Run-A-Muk Trailhead Addition and Improvements

Request For Proposal

2024

Submittals Required By: Tuesday, 4/21/2024, 5:00PM (MST)

Send to:

Alex Bedrosian- Project Planning Supervisor
ABEDROSIAN@BASINRECREATION.ORG
(435) 649-1564 Ext-127

Summary: The Snyderville Basin Special Recreation District (The District) is inviting interested parties to submit proposals for a contract to install a new 30-space parking lot and vault toilets at our Run-A-Muk and RTS locations.

Item#	Spec#	Quantity	Quantity Type	Description	Unit Bid Price	Total Amount
1	1501	1	Lump	Mobilization		
2	01554 M	2	Lump	Traffic Control		
3	2316	1200	Sq Yrd	Grub & Export Excavation		
4	2221	365	Ln Ft	Installation of provided fencing		
5	2056	375	Sq Ft	Granular Borrow		
6	02741S	340	Tons	HMA(1/2" max.) (PG 58-28)		
7	2721	550	Tons	Untreated Base Course		
8	2765	45	Gallons	Parking Stall Striping		
9	02776 M	215	Ln Ft	Concrete Curb and Rolled Gutter (Type M1)		
10	02776 M	200	Ln Ft	Concrete Curb and Gutter		
11	02771 M	1	Each	Concrete ADA Pedestrian Ramp		
12	02776 M	1300	Sq ft	Concrete Sidewalk 4" Thick		
13	2610	2x - 60	Ln Ft	Construction Entrance With 18" HP Storm Dual Wall Pipe		
14	2613	4	Each	Metal End Section		
15	2373	2	Ton	4"-6" Rounded Stone		
16		235	Ln Ft	Bio Infiltration Swale		
17	2891	5	Each	Traffic Sign		
18		2	Each	Transportation & Installation of 2 Vault Toilets (3.8mi Distance)		
19		590	Cu Ft	590 CuFt Detention Pond		
20		13000	Cu Ft	Import, place, and compact ¾" road base, 2300ft L x 4ft Wide trail X 4" depth		
TOTAL						

- Provide all testing necessary to ensure all minimum compaction standards are met as dictated by Summit County, please utilize this link for the necessary documentation. "https://summitcounty.org/DocumentCenter/View/6656/APPENDIX-sorted-5-26-17?bidId=

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The following information must be given: (mark N/A if not applicable)

Company: _____

President _____

Secretary _____

Treasurer _____

Utah Contractor's License No:

_____

Name: _____
(Please Print)

By: _____
(Signature)

Address: _____

_____

Phone: _____

Contact Person: _____
(Please Print)

Contact Phone No: _____

Contact Email: _____

Measurement And Payment

The Local Agency will measure and pay for each bid item as detailed in this section. Payment is contingent upon acceptance by the Local Agency.

Items are listed by Specification and in the table as follows:

Item #	Specification #	Bid Item Name	Unit of Measurement & Payment
A,B,C	Supplemental Information.		

1	1501	Mobilization	Lump Sum
	A. Measured by lump sum (lump).		
	B. Payment covers cost of mobilization, demobilization, installation of temporary facilities.		
	C. Payment will be made on a percentage basis as follows.		

Percent of Original Contract Amount	Percent of Amount Bid for Mobilization to be Paid
5	40
15	20
40	30
50	10

2	01554M	Traffic Control	Lump
	Traffic Control all costs incidental to traffic control. TC includes the labor and material required to perform the duties and responsibilities as specified by 2017 Utah Department of Transportation Standard Specification for Road and Bridge Construction Section 01554.		
	Traffic Control plans and implementation for each phase of work shall provide and maintain sufficient detail to provide for the safe and efficient movement of traffic, pedestrians, and bicycles during construction.		

Percent of Original Contract Amount	Percent of Amount Bid for Traffic Control to be Paid
5	40
15	20
40	30
50	10

3	2316	Grub & Export Excavation	Cu Yd
	In Place. Payment includes all costs incidental to roadway excavation, removal of all items within proposed area including, but not limited to landscaping, tree roots and stumps, and topsoil. Includes the disposal of excavated material.		
	Excavation completed for CONTRACTOR'S benefit or excavation error is incidental work.		

4	2221	Installation of provided fencing	Ln Ft
	Measured by Linear foot.		
	Payment includes all costs incidental to installation of fence, and post foundations within right-of-way and materials and labor for backfilling and compacting any holes. Includes all costs incidental to temporary fencing placement, maintenance, and removal.		

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5	**2056**	**Granular Borrow**	**Cu. Yd**
	Measured by cubic yard (cu. Yd),		
	Payment includes all costs incidental to the placement of granular borrow in its final position including but not limited to labor, material, and equipment to provide, install, compact, and grade material as specified. Measurement shall be for material compacted in place.		

6	**02741S**	**HMA(1/2" Max) (PG58-28)**	**Ton**
	In Place. RAP shall not exceed 15%.		
	Quality Control Testing, aggregates, asphalt binder, hydrated lime, other additives, etc. are included in this specification.		
	Basin Rec. will not pay separately for tack coat asphalt binder, hydrated lime, other additives, etc.		
	The tack coat shall follow UDOT 2017 Spec. 02748.		
	The tack coat shall be applied, broken, and cured with near 100% coverage before paving commences.		
	Weigh Tickets shall be provided to the Engineer daily.		

7	**2721**	**Untreated Base Course**	**Ton**
	In Place. Payment includes all costs incidental to the placement of untreated base course in its final position including but not limited to labor, material, and equipment to provide, install, compact, and grade base course material as specified.		
	Weigh Tickets shall be provided to the Engineer daily.		

8	**2765**	**Parking Stall Striping**	**Gallon**
	In Place.		
	Apply pavement marking paint at 20-25 wet mils. Inspector must be present during application to verify wet mil thickness. Markings made without the inspector present, accidental or excess paint will not be paid for.		

9	**02776M**	**Concrete Curb and Rolled Gutter (Type M1)**	**Ln Ft**
	In Place. Any impacted landscaping or irrigation to be repaired as incidental to this item.		
	Payment includes all costs, materials, labor, and equipment incidental to placement of curb and gutter. Includes placement of 6 inches of untreated base course and compaction.		
	Includes the necessary excavation/fill, and any necessary hauling and disposal for correct placement of curb, gutter, untreated base course, and joints. Includes expansion joints, contraction joints, and plowable end section.		

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11	**02771M**	**Concrete ADA Pedestrian Ramp**	**Each**
	In Place. Any impacted landscaping or irrigation to be repaired as incidental to this item. This item includes up to 130 sq. ft. of concrete flatwork. All additional square footage to complete ramp will be covered under sidewalk item.		
	Ramp type will be specified on plans:		
	Detail for Blended Transition style Ramp 2017 UDOT Standards STD. DWG. NO. PA 1 and PA2 -Detail A-A		
	Directional Ramps shall be installed according to the 2017 UDOT Standards STD. DWG. NO. PA3 -Directional Perpendicular Corner Ramp Example E for Single Direction and Dual Perpendicular Corner Ramp Example B		
	Concrete Ramps shall have a 6" minimum thickness of road base and 6" minimum thickness of concrete.		
	Submit Detectable Warning Surface type and color to Engineer for approval prior to installation. Detectable warning surface must be Cast iron detectable warning plates - Durable cast iron, homogeneous integral color (UV stable), skid resistant panel. Use for new construction or retrofit construction.		

12	**02776M**	**Concrete Sidewalk 4" Thick**	**Sq Ft**
	In Place. Any impacted landscaping or irrigation to be repaired as incidental to this item.		
	Delete Article 3.4.C from the 2017 UDOT Specification		
	Payment includes all costs incidental to placement of 4-inch-thick concrete flatwork. Includes placement and compaction of 4 inches of untreated base course and any necessary excavation/fill, necessary hauling, and disposal for correct placement of concrete sidewalk and untreated base course.		

13	**2610**	**Construction Entrance With 18" HP Storm Dual Wall Pipe**	**Ln Ft**
	In Place.		
	Payment covers the cost of the size and type of the RCP indicated.		
	Payment covers includes excavation and bedding material in the pipe zone.		
	Payment covers the cost of incidental work such as fittings, couplings, joint lubrications, grout, jackhammer work, removal and disposal of waste materials, restoration of all utilities damaged because of operations, site dewatering, main repair or replacement if damaged by CONTRACTOR		
	Installation done without an inspector present will not be paid for.		
	Contractor shall provide cost alternate for HP Storm Dual Wall Pipe		

14	**2613**	**Metal End Section**	**Each**
	In Place.		
	Payment includes all incidental costs for delivery, preparation, placement, compaction, connecting to new pipe, and protection of existing utilities and all other work associated with this item		

15	**2373**	**4"-6" Rounded Stone**	**Each**
	In Place.		
	Payment includes all incidental costs for delivery, preparation, placement/installation.		

16		**Bio Infiltration Swell**	**Ln Ft**
	In Place.		

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17	**2891**	**Traffic Sign**	**Each**
	In Place. Measured per relocation of each sign. Payment includes all work incidental to installation of a sign to an existing post, including but not limited to		

18		**Transportation & Installation of 2 Vault Toilets (3.8mi Distance)**	**Each**
	In Place.		

19		**590 CuFt Detention Pond**	**Each**

20		**Import, place, and compact ¾" road base, 2300ft L x 4ft Wide trail X 4" depth**	**Each**

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GENERAL SPECIFICATIONS

The State of Utah Standard Specifications for Road and Bridge Construction, U.S. Standard Units (Inch-Pound Units), Edition of 2017 applies to this project as a static Specification Book as well as all other applicable specification changes.

Specifications can be viewed on the internet at www.udot.utah.gov (Doing Business-Standards and Specification.)

SPECIFICATION MODIFICATIONS AND SPECIAL PROVISIONS

Section	Description
00120S	Instructions To Bidders
00515M	Award and Execution of Contracts
00555M	Prosecution And Progress
00570M	Definitions
00820M	Legal Relations and Responsibility to Public
01282M	Payment

SECTION 00120S

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.1 PREQUALIFICATION OF BIDDERS

A. Bidders must have a bonafide Utah contractor's license and must present satisfactory evidence that they have been engaged in the business or are reasonably familiar therewith and that they are fully prepared with the necessary capital, materials, and machinery to complete the work to be contracted to the satisfaction of the District.

1.2 REQUEST FOR BIDDING DOCUMENTS

A. Proposal forms and specifications are on file in the office of Snyderville Basin Special Recreation District (the District) at 5715 Trailside Drive, Park City, Utah 84098, where they may be viewed- Telephone: (435) 649-1564. The Proposal Forms, Plans and Specifications must be downloaded from https://www.basinrecreation.org/about/district-information/procurement/ where they may be reviewed by prospective bidders.

1.3 JOINT VENTURE BIDDING

A. Prior to submitting a joint proposal on a single project, submit a letter of intent to the District at least 5 working days before the bid opening.

1.4 CONTENTS OF BID PROPOSALS

A. Bid Proposals must contain the following pages:

1. Bid Proposal
2. Bid Schedule
3. Bid Bond, Contractor/Surety Furnished
4. Certificate of Non-Collusion

B. The District considers papers bound with or attached to the Bid Proposal as part of the Proposal and does not detach or alter the documents when the Proposal is submitted.

C. The District considers the plans, supplemental specifications, specifications, and other documents that accompany the Bid Proposal as part of the Proposal whether attached or not, and they need not be returned as a part of the Bid Proposal.

1.5 ISSUANCE OF BID PROPOSALS

A. The District reserves the right to refuse to issue a Bid Proposal or award a Contract to a bidder for any or all the following reasons:

1. Lack of qualifications.
2. Uncompleted work under contract that the District determines will hinder or prevent the prompt completion of additional work if awarded.
3. Failure to pay or settle claims.
4. Failure to comply with any qualification regulations.
5. Default under previous contracts.
6. Unsatisfactory performance on previous or current Contract(s)
7. Debarment by the District.
8. Serious misconduct that adversely affects the ability to perform future work.
9. Failure to reimburse for monies owed on any previously awarded District contracts including contracts where the prospective bidder was a party in a joint venture, which failed to reimburse the District.

B. If the District refuses to issue a Bid Proposal for any of the foregoing reasons, bidder may appeal in writing to the Public Works Administrator.
   1. Specify the basis for the appeal in the written request.
   2. The Public Works Administrator may schedule either an informal or formal hearing.

1.6 INTERPRETATION OF QUANTITIES IN BID PROPOSAL

A. Proposal quantities are estimates used for comparison and may be increased, decreased, or be eliminated in their entirety. District pays for actual work performed and accepted, and materials furnished.

1.7 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND WORK SITE

A. Examine proposed work site and all documents before submitting a Bid Proposal.
   1. Bidder is responsible for all site conditions that should have been discovered had a reasonable site investigation been performed.
   2. The District considers submitting a Bid Proposal as conclusive evidence the bidder knows the conditions to be encountered in performing the work and the requirements of the proposed Contract.

B. Any available District boring logs and other records of subsurface investigations are available for information purposes only and are not substitutes for bidder's own investigation, interpretation, and judgment. The District obtained and used this information for design and estimating purposes only.

C. Bidder is permitted to converse with District personnel knowledgeable of the project, plans, specifications, materials sites, or conditions generally prevailing in the area of the proposed work to aid in pre-bid investigations.
   1. Bidder conducts independent investigation, including a visit to the work site.
   2. The Engineer is available by appointment.

D. The District is bound only by written statements, representations, descriptions of conditions, and work. No oral explanations or instructions are binding.

E. To request explanations of the written proposal documents, contact the Engineer 10 days before the bid opening to allow a reply before proposal submission. The District responds to written requests from prospective bidders by certified letter or electronic communications before the specified time for opening proposals.

F. Bidder acknowledges that he/she has investigated the nature and location of the work and knows the general and local conditions that can affect the work or its cost, including but not limited to:
   1. Conditions bearing upon transportation, disposal, handling, and storage of materials.
   2. The availability of labor, water, electric power, and roads.
   3. Uncertainties of weather, river stages, irrigation channel flow, lake and reservoir levels, or similar physical conditions of the ground.
   4. The type of equipment and facilities needed preliminary to and during work performance.

G. The character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is ascertainable from an inspection of the site, as well as from the drawings and specifications and all exploratory work made available by the District.

H. Failure to take the actions described and acknowledged in this Article does not relieve the Contractor of the responsibility for estimating the difficulty and cost of successfully performing the work, or from proceeding to successfully perform the work without additional cost to the District.

1.8 BID PROPOSAL

A. Prepare in ink and submit the Bid Proposal and Bidding Schedule contained within the bid documents.
   1. Specify a unit price in figures for each pay item for which a quantity is given and type or print the values in the spaces provided.
   2. Calculate the product of the respective unit prices, sub-totals, and the total bid in figures and type or print the values in the spaces provided.

B. Follow all Standard Specification requirements for the preparation of a bid.

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C. Properly executed proposals consist of: Bid Proposal, Bid Schedule(s), Acknowledgment of Addendum (if any), and Bid Bond.

D. A representative of the bidder authorized to execute bid proposals signs the Bid Report signature page in ink.

E. Print or type the name and address of the individual signing the Proposal as well as the following names and addresses, as applicable.

Type of Bidder	Names and Office Addresses Required
Individual	Individual and Post Office address
Partnership	Each Member of the Partnership and each Post office address
Joint Venture	Each Member or officer of Firms represented and each post office address
Corporation	Corporation Name and corporate address

H. By signing the Bid Report, bidders certify they understand and are in compliance with all provisions of this Section, article, “Non-Collusive Bidding Certification”, and article, “Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions”.

1.9 IRREGULAR BID PROPOSALS

A. The District considers a Bid Proposal irregular and rejects the Bid Proposal as non-responsive if:

1. It is on forms other than those contained within the Contract Documents.
2. It contains unauthorized additions, conditional or alternate bids, or irregularities that make the Bid Proposal incomplete, indefinite, or ambiguous.
3. It includes added provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
4. It contains unit prices that are not typed or completed in ink or are not legible.
5. It does not contain a unit price for each pay item listed and the amount for each lump sum item, except in the case of authorized alternate pay items.
6. It contains changes in the unit prices such as erasures, strikeouts, and whiteouts that are not initialed in ink.
7. It is not properly signed.
8. It has no bid bond.
9. It has a bid bond. that is not properly signed.
10. Any of the unit bid prices are significantly unbalanced to the potential detriment of the District. The District may require written justification for the basis of the unit prices before making a decision as to whether the bid is irregular.
11. The receipt of the Addenda is not acknowledged.

12. It does not acknowledge the Equal Opportunity, State of Utah provision.

1.10 PROPOSAL GUARANTY

A. The District will not consider a Bid Proposal unless it is accompanied by a guaranty in the form of a certified check, cashier's check, or guaranty bond for not less than 5 percent of the total amount of the bid made payable to the District.

B. Use a form of proposal guaranty bond form from an approved surety.

1.11 DELIVERY OF BID PROPOSALS

A. Proposals must be enclosed in a sealed envelope and endorsed "Proposal for Snyderville Basin Special Recreation District - Overlay Project, Basin Recreation, Utah." No responsibility shall attach to Basin Recreation for the premature opening of any proposal not endorsed as above written.

B. Address envelope to: Snyderville Basin Special Recreation District, 5715 Trailside Drive Park City, Utah 84098

C. File the Bid Proposal before the time and at the place specified in the Notice to Contractors.

D. Bid Proposals received after the time specified for opening are returned unopened.

1.12 WITHDRAWAL OR REVISION OF BID PROPOSALS

A. Bid Proposal may be withdrawn or revised after receipt by the District, provide the request for withdrawal or revision to the District is received in writing or a telephone call followed by documented electronic communications before the time set for opening bid proposals.

1.13 COMBINATION OR CONDITIONAL BID PROPOSALS

A. District will not consider combination bid proposals.

B. The District considers conditional bid proposals only when specified in the advertisement.

1.14 PUBLIC OPENING OF BID PROPOSALS

A. Bid Proposals are opened and read publicly at the time and place indicated in the Notice to Contractors.

1.15 DISQUALIFICATION OF BIDDERS

A. District disqualifies a bidder and rejects a Bid Proposal for one or both of the following:

1. More than one Proposal for the same work from an individual, firm, or corporation under the same or different names.
2. Evidence of collusion among bidders. Collusion participants are not recognized as bidders for future work until they are reinstated as a qualified bidder.

1.16 NON-COLLUSIVE BIDDING CERTIFICATION

A. By submitting this Bid Proposal, each bidder and each person signing on behalf of any bidder certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief:
   1. The prices in this Bid Proposal have been arrived at independently without collusion, consultation, communication, or agreement with any other bidder or with any competitor for the purpose of restricting competition.
   2. Unless required by law, the prices that have been quoted in this bid proposal have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before opening of Bid Proposals.
   3. No attempt has been made or will be made by the bidder to induce any other person, partnership, or corporation to submit or not to submit a Bid Proposal for the purpose of restricting competition.
   4. The signers of the Bid Proposal will tender to the District a sworn statement that the named Contractor(s) has not, whether directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action to restrain free competitive bidding in connection with this Proposal.

B. The District considers a Bid Proposal for award, nor makes any award where there has not been compliance with this article, paragraph A, except as follows:
   1. If the bidder cannot make the foregoing certification, the bidder must furnish with the bid proposal a signed statement that describes in detail the reasons why the certification cannot be made.
   2. Basin Recreation, or designee, determines that such disclosure was not made for the purpose of restricting competition.

C. Any of the following does not constitute a disclosure within the meaning of this article, paragraph A, line 1:
   1. A bidder has published price lists, rates, or tariffs covering items being procured.
   2. A bidder has informed prospective customers of proposed or pending publication of new or revised price lists for such items.
   3. A bidder has sold the same items to other customers at the same prices being bid.

D. A Bid Proposal made by a corporation is considered authorized by the board of directors of the bidder. Authorization is defined as signing and submitting the bid proposal, and includes the declaration of non-collusion on the part of the corporation.

E. BASIN RECREATION DISTRICT OF PUBLIC WORKS NON-COLLUSIVE BIDDING CERTIFICATION

"I declare under penalty of perjury under the laws of the United States and the State of Utah that neither I, nor to the best of my knowledge any member or members of my firm or company have either directly or indirectly restrained free and competitive bidding on this project by entering into any agreement, participating in any collusion, or otherwise taking any action unauthorized by Basin Recreation with regard to this Contract."

F. Signing the Bid Proposal at the bottom of the Bid Schedule certifies compliance with all provisions of this Non-Collusive Bidding Certification.

1.17 DEBARMENT

A. The Basin Recreation Manager may debar a Contractor from performing any work on Basin Recreation or Basin Recreation administered projects if:

1. The Contractor or an affiliate (defined as an owner, director, manager, officer or fiscal agent of the Contractor) has been convicted of or entered a plea of guilty or *nolo contendere* to a bid-related or a contract-related crime in any Court of competent jurisdiction.
2. The Contractor or an affiliate has made a public admission of any bid-related or contract-related crime.
3. The Contractor or an affiliate has falsified information or submitted deceptive or fraudulent statements in connection with prequalification, bidding, or performance of a contract.
4. The Contractor or an affiliate has violated relevant antitrust laws covering bid rigging, collusion or restraint of free competition among contractors; (Violations covered by the Sherman Antitrust Act, 15 U.S.C. 1, *et seq.* and Title 76, Chapter 10, Section 911, *et se.,* U.C.A. 1953, as amended).
5. The Contractor or an affiliate has demonstrated willful wrongdoing reflecting a lack of integrity in bidding or performing public projects.
6. The Contractor, joint venturer, stockholder of 5 percent or more of the Contract, an affiliate, or any immediate relatives of the aforementioned, has been debarred or affiliated with another debarred person or contractors by the Federal Government or by another State government.
7. The Engineer has reasonable grounds to believe and finds that the Contractor has acted in collusion with others to perform work on a project that supposedly satisfies disadvantaged business enterprise goals or requirements through other than *bona fide* disadvantaged business entities in any combination of individuals, firms or corporations.
8. The Contractor or affiliate has defaulted under previous contracts.

9. The Contractor or affiliate has unsatisfactory performance on previous work or current Contract(s) consisting of, but not limited to:
    a. Noncompliance with Contract.
    b. Failure to complete work on time.
    c. Instances of substantial corrective work before acceptance.
    d. Instances of completed work that requires acceptance at reduced pay.
    e. Production of non-specification work or materials, and when applicable, required price reductions or corrective work.
    f. Failure to provide adequate safety measures and appropriate traffic control that endangered the safety of the work force and public.
10. The Contractor or an affiliate has questionable moral integrity as determined by the District, the Attorney General of Utah or the Attorney General of the United States.

11. Failure to reimburse the State for monies owed on any previously awarded contract including those where the prospective bidder is a party to a joint venture and the joint venture has failed to reimburse the State for monies owed.
12. The Public Works Administrator has reasonable grounds to believe and finds that the public health, welfare or safety imperatively requires such action.

1.18 STATUS PENDING DEBARMENT

A. Contractor notified of proposed debarment as provided above is not permitted to contract with Basin Recreation, nor act as a subcontractor unless a request for either an information or formal hearing is pending.

B. The proposed debarment period does not commence until the Basin Recreation Managers decision has been issued following the said hearing or hearings.

1.19 LENGTH OF DEBARMENT

A. Debarment is for a term of not less than 6 months and up to 3 years as determined by Basin Recreation.

B. The Basin Recreation Manager may adjust the period of debarment for mitigating circumstances including but not limited to the following:
    1. Degree of culpability.
    2. Restitution of damages to the Basin Recreation.
    3. Cooperation in the investigation of other bidding crimes.
    4. Disassociation with those involved in bidding crimes.
    5. Protection of Basin Recreation that may be required.
    6. If such action would have unintended adverse consequences on competition.

C. Debarment in no way affects the obligation of a Contractor to the Basin Recreation Manager to perform under existing contracts.

D. The Basin Recreation Manager also reserves the right to declare a debarred Contractor in default on any existing contracts for adequate cause as provided in such contracts.

1.20 DEBARMENT - PROCEDURES

A. The procedure described in this Section, article A Debarment applies if it is found that a contractor or an affiliate thereof is violating the prohibited activities.

B. The Engineer notifies the Contractor in writing and by certified mail of Basin Recreation's intention to debar. Written notice specifies:
   1. The grounds for such intended debarment.
   2. The date debarment becomes effective and the intended period of debarment.
   3. The procedure to follow if the Contractor desires to challenge the debarment or to offer information to the Basin Recreation Manager in mitigation of its alleged actions.

C. Within 15 calendar days of receiving the notice of intended debarment, the Contractor may request either:
   1. An informal hearing before the Public Works Administrator.
   2. A formal hearing before the Basin Recreation Manager.

D. The Contractor who elects to proceed at an informal hearing has the opportunity to appear at a mutually agreed upon time and location.
   1. Contractor may supply information in support of their position and has the opportunity to review the District's evidence, present evidence, and discuss matters informally.
   2. No legal counsel is permitted for either party at the informal hearing.

E. The Basin Recreation Manager conducts a formal hearing with assistance from the Basin Recreation Attorney Office. The Contractor who appears may be represented by counsel and has the opportunity to review the District's evidence, and to present evidence in rebuttal either by sworn affidavit or by sworn testimony.

F. Following either a formal or informal hearing, the District representative conducting the hearing issues a written decision no later than 30 calendar days following the hearing.

G. The decision of the Basin Recreation Manager following a formal hearing is final and specifies the facts justifying the District's actions and conclusion.

H. If the Engineer's decision is to be appealed, the Contractor files notice in writing with the Basin Recreation Manager within 20 calendar days after receiving the decision from the

Engineer. The Basin Recreation Manager then schedules a formal hearing as specified above.

PART 2 PRODUCTS Not used.

PART 3 EXECUTION Not used.

END OF SECTION

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SPECIAL PROVISION
SECTION 00515M

CONTRACT AWARD AND EXECUTION

Modify Article 1.6 as follows:

A. The District publicly opens properly executed proposals at the time and place designated in the Notice to Contractors.
   1. The District makes the results of the comparisons available to the public.
   2. The unit bid prices govern if a discrepancy exists between unit bid prices and extensions.

B. The District reserves the right to reject any or all proposals, waive technicalities, or advertise for new proposals.

C. The bidder can request withdrawal of a bid after bid opening by:
   1. Submitting to the District a notarized affidavit within 24 hours after bid opening declaring a clerical or mathematical error in bid preparation.
   2. Submitting accompanying declaration with original work sheets used in bid preparation.
   3. Describing specific errors in detail.
   4. Verifying that error has a significant monetary effect in the amount of 3 percent of the bid or greater.

D. The bidder may not request bid withdrawal for judgmental errors.

E. The Basin Recreation Engineer makes the final determination of the withdrawal request.

Delete Article 1.11, sub-article “B” in its entirety

Modify Article 1.12 as follows:

1.12 MATERIALS GUARANTY

A. The successful bidder must:
   1. Furnish a complete statement of the origin, composition, and manufacturer of material proposed for use in the construction.
   2. Furnish samples to be tested and inspected for meeting the contract.

B. Contractor warrants that all materials and supplies used in the construction of the Project shall be new, except as otherwise agreed to in writing by the District. All materials, equipment, parts and labor and any necessary corrections to the project shall be

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guaranteed for a period of one (1) year following the date of substantial completion of the Project under the terms of the performance bond, unless otherwise stated in the contract.

C. Contractor may be required to furnish a written guaranty covering certain items of work for varying periods of time from the date of acceptance of the contract.
   1. The District specifies in the contract the work to be guaranteed, the form, and the time limit of the guaranty.
   2. Sign and deliver the guaranty to the Engineer before contract completion according to Section 00570.
   3. The required performance bond may be reduced upon contract completion to conform to the total amount of the contract bid prices for the items of work to be guaranteed. This amount continues in full force and effect for the duration of the guaranty period. Refer to this Section, article 1.10.

SPECIAL PROVISION
SECTION 00555M

PROSECUTION AND PROGRESS

Delete Article 1.5 in its entirety and replace with the following:

1.5 SUBMITTALS

A. Subcontracts - Refer to this Section, article 1.8.

B. Construction Schedule - Refer to this Section, articles 1.9 and 1.10.

Delete Article 1.8, sub-article "D" in its entirety and replace with the following:

1.8 CONTRACT SUBLETTING

A. Do not allow subcontracted work to begin until the request to sublet work is approved by the Engineer.

Delete Article 1.9 in its entirety and replace with the following:

1.11 LIMITATION OF OPERATIONS

A. Minimize traffic interference:
   1. Conduct the work to minimize interference with traffic.
   2. Working Hours - Maintain a minimum of one lane (10 feet minimum clearance) of traffic.
   3. Non-Working Hours - Maintain two-way (10 feet minimum clearance each lane) traffic. Provided flagging and/or pilot car for that portion of the roadway that cannot be maintained as two-way traffic.

B. Sundays or holidays: Perform no work without written approval except repair or servicing of equipment, protection of work, maintenance or curing of concrete, or maintenance of traffic.

C. Night work:
   1. The Basin Recreation has a Noise Ordinance which prohibits work on construction projects between the hours of 9:00 pm and 7:00 am Monday through Saturday, and before 9:00 am on Sunday. Relief from the Ordinance can be granted by the District only if it can be shown that work during these hours by its nature require continuous operations.
   2. A request to work between the hours of 9:00 pm and 7:00 am Monday through Saturday, and before 9:00 am on Sunday must be made five calendar days prior.

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3. If work is approved, provide adequate lighting for performing satisfactory inspection and construction operations.
4. Control noise and vibration under the provisions of Basin Recreation Ordinance 316 and Section 01355, article, A Noise and Vibration Control.

SPECIAL PROVISION

SECTION 00570M

DEFINITIONS

Delete Article 1.7, sub-article "A.30" in its entirety and replace with the following:

30. **District:** The Basin Recreation Manager, Public Works Director, or the Basin Recreation Engineer.

Delete Article 1.7, sub-article "A.34" in its entirety and replace with the following:

34. **Engineer:** The Basin Recreation Engineer, or a duly authorized representative acting directly or through the Basin Recreation Engineer (usually the Project Engineer or Consultant Engineer), who is responsible for engineering supervision of construction covered by the Contract. A Consultant Engineer who is hired by the District for Construction Project Management is considered an extension of the District and has the same responsibility and authority as a Project Engineer.

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SECTION 00820M

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Delete Article 1.16 in its entirety and replace with the following:

1.17 RESPONSIBILITY FOR DAMAGE CLAIMS

A. Protect, indemnify, and hold the Basin Recreation, and their officers, agents, and employees harmless from and against all claims, demands, damages, and causes of action of every kind or character on account of bodily injuries, death, or damage to property arising out of, resulting from, or in any way connected with, the performance of the Contract.

B. Defend all suits brought upon such claims and pay all costs and expenses incidental to them. The District has the right, at its option, to participate in the defense of any such suit without relieving the Contractor of any obligation under the Contract.

C. Provide insurance as defined in article 1.16 below from reliable insurance companies authorized to do business in Utah, rated "A" or better and with a financial size category of Class VII or larger by A.M. Best Company, at the time of contract execution.

D. Comply with the following insurance claims notification and processing procedures:

1. Notify the Engineer of all claims within seven days of notification.
2. Prior to the final acceptance of the project provide written notification for all pending claims to the Engineer.
3. Notify claimants of denied or partially denied claims of $5,000.00 or less of their right to request re-examination by the

   Basin Recreation Claims Review District
   (Basin Recs Auditor's Office)
   Address
   Phone:

   a. The information provided to the claimant includes:
      1) A time deadline for requesting re-examination equal to seven days after notification of denial or partial denial
      2) Address and name of the person to whom it should be directed
      3) General information helpful in making a determination
4. The District can waive the time deadline.

E. Cooperate with the Basin Recreation Claims Review District in resolving disputes regarding denials or partial denials from an insurance carrier.

1. Provide any information possessed by the carrier that the Basin Recreation Claims Review District believes is pertinent to the determination.
2. The Basin Recreation Claims Review District may defer to an insurance carrier's decision and the reason for it.
3. The determination is based on general applicable standards of insurance adjusting.
4. The Basin Recreation Claims Review District does not grant in-person hearings, but relies on documentation prepared by the Contractor, the insurance carrier, the claimant, and the District.
5. Neither the insurance carrier nor the Contractor has the right to intervene in a re-examination before the Basin Recreation Claims Review District.
6. The Basin Recreation Claims Review District decides the claim as expeditiously as possible.
7. The decision by the Basin Recreation Claims Review District is administratively final.

F. The District deducts from the Contractor's pay estimate claims that the Contractor's liability insurance carrier denied but are directed to be paid by the Basin Recreation Claims Review District.

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SPECIAL PROVISION

SECTION 01282M

PAYMENT

Delete Article 1.12, sub-article "D" in its entirety and replace with the following:

1.12 PROGRESS PAYMENTS

D. The Contractor may request that retained monies are deposited into an interest-bearing account within the Basin Recreations Treasurer's Office. Interest earned and subsequently paid to the Contractor is the interest that Basin Recreation would normally earn on said account, or the District does so automatically.

1. The value of the amount deposited has a minimum value equal to or greater than the amount that would otherwise be retained.

a). The request must be submitted concurrently with the execution of the construction Contract.

PROJECT SPECIFICATIONS

The State of Utah Standard Specifications for Road and Bridge Construction, U.S. Standard Units (Inch Pound Units), Edition of 2017 applies on this project as a static Specification Book as well as all other applicable specification changes. Specifications can be view on internet at www.udot.utah.gov (Doing Business-Standards and Specification.)

SPECIFICATION MODIFICATIONS AND SPECIAL PROVISIONS

Section	Description
01540S	Public Information Services
02741S	Hot Mix Asphalt (HMA)
02742S	Project Specific Surfacing Requirements
02745S	Pulverization Asphalt
02771M	Pedestrian Access Ramp
02776M	Concrete Flatwork
02891S	Traffic Sign

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SECTION 01540S

PUBLIC INFORMATION SERVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Responsibilities of Contractor Public Information Coordinator (PIC) for the length of a project.

1.2 RELATED SECTIONS

A. Section 00555: Prosecution and Progress

B. Section 01554: Traffic Control

1.3 REFERENCES Not Used

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS Not Used

1.6 PERFORMANCE REQUIREMENT

A. Designate the PIC at the project pre-construction conference.
   1. Responsible for project public information services.
      a. PIC duties take precedence over other assigned duties.
      b. PIC must not be the project superintendent.

1.7 PIC RESPONSIBILITIES

A. For projects over three weeks establish a local public information office. Office may be located within the Contractor's regular office provided that the telephone number is a local call or toll-free number for project stakeholders.
   1. Maintain established working hours and days.
   2. Provide a telephone or cell phone with voice mail capability dedicated to project public information services.

B. Maintain daily communication with the Engineer.

C. Maintain and document weekly communications with Basin Recreation Public Information Officer, affected residents, businesses, organizations, and public agencies such as local emergency services, public works, transit authorities, county offices, and other stakeholders.

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D. Maintain telephone availability.
   1. Maximum 12 hour response time during project working hours.
   2. On-call status required during non-working hours.

E. Develop a database of stakeholders and stakeholder contact information including name, address, phone number, e-mail address, and fax number.

F. Establish method of producing and distributing printed fliers and e-mail information. Provide notice to residents a minimum of 7 days prior to any road closures also provide an additional notice to all residence on the specific road to be closed not more than 48 hours and not less than 24 hours prior to the road being closed.

G. Organize, participate in, and document public and private meetings involving project when requested by the Engineer.

H. Refer to Section 00555.

1.8 PAYMENT PROCEDURES

A. Cost for Public Information Services should be included in the Traffic Control Item.

B. The Engineer and the Basin Recreation Public Information Officer monitor and evaluate the Public Information Coordinator and all public information services. Failure to provide public information services according to this specification results in a weekly deduction of between $1,000 and $10,000.

PART 2 PRODUCTS

2.1 OFFICE SPACE AND EQUIPMENT – GENERAL

A. Office Space

B. Telephone Services

C. Labor and material required to perform the duties and responsibilities of this section.

PART 3 EXECUTION

3.1 ESTABLISH LOCAL PUBLIC INFORMATION SERVICES

A. Provide office address and local or toll-free telephone number.
   1. Establish and publish office hours, working days, telephone number, and e-mail address.
      a. Answer all e-mail within 12 hours of receipt during business hours.

B. Provide voice mail service.
   1. Update message with project information a minimum of once each week concerning the activities on the project.
   2. Provide public information office hours.
   3. Opportunity for caller to leave a recorded message.
   4. Check voice mail a minimum of twice daily.
   5. Document and respond to messages within 12 hours of receipt.

C. Maintain a logbook.
   1. Communication information.
      a. Date, time
      b. Contact information
         1) Name, phone number, address, and e-mail address
      c. Description of inquiry or request
      d. Response
      e. Subsequent responses or actions taken during construction
   2. Follow up all inquires with a phone call, in writing, or with a meeting as required.
   3. Document discussions, resolutions, and actions.
      a. Provide weekly copies of logbook documentation to the Engineer and Region Public Involvement Manager.

D. Develop and maintain database of stakeholders and stakeholder contact information including name, address, phone number, e-mail address, and fax number.
   1. Make database available for review by the Engineer and Region Public Involvement Manager at all times during the project
   2. Deliver to the Region Public Involvement Coordinator upon completion of the project.

E. Respond to questions concerning project activities and schedules.

F. Organize, participate, and document meetings held with affected individuals and organizations.
   1. Provides meeting minutes to Engineer and Region Public Involvement Manager in a weekly report.

G. Maintain and document weekly communication and project updates with the following:
   1. District, Region, and Public Involvement Manager
   2. Affected local public agencies
      a. Emergency Service Agencies
         1) Fire Districts
         2) Police Districts and Highway Patrol
         3) Ambulance Services
      b. Local city offices
      c. Public works Districts
      d. Local transit authorities
      e. Local school districts
      f. Local U.S. Post Office
   3. Affected businesses
   4. Affected trucking and carrier associations
   5. Local organizations interested in the project
   6. Private citizens when requested
   7. Engineer and Region Public Involvement Manager, providing copies of logbook documentation
   8. Other stakeholders as required

H. Prepare and distribute information to all stakeholders within one block of the construction zone in flier format or through documented personal contact one week before beginning construction and subsequently each week until the end of the project.
   1. Provide copies of all fliers, e-mail, or other materials containing project information to the Engineer and the Region Public Involvement Coordinator for review before distribution.
   2. Include the following information in the flier:
      a. Project name
      b. Description of work to be done including completion dates
      c. Work locations
      d. Lane restrictions and directions
      e. Traffic management plans or detours
      f. Work times and days of the week
      g. Impacts to access
      h. Schedule for coming week
      i. Name of the Contractor's Public Information Coordinator, telephone number, and office hours of the Public Information Office.

3. Communicate construction changes to established weekly schedule to all affected stakeholders. Provide draft copy of changes to Engineer before distribution.

I. Provide telephone number to sign manufacturer or Traffic Control Maintainer for placement on Construction Zone Information Sign. Refer to TC Series Standard Drawings and Section 01554.

J. Provide telephone number to sign manufacturer or Traffic Control Maintainer for placement on a "Project Notification Sign" according to TC Series Standard Drawings with legend (text) determined in coordination with Region Public Involvement Manager.

K. Provide updates to the Engineer and Region Public Involvement Manager on project activities that affect traffic and access.

L. Forward all media inquires, written and verbal, regarding the project or project activities to the Region Public Involvement Manager or the District Communications Office.

END OF SECTION

SPECIAL PROVISION

SECTION 02741S

HOT MIX ASPHALT (HMA) - MARSHALL MIX DESIGN

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Products and procedures for laying and compacting a surface course of one or more layers of HMA comprised of aggregate, asphalt binder, lime and other additives.

B. Mix materials at a central mixing plant.

1.2 RELATED SECTIONS

A. Section 01452M: Profilograph and Pavement Smoothness

B. Section 02742M: Project Specific Surfacing Requirements

C. Section 02745: Asphalt Material

D. Section 02746: Hydrated Lime

E. Section 02748: Prime Coat/Tack Coat

1.3 REFERENCES

A. AASHTO PP 28: Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)

B. AASHTO T 11: Materials Finer Than 75 □m (No. 200) Sieve in Mineral Aggregates by Washing

C. AASHTO T 19: Unit Weights and Voids in Aggregate

D. AASHTO T 27: Sieve Analysis of Fine and Coarse Aggregates

E. AASHTO T 30: Mechanical Analysis of Extracted Aggregate

F. AASHTO T 89: Determining the Liquid Limit of Soils

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G. AASHTO T 90: Determining the Plastic Limit and Plasticity Index of Soils

H. AASHTO T 96: Resistance to Abrasion of Small Size Coarse Aggregate by Use of the Los Angeles Machine

I. AASHTO T 104: Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate

J. AASHTO T 112: Clay Lumps and Friable Particles in Aggregate

K. AASHTO T 166: Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated-Surface Dry Specimens

L. AASHTO T 176: Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test

M. AASHTO T 195: Determining Degree of Particle Coating of Bituminous-Aggregate Mixtures

N. AASHTO T 209: Maximum Specific Gravity of Bituminous Paving Mixtures

O. AASHTO T 255: Total Moisture Content of Aggregate by Drying

P. AASHTO T 283: Resistance of Compacted Bituminous Mixture to Moisture Induced Damage (Modified by UDOT Materials Manual of Instruction Part 8 Test Procedure 8-957)

Q. AASHTO T 304: Uncompacted Void Content of Fine Aggregate

R. AASHTO T 308: Determining the Asphalt Binder Content of Hot-Mix Asphalt (HMA) by the Ignition Method

S. ASTM D 2950: Test Method for Density of Bituminous Concrete in Place by Nuclear Method

T. ASTM D 3549: Thickness or Height of Compacted Bituminous Paving Mixture Specimens

U. ASTM D 3665: Standard Practice for Random Sampling of Construction Materials

V. ASTM D 3666: Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials

X. ASTM D 4561: Practice for Quality Control Systems for Organizations Producing and Applying Bituminous Paving Materials

Y. ASTM D 4791: Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate

Z. ASTM 5506: Practice for Organizations Engaged in the Certification of Personnel Testing and Inspecting Bituminous Paving Materials

AA. ASTM D 5821: Determining the Percentage of Fractured Particles in Coarse Aggregate

BB. ASTM E 178: Practice for Dealing with Outlying Observations

CC. ASTM E 1274: Standard Test Method for Measuring Pavement Roughness Using a Profilograph

DD. Asphalt Institute SP-1, SP-2

EE. UDOT Materials Manual of Instruction Part 8-209: Asphalt Binder Management Plan

FF. UDOT Materials Manual of Instruction Part 8-957: Resistance of Compacted Bituminous Mixture to Moisture Induced Damage

GG. UDOT Materials Manual of Instruction Part 8-958: Standard Test Method for Determining Rutting Susceptibility

HH. UDOT Materials Manual of Instruction Part 8-984: Sampling Methods

1.4 ACCEPTANCE

A. A lot equals the number of tons of HMA placed during each production day. The District will:

1. Divide each lot into three to five sublots as shown in Table 1, based on the scheduled production day. Random samples will be taken as the HMA is being placed.

2. Take random samples behind the paver before any further compaction. Samples will be distributed uniformly to be representative of all the HMA placed in the lot. For projects with plan quantities of 5000 tons and larger, sample locations will be determined by random numbers/locations from a random numbers table. ASTM D 3665, UDOT Materials Manual of Instruction Part 8-984: Sampling Methods.

1. Take large enough samples for paired-T testing and split with contractor designated lab until testing discrepancies between labs are identified and resolved (based on tests outlined in article 3.9 “Dispute Resolution”, paragraph B1, in addition to daily acceptance tests for mix properties).

2. Sampling Schedule:

Table 1 - Sampling Schedule	
Number of Tons in Lot	**Minimum Number of Samples**
Lot ≥ 2,501	5
1,501 ≥ Lot ≤ 2,500	4
Lot < 1,500	3

3. The lot may be evaluated on the basis of fewer samples when the minimum number can not be obtained.
4. The mean of the deviations (see Table 2) is the sum of the absolute values of the deviations divided by the number of tests in the lot.
5. The Engineer may sample any portion of the HMA that exhibits a non-uniform appearance.
6. The Engineer may reject material when test results show a deviation from the mix design that exceeds maximum allowed.

3. Inform the Contractor of the time and place for the sample not more than 1 hour prior to the sampling.

4. Conduct the following tests:
   1. Asphalt Binder Content: Three to five per lot using ignition oven. AASHTO T 308
   2. Aggregate gradation: Three to five tests per lot on the residue of the ignition oven tests. AASHTO T 30.
   3. VMA: 3 tests per lot. AASHTO T 312.

Table 2 -Pay Factor Schedule for Gradation and Asphalt Binder Content		
Sieve Size	**Pay Factor**	**Mean of Deviations of the Lot Acceptance Tests from the Job-Mix Design (Percentage Poins)**

Table 2 -Pay Factor Schedule for Gradation and Asphalt Binder Content						
		5 Tests	4 Tests	3 Tests	2 Tests	1 Test
Asphalt Content	1.00	0.00 - 0.38	0.00 - 0.41	0.00 - 0.46	0.00 - 0.54	0.00 - 0.70
	0.975	0.39 - 0.43	0.42 - 0.46	0.47 - 0.52	0.55 - 0.61	0.71 - 0.80
	0.95	0.44 - 0.47	0.47 - 0.51	0.53 - 0.58	0.62 - 0.68	0.81 - 0.90
	0.90	0.48 - 0.52	0.52 - 0.56	0.59 - 0.64	0.69 - 0.75	0.91 - 1.00
	0.85	0.53 - 0.56	0.57 - 0.61	0.65 - 0.69	0.76 - 0.82	1.01 - 1.10
½ Inch and Larger	1.00	0.0 - 5.2	0.0 - 5.6	0.0 - 6.3	0.0 - 7.3	0.0 - 10.0
	0.975	5.3 - 5.8	5.7 - 6.3	6.4 - 7.1	7.4 - 8.3	11 - 12
	0.95	5.9 - 6.4	6.4 - 7.0	7.2 - 7.9	8.4 - 9.3	12 - 13
	0.90	6.5 - 7.1	7.1 - 7.7	8.0 - 8.7	9.4 - 10.3	13 - 14
	0.85	7.2 - 7.7	7.8 - 8.4	8.8 - 9.5	10.3 - 11.3	14 - 15
3/8 Inch	1.00	0.0 - 4.9	0.0 - 5.3	0.0 - 5.9	0.0 - 6.9	0.0 - 9
	0.975	5.0 - 5.5	5.4 - 5.9	6.0 - 6.6	7.0 - 7.8	9 - 10
	0.95	5.6 - 6.1	6.0 - 6.6	6.7 - 7.3	7.9 - 8.7	10 - 11
	0.90	6.2 - 6.6	6.7 - 7.2	7.4 - 8.0	8.8 - 9.6	12 - 13
	0.85	6.7 - 7.2	7.3 - 7.9	8.1 - 8.9	9.7 - 10.5	13 - 14
No. 4	1.00	0.0 - 4.8	0.0 - 5.2	0.0 - 5.7	0.0 - 6.7	0.0 - 9
	0.975	4.9 - 5.4	5.3 - 5.8	5.8 - 6.3	6.8 - 7.6	9 - 10
	0.95	5.5 - 5.9	5.9 - 6.4	6.4 - 6.9	7.7 - 8.5	10 - 11
	0.90	6.0 - 6.5	6.5 - 7.0	7.0 - 7.5	8.6 - 9.4	12 - 13
	0.85	6.6 - 7.0	7.1 - 7.6	7.6 - 8.0	9.5 - 10.2	13 - 14
No. 8	1.00	0.0 - 4.0	0.0 - 4.3	0.0 - 4.8	0.0 - 5.6	0.0 - 7
	0.975	4.1 - 4.5	4.4 - 4.8	4.9 - 5.4	5.7 - 6.3	7 - 8
	0.95	4.6 - 4.9	4.9 - 5.3	5.5 - 6.0	6.4 - 7.0	8 - 9
	0.90	5.0 - 5.4	5.4 - 5.8	6.1 - 6.6	7.1 - 7.7	9 - 10
	0.85	5.5 - 5.8	5.9 - 6.4	6.7 - 7.2	7.8 - 8.5	11 - 12
No. 16	1.00	0.0 - 3.9	0.0 - 4.2	0.0 - 4.6	0.0 - 5.2	0.0 - 7
	0.975	4.0 - 4.3	4.3 - 4.6	4.7 - 5.1	5.3 - 5.8	7 - 8
	0.95	4.4 - 4.7	4.7 - 5.1	5.2 - 5.6	5.9 - 6.4	8 - 9
	0.90	4.8 - 5.1	5.2 - 5.5	5.7 - 6.1	6.5 - 7.0	9 - 10
	0.85	5.2 - 5.4	5.6 - 5.9	6.2 - 6.6	7.1 - 7.6	10 - 11
No. 50	1.00	0.0 - 3.2	0.0 - 3.4	0.0 - 3.8	0.0 - 4.3	0.0 - 6
	0.975	3.3 - 3.5	3.5 - 3.8	3.9 - 4.1	4.4 - 4.8	6 - 7
	0.95	3.6 - 3.8	3.9 - 4.1	4.2 - 4.5	4.9 - 5.3	7 - 8
	0.90	3.9 - 4.1	4.2 - 4.4	4.6 - 4.9	5.4 - 5.8	8 - 9
	0.85	4.2 - 4.5	4.5 - 4.9	5.0 - 5.5	5.9 - 6.4	9 - 10
	1.00	0.0 - 1.7	0.0 - 1.8	0.0 - 2.0	0.0 - 2.4	0.0 - 3

Table 2 -Pay Factor Schedule for Gradation and Asphalt Binder Content						
No. 200	0.975	1.8 - 1.9	1.9 - 2.0	2.1 - 2.2	2.5 - 2.7	3.1 - 3.5
	0.95	2.0 - 2.1	2.1 - 2.2	2.3 - 2.4	2.8 - 3.0	3.6 - 4.0
	0.90	2.2 - 2.3	2.3 - 2.4	2.5 - 2.7	3.1 - 3.3	4.1 - 4.5
	0.85	2.4 - 2.5	2.5 - 2.6	2.8 - 3.0	3.4 - 3.6	4.6 - 5.0

4. The mean of the deviations is defined as the sum of the absolute values of the deviations divided by the number of tests in the lot.

5. Perform three Rice tests for each lot. Use the average for the lot to determine density of cores taken by the District.

6. Determine thickness by measuring cores taken by the District.

7. Add the lot to the previous day=s production if the minimum number of samples cannot be obtained for the final day=s production and evaluate with the appropriate sample size.

8. Retest the lot if an individual test is deemed an outlier based on ASTM E 178.

B. The Engineer conducts the acceptance testing for asphalt binder content, gradation, VMA, density, and thickness. AASHTO T 30, T 308, PP 28, T 166, ASTM D 3549 For small projects with plan quantities of HMA less than 500 tons, or for work such as utility work, traffic signals, detours, or lane leveling, the Engineer may elect to accept material based upon visual inspection.

1. When acceptance is intended to be based upon visual inspection, the Engineer reserves the option of conducting any acceptance tests necessary to determine the material and workmanship meets the project requirements.

C. Obtain samples for density and thickness.

1. Divide the lot into sublots of approximately 1600 square yards. A minimum of one density determination will be made for each sublot.

2. Obtain a minimum of one core per sublot randomly as instructed, and in the presence of the Engineer within one day after the pavement is placed.

3. Comply with AASHTO T 166.

4. If the random location for cores falls within one foot of the edge of the overall pavement section (outer part of shoulders), then move transversely to a point one foot from the edge of the pavement.

5. The Contractor will fill core holes with an acceptable asphalt mixture and compact.

6. The District will begin testing the cores within 24 hours for density acceptance.

D. Density:

1. A lot will be accepted when the average of all density determinations are not less than:
    a. 93.5 percent of maximum Rice density for projects where design overlay thickness is greater than 2 inches. Where overlay thicknesses are shown to be tapered in the plans, the average thickness of the overlay will be used.
    b. 92.5 percent of maximum Rice density for projects where design overlay thickness is 2 inches or less. Where overlay thicknesses are shown to be tapered in the plans, the average thickness of the overlay will be used.
    c. If an individual test falls below 91 percent, the sublot represented by that test will be considered defective and may be ordered removed by the Engineer.
    d. For small projects with plan quantities of HMA less than 500 tons, or for work such as utility work, traffic signals, detours, or lane leveling, and when material is to be accepted on the basis of visual inspection per article 1.4 “Acceptance,” paragraph B, acceptance for density may be based upon establishing and maintaining a roller pattern to obtain maximum density without over-stressing the pavement.
    e. Compaction must be completed prior to the HMA surface cools to 220° F.
    f. The Engineer may test all areas that appear defective. All densities taken in a sublot will be combined for an average density for the sublot and.

2. Obtain a minimum of one density determination on a random basis for each sublot. ASTM D 3665.

3. When samples for gradation, asphalt binder content and VMA from lots are combined according to Part 3, article 3.9 “Dispute Resolution,” in order to obtain an appropriate sample size for evaluation, a lot for density determination is defined as the combined production days.

E. Thickness: Base acceptance on the average thickness of a lot. A thickness lot equals a density lot. Divide a thickness lot into five sublots equal to density sublots. Thickness acceptance for thin lift projects (2 inches or less) consists of checking thickness regularly

with a depth probe during placement and taking corrective action as necessary.

1. Take a minimum of one randomly selected thickness tests within each sublot.

2. The same core samples taken for density may be used for thickness verification.

3. The District accepts a lot when:
   a. The average thickness of all sublots is not more than ½ inch greater nor 1/4 inch less than the total thickness specified.
   b. No individual sublot shows a deficient thickness of more than 3/8 inch.
   c. Place additional materials where lots or sublots are deficient in thickness. The minimum depth of compacted surface for correcting deficient thickness is 3 times the nominal maximum aggregate size.
   d. The District pays for the quantity of additional material to bring the surface to design grade.
   e. The District does not pay for the quantity of additional material above the design grade due to the minimum paving thickness required.
   f. The Engineer may allow excess thickness to remain in place or may order its removal. Remove and replace the entire depth of the course, if it is necessary to remove portions of the course.
   g. The District pays for 50 percent of the mix in excess of the +1/2 inch tolerance when excess thickness is allowed to remain in place.
   h. The thickness tolerances established above do not apply to leveling courses. However, check final surfaces in stage construction.

F. Smoothness Tests

1. If there is no bid item for Profilograph and Pavement Smoothness, the pavement surface will be tested for smoothness as the work progresses and will be accepted in lots equal to the number of square yards placed each day. A lot will be tested at the selected locations longitudinally and transversely.

Location	**Measurement**	**Tolerance**
Surface (longitudinally)	25 ft string line	± 0.025 ft
Surface (transversely)	10 ft straight edge	±0.010 ft
Construction Joint	10 ft straight edge	±0.010 ft

G. Cease production when the mean result of the lot acceptance tests for gradation, asphalt binder content, and density for any two out of three consecutive lots have a minimum pay factor of 0.75 or the air voids averaged for each lot are not between 3 and 5 percent for any

2 out of 3 consecutive lots.

1. Before production continues, submit a corrective action plan to the Engineer indicating the changes in production procedures that will be implemented to correct the deficiencies.

H. The unit price for HMA is adjusted by multiplying together the individual pay factors determined for gradation, asphalt binder content, and density.

1. The pay factor for gradation will be determined using Table 2.

2. The pay factor for asphalt binder content will be determined using Table 2.

3. The pay factor for density will be determined using Table 3.

I. The District may order the removal of any lot which:

1. Has a combined pay factor less than 0.75.

2. Has an asphalt binder content pay factor less than 0.85.

Table 3 - HMA Density Pay Factor

Overlay Thickness > 2"		Overlay Thickness < 2"	
Average Density (%)	Pay Factor	Average Density (%)	Pay Factor
93.5 or more	1.00	92.5 or more	1.00
92.0 to 93.4	0.95	91.0 to 92.4	0.95
Less than 92	0.75	Less than 91	0.75

PART 2 PRODUCTS

2.1 ASPHALT BINDER

A. Refer to Special Provision 02742S: Project Specific Surfacing Requirements.

B. Asphalt material: Refer to Section 02745.

C. Sampling procedure: UDOT Materials Manual of Instruction Part 8-209

2.2 AGGREGATE

A. Refer to the Minimum Test Requirements.

B. Crusher processed virgin aggregate material consisting of crushed stone, gravel, or slag.

C. Use the following requirements, including Table 4, to determine the suitability of the aggregate.

1. Coarse aggregates:
   a. Retained on No. 4 sieve.
2. Fine aggregates:
   a. Clean, hard grained, and angular.
      Passing the No. 4 sieve.

Table 4
Aggregate Properties - HMA

Test Method	Test No.	Category 1	Category 2
One Fractured Face	ASTM D 5821	95% min.	85% min. (1 inch and 3/4 inch), and 90% min. (½ inch and 3/8 inch)
Two Fractured Face	ASTM D 5821	90% min.	80% min. (1 inch and 3/4 inch), and 90% min. (½ inch and 3/8 inch)
Fine Aggregate Angularity	AASHTO T 304	45 min.	45 min.
Flat and Elongated 1 to 3 ratio	ASTM D 4791 (Based on 3/8 inch sieve and above)	20% max.	20% max.
L.A. Wear	AASHTO T 96	35% max.	40% max.
Sand Equivalent	AASHTO T 176 (Pre-wet method)	60 min.	45 min.
Plasticity Index	AASHTO T 89 and T 90	0	0
Unit Weight	AASHTO T 19	min. 75 lb/cu. ft.	min. 75 lb/cu ft.
Soundness (sodium sulfate)	AASHTO T 104	16 % max. loss with five cycles	16 % max. loss with five cycles
Clay Lumps and Friable Particles	AASHTO T 112	2% max	2% max.
Natural Fines	N/A	0%	10% max.

Category 1: Non-Rutting Mix.
Category 2: All Other Routes, and applications.

D. Meet gradation requirements in Table 5.

Table 5 Aggregate Gradations (Percent Passing by Dry Weight of Aggregate)					
Sieve Size		**1 inch**	**3/4 inch** (Category 1)	**3/4 inch**	**½ inch**
Control Sieves	**1 inch**	100.0	-	-	-
	3/4 inch	-	100	100	-
	½ inch	75 - 91	74 - 99	-	100
	3/8 inch	-	69 - 91	75 - 91	-
	No. 4	47 - 61	49 - 65	46 - 62	60 - 80
	No. 8	-	33 - 47	-	-
	No. 16	23 - 33	21 - 35	22 - 34	28 - 42
	No. 50	12 - 22	6 - 18	11 - 23	11 - 23
	No. 200	5 - 9	2 - 6	5 - 9	5 - 9

2.3 HYDRATED LIME

A. Meet the requirements of Section 02746.

2.4 MARSHALL DESIGN

A. Comply with all requirements for Marshall Mix Design (use 5 point) according to Asphalt Institute, ASTM 1559 D5581-96(2001) Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using MARSHALL Apparatus (4 inch-Diameter Specimen) and the following:

1. Use a laboratory certified by UDOT Central Materials.
2. Marshall Stability: 1,200 pounds (minimum)
3. Flow (0.01 inch) 10 - 18
4. Voids Content 4%
5. Voids in Mineral Aggregate 14% (minimum)
6. Tensile Strength Ratio 70% (minimum)
7. Add hydrated Lime to the aggregate when the ratio is below 70%. The contractor will determine the amount and retest to verify ratio.

B. Submit the Marshall Mix Design in writing to the Engineer for verification at least 10 working days before beginning paving. Do not begin paving until verification is complete.

1. Include all information regarding selection of design aggregate structure showing single target values of percent passing on all sieves listed in Table 5, and the design asphalt binder content. Use those target values for price adjustments.

2. Provide information that aggregate proposed for use meets the requirements of Table 4.

4. After the design is complete, run 3 sets of Marshall specimens at the design asphalt

binder content to verify the optimum asphalt and all other design requirements.

C. Designate asphalt binder supplier.

D. For small projects with plan quantities of HMA less than 1000 tons, or for work such as utility work, traffic signals, detours, or lane leveling, the Engineer may accept a Marshall Mix Design from a previous mix design completed for another government agency. The Engineer reserves the right to verify any mix design submitted.

E. Once production begins, the contractor may submit a written retroactive target gradation and asphalt binder content that will apply only to the first day's operation. The revision must meet the following requirements:
1. The target values must be within the limits shown in Table 5.

2. The revised targets must fall within the original tolerances for the 100 percent pay factor determined by the number of tests taken for the day. A minimum of three tests will be used to establish the variation limits.

3. A written approval of the revised target values is required before starting the second day's operation.

F. Prepare and submit 1 set (5 samples each) of ignition oven calibration samples.
1. District uses these samples to determine the correction factors for the District's chosen testing labratory ignition oven.

2. Submit samples a minimum of five working days prior to paving.

G. Submit a new laboratory mix design if changes occur in the aggregate source, asphalt binder source or grade.

D. The Engineer reviews and verifies the submittal.

PART 3 EXECUTION

3.1 ADDING HYDRATED LIME

A. Method A, Lime Slurry; or Method B, Lime Slurry Marination: Refer to Section 02746.
1. Incorporate minimum hydrated lime by dry weight of aggregate (1 percent for Method A and 12 percent for Method B) into all mixtures.

3.2 HMA

A. Dry aggregate to an average moisture content of not more than 0.2 percent by weight. AASHTO T 255. Adjust burners to avoid damage or soot contamination of the aggregate.

B. Fully coat with asphalt binder 100% of the particles passing the No. 4 sieve, and 98 percent of the particles retained on the No. 4 sieve.
   1. AASHTO T 195.

   2. Discontinue operation and make necessary corrections if material is not properly coated.

C. Maintain temperature of the HMA between established limits.
   1. Do not overheat the material or cause thermal damage to the asphalt binder.

   2. District rejects and Contractor removes materials heated over the established limits.

3.3 HMA PLANT

A. Provide:
   1. Positive means to determine the moisture content of aggregate.

   2. Positive means to sample all material components.

   3. Sensors to measure the temperature of the HMA at discharge.

   4. The ability to maintain discharge temperature of the mix in accordance with the mix design.

B. Asphalt Binder Storage Tanks:
   1. Provide calibrated tanks so the quantity of material remaining in the tank can be determined at any time.

   2. Provide a positive means of sampling the asphalt binder from the tanks.

   3. Do not intermix asphalt binder from different sources. If the asphalt source is changed, get written approval for the new mix design.

3.4 SURFACE PREPARATION

A. Locate, reference, and protect all utility covers, monuments, curb and gutter, and other components affected by the paving operations.

B. Remove all moisture, dirt, sand, leaves, and other objectionable material from the prepared surface before placing the mix.

C. Complete spot leveling 48 hours before placing pavement courses.
   1. Place, spread, and compact leveling mix on portions of the existing surface.

   2. Fill and compact any localized potholes more than 1 inch deep.

D. Allow sufficient cure time for prime coat/tack coat prior to placing HMA. Refer to Section 02748.

3.5 SURFACE PLACEMENT

A. When full-width or echelon paving is impractical and more than one pass is required, provide a 3:1 (horizontal to vertical) sloped edge adjacent to the next lane to be paved. Completely compact each pass and tack the longitudinal joint of each pass before placing the adjacent pass. All passes must be brought up evenly and transversely at the end of each day's production.

B. Adjust the production of the mixing plant and material delivery until a steady paver speed is maintained.

C. Offset longitudinal joints 6 to 12 inches in succeeding courses.
   1. Place top course joint within one foot of the centerline or lane line.

   2. If the previous pass has cooled below 175□F, tack the longitudinal edge before placing the adjacent pass.

D. Offset transverse construction joints at least 6 ft longitudinally to avoid a vertical joint through more than one course.

E. Do not allow construction vehicles, general traffic, or rollers to pass over the uncompacted end or edge of freshly placed mix until the mat temperature drops to a point where damage or differential compaction will not occur.

F. Taper the end of a course subjected to traffic at approximately 50:1 (horizontal to vertical).
   1. Make a transverse joint by saw or wheel cutting and removing the portion of the pass that contains the tapered end.

   2. Tack the contact surfaces before fresh mix is placed against the compacted mix.

G. Use a motor grader, spreader box, or other approved spreading methods for irregular areas, miscellaneous construction such as detours or as directed by the Engineer.

3.6 COMPACTION

A. Employ properly trained operators.

B. Provide sufficient compaction equipment to keep up with paver production. Use a minimum of two rollers.

C. Use the proper equipment to obtain the required density. Include a tandem, steel-wheeled roller for finish.

D. Use a small compactor or vibratory roller in addition to normal rolling at structures. Operate in a transverse direction next to the back wall and approach slab.

E. Vibratory rollers must have separate controls for energy and propulsion. The roller design and weight must not damage the mat.

F. Operate vibratory rollers at a frequency and amplitude that will produce the specified density without damaging the mat.

G. Operate vibratory rollers in a manner that shoving and distortion of the new mat does not occur.

3.7 LIMITATIONS

A. Do not place HMA on frozen base or subbase.

B. Use a UDOT approved release agent for all equipment and hand tools used to mix, haul, and place the HMA. Refer to UDOT=s Accepted Products Listing (APL) and the Performance Data Products Listing (PDPL).

C. Do not place HMA during adverse climatic conditions, such as precipitation, or when roadway surface is icy or wet.

D. Place HMA between May 1 and October 15, and when the air temperature in the shade and the roadway surface temperature are above 50 degrees F and the temperatures are expected to rise.

1. The District determines if is feasible to place HMA outside the above limits. Obtain written approval from the Engineer.

3.9 DISPUTE RESOLUTION

A. When disputing the validity of the District=s acceptance tests, submit an engineering analysis within one week of receipt of test results.

B. At a minimum, include the following items in the engineering analysis:
   1. Data supporting the Contractor=s test results. Data must be based on project quality control testing performed by an AASHTO accredited lab that has performed a split-sample process with the District and includes:
      a. Split-sample testing performed within the applicable contract
      b. Test data disputed along with:
         $ Maximum Specific Gravity of Mix
         $ Bulk Specific Gravity of Mix
         $ Bulk Specific Gravity of Coarse Aggregates

   2. Procedures or issues leading to disputed acceptance test results.

   3. Recommendations for price adjustment based on expected long-term performance.

C. When paving plans indicate that a reject lot will be covered within 48 hours, the District immediately reviews the analysis to identify possible discrepancies that can be resolved through validation testing based on the following:
   1. District performs repeat testing on remaining material from original District test.

   2. District personnel perform repeat testing in the presence of Contractor representative within a 24-hour time period.

   3. Use results to validate or invalidate original District result. Validation test results may not be used in lieu of acceptance results.

   4. Base validation on results within two standard deviations (project acceptance samples) of original acceptance result. Remove invalidated test results from acceptance lot and reevaluate lot based on reduced sample size.

   5. The Engineer reviews the results and notifies the Contractor of any findings that affect the reject status of the lot along with the District=s position on whether the lot is to be removed or may remain in place at the 0.75 pay factor for the Reject Lot.

D. Within three working days of receipt, the Engineer will review the analysis and notify the Contractor in writing of acceptance or rejection. Notification of rejection includes the following:
   1. Engineering basis for rejecting the Contractor=s analysis, including specific points of objection.

2. District data and analysis to justify District position.

3. Time frame for removal of material or pay adjustment to be applied to the lot.

E. When the District concludes the engineering analysis has merit, the District, in conjunction with the Contractor, immediately begins a review of the acceptance test results. The review includes, but is not be limited, to the following:

1. Independent Assurance review of all equipment and procedures and methods used for sampling, splitting, and testing.

2. A review of the District and Contractor=s raw test data and calculations for documentation or calculation errors.

3. Production and testing of additional correlation samples.

4. Cross-witnessing of test procedures by Contractor Quality Control and District personnel.

5. Distribution any other pertinent information.

6. Discussion of other possible means for variation.

F. Do not continue production without concurrence from the Engineer or until differences in the test results are resolved.

G. If errors in testing or reporting are discovered, the District corrects the applicable test results and re-applies the acceptance/pay adjustment procedures.

1. If errors are identified that cannot be corrected and the quality of the lot is in question, the District may choose to evaluate the lot using the Hamburg Wheel Tracker or the Asphalt Pavement Analyzer.
   a. Use 5 stratified random samples cut from the roadway
   b. The Engineer decides, in conjunction with the Contractor, the status of the lot and associated pay adjustment, based on the following:
      $ Fatigue Life
      $ Stripping Potential
      $ Rutting Potential
      $ Expected Pavement Performance Period vs. Design Life

2. Errors that are identified within the District's testing result in a review of the Contractor's schedule and if appropriate, make adjustments to the CPM.

H. If errors in testing cannot be identified, select an Independent Third Party (Agreed on by the District and the Contractor) to witness sample splitting and testing by both the Contractor and the District. The Independent Third Party identifies/produces additional material for split-sample testing.

I. If testing errors are identified by the Third Party, the District makes appropriate adjustments to the acceptance test results and re-applies the acceptance/pay adjustment procedures.

J. The party responsible for the identified error pays for the services of the Independent Third Party.

K. If no errors are identified, the District evaluates the lot using the original testing results.

END OF SECTION

SPECIAL PROVISION

SECTION 02742S

PROJECT SPECIFIC SURFACING REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Required PG Asphalt Binder.

PART 2 PRODUCTS

2.1 MIXES

A. Hot Mix Asphalt (HMA):

1. PG 58-28 Asphalt.

PART 3 EXECUTION (Not Used)

END OF SECTION

5715 Trailside Dr. Park City, Utah 84098
Office Phone: (435) 649-1564 | Web Address: BasinRecreation.org

SECTION 02771M

PEDESTRIAN ACCESS RAMPS

Delete Article 2.3.D in its entirety and replace with the following:

2.5 DETECTABLE WARNING SURFACE

D. Acceptable products for installation:

1. Cast iron detectable warning plates - Durable cast iron, homogeneous integral color (UV stable), skid resistant panel. Use for new construction, or retrofit construction.

Delete Article 3.4 in its entirety and replace with the following:

3.4 DETECTABLE WARNING SURFACE

A. Cast Iron Detectable Warning Plate

1. Place as shown on drawings. Install per manufacturer recommendations. Provide a smooth transition between the plate and the surrounding concrete surface.

END OF SECTION

SECTION 02776M

CONCRETE FLATWORK

Delete Article 3.4.C in its entirety and replace with the following:

3.4 EXPANSION AND CONTRACTION JOINTS

C. Expansion Joints
   1. Use ½ inch thick premolded expansion joint filler.
   2. Place an expansion joint every 50 ft.
   3. place joint filler between the sidewalk or median filler and the curb or adjacent pavement, sidewalk, driveway pavement, or structure.

Add Article 1.6 B to Article 1.6 in its entirety with the following:

1.6 ACCEPTANCE

B. Clean up
   1. Area surrounding concrete work shall be restored to condition before concrete work occurred.
   2. Concrete work will not be accepted until the area of work is cleaned up. Contractor equipment, garbage, forms, nails, blankets, traffic control devices, extra concrete, extra roadbase, cleanouts, etc. shall be removed to engineer's satisfaction before acceptance.

END OF SECTION

SECTION 02891S

TRAFFIC SIGNS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Materials and procedures for installing specialty traffic signs.

1.2 RELATED SECTIONS

A. Section 02317: Structural Excavation

B. Section 03055: Portland Cement Concrete

C. Section 03211: Reinforcing Steel and Welded Wire

D. Section 05120: Structural Steel

1.3 REFERENCES

A. ASTM A 513: Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing

B. ASTM A 653: Steel, Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by Hot-Dip Process

C. ASTM B 209: Aluminum and Aluminum-Alloy Sheet and Plate

D. American Plywood Association (APA) Product Standard

E. Code of Federal Regulations (CFR)

1.4 DEFINITIONS

A. Traffic Sign Components

1. Panel: Assembly of substrate and attached sheeting. Several panels may be necessary to complete one sign. Panel types are:
   a. Type:
      1) A: Retroreflective sheeting on sheet aluminum.
      2) PW: Retroreflective sheeting on plywood.
   b. Legend:
      1) 1: With non-reflective legend, symbols, and borders.
      2) 2: With retroreflective legend and border.
2. Panel Overlay: Attaching new panels to all or part of an existing panel.

3. Panel Replacement: Removing the existing panel and attaching a new panel to the frame.
4. Sheeting: The retroreflective or non-reflective material that comprises the background, legend (word messages and symbols), and border.
5. Sheeting Components: The matched component products required for the manufacture of highway signs will consist of the sheeting, cutout letters and borders, adhesives, inks and overlay films. Failure of the sheeting inks or overlay films, provided, sold, or recommended for use, will constitute a failure of the entire sign and be replaced under manufacturer's warranty replacement obligations. All components and warranties will be compatible with substrates used by UDOT, including 90/90 HDO plywood and Aluminum ASTM B 209 5052 - H 38 or 6061-T6.
6. Sign: An assembly comprised of panel, panel with frame when required, panel with "Z" bar when required.
7. Size: Height x Width
8. Substrate: The base material, usually plywood or aluminum, to which the background sheeting is attached.
9. Flashing Lights: Composed of Blinking/Flashing LED's

1.5 SUBMITTALS

A. Submit three sets of drawings for Specialty Signs for prefabrication approval. Allow 5 working days for approval.

B. Manufacturer's Product Data and Specifications.

C. Certification of MUTCD Compliance

PART 2 PRODUCTS

2.1 MATERIALS

A. Fabricate signs, base and posts according to SN Series Standard Drawings.

B. Substrate Aluminum: 0.080 inch thick. ASTM B 209 alloy 6061-T6, or 5052-H38.

C. Substrate Plywood: as specified below and which meets the APA product standard 1 PSI-83, Group 1, ⅝ inch thick.
1. 90/90, high density BB exterior (Douglas Fir) B Grade.
2. Plugged-core (Douglas Fir) with ½ inch maximum gaps.
3. Use acrylic laminate that is compatible with the retroreflective sheeting adhesive, and that does not require the removal of the release agents before applying the sheeting.

D. Bases: according to SN Series Standard Drawings
   1. Small Sign Tubular Steel Sign Base (B1)
      a. Manufactured according to Standard Drawings.
      b. Concrete foundation according to Standard Drawings.
   2. Small Sign Tubular Steel Sign Base (B2A)
      a. Manufactured according to Standard Drawings.
   3. Small Sign Tubular Steel Post Base (B2B)
      a. Manufactured according to Standard Drawings.
      b. Concrete foundation according to Standard Drawings.
   4. Slipbase Tubular Steel Sign Base (B3)
      a. Manufactured according to Standard Drawings.
         1) SLB-1 Slipbase top casting with locking ring.
         2) SLB-2 Slipbase top casting with set screws.
      b. Concrete foundation according to Standard Drawings.
   5. Slipbase Tubular Steel Sign Base Surface Mounted (B4A)
   6. Tubular Steel Sign Base Surface Mounted (B4B)
   7. Slipbase Tubular Steel Sign Base Barrier Mounted (B5)
   8. Freeway Sign Base
      a. Pipe Posts (B6A)
         1) Match base size with post size
      b. S Section post (B6B)
         1) Match base size with post size
      c. W Section post (B6C)
         1) Match base size with post size
      d. Concrete foundations according to Standard Drawings.

E. Posts, “T” and “U” brackets, extensions, and hardware: according to SN Series Standard Drawings.
   1. Post P1:
      a. 2⅜ inch outside diameter 0.080 (14 Gauge)
      b. ASTM A 513
      c. Galvanize to ASTM A 653
      d. Color: Powder coated as required
   2. Post P2:
      a. 2⅜ inch outside diameter 0.095 (13 Gauge)
      b. ASTM A 513
      c. Galvanize to ASTM A 653
      d. Color: Powder coated as required
   3. Post P3:
      a. 2⅞ inch outside diameter 0.134 (BWG 10)
      b. ASTM A 513
      c. Galvanize to ASTM A 653
      d. Color: Powder coated as required

4. Post P4:
   a. 2⅞ inch outside diameter 0.160 (NP 40)
   b. ASTM A 513
   c. Galvanize to ASTM A 653
5. Post P5:
   a. 2⅞ inch outside diameter 0.276 (SCH 80)
   b. ASTM 500
   c. Galvanize to ASTM A-123
6. "T" and "U", Extension and 90˚ Post Extension
   a. Manufacture according to Standard Drawings.
   b. Galvanize each
7. Standard Pipe Posts
   a. Match post size with base requirements.
8. S Section and W Section steel posts
   a. Structural Steel: Refer to Section 05120.
   b. Match post size with base requirements

F. Retroreflective Sheeting:
   1. Meet Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03.
   2. Conform to 23 CFR 655 Subpart F for Standard Highway colors for Ordinary and Fluorescent Sheeting. Use Fluorescent Sheeting for all pedestrian related signs. Use fluorescent green in school zones only.
   3. Meet or exceed the minimum requirements of ASTM Type IX.

G. Non-reflective Sheeting: As specified and in accordance with the recommendation of the retroreflective sheeting manufacturer.

H. Fasteners: As required on applicable SN Series Standard Drawings

I. Foundation: as required on applicable SN Series Standard Drawings
   1. Concrete: Class AA(AE). Refer to Section 03055.
   2. Reinforcing steel: Refer to Section 03211.
   3. Anchor bolts: Refer to Section 05120.

J. Structural Steel: Structural Steel frame. Refer to Section 05120.

K. Flashing Light:
   1. Battery: Nickel Metal Hydride (NiMH) – 14,000 mAh with a minimum warranted life span of 5 years and Autonomy (Function without Charge) for up to 30 days in 24/7 operation.

2. Solar Panel: Minimum warranted life span of 20 years. Automatic Charge Controller to prevent battery over charging. Output capable of fully powering lighting without battery during overcast day.
3. Lighting:
   a. Flash Pattern MUTCD Compliant. Requires Manufacture's Certification
   b. Adjust light output for maximum visibility and battery efficiency.
   c. LED Type, High Power Luxeon, 1 watt (min) with a life expectancy over 100,000 hours.
   d. Push Button Activation w/wireless synchronization between signs.

J. Temporary covering: Opaque material.

PART 3 EXECUTION

3.1 PREPARATION

A. Coordinate utility location.

B. Excavate: Refer to Section 02317.

C. Install traffic control devices before work activities begin.

3.2 INSTALLATION – GENERAL

A. Do not reverse screen sign larger than 7 ft^2/color.

B. Do not remove a sign that is being replaced until the new sign is placed and uncovered.

C. Compact backfill to a density equal to surrounding materials.

D. Establish proper elevation and orientation of all signs and structures, and determine proper sign post lengths as dictated by construction slopes.

E. Cover signs that require temporary covering with an opaque material. Secure at the rear of the sign so that the sign is not damaged. Maintain covering until covering or sign is removed.

F. Construct sign post foundations with concrete conforming to indicated dimensions.

3.3 RELOCATE EXISTING SIGN

A. Retrofit as required to meet current standards.

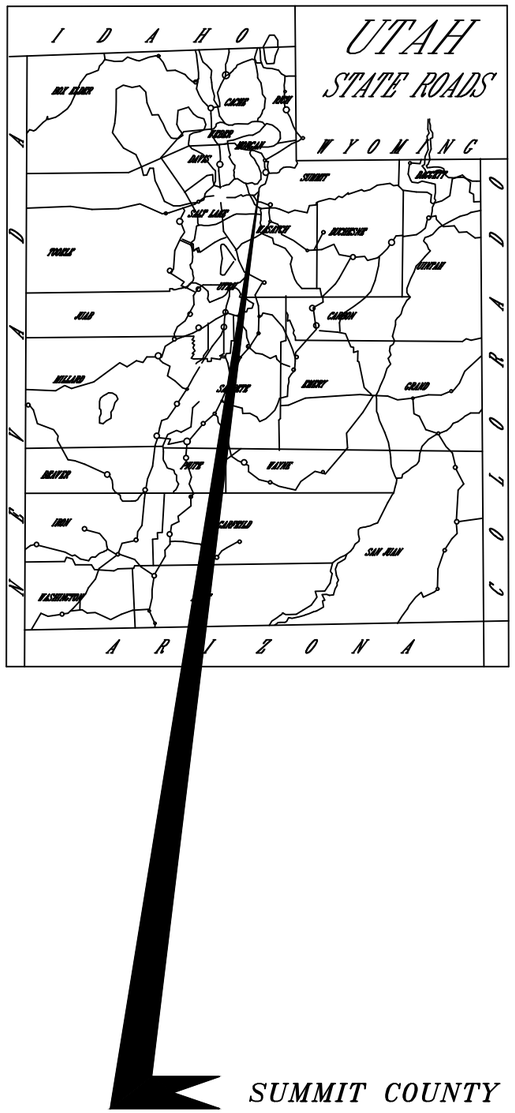
B. Provide new posts and accessories as required.

C. Remove foundations to a minimum of 6 inches below the ground line and backfill.

3.4 REMOVE EXISTING SIGN

A. Remove foundations to a minimum of 6 inches below the ground line and backfill.

END OF SECTION



BASIN RECREATION
SUMMIT COUNTY, UTAH

RUN-A-MUCK 2
(PHASE I)

RECOMMENDED FOR APPROVAL

APPROVED _____

DATE

INDEX TO SHEETS

BASIN RECREATION

BASIN RECREATION
SUMMIT COUNTY, UTAH

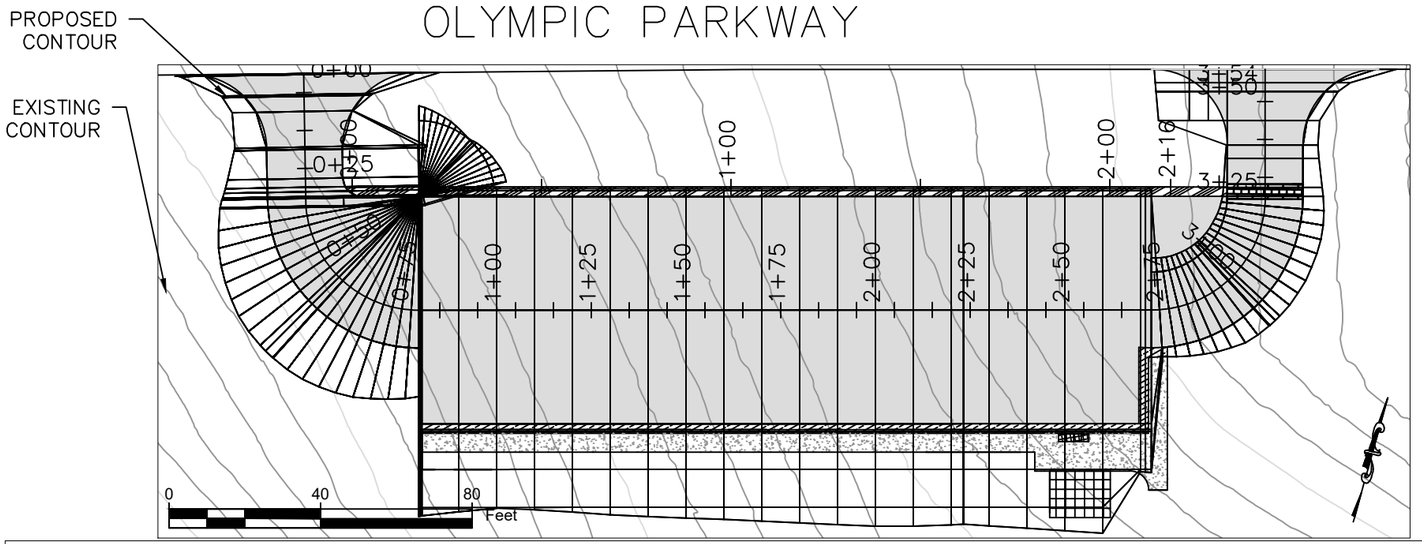
RUN-A-MUCK 2 (PHASE 1)

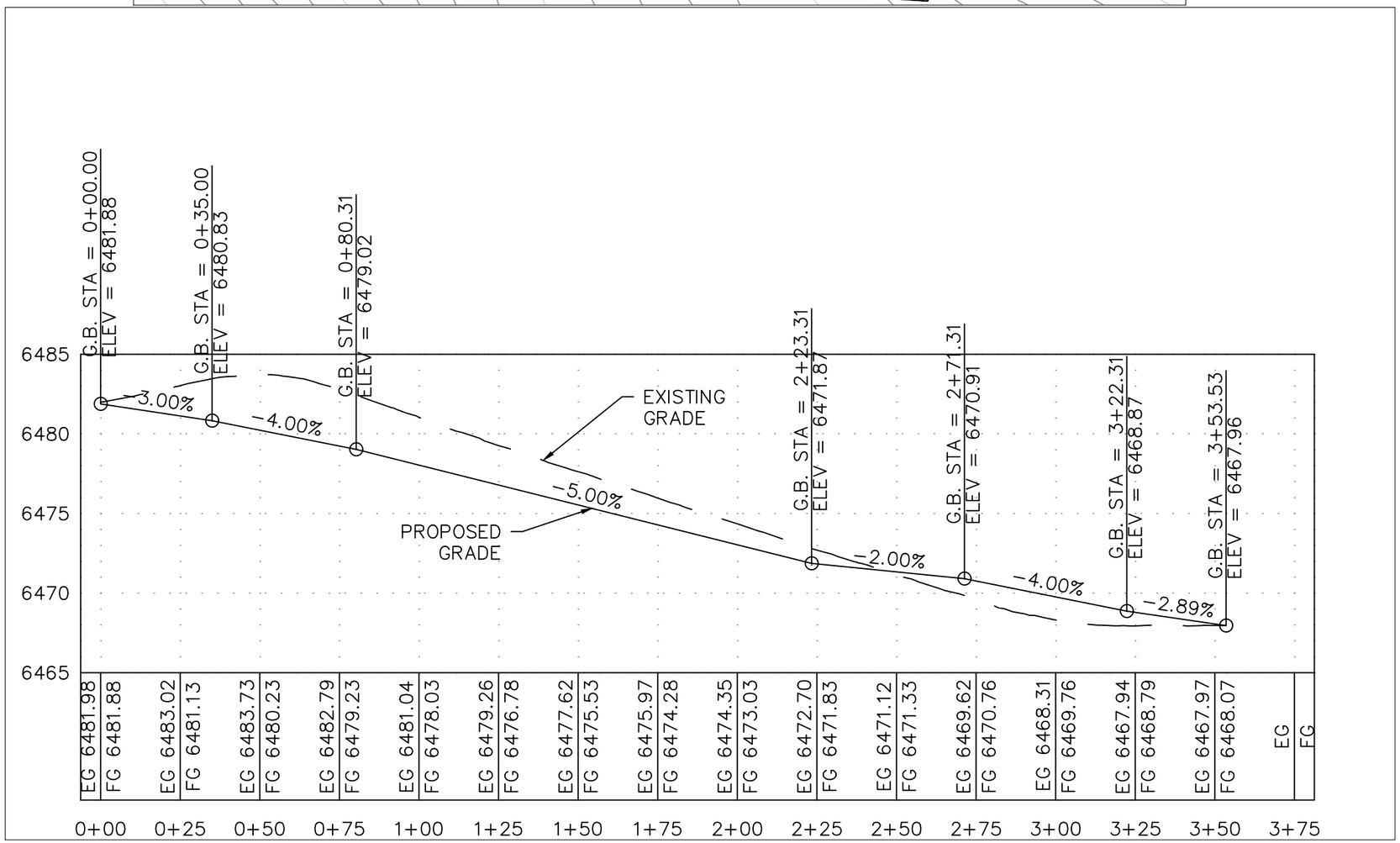
DESIGNED: SN
DRAWN: SN
REVIEWED:
ISSUE: DESIGN
DATE: May. 4, 23
PROJECT NO: RAM 2-1
REVISIONS:
1:
2:
3:
4:
SHEET TITLE: COVER
SHEET: C-01

BASIN RECREATION
SUMMIT COUNTY, UTAH
RUN-A-MUCK 2 (PHASE 1)

BASIN RECREATION

DESIGNED:	SN
DRAWN:	SN
REVIEWED:	
ISSUE:	DESIGN
DATE:	May. 4, 23
PROJECT NO:	RAM 2-1
REVISIONS:	
1:	
2:	
3:	
4:	
SHEET TITLE:	LOCATION MAP
SHEET:	LM-01





GENERAL NOTES:

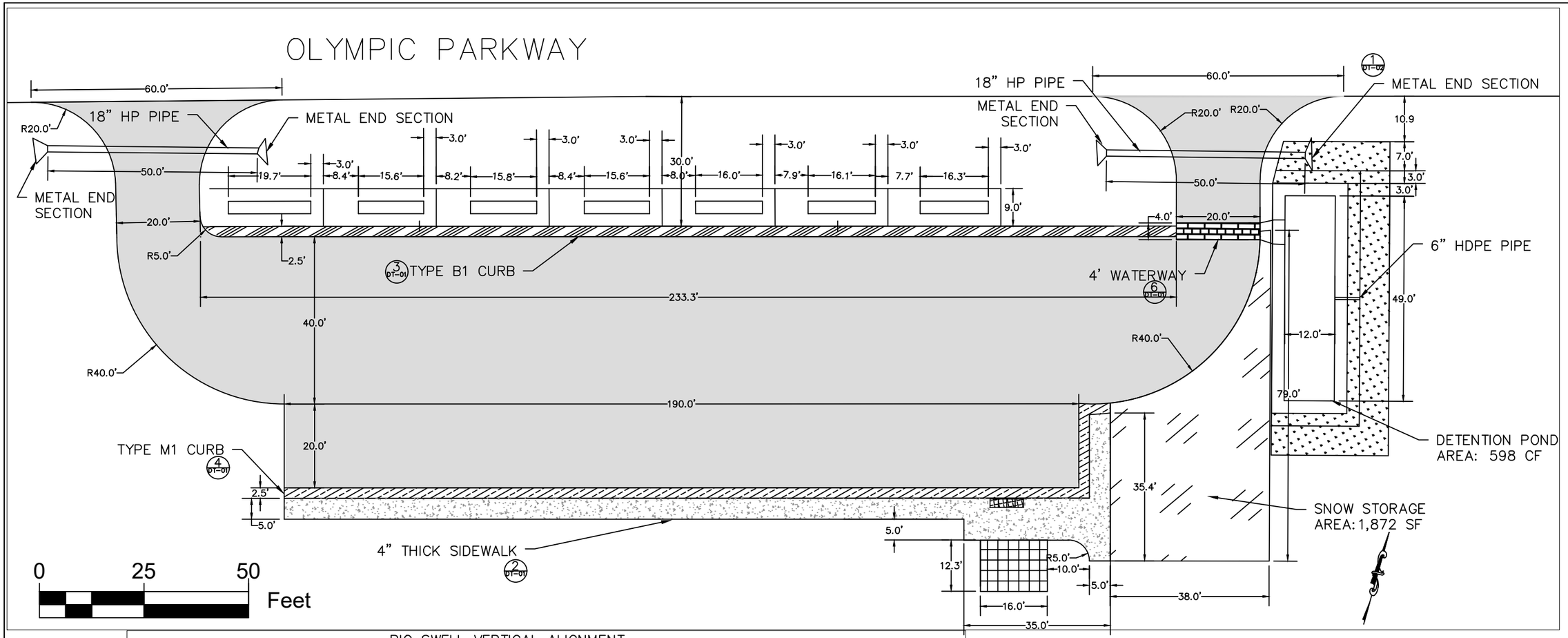
1. ENTRANCE AND EXIT FROM OLYMPIC PARKWAYS HORIZONTAL SLOPE WILL MATCH EXISTING ROADWAY SLOPE AND WILL TRANSITION TO 2% SLOPE WITHIN 25'.

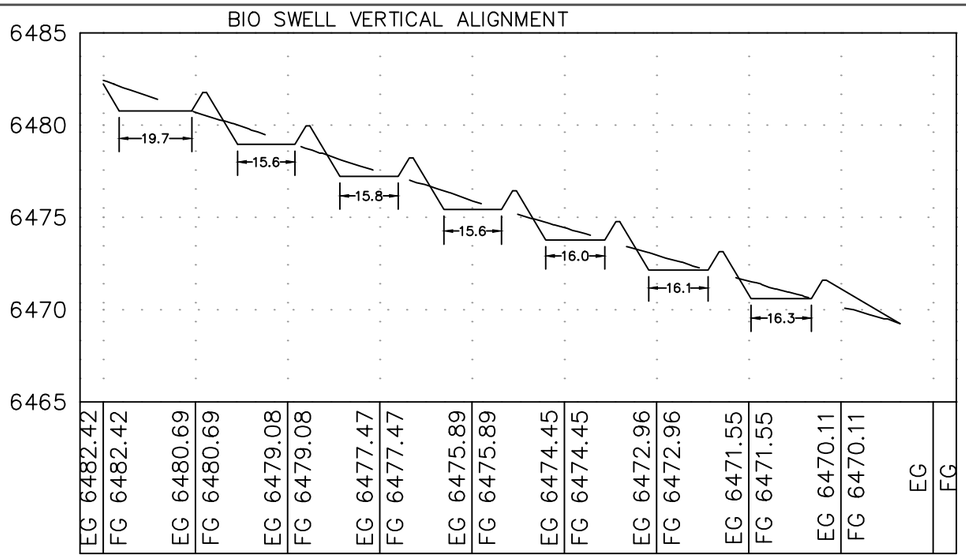
BASIN RECREATION

BASIN RECREATION
SUMMIT COUNTY, UTAH
RUN-A-MUCK 2 (PHASE 1)

DESIGNED:	SN
DRAWN:	SN
REVIEWED:	
ISSUE:	DESIGN
DATE:	May. 4, 23
PROJECT NO:	RAM 2-1
REVISIONS:	
1:	
2:	
3:	
4:	
SHEET TITLE:	PLAN & PROFILE
SHEET:	PP-01

OLYMPIC PARKWAY





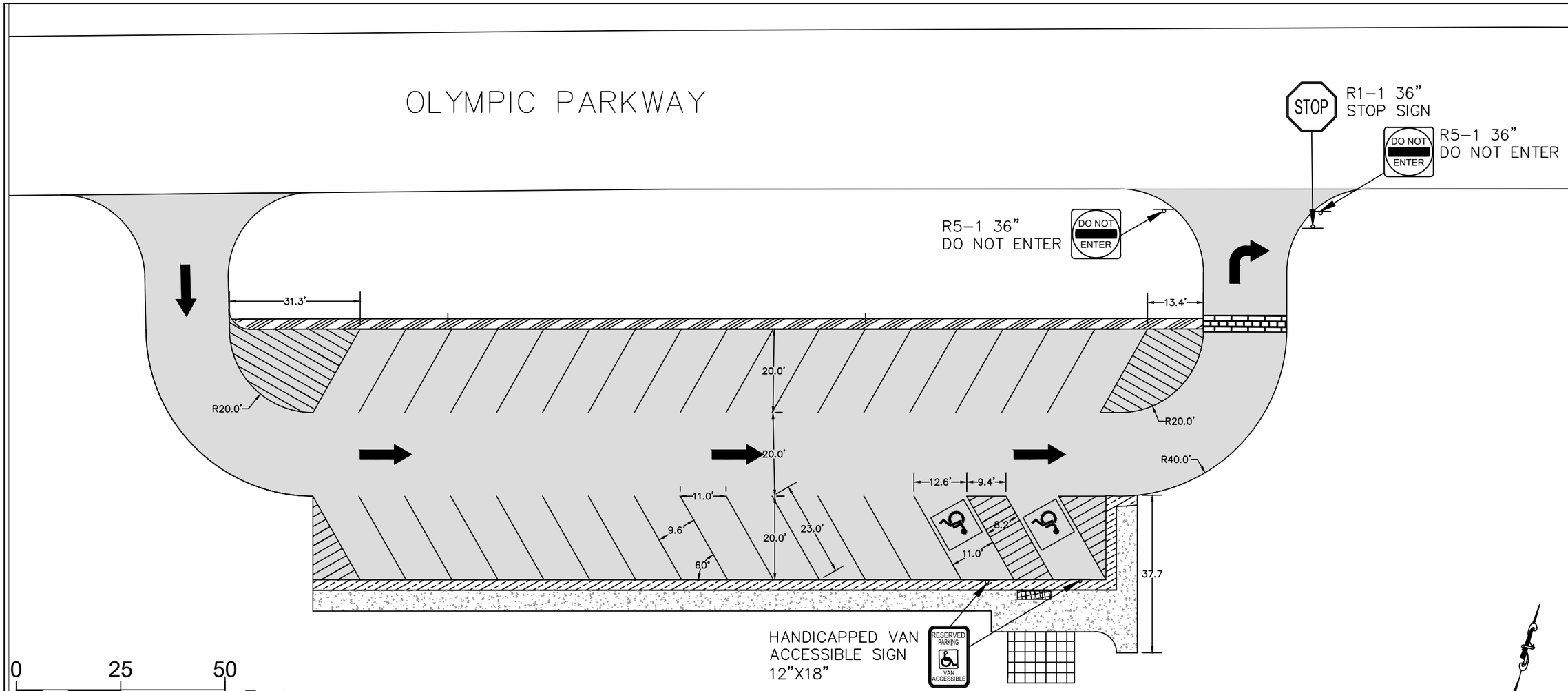
LEGEND

- ASPHALT PAVEMENT (1 D1-01)
- B1 CURB & GUTTER (3 D1-01)
- M1 CURB & GUTTER (4 D1-01)
- 4" THICK SIDEWALK (2 D1-01)
- LATRINE
- SNOW STORAGE
- ADA RAMP
- 10' GRASS BUFFER STRIP (1 D1-02)
- 4' WATERWAY (6 D1-01)
- 4"-6" RIP RAP

BASIN RECREATION

BASIN RECREATION
SUMMIT COUNTY, UTAH
RUN-A-MUCK 2 (PHASE 1)

DESIGNED:	SN
DRAWN:	SN
REVIEWED:	
ISSUE:	DESIGN
DATE:	May. 4, 23
PROJECT NO:	RAM 2-1
REVISIONS:	
1:	
2:	
3:	
4:	
SHEET TITLE:	PLAN VIEW
SHEET:	P-01



BASIN RECREATION

BASIN RECREATION
SUMMIT COUNTY, UTAH
RUN-A-MUCK 2 (PHASE 1)

DESIGNED:	SN
DRAWN:	SN
REVIEWED:	
ISSUE:	DESIGN
DATE:	May. 4, 23
PROJECT NO:	RAM 2-1
REVISIONS:	
1:	
2:	
3:	
4:	
SHEET TITLE:	SIGN & STRIPING
SHEET:	SS-01

BIO SWELL CALCULATIONS FROM WEST TO EAST

off	9		
W1=	25.7	Area=	115.65
H1=	1.5		
	detention area =		**105.8** CF
L2=	3		
W2=	19.7	Area=	9.85
H2=	0.5		

$V = \frac{lwh}{3}$

L1=	9		
W1=	21.6	Area=	97.2
H1=	1.5		
	detention area =		**89.4** CF
L2=	3		
W2=	15.6	Area=	7.8
H2=	0.5		

$V = \frac{lwh}{3}$

L1=	9		
W1=	21.8	Area=	98.1
H1=	1.5		
	detention area =		**90.2** CF
L2=	3		
W2=	15.8	Area=	7.9
H2=	0.5		

$V = \frac{lwh}{3}$

L1=	9		
W1=	21.6	Area=	97.2
H1=	1.5		
	detention area =		**89.4** CF
L2=	3		
W2=	15.6	Area=	7.8
H2=	0.5		

$V = \frac{lwh}{3}$

L1=	9		
W1=	22	Area=	99
H1=	1.5		
	detention area =		**91** CF
L2=	3		
W2=	16	Area=	8
H2=	0.5		

$V = \frac{lwh}{3}$

L1=	9		
W1=	22.1	Area=	99.45
H1=	1.5		
	detention area =		**91.4** CF
L2=	3		
W2=	16.1	Area=	8.05
H2=	0.5		

$V = \frac{lwh}{3}$

L1=	9		
W1=	22.3	Area=	100.35
H1=	1.5		
	detention area =		**92.2** CF
L2=	3		
W2=	16.3	Area=	8.15
H2=	0.5		

$V = \frac{lwh}{3}$

STORM WATER CALCULATIONS

$Q=C*I*A*C_f$	C=	0.95		
	I=	5.17	IN./HR	100-YEAR I
	A=	0.42	ACRES	
	C_f=	1.25		
	Q=	**2.58**	**CFS**	

Impervious Area (FT^2)				
Asphalt	Curb and Gutter	Sidewalk	Latrine	
14769	1221.67	1355	0	
TOTAL AREA		38,116.00	FT^2	
IMPERVIOUS AREA		**17,345.67**	FT^2	46%

$Rv=01.14*i-.371$	=1.14*1-0.371	Rv=	0.15	
$V_{goal}=Rv*d*A$		d=	0.0400	ft
		A=	38116	SF
		V_{goal}=	**232.34**	**CF**

.48 in. per Ordinance 317- 9-3-11: SPECIFIC REQUIREMENTS TO STORM DRAIN DESIGN D.1.A

Phase 1= 253.53
Phase 2= 232.34
Total= 485.87

DETENTION AREA

L1=	18		
W1=	55	Area=	990
H1=	3		
	detention area =		**598** CF
L2=	12		
W2=	49	Area=	392
H2=	2		

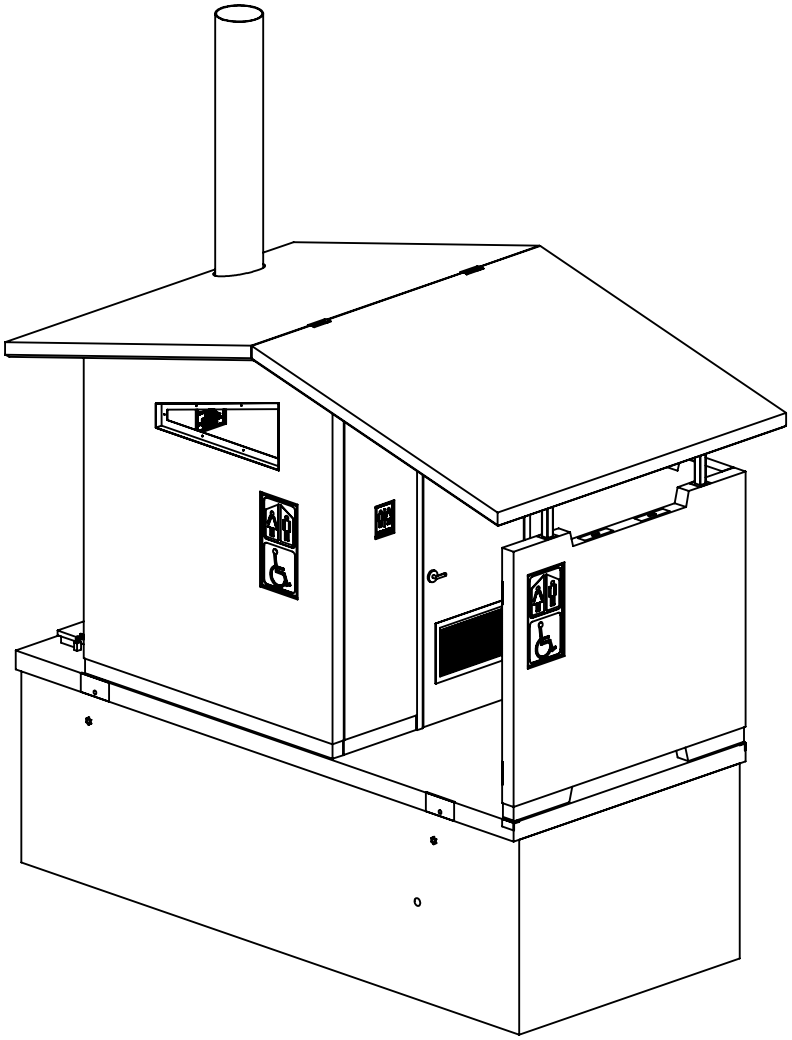
$V = \frac{lwh}{3}$

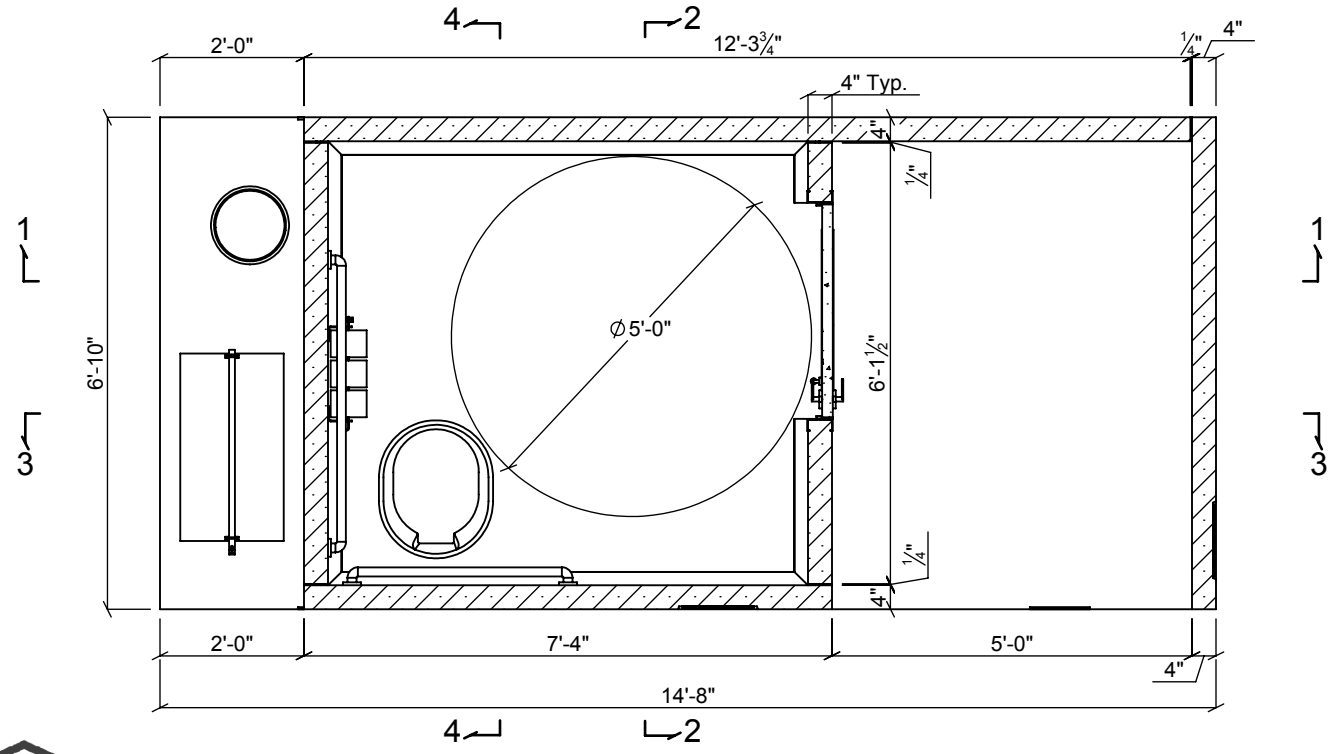
	Detention	Goal
Total=	**1247.4** CF	1225

BASIN RECREATION

BASIN RECREATION
SUMMIT COUNTY, UTAH
RUN-A-MUCK 2 (PHASE 1)

DESIGNED: SN
DRAWN: SN
REVIEWED:
ISSUE: DESIGN
DATE: May. 4, 23
PROJECT NO: RAM 2-1
REVISIONS:
1:
2:
3:
4:
SHEET TITLE: STORM WATER CALCULATIONS
SHEET: SW-01





MISSOULACONCRETE construction

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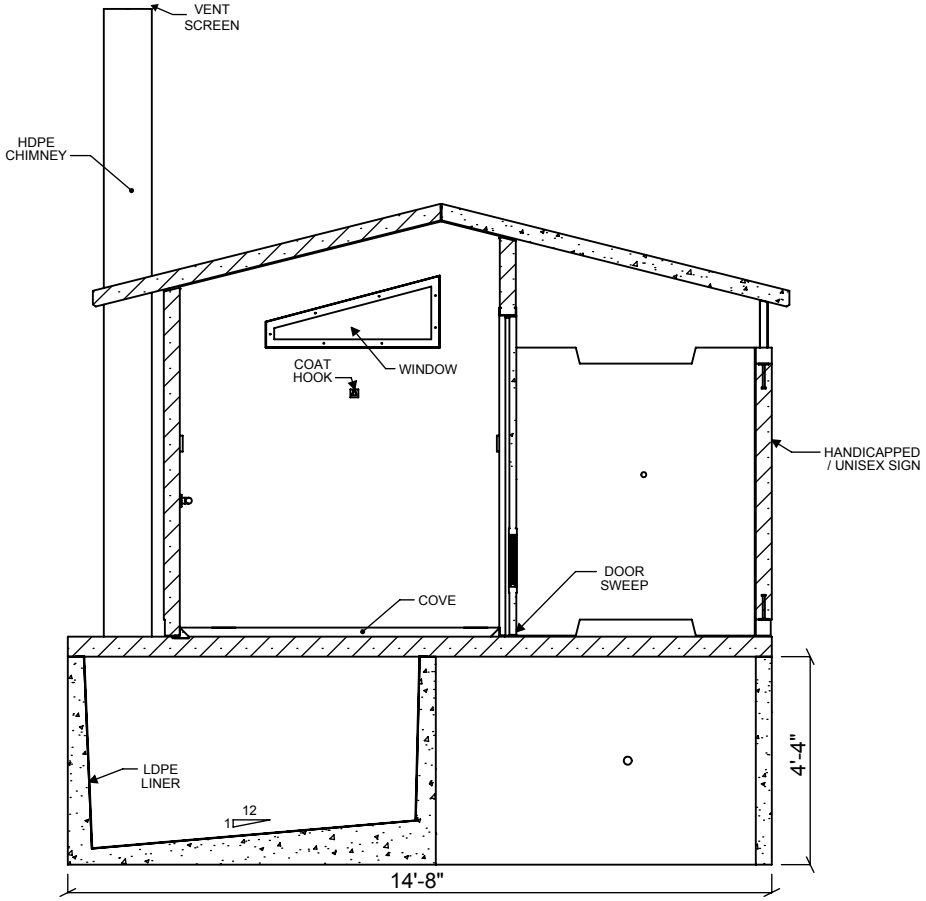
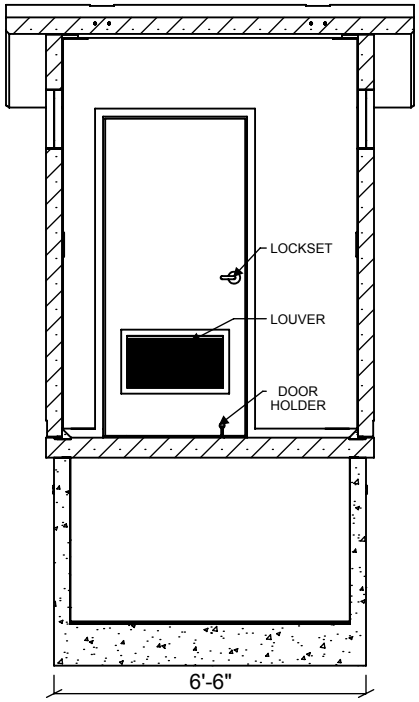
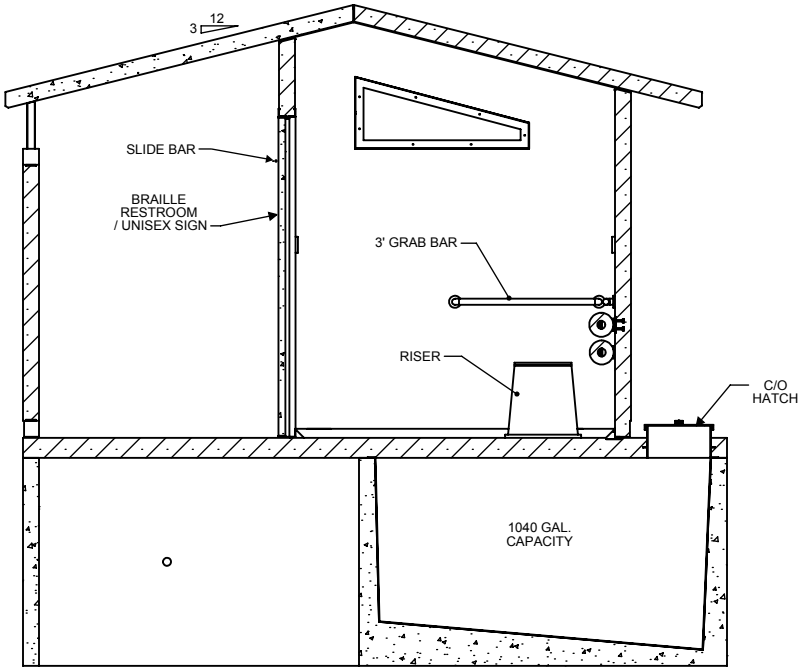
FWP	
ASPEN VAULT TOILET	SHEET 1 / 4 OF
RIGHT HAND	
FULL SCREEN	
3/2017	



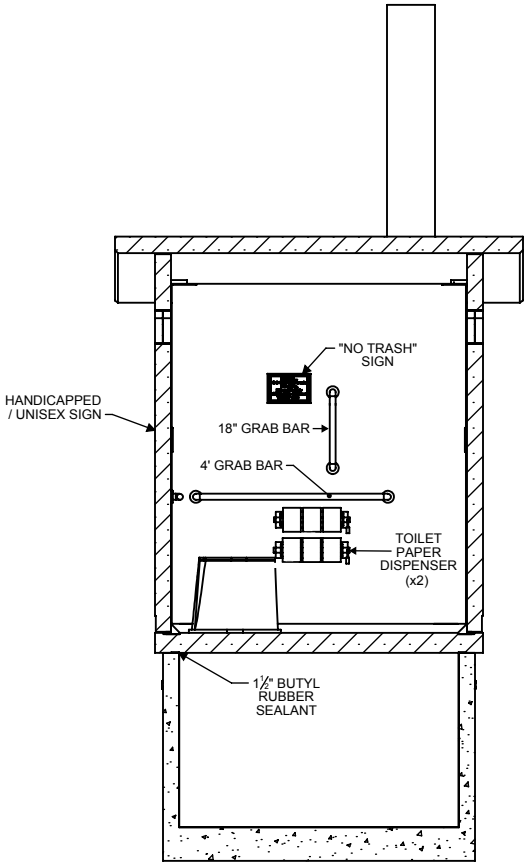
SECTION 1-1
SCALE 1 : 48



SECTION 2-2
SCALE 1 : 48



SECTION 3-3
SCALE 1 : 48



SECTION 4-4
SCALE 1 : 48

MISSOULACONCRETE construction

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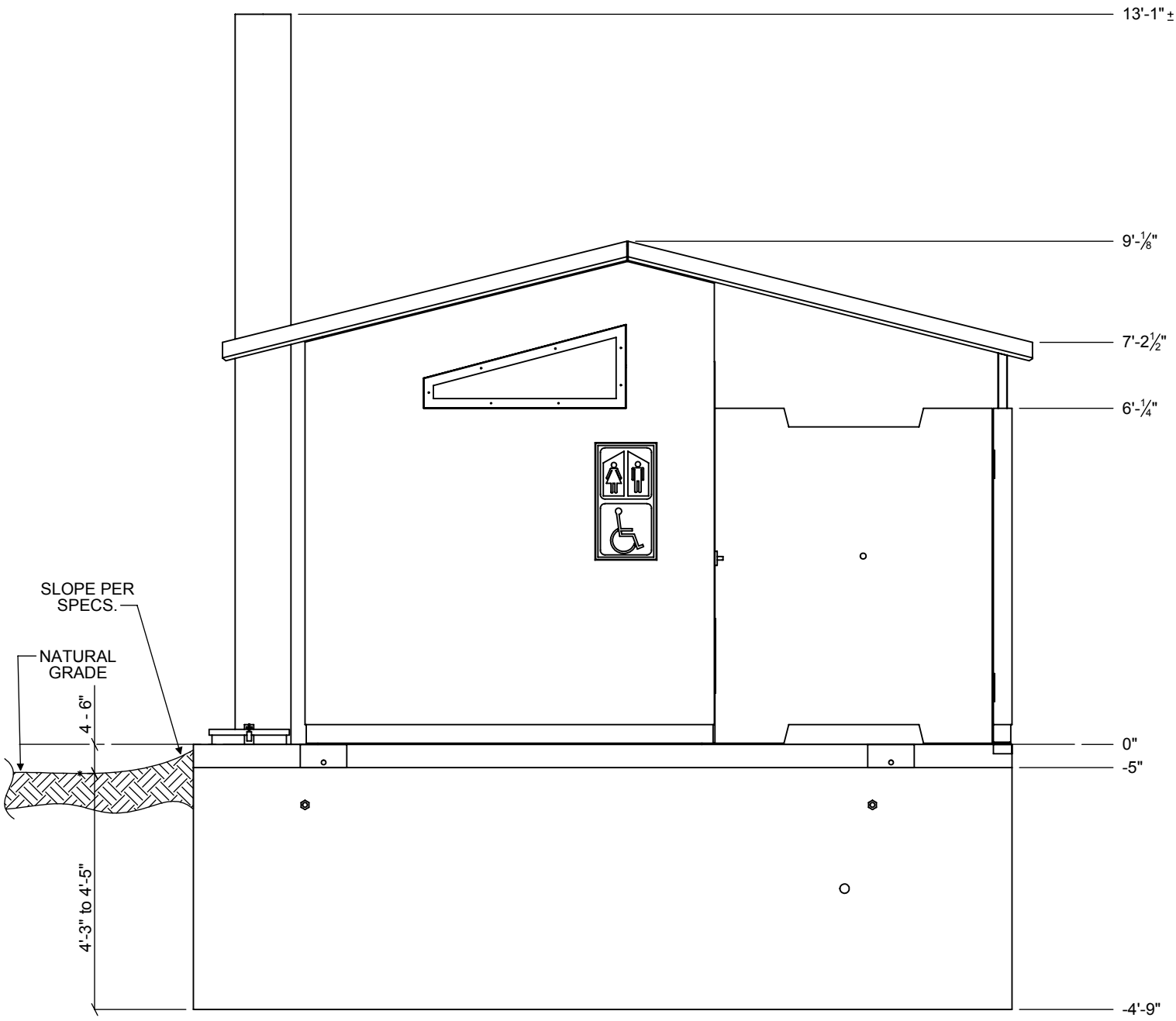
FWP

ASPEN VAULT TOILET	SHEET 2 / 4 OF
RIGHT HAND	
FULL SCREEN	
3/2017	



WEIGHT:

- Building - 24,000 lbs.
- Vault - 16,000 lbs.

EXCAVATION:

- Vault Hole - 8' wide x 16' long x 4'-9" below desired finish floor elevation
- See specifications for additional requirements.

MISSOULACONCRETE construction

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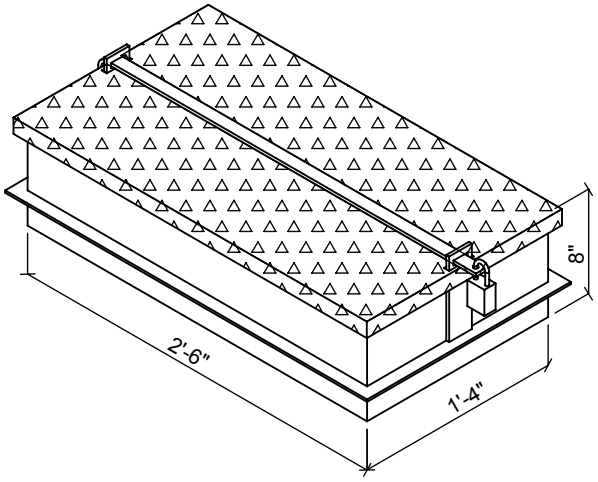
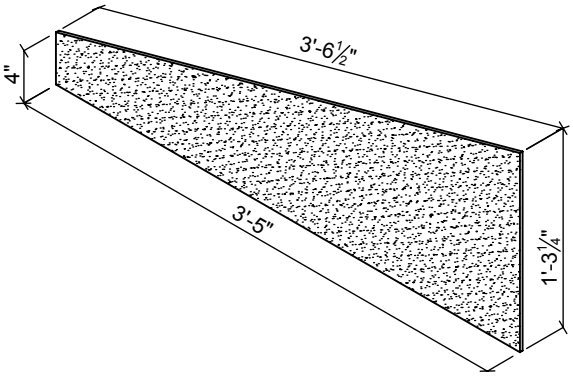
FWP	
ASPEN VAULT TOILET	SHEET 3 / 4 OF
RIGHT HAND	
FULL SCREEN	
3/2017	

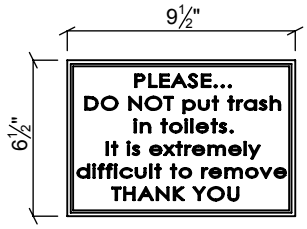


CLEANOUT HATCH

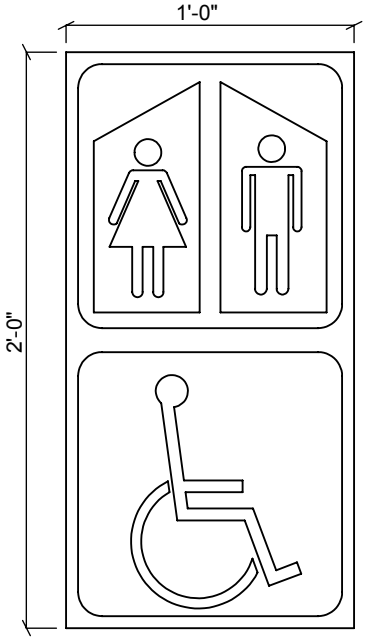


POLYCARBONATE WINDOW

BRAILLE RESTROOM SIGN



"NO TRASH" SIGN

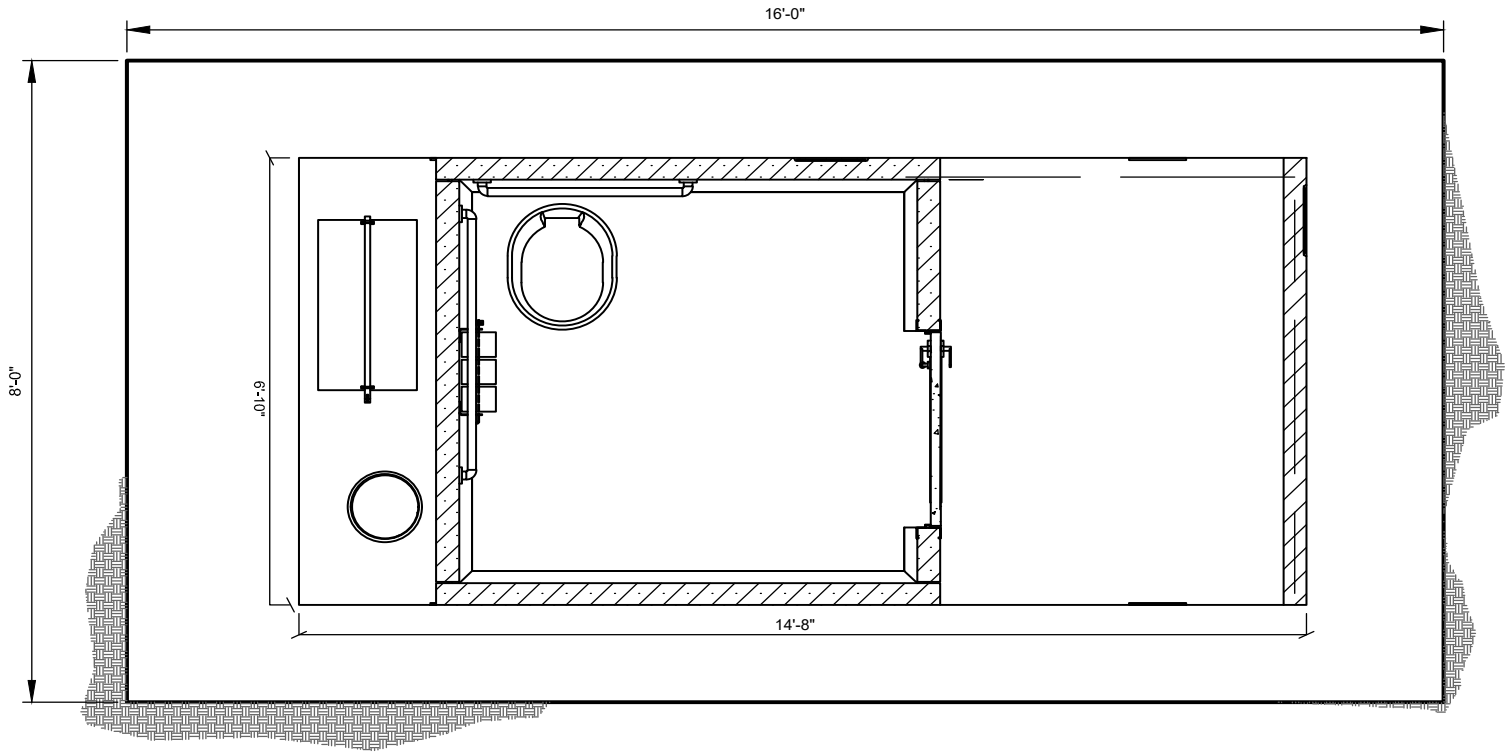


"HANDICAPPED / UNISEX" SIGN

MISSOULACONCRETE construction

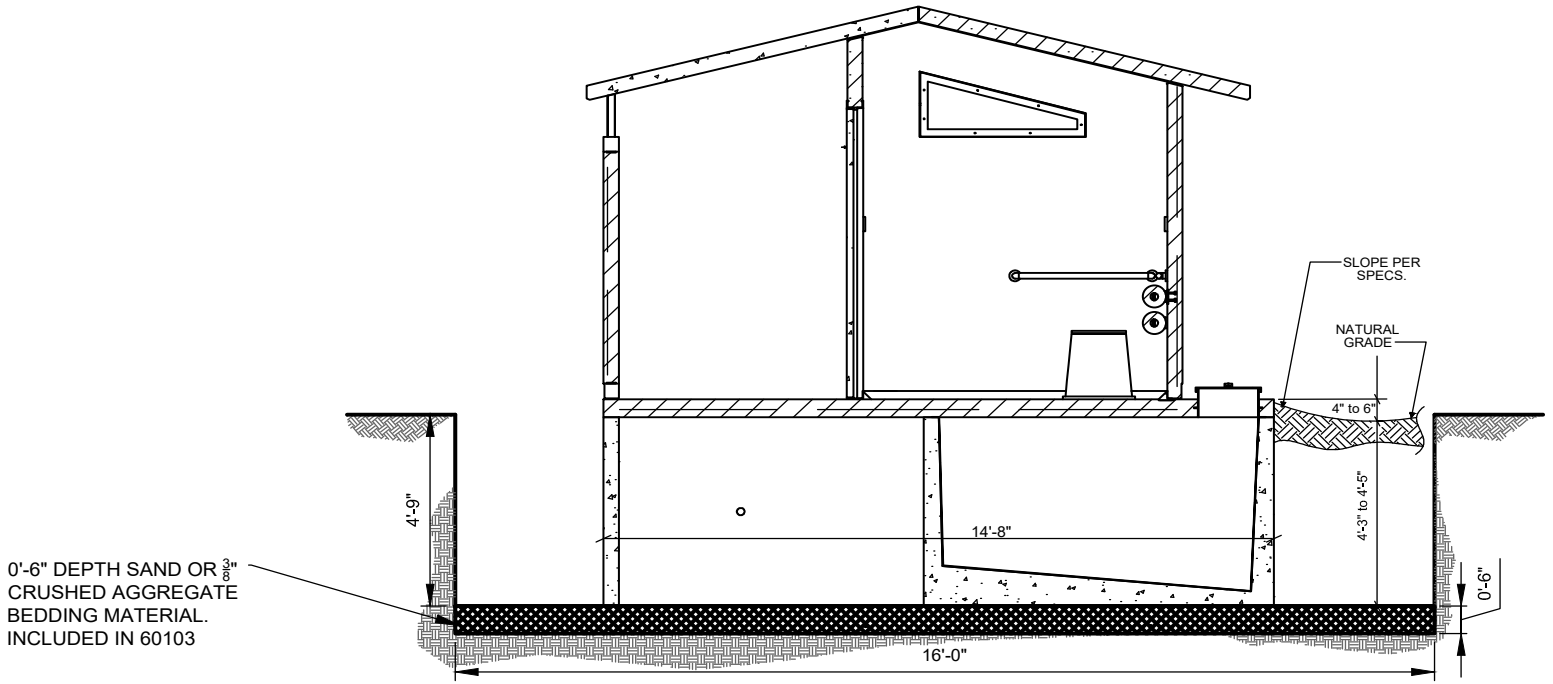
file:fwp_right full_3_17

FWP	
ASPEN VAULT TOILET	SHEET 4 / 4 OF
RIGHT HAND	
FULL SCREEN	
3/2017	



TYPICAL SINGLE VAULT TOILET EXCAVATION PLAN VIEW

NOT TO SCALE



TYPICAL SINGLE VAULT TOILET EXCAVATION PROFILE

NOT TO SCALE

MISSOULACONCRETE
construction

Aspen Vault Toilet Specifications

PCI
CERTIFIED PLANT

1.0 SCOPE

This specification covers the construction and placing of the Aspen Style precast concrete vault toilet as produced by Missoula Concrete Construction.

2.0 SPECIFICATIONS

ASTM C33	Concrete Aggregates
ASTM C39	Method of Test for Compressive Strength of Cylindrical Concrete Specimens
ASTM C143	Method of Test for Slump of Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C192	Method of Making and Curing Test Specimens in the Laboratory
ACI 1211	Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete
PCI MNL 116	Quality Control for Plants and Production of Precast Prestressed Concrete Products
AWS D1.1	Structural Welding Code

3.1 MANUFACTURER CRITERIA

1. PCI Certified Plant
2. ISO 9001 Certified

3.2 DESIGN CRITERIA

The Aspen has been designed to meet the following criteria. Calculations and Engineer's stamped drawings are available upon request by the customer and are for their sole and specific use only. The design criteria are to ensure that the Aspen not only will withstand the forces of nature listed below but to provide protection from vandalism and other unforeseen hazards.

A. Roof Snow Load

1. The Aspen will withstand a snow load of 250 pounds per square foot.

B. Wind Load

1. The Aspen will withstand the effects of 120 miles per hour wind load (fastest mile) or 180 mph (3 second gust) Exposure C.

C. Earthquake

1. The Aspen will withstand the effects of zone 4 earthquakes.

D. Additional Design Standards

1. The Aspen is designed to meet the requirements of the Americans with Disabilities Act Requirements and Uniform Federal Accessibility Standard including as of the date of these specifications.
2. The Aspen incorporates all design aspects of Sweet-Smelling Technology as outlined by Brian Cook for the U.S. Forest Service. ("In Depth Design and Maintenance Manual for Vault Toilets" - July 1991 - Publication No. 9123 1601)
3. The Aspen has a one-piece vault unit to support the building, screen area and snow loads evenly. The Aspen has a one-piece prestressed floor unit with a 250 psf load capacity to withstand transportation stresses.
4. Vault toilet buildings shall have a minimum 4" wall, 4-1/2" roof, and 5" floor.
5. All vault toilet buildings have a 3/12 roof pitch.

E. Tolerances

1. Tolerances will be within the limits as dictated by the PCI Quality Control and Assurance Manual.

4.2 MATERIALS

A. Concrete - General

This concrete mix design is designed to ACI 211.1 to produce concrete of good workability.

Mix #7.25 R - 1 cubic yard cement 681 lbs.
water 232 lbs. (27.8 gal.)
w/c=.34
Coarse aggregate (SSD) 1,800 lbs. Fine aggregate (SSD) 1,196 lbs.
Water Reducing Agent 34 oz. MB 322N
Air Entraining Agent 6 oz. MB AE-90 (4-7%) Ave. 28-day strength 5,500 psi

1. Cement will be low alkali type I-II or type III conforming to ASTM C-150
2. Coarse aggregates used in the concrete mix design will conform to ASTM C33 with the designated size of coarse aggregate #67.
3. Minimum water/cement ratio will not exceed 0.40. Slump will not exceed 5" with normal water reducing agent or 7" with super plasticizer.
4. Air-entrained admixtures will conform to ASTM C260. Water reducing admixtures will conform to ASTM C494, Type A. Plasticizing admixtures will conform to ASTMC 1017. Other admixtures will not be used without customer approval.

B. Colored Concrete

1. Color additives will conform to ASTM C979. A 6"x12"x2" color sample will be available for customer approval.
2. The following will contain colored concrete:
   a. Toilet building roof panels.
   b. Building walls
   c. Screen panels
   d. The sample brand and type of color additive will be used throughout the manufacturing process.
   e. All ingredients will be weighed, -and the mixing operation will be adequate to ensure uniform dispersion of the color.
3. Color pigments will be by Davis Colors.

C. Cold Weather Concrete

1. Cold weather concrete placement will be in accordance with ACI 306.
2. Concrete will not be placed if ambient temperature is expected to be below 35 degrees F. during the curing period unless heat is readily available to maintain the surface temperature of the concrete at least 45 degrees F.
3. Materials containing frost or lumps of frozen materials will not be used.

D. Hot Weather Concrete

1. The Temperature of the concrete will not exceed 80 degrees F. at the time of placement and when the ambient temperature reaches 90 degrees F. The concrete will be protected with moist covering.

E. Concrete Reinforcement

1. All reinforcing steel will conform to ASTM A615. All welded wire fabric will conform to ASTM A185.
2. All reinforcement will be new, free of dirt oil. Paint, grease, and loose mill scale and loose or thick rust when placed.
3. Details not shown on drawings or specified will be to ACI 318.
4. Steel reinforcement will be centered in the cross-sectional area of the walls and will have at least 1" of cover on the under surface of the floor and roof.
5. The maximum allowable variation for center-center spacing of reinforcing steel will be 1/2".
6. Full lengths of reinforcing steel will be used when possible.
7. Reinforcing bars will be bent cold.
8. Diagonal reinforcement will be placed around all openings.

F. Sealers and Curing Compounds

1. Curing compounds, if used, will be odorless, complying with ASTM C309 type I or I-D.
2. Weatherproofing sealer for exterior of building will be clear, low gloss, water based acrylic sealer (Dayton-Superior Ultra Seal EF)

G. Caulking, Grout, Adhesive and Sealer

1. All caulking will remain flexible and non-sag at temperatures from 50 to 140 degrees Fahrenheit>
2. Interior joints will be caulked with white "Sidewinder" by DAP.
3. Exterior joints will be caulked with a siliconized acrylic caulk that closely matches the exterior concrete color (by GE Sealants). Roof ridge will be 100% silicon caulk (also by GE Sealants).
4. Epoxy concrete adhesive will be two components: rigid and non-sag gel adhesive for bonding to dry or damp surfaces, moisture insensitive.
5. Portland cement mortar will consist of one part Portland cement, three parts sand and enough water to make a workable mixture.

H. Paint

1. All paints and materials will conform to all Federal specifications or be similar "top-of-the-line-components". Paints will be lead free.
   a. Inside concrete surfaces:
      I. Interior Floors will be Rust-Oleum, High Performance 5300 system 2-part, water-based epoxy, Color: Gray (www.roddapaint.com)
      II. Interior walls and ceiling will be Rodda Master Painter, White Base 54 3101 5, Interior semi-gloss, Color: White. (www.roddapaint.com) Followed by anti-graffiti sealer (if requested).
   b. Metal surfaces both inside and out:
      I. Rodda Industrial Protective Coatings, Professional Maintenance, Neutral Base 75 8104 1, all-purpose gloss equipment enamel, Color: Varies (Normally custom matched to Rust-Oleum 7754 Anodized Bronze) (www.roddapaint.com)
   c. Exterior concrete surfaces:
      I. Exterior slab will be clear sealer.
      II. Exterior walls will be Rodda AC-Exterior Series, Neutral Base 51 1104 5, 911 Velvet Flat Latex Color: Varies. (www.roddapaint.com) Followed by anti-graffiti sealer (if requested).
      III. Simulated shake roof will be boiled linseed oil thinned 10% with paint thinner.

I. Grab bars

1. Grab bars will be 18-gauge, type 304 stainless steel with 1-1/2" clearance. Grab bars will each be able to withstand 300 pounds of loading.

J. Toilet Paper Dispenser

1. Dispenser will be constructed of 1/4" type 304 stainless steel with an enamel finish. Dispenser can hold three (3) standard rolls of toilet paper. Toilet paper holder fastening system will be able to withstand 300-pound top loading.

K. Toilet Riser

1. Toilet riser will be 18" high, white cross-linked polyethylene, with heavy duty seat and lid, manufactured by Romtec, Roseburg, OR.

L. Steel Doors

1. Doors will be flush panel type 1-3/4" thick, minimum 16-gauge prime coated steel panels, level 3 Extra Heavy-duty, by Ceco Door Products.
2. Door frames will be knockdown or welded type, single rabbet, minimum 16-gauge prime coated steel width to suit wall thickness. Three (3) rubber door silencers will be provided on latch side of frame.

M. Door Hinge

1. Door hinges will be 3 per door with dull chrome plating 4 1/2"x 4 1/2", adjustable tension automatic closing for each door.

N. Lockset

1. Lockset will meet ANSI AI 56.2 Series 4000, Grade 1 cylindrical lockset for exterior doors.
2. Lever handle both inside and out.
3. Either handle operates latch unless outside handle is locked by inside push-button.
4. Push-button will automatically release when inside lever handle is turned, or door is closed.
5. Emergency slot on exterior so door can be unlocked from the outside with a coin, screwdriver, etc.
6. Inside lever always active.
7. U.S. 26D finish.

O. Deadbolt

1. Certified ANSI/BHMA A156.5-2001 Grade 1. Heavy duty tamper resistant. 2-3/4” backset. U.S. 26D finish.

P. Door or Wall Louvers

1. Door louver will be fixed, inverted split Y, non-vision, 18 gauge cold rolled steel with a factory prime coat equal to FDLS series.
2. Wall louver (if requested) will be HEAVY DUTY KICK PROOF VENT by Romtec, Roseburg, OR.
3. Wall louver (if requested) will be 14-gauge, type 304 stainless steel painted DTM and anchored into concrete wall with high strength anti-rust tap con fasteners.

Q. Doorstop

1. Doorstop will have a cast metal base, U.S. 26D finish with gray rubber 2-3/8" diameter bumper with a 1" projection.

R. Double Coat Hook

1. Coat hooks will be constructed of solid brass with a brushed chrome finish. Hooks will be side by side "ram horn" style with minimal projection for safety.

S. Door Sweep

1. Door sweep will be provided at the bottom of door and will be an adjustable brush type.

T. Windows and Vault Cleanout Cove

1. Windows and cleanout cover frames will be constructed from steel.
2. Window glazing will be 1/4" thick LEXAN polycarbonate.
3. Plate for vault cleanout cover will be 1/4" thick diamond plate steel. Lid will be configured so that it can be locked with a padlock. Lid will be designed to resist surface runoff penetration into the vault. A neoprene gasket will be provided around the entire perimeter of the lid to provide an airtight seal.

U. Vault Liner & Sealer

1. The vault shall include a one-piece 0.187" thick LDPE plastic liner by RMI Manufacturing, Caldwell, ID. Vaults with the LDPE liner shall be warranted against leaks for a period of 3 years.
2. If liners are not requested the vault will be coated with Tamoseal, a cement based waterproofing treatment. Vaults coated with Tamoseal shall be warranted against leaks for a period of 7 years.

V. Vent Stack

1. Vent stack will be 12" HDPE DR 32.5 (MIN) and extended ~4' higher than the roof peak and will be covered with a TRC vent screen by Teton Raptor Center.

5.1 MANUFACTURE

A. Mixing and Delivery of Concrete.

1. Mixing and delivery of concrete will be in accordance with ASTM C94, section 10.6 through 10.9 with the following additions.

2. Aggregate and water will be adjusted to compensate for differences in the saturated surface-dry conditions.
3. Concrete will be discharged as soon as possible after mixing is complete. This time will not exceed 30 minutes.

B. Placing and Consolidating Concrete

1. Concrete will be consolidated using mechanical vibrators. Vibrations will be sufficient to accomplish compaction but not to the point that segregation occurs.

C. Finishing Concrete

1. Interior floor and exterior slabs will be floated and troweled until all marks are removed. A light broom finish will be applied to the exterior and interior slabs for a non-slip finish.
2. All exterior building walls and exterior screen walls will be a barnwood texture, unless otherwise specified.
3. All exterior surfaces of the roof panels will be cast to simulate a cedar shake roof, unless otherwise specified. The underside of the overhang will have a smooth finish.

D. Cracks and Patching

1. Cracks in concrete components that are judged to affect the structural integrity of the building will be rejected.
2. Small holes, depressions and rock pockets will be patched with a suitable material. The patch will match the color, finish, and texture of the surrounding surface.
3. Patching will not be allowed on defective areas if the structural integrity of building is affected.

E. Curing and Hardening Concrete

1. Concrete surfaces will not be allowed to dry out from exposure to hot, dry weather during the initial curing period.
2. Curing compounds will not be used on interior walls as they will prevent paint adhesion.

6. FINISHING AND FABRICATION

A. Structural Joints

1. All welding will be by Certified Welders only (in accordance with AWS D1.1).
2. Wall components will be joined together with 2 welded plate pairs at each joint. Weld plates will be anchored into the concrete panels and welded together with a continuous weld.
3. Walls and roof will be joined with weld plates, 2-1/2"x5", at each building corner.
4. The joint between the floor slab and walls will be joined with a grout mixture on the inside. a matching-colored caulk on the outside and two weld plates 6" long per wall.

B. Painting

1. An appropriate curing time will be allowed before paint is applied to concrete.
2. Some applications may require acid etching. A 30% solution of hydrochloric acid will be used, flushed with water, and allowed to thoroughly air dry.
3. Painting will not be done outside in cold, frosty, or damp weather.
4. Painting will not be done outside in winter unless the temperature is 50 degrees Fahrenheit or higher.
5. Painting will not be done in dusty areas.
6. Schedule of finishes:
   a. Inside concrete surfaces
      I. Inside floors will be 2 coats of 2-part water-based epoxy.
      II. Interior walls and ceiling will be one coat primer / filler and 2 coats of white water based acrylic emulsion.
   b. Metal surfaces both inside and out
      I. 1 coat primer and 2 coats of enamel
   c. Exterior concrete surfaces
      I. Exterior slab will be 1 coat of clear sealer.
      II. Stained enhanced exterior walls will be 1 coat of pure acrylic water repellent penetration stain in the same color as the walls or roof followed by 1 coat of clear acrylic sealer.

7.1 QUALITY CONTROL AND INSPECTION

A. Pre-pour inspection.

1. Check all panel measurements including diagonals (must be within ¼ inch).
2. Check rebar spacing and clearance.
3. Check location of all embeds.

B. Concrete Testing

1. The following tests will be performed on concrete used in the manufacture of toilets. Testing will

only be performed by qualified individuals who have been certified ACI Technician Grade 1. Sampling will be in accordance with ASTM C172.

a. The slump of the concrete will be performed on the first batch of concrete in accordance with ASTM C143. This slump will be in the 3"-5" range.
b. The air content of the concrete will be checked per ASTM C231 on the first batch of concrete. The air content will be in the range of 4%-6%.
c. The compressive strength of the cylinders will be tested to ASTM C39.
d. Test cylinders will be taken from each other batch.
   - 1 cylinder will be tested prior to removal of forms and must be at 2,500 psi or higher.
   - 1 cylinder represents 7-day strength.
   - 2 cylinders will represent 28-day strength and must be 4,500 psi or greater.

C. After Form Removal Inspection

1. Recheck panel dimensions.
2. Verify that all embeds remained in place.
3. Look for all cracks or blemishes that may cause rejection.
4. Assure that panels are properly yarded and blocked.

8.1 INSTALLATION

A. Scope of Work

1. Work specified under this Section includes excavation, backfill and placement of precast concrete vault toilet.

B. Materials

1. Bedding material to be sand or 3/8" minus crushed or screened aggregate.
2. Sealant between vault and toilet floor to be 1.5" x 1.5" Butyl Rubber Sealant.

C. Location and Access to the Site

It is the responsibility of the customer to locate the vault toilet in area that provides safe and reasonable access for trucks and equipment.

1. The area must be free of overhead or underground obstructions.
2. Care must be taken to not place excavated material in the area where the crane must sit.
3. Verify that bridges/culverts in route to the site are rated for HS-20 loading.
4. Deliveries may be delayed if road conditions are hazardous or unsuitable for normal trucks and trailers.
5. Trucks must be able to reach the site under their own power.

D. Excavation and Elevation

1. Comply with all applicable OSHA Standards for excavation.
2. The "Aspen" vault toilet requires a hole that is 8ft wide and 16ft long as long as measured at the bottom. Depth should be 4'-9" below desired finished floor elevation.
3. Finish floor elevation will be 4-6 inches above natural grade measured at the front (entrance) of the exterior slab unless otherwise approved by the customer. The customer may specify a finish floor elevation for buildings at some sites. The contractor will install buildings at these sites with the floor elevation within ±0.05 feet of the specified floor elevation. It is very important that the installation provides drainage away from the structure.

F. Bedding and Compaction

1. Compact the natural ground at the bottom of the vault excavation with a minimum of three passes with a whacker-type mechanical compactor or equivalent approved by the customer.

2. Install sand or aggregate bedding material for leveling course. Compact leveling course with one pass with a whacker-type mechanical tamper or equivalent approved by the customer. Grade leveling course so there will be no high spots in the middle of the vault bottom. Compact with a second pass with a whacker or approved equivalent tamper.
3. Set vault in place. Backfill around structure. Use excavation material for backfill except that rocks larger than six inches in maximum dimensions shall not be placed within six inches of the exterior vault walls.
4. Fill, adjacent to the building entry, will have excavated material placed in eight-inch loose lifts and compacted with a minimum of two passes with a whacker-type mechanical compactor or equivalent approved by the customer.

G. Finish Grading

1. Spread excess excavated material from the vault around structure. Intended final grade is flush with the top of the front slab. Allow for placement of topsoil to reach that grade. Grade backfill away from structure from structure at maximum slope of five (5) percent unless otherwise approved by the customer.
2. Spread stockpiled topsoil as final layer after rough grading is completed. Areas disturbed by excavation, backfilling, and stockpiling of excavated materials will be handed raked to remove exposed rocks over one inch in maximum dimension. Oversized rocks removed from the surface shall be disposed of in a designated area within 200 feet of the site.

H. Vault Toilet Riser and Accessories

1. Apply 1.5" Butyl rubber adhesive sealant to the top surface of the concrete vault before placing the structure on the vault.

I. Exhaust Pipe Installation

1. After exhaust pipe is installed, seal around pipe at top and underside of roof with silicone caulk. Seal around pipe at top of slab will be accomplished by using silicone caulk.

9.1 MISSOULA CONCRETE CONSTRUCTION WARRANTY

Missoula Concrete Construction warrants that all goods sold are manufactured with the best of industry standards and that all materials and workmanships are as set forth in the specifications.

For a period of 3 years from the date of delivery, Missoula Concrete Construction will repair or replace, free of charge, any of its structures which are determined to be structurally unsound due to poor workmanship or materials. Determination must be in writing by a licensed structural engineer. Missoula Concrete Construction must be given the opportunity to inspect the site.

For a period of 7 years from the date of delivery, Missoula Concrete Construction will replace, free of charge, any LPDE vault liner which allows the migration of liquid contents from the vault to the surrounding soil due to defects in manufacturing.

Accessories are warranted to the extent of the individual accessory manufacturer's warranty.

This warranty shall not apply to:

1. Goods which have been improperly handled or improperly installed by others.
2. Goods which have been poorly sited (Such as in areas subject to flooding or high-water tables.)
3. Goods which have been repaired or altered without Missoula Concrete Construction's written consent.

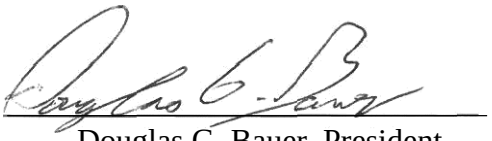
4. Goods which have been damaged by forces of nature more than design criteria, to include fire, flood, avalanche, landslide, tornado, etc.
5. Minor hairline cracks due to shrinkage, thermal expansion / contraction, or shipping.
6. Damage due to accidents, vandalism, or improper maintenance.

10.0 <u>DISCLAIMER OF OTHER WARRANTIES</u>

THE WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. MISSOULA CONCRETE CONSTRUCTION MAKES NO OTHER WARRANTY OF MERCHANTABILITY OF OR FITNESS FOR ANY PURPOSE OR USE.

11.0 <u>LIMITATION OF REMEDIES</u>

In the event of any breach of any obligation hereunder; breach of any warranty regarding the goods or any negligent act or omission of any party, the parties shall otherwise have all rights and remedies available at law; however, in no event shall Missoula Concrete Construction be subject to or liable for any incidental or consequential damages.



Douglas G. Bauer, President