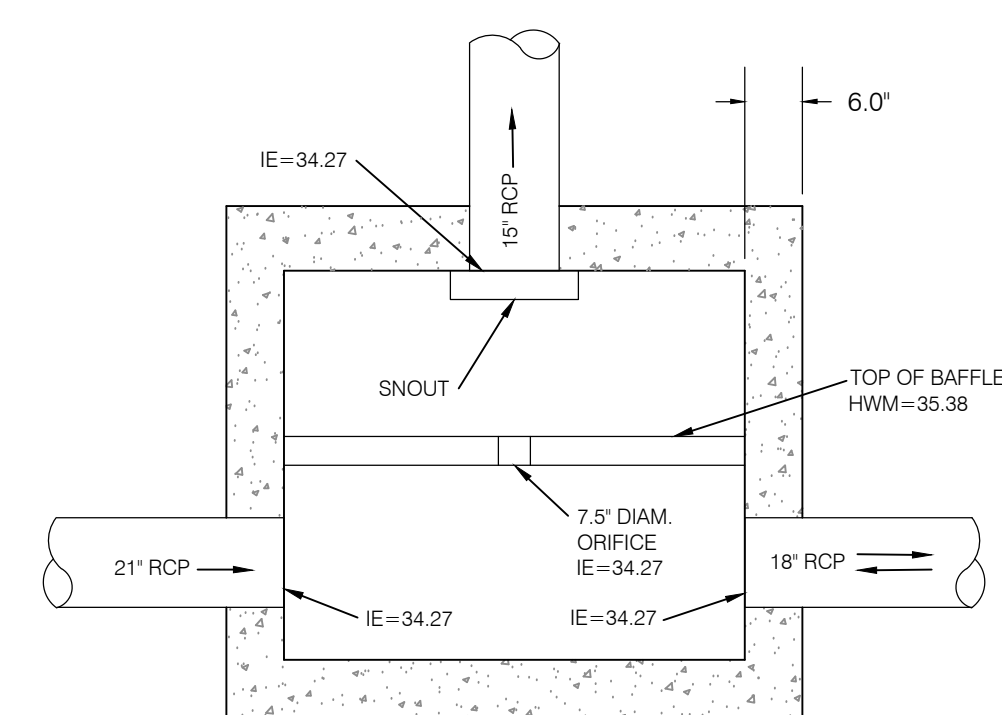
NOTE:  
STORM DRAIN PIPES ARE TO BE LAID WITHOUT GASKETS AT JOINTS AND GRAVEL IS TO BE PLACED AROUND AT LEAST EVERY OTHER JOINT.

BENCHMARK  
WEBER COUNTY BENCHMARK 62121-2-5217  
SURVEY BENCHMARK  
ELEVATION NGVD 88 = 4241.87  
(FOUND 3" BRASS CAP SET IN 6" CONCRETE POST. SET IN 1954 BY BUREAU OF RECLAMATION. GOOD CONDITION)

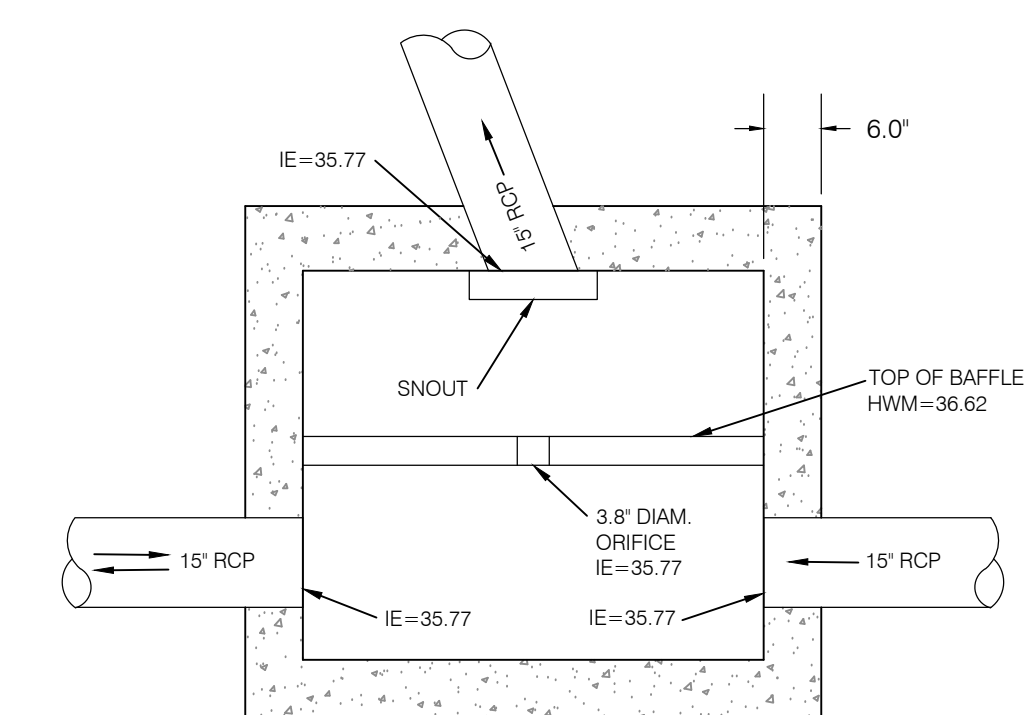
**CALL BEFORE YOU DIG.  
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BLUE STAKES OF UTAH  
UTILITY NOTIFICATION CENTER

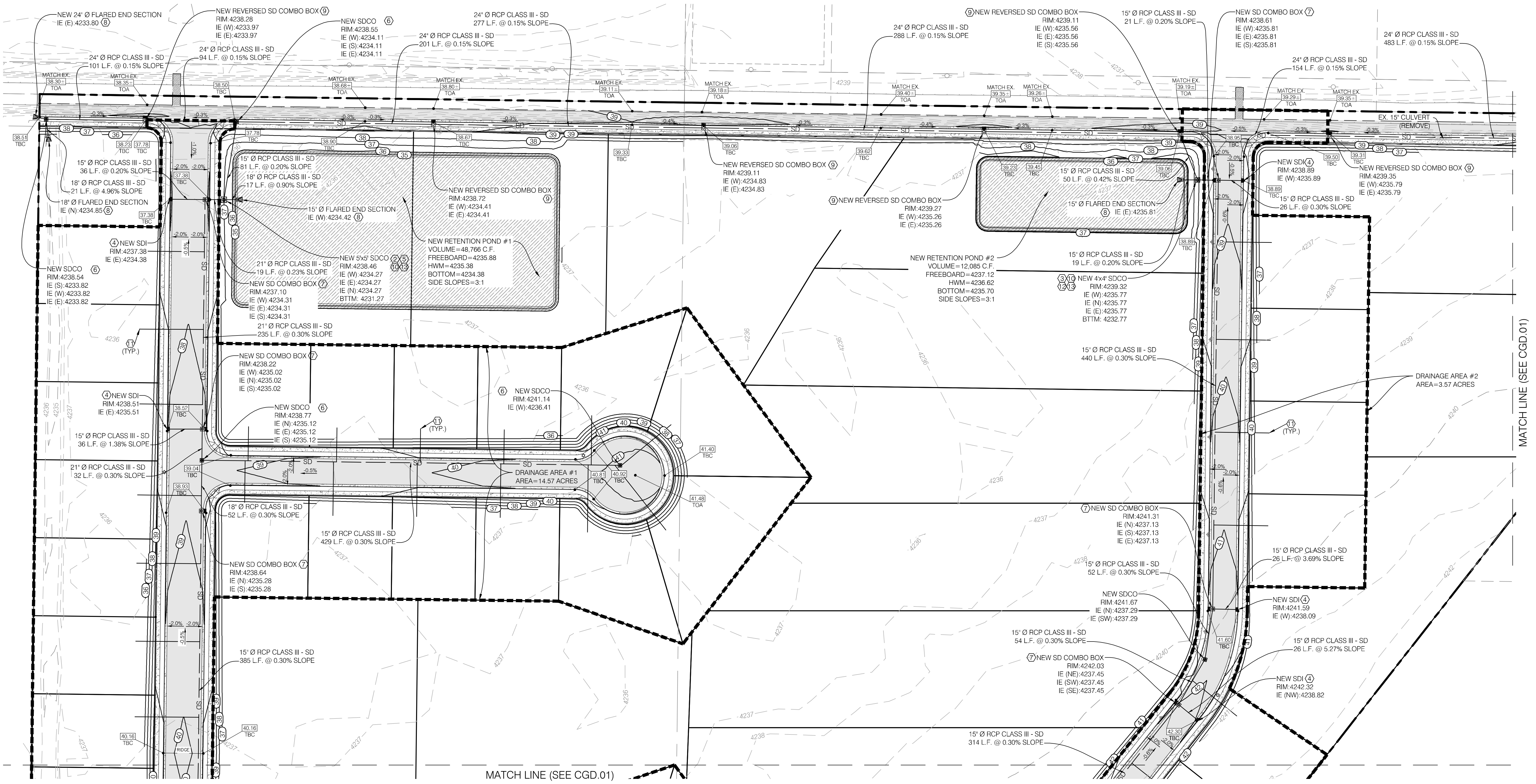
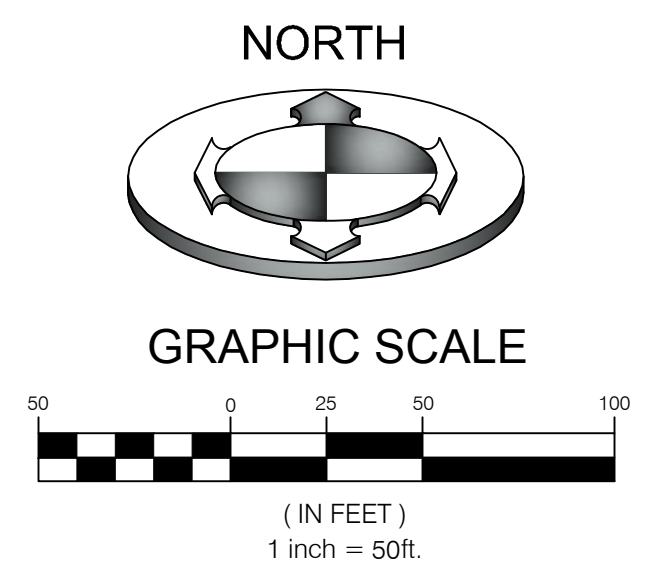
1-800-662-4111  
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**5'X5' SDCO W/ BAFFLE  
PLAN VIEW**  
SCALE: N.T.S.

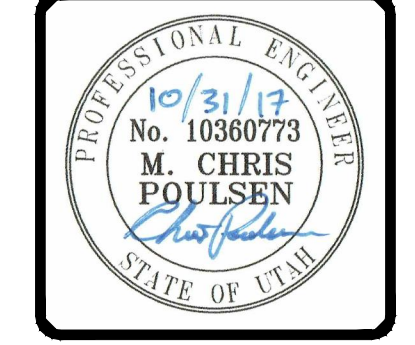


**4'X4' SDCO W/ BAFFLE  
PLAN VIEW**  
SCALE: N.T.S.



| NO. | DATE     | DESCRIPTION                 |
|-----|----------|-----------------------------|
| 1   | 10/31/17 | REVISED PER COUNTY COMMENTS |

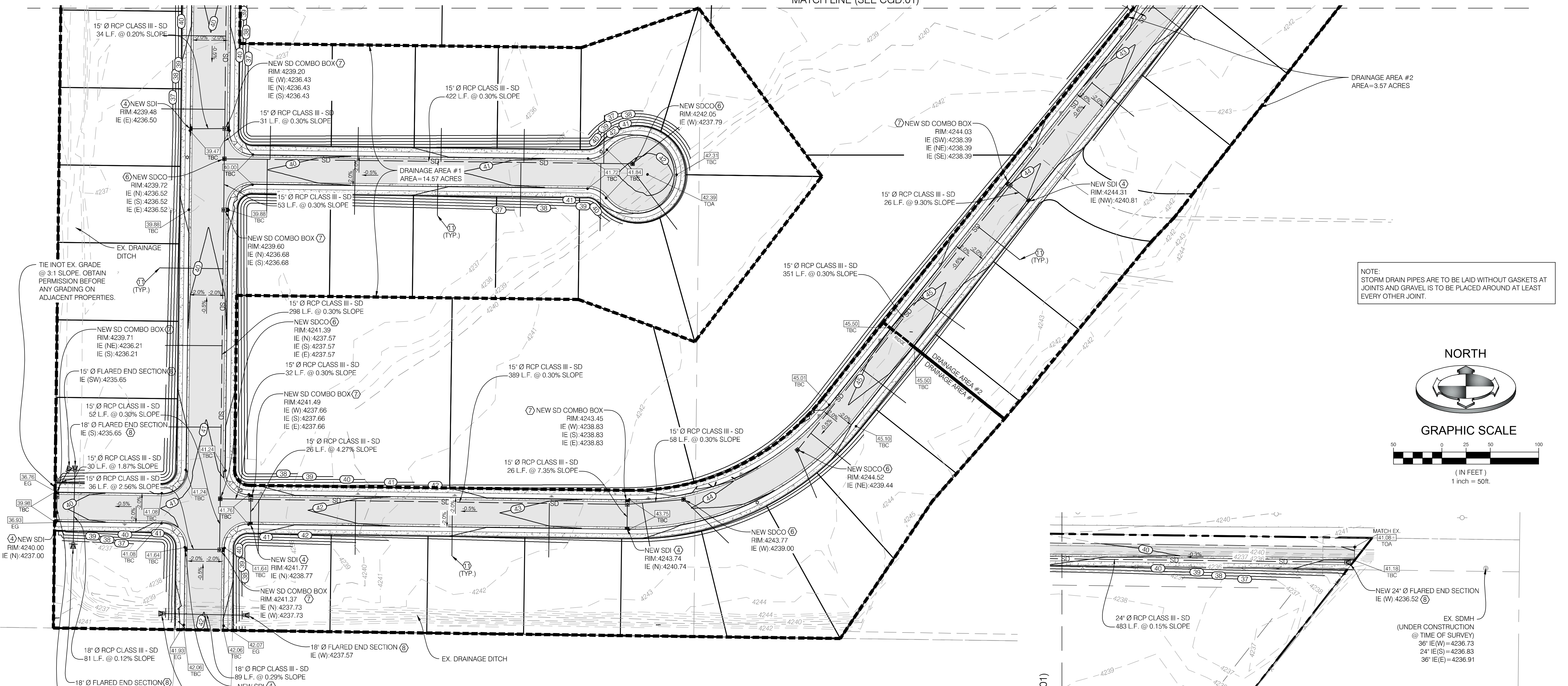
DESIGNED BY: KVIS  
CHECKED BY: MCP  
PROJECT NO.: 1607138  
DATE: 02/28/2017  
DWG. FILE: 1607138.DWG



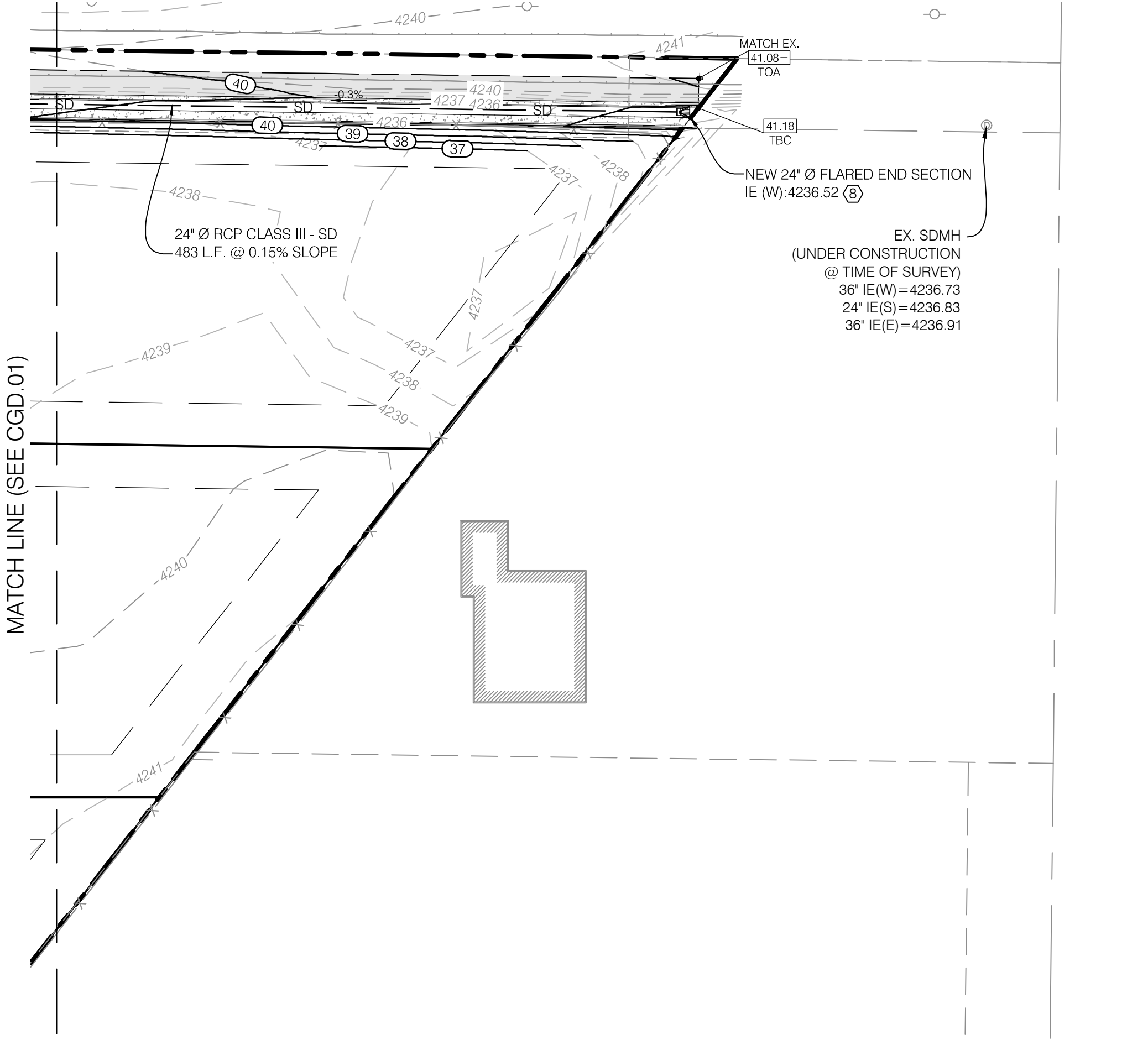
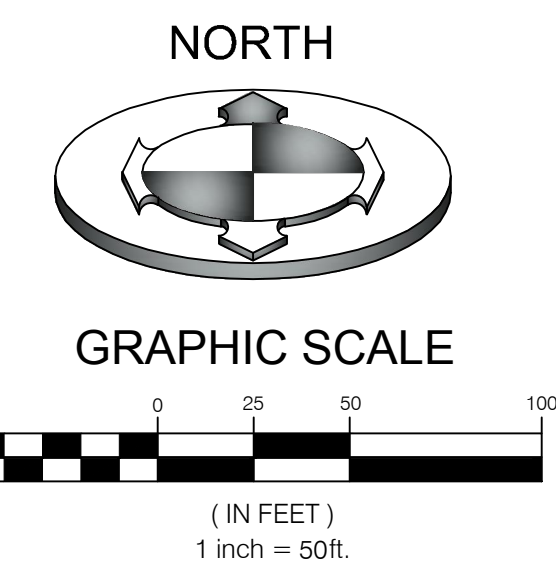
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WEBER COUNTY, UTAH



NOTE:  
STORM DRAIN PIPES ARE TO BE LAID WITHOUT GASKETS AT JOINTS AND GRAVEL IS TO BE PLACED AROUND AT LEAST EVERY OTHER JOINT.



| NO | DESCRIPTION                                                                          | REFERENCE | DETAIL    |
|----|--------------------------------------------------------------------------------------|-----------|-----------|
| ①  | GRADE SITE TO ELEVATIONS SHOWN ON PLAN                                               |           |           |
| ②  | 7.5" ORIFICE PLATE (SEE DETAIL 'A')                                                  |           | 5A/CDT.04 |
| ③  | 3.8" ORIFICE PLATE (SEE DETAIL 'B')                                                  |           | 5B/CDT.04 |
| ④  | STORM DRAIN INLET BOX                                                                |           | 4/CDT.01  |
| ⑤  | 5X5' SDCO W/ BAFFLE (SEE DETAIL 'A')                                                 |           | 6A/CDT.04 |
| ⑥  | STORM DRAIN CLEANOUT                                                                 |           | 4/CDT.01  |
| ⑦  | STORM DRAIN COMBO BOX                                                                |           | 3/CDT.04  |
| ⑧  | FLARED END SECTION                                                                   |           | 4/CDT.04  |
| ⑨  | REVERSED STORM DRAIN COMBO BOX                                                       |           |           |
| ⑩  | SNOUT                                                                                |           | 3/CDT.03  |
| ⑪  | 4" PVC FOUNDATION DRAIN LATERAL PER WEBER COUNTY ENGINEERING STDS. (0.5% MIN. SLOPE) |           |           |
| ⑫  | 4X4' SDCO W/ BAFFLE (SEE DETAIL 'B')                                                 |           | 6B/CDT.04 |
| ⑬  | BACKFLOW PREVENTER VALVE (J & S VALVE OR APPROVED EQUAL)                             |           |           |

NOTE:  
CONTRACTOR IS RESPONSIBLE FOR POTHOLES TO IDENTIFY ANY CONFLICTS BEFORE ANY PIPE INSTALLATION. CONTACT ENGINEER IF ANY CONFLICTS ARE IDENTIFIED.

NOTE:  
PRIOR TO FABRICATION OR CONSTRUCTION, CONTRACTOR IS TO BEGIN AT THE LOW END OF ALL GRAVITY UTILITY LINES AND VERIFY THE INVERT ELEVATION OF THE POINT OF CONNECTION AND NOTIFY ENGINEER IF THIS POINT IS HIGHER THAN SHOWN ON THE PLANS FOR A REDESIGN.

**STORM DRAINAGE CALCULATIONS  
DRAINAGE AREA #1  
Rational Method (Q=CIA)**

| Area Identification (A) | Rational Coefficient (C) | C*A                |
|-------------------------|--------------------------|--------------------|
| *Roof = 117,500         | 0.9                      | 105750 S.F.        |
| **Pavement = 161,425    | 0.9                      | 145283 S.F.        |
| Landscaping = 355,828   | 0.2                      | 71166 S.F.         |
| <b>Sum:</b>             |                          | <b>322198 S.F.</b> |

| NOAA ATLAS 14 (100 YEAR STORM) |                   |                   |                          | Allowable Discharge = 10cfs/acre |                           |
|--------------------------------|-------------------|-------------------|--------------------------|----------------------------------|---------------------------|
| Time (min)                     | Intensity (in/hr) | Rainfall (inches) | Rainfall Excess (cu.ft.) | Allowed Discharge (cu.ft.)       | Volume to Detain (cu.ft.) |
| 15                             | 4.56              | 1.140             | 30609                    | 1311                             | 29297                     |
| 30                             | 3.07              | 1.535             | 41215                    | 2623                             | 38592                     |
| 60                             | 1.90              | 1.900             | 51015                    | 5246                             | 45769                     |
| 120                            | 1.09              | 2.180             | 58533                    | 10492                            | <b>48041</b>              |
| 180                            | 0.75              | 2.250             | 60412                    | 15738                            | 44574                     |
| 360                            | 0.41              | 2.484             | 66695                    | 21475                            | 35220                     |
| 720                            | 0.25              | 3.048             | 81838                    | 62951                            | 18888                     |
| 1440                           | 0.14              | 3.432             | 92149                    | 125901                           | 0                         |

\* Assumed 2,500 sq. ft. per home  
\*\* Assumed 400 sq. ft. per driveway

Detention Calculations  
**Pond Volume**  
Pond 1 Civil 3D = **48,766 cf**

Is there adequate storage? Storage Provided = **48,766 cf**  
Req. Storage = **48,041 cf** **YES**

Orifice Design:  
The storm runoff will be detained at 0.1 cfs/acre

$$Q = C_d A_o \sqrt{2gh}$$

Total acreage of development: 14.57 acres  
Allowable discharge: 0.1 cfs/acre  
Max head: 0.93 ft  
**Design diameter for new orifice: 7.5 inch**

**STORM DRAINAGE CALCULATIONS  
DRAINAGE AREA #2  
Rational Method (Q=CIA)**

| Area Identification (A) | Rational Coefficient (C) | C*A               |
|-------------------------|--------------------------|-------------------|
| *Roof = 22,500          | 0.9                      | 20250 S.F.        |
| **Pavement = 47,439     | 0.9                      | 42695 S.F.        |
| Landscaping = 85,633    | 0.2                      | 17127 S.F.        |
| <b>Sum:</b>             |                          | <b>80072 S.F.</b> |

| NOAA ATLAS 14 (100 YEAR STORM) |                   |                   |                          | Allowable Discharge = 10cfs/acre |                           |
|--------------------------------|-------------------|-------------------|--------------------------|----------------------------------|---------------------------|
| Time (min)                     | Intensity (in/hr) | Rainfall (inches) | Rainfall Excess (cu.ft.) | Allowed Discharge (cu.ft.)       | Volume to Detain (cu.ft.) |
| 15                             | 4.56              | 1.140             | 7607                     | 321                              | 7285                      |
| 30                             | 3.07              | 1.535             | 10243                    | 643                              | 9600                      |
| 60                             | 1.90              | 1.900             | 12678                    | 1286                             | 11392                     |
| 120                            | 1.09              | 2.180             | 14546                    | 2571                             | <b>11975</b>              |
| 180                            | 0.75              | 2.250             | 15013                    | 3857                             | 11156                     |
| 360                            | 0.41              | 2.484             | 16575                    | 7714                             | 8861                      |
| 720                            | 0.25              | 3.048             | 20338                    | 15429                            | 4910                      |
| 1440                           | 0.14              | 3.432             | 22901                    | 30857                            | 0                         |

\* Assumed 2,500 sq. ft. per home  
\*\* Assumed 400 sq. ft. per driveway

Detention Calculations  
**Pond Volume**  
Pond 1 Civil 3D = **12,085 cf**

Is there adequate storage? Storage Provided = **12,085 cf**  
Req. Storage = **11,975 cf** **YES**

Orifice Design:  
The storm runoff will be detained at 0.1 cfs/acre

$$Q = C_d A_o \sqrt{2gh}$$

Total acreage of development: 3.57 acres  
Allowable discharge: 0.1 cfs/acre  
Max head: 0.86 ft  
**Design diameter for new orifice: 3.8 inch**

BENCHMARK:  
WEBER COUNTY BENCHMARK 62121-2-5217  
SURVEY BENCHMARK  
ELEVATION NGVD 88 = 4241.87  
(FOUND 3" BRASS CAP SET IN 6" CONCRETE POST. SET IN 1954 BY BUREAU OF RECLAMATION. GOOD CONDITION)

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PROJECT NO. 1607138

PROFESSIONAL ENGINEER  
No. 10360773  
M. CHRIS POULSEN  
STATE OF UTAH

DESIGNED BY: MCP  
FIELD DRAWN BY: SURVEY  
DATE: 8/28/2017  
DWG. FILE: 1607138B.DWG

SCALE: MEASURED FROM FULL SIZE SHEETS  
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

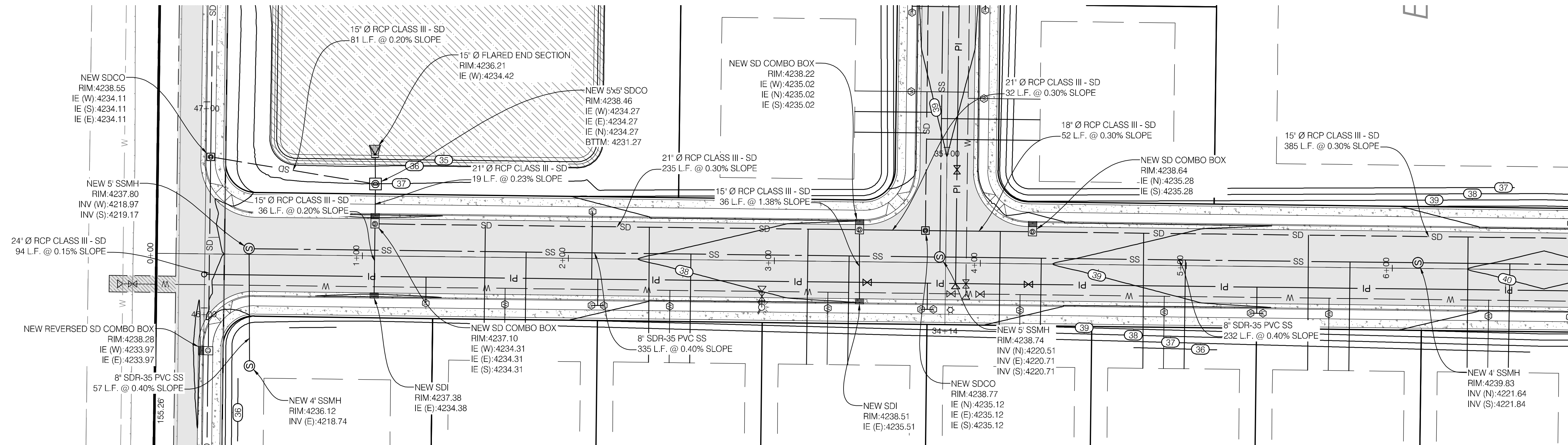
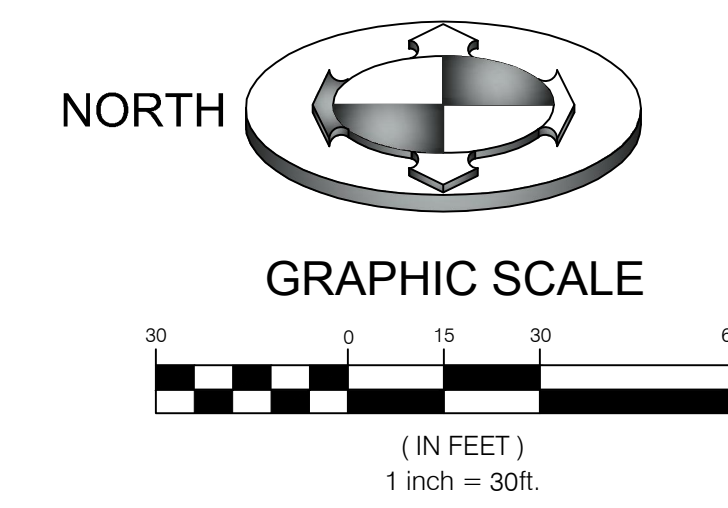
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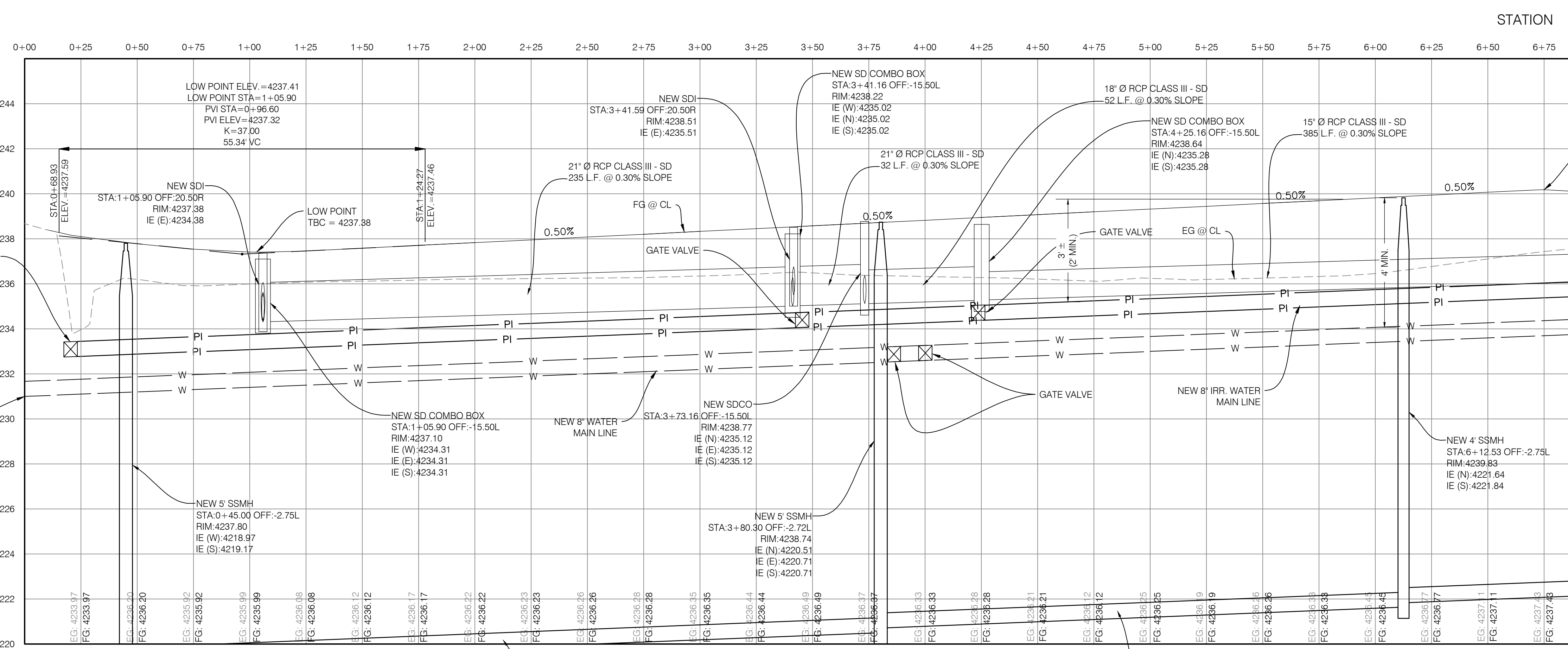
GRADING &  
DRAINAGE  
PLAN

CGD.02  
8 OF 24

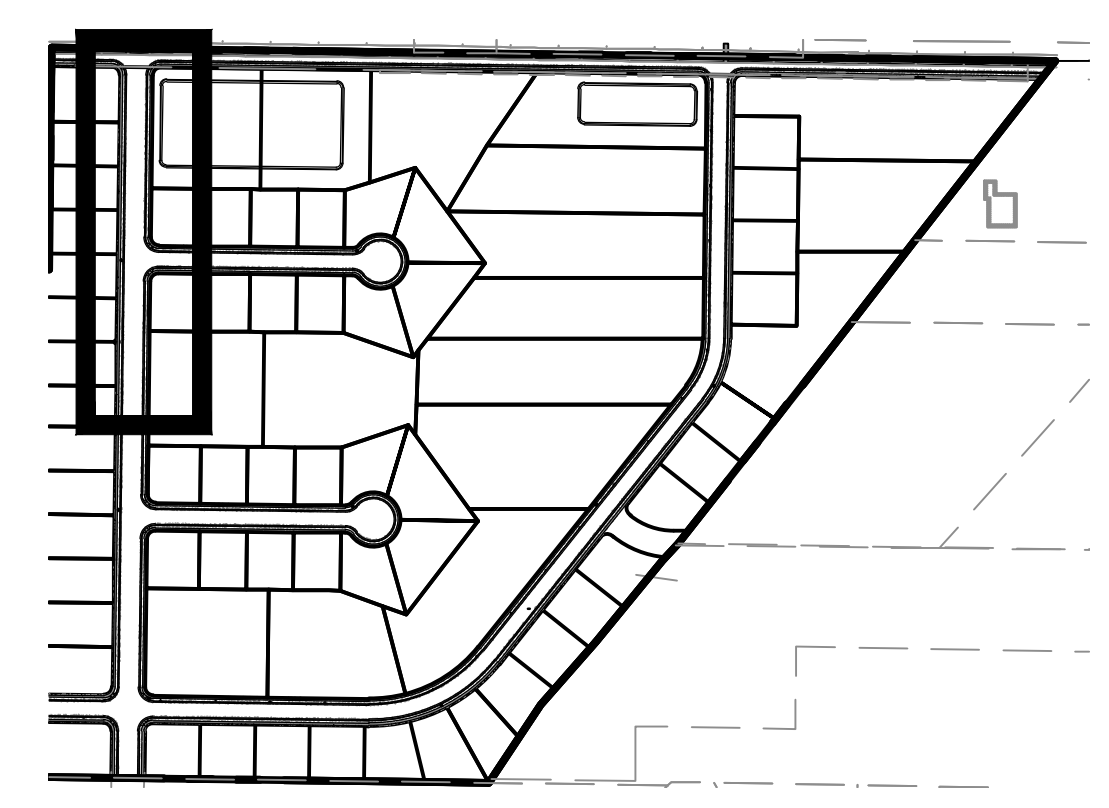




ROAD PLAN

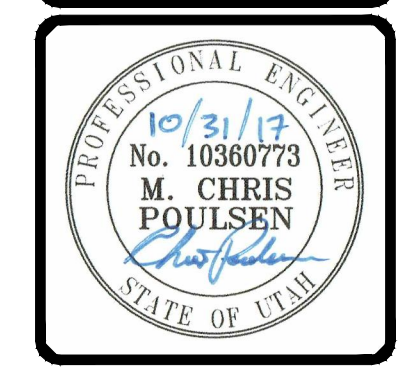


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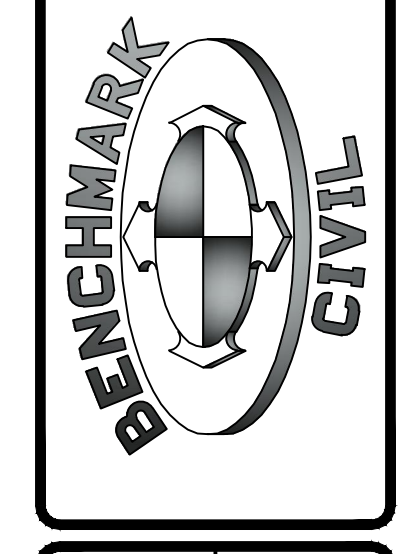


KEY MAP  
N.T.S.

|                                            |                              |
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| PROJECT NO.                                | 1607138                      |
| DATE                                       | 10/31/17                     |
| DESCRIPTION                                | REVISER PER COUNTY COMMENTS  |
| DESIGNED BY                                | MCP                          |
| FIELD DRAWN                                | SURVEY                       |
| DATE                                       | 8/28/2017                    |
| DWG. FILE                                  | 1607138.rvt                  |
| CHECKED BY                                 |                              |
| DATE                                       |                              |
| SCALE                                      | AS SHOWN ON FULL SIZE SHEETS |
| ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS |                              |

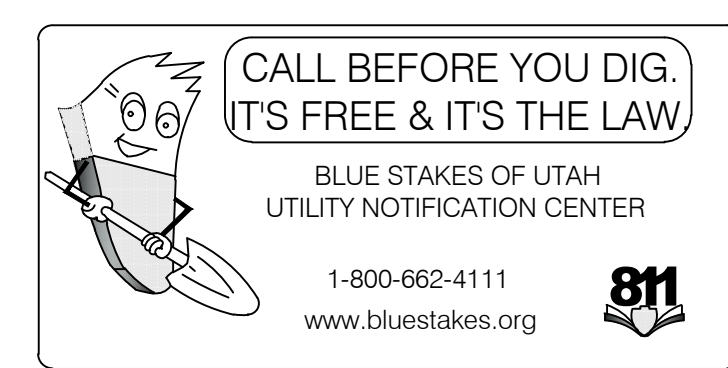


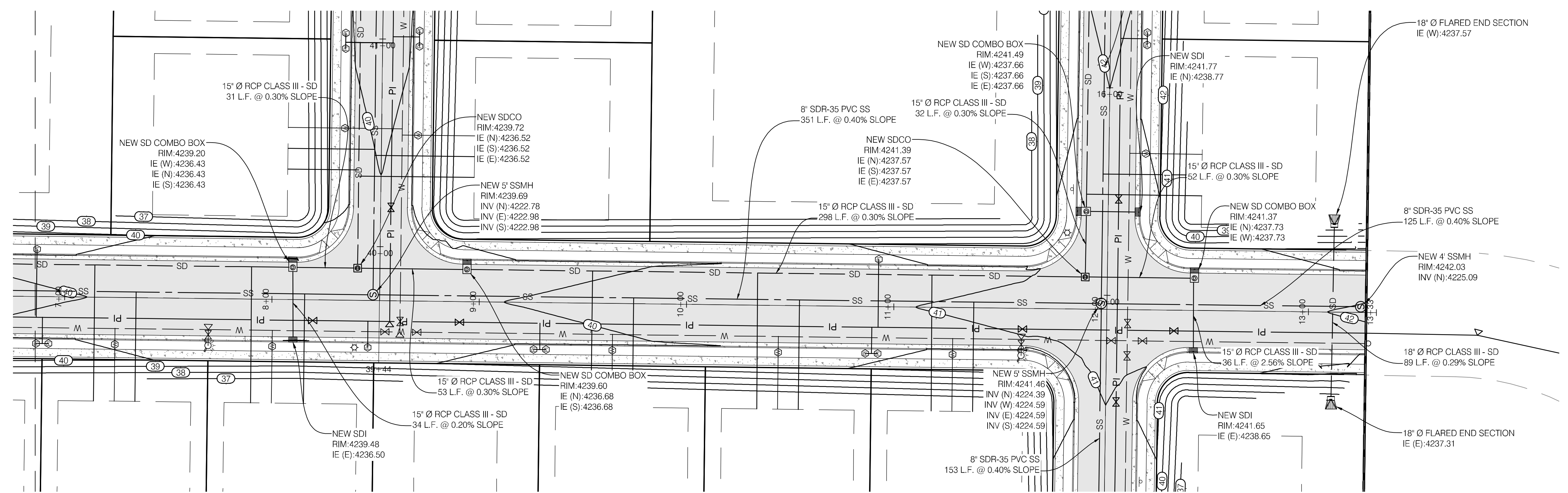
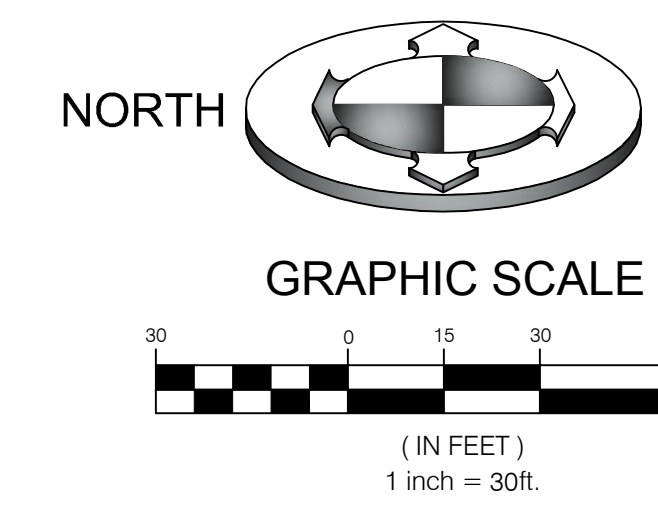
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 WEBER COUNTY, UTAH

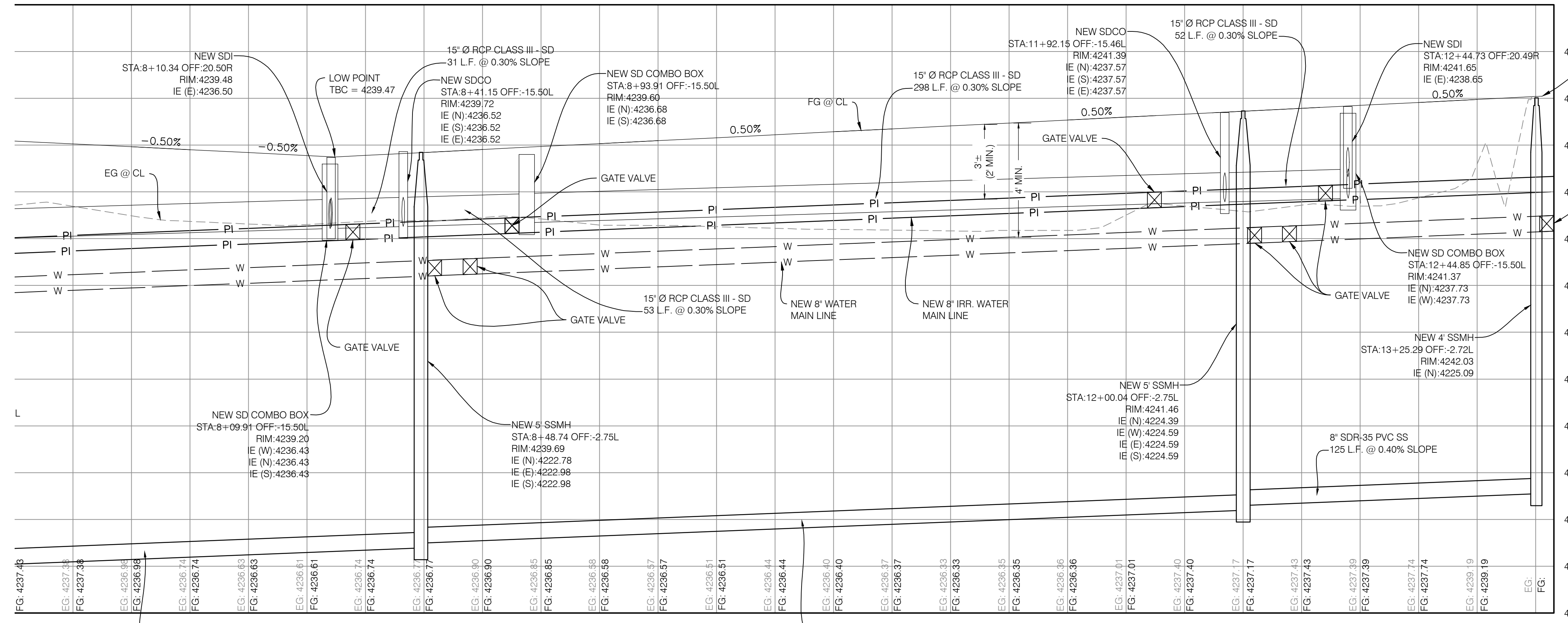
PROJECT NO. 1607138  
**PLAN & PROFILE**  
 CPP.01  
 9 OF 24



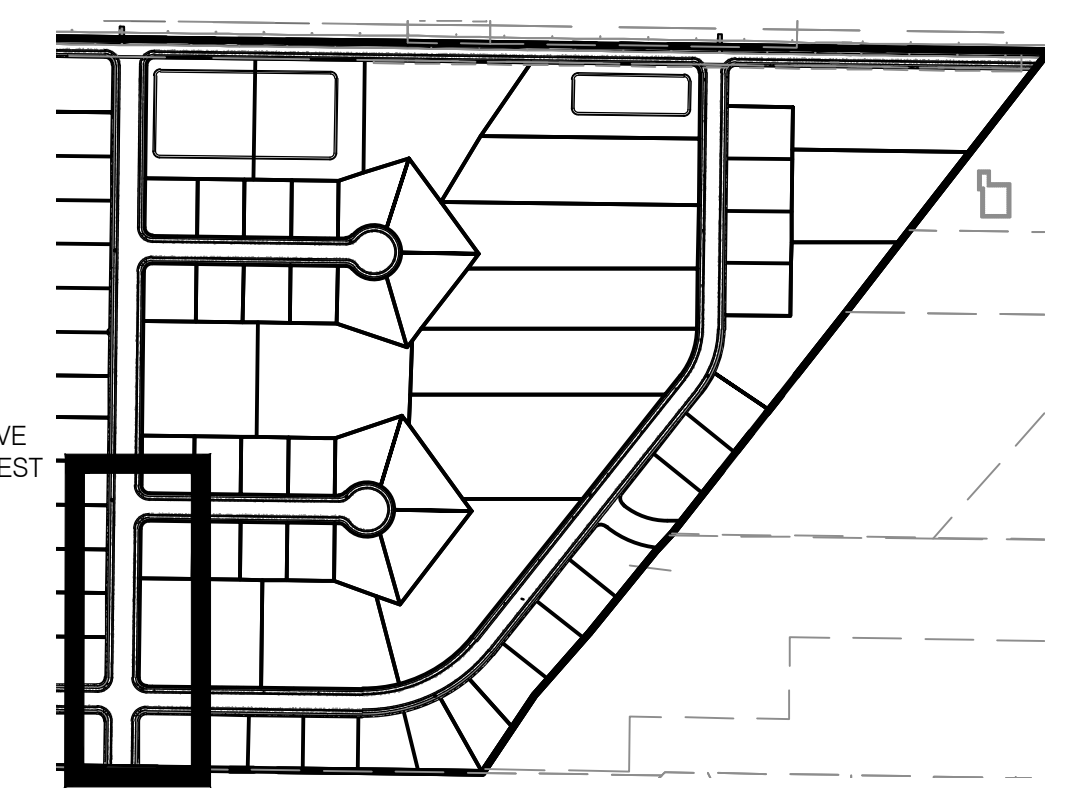


ROAD PLAN

75 7+00 7+25 7+50 7+75 8+00 8+25 8+50 8+75 9+00 9+25 9+50 9+75 10+00 10+25 10+50 10+75 11+00 11+25 11+50 11+75 12+00 12+25 12+50 12+75 13+00 13+25+33



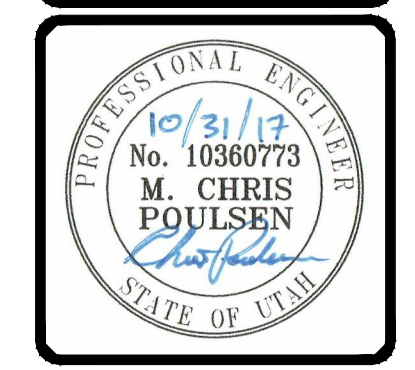
ROAD PROFILE



KEY MAP  
N.T.S.

PROFILE

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| PROJECT NO. | 1607138                      |
| DATE        | 10/31/17                     |
| DESCRIPTION | REVISION PER COUNTY COMMENTS |
| DESIGNED BY | MCP                          |
| FIELD DRAWN | SURVEY                       |
| DATE        | 8/28/2017                    |
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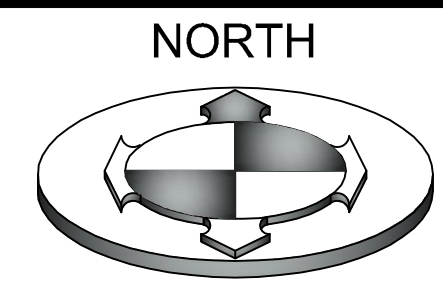


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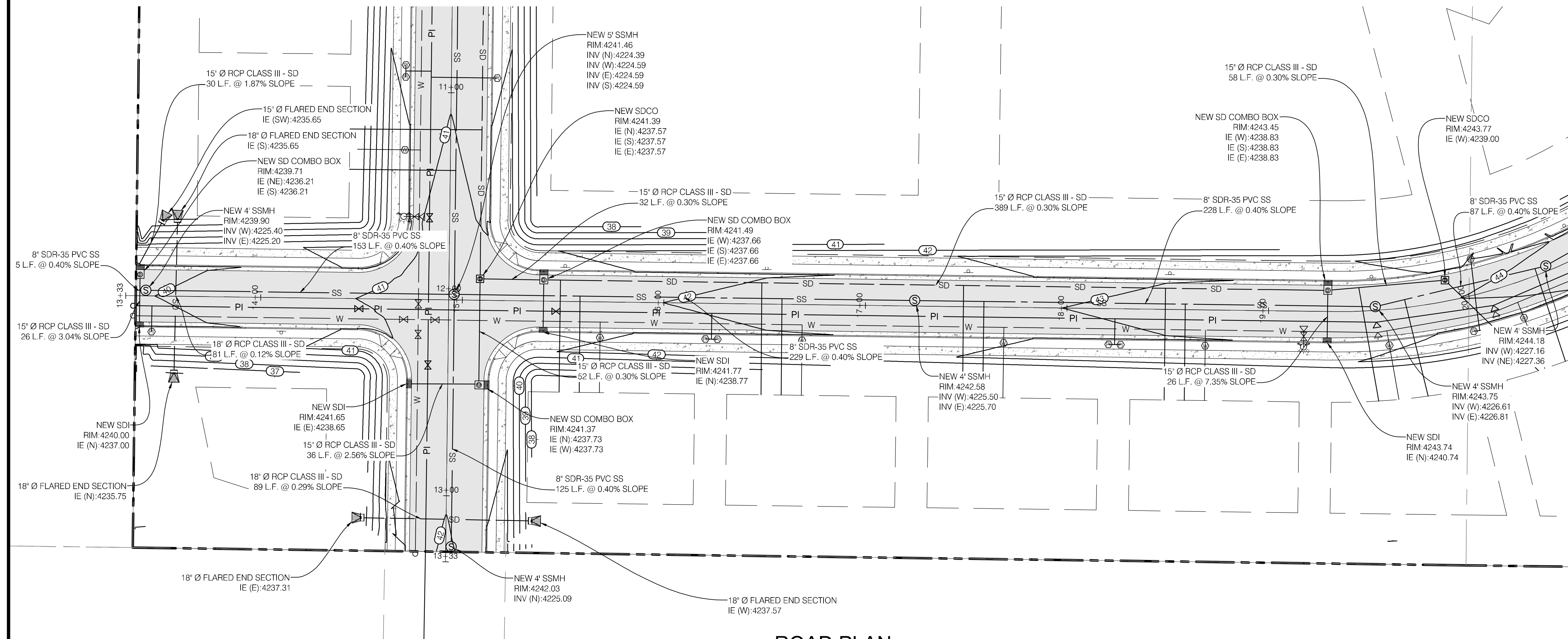
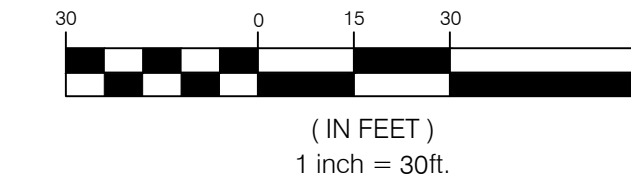
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 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
**PLAN & PROFILE**  
 CPP.02  
 10 OF 24

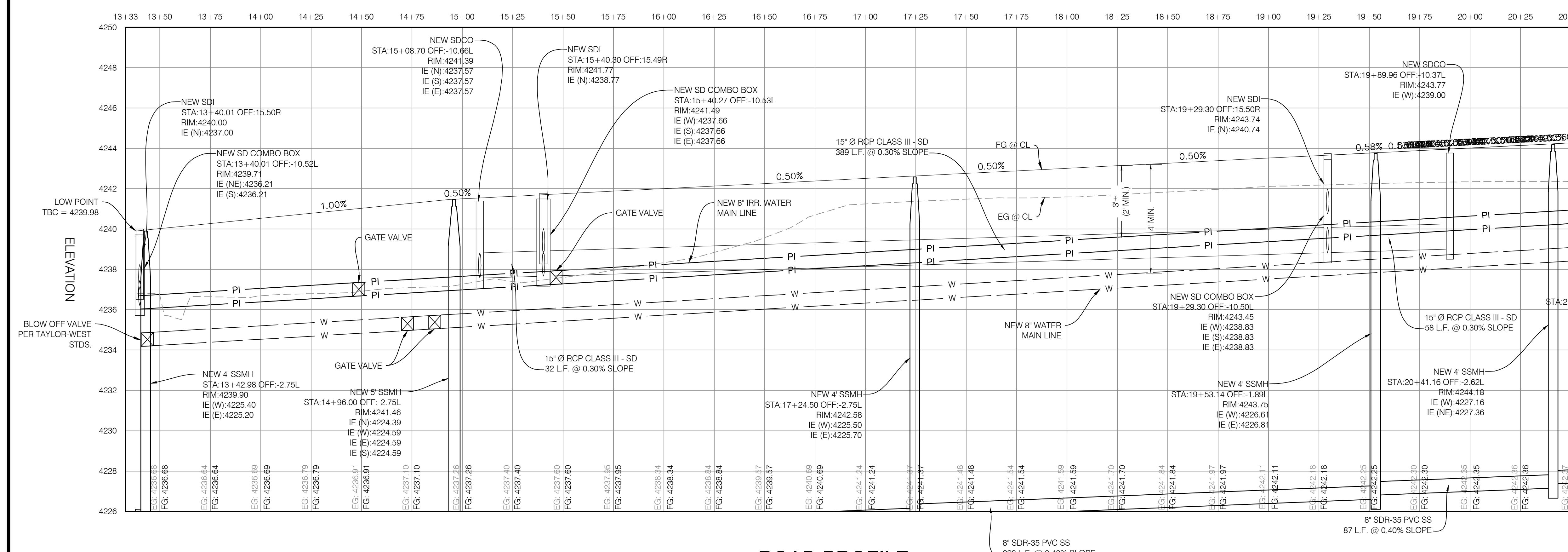
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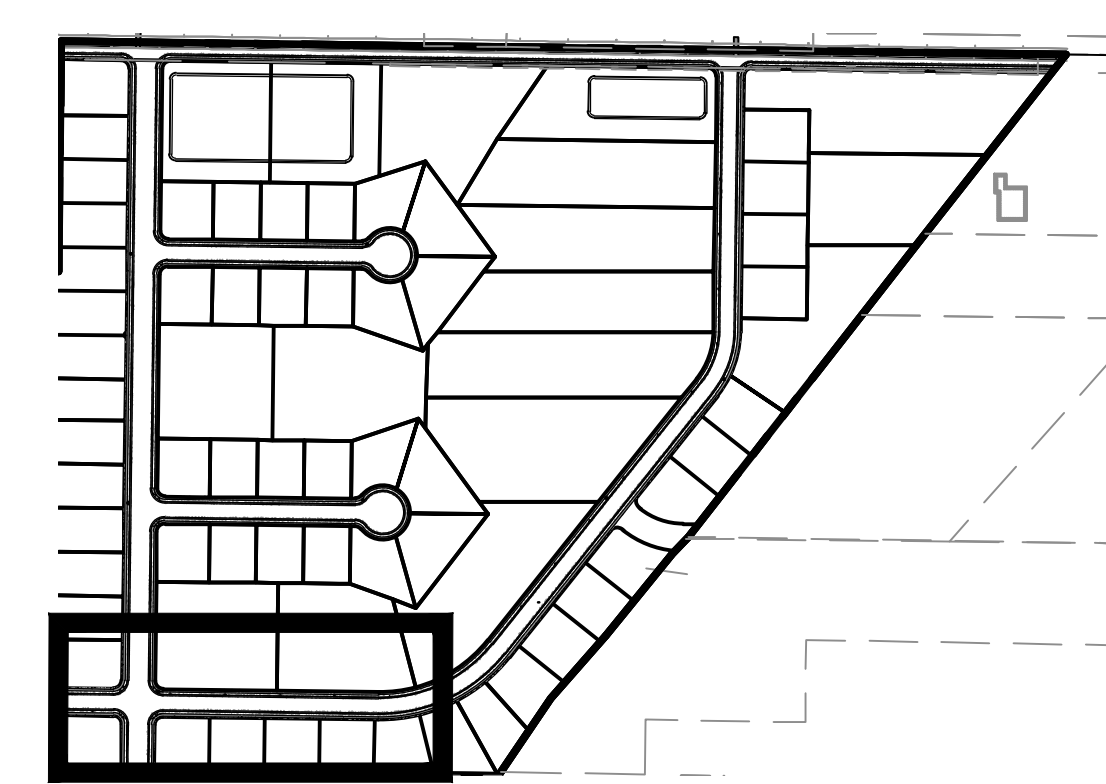
GRAPHIC SCALE



ROAD PLAN

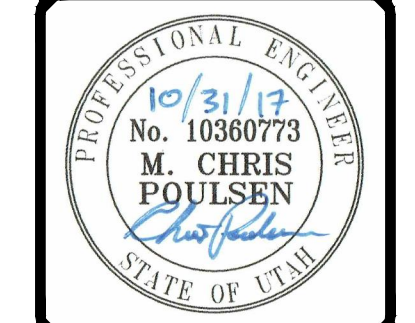


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KEY MAP  
N.T.S.

|                                            |                              |
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| DESCRIPTION                                | REVISED PER COUNTY COMMENTS  |
| NO.                                        | 1                            |
| DATE                                       | 10/31/17                     |
| DESIGNED BY                                | MCP                          |
| DRAWN BY                                   | SURVEY                       |
| DATE                                       | 8/28/2017                    |
| ISSUE FILE                                 | 1607138/IB                   |
| SCALE                                      | AS SHOWN                     |
| SCALE MEASURES                             | FUNCTION ON FULL SIZE SHEETS |
| ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS |                              |



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PROJECT NO. 1607138

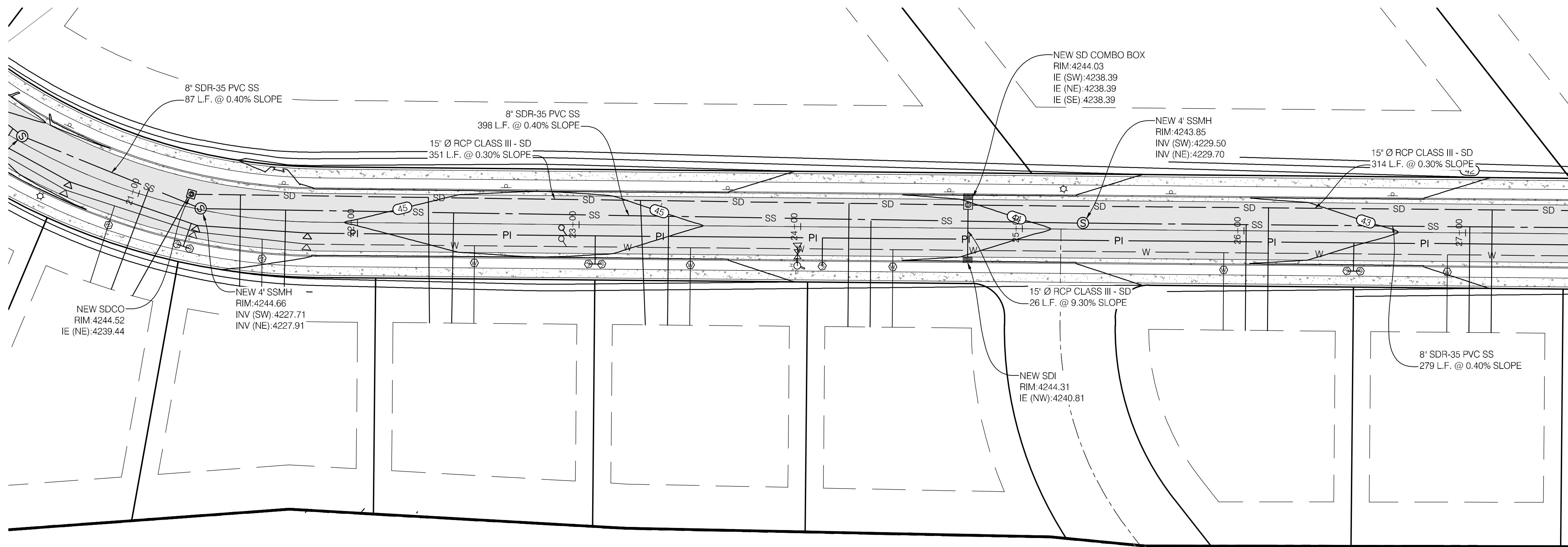
**PLAN & PROFILE**

CPP.03  
11 OF 24

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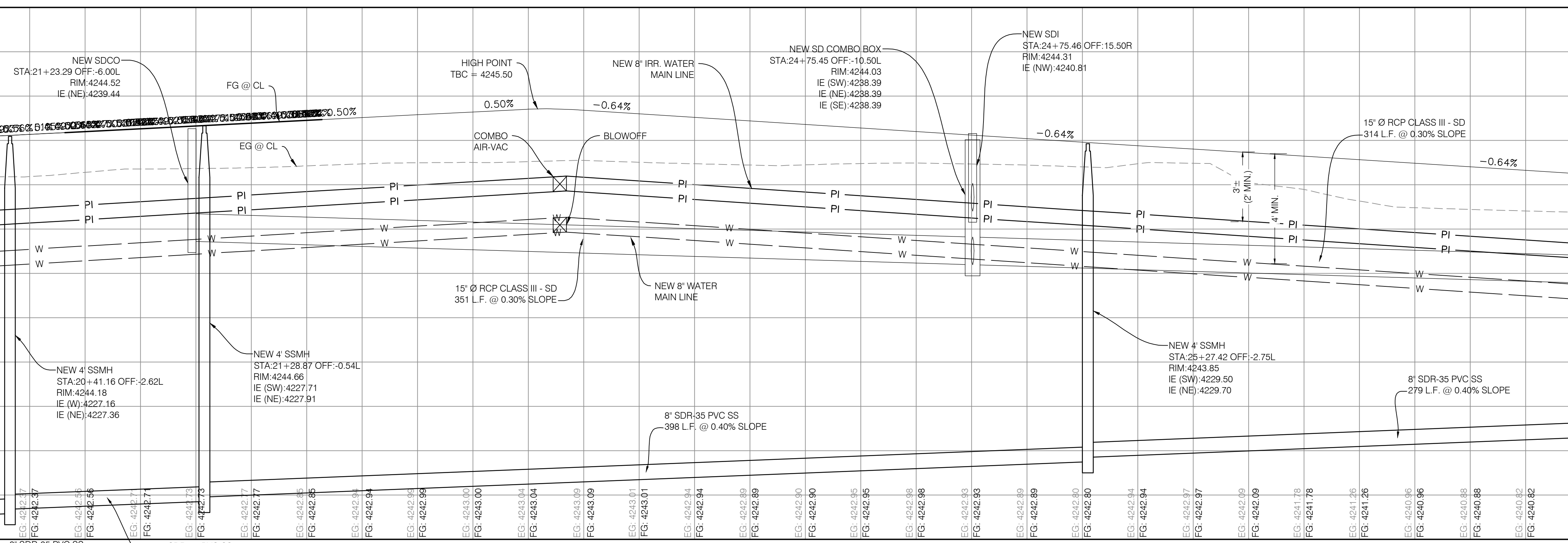
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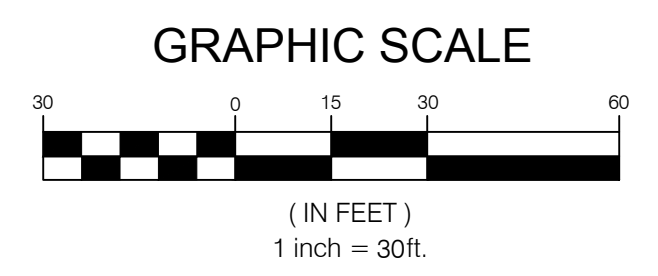
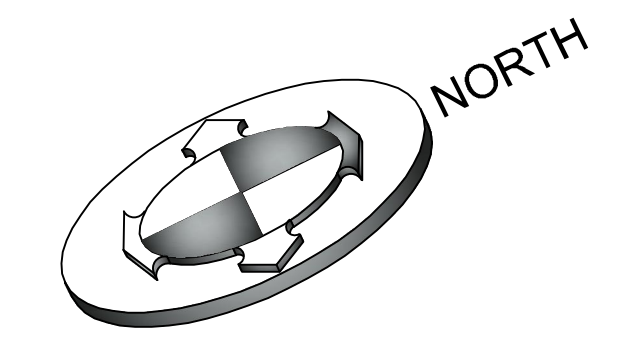


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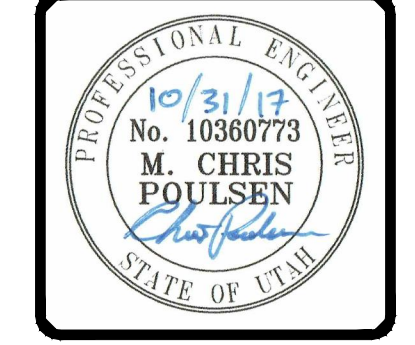
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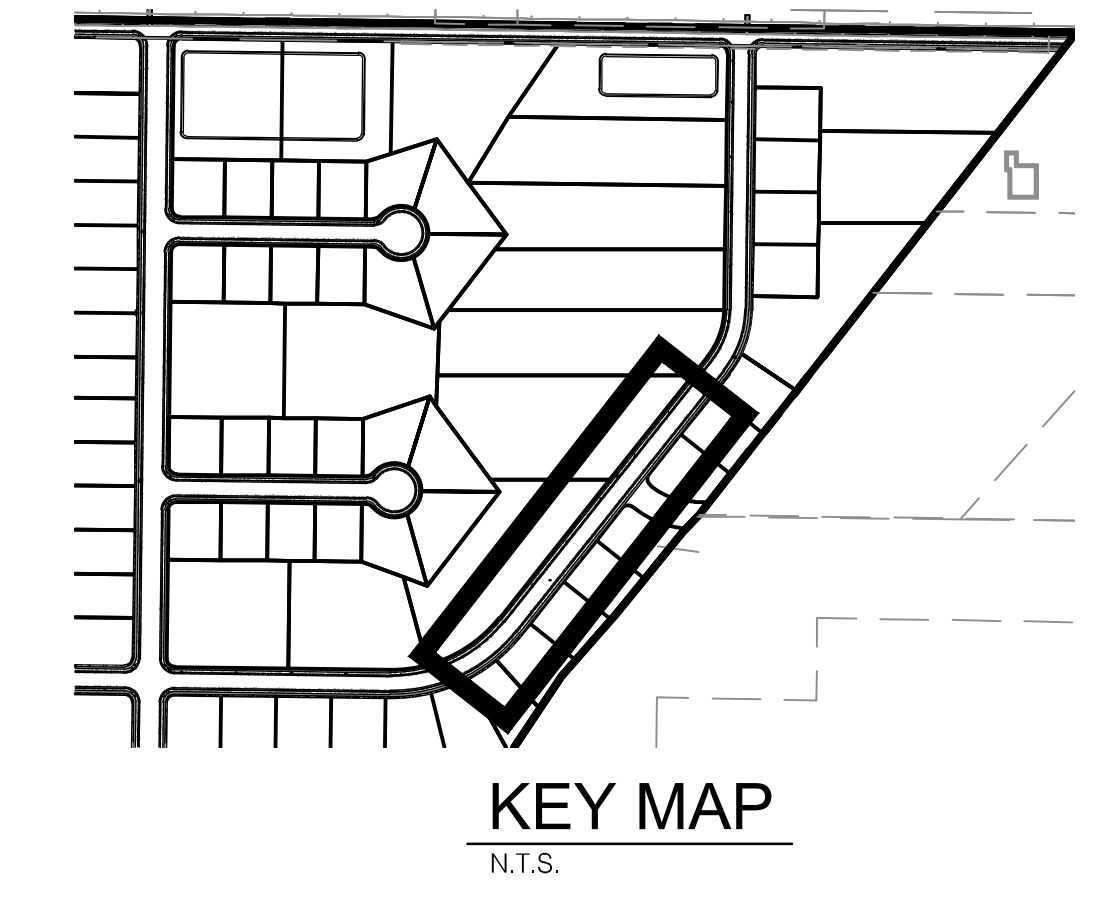
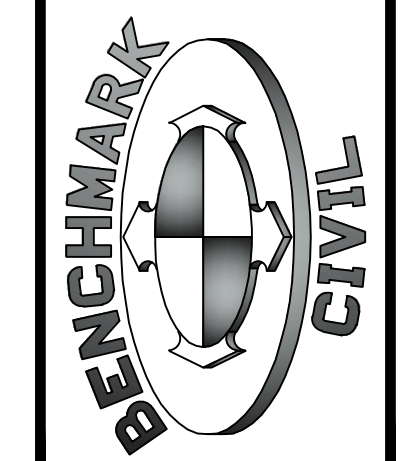
ROAD PROFILE



|                    |                             |
|--------------------|-----------------------------|
| PROJECT NO.        | 1607138                     |
| DATE               | 10/31/17                    |
| DESCRIPTION        | REVISED PER COUNTY COMMENTS |
| DESIGNED BY        | MCP                         |
| FIELD DRAWN        | SURVEY                      |
| DATE               | 8/28/2017                   |
| DWG. FILE          | 1607138.rvt                 |
| SCALE              | AS SHOWN                    |
| SCALE MEASUREMENTS | FOR FULL SIZE SHEETS        |
| AS SHOWN           | FOR REDUCED SIZE SHEETS     |

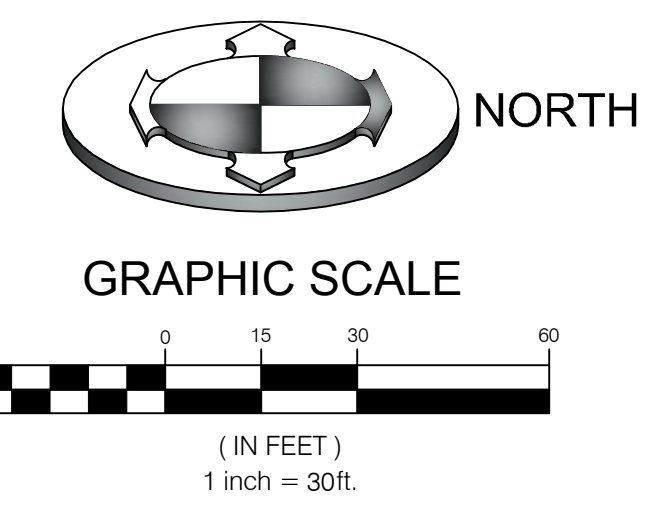
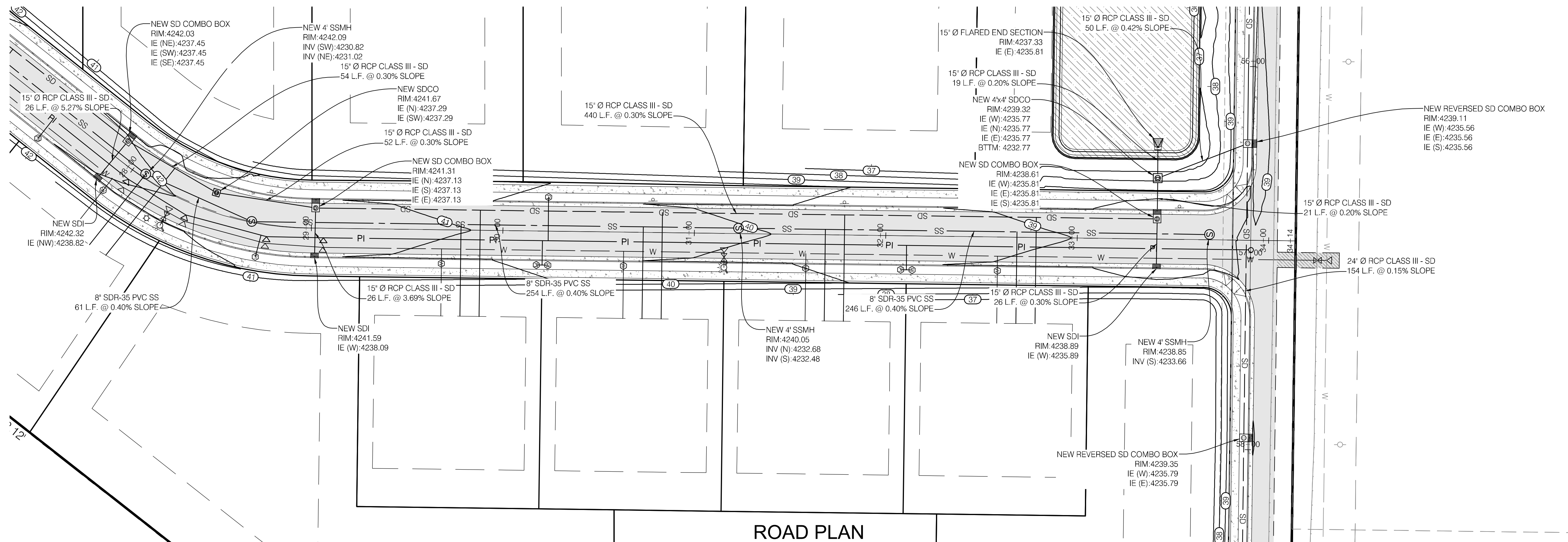


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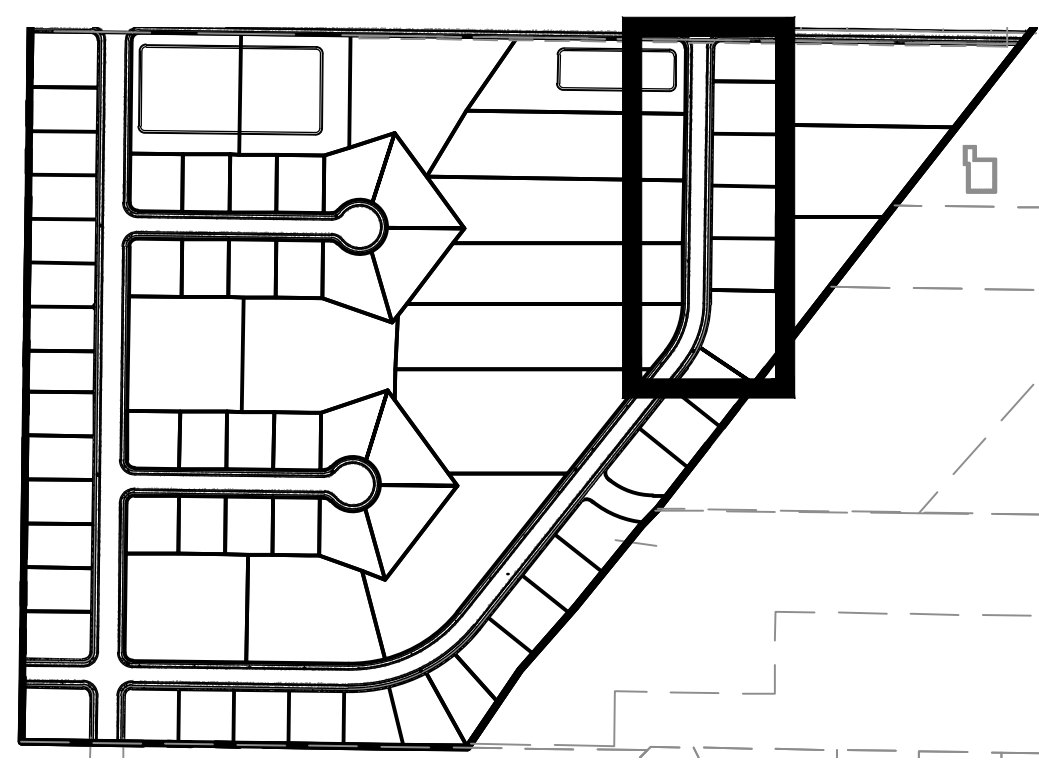
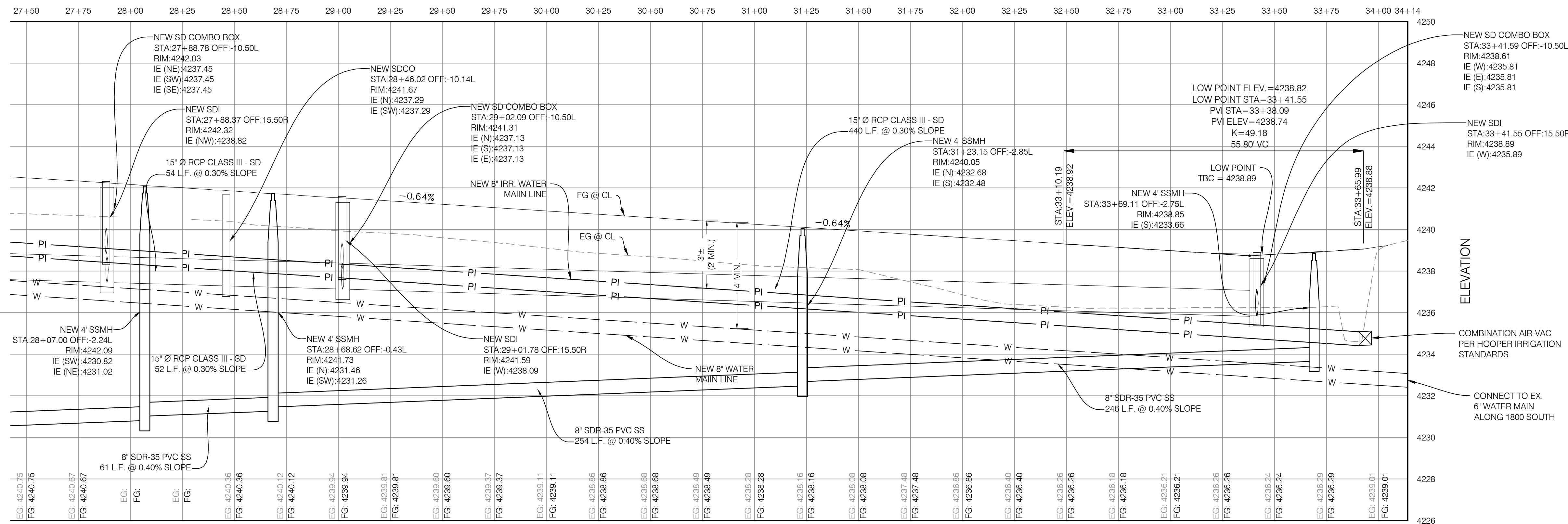


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ROAD PLAN



KEY MAP  
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ROAD PROFILE

|             |                              |
|-------------|------------------------------|
| PROJECT NO. | 1607138                      |
| DATE        | 10/31/17                     |
| DESCRIPTION | REVISED PER COUNTY COMMENTS  |
| DESIGNED BY | MCP                          |
| FIELD DRAWN | SURVEY                       |
| DATE        | 8/28/2017                    |
| DWG. FILE   | 1607138.rvt                  |
| SCALE       | AS SHOWN ON FULL SIZE SHEETS |
| SCALE       | AS SHOWN ON FULL SIZE SHEETS |

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**BENCHMARK ENGINEERING & LAND SURVEYING**

M. CHRIS PULSEN  
Professional Engineer  
No. 10360773  
SANDY, UTAH 84070 (801) 542-7192  
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**WINSTON PARK**

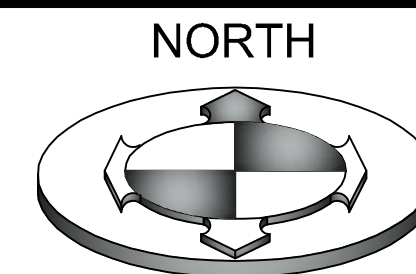
3908 W 1800 S

WEBER COUNTY, UTAH

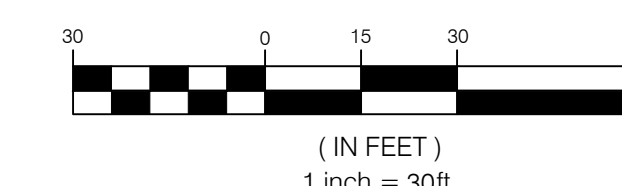
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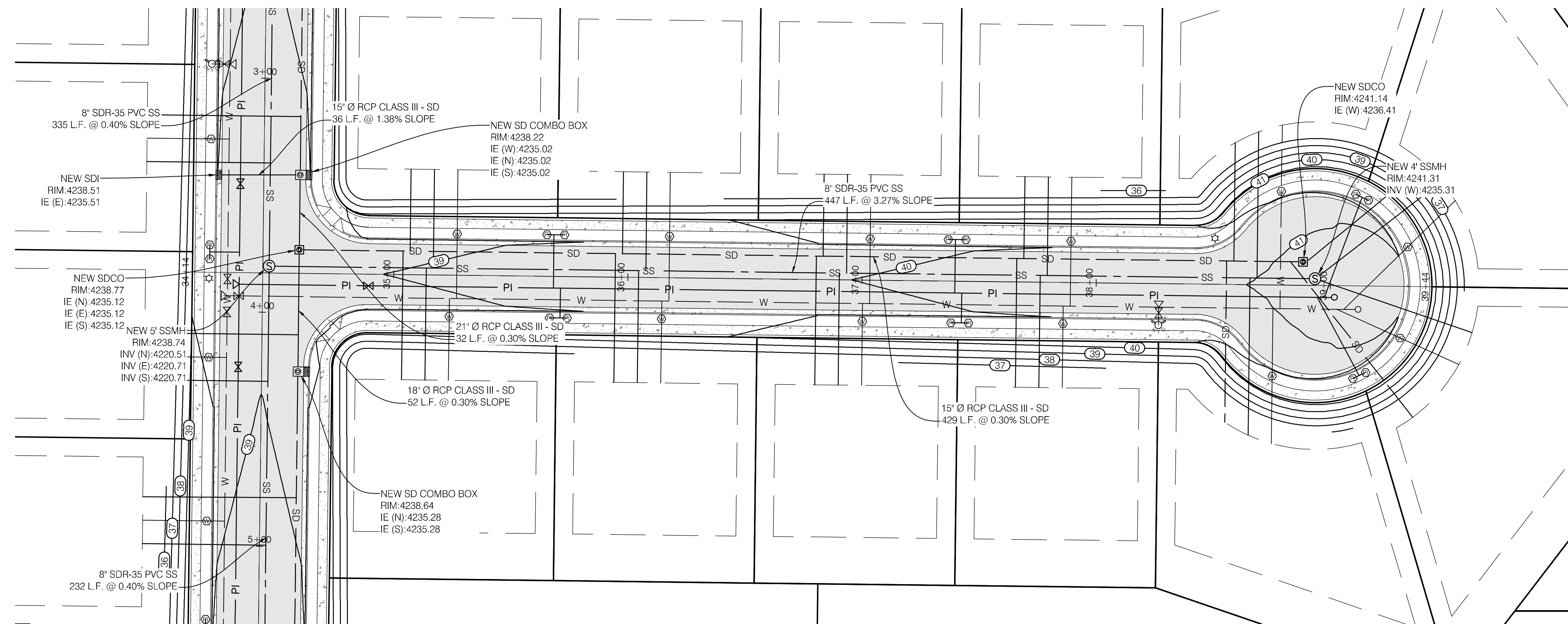
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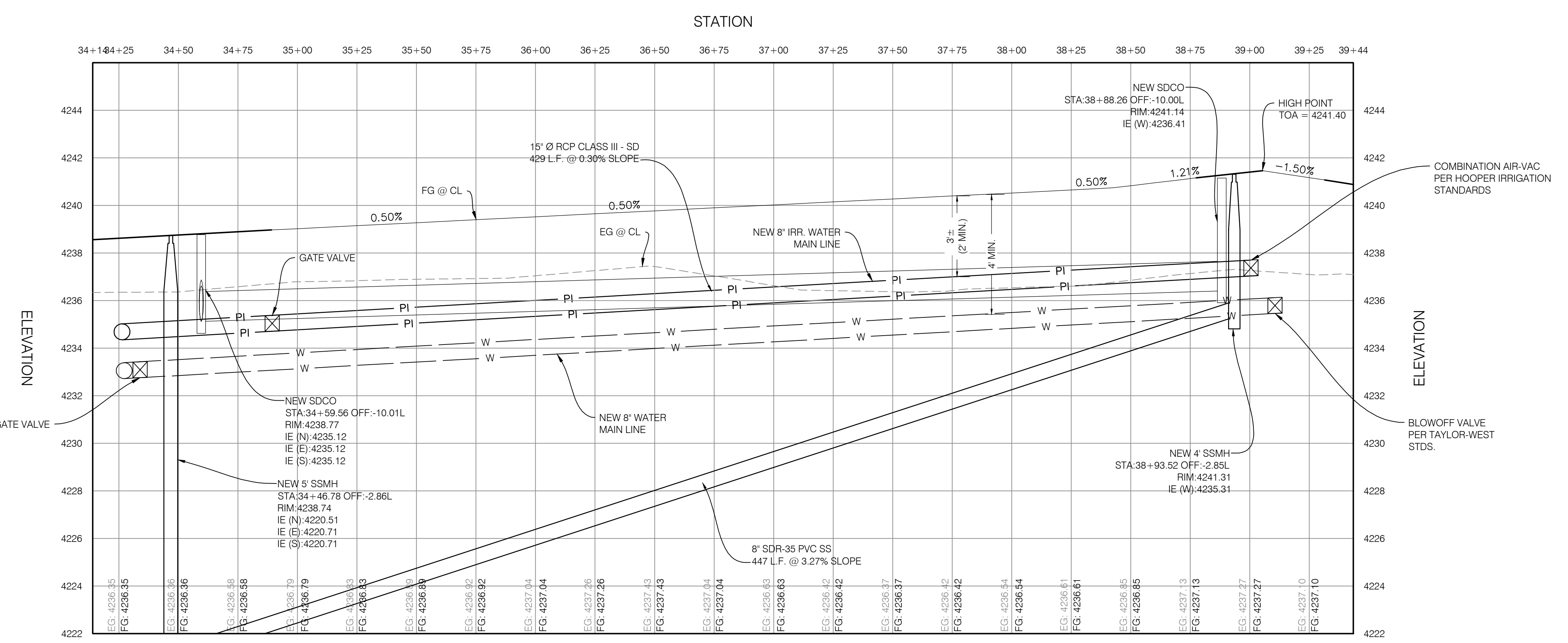
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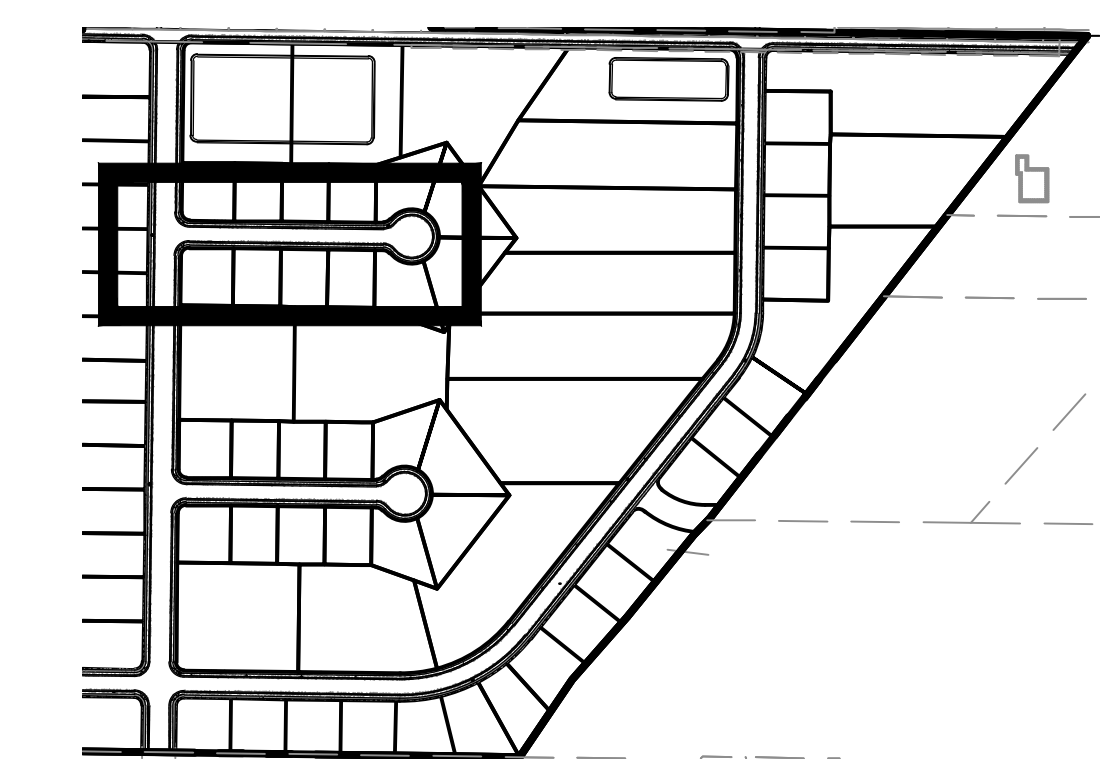
(IN FEET)  
1 inch = 30ft.



ROAD PLAN

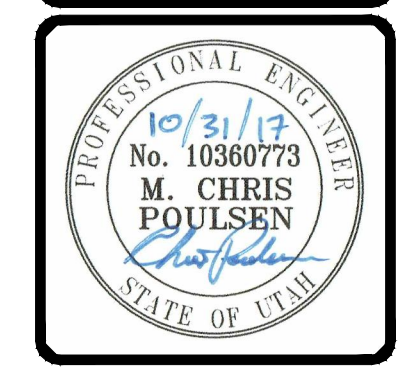


ROAD PROFILE



KEY MAP  
N.T.S.

|             |           |
|-------------|-----------|
| PROJECT NO. | 1607138   |
| DATE        | 10/31/17  |
| DESIGNED BY | MCP       |
| DRAWN BY    | SS        |
| CHECKED BY  | SS        |
| DATE        | 8/28/2017 |
| SCALE       | AS SHOWN  |
| PROJECT     | 1607138   |
| DATE        | 0         |
| SCALE       | AS SHOWN  |



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**WINSTON PARK**

3908 W 1800 S  
WEBER COUNTY, UTAH

PROJECT NO. 1607138

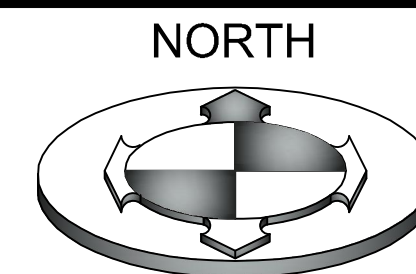
**PLAN & PROFILE**

CPP.06  
14 OF 24

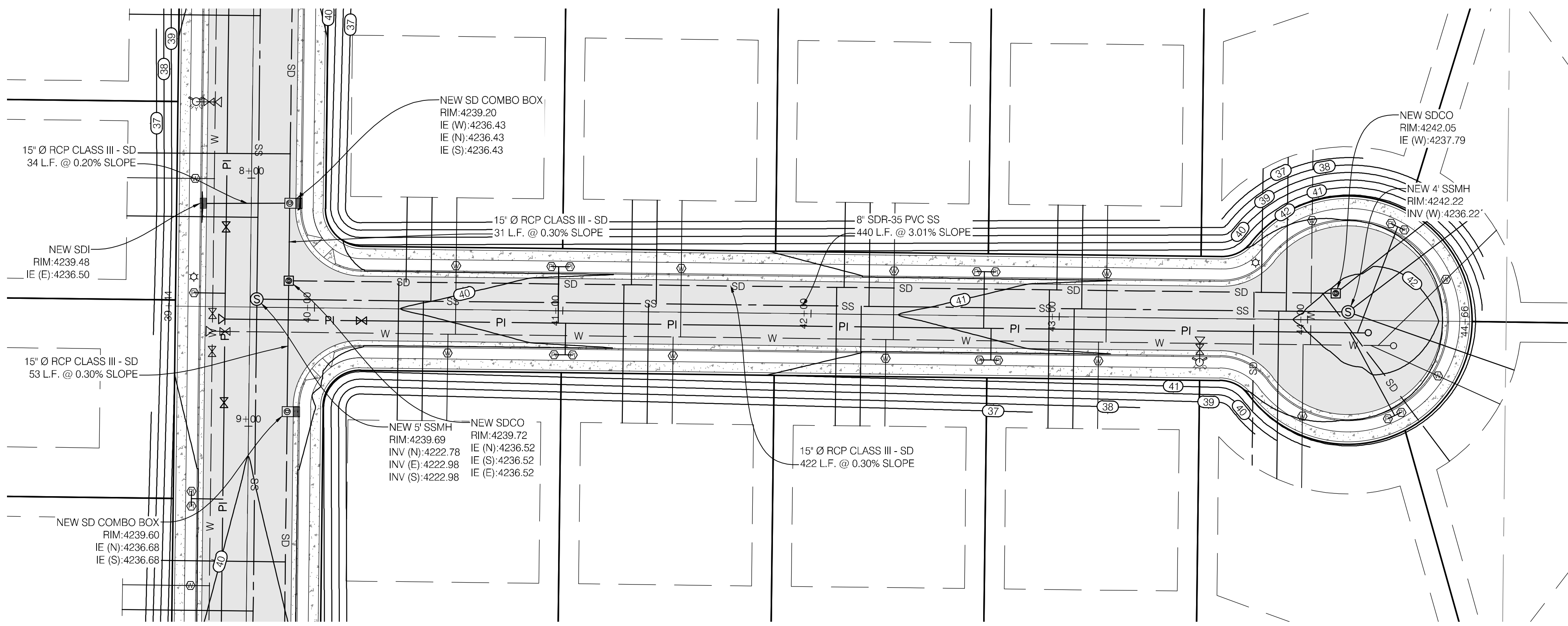
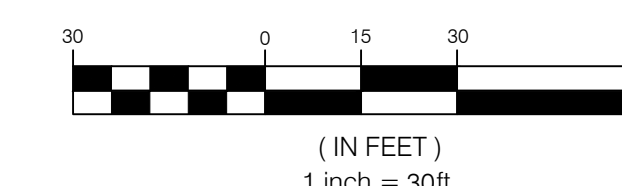
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BLUE STAKES OF UTAH  
UTILITY NOTIFICATION CENTER

1-800-662-4111  
www.bluestakes.org



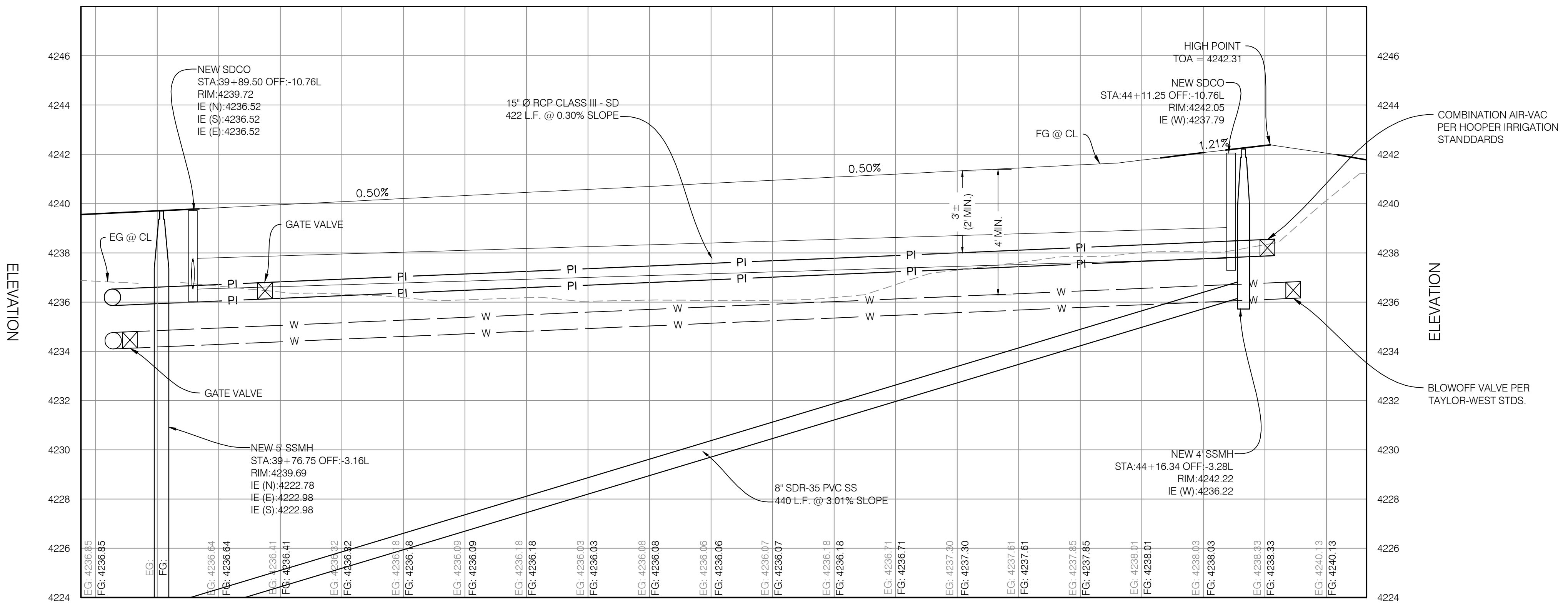
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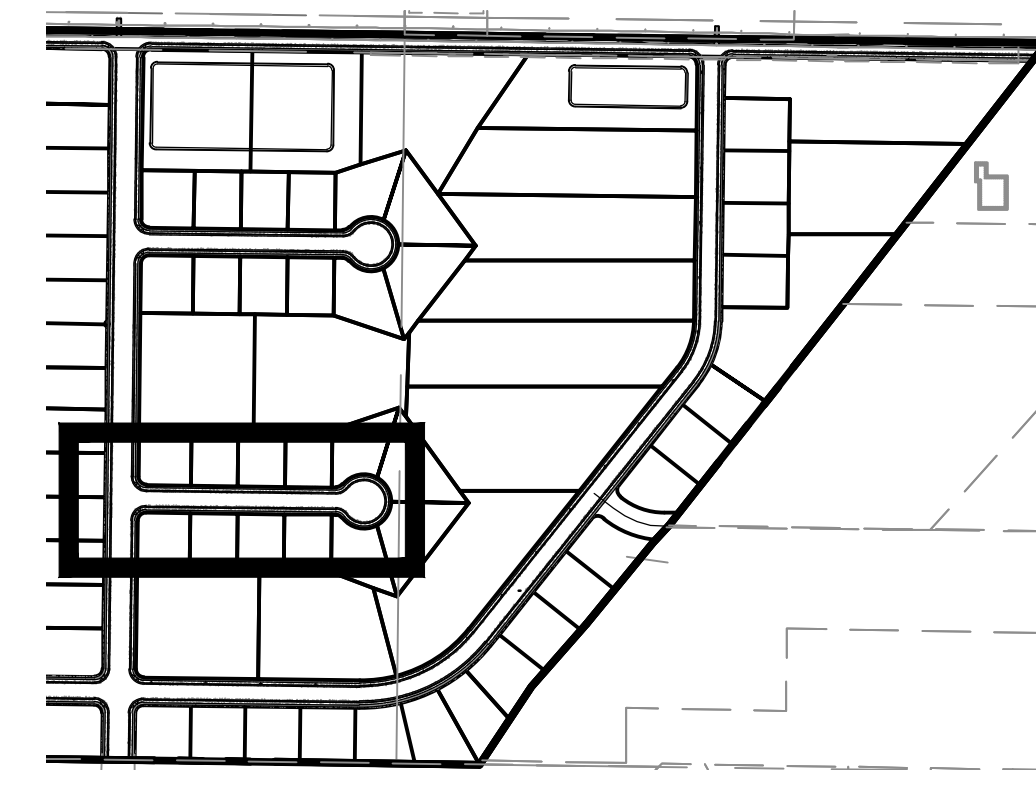
ROAD PLAN

STATION

39+00 39+75 40+00 40+25 40+50 40+75 41+00 41+25 41+50 41+75 42+00 42+25 42+50 42+75 43+00 43+25 43+50 43+75 44+00 44+25 44+50 44+66

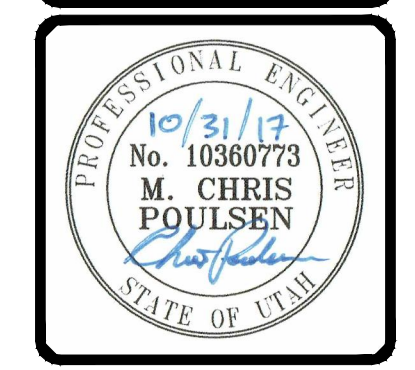


ROAD PROFILE



KEY MAP  
N.T.S.

|                                            |                              |
|--------------------------------------------|------------------------------|
| PROJECT NO.                                | 1607138                      |
| DATE                                       | 10/31/17                     |
| DESCRIPTION                                | REVISED PER COUNTY COMMENTS  |
| DESIGNED BY                                | MCP                          |
| DRAWN BY                                   | SURVEY                       |
| DATE                                       | 8/28/2017                    |
| SCALE                                      | 1" = 30'                     |
| SCALE MEASUREMENT                          | FUNCTION ON FULL SIZE SHEETS |
| ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS |                              |



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**WINSTON PARK**

3908 W 1800 S

WEBER COUNTY, UTAH

PROJECT NO. 1607138

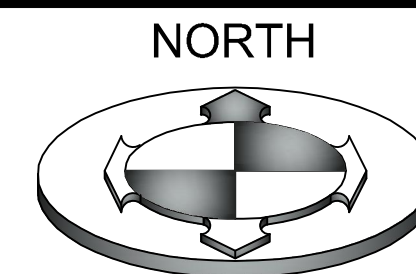
**PLAN & PROFILE**

CPP.07  
15 OF 24

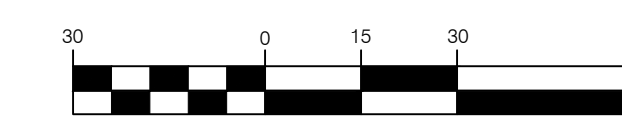
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UTILITY NOTIFICATION CENTER

1-800-662-4111  
www.bluestakes.org

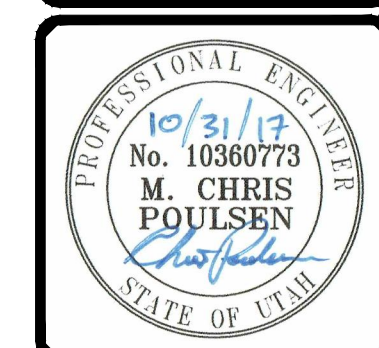


GRAPHIC SCALE



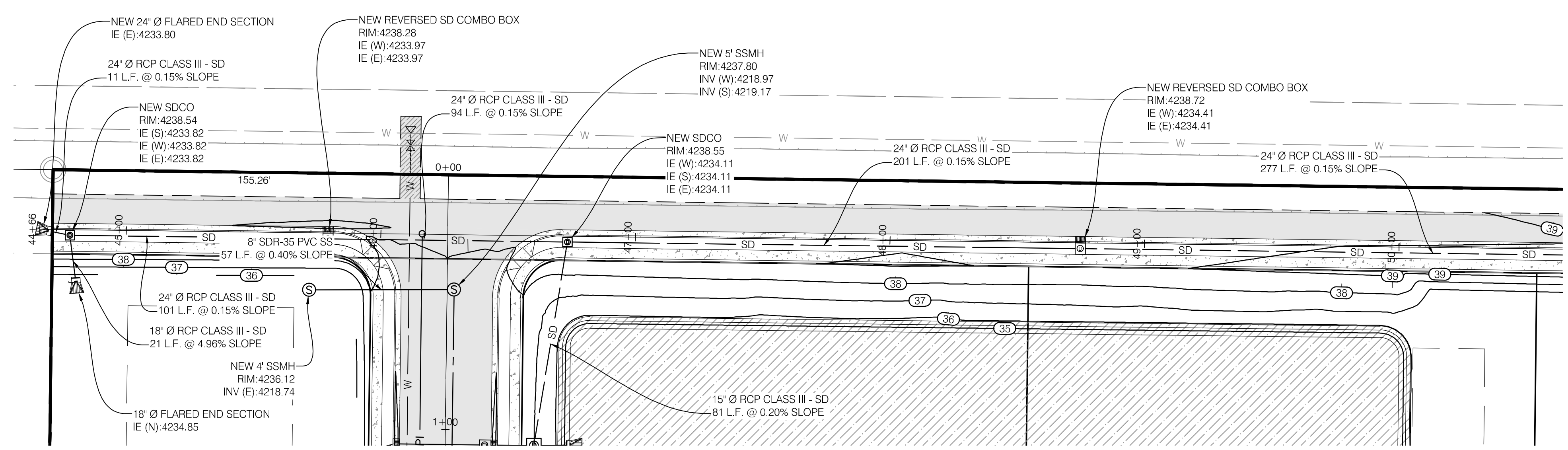
(IN FEET)  
1 inch = 30ft.

|                                                                                    |            |
|------------------------------------------------------------------------------------|------------|
| PROJECT NO.                                                                        | 1607138    |
| DATE                                                                               | 08/28/2017 |
| DESIGNER                                                                           | MCP        |
| DRAWN BY                                                                           | 1607138/IB |
| CHECKED BY                                                                         |            |
| APPROVED BY                                                                        |            |
| SCALE                                                                              | AS SHOWN   |
| SCALE MEASURED FROM FULL SIZE SHEETS<br>ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS |            |

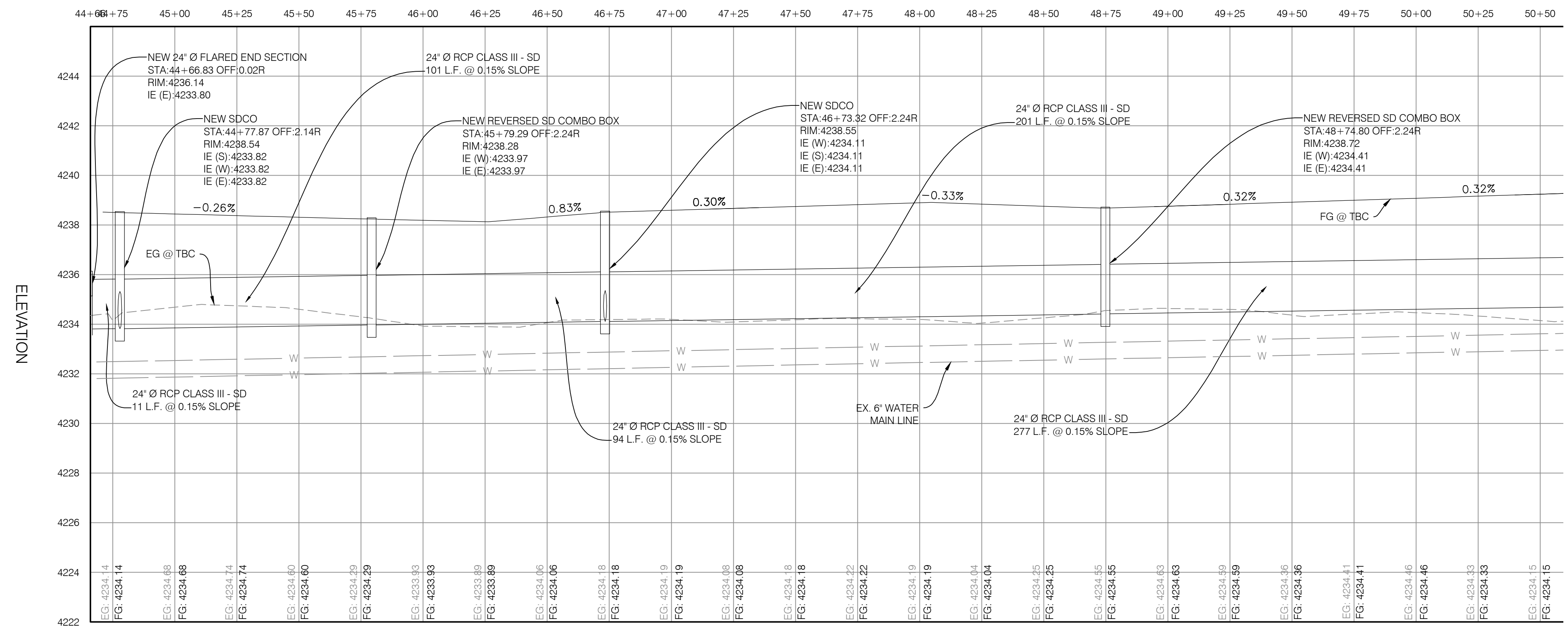


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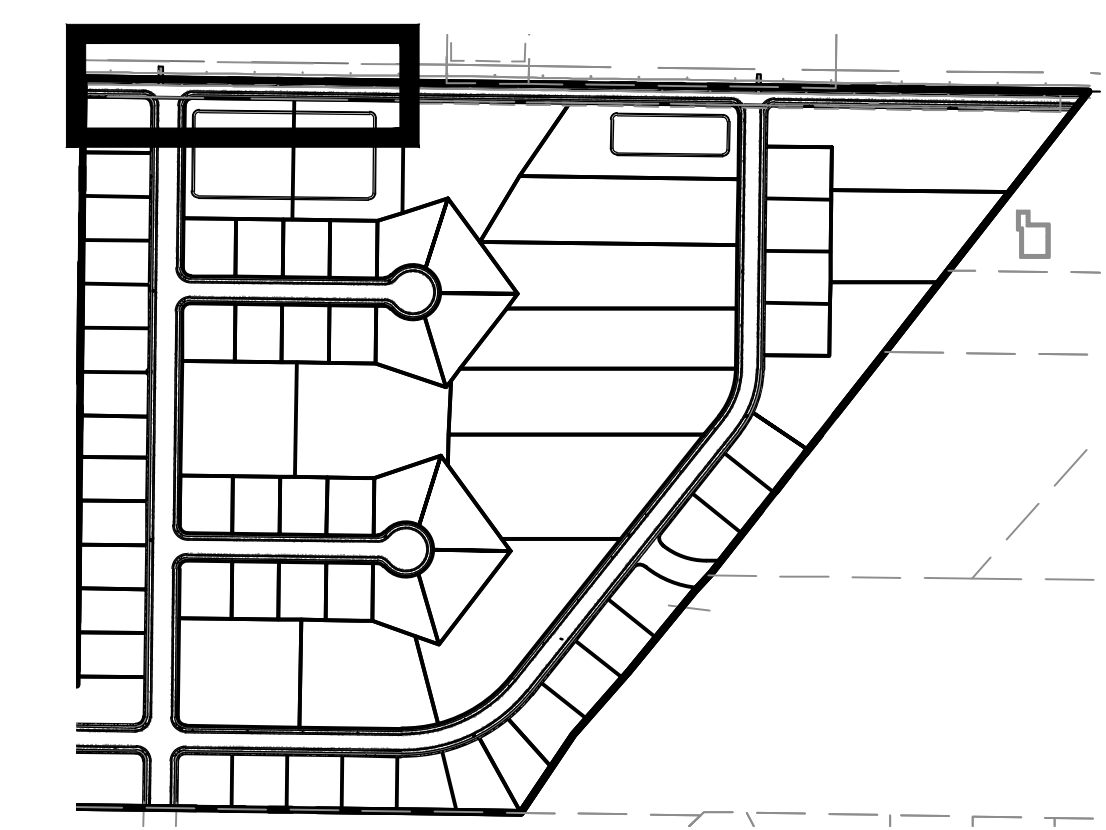
**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH



ROAD PLAN



ROAD PROFILE

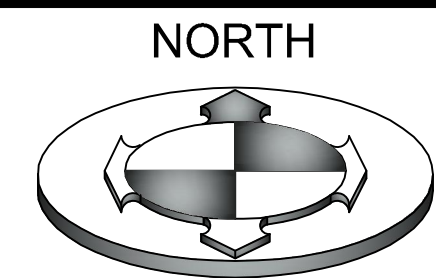


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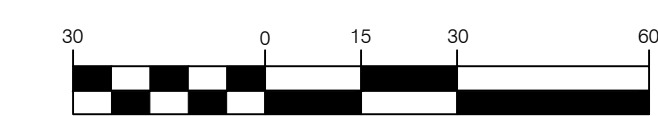
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 1-800-662-4111  
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PROJECT NO. 1607138  
**PLAN & PROFILE**  
 CPP.08  
 16 OF 24





NORTH



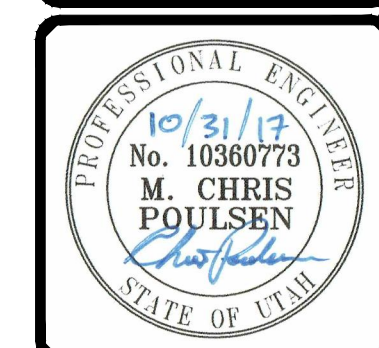
GRAPHIC SCALE  
(IN FEET)  
1 inch = 30ft.

| NO. | DATE     | DESCRIPTION                 |
|-----|----------|-----------------------------|
| 1   | 10/31/17 | REVISED PER COUNTY COMMENTS |

|             |             |
|-------------|-------------|
| DESIGNED BY | MCP         |
| FIELD DRAWN | SURVEY      |
| DATE        | 8/28/2017   |
| DWG. FILE   | 1607138.rvt |
| SCALE       | AS SHOWN    |

SCALE MEASUREMENTS SHOWN ON FULL SIZE SHEETS  
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS



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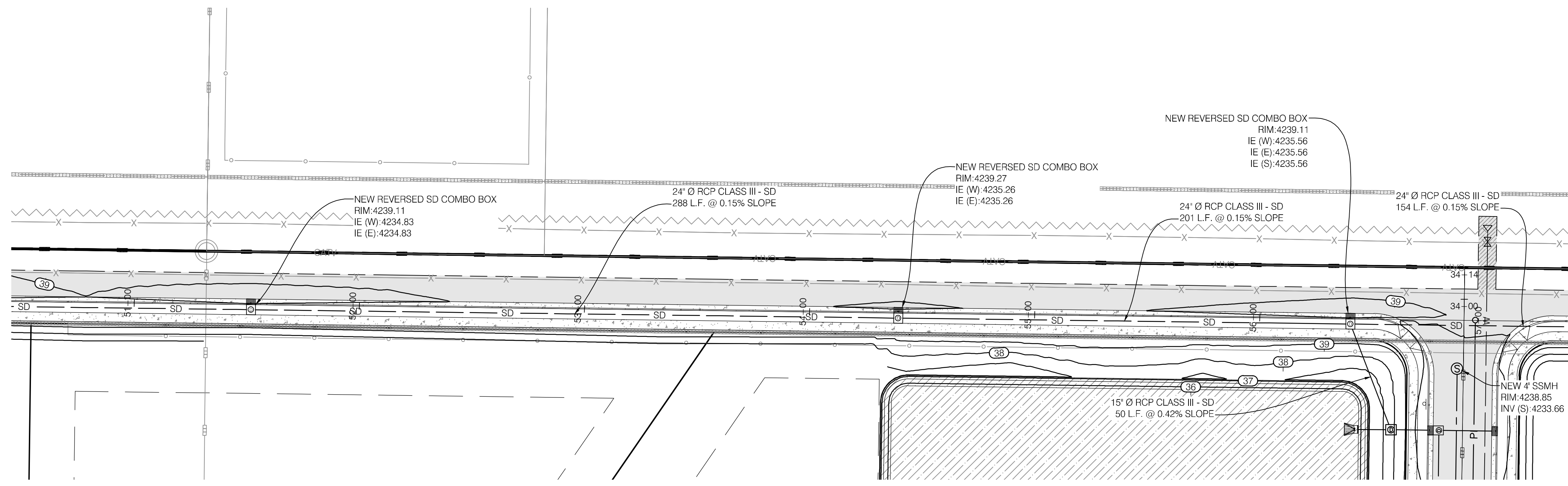
**WINSTON PARK**

3908 W 1800 S  
WEBER COUNTY, UTAH

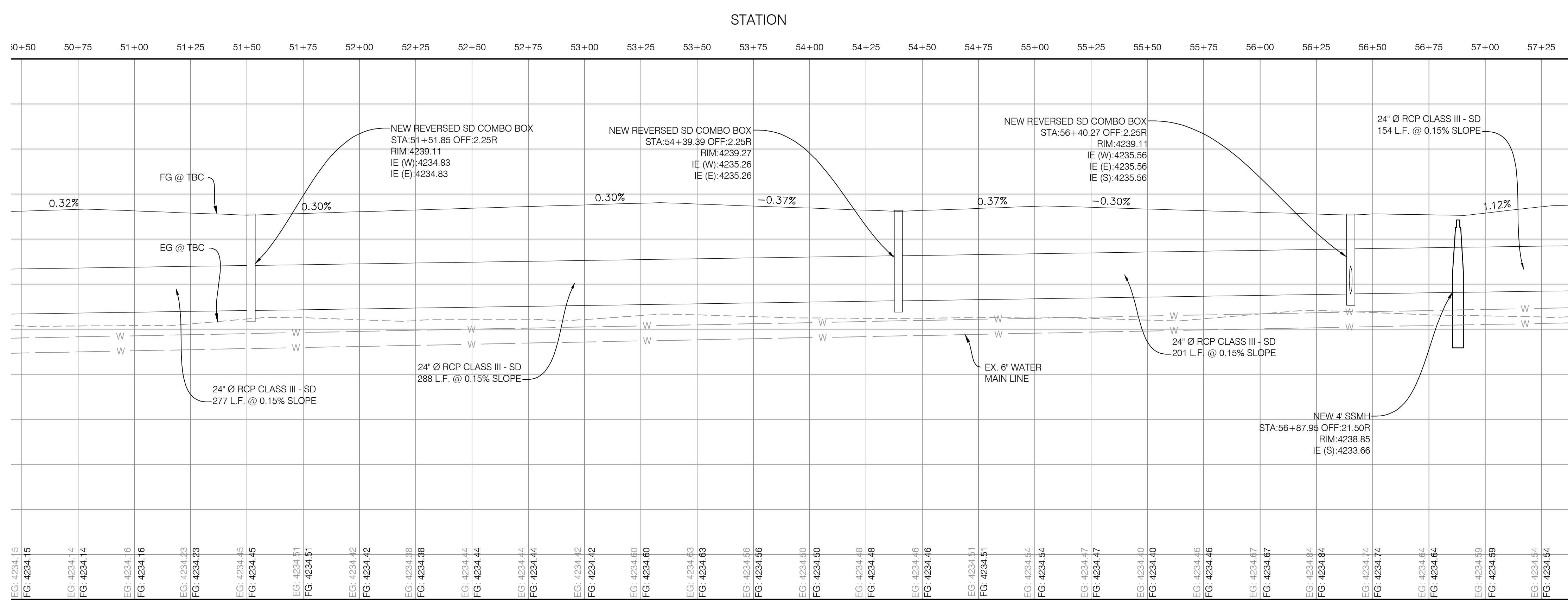
PROJECT NO. 1607138

**PLAN & PROFILE**

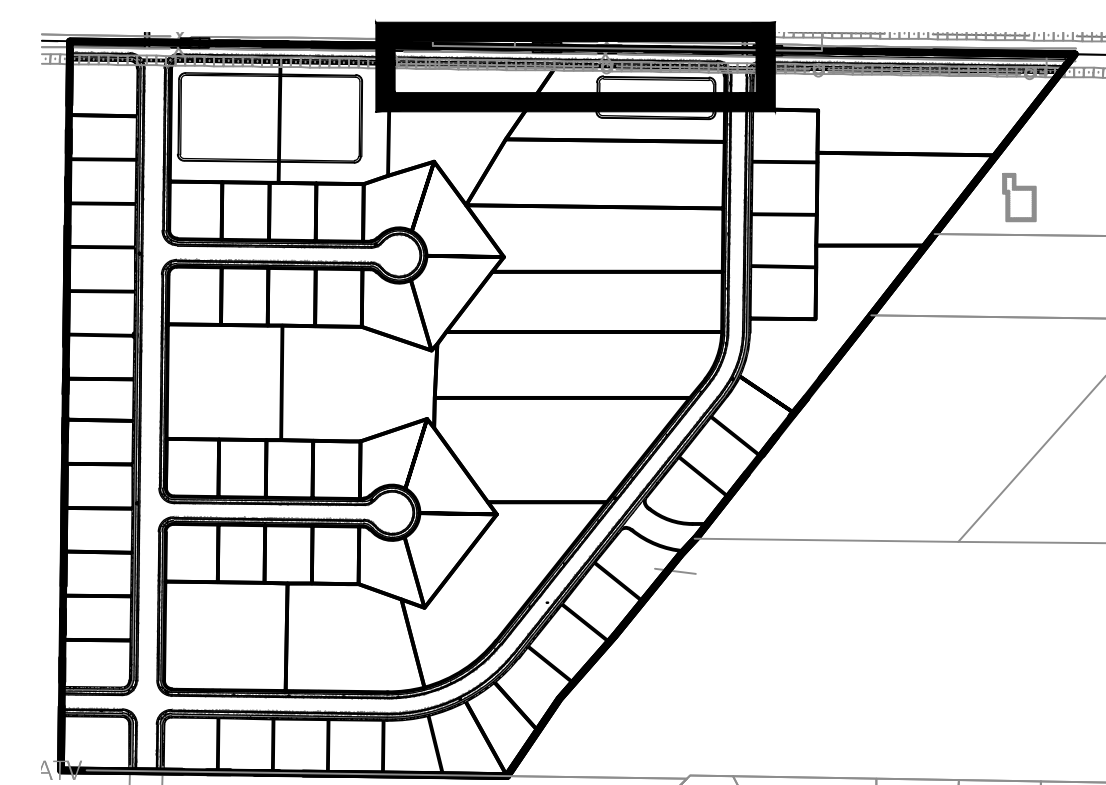
CPP.09  
17 OF 24



ROAD PLAN



ROAD PROFILE

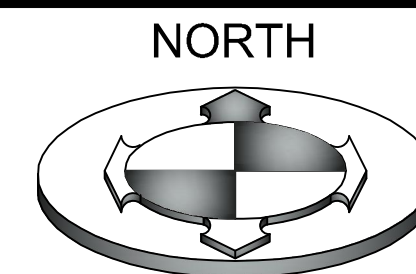


KEY MAP  
N.T.S.

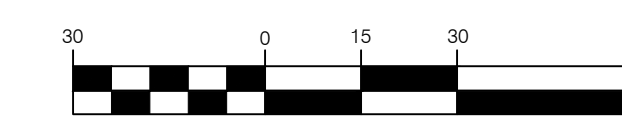
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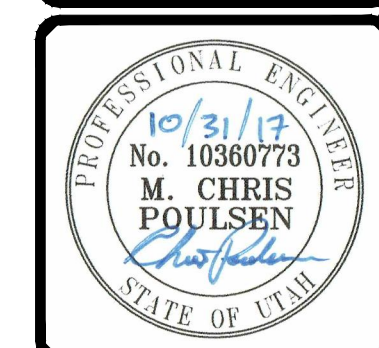


NORTH



GRAPHIC SCALE  
(IN FEET)  
1 inch = 30ft.

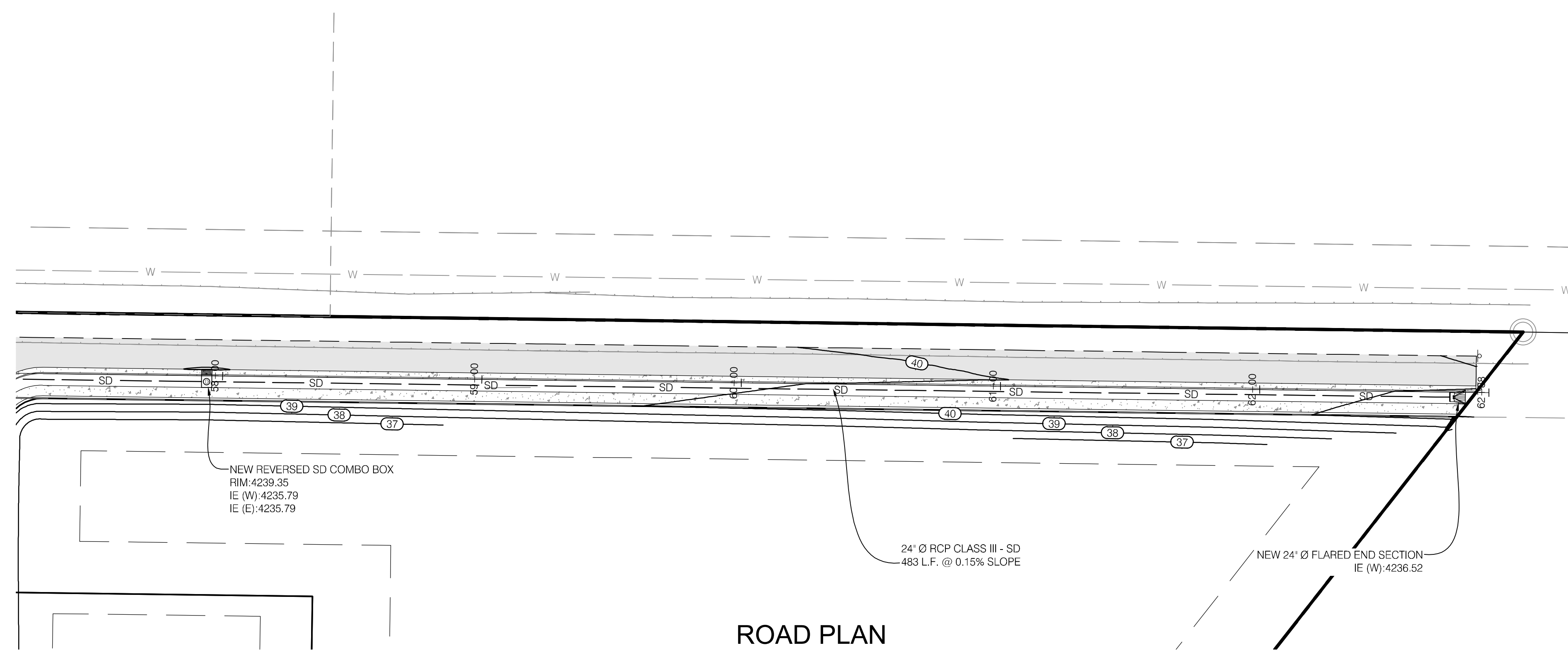
|             |                                                                                            |
|-------------|--------------------------------------------------------------------------------------------|
| PROJECT NO. | 1607138                                                                                    |
| DATE        | 8/23/2017                                                                                  |
| NO.         | 1                                                                                          |
| DESCRIPTION | REVISED PER COUNTY COMMENTS                                                                |
| BY          | MCP                                                                                        |
| CHECKED BY  | KVIS                                                                                       |
| DATE        | 8/23/2017                                                                                  |
| SCALE       | AS SHOWN                                                                                   |
| SCALE       | SCALE MEASUREMENTS TAKEN ON FULL SIZE SHEETS<br>ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS |



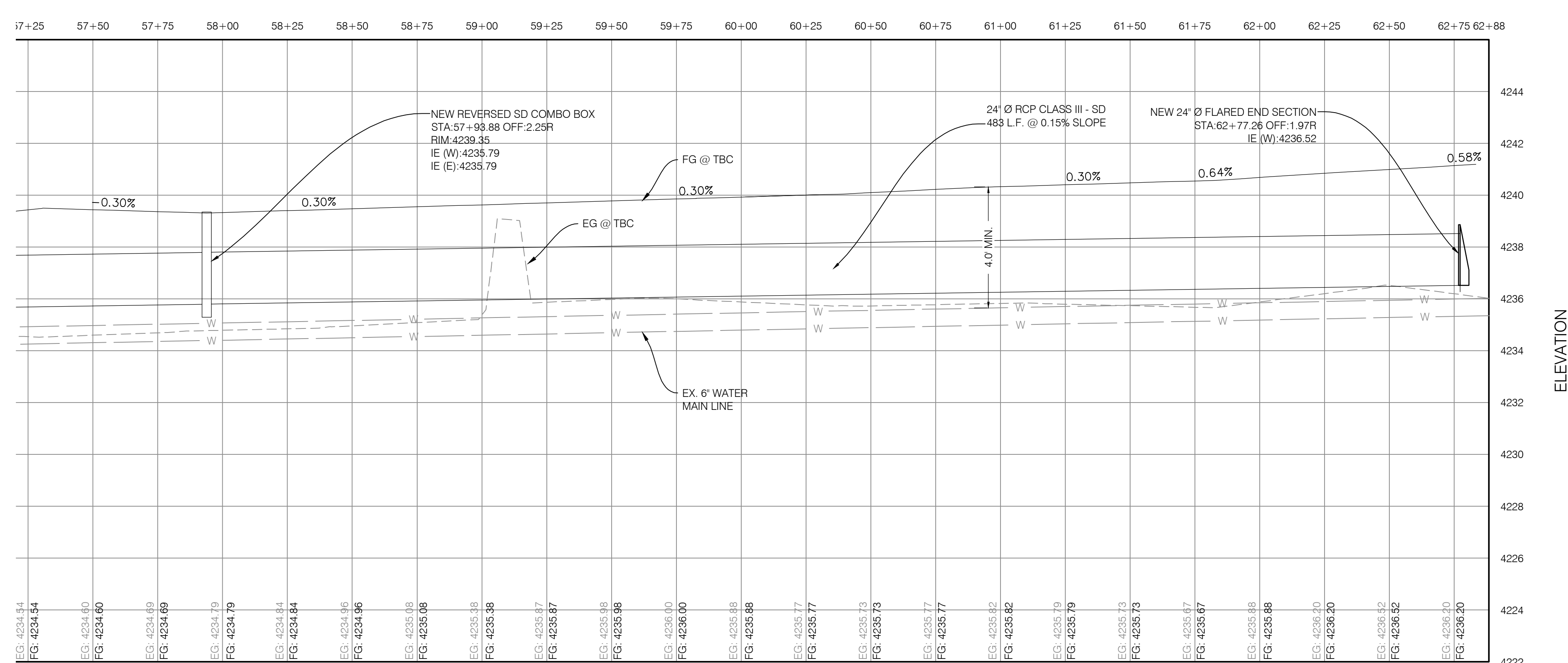
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 SANDY, UTAH 84070 (801) 542-7192  
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**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

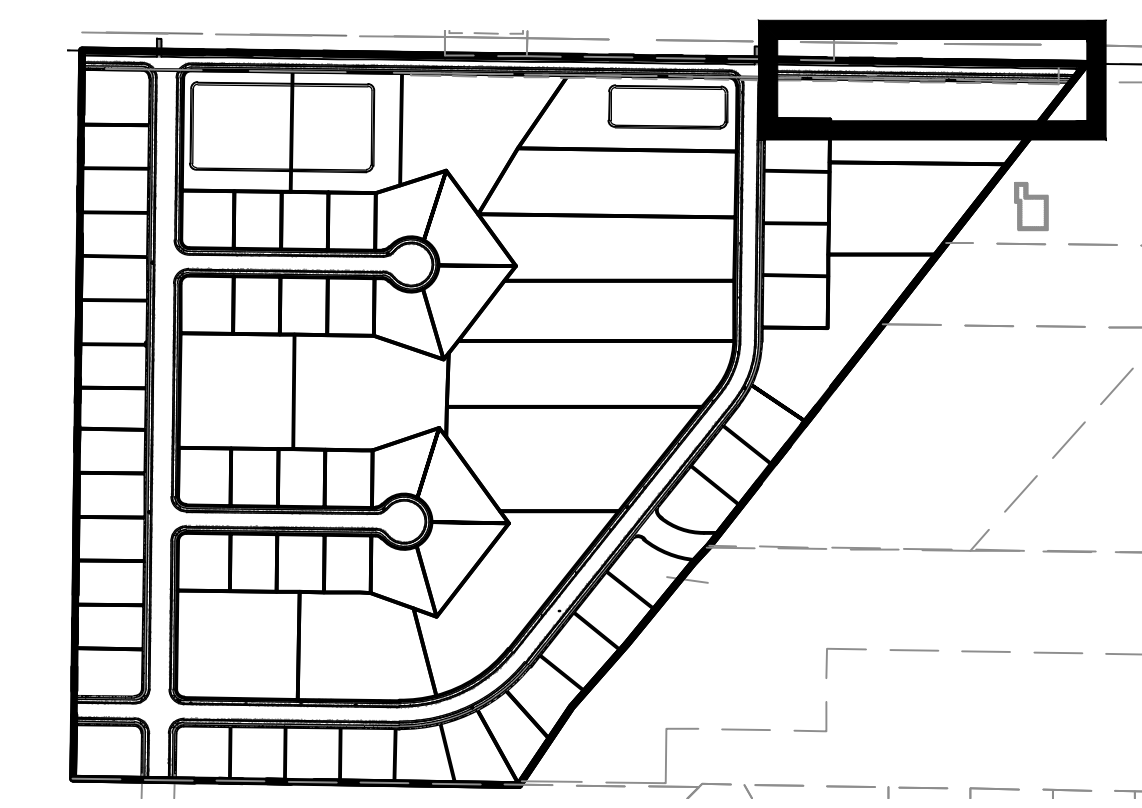
PROJECT NO. 1607138  
**PLAN & PROFILE**  
 CPP.10  
 18 OF 24



ROAD PLAN



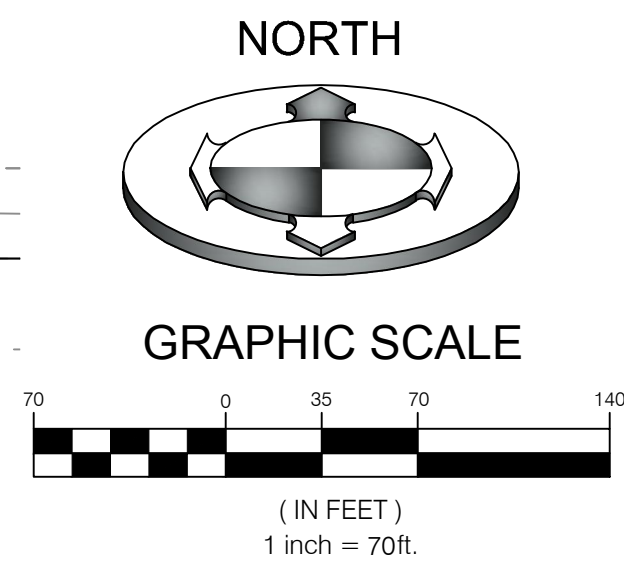
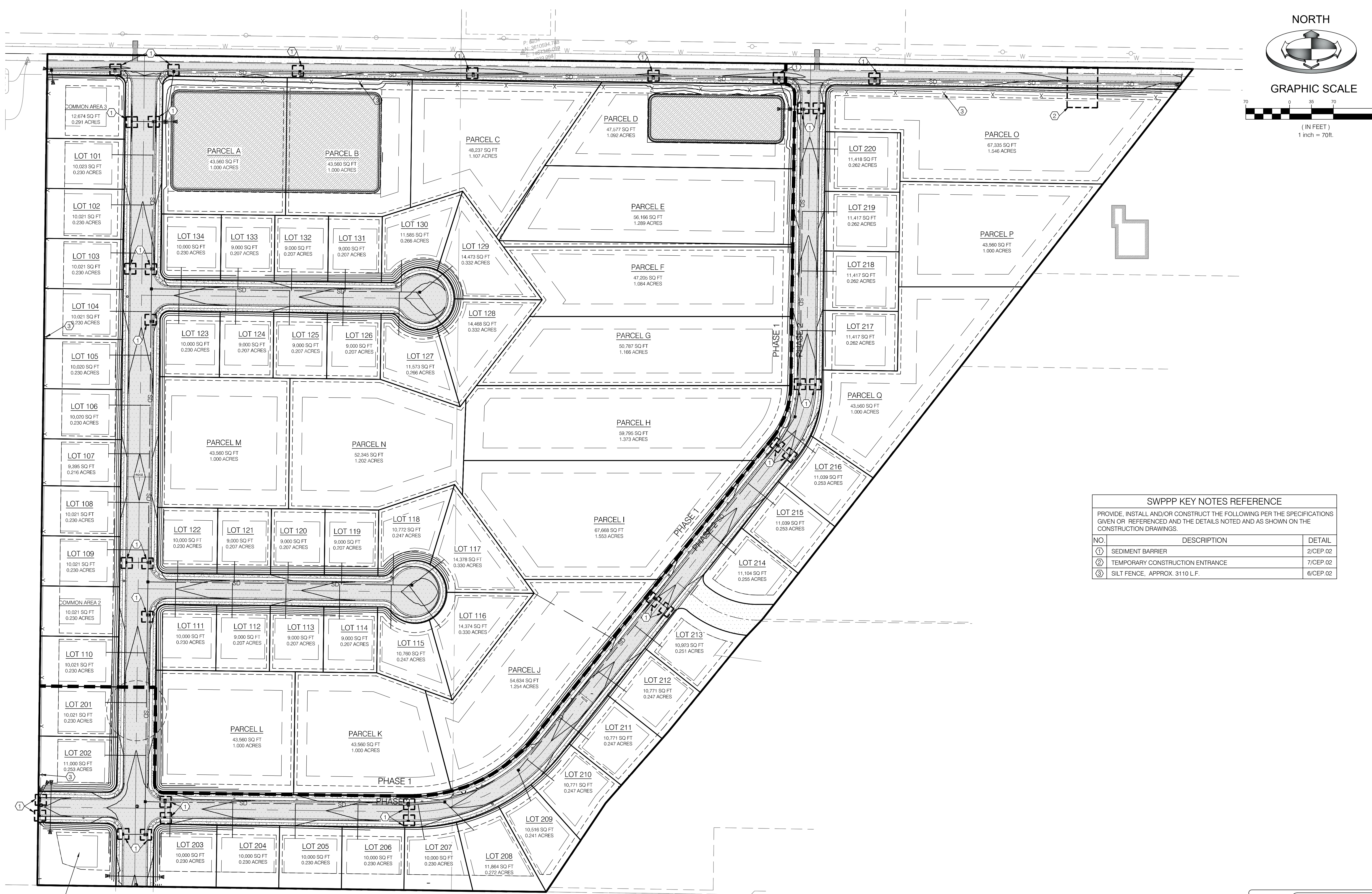
ROAD PROFILE



KEY MAP  
N.T.S.

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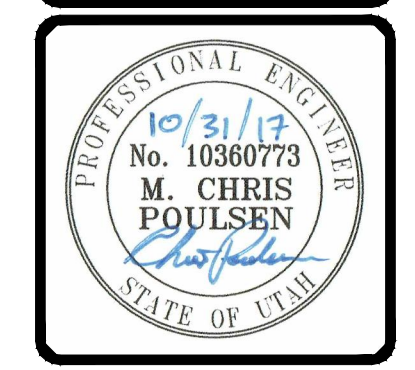


**SWPPP KEY NOTES REFERENCE**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED AND THE DETAILS NOTED AND AS SHOWN ON THE CONSTRUCTION DRAWINGS.

| NO. | DESCRIPTION                     | DETAIL   |
|-----|---------------------------------|----------|
| ①   | SEDIMENT BARRIER                | 2/CEP.02 |
| ②   | TEMPORARY CONSTRUCTION ENTRANCE | 7/CEP.02 |
| ③   | SILT FENCE, APPROX. 3110 L.F.   | 6/CEP.02 |

|             |                             |
|-------------|-----------------------------|
| PROJECT NO. | 1607138                     |
| DATE        | 08/28/2017                  |
| REVISION    | REVISED PER COUNTY COMMENTS |
| BY          | MCP                         |
| CHECKED BY  | MCP                         |
| DATE        | 08/28/2017                  |
| SCALE       | AS SHOWN                    |
| PROJECT     | WINSTON PARK                |
| DATE        | 08/28/2017                  |
| BY          | MCP                         |
| CHECKED BY  | MCP                         |
| DATE        | 08/28/2017                  |
| SCALE       | AS SHOWN                    |



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**WINSTON PARK**

3908 W 1800 S  
WEBER COUNTY, UTAH

PROJECT NO. 1607138

**EROSION CONTROL PLAN**

CEP.01  
19 OF 24

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COMMON AREA 1  
12,478 SQ FT  
0.286 ACRES

### BMP: Concrete Waste Management

**DESCRIPTION:**  
Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

**APPLICATIONS:**  
This technique is applicable to all types of sites.

**INSTALLATION/APPLICATION CRITERIA:**

- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete or cement on-site.
- Perform washout of concrete trucks off site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier Information Sheet.)
- Train employees and subcontractors in proper concrete waste management.

**LIMITATIONS:**

- Off-site washout of concrete wastes may not always be possible.

**MAINTENANCE:**

- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

### BMP: Inlet Protection – Wattle

IP-W  
CONSTRUCTION

**DESCRIPTION:**  
Sediment barrier erected around storm drain inlet.

**APPLICATION:**  
Construct at storm drainage inlets located down-gradient of areas to be disturbed by construction.

**INSTALLATION/APPLICATION CRITERIA:**

- Provide up-gradient sediment controls, such as silt fence during construction of inlet
- When construction of curb and gutter and roadways is complete, install gravel filled wattles around perimeter of inlet

**LIMITATIONS:**

- Recommended maximum contributing drainage area of one acre
- Requires shallow slopes adjacent to inlet

**MAINTENANCE:**

- Inspect inlet protection following storm event and at a minimum of once every 14 days.
- Remove accumulated sediment when it reaches 4 inches in depth.
- Look for bypassing or undercutting and repair or realign as needed.

### BMP: Materials Storage

**DESCRIPTION:**  
Controlled storage of on-site materials.

**APPLICATION:**

- Storage of hazardous, toxic, and all chemical substances.
- Any construction site with outside storage of materials.

**INSTALLATION/APPLICATION CRITERIA:**

- Designate a secured area with limited access as the storage location. Ensure no waterways or drainage paths are nearby.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around storage location for impoundment in the case of spills.
- Ensure all on-site personnel utilize designated storage area. Do not store excessive amounts of material that will not be utilized on site.
- For active use of materials away from the storage area ensure materials are not set directly on the ground and are covered when not in use. Protect storm drainage during use.

**LIMITATIONS:**

- Does not prevent contamination due to mishandling of products.
- Spill Prevention and Response Plan still required.
- Only effective if materials are actively stored in controlled location.

**MAINTENANCE:**

- Inspect daily and repair any damage to perimeter impoundment or security fencing.
- Check materials are being correctly stored (i.e. standing upright, in labeled containers, lightly capped) and that no materials are being stored away from the designated location.

### BMP: Portable Toilets

**DESCRIPTION:**  
Temporary on-site sanitary facilities for construction personnel.

**APPLICATION:**  
All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

**INSTALLATION/APPLICATION CRITERIA:**

- Locate portable toilets in convenient locations throughout the site.
- Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- Conduct earth berm perimeter (See Earth Berm Barrier Information Sheet), control for spill/protection leak.

**LIMITATIONS:**  
No limitations.

**MAINTENANCE:**

- Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- Regular waste collection should be arranged with licensed service.
- All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

### BMP: Spill Clean-Up

**DESCRIPTION:**  
Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

**APPLICATION:**  
All sites

**GENERAL:**

- Store controlled materials within a storage area.
- Educate personnel on prevention and clean-up techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

**METHODS:**

- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.
- Use rags or absorbent material for clean-up. Excavate contaminated soils.
- Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Contact local Fire Department and State Division of Environmental Response and Remediation (Phone #36-4100) for any spill of reportable quantity.

**CONCRETE WASTE MANAGEMENT**  
SCALE: N.T.S.

1

**INLET PROTECTION WATTLE**  
SCALE: N.T.S.

2

**MATERIALS STORAGE**  
SCALE: N.T.S.

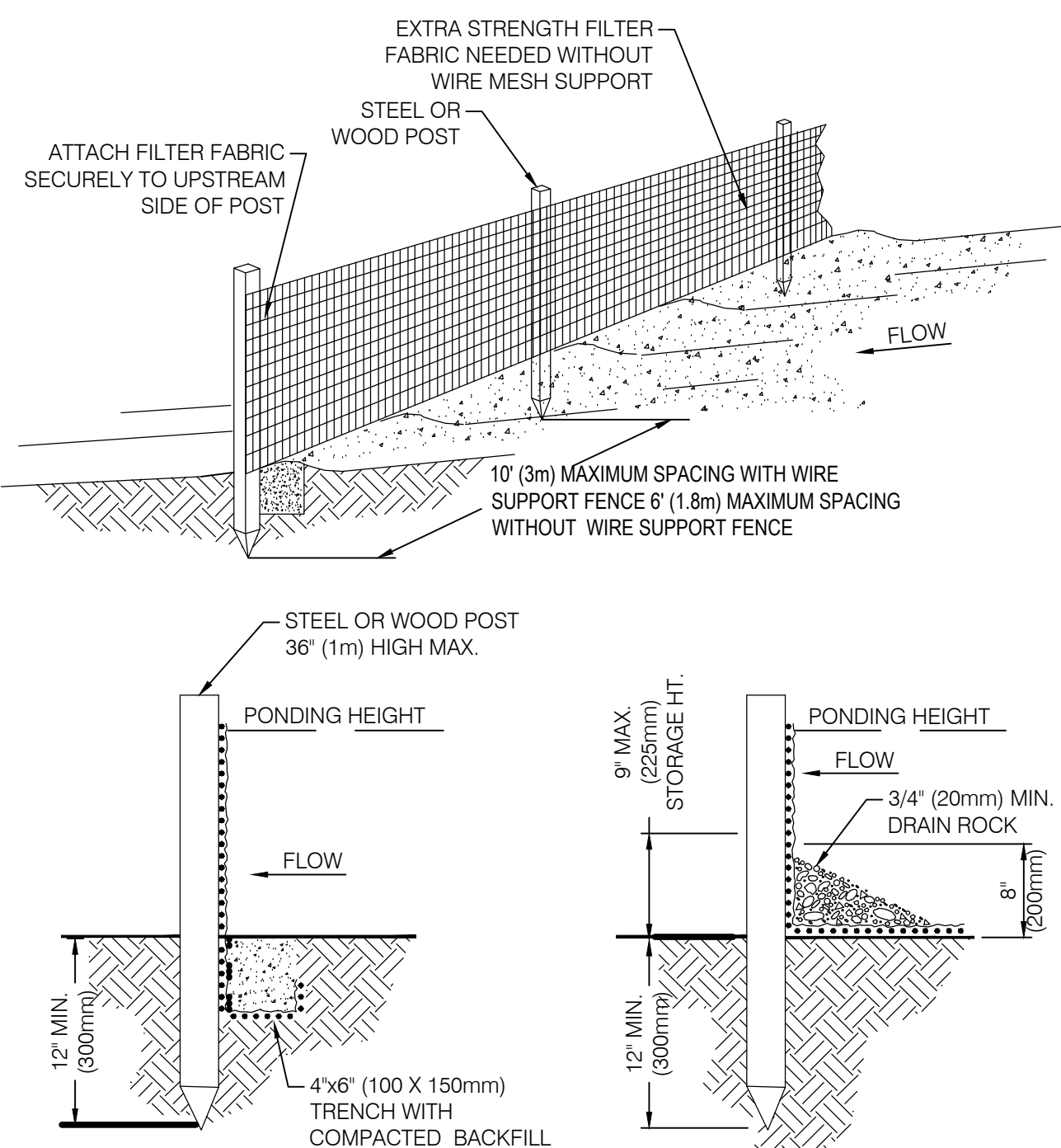
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**PORTABLE TOILETS**  
SCALE: N.T.S.

4

**SPILL CLEAN-UP**  
SCALE: N.T.S.

5

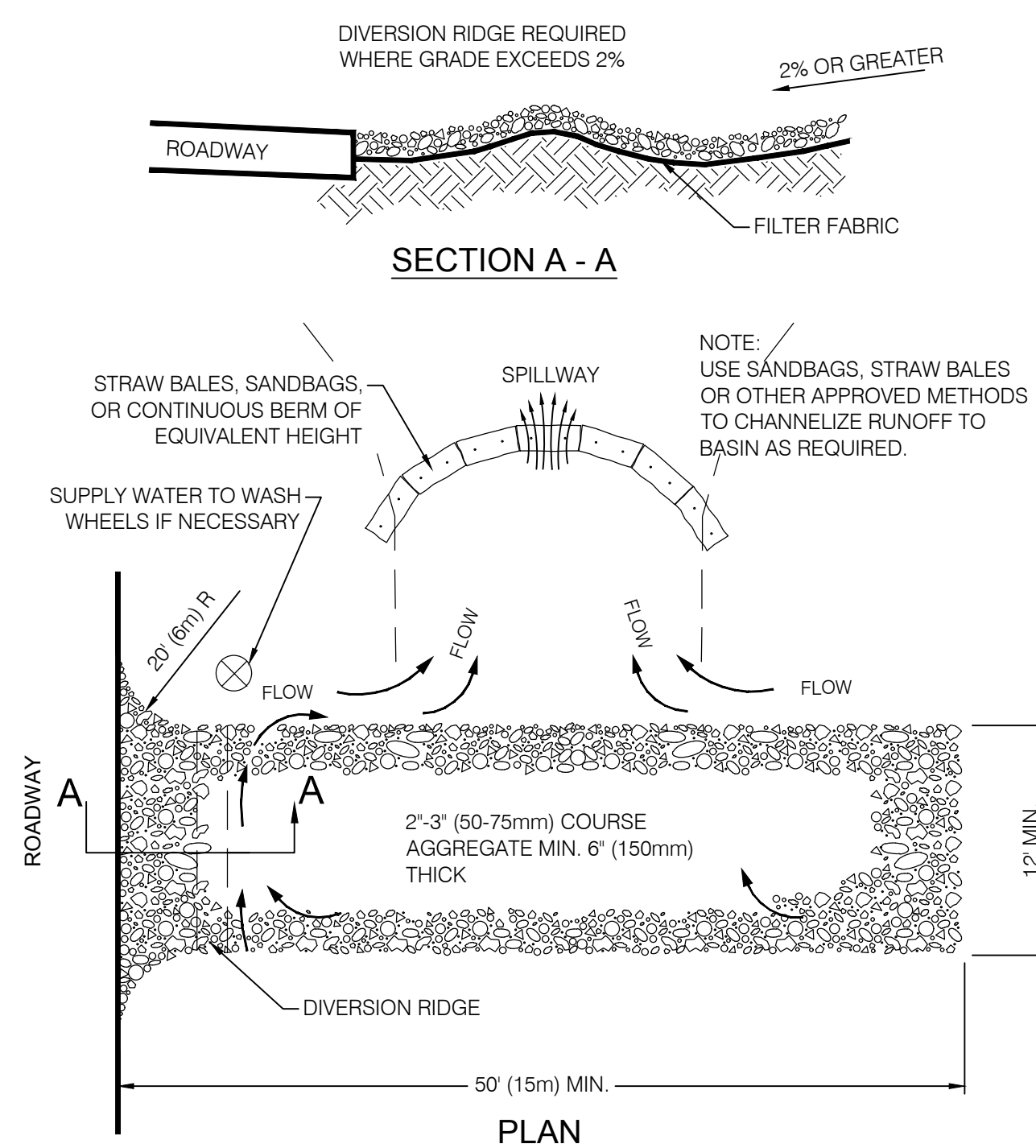


**NOTES:**

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

**SILT FENCE**  
SCALE: N.T.S.

6



**NOTES:**

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE / EXIT**  
SCALE: N.T.S.

7

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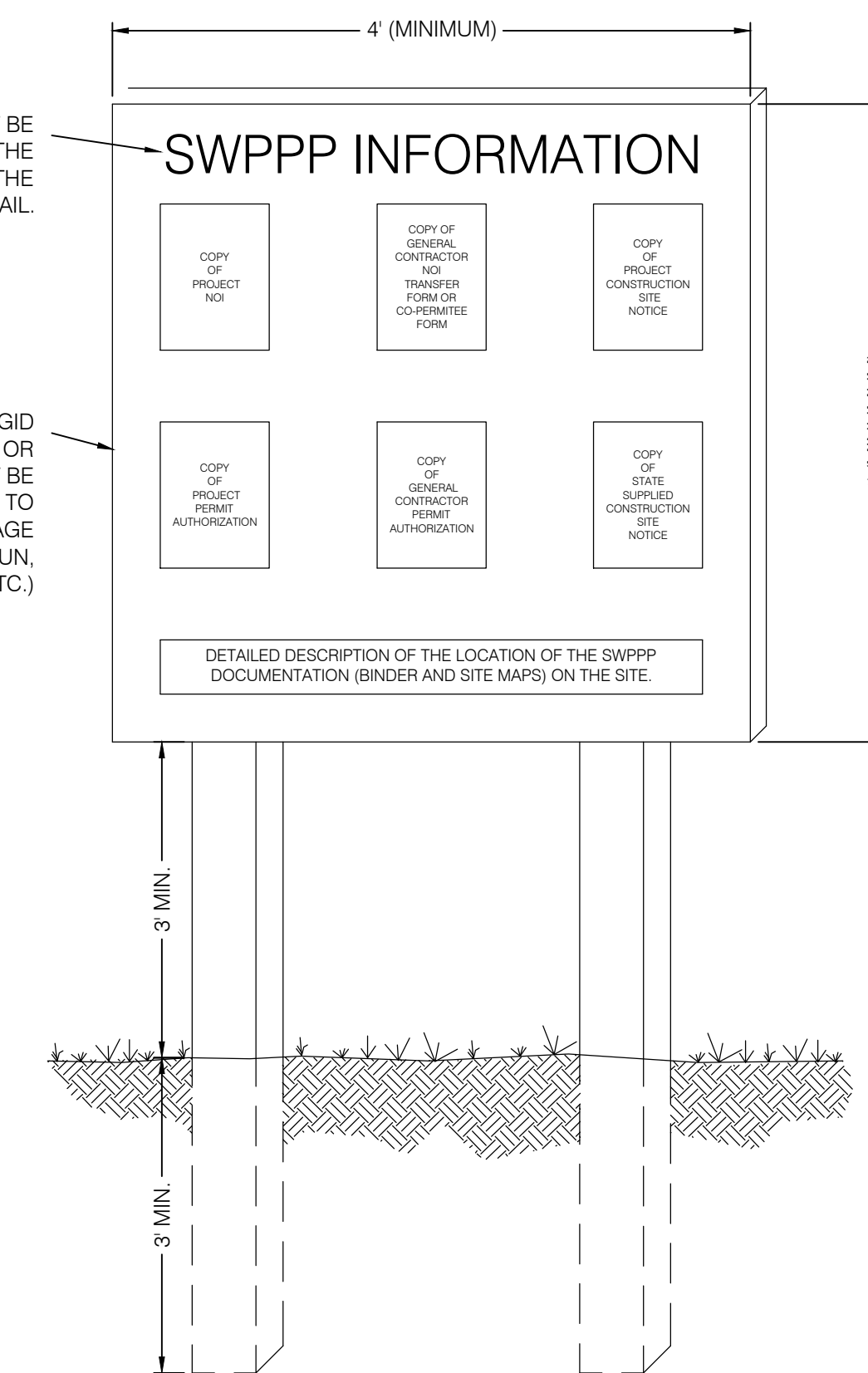
1-800-662-4111  
www.bluestakes.org

"SWPPP INFORMATION" MUST BE DISPLAYED PROMINENTLY ACROSS THE TOP OF THE SIGN, AS SHOWN IN THE DETAIL.

SIGN TO BE CONSTRUCTED OF A RIGID MATERIAL, SUCH AS PLYWOOD OR OUTDOOR SIGN BOARD. SIGN MUST BE CONSTRUCTED IN A MANNER TO PROTECT DOCUMENTS FROM DAMAGE DUE TO WEATHER (WIND, SUN, MOISTURE, ETC.)

**NOTES:**

- 1) THE SWPPP INFORMATION SIGN MUST BE LOCATED NEAR THE CONSTRUCTION EXIT OF THE SITE, SUCH THAT IT IS ACCESSIBLE AND VIEWABLE BY THE GENERAL PUBLIC, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A SAFETY HAZARD.
- 2) ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-TO-TERMINATION (NOT) IS FILED FOR THE PERMIT.
- 3) CONTRACTOR SHALL POST OTHER STORM WATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCY.
- 4) SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
- 5) CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY IF THE SWPPP INFORMATION SIGN.



**SWPPP INFORMATION SIGN**  
(NOT TO SCALE)

8

| NO. | DATE     | DESCRIPTION                 |
|-----|----------|-----------------------------|
| 1   | 10/31/17 | REVISED PER COUNTY COMMENTS |

DESIGNED BY: KVIS  
CHECKED BY: MCP  
SURVEY DATE: 8/28/2017  
DRAWN BY: JVS  
SCALE: MEASURED FROM FULL SIZE SHEETS  
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

PROFESSIONAL ENGINEER  
No. 10360773  
M. CHRIS POUlsen  
STATE OF UTAH

**BENCHMARK ENGINEERING & LAND SURVEYING**  
930 SOUTH STATE STREET SUITE # 100  
SANDY, UTAH 84070 (801) 542-7192  
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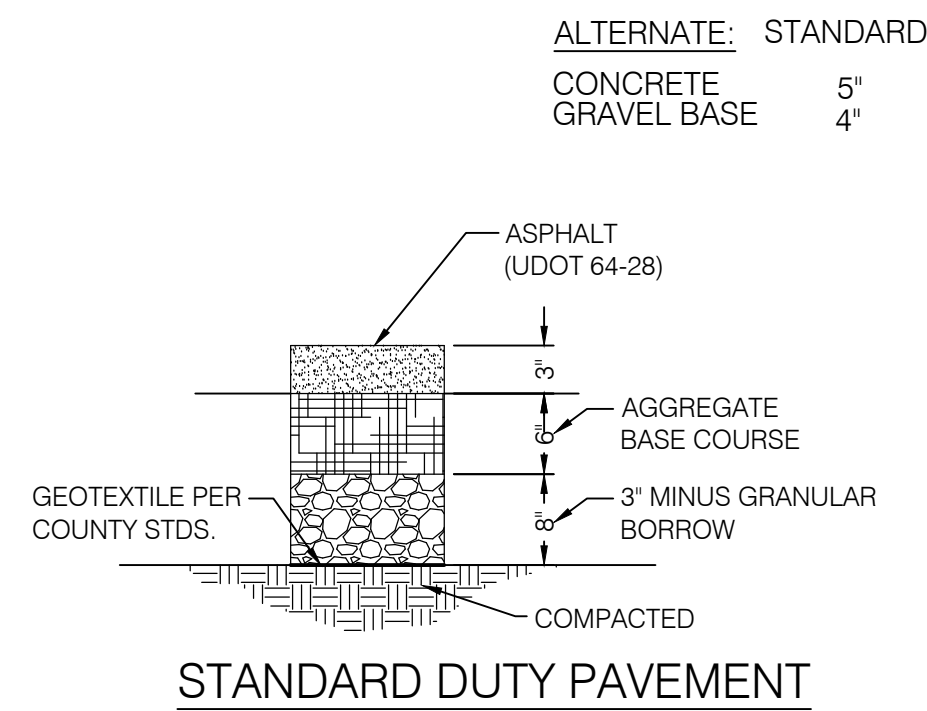
**BENCHMARK CIVIL**

WINSTON PARK  
3908 W 1800 S  
WEBER COUNTY, UTAH

PROJECT NO. 1607138

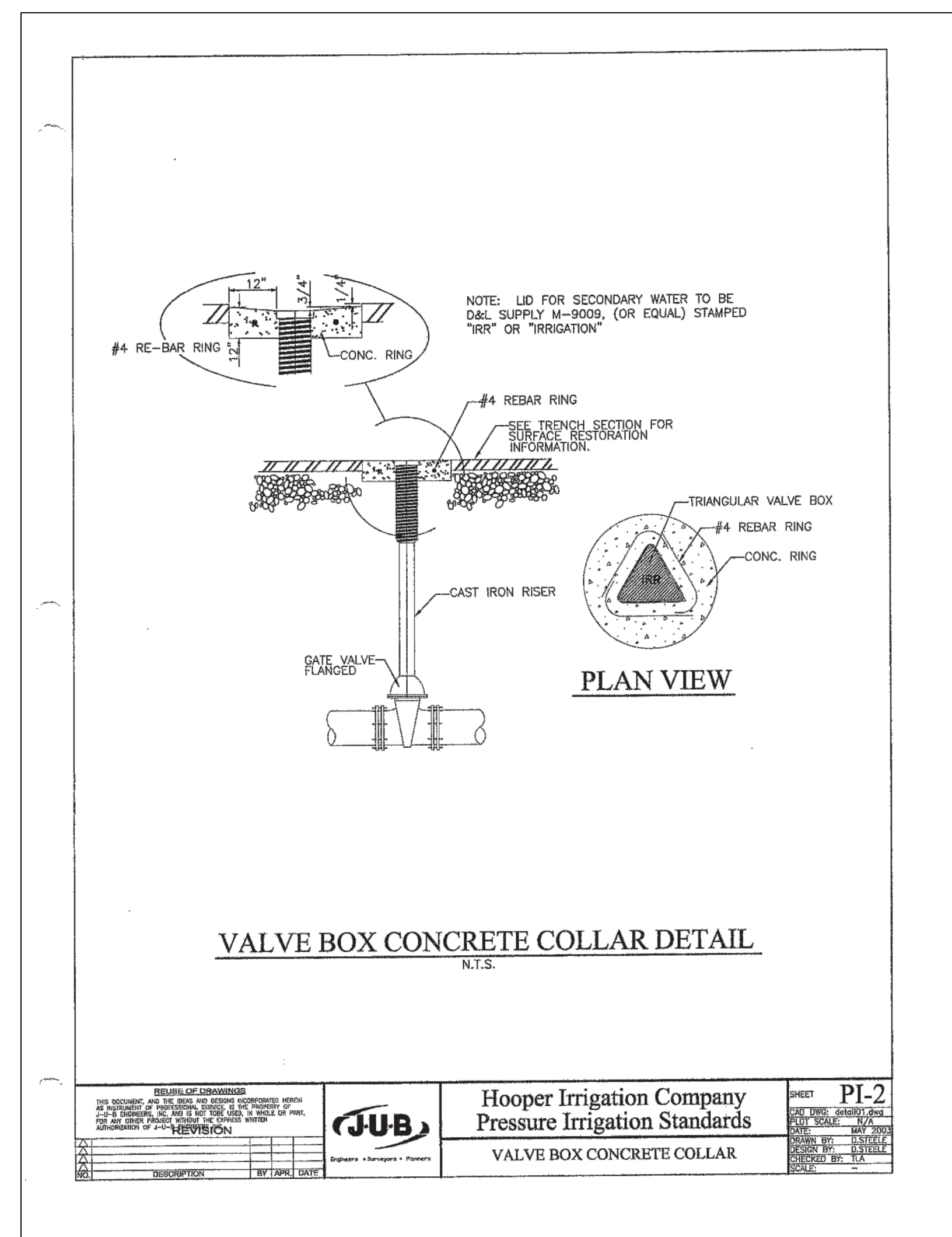
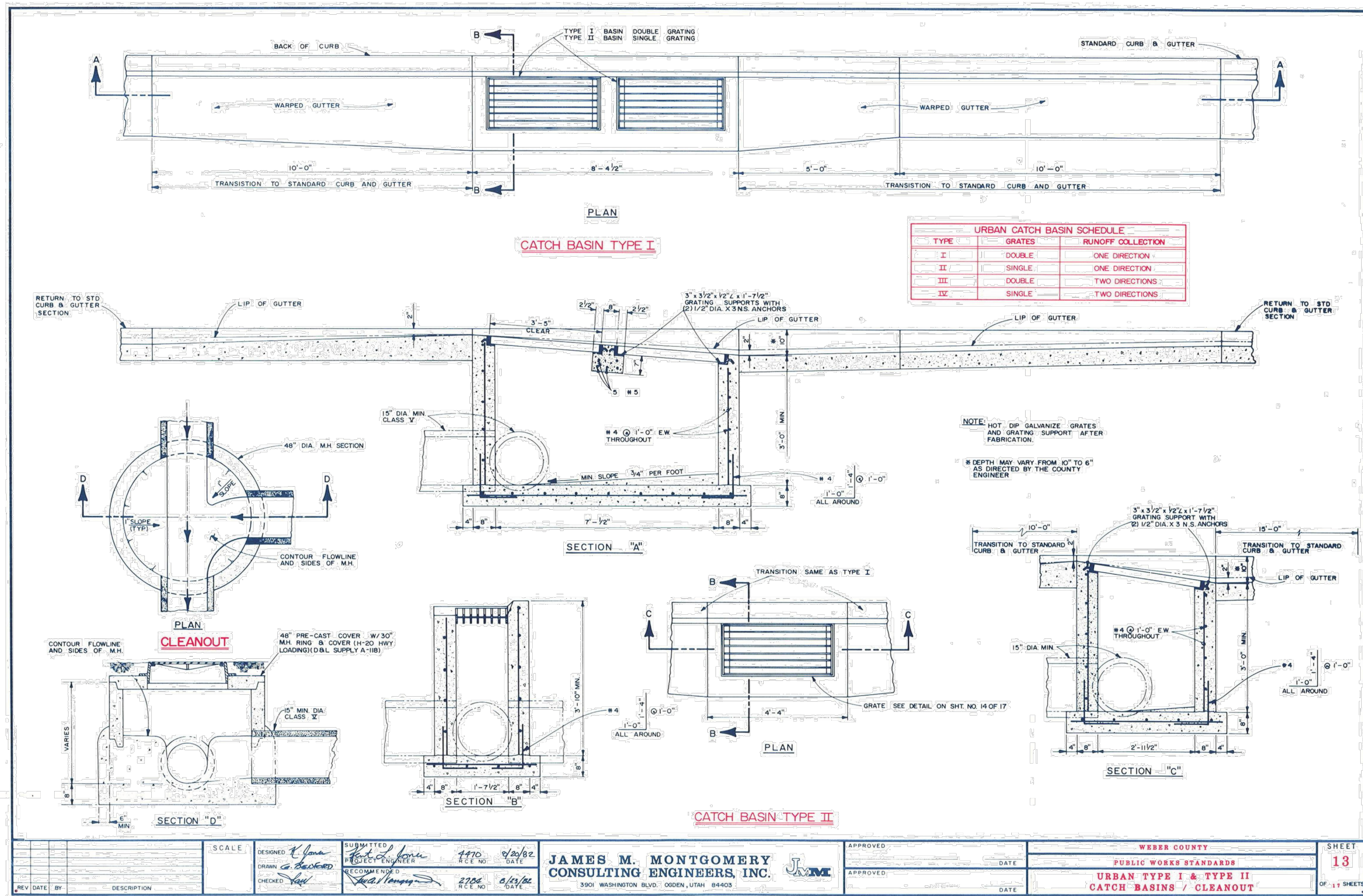
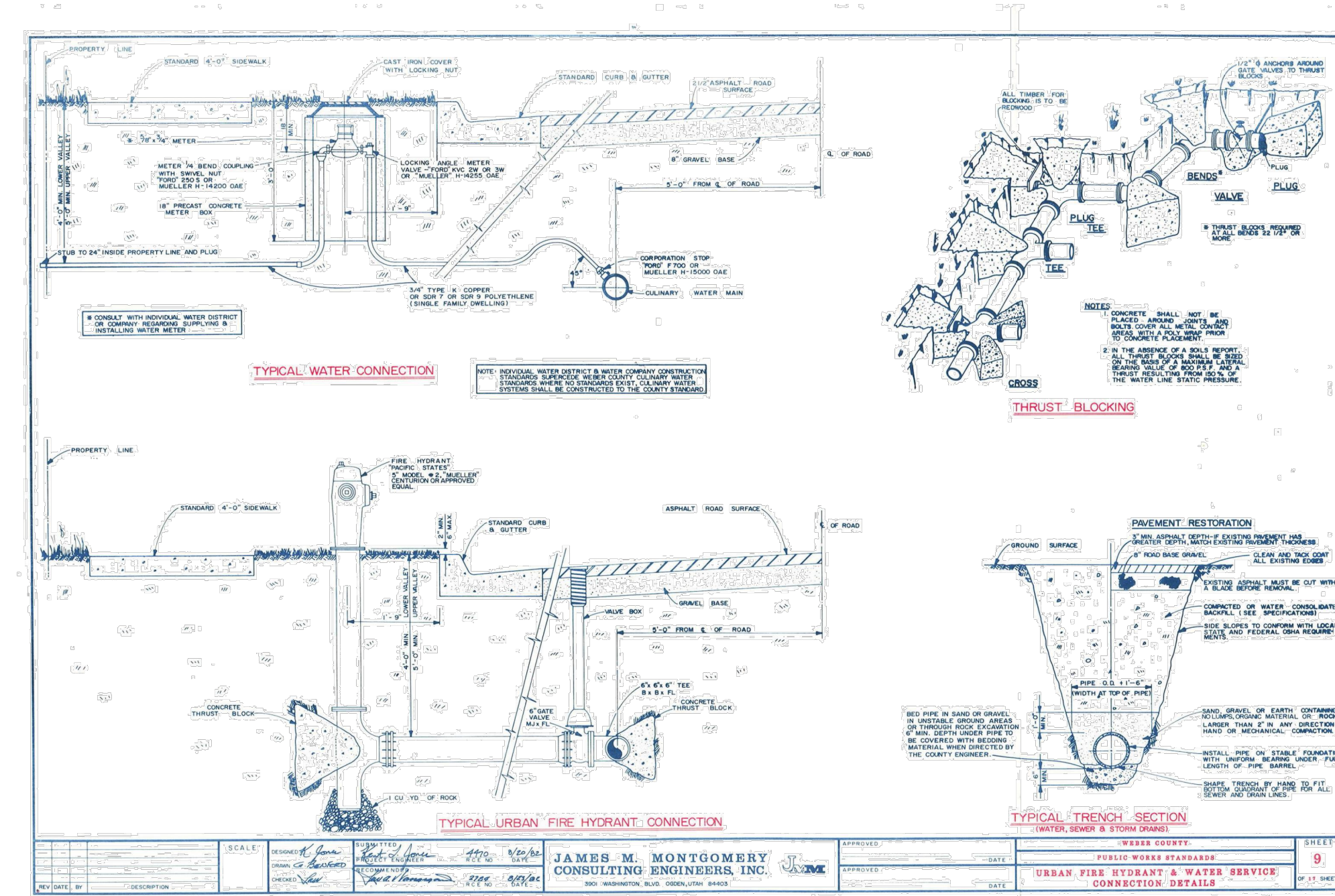
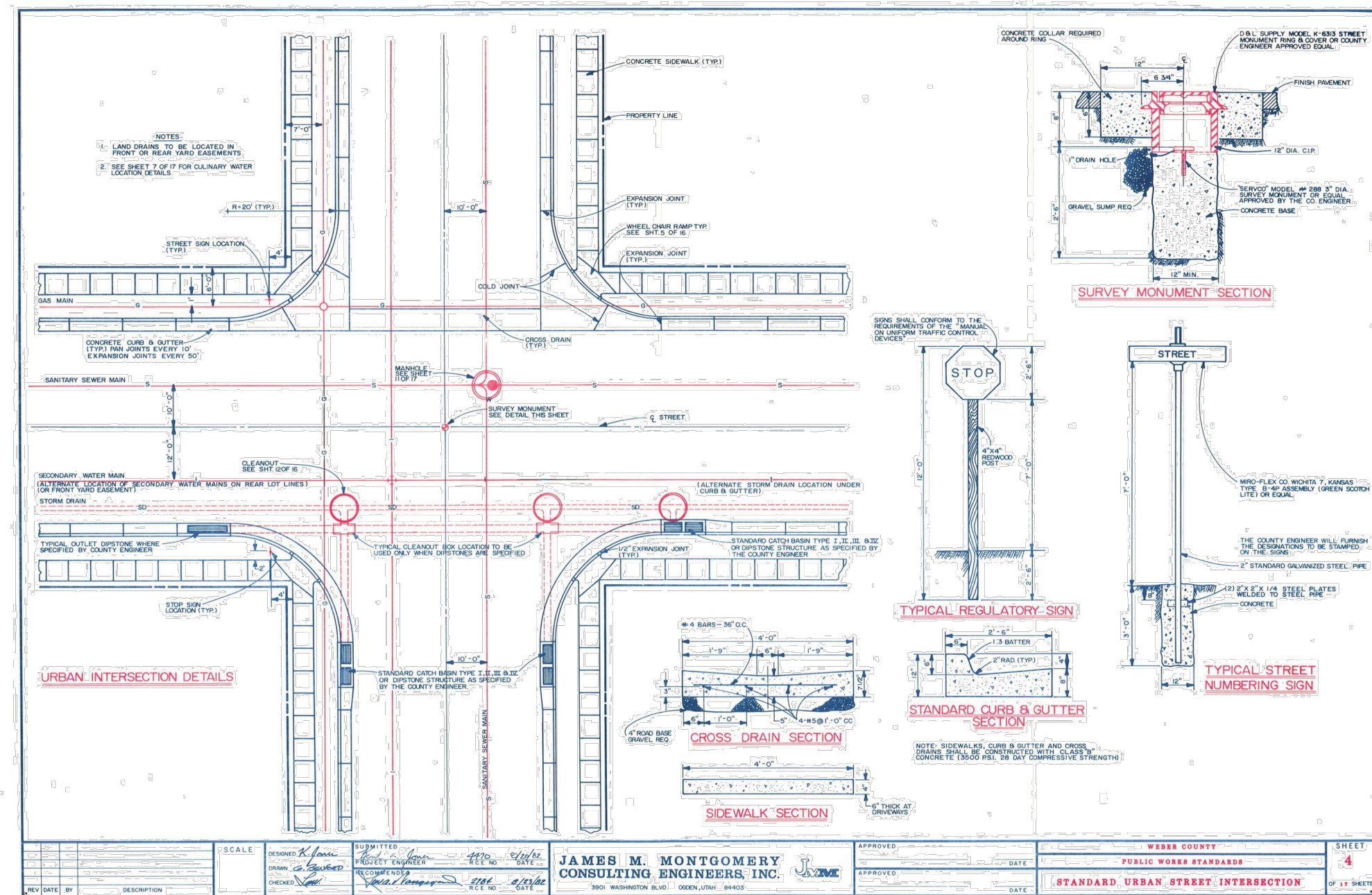
**EROSION CONTROL DETAILS**

CEP.02  
20 OF 24



- NOTE:  
 1. FOR REINFORCEMENT DESIGN OF PCC PAVEMENT SECTIONS SEE STRUCTURAL ENGINEER  
 2. FOR DOWEL DESIGN OF PCC PAVEMENT SECTIONS SEE GEOTECHNICAL ENGINEER  
 3. REFER TO GEOTECHNICAL REPORT #1160708 PREPARED BY AGE/C ON OCTOBER 12, 2016 FOR PAVEMENT DESIGN. DEFER TO GEOTECHNICAL REPORT OR COUNTY STANDARDS, WHICHEVER IS MORE CONSERVATIVE.  
 4. COMPACTION TESTING REQUIRED FOR BOTH ROAD BASE AND SUB BASE PER WEBER COUNTY STANDARDS.

**PAVEMENT SECTIONS** ①  
 SCALE: N.T.S.



PROFESSIONAL ENGINEER  
 No. 10360773  
 M. CHRIS PULSEN  
 STATE OF UTAH

PROJECT NO. 1607138  
 SHEET NO. 13 OF 17

**BENCHMARK ENGINEERING & LAND SURVEYING**  
 930 SOUTH STATE STREET SUITE #100  
 SANDY, UTAH 84070 (801) 542-7192  
 www.benchmarkcivil.com

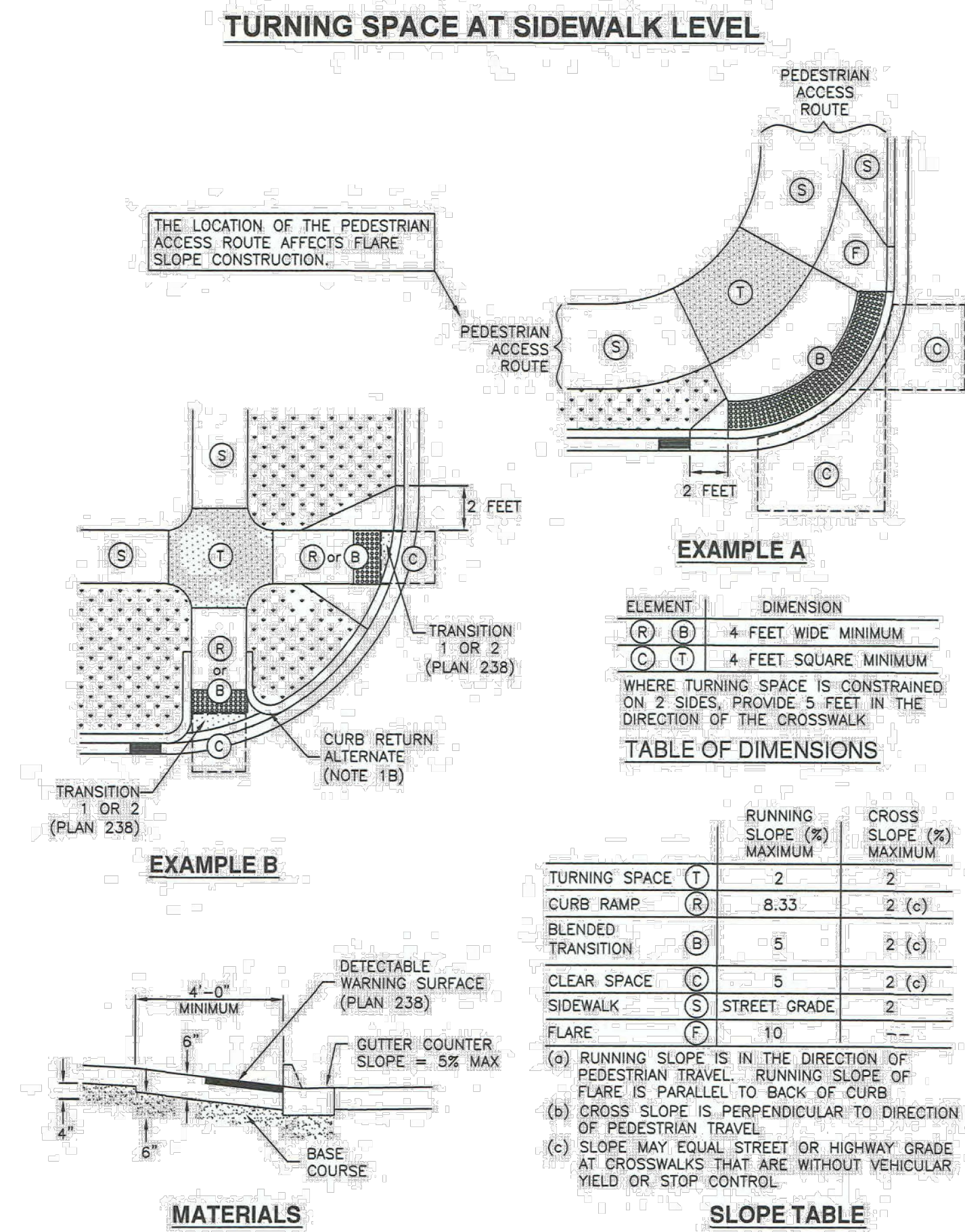
**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
 SHEET NO. 13 OF 17  
 DETAILS & NOTES  
 CDT.01  
 21 OF 24

**Corner curb cut assembly**

1. **GENERAL**
  - A. Where existing elements or spaces are altered to receive an assembly, slopes and dimensions shall comply with slopes and dimensions shown on the drawing, or to the maximum extent feasible permitted by the ENGINEER. Final configuration of the assembly may be different than shown. Where physical constraints (e.g. utility covers, poles, vaults, etc.) prevent compliance, a single diagonal curb cut assembly may serve both pedestrian street crossings.
  - B. Installation of flares or curb returns is ENGINEER's choice.
  - C. Definitions and supplemental requirements are specified in APWA Section 32 16 14.
2. **PRODUCTS**
  - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
  - C. Detectable Warning Surface: Paver, ribbed composite panel, or tile. Provide a color that contrasts with adjacent walking surface, either light-on-dark or dark-on-light. ENGINEER to select type and color unless indicated elsewhere.
  - D. Concrete: Class 4000, APWA Section 03 30 04.
  - E. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
3. **EXECUTION**
  - A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - B. Curb Modifications:
    - 1) The sloped surface created to accommodate a flare area shall be perpendicular to the back of curb.
    - 2) No grade break shall exist between the flow-line and the foot of the curb ramp or blended transition. Length of the curb modification abutting the curb ramp or transition is 4 feet minimum for each crosswalk served.
  - C. Curb Ramp: Length not required to exceed 15 feet. Grade breaks are perpendicular to the direction of ramp run and are not permitted on ramp or turning space surface. Sides are parallel to each other and perpendicular to the ends. At the bottom grade break it may be necessary to install a transition zone, (APWA Plan 236).
  - D. Concrete Placement: APWA Section 03 30 10.
    - 1) Maximum length to width ratio for rectangular panel joints is 1.5 to 1. Joint spacing measured in feet not to exceed twice slab thickness measured in inches or a maximum of 15 feet.
    - 2) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install contraction joints vertical, 1/8-inch wide, and 1/4 of the depth of the concrete flatwork.
    - 3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - E. Clear Space: No trip hazards in the clear space.

235.1



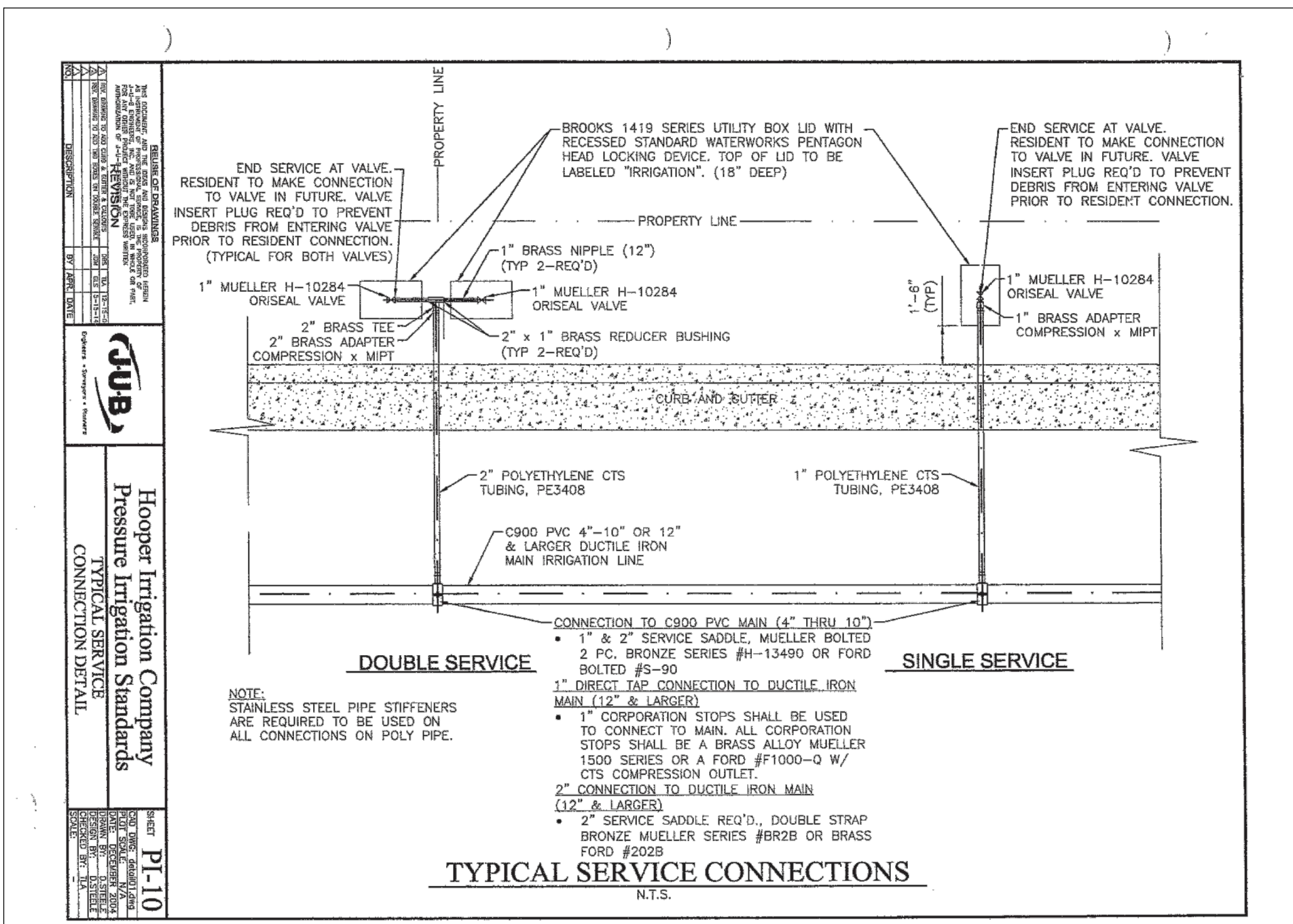
Corner curb cut assembly

Plan 235.1  
September 2011

**STANDARD ACCESS RAMP**

SCALE: N.T.S.

1



**SECONDARY ASSEMBLY**

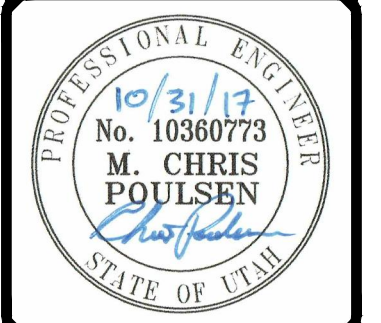
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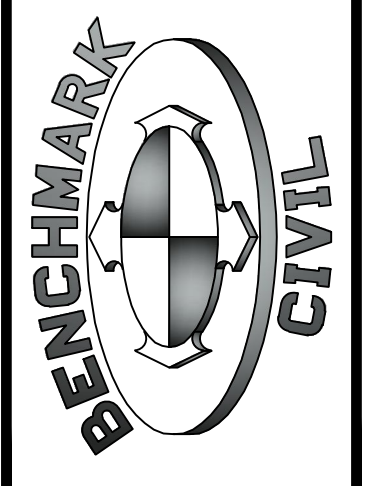
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|-----|----------|-----------------------------|
| NO. | DATE     | DESCRIPTION                 |
| 1   | 10/31/17 | REVISED PER COUNTY COMMENTS |

DESIGNED BY: KVIS  
CHECKED BY: MCP  
FIELD DRAWN: SURVEY  
DATE: 8/28/2017  
DWG FILE: 1607138.rvt

SCALE: MEASURED FROM FULL SIZE SHEETS  
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS



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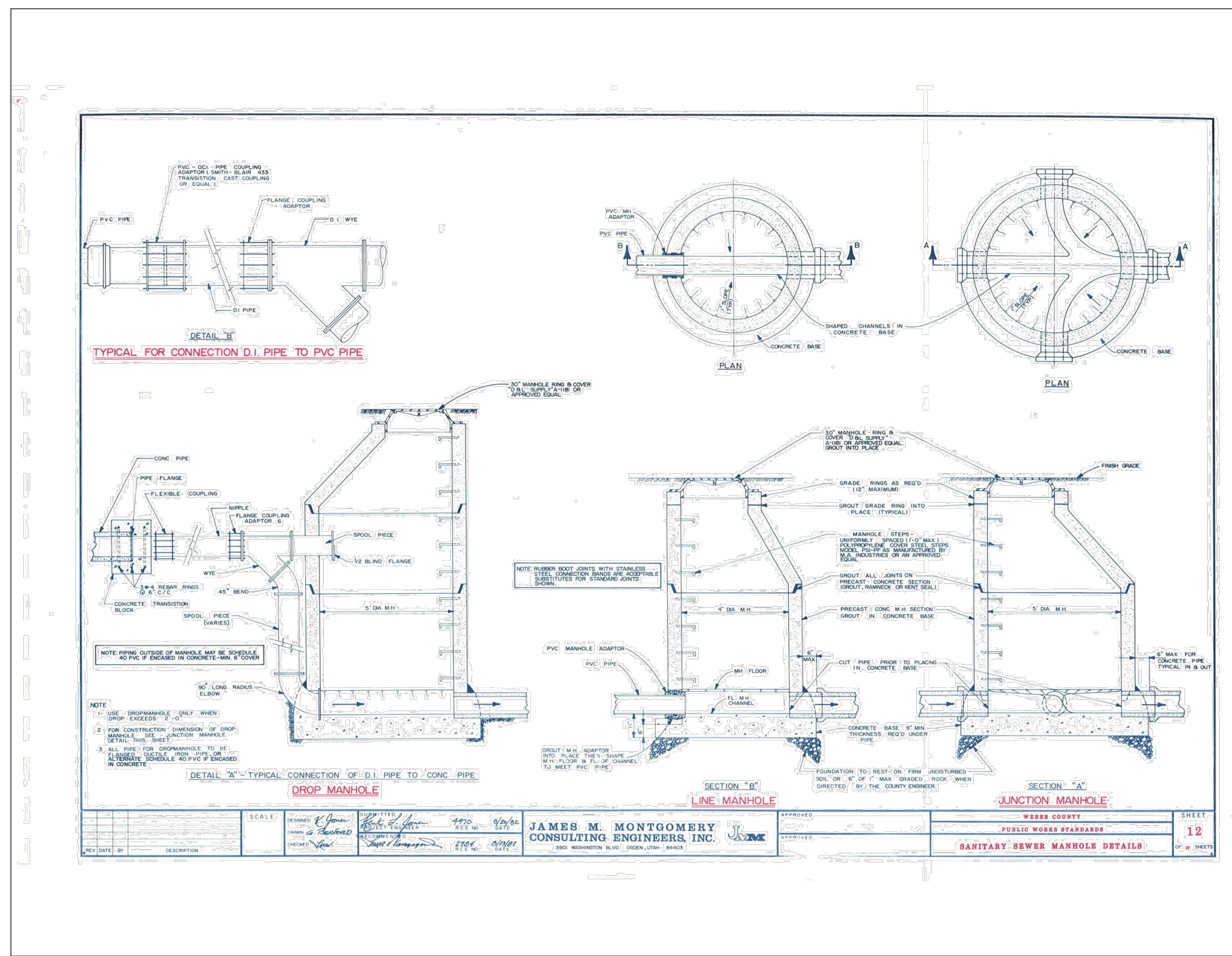


**WINSTON PARK**  
3908 W 1800 S  
WEBER COUNTY, UTAH

PROJECT NO. 1607138

**DETAILS & NOTES**

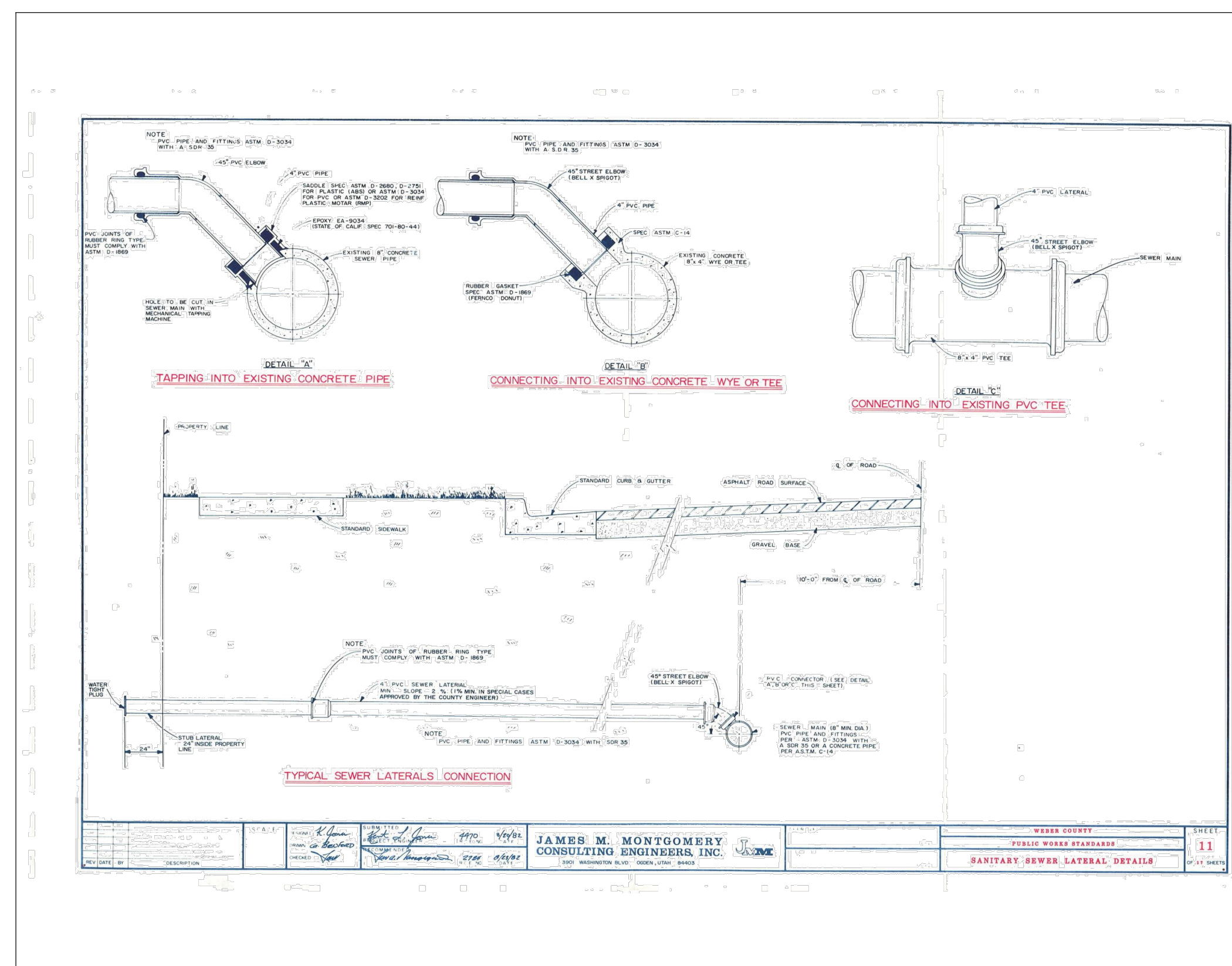
CDT.02  
22 OF 24



**SEWER MANHOLE**

SCALE: N.T.S.

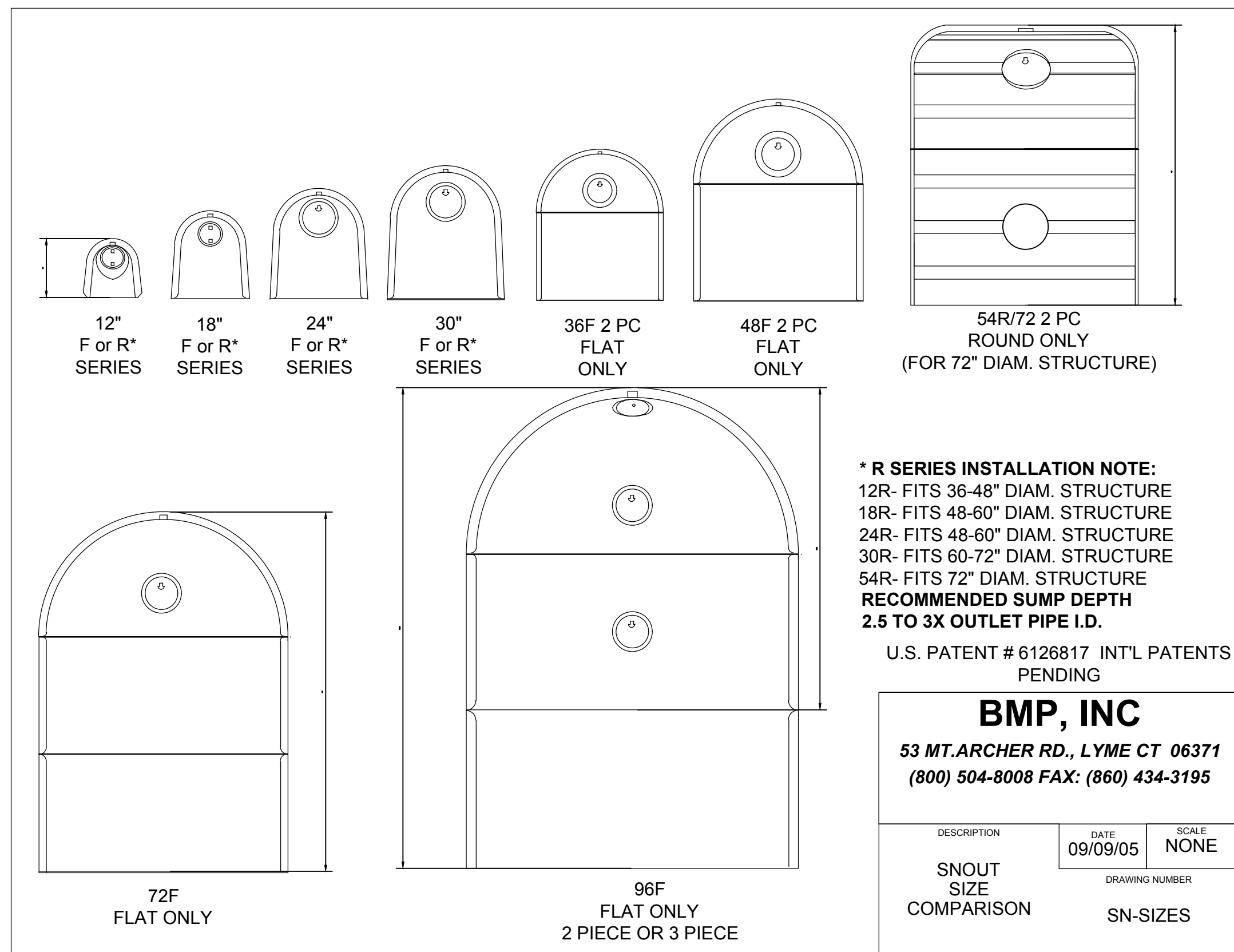
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**SEWER LATERAL CONNECTION**

SCALE: N.T.S.

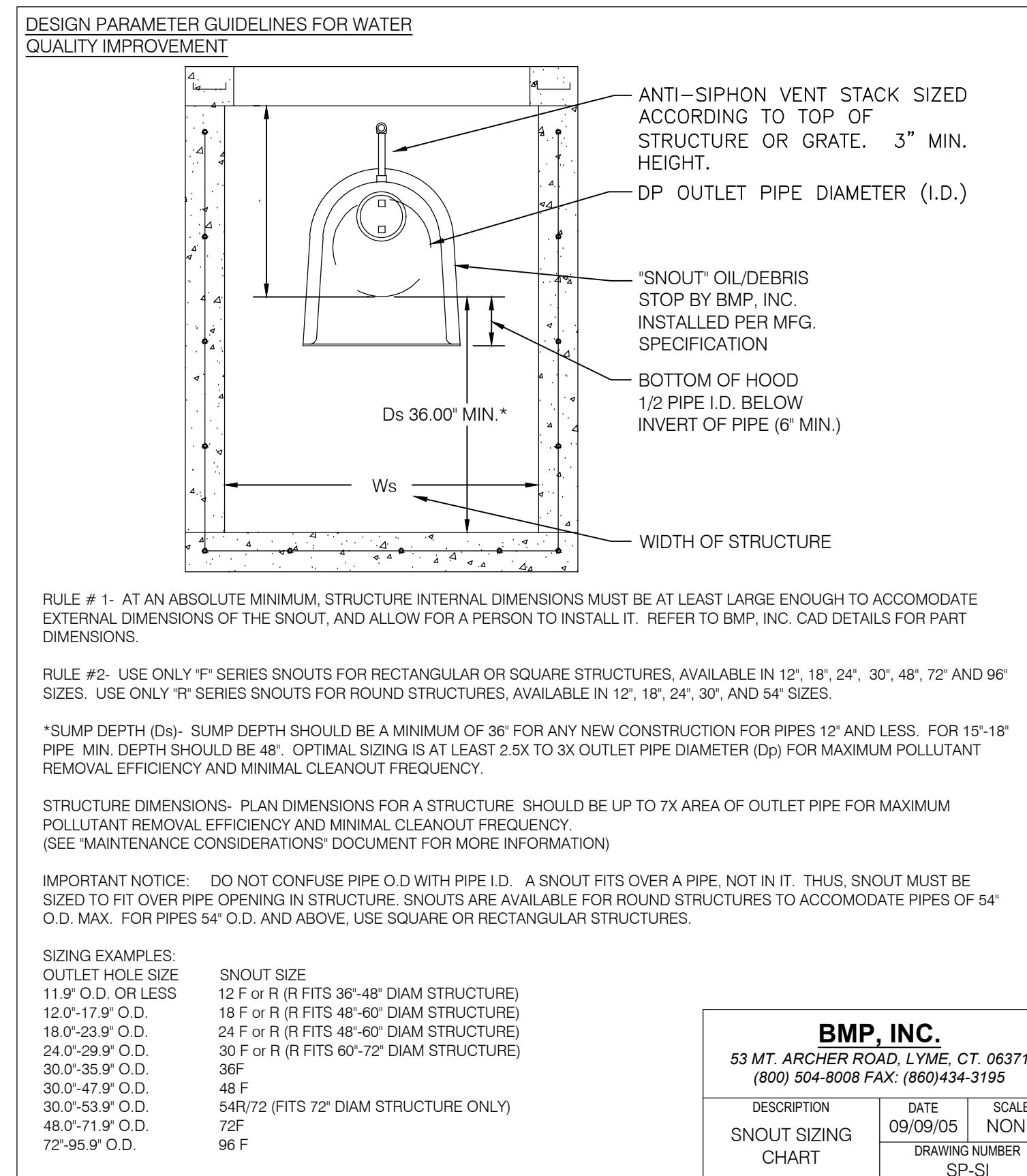
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**SNOUT DETAILS**

SCALE: N.T.S.

3



**DESIGN PARAMETER GUIDELINES FOR WATER QUALITY IMPROVEMENT**

RULE #1 - AT AN ABSOLUTE MINIMUM, STRUCTURE INTERNAL DIMENSIONS MUST BE AT LEAST LARGE ENOUGH TO ACCOMMODATE EXTERNAL DIMENSIONS OF THE SNOUT, AND ALLOW FOR A PERSON TO INSTALL IT. REFER TO BMP, INC. CAD DETAILS FOR PART DIMENSIONS.

RULE #2 - USE ONLY 'F' SERIES SNOUTS FOR RECTANGULAR OR SQUARE STRUCTURES, AVAILABLE IN 12", 18", 24", 30", 48", 72" AND 96" SIZES. USE ONLY 'R' SERIES SNOUTS FOR ROUND STRUCTURES, AVAILABLE IN 12", 18", 24", 30", AND 54" SIZES.

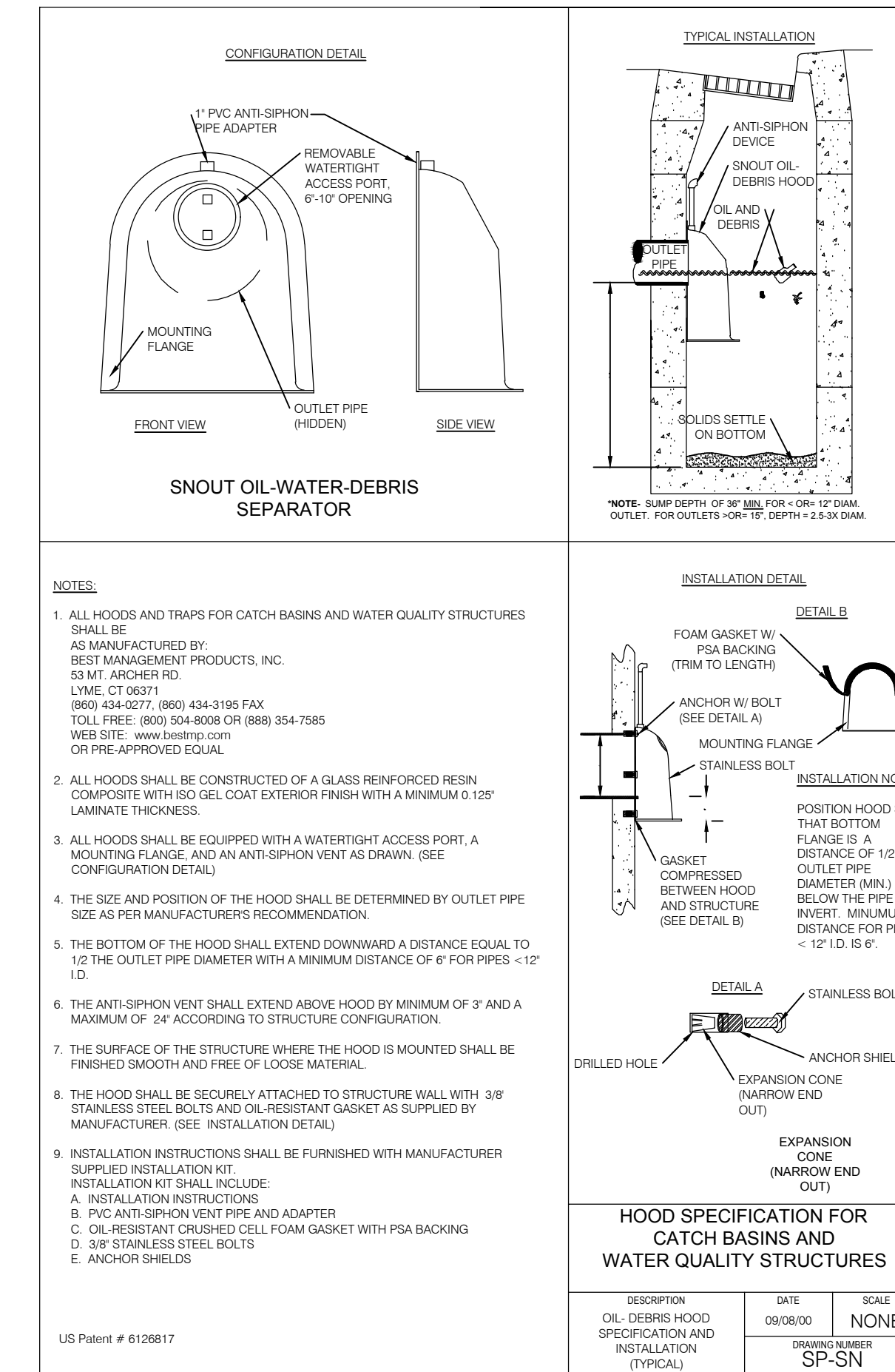
\*SNOUT DEPTH (D<sub>s</sub>) - SNOUT DEPTH SHOULD BE A MINIMUM OF 36" FOR ANY NEW CONSTRUCTION FOR PIPES 12" AND LESS. FOR 15"-18" PIPE, MIN. DEPTH SHOULD BE 48". OPTIMAL SIZING IS AT LEAST 2.5X TO 3X OUTLET PIPE DIAMETER (D<sub>p</sub>) FOR MAXIMUM POLLUTANT REMOVAL EFFICIENCY AND MINIMAL CLEANOUT FREQUENCY.

STRUCTURE DIMENSIONS - PLAN DIMENSIONS FOR A STRUCTURE SHOULD BE UP TO 7X AREA OF OUTLET PIPE FOR MAXIMUM POLLUTANT REMOVAL EFFICIENCY AND MINIMAL CLEANOUT FREQUENCY. (SEE "MAINTENANCE CONSIDERATIONS" DOCUMENT FOR MORE INFORMATION)

IMPORTANT NOTICE: DO NOT CONFUSE PIPE O.D. WITH PIPE I.D. A SNOUT FITS OVER A PIPE, NOT IN IT. THUS, SNOUT MUST BE SIZED TO FIT OVER PIPE OPENING IN STRUCTURE. SNOUTS ARE AVAILABLE FOR ROUND STRUCTURES TO ACCOMMODATE PIPES OF 54" O.D. MAX. FOR PIPES 54" O.D. AND ABOVE, USE SQUARE OR RECTANGULAR STRUCTURES.

| OUTLET HOLE SIZE   | SNOUT SIZE                                |
|--------------------|-------------------------------------------|
| 11.9" O.D. OR LESS | 12 F or R (R FITS 36"-48" DIAM STRUCTURE) |
| 12.0"-17.9" O.D.   | 18 F or R (R FITS 48"-60" DIAM STRUCTURE) |
| 18.0"-23.9" O.D.   | 24 F or R (R FITS 48"-60" DIAM STRUCTURE) |
| 24.0"-29.9" O.D.   | 30 F or R (R FITS 60"-72" DIAM STRUCTURE) |
| 30.0"-35.9" O.D.   | 36F                                       |
| 30.0"-47.9" O.D.   | 48 F                                      |
| 30.0"-53.9" O.D.   | 54R/72 (FITS 72" DIAM STRUCTURE ONLY)     |
| 48.0"-71.9" O.D.   | 72F                                       |
| 72"-95.9" O.D.     | 96 F                                      |

| BMP, INC.                           |                |       |
|-------------------------------------|----------------|-------|
| 53 MT. ARCHER ROAD, LYME, CT. 06371 |                |       |
| (800) 504-8008 FAX: (860) 434-3195  |                |       |
| DESCRIPTION                         | DATE           | SCALE |
| SNOUT SIZING CHART                  | 09/09/05       | NONE  |
|                                     | DRAWING NUMBER | SP-SI |



NOTES:  
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC. 53 MT. ARCHER RD. LYME, CT 06371 (800) 434-0277 (860) 434-3195 FAX TOLL FREE: (800) 504-8008 OR (860) 354-7555 WEB SITE: www.bestmp.com OR PPE-APPROVED EQUAL

2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO CELL EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.

3. ALL HOODS SHALL BE EQUIPPED WITH A WATER-TIGHT ACCESS PORT. A MOUNTING FLANGE AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)

4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.

5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES < 12" I.D. IS 6".

6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.

7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.

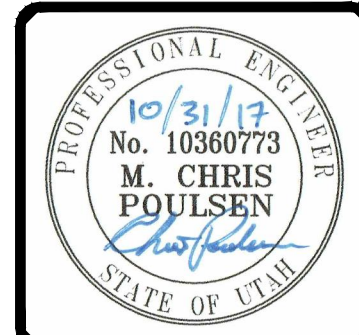
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)

9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT. INSTALLATION KIT SHALL INCLUDE:  
A. INSTALLATION INSTRUCTIONS  
B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER  
C. OIL-RESISTANT CRUSHED GELL FOAM GASKET WITH PSA BACKING  
D. 3/8" STAINLESS STEEL BOLTS  
E. ANCHOR SHIELDS

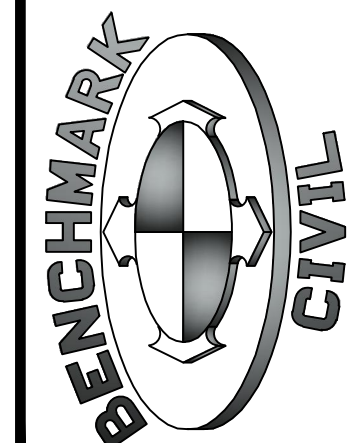
| DESCRIPTION                                                      | DATE           | SCALE |
|------------------------------------------------------------------|----------------|-------|
| HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES | 09/08/00       | NONE  |
|                                                                  | DRAWING NUMBER | SP-SN |

US Patent # 6126817

| NO. | DATE     | DESCRIPTION                 |
|-----|----------|-----------------------------|
| 1   | 10/31/17 | REVISED PER COUNTY COMMENTS |



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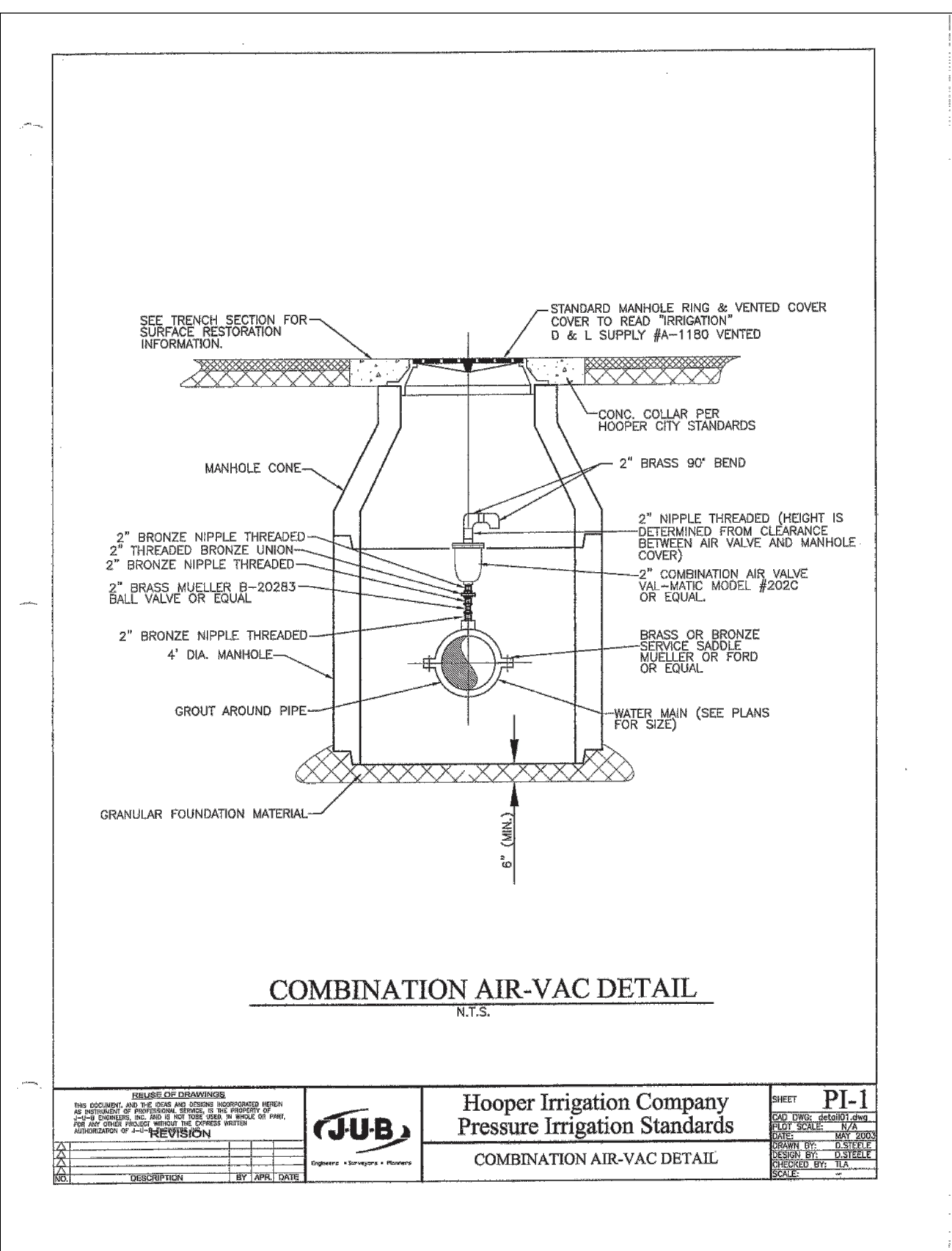


**WINSTON PARK**  
3908 W 1800 S  
WEBER COUNTY, UTAH

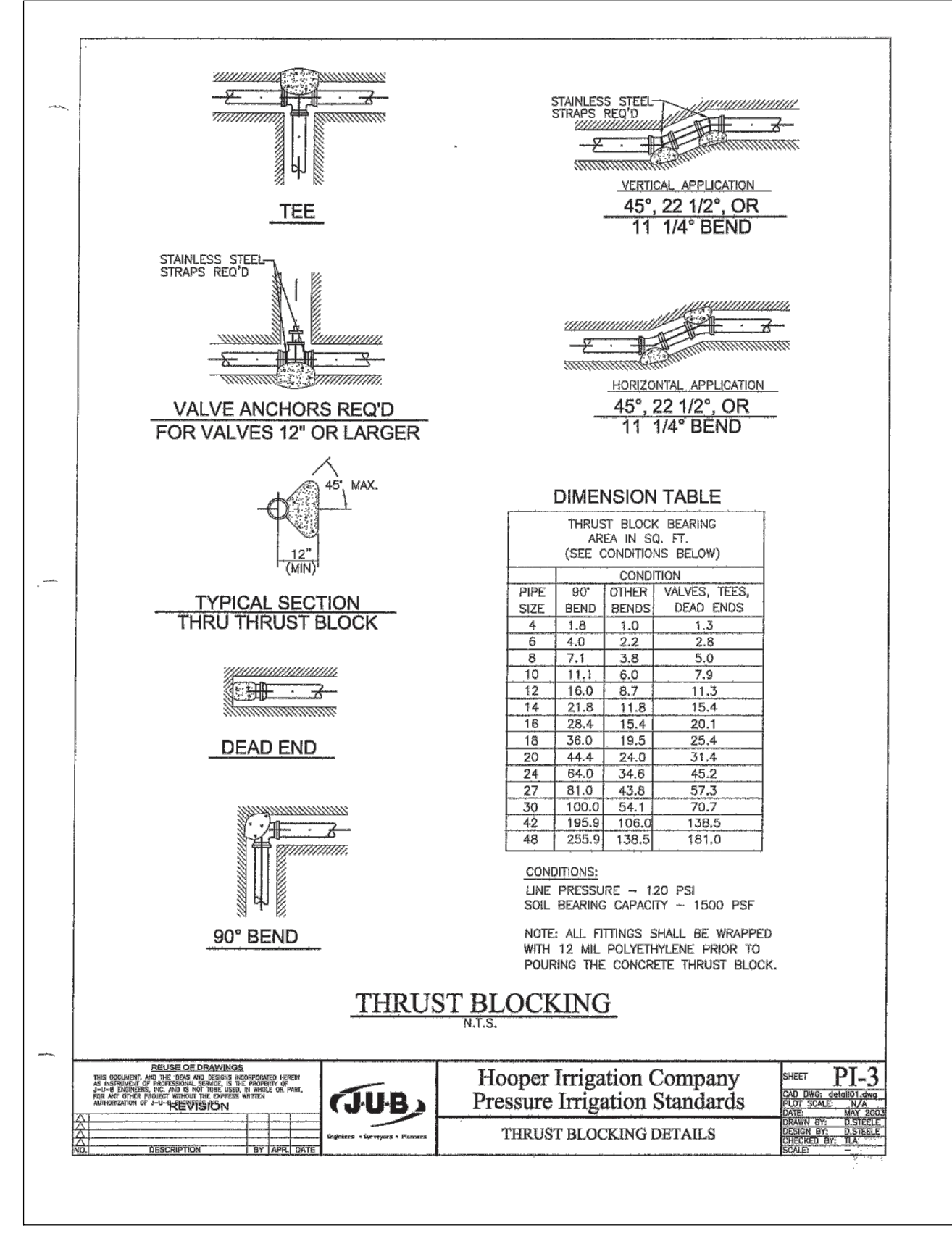
PROJECT NO. 1607138

**DETAILS & NOTES**

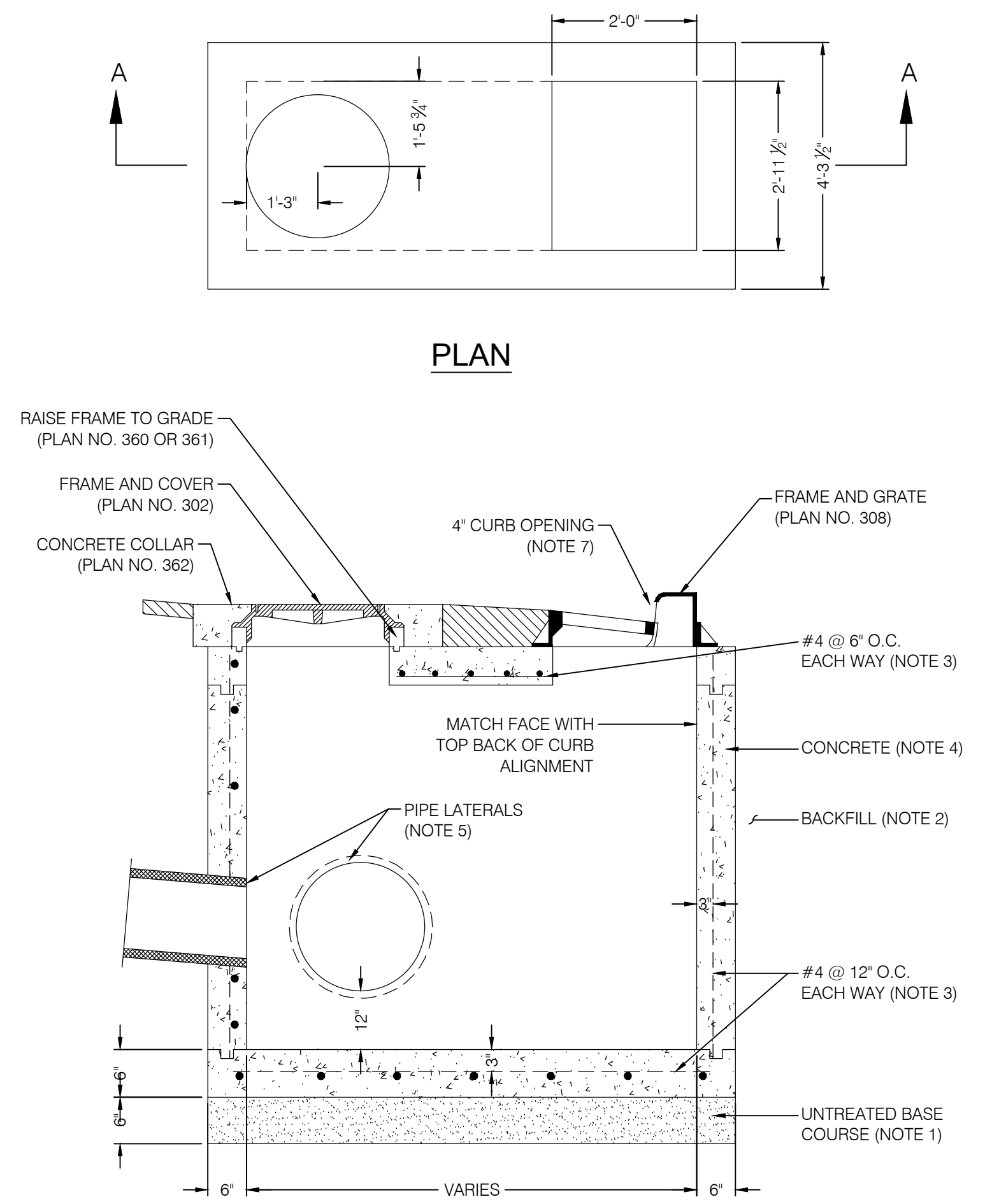
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23 OF 24



**COMBO AIR-VAC**  
SCALE: N.T.S.

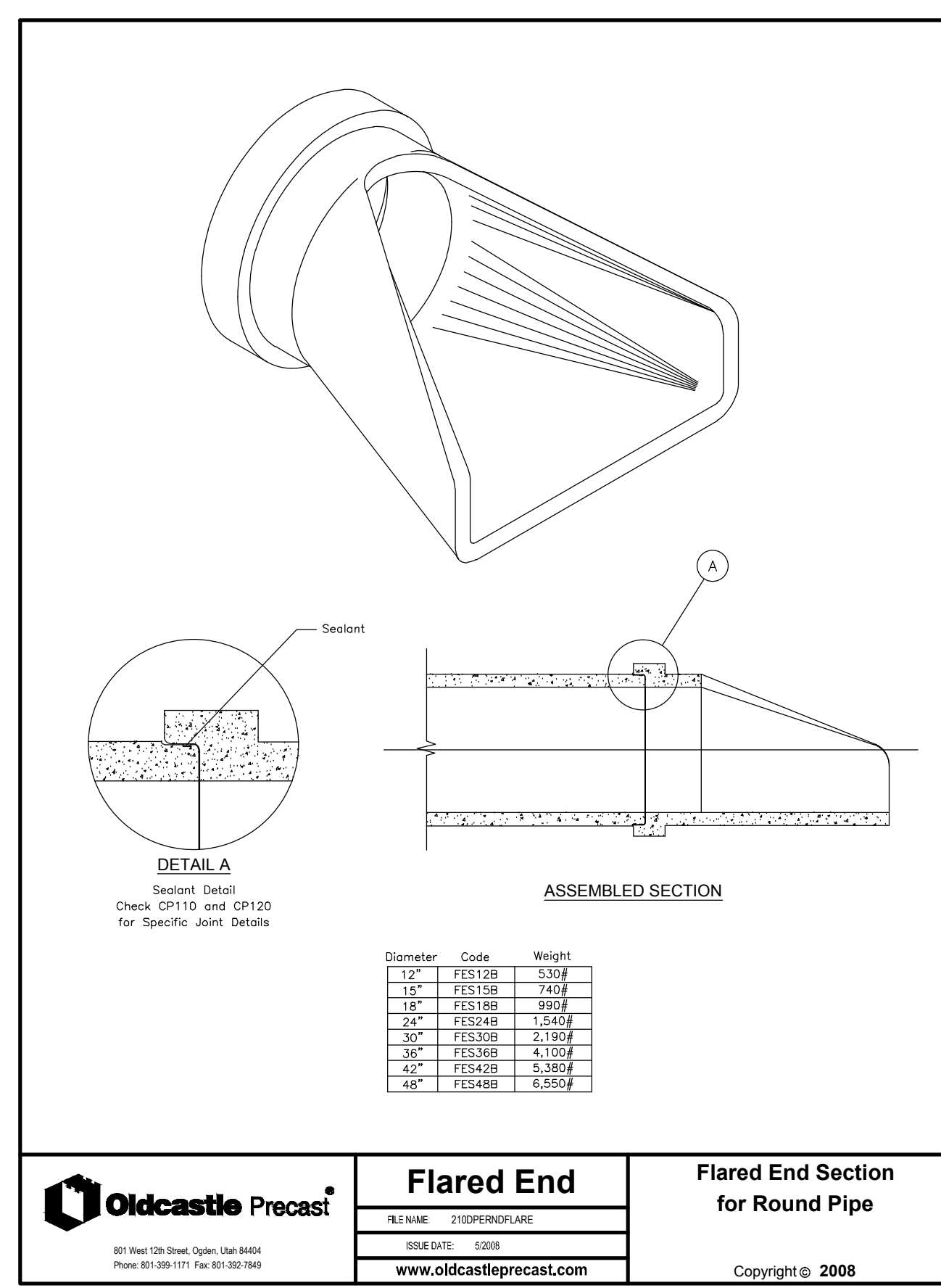


**HOOPER THRUST BLOCK**  
SCALE: N.T.S.

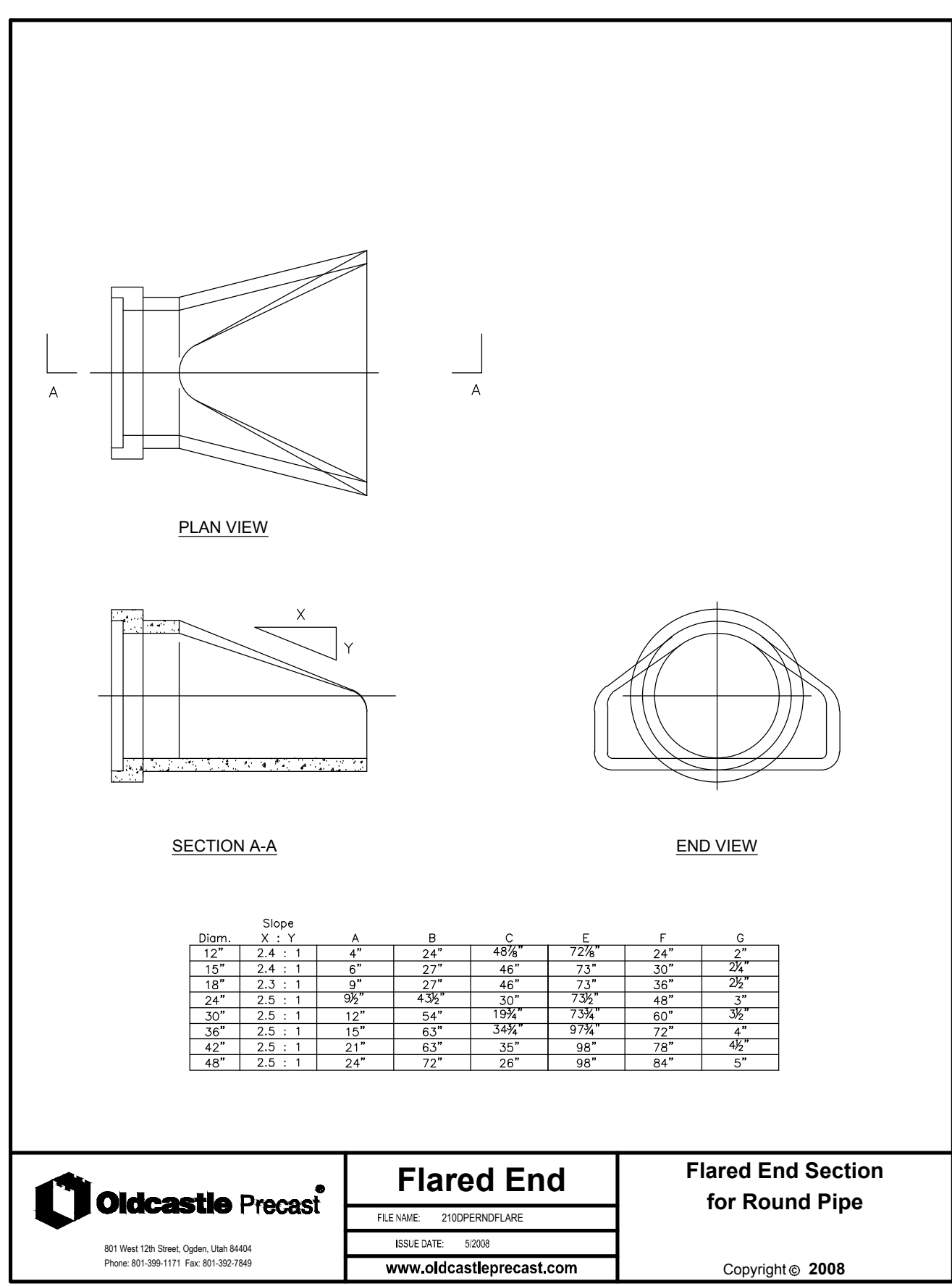


**COMBINATION INLET/CLEANOUT BOX**  
SCALE: N.T.S.

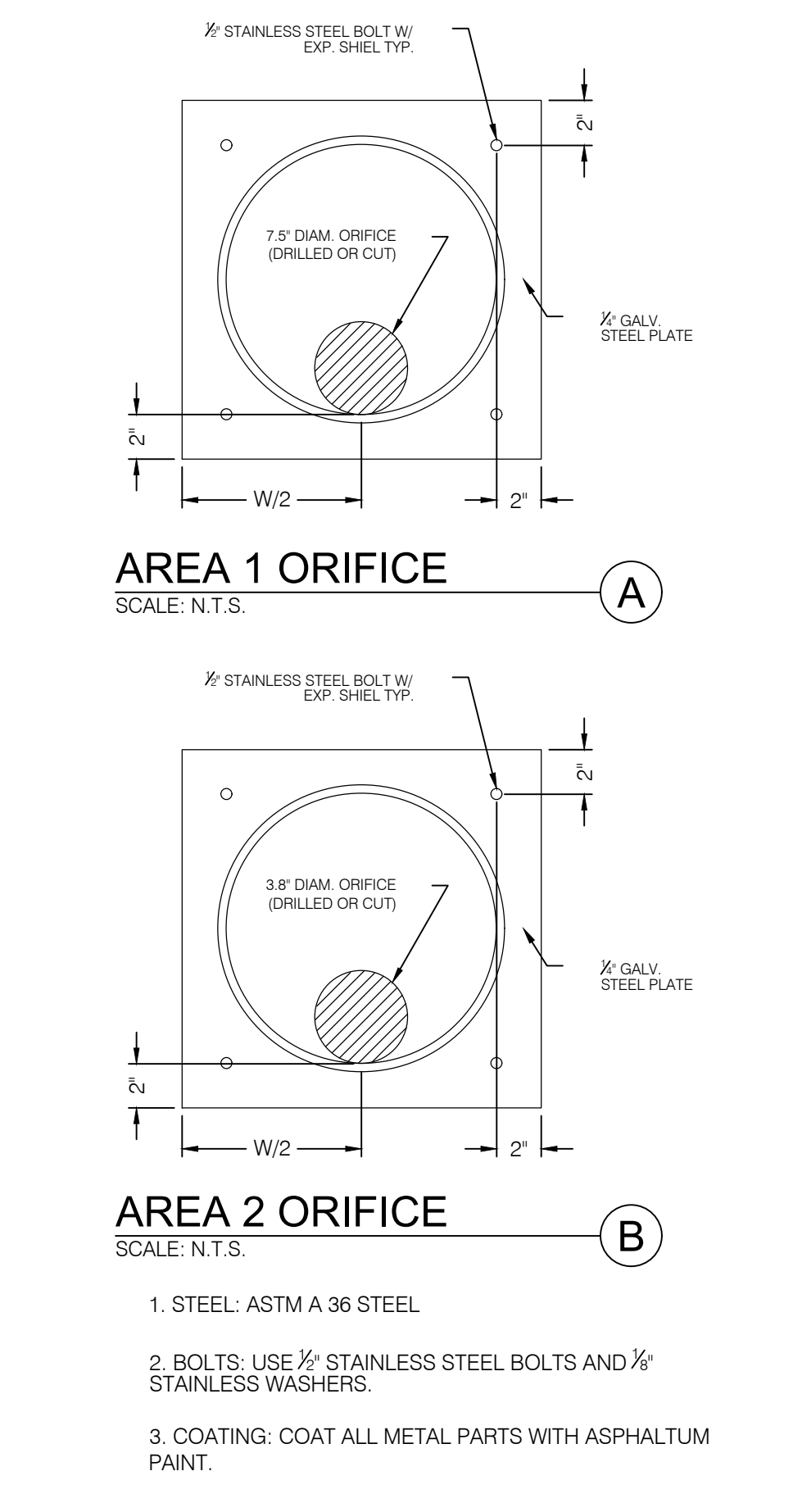
- UNTREATED BASE COURSE: PROVIDE MATERIAL SPECIFIED IN APWA SECTION 32 11 23.
  - DO NOT USE GRAVEL AS A SUBSTITUTE FOR UNTREATED BASE COURSE WITHOUT ENGINEER'S PERMISSION.
  - PLACE MATERIAL PER APWA SECTION 32 23 23.
  - COMPACT PER APWA SECTION 31 23 26 TO A MODIFIED PROCTOR DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS BEFORE COMPACTION IS 8 INCHES WHEN USING RIDING COMPACTION EQUIPMENT OR 6 INCHES WHEN USING HAND HELD COMPACTION EQUIPMENT.
- BACKFILL: PROVIDE AND PLACE PER APWA SECTION 31 23 23 ON ALL SIDES OF BASIN. COMPACT PER APWA SECTION 31 23 26 TO A MODIFIED PROCTOR DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS IS 8 INCHES BEFORE COMPACTION.
- REINFORCEMENT: ASTM A 615, GRADE 60, DEFORMED STEEL. SEE APWA SECTION 03 20 00 REQUIREMENTS.
- CONCRETE: CLASS 4000 PER APWA SECTION 03 30 04. PLACE CONCRETE PER APWA SECTION 03 30 10. CURE PER APWA SECTION 03 39 00.
- PIPE LATERALS: THE DRAWING SHOWS ALTERNATE CONNECTIONS TO THE CATCH BASIN. REFER TO CONSTRUCTION DRAWINGS FOR CONNECTION LOCATIONS.
- LADDER RUNGS: PROVIDE PLASTIC COATED STEEL LADDER RUNGS IN BOXES OVER 6 FEET DEEP. PLACE BOTTOM RUNG 6 INCHES ABOVE TOP OF PIPE.
- CURB FACE OPENING: MAKE OPENING AT LEAST 4 INCHES HIGH. PROVIDE AT LEAST A 2 INCH DROP FROM THE CONCRETE GUTTER FLOW-LINE TO THE TOP OF THE GRATE AT THE CURB FACE OPENING.



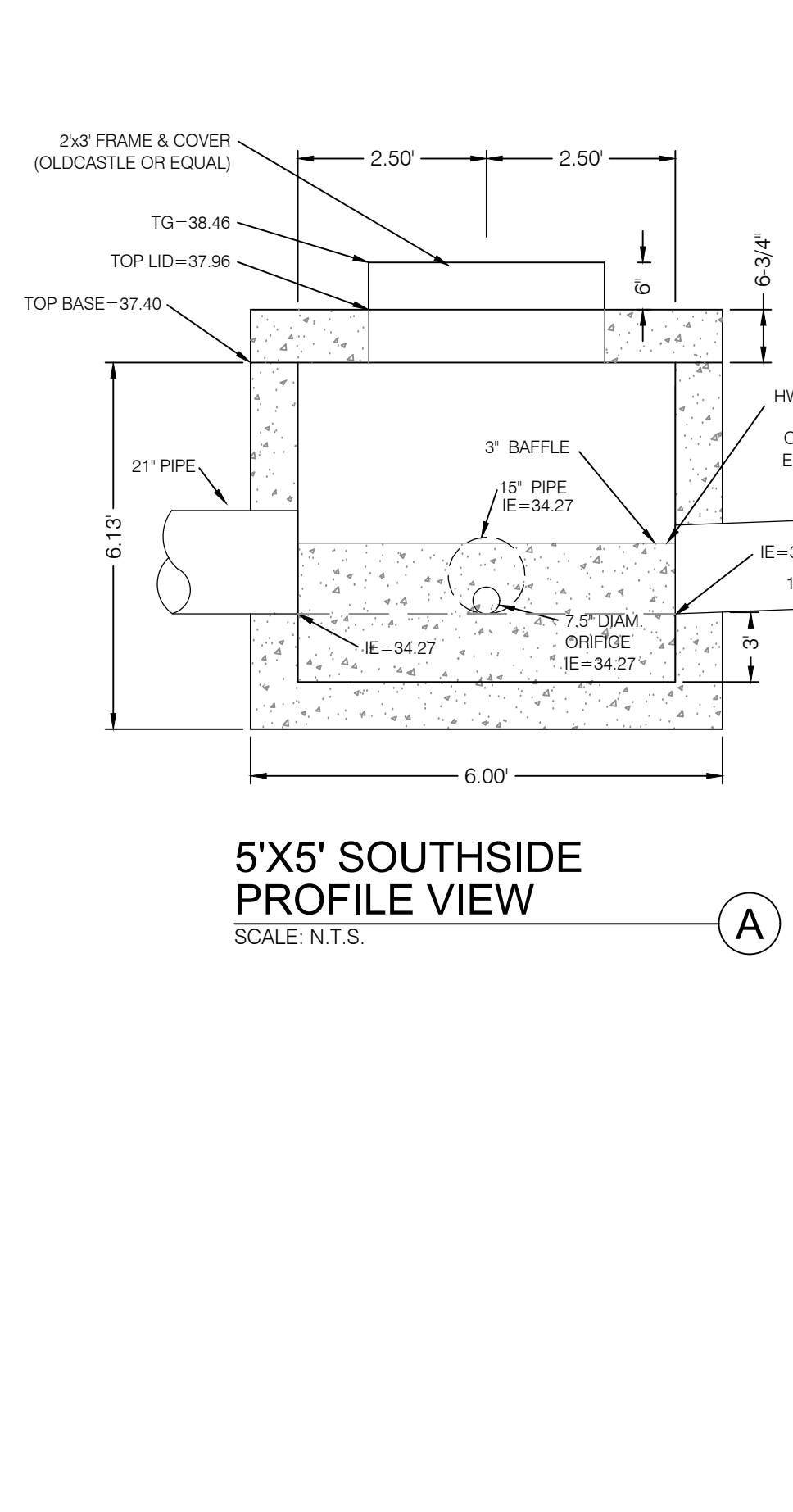
**FLARED END SECTION WITH TRASH GATE**  
SCALE: N.T.S.



**FLARED END SECTION for Round Pipe**  
SCALE: N.T.S.



**ORIFICE RESTRICTOR**  
SCALE: N.T.S.



**CATCH BASIN WITH BAFFLE**  
SCALE: N.T.S.

PROJECT NO. 1607138

WINSTON PARK  
3908 W 1800 S  
WEBER COUNTY, UTAH

DETAILS & NOTES  
CDT.04  
24 OF 24

PROFESSIONAL ENGINEER  
No. 10360773  
M. CHRIS PULSEN  
STATE OF UTAH

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SANDY, UTAH 84070 (801) 542-7192  
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DESIGNED BY: KVIS  
CHECKED BY: MCP  
DATE: 8/28/2017  
SCALE: MEASURES SHOWN ON FULL SIZE SHEETS  
ASST. ACCORDING TO PREVIOUS SHEETS